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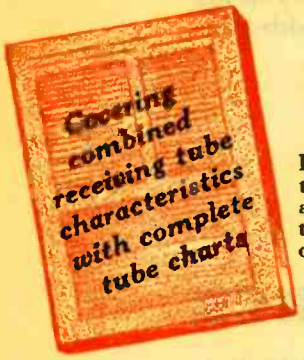

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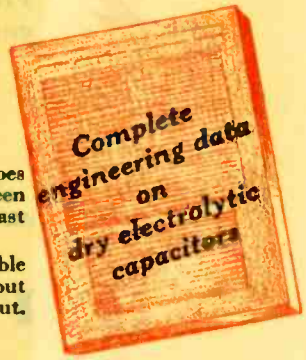

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MALLORY YAXLEY

RADIO SERVICE ENCYCLOPEDIA

3RD EDITION

LIST PRICE
$1.25

Compiled and Published by

P. R. MALLORY & CO., INC.

INDIANAPOLIS, INDIANA

THIRD EDITION—SEPTEMBER, 1939

PRINTED IN U. S. A.

FACTS

FOR *YOU* . . . THE RADIO SERVICE ENGINEER

AWAY BACK IN 1934, almost six years ago, Mallory alone realized the meagerness of correct service data. Several manufacturers sincerely were attempting to provide charts and guides for recommending their single product for various radio receiver replacements. But you (the radio service engineers) were dissatisfied because most of this material gave only one point of view—one opinion and only one answer—the answer all too often an incorrect guess. All that was available was a point of view, an opinion, not based on your actual experience, but on the beliefs of the manufacturer or publisher who had something to sell.

You told us you were sick and tired of hunting, of fruitless searching for information—weary of looking through dozens of books to get the "dope" you needed. You told us your problems. You said there seemed to be no solution. "There were too many sets—out of date—obsolete—too many new sets—to ever catch up with." Apparently it was hopeless. "Too many changes in production to watch for." In short, it looked like an impossible task to bring all needed information into handy reference form.

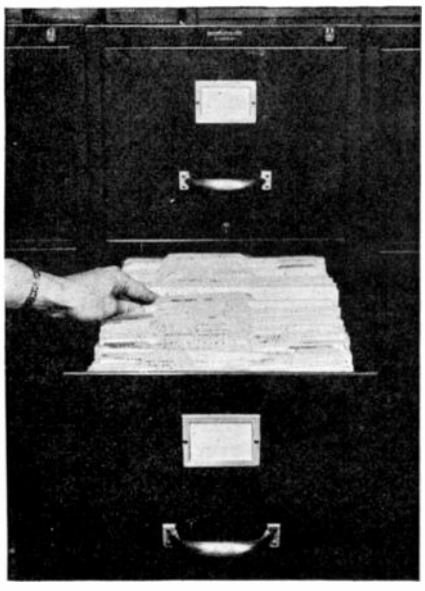
But we had a hunch. We thought, "There is only one way to do it. That way is to get you, the men who actually service the sets, to tell us how you do it, why you do it, and what you use."

So we undertook the job. Clearing houses were established in more than a score of cities, where actual field-tested data was collected. After an exhaustive, careful search for the right talent, a group of twelve radio service men, with experience and businesses of their own, were employed full time to produce the work—and the "impossible" was on its way to a permanently helpful solution. In May, 1936, after almost three years' research, the work was completed—ready for assembling into the First Edition of the MALLORY-YAXLEY RADIO SERVICE ENCYCLOPEDIA. (You nicknamed it the "MYE.")

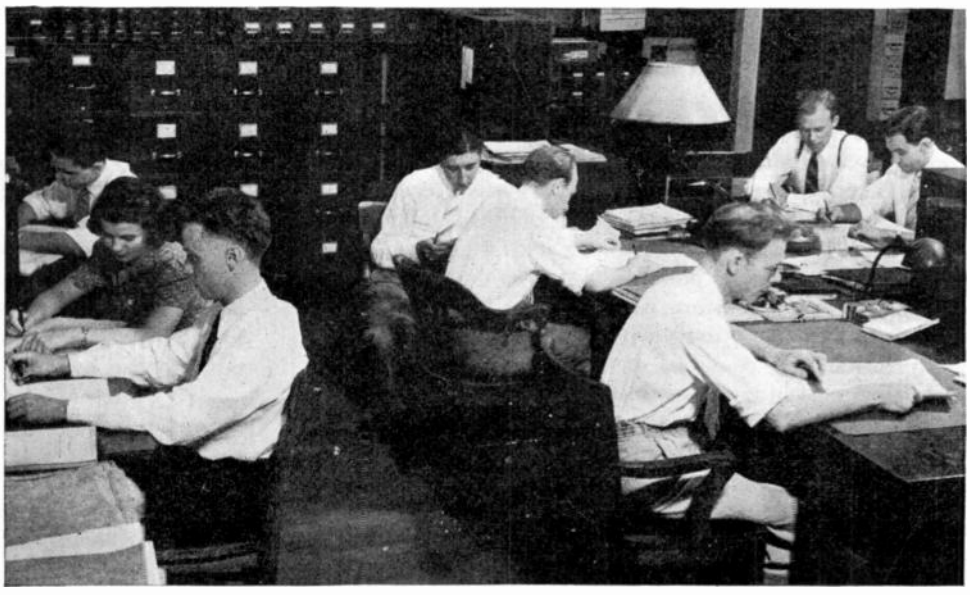
The Second Edition "MYE" followed the first—fifteen months later. And now (September, 1939), true to the responsibility we accepted almost six years ago, do we present the Third Edition.

Clearing houses established for the collection of field-tested data, located in every section of the United States and Canada, now number forty-seven.

The original group of twelve who compiled the First MYE has grown to over a score of people (still managed and directed by radio service engineers), who day-in and



Mallory files contain the most complete and authoritative recommendations on receivers and specific servicing data in the world.



The Mallory Compilation Department, a permanent full-time organization directed by radio service engineers, works for you day in and day out, obtaining data for the MYE, trying, proving, and compiling it in the most usable form.

day-out work constantly, trying, testing, proving, obtaining facts for the MYE—for you.

Used daily by tens of thousands, the first two editions have prompted your world-wide testimony as to their indispensable value. Thousands of enthusiastic letters of recommendation not only bear witness to this fact, but have guided us in making important changes in this, the Third Edition; changes that obsolete the First and Second Editions.

We have been faced with two important problems: first, keeping you currently supplied with replacement information when you want it and need it, and not a year after you need it; second, the problem of providing this information at the lowest possible cost. This, the Third Edition MYE and the Supplemental MYE Technical Service, answers both problems for you.

More new models of radio receivers were announced and sold during the period from March 31, 1938, to date, than in any other comparable period. The trend in the industry is to continue to produce more new models as time goes on.

In the First Edition, 99 pages were devoted to listings. In the Second Edition, 145 pages, and in this, the Third Edition, replacement information requires 195 pages. Obviously, the constantly increasing cost, not only of maintaining a huge staff, compiling, testing and proving the information, but of printing it, necessitated a drastic change to keep information current and within your reach.

To accomplish this, two economies have been effected. First, the hard-bound stiff cover has been eliminated. The new cover will protect the contents of the book, and still permit placing it in your pocket, carrying it with ease, not awkwardness. If you want it in your library, it is punched to fit a standard three-ring binder and to accommodate issues of the Mallory Supplemental MYE Monthly Technical Service to be described later.

Second, the technical, theoretical articles, like those in the First and Second Editions, have been eliminated. To retain them, as in the first two editions, would mean a book of 450 to 500 pages in size, extremely costly to print, and difficult to use.

So, with this, the Third Edition, the MYE takes on a new and even more serviceable attire. You will find new features that will save you time—features you urged us to include to make your work easier. In the tube section of the listings, you will note that not only are correct tube complements shown for every receiver listed, but the total number of tubes is listed, making instantaneous identification of the receiver possible. As an added convenience, for those of you who want to know more about the circuit of a receiver, and particularly where the circuit may have been changed during a previous service repair, there is the correct Rider's Manual Reference, showing Volume and Page number—a lightning fast index, affording time-saving aid.

All other tried, tested and proven worthy features remain, brought up to date—current in every respect. The Third Edition of the MYE, is published wholly for you, the Radio Service Engineer. Its contents are valuable to you alone. It is not intended to be, nor is it, a general radio reference work. Its information specifically applies to your replacement problems, for after all, that is the business in which you are engaged. Again, it is important to remind you that reliable factual replacement information requires an experienced field organization, a continuous efficient follow-up system, and even then, it is not ready or acceptable for the MYE until actual field tests have been made. Nothing is left to chance. The data must be checked and approved, or no recommendation is made.

You can't help but be interested in the elaborate filing system containing the most complete and authoritative recommendations on receivers and specific servicing data in the entire world. The illustration shows only a part of the files, but it is sufficient to indicate the fact that every single model of every receiver has its own file folder, containing every bit of available data and field experience on that particular model. Facts guide us, not guess work.

You will want these facts just as soon as it is humanly possible to place them in your hands, and to do exactly that, the Mallory Supplemental Monthly Technical Service has been made available to you. It is fully described in the Order Blank enclosed with this volume. It is the only means by which you can hope to keep abreast of the times and be supplied with information at a cost that is ridiculously low when compared with its net worth to you. To provide this service to you requires not only a sizeable investment, but more important, a sincerity of purpose that is unmatched, we believe, by any other radio parts manufacturer. This sincerity of purpose is to help you in your daily work, to save you time, to give you quickly the correct answer to any radio servicing problem. In maintaining the organization that makes the MYE and the Supplemental MYE Technical Service possible, we have invested considerably over $100,000. We will be content and happy in constantly rendering this service, so that your daily work may be more effective and more profitable.

You are always welcome at the Mallory Factory, where you may review and witness the continued research and development—an activity which warrants your 100% confidence.

AND NOW . . .

Thanks to all of you!

In dedicating the Third Edition of the MYE to the radio service fraternity, we are also dedicating it to those who have made it possible.

A particular debt of gratitude for constant, generous, spontaneous, willing help and permission to use other information, without which it would have been impossible to make this Third Edition of the MALLORY-YAXLEY RADIO SERVICE ENCYCLOPEDIA complete, is acknowledged to all in the industry. Particularly to John Rider do we acknowledge special help.

To boast of the possession and maintenance of the largest service "morgue" or service library in the world means little. It does mean much, however, to boast of the thousands of friends in the radio service fraternity, who, for over six years, have helped to cut and try, to reject, and finally accept, only those improvements which were proven helpful and valuable. Your devotion and loyalty to an ideal—your friendship and your help, has made the possession and constant maintenance of this service library possible. To you we are deeply grateful.

How to Use the Encyclopedia

Let's start to save your time by showing one case in which the Encyclopedia will help you repair a set. We will assume that many of the parts need replacing, so we'll begin in a methodical way to get the set satisfactorily repaired and back to the customer in an absolute minimum of time.

The set illustrated is the Grunow Chassis 12B, Model 1291, pictured from both top and bottom views exactly as you would see it if it were on your work bench. On this set we'll quickly replace all the defective component parts. On Page 79 you'll find the complete replacement information listed for the Grunow 12B:

3rd Edition MALLORY YAXLEY RADIO SERVICE ENCYCLOPEDIA 3rd Edition

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GRUNOW—Continued 12B (1291), 12W (1297)	Vol.	18	TRP608	6			36752	46	WE2050				12	[3]6K7, 6A8, 6K7, [3]6C5, 6H6, [3]6L6 or [3]6F6, 5Z3	465	7-34,36 8-44,46
							36720	46	WE3050							
							36721	46	RS215							
							33371	14	ST587							
							33169	15	TN111							
							36776	15	BB12							

CONTROLS

First of all we will replace the volume control, as it is found to be defective. Looking from below, we see the original control as pictured in Fig. I (indicated by arrow "A" on page 6), and also shown in the top view on page 7.

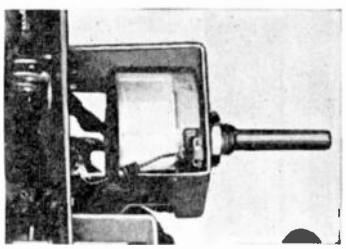
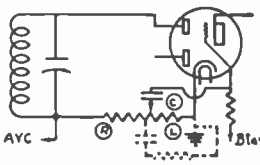


FIGURE I

We find that it is wired in the circuit like this (Circuit 18, page 222).



In some cases, the recommended circuit may differ slightly from the original in order that the circuits may be universally used. In this instance the diode is a separate tube, but as the circuit action and volume control replacement is unaffected, it is not necessary to show the modification.

The original control is found to have an overall resistance value of one megohm and a tap value of 200,000 ohms. Since it is used as an audio shunt control, the taper is necessarily left hand. In addition a single pole, single throw switch is attached to the rear cover of the control to turn the receiver on and off.

The above requirements are exactly met by the Yaxley TRP608 control and the number 6 attachable switch, and you will find that these units have been specified under the subheadings "Correct Replacement," and "Switch" under the main heading "Controls."

For installation on the 12B it is only necessary to notch and break the universal shaft of the TRP608 control at the proper length and then assemble the number 6 switch to it. The ease with which the assembly is put into the receiver and the genuine simplicity of this replacement is readily apparent when you examine the illustration in Fig. II.

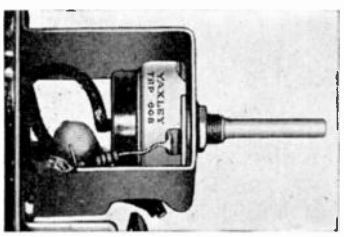


FIGURE II

CONDENSERS

There are several electrolytics in this receiver and we'll replace them all to be sure we don't leave any defective ones. The first condenser we find is one marked with part No. 36752. This condenser is a 20 mfd. wet electrolytic and appears on the chassis as shown in Fig. III (indicated by arrow "C" on the complete chassis view, page 7).

FIGURE III

Loosen the ring clamp and unsolder one wire, and it is a simple matter to install the specified Mallory replacement type WE2050 as shown in Fig. IV.

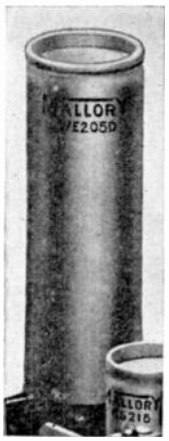
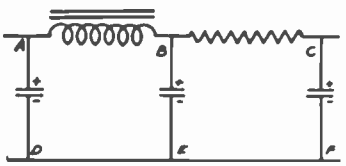
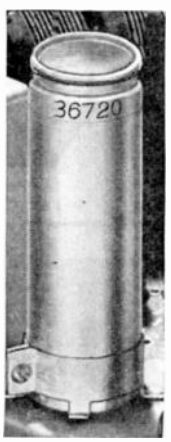


FIGURE IV

The filter circuit of this receiver corresponds to the Condenser Reference Circuit No. 46, on page 216, and illustrated here. The original part No. 36752 is used as the input condenser, or the one connected next to the rectifier tube.



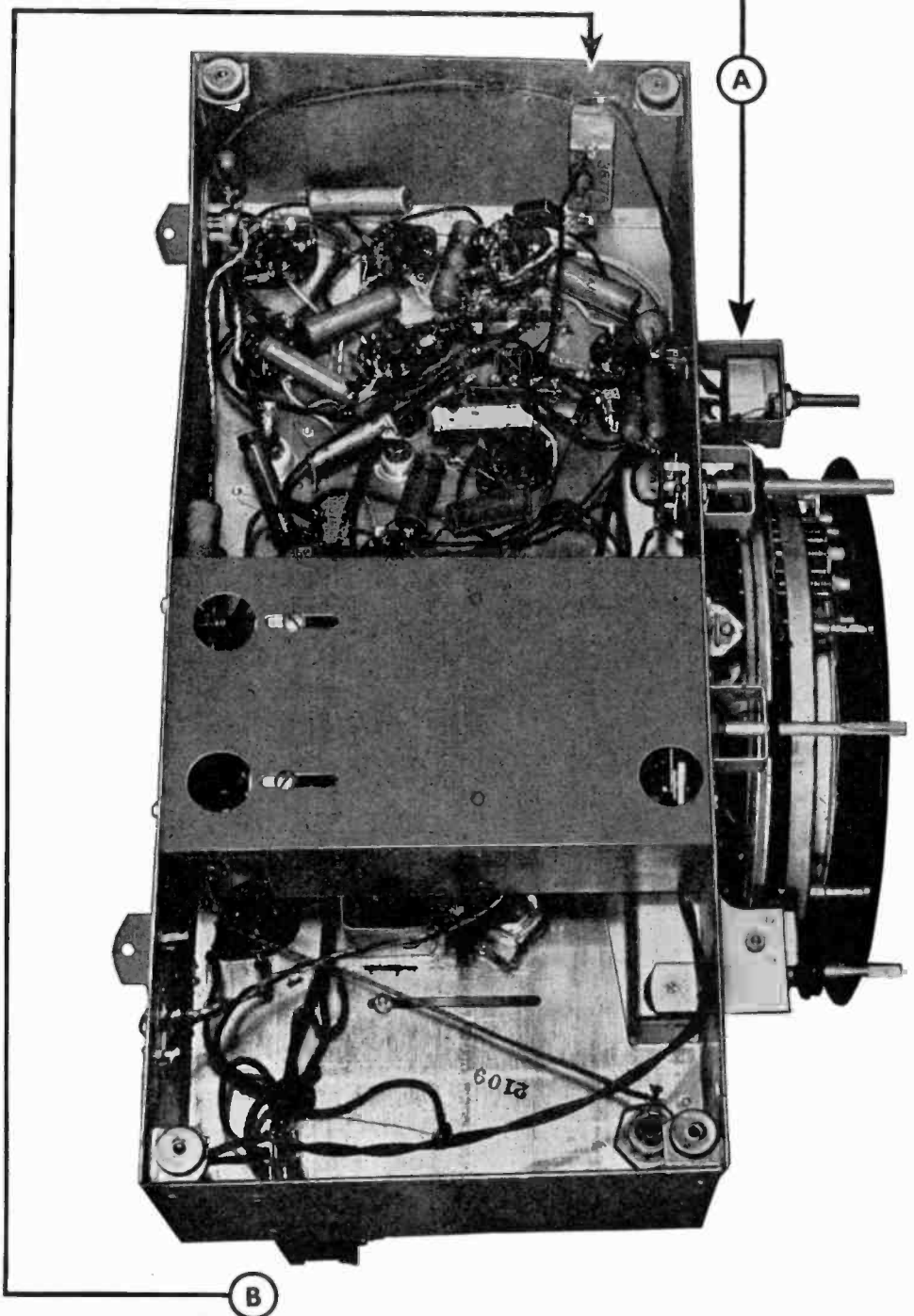


The next condenser is the one marked with part No. 36720 pictured in Fig. V, and connected as the second condenser in circuit No. 46 above.

FIGURE V

CONTROLS

Use	Circuit	Correct Replacement	SW	Bias	Note
Vol.	18	TRP608	6		



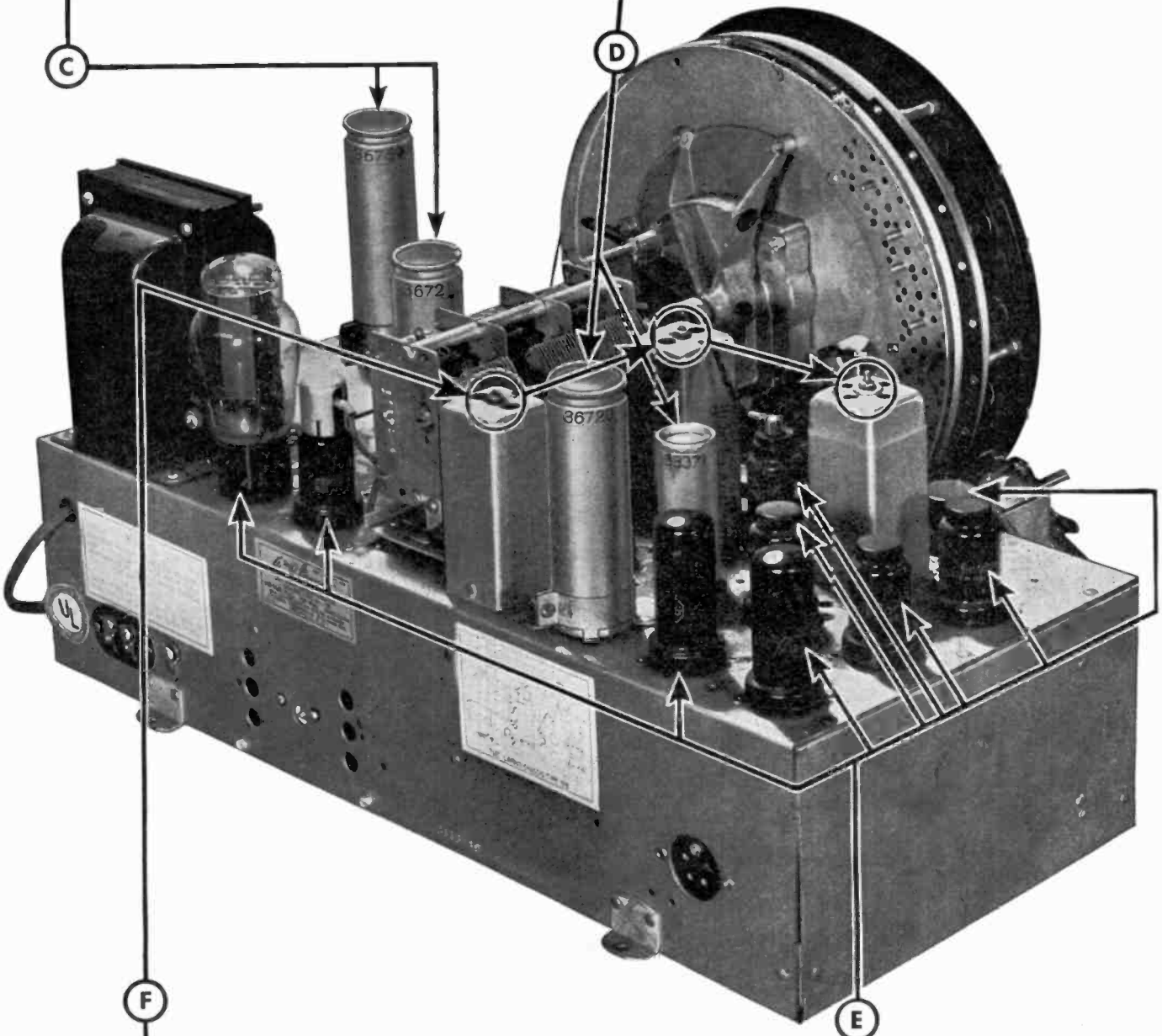
CONDENSERS

Original Part	Circuit	Correct Replacement	Note
36776	15	BB12	

CONDENSERS

Original Part	Circuit	Correct Replacement	Note
36752	46	WE2050	
36721	46	WE3050	

Original Part	Circuit	Correct Replacement	Note
36720	46	RS215	
33371	14	ST587	



I. F. Peak
465

COMPLETE TUBE COMPLEMENT
12 [3]6K7, 6A8, 6J7, [3]6C5
6H6, [2]6L6 or [2]6F6, 5Z3

It is also a ring clamp mounted wet electrolytic and is found to be of 30 mfd. capacity. Again we use the same procedure and install the Mallory WE3050 as in Fig. VI. (See arrow "D" on page 7).

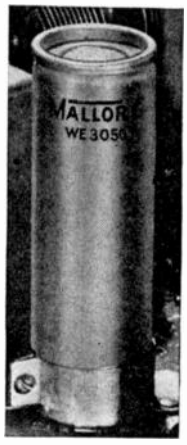


FIGURE VI

The next condenser, illustrated in Fig. VII (and indicated by arrow "C" on page 7), is the 12 mfd. dry electrolytic marked with part No. 36721. This unit is the third condenser in circuit No. 46.

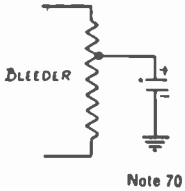
FIGURE VII

Again it is only necessary to install the Mallory RS215 in the same clamp as the original. Here it is installed in Fig. VIII.

FIGURE VIII

Now we come to the small can (part No. 33371) pictured in Fig. IX and connected as in Condenser Reference Circuit No. 14, on page 244. This condenser is indicated by arrow "D" on the chassis view, page 7.

FIGURE IX



This condenser was originally a small metal can, but as the Mallory ST587 cardboard tube exactly fitted this space and is more universally available, this recommendation was made. Installed, it is pictured in Fig. X.

FIGURE X

This is only one of the many places that the new universal line makes an ideal replacement, easily installed.

The next condenser listed is identified as part No. 33169, which was not used in the later productions of this chassis. The condenser part No. 36776 replaced this in later models and is shown pictured in Fig. XI.

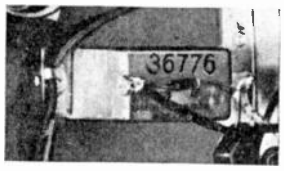


FIGURE XI

Replacements are listed for both part numbers so that regardless of chassis production type correct replacement information is available. However, since the particular chassis we are servicing employed the single section part No. 36776, we are illustrating the replacement for this part. (See arrow "B," page 6.)

This condenser is connected in the cathode circuit of the 6C5 first audio, wired as in Circuit No. 15, on page 244, and replaced with the Mallory BB12 (Fig. XII).

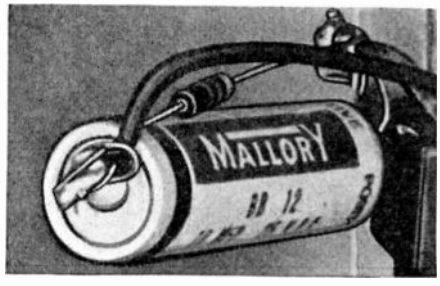
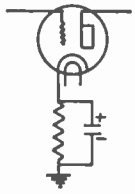


FIGURE XII



We now have all the condensers and controls replaced, which undoubtedly will take you less time than it took to read this, once you get the hang of using the Encyclopedia.

VIBRATORS

Since this particular receiver did not use a vibrator, none could be illustrated; however you'll find the same easy-to-use system as shown at right hand side for this replaceable part where applicable. In all replacements be sure to read the note, as it may be very important for accurate replacement.

VIBRATORS	
Replacement	*Note
W245A	C3
.....	.....
.....	.....
W245A	C3
.....	.....
.....	.....
.....	.....
.....	.....
850	C3
850	C3
.....	.....
850	C3
.....	.....
249	C3
.....	.....
249	C3

TUBES

The tubes are listed next, both for the total number used in the receiver and the amount of each type. Here is a reprint as listed on page 79 for the model 12B which we just finished servicing. In the column, "Total Number of Tubes," the ballast tubes are not included, but are listed in the number of each type. The small superior figures indicate the number of each type used, and if no superior figure appears, it indicates that only one tube of that type is used.

No. Tubes	Complete Tube Complement
12	^{3}6K7, 6A8, 6K7, ^{3}6C5, 6H6,^{3}6L6 or ^{3}6F6, 5Z3
..	.....
..	.....
..	.....
..	.....

This column serves the two-fold purpose of identifying unmarked receivers and enabling you to carry a complete set of tubes before seeing the radio. If tube types have been changed during production, they will be indicated as 57-77, meaning some models use the 57 2.5-volt tube, and others the 77 6.3-volt equivalent. (Arrow "E" on page 7 shows the actual tubes in the receiver as listed in the accompanying example.)

I. F. PEAK

In the column headed I. F. Peak the Intermediate Frequency is listed for all superheterodyne receivers, making it unnecessary to search through numerous lists for the proper information. In some cases I. F. Peaks were changed during production to eliminate interference in certain localities, in which case both I. F. Peaks are listed. The intermediate frequency for the Grunow 12B is 465 kc. and arrow "F" on page 7 shows the points where the adjustments would be made.

I. F. Peak
264
264
264
472.5
.....

RIDER'S REFERENCE

Occasionally, it may be necessary to have a complete circuit diagram of the receiver for certain complicated replacements or tracing of the wiring which may have been changed. The last column gives the volume and page number in Rider's Manuals on each of these receivers. As an illustration, the Grunow 12B is listed at the right.

Rider's Reference
7-31,36
8-44,46
.....
.....

In this case, the schematic diagram will be found in Rider's Volume 7 on page 35 under General Household Utilities. The footnote at the bottom of page 77, explains that Rider references will be found under the actual name of the manufacturer, General Household Utilities, instead of the trade name of Grunow. Fig. XIII shows a reduced reproduction of the actual Rider page.

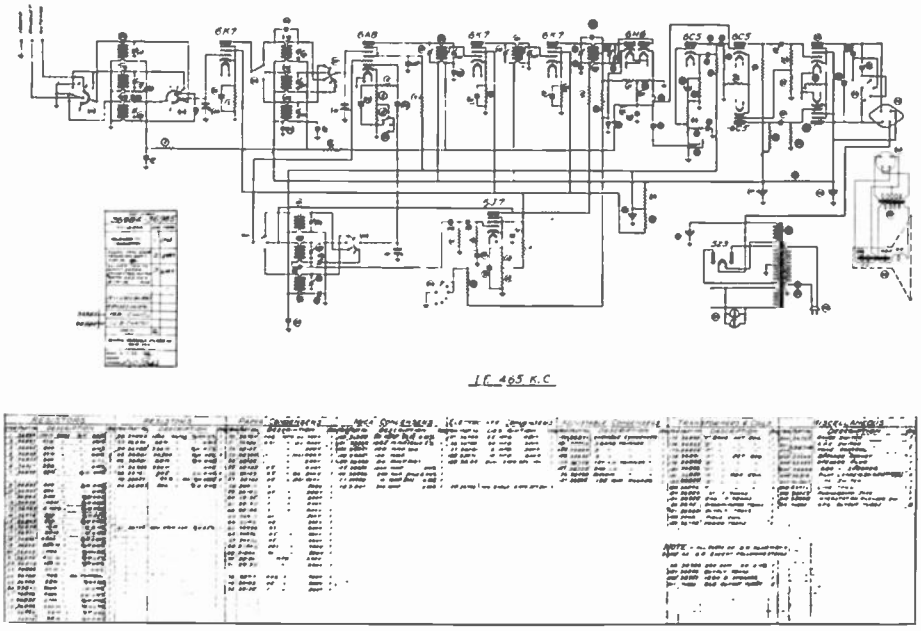


FIGURE XIII

SUMMARY

The set we have just serviced was assumed to be in the worst possible condition; however, by using this simple step-by-step system, we have it in good condition in less time than it would normally take to replace a bypass alone. By using the book and the same system, you'll get the sets off your bench in record time.

In listing the Rider page numbers it should be noted that reference is usually made to the actual page carrying the schematic diagram. In cases where it was advisable to list a series of pages we have indicated them by listing the first and last page of the series. As an illustration a reference is made under a certain manufacturer as 7-91,96. This means that data covering the receiver will be found on pages 91 through 96 inclusive of the particular manufacturer's section in Volume 7.

GENERAL INFORMATION

● Now just a short review to make sure that the listing arrangement is absolutely clear.

The Encyclopedia is divided into three major sections:

Section A . . . Controls
Section B . . . Condensers
Section C . . . Vibrators

There are approximately 22,000 different models of radio receivers listed, and still there are some on which no records are available. Whether given in the listing section or not, information contained in the book will enable you to effect a quick and highly satisfactory repair.

ENCYCLOPEDIA—LISTINGS

MANUFACTURER AND MODEL
COLIN B. KENNEDY CORP.
5T AC-DC.....
Royal.....
10.....
20.....
22.....
26.....
30, 32.....
34.....
36, 38, 40.....
42 "Coronet".....
42B.....

Receivers are listed either by the manufacturer's name, or the trade-name, according to popular usage. A cross-index in the listings will help you locate the receiver you are looking for.

Model numbers precede chassis numbers. with few exceptions. In these cases, model numbers are in parantheses and follow chassis numbers.

CONTROLS

CONTROLS					
Use	Circuit	Correct Replacement	Switch	Bias	*Note
Vol. Vol. Tone Supp. Vol. Tone Vol. Tone					

USE—Controls are listed with an abbreviation of their most common designation; i. e., "Vol." = volume control; "Supp." = Suppressor Control. A complete list of abbreviations is on page 206.

CONTROLS					
Use	Circuit	Correct Replacement	Switch	Bias	*Note
	45 17 22 45 44 45 44				

CIRCUIT—Numbers refer to "A" Control Circuits on pages 222 to 227. These schematic circuits enable you to check the receiver on which you are working to make sure the circuit has not been changed during a previous repair or during that particular model's life in its period of manufacture. Often it is advisable to change a circuit to obtain better performance. Complete instructions are given in Section "A" Controls —pages 207 to 231.

CONTROLS					
Use	Circuit	Correct Replacement	Switch	Bias	*Note
		M..... N.....			
		SRP258 . G..... . L..... UC508 ... SRP154.... SRP154... SRP154... 500M No. 1			..... See Note A19

CORRECT REPLACEMENT—Here are listed recommended correct replacements. By referring to page 188 an "M" is immediately translated to read "250,000 ohm carbon control with left-hand taper—universal shaft." Where a recommendation reads "500M-No. 1" or is not a definite recommendation, and is followed by a note in the Note Column, it means that the com-

plete or partial value of a control is known. The note referred to gives comprehensive, clear, concise instructions to make a quick satisfactory replacement.

CONTROLS					
Use	Circuit	Correct Replacement	Switch	Bias	*Note
			6		
			6		

SWITCH—The number of the replacement switch which must be used with the recommended control is listed in this column.

CONTROLS					
Use	Circuit	Correct Replacement	Switch	Bias	*Note
				EX350	
				EX350	
				EX350	

BIAS—This column tells you that the control is used in a cathode or "bias" circuit. The original control contained a fixed resistance which must be duplicated.

All carbon controls which may possibly be used in "bias" type circuits are provided with a separate adjustable resistor of 500 ohms total resistance. This may be adjusted to the value given in the "Bias" column. "EX350" means that the resistor is to be set at 350 ohms and wired between the right-hand terminal of the control and the cathode circuit. This is accurate and is not to be compared to the haphazard use of an arbitrary value of fixed resistance.

Wire-wound controls contain an adjustable section for this purpose. Where a wire-wound control is specified, the bias column will contain a numeral from 1 to 5 designating the correct setting for this adjustable section.

***NOTE—**

CONTROLS					
Use	Circuit	Correct Replacement	Switch	Bias	*Note
				See Note	A19
				See Note	A19
				See Note	A5

On pages 220 and 221 there are one hundred "A" (control) Notes. These are valuable because they tell what to do and how to do it. They tell how to make a quick and easy replacement when information is impossible to obtain. They permit the selection of a proper control either at your distributors, or to tell him by mail the correct resistance and the right taper which, with a sketch of the shaft that you will make, will enable you to receive the right control without delay, loss of time, or customer dissatisfaction.

The "Note" sections ("A" Controls, "B" Condensers, "C" Vibrators) of the encyclopedia are without doubt the finest and most helpful compilation ever printed.

We strongly advise, for your own benefit, that you read these "Note" sections. They will save you time and worry and will make money for you.

CONDENSERS

CONDENSERS			
Original Part	Circuit	Correct Replacement	*Note
8-8-8			
8-8			
8-8			
8			
8			
8-8			
4-8			
4-2-4			

ORIGINAL PART—Under the heading "Original Parts" is listed either the value of the original condensers or the part numbers originally used. Condensers are listed in the order of their importance. First, filter units, second, by-pass units. Filter units are in most instances listed in their respective order of installation, from the rectifier to the load.

8-8-8 means that there is one condenser with three 8 mfd. sections used in the circuit.

8, 8, 8 means that there are three 8 mfd. condensers used in the circuit.

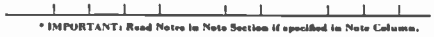
CONDENSERS			
Original Part	Circuit	Correct Replacement	*Note
	1		
	1/13		
	15		
	1		
	13/15		
	13/15		
	1		
	1		
	13		
	15		
	1		
	1/14		
	1		

CIRCUIT—The use of each condenser section is not given because this is clearly shown in the schematics of condensers circuits. "B" (condenser) Circuits are shown on pages 241 to 247. A double number 1/13 means that sections of the condenser are used in two different circuits; i. e., Circuit No. 1 and Circuit No. 13, both shown on page 244.

CONDENSERS			
Original Part	Circuit	Correct Replacement	*Note
		SR625	
		RS213	
		3S579	
		Buffer	
		2N500	
		TN113	
		SR644	
		2S569	
		SR625	
		SR644	
		WE1830	
		RS216	
		RS213	
		3S579	
		Buffer	
		BB24	
		2N518	

CORRECT REPLACEMENT—Here are listed recommended correct replacements by catalog number (3S579, etc.). The word "Buffer" refers to the secondary or buffer condenser which is connected across the secondary of the vibrator power transformer, the value being given in the "original part" column.

***NOTE—**



CONDENSERS			
Original Part	Circuit	Correct Replacement	*Note
			B3
			B66

On pages 237 to 243 there are over two hundred "B" (condenser) NOTES. These are valuable because they tell you what to do and how to do it. They tell how to make a quick and easy replacement when information is impossible to obtain. *They permit the selection of the right condenser without referring to original color coding which may have been obliterated by age, by factory changes during production, or by a previous repair to the receiver. Quick, accurate and wonderfully easy condenser replacements will be effected by reading "B" (condenser) Notes.*

VIBRATORS

VIBRATORS	
Replacement	*Note
286S	C3
G286S	C16
286S	C3
G286S	C16
271	C15

VIBR. CONN.—Vibrator connections are shown on page 262. They're easily understood for they show the appearance and the connections of all replacement units.

REPLACEMENT—Here the correct replacement is listed. No guess work for all have been field-tested just as has every other bit of information in the encyclopedia.

NOTE—Clear instructions for installation, or for the proper selection of a unit, are given in 24 concise notes on page 261.

Now that an explanation of the encyclopedia has been completed, it is only fair to say that every possible help and advice has been compiled "to help you." Make use of this help. Read, study, and consult the encyclopedia daily. You will be amply rewarded for the time so spent by the increased effectiveness of your service work.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
A. C. DAYTON																
XL50, XL60, XL61	Vol.	26	UC509										6	[5]01A, 12A		1-2,4
AC63	Vol.	14	L				‡		See Note	B1			7	[4]26, 27, 71A, 80		1-5
AC65	Vol.	14	L				‡		See Note	B7			7	[4]26, 27, 10, 81		1-5,6
AC66	Vol.	14	L				‡		See Note	B7			7	[4]24,[3]26, 27, 50, 81		1-7
XL 70	Vol.	26	UC509										7	[5]01A, 12A		1-3
"Navigator" Series	Vol.	32	SRP274				8-8-8	3	MN275				9	[6]27,[2]45, 80		1-8
ACME ELEC. & MFG. CO.																
AC7	Vol.	35	M				2-3	1	See Note	B1			7	[4]26, 27, 71A, 80		1-1
SG88	Vol.	12	A5MP				8-8-8	3	MN275				8	[3]24,[2]27,[2]45, 80		1-1
AC98	Vol.	7	UC500				8-8-8	3	MN275				8	[3]24,[2]27,[2]45, 80		3-2
"Moto-Midget"	Vol.	33	N	6	See Note	A1							5	[2]39, 36, 37, 41		4-1
	Vol.	6	K12		See Note	A2										
ACRATEST PRODUCTS																
37	Vol.	...‡..	100M No. 1		See Note	A3	2-8-8	1	See Note	B2			7	[2]53,[2]56,[2]46, 5Z3		6-1
							10	15	BB12	B6						
38	Vol.	36	100M No. 1		See Note	A3	2-8-8-8	‡	See Note	B2			8	[4]53,[2]50, 80, 83		6-2
							10	15	BB12	B6						
47	Vol.	23	LL				8	12	ST590				4	[2]6A6,[2]6B5		7-3
							8	13	ST590							
108	Vol.	23	100M No. 1		See Note	A3	8, 8	22	ST595				5	[2]57,[2]2B6, 83		5-1
120	Vol.	16	M				6, 6	2	ST595				5	[2]56,[2]45, 80		6-4
126	Vol.	23	100M No. 1		See Note	A3	4-4	1	See Note	B2			8	[2]57,[2]56,[2]50,[2]81		5-2
194	Vol.	6	H7				8-8	1	2S567	B24			5	[2]78, 77, 80 or [2]6D6, 6C6, 76, 80		7-1
							10-10	15	TN111							
196, 197	Vol.	15	L				2-8-8-8	‡	See Note	B2			8	[2]57,[2]56,[2]50, 80, 83		6-1
198, 199	Vol.	15	L				2-8	1	See Note	B2			8	[2]57,[2]56,[2]46,[2]80		6-2
200	Vol.	15	L				8-8	1	2S567	B26			4	6A6,[2]41, 80		7-2
418	Vol.	23	100M No. 1		See Note	A3	1-4	‡	See Note	B4			8	[2]57,[2]45,[2]RK18, RK19, 80		5-3
728							8-8	1	2S567	B26			3	2B6, 57, 80		6-3
739							8-8	1	2S567	B26				80		5-4
770	Vol.	23	250M No. 1		See Note	A3	6714	4	2S567	B33			6	[2]36,[2]37,[2]2A3		6-4
1416	Vol.	‡	LL				8	13	BB31				8	[2]6C6, [2]76, [2]48		8-1
1800	Vol.	15	O				8-8	1/13	2S567	B40			5	6C6, 79,[2]42, 5Z3		8-1
	Phono.	‡	L				8	1	ST595							
							2	13	CS130							
1820	Vol.	15	O				8	1	WE851				5	6C6, 79,[2]6B5, 5Z3		8-2
	Tone	41	O				8-8	1/13	2S567	B41						
							10	15	BB12							
							2	13	CS130							
1850	Vol.	18	O				16	1	RS216				12	[6]6C6,[2]76,[6]B5,[2]5Z3		8-2
	Fader	‡			See Note	A3	8	1	WE851							
							10	15	BB13							
1900	Vol.	23	MM				8, 8	1	WE851				6	[6]B5,[2]5Z3		7-4
ACRATONE—Also see Federated Purchaser and Airking.																
L5	Vol.	18	N	6			P474	32	WE450				7	6L7, 6K7, 6C5, 6H6,		
	Tone	34	L				P160	32	2S567	B81				6F5, 6F6, 5Z4	456	
							P304	15	BB12							
L6	Vol.	18	N	6			P474	32	WE450				8	6L7, 6K7,[2]6Q7, 6C5,		
	Tone	44	L				P160	32	2S567	B81				[2]6F6, 5Z4	456	
							P304	15	BB12							
L7	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, 19,[2]30,[2]34	456	
	Tone	...‡..	L				.01-.01		Buffer	B14						
X6	Vol	45	SRP275	7			P391	1	2N516		245C	C3		‡	‡	
	Tone	...‡..	L				.01-.01		Buffer	B14						
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19,[2]30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P958	1	2S560	B26	245C	C3	6	1C6, 34,[2]30, 32, 19	456	
	Tone	44	L				.01-.01		Buffer	B14						
ADDISON																
N655	Vol.	64	N	7			8-4	1	See Note	B3	285XS	C3	6	1C6, 34,[2]30, 19	‡	
	Tone	22	‡		See Note	A5	.01-.01		Buffer	B14						
ADMIRAL—See Continental.																
ADVANCE ELECTRIC CO.																
"A" Auto	Vol.	33	N		See Note	A1	10	15	BB12				5	[4]36, 41		
Falck "Super B"	Vol.	7	G				6-6	4	2S567	B33			7	[2]51,[2]24, 27, 47, 80	‡	2-1
	Tone	22	M													
Falck "E"	Vol.	7	UC509				6-6	4	2S567	B33			4	51, 24, 47, 80		2-1
77, 88, 89	Vol.	7	C				6-6	1	2S567	B26			6	[2]24, 27, 45, 80		2-2
	Tone	22	M		See Note	A4										
AERO PRODUCTS—See Chas. Hood win.																
AETNA—Also see Walgreen																
4T '36	Vol.	6	G12	6	EX125		16-12	23	2P546	B42			4	6D6, 6C6, 43, 25Z5		
5T '36	Vol.	18	N				16-12	27	2P546	B55			5	6A7, 6D6, 75, 43, 25Z5	465	
	Tone	22	‡		See Note	A5										
B25-RS	Vol.	18	MR48	M27									5	1C6, 1A4, 1B5, 30, 19	456	
55RS	Vol.	18	MR48	M26			317	4	RS213				5	6A7, 6D6, 75, 42, 80	456	
57RS	Vol.	18	MR48	M26			311	27	ST589				6	6A7, 6D6, 75, 43, 25Z5, 6G5	456	
							314	27	ST587							
252	Vol.	7	MR45	M26	EX120		16-8-5-5	1/15	UR189	B5			4	6D6, 6C6, 43, 25Z5		§6-1
255	Vol.	6	Y	6	EX200		2525	1	RS208				5	6D6, 6C6, 25L6, 25Z5, R55CP		
	Tone	21	N													
370	Vol.	18	MR48	M26			311	27	ST589				6	6A7, 6D6, 75, 43, 25Z5, 6G5	456	
							314	27	ST587							
630, 635, 652	Vol.	18	N				8-8	1	2S567	B26			6	[2]6D6, 76, 75, 6B5, 80	456	
	Tone	22	K12													
700	Vol.	18	MR48				16, 16	27	BB24				5	6A7, 6D6, 75, 43, 25Z5	456	
	Tone	34	MR33													
AIRCASTLE—Also see Spiegel & Radio Prods. Corp.																
A31	Vol.	18	N				8-4	23	2S567	B33			5	6A7, 6D6, 75, 42, 80	456	§5-2
BA41	Vol.	18	N	6		A21	8-8	1	2N518		245C	C3	6	1C6, 34,[2]30, 32, 33	456	
							.01-.01		Buffer	B14						
L5	Vol.	18	N	6			P474	32	WE450				7	6L7, 6K7, 6C5, 6H6,		
	Tone	34	L				P160	32	2S567	B81				6F5, 6F6, 5Z4	456	
							P304	15	BB12							
L6	Vol.	18	N	6			P474	32	WE450				8	6L7, 6K7,[2]6Q7, 6C5,		
	Tone	44	L				P160	32	2S567	B81				[2]6F6, 5Z4	456	
							P304	15	BB12							
L7	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, 19,[2]30,[2]34	456	
	Tone	...‡..	L				.01-.01		Buffer	B14						
X6	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19, 30, 32, 34	456	
	Tone	...‡..	L				.01-.01		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
AIRCASTLE — Continued																
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19,‡30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P958	1	2S560	B26	245C	C3	6	1C6, 19,‡30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
14-112S	Vol.	18	UM157-SS3				2994	1	‡CS133	B85	294	C3	6	‡78, 6A7, 75, 42, 84	262	
	Tone	22	MR36				578	15	BB12							
	Sen.	7	CIMP				.0075		Buffer	B14						
14-127ES	Vol.	18	N				3375	23	RS216				8	6A7, 6D6, 75, 76,‡42, 6G5, 80	456	
	Tone	147	P				3351	23	WE850							
AIRKING																
Dynamic 2 Range	Vol.	6	SRP263				8-8	6	2S560	B24			4	6D6, 6C6, 43, 25Z5		7-4
							5	15	BB12							
Knave	Vol.	18	N	6			16-8-5-5	1/15	UR189	B5			6	6A7, ‡6D6, 75, 43, 25Z5	456	7-1
	Tone	106	N													
Magnetic	Vol.	6	SRP263				8-8	24	2S560	B24			4	6D6, 6C6, 38, 76		7-4
							5	15	BB12							
Royalty	Vol.	18	N	6			16	1	ST597				8	6A7, ‡6D6, 75, 76, ‡42, 80	456	7-2
	Tone	21	N				5	15	BB12							
4T "Comet"	Vol.	7	UC509	6	EX300		12-8-5-5	1/15	UR189	B5			4	78, 77, 43, 25Z5		5-1
Atlas 5T Universal	Vol.	18	MR48	M26			16-8-5-5	6/15	See Note	B5			5	6A7, 78, 75, 43, 25Z5	456	5-2
6T TRF-LW	Vol.	6	F7				8, 8	4	RS213				6	‡58, 57,‡47, 80		5-3
	Tone	21	O													
6E	Vol.	45	MR48				8	1	ST595				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	456	9-1
	Tone	21	MR48				16	1	ST597							
							5	15	BB12							
7T BC "Super"	Vol.	6	G12				8, 8	4	RS213				7	‡58,‡57,‡47, 80	175	5-1
	Tone	21	P													
7T TRF-LW	Vol.	6	F7		2		8, 8	4	RS213				7	‡58, 57,‡47, 80		5-4
	Tone	21	O													
9E	Vol.	127	MR48				16, 16	1	ST597				9	‡6K7, 6A8, 6H6, 6F5, 6C5,‡6F6, 5Z4	456	9-3
	Tone	21	MR48	M26												
10	Vol.	6	SRP263				8-8	24	2N502				4	6D6, 6C6, 38, 76		7-4
							5	15	BB12							
11F	Vol.	15	N				16	1	RS216				11	‡6K7G, 6A8G, 6H6G, 6G5, ‡6C5G, ‡6N6G, 5V4G	456	8-1
	Tone	41	N	6			30	1	WE3035							
							5	15	BB12							
21, 22 Series	Vol.	7	J	6			1051	24/15	3N525	B61			4	6D6, 6C6, 38, 76		8-2
27, 28A	Vol.	18	N				20	6	BB25				5	6A7, 6D6, 75, 43, 25Z5	456	7-8
							10	6	BB22							
							5	15	BB12							8-2
37, 39	Vol.	6	G	6	2		16-8-6	8/15	See Note	B5			5	‡77, 78, 43, 25Z5	456	§4-1
40	Vol.	6	UC509				8-8	24	2N502				4	6D6, 6C6, 38, 37		6-1
							5	15	BB12	B6						
41, 42	Vol.	6	SRP263				8-8	24	2N502				4	6D6, 6C6, 38, 76		7-4
							5	15	BB12							
47, 48, 57, 58	Vol.	18	N				20	6	BB25				5	6A7, 6D6, 75, 43, 25Z5	456	7-8
							10	6	BB22							
							5	15	BB12							
50 AC-DC	Vol.	6	UC509				8-8	6	2N502				4	6D6, 6C6, 43, 25Z5		6-1
							5	15	BB12							
52, 54	Vol.	6	H7	6	3		8-4	1	2S567	B26			5	‡57, 58, 47, 80	456	4-1
66	Vol.	18	N	6			16-8-5-5	6/15	UR189	B5			5	6A7, 6D6, 75, 43, 25Z5	456	6-2
70	Vol.	18	N				16, 16	1	ST597				7	6A7, 6D6, 76, 75,‡42, 80	456	6-2
	Tone	21	N				5	15	BB12	B6						
72, 73	Vol.	18	MR48				24	6	BB26				7	6A7, 6D6, 75, 6G5, 43, 25Z5, 36H	456	8-3
	Tone	22	N				12	6	BB22							
							4	13	BB20							
							5	15	BB12							
76	Vol.	124	MR48	M26			16-8	1	3S584	B62			6	6A8G, 6K7G, 6Q7G, 6N6MG, 6G5, 5W4	456	9-2
	Tone	124	MR48													
81 Series	Vol.	7	J	6			1051	24/15	3N525	B61			4	6D6, 6C6, 38, 76		8-2
209	Vol.	45	N				16	1	ST597				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	456	7-6
	Tone	21	N	6			8	1	ST595							
							5	15	BB11							
211	Vol.	45	N				24	6	BB26				6	6A8, 6K7, 6H6, 6F5, 43, 25Z5	456	7-7
	Tone	21	N	6			12	6	BB22							
							10	15	BB13							
213	Vol.	45	N				16	1	ST597				9	‡6K7, 6A8, 6H6, 6F5, 6C5,‡6F6, 5Z4	456	7-3
	Tone	21	N													
214	Vol.	6	Y				24-10-5	24/15	UR182	B268			3	6D6, 6C6, 25A7G, 80F		8-8
221, 222, 223	Vol.	18	N	6			8	1	ST595				5	6A7, 6D6, 75, 6F6, 5Z4	456	7-9
	Tone	21	N				16	1	ST597							
							5	15	BB11							
222 (AC-DC)	Vol.	7	J	6			1102010	1	2N506				4	6D6, 6C6, 25L6G, 25Z5		9-4
224, 225	Vol.	45	N				24	6	BB26				6	6A8, 6K7, 6H6, 6F5, 43, 25Z5	456	7-7
	Tone	21	N	6			12	6	BB22							
							10	15	BB13							
227, 228, 229	Vol.	18	N				8-16	1	2S563	B75			6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	456	7-5
	Tone	57	N	6			5-5	15	TN111							
250	Vol.	7	F			A14	8-8	1	2N502				5	6A7, 6D6, 6C6, 43, 25Z5	456	8-4
							5	15	BB12							
250B	Vol.	7	F				1135	1	2N512	B66			5	6A7, 6D6, 76, 25L6, 25Z5	456	9-4
252	Vol.	18	MR48	M26			1102012	1	2N514	B66			5	6A7, 6D6, 75, 25L6G, 25Z5	455	9-3
257	Vol.	18	MR48				1102012	1	2N514	B66			5	6A7, 6D6, 75, 25L6G, 25Z5, M49HG	455	
260	Vol.	18	MR48				20-10	1	2N507	B66			5	6A7, 6D6, 75, 43, 25Z5, 42H	456	8-4
							5	15	BB12							
261	Vol.	18	MR48				8-8	1	2N518	B66			5	6A7, 6D6, 75, 42, 5W4	456	8-5
							5	15	BB12							
501	Vol.	124	MR48	M26			8-16	1	2S563	B75			6	6A8G, 6K7G, 6Q7G, 6N6MG, 6G5, 5W4	456	9-2
	Tone	124	MR48													
503	Vol.	124	MR48	M26			8-16	1	2S563	B75			6	6A8G, 6K7G, 6Q7G, 6N6MG, 6G5, 5W4	456	9-2
	Tone	124	MR48													
505	Vol.	124	MR48	M26			8-16	1	2S563	B75			6	6A8G, 6K7G, 6Q7G, 6N6MG, 6Q5, 5W4	456	9-2
	Tone	124	MR48													
522 Series	Vol.	7	J	6			1051	24/15	3N525	B61			4	6D6, 6C6, 38, 76		8-2
600	Vol.	18	N				24	6	BB26				6	6A7, 6D6, 75, 6G5, 43, 25Z5	456	7-10
	Tone	22	N				12	6	BB22							
							4	14	BB20							
							5	15	BB12							
688	Vol.	7	MR28	M26			10	24	BB22				5	6D6, 6C6, 38, 76, 6E5, M84F		9-5
							5	15	BB12							
699	Vol.	7	MR28	M26			10	24	BB22				4	6D6, 6C6, 38, 76, ‡M55HG		9-5
							5	15	BB12							

‡Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
AIRKING — Continued																
700	Vol.	7	J	6		A14	24-10-5	24/15	UR182	B268			4	6D6, 6C6, 43, 25Z5, M55HG		8-6
700LW	Vol.	7	MR28				24-10-5	24/15	UR182	B268			4	6D6, 6C6, 43, 25Z5, M55HG		9-6
701, 702, 703	Vol.	7	J				24-10-5	24/15	UR182	B268			5	6D6, 6C6, 43, 25Z5, 6E5, [2]M30HG		9-7
704	Vol.	7	MR28	M26			30 15	1 1	BB26 BB24				6	6D6, [2]76, 25L6G, 6E5, 25Z5, M42HG		9-6
705	Vol.	7	J	6		A14	24-10-5	24/15	UR182	B268			4	6D6, 6C6, 43, 25Z5, M55HG		8-6
710	Vol.	7	F	6			24-10-5	24/15	UR182	B268			5	6A7, 6D6, 6C6, 43, 25Z5, M49HG	456	8-7
715	Vol.	7	F	6			24-10-5	24/15	UR182	B268			5	6A7, 6D6, 6C6, 43, 25Z5, M49HG	456	8-7
720, 721	Vol.	18	MR48	M26			24-10-5	1/15	UR182	B269			6	6A7, 6D6, 75, 43, 25Z5, 6G5, M49HG	456	9-8
725	Vol. Tone	18 147	MR48 MR48	M26			30-10	1	2N512	B66			6	6A7, 6D6, 75, 6G5, 25N6G, 25Z5, M42HG	456	9-7
730, 731	Vol.	18	MR48	M26									4	1D7G, 1D5G, 1H6G, 1F5G	456	8-5
770	Vol. Tone	18 147	MR48 MR48	M26			24-10-5	1/15	UR182	B269			5	6A7, 6D6, 75, 43, 25Z5, M49HG	456	9-1
771	Vol. Tone	18 147	MR48 MR48	M26			24-10-5	1/15	UR182	B269			6	6A7, 6D6, 75, 6G5, 43, 25Z5, M42HG	456	9-1
777	Vol.	7	J	6			30, 16	1 1	BB26 BB24				4	6D6, 6C6, 25L6, 25Z5		9-9
X780B	Vol.	7	MR28				34-10	1	2N512	B66			4	6D6, 6C6, 25L6G, 25Z5, M55HG		9-10
801	Vol.	7	MR28	M26			34-10	1	2N512	B66			5	6D6, 6C6, 25L6G, 25Z5, [6]6E5, [2]03G, M49HG		9-10
810	Vol.	18	MR48	M26			1125	1	2N507	B66			5	6A7, 6D6, 75, 25L6G, 1V	456	9-11
815	Vol.	18	MR48	M26			1141	1	2N512	B66			5	6A7, 6D6, 75, 25L6G, 25Z5, M49HG		9-12
822, 822X	Vol.	18	MR48	M26			1083	1/15	2N512 + BB17	B66			5	6A7, 6D6, 75, 25L6G, 25Z5	456	9-13
823	Vol.	18	MR48	M26			1090	15	WE1835				6	6A7, 6D6, 75, 6V6G, 6G5, 80	456	9-13
824	Vol. Tone	18 147	MR48 MR48				1083	1/15	2N512 + BB17	B66			7	6A7, 6D6, 76, 6G5, 6F5G, 25L6G, 25Z5	456	9-13
X825	Vol.	18	MR48	M26			15	1	WE1835				6	6A7, 6D6, 75, 6V6G, 80, 43, M49HG	456	9-8
826X	Vol.	18	MR48	M26			1083	1/15	2N512/BB17	B66			5	6A7, 6D6, 75, 25L6G, 25Z5, M49HG	456	9-13
828	Vol. Tone	18 147	MR48 MR48	M26			35 15 50	1 1 15	WE4050 WE1835 BB17				7	6A7, 6D6, 76, 6G5, 6F5G, 6V6G, 80	456	9-11
832	Vol.	18	MR48	M26			1083	1/15	2N512 + BB17	B66			5	6A7, 6D6, 75, 25L6G, 25Z5	456	9-13
833	Vol.	18	MR48	M26			1090	1	WE1835				6	6A7, 6D6, 75, 6V6G, 6G5, 80	456	9-13
834	Vol. Tone	18 147	MR48 MR48				1083	1/15	2N512 + BB17				7	6A7, 6D6, 76, 6G5, 6F5G, 25L6G, 25Z5	456	9-13
X837, X837S	Vol. Tone	124 124	MR48 MR48	M26			35 15 50	1 1 15	WE4050 WE1835 BB17				7	6A8G, 6K7G, 6H6G, 6E5, 6F5G, 6V6G, 5Y3G	456	9-15,16
838	Vol. Tone	18 147	MR48 MR48	M26			35 15 50	1 1 15	WE4050 WE1835 BB17				7	6A7, 6D6, 6G5, 76, 6F5G, 6V6G, 80	456	9-11
850	Vol.	18	MR48	M26									4	1D7G, 1D5G, 1H6G, 1F5G, 2BG	456	9-14
870, 871	Vol.	18	MR48	M26			24-10-5	1/15	UR182	B269			6	6A7, 6D6, 75, 43, 25Z5, 6G5	456	9-8
886	Vol.	7	MR28	M26			10 5	24 15	BB22 BB12				5	6D6, 6C6, 38, 76, 6E5, M84F		9-5
908	Vol. Phono.	8 63	MR28 MR39				1102010	1	2N506				4	6D6, 6C6, 25L6G, 25Z5		9-17
909	Vol.	18	MR48	M26			1102012	1	2N514	B66			5	6A7, 6D6, 75, 25L6G, 25Z5	455	9-17
910	Vol. Tone	18 21	MR48 MR48	M26			1171	1	2N514	B66			5	6A7, 6D6, 75, 25L6G, 25Z5	456	9-9
911	Vol. Tone	18 21	MR48 MR48	M26			1171	1	2N514	B66			5	6A7, 6D6, 75, 25L6G, 25Z5	456	9-14
912	Vol. Tone	106 106	MR48 MR48	M26			1102017	1	2N514	B66			5	6A7, 6D6, 75, 25L6G, 25Z5, M49HG	455	
1000	Vol.	7	J	6			1051	24/15	3N525	B61			4	6D6, 6C6, 38, 76		8-7
1001	Vol.	7	J	6		A14	24-10-5	24/15	UR182	B268			4	6D6, 6C6, 43, 25Z5		8-8
1001-B	Vol.	7	J	6			1135	1	2N512	B66			4	6D6, 6C6, 25L6G, 25Z5		9-12
2000	Vol.	7	J	6			1051	24/15	3N525	B61			4	6D6, 6C6, 38, 76		8-7
2001	Vol.	7	J	6		A14	24-10-5	24/15	UR182	B268			4	6D6, 6C6, 43, 25Z5		8-8
2001-B	Vol.	7	J	6			34-10	1	2N512	B66			4	6D6, 6C6, 25L6G, 25Z5		9-12
2206	Vol.	7	MR28	M26			1152	1	2N512	B66			4	6D6, 6C6, 25L6G, 25Z5, M55HG		9-12
2207	Vol.	7	MR28	M26			1152	1	2N512	B66			4	6D6, 6C6, 25L6G, 25Z5, M55HG		
3910	Vol.	18	MR48	M27			2025	12	BB21				4	1A7G, 1N5G, 1H5G, 1C5G	455	
X8312	Vol. Tone	124 124	MR48 MR48	M26			40	1	BB27				10	6A7, 6D6, 75, 76, [2]25L6G, [2]25Z5, 6G5, [2]M42HG	456	9-18
AIRLINE—See Montgomery Ward.																
AIR QUEEN—See Airking																
ALLAMERICAN MOHAWK																
D	Vol.	24	DRP169	6			1-1-1.5 .073 .2		See Note On 60 cy On 25 cy	B1 B9 B9			7	[2]24, 27, [2]45, 80		1-14
DC	Vol.	25	DRP169				8	4	RS213				9	[2]22, [2]12A, 6171A		1-27
DC7 110V	Vol. Tone	24 22	‡ K12		See Note	A5	1.5-2	1	See Note	B7			7	[2]36, [2]37, [2]33	175	3-22

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ALL AMERICAN MO	HAWK	— Continued														
DC7 220V	Vol.	24	‡		See Note	A5	1.5-2	1	See Note	B7			7	[3]6,[3]7,[2]3	175	3-21
	Tone	22	‡		See Note	A5										
DC65 110V	Vol.	8	G				3.5		See Note	B11			6	[2]9, 36, 37,[2]3	175	3-28
	Tone	22	K12													
DC65 220V	Vol.	8	G	6			1.5-2		See Note	B7			6	[2]9, 36, 37,[2]8	175	3-29
	Tone	22	K12													
H	Vol.	24	DRP169				1-1-1.5	1	See Note	B1			8	[1]4, 27,[2]45, 80	‡	1-15
							.073		On 60 ey	B9						
							.2 Mfd		On 26 cy	B9						
J	Vol.	6	F7				6900/61366	4	RS213				6	[1]4, 45, 80		1-16
							61278/61356	4	RS216							
K	Vol.	15	N				1-2-4	1	See Note	B1			9	[1]4A,[2]7,[2]45, 80		1-18
	Tone	22	K12				.1		See Note	B9						
P	Vol.	6	F7				6900/61366	4	RS213				6	[1]4A, 47, 80		1-19
							61278/61356	4	RS216							
S6	Vol.	8	G				6900	4	RS213				6	[1]4, 35, 27, 47, 80	175	1-21
S7	Vol.	8	G				6900/61366	4	RS213				7	[1]4,[2]35, 27, 47, 80	175	1-23
	Tone	22	K12				16	4	RS216							
S8	Vol.	8	GG				6900	4	RS213				8	24,[2]7,[2]35,[2]47, 80	175	1-25
	Tone	22	Z12				61278	4	RS216							
SW8	Vol.	17	N	6			8, 8	1	ST595				9	[2]35,[1]4,[2]7,[2]47, 80	485	3-23
	Tone	22	G12													
S10	Vol.	13	N				6900/61366	3	RS213				10	[1]4,[2]35,[2]7,[2]47, 80	175	3-24
	Tone	41	N													
S40	Vol.	2	Y				8-8	1	2S567				4	[2]57, 47, 80	175	3-25
							10	19	BB12	B6						
S50	Vol.	6	F12	6			8, 8	1	ST595				5	[2]57, 58, 47, 80	175	3-25
	Tone	22	G12				10	19	BB12	B6						
S63	Vol.	42	H				6900	1	RS213				6	[2]35, 24, 47, 80	175	3-26
	Tone	22	G12				10	15	BB12							
SA65	Vol.	15	N	6			8, 8	1	RS213				6	[2]58, 57, 55, 47, 80	175	3-27
	Tone	22	G12				10	16	BB12	B6						
S80	Vol.	8	H	6			8, 8	1	RS213				8	24,[2]35,[2]7,[2]47, 80	175	3-31
	Tone	39	M													
SW80	Vol.	15	N				8, 8	1	RS213				8	[2]56,[2]57,[2]58, 47, 80	485	3-32
	Tone	22	G12													
SA90	Vol.	18	N	6			8, 8	1	RS213				9	[1]4,[2]35, 55, 27,[2]47, 80	175	3-33
	Tone	21	N				10	15	BB12	B10						
	Sen.	‡	F		See Note	A4										
SA91	Vol.	15	N				8, 8	1	RS213				9	55,[2]57,[2]58, 56,[2]47, 80	175	3-34
	Tone	21	N				10	15	BB12							
	Sen.	‡	F													
SA110	Vol.	18	N				4-8-4-8	1/2	See Note	B3			11	[2]56,[2]57,[2]58,[2]46, 83	175	3-36
	Tone	21	N				10	15	BB12	B6						
	Sen.	‡	C													
SA130	Vol.	15	N	6			8, 8, 8	7	RS213				12	[2]56,[2]57,[2]58,[2]47, 82	175	3-37
	Tone	39	‡		See Note	A5	5	15	BB12							
	Sen.	8	H12		See Note	A4										
SG 110V DC	Vol.	12	G12				2-2-2		See Note	B11				‡		3-17
U55	Vol.	6	Y				16-5	6	See Note	B5			5	[1]4, 43, 25Z5	485	3-40
							12	6	BB22	B12						
7T 110V DC	Vol.	26	UC513				1-1-1-1-3	‡	See Note	B7				‡		3-16
A10 PWR. PK							2-4-4	3	See Note	B13				BH		3-14
B7	Vol.	25	DRP239										6	[1]32, 33, 30		
B30, 31	Vol.	25	See Note			A5							6	30,[2]31,[2]32		3-19
C6 Studio	Vol.	6	G7				8-8-8	3	MN275				5	[1]24, 45, 80		1-20
60, 61, 62, 65, 66	Vol.	14	SRP170										7	[2]6,[2]7, 71A, 80		1-6
70, 73, 75	Vol.	38	See Note			A6	2-2-3	‡	See Note	B1			8	[2]6,[2]7, 50, 80		1-8
	Hum	37	HU75				.1		See Note	B9						
77	Vol.	14	M										7	[1]26, 27, 71, 80		3-13
B80	Vol.	43	DRP169				8	12	ST585				8	[2]34, 32,[2]30	175	3-30
	Tone	21	M													
80, 83, 84, 85, 86, 88	Vol.	14	SRP170										9	[1]26,[2]7,[2]71A, 80		1-9
90 Series to 95	Vol.	6	G7				2-2-2	3	See Note	B1			10	[2]7,[2]45, 80		1-10,11
	Hum	37	HU20				.1		See Note	B9						
96	Vol.	6	G7				2-2-2-1-1	3	See Note	B1			8	[1]24,[2]7,[2]45, 80		1-12
	Hum	37	HU20				.1		See Note	B9						
ALLIED RADIO CO	RP.															
5T Auto	Vol.	7	G		2	A1							5	37, 41, 57,[2]58		3-18
5X	Vol.	18	N				8-4	23	2S567	B33			5	6A7, 6D6, 75, 41, 80	456	8-12
6-Tube Auto	Vol.	7	G		2	A1							6	[2]58, 57, 37,[1]41		3-18
6P	Vol.	18	N				[2]958	1	2S564	B26	245C	C3	6	6D8G, 6S7G, 6T7G, [2]30, 19	456	8-14
	Tone	44	L				.01-.01		Buffer	B14						
6T Dual Wave	Vol.	15	M				9110-0	1	2S567	B26			6	47, 55, 57,[2]58, 80	175	3-10
							8876-0	17	BB11							
6W	Vol.	18	N	6			8-4	23	2S567	B33			6	6A7, 6D6, 75, 6H5, 41, 80	456	8-7
	Tone	34	L													
6Y	Vol.	18	N				P1561	27	2P549				5	6A7, 6D6, 75, 25B6G, 25Z5	456	8-11
7M	Vol.	139	500M No. 1		See Note	A19	4-16	23	2S563	B33			7	6A7, 6D6, 76, 75, 6U5, 42, 80	456	8-13
	Tone	139	O				10	19	BB12							
7T	Vol.	7	F				8, 8	25	ST595				7	[1]24,[2]35, 47, 27, 80	175	3-15
	Tone	22	K12													
8T (810)	Vol.	46	See Note	6		A5							8	[2]30,[2]32,[2]34,[2]49	‡	3-17
8/9 AC	Vol.	3	D7				4-2-1	3	See Note	B1			9	[2]6, 27,[2]71A, 80		3-1
12T Class "B" Super	Vol.	45	M				8	3	WE851				12	[2]16,[2]56, 57,[2]58, 83	177.5	3-14
	Tone	22	K12				8-8	3	2S567	B78						
80AC	Vol.	18	N				701	23	2S567	B33			5	6A7, 6D6, 75, 42, 80	456	7-1
118	Vol.	15	N	6			12	34	RS215				9	[1]24,[2]7,[2]35,[2]47, 80	175	3-8,9
	Tone	44	K12				8	34	RS213							
AC5	Vol.	7	Z				2-1	1	See Note	B1			5	[1]24, 45, 80		3-2
A5-30 (Roamer)	Vol.	7	Z		See Note	A1							5	[1]24A,[2]12A		3-3
A9701, A9702, A9703, A9704	Vol.	6	G12				16-12	23	2P546				4	6D6, 6C6, 43, 25Z5, L49C		8-1
A9705	Vol.	18	N				16-12	27	2P546				6	6A7, 6D6, 6G5, 75, 25L6, 25Z5	456	8-1
A9710, A9711E, A9711, A9712, A9712E	Vol.	45	N				16-12	27	2P546				7	6A7, 6D6, 76, 6G5, 6K5, 25L6, 25Z5	465	8-2
	Tone	34	L													
A9715, A9717, A9716, A9718	Vol.	6	G12				16-12	23	2P546				5	6D6, 6C6, 43, 25Z5, L49C		8-1
A9720, A9721, A9722	Vol.	18	N				8-4	23	2S567	B33			7	[3]6K7, 6A8, 6Q7, 6G5, 6F6, 5Y3	465	8-2
	Tone	34	L													
A9724, A9725, A9726	Vol.	18	N										6	6A7, 6D6, 75, 76,[1]48	465	8-3
A9728, A9729, A9730	Vol.	45	N				8-8	1	2S564	B26	245C	C3	6	6D8, 6S7, [3]6L5, 19	465	8-3
	Tone	22	M													

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ALLIED RADIO CORP.—Continued																
A9733, A9734	Vol.	45	2 Meg. No.1		See Note	A19	12-18	1	2S569	B26			15	[3]6K7, 6A8, [3]6H6, 6G5, [4]6C5, [3]6F6, [5]Z3	465	8-4
	Tone	...‡..	Y1000MP				8	13	ST595							
							10	15	BB12							
A9735	Vol.	18	N				16-12	27	2P546				6	6A7, 6D6, 75, 6G5, 25L6, 25Z5	456	8-1
A9740	Vol.	6	H12	6	EX250		3013	27	2P549				5	6D6, 6C6, 43, 25Z5, L55B		9-1
A974	Vol.	18	N	6			3041	1	2N518				6	6A7, 6D6, 75, 41, 80, 6G5		9-3
	Tone	22	K12													
A9752, A9753, A9754, A9755	Vol.	18	UM154/SS16				1476	25	RS216				8	6A7, 6K7, 75, 6C5, [3]6F6, 6G5, 80	465	9-5
	Tone	44	K12	6			1477	25	RS215							
A9757, A9758	Vol.	45	TM251/SS16				3167	25	WE3050				11	[3]6K7, 6A8, 6J7, 6H6, [3]6C5, [3]6F6, 80	465	9-9-12
							3041	25/13	2N518							
							1693	20	BB12							
							1110	13	BB60							
A9760, A9761, A9762			Order from	Mfr.									4	1C6, 34, 1F6, 33, 5E1	465	9-15
A9768, A9769, A9770	Vol.	45	MR48				3060	1	2N518		245A	C3	7	6A7, [3]15, [3]76, 6G5, 19	465	9-7,8
	Tone	22	MR33	M26			1693	15	BB12							
							.01-.01		Buffer	B14						
A9775	Vol.	18	N				8-4	1	2S567				5	6A7, 6D6, 75, 42, 80	456	8-5
A9776, A9777, A9778	Vol.	45	N	7			8-8	1	2N518		245C	C3	6	1C6, 34, [3]30, 32, 19	456	8-6
	Tone	44	L				.01-.01		Buffer	B14						
A9782, A9783	Vol.	45	UM154			A96	8-6	23	2S567	B33	294	C3	7	6D6, 6A7, 6K7, 6H6, 6C5, 6V6G, 84	175	8-7
	Tone	22	MR44				.0075		Buffer	B14						
A9785, A9786	Vol.	15	MR53	M26			P1154	14	WE4050				19	[4]6K7, 6A8, 6H6, 6C5, 6G5, 85, 6D6, 42, [4]45, [5]5W4, 80, 83	456	9-7
	Tone	22	MR39				P1155	3	ST596							
	Bass	21	MR48				P1156	2/3	WE3050							
							P950	13	2N518							
							P1043	13	BB60							
							P304	15	BB11							
A9788, A9789	Vol.	15			See Note	A19	P1154	14	WE4050				11	[3]6K7, 6A7, 6H6, 6G5, [3]6C5, [3]6F6, 80	456	9-19
	Tone	44	MR39				P1155	1	XT596							
							P1156	1	WE3050							
A9825	Vol.	6	H12	6	EX250		3013	27	2P549				4	6D6, 6C6, 43, 25Z5, L55B		9-1
A9826, A9828			Order from	Mfr.									5	1C6, 34, 1F6, 33, 5E1	465	9-15
A9830, A9831	Vol.	45			See Note	A19	3167	25	WE3050				11	[3]6K7, 6L7, 6J7, 6H6, [3]6C5, 6G5, [3]6F6, 5Z3	465	9-21,22
	Tone	22	MR33	M26			1476	25	RS216							
							1110	13	BB60							
							3170	19	BB13							
							8876	15	BB12							
A9833 to A9838 incl.	Vol.	45			See Note	A19	3060	1	2N518		245A	C3	8	[3]15, 6A7, [3]76, 6G5, 19	465	9-23-28
	Tone	44	MR33	M26			3159	13	BB40							
							8876	15	BB12							
							.01-.01		Buffer	B14						
A9848, A9849 (Chassis 68)	Vol.	45	MR48	M26			8826	1	2N518				6	6A7, 6K7, 6Q7, 6B5, 80, 6G5	465	9-29
	Tone	22	MR48													
A9848, A9849 (Chassis 266)	Vol.	45	N	6			24-266	1/19	3S579	B141			6	6A7, 6D6, 76, 6F5G, 42, 80	465	9-30,32
	Tone	22	N													
A9848, A9849 (Chassis 268)	Vol.	45	N	6			19-266	1/13	3S584	B79			7	6A7, 6K7, 76, 6F5G, 6B5, 80, 6G5	465	9-30,32
	Tone	22	N													
A9852, A9854	Vol.	15			See Note	A19	P1154	14	WE4050				11	[3]6K7, 6A7, 6H6, 6G5, [3]6C5, [3]6F6, 80	456	9-19,20
	Tone	44	MR39				P1155	1	ST596							
							P1156	1	WE3050							
A9855, A9856	Vol.	15	MR53	M26			P1154	14	WE4050				19	[4]6K7, 6A8, 6H6, 6C5, 6G5, 85, 6D6, 42, [4]45, [5]5W4, 80, 83	456	9-7
	Tone	22	MR39				P1155	3	ST596							
	Bass	21	MR48				P1156	2/3	WE3050							
							P950	13	2N518							
							P1043	13	BB60							
							P304	15	BB11							
A9870 (Chassis Z3)	Vol.	45	MR48	M26			8-4	1	2N518				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	456	8-9
	Tone	34			See Note	A3										3-3
B6-30	Vol.	41	E12		See Note	A1							6	[3]31, [3]32		
B10500	Vol.	18	MR48				1703	23	2S567				6	6A8, 6D6, 6Q7, 6G5, 41, 80	465	
	Tone	34	...‡...	See Note	A3										465	
B10501	Vol.	18	MR48				1703	23	2S567				5	6A7, 6D6, 75, 41, 80	465	
	Tone	34	...‡...	See Note	A3											
B10502, B10503, B10504, B10505, B10506, B10507	Vol.	6	...‡...		See Note	A3	16-12	4	2P546				4	6D6, 6C6, 25L6, 25Z5, L49C		
B10508	Vol.	18	MR48				16-12	4	2P546				6	6A7, 6D6, 6G5, 25L6, 25Z5, 75	465	
B10509	Vol	6	...‡...		See Note	A3	16-12	4	2P546				4	6D6, 6C6, 25L6, 25Z5, L49C		
B10510, B10511, B10512	Vol.	45	MR48				16-12	27	2P546				7	6A8, 6D6, 76, 6K5, 25L6, 6G5, 25Z5		
	Tone	22			See Note	A3	10	15	BB12							
B10514	Vol.	18	MR48				1703	23	2S567	B33			6	6A8, 6D6, 6Q7, 6G5, 41, 80	465	
	Tone	34			See Note	A3										
10515, B10516, B10517, B10518	Vol.	17	TM231-SS1				12	1	ST596				9	[3]6K7, 6A8, 6Q7, 6G5, 6C5, [3]6F6, 5Y3	465	
	Tone	34	L				18		ST597							
B10520, B10521	Vol.	18	N	7			8-8	1	2N517		See Note	C8	4	1C7, 1D5, 1H6, 1G5	456	
B10522	Vol.	18	MR48				1703	23	2S567				6	6A8, 6D6, 6Q7, 6G5, 41, 80	465	
	Tone	34	...‡...			A3										
B10525, B10526	Vol.	...‡..	Order from	Mfr.			P1993	30	WE3050				16	[4]6K7G, 6L7G, [3]6H6G, [4]6J5G, 6J7G, [3]6L6G, [5]5Z3	456	
	Tone	34	M				P1994	30	WE1250							
	Bass	15	N				P1992	30	WE3035							
							P1997	13/14	2N516							
B10530, B10531	Vol.	18	N	6			P1561	4	2P549				5	6A7, 6D6, 75, 25B6G, 25Z5	456	
B10533, B10534	Vol.	18	O	6			P1511	23	2S567				5	6A7, 6D6, 75, 41, 80	456	
B10535	Vol.	80	500M No. 1	6	See Note	A19	P1755	23	2S563	B33			7	6A7, 6D6, 76, 75, 6U5, 42, 80	456	
	Tone	80	O				P304	19	BB12							
B10536	Vol.	18	N	6			P1591	23	2S567				5	6A7, 6D6, 75, 41, 80	456	
B10537, B10538, B10539	Vol.	140	...‡...	6	See Note	A19	P1937	46	WE3050				11	6A8, [3]6K7, [4]6J5, 6J7, [3]6F6, 5Z3	456	
	Tone	140	MR53				P1939	46	2S567	B82						
B10540, B10541, B10542	Vol.	140	1 Meg. No.1	6	See Note	A19	P1825	46	3S584	B87			8	6A7, 6D6, [3]76, 75, [3]42, 80	456	
	Tone	140	O				P1783	15	BB12							
B10543, B10544	Vol.	45	N	6			P1783	19	BB12				6	1A6, [2]1A4, 30, 1G5G, 1B1	456	

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ALLIED RADIO CO RP.—Continued																
B10545, B10546, B10547, B10548, B10549	Vol.	18	N	6			P958	1	2S564	B26	245C	C3	6	6D8G, 6S7G, 6T7G, ‡30, 19	456	
	Tone	44	L				.01-.01		Buffer	B14						
B10550	Vol.	18	UC514	6			P1293	4	2S567	B33	294	C3	6	‡6D6, 6A7, 75, 41, 84	175	
	Tone	22	MR39				.0075		Buffer	B14						
B10551	Vol.	45	MR48	M26			P1293	23	2S567	B33	850	C3	7	6D6, 6A7, 6K7, 6H6, 6C5, 6V6G, 84		
	Tone	22	Order from	Mfr.			.0075		Buffer	B14						
B10552	Vol.	45	MR48	M26			P1293	23	2S567	B33	850	C3	7	6D6, 6A7, 6K7, 6H6, 6C5, 6V6G, 84	175	
	Tone	22	Order from	Mfr.			.0075		Buffer	B14						
B10553	Vol.	18	MR48	M27			P958	1	2S564	B26	245C	C3	6	6D8G, 6S7G, 6T7G, ‡30, 19	456	
	Tone	44	MR39				.01-.01		Buffer	B14						
B10560, 10561	Vol.	15	MR48	M26			3718	1	2N518				7	6A7, 6D6, 76, 75, 41, 6G5, 80	465	
	Tone	22	MR33													
B10562, B10563	Vol.	17	N	6			3041	1	2N518				6	6A7, 6D6, 75, 6G5, 41, 80	465	
	Tone	22	K12													
B10565, B10566, B10567, B10568	Vol.	17	2 Meg. No. 1		See Note A19		3718	1	2N518				8	6A8G, 6K7G, 6Q7G, 6G5, 6C5G, ‡6K6G, 5Y4G	465	
	Tone	44	K12	6			1108	13	BB60							
B10570	Vol.	18	N	6			3041	1	2N518				6	6A7, 6D6, 75, 6G5, 41, 80	465	
	Tone	22	K12													
B10575	Vol.	18			See Note A3		4096	1	2N518		294	C3	5	6D8G, 6S7G, 6T7G, 41, 6ZY5G	465	
	Tone	22	MR33				1693	15	BB12							
B10578	Vol.	15	UM154/SS16				.02		Buffer	B14			6	6A7, 6D6, 76, 75, 41, 80	465	
	Tone	22	K12	6			3718	1	2N518							
B10580, B10581, B10582	Vol.	20	TM251-SS16				3167	46	WE3050				11	‡6K7, 6A8, 6J7, 6H6, ‡6C5, ‡6F6, 80	465	
							3041	46	2N518							
							1693	20	BB12							
							1110	13	BB60							
B10585, B10586	Vol.	15	UM154-SS16				3718	1	2N518				6	6A7, 6D6, 76, 75, 41, 80	465	
	Tone	22	K12	6			1693	15	BB12							
B10588, B10589	Vol.	17	N										5	1C6, 34, 1F6, 33, 5E1	465	
B10590, B10591, B10592, B10593, B10595, B10596	Vol.	17	UM154-SS16				3150	12	ST587				6	1C6, 34, 1F6, ‡30	465	
	Tone	44	K12	14			1693	19	BB12							
B10600, B10601, B10602, B10603, B10604, B01605	Vol.	15	UM154-SS16				3060	1	2N518		245	C3	7	6D8G, ‡6S7G, 6N5, 19, ‡6L5G	465	
	Tone	22	K12	6			1693	15	BB12							
							.03		Buffer	B14						
B10606, B10607, B10608, B10609, B10610, B10611	Vol.	15			See Note A19		4188	1	2S565	B26	245	C3	8	‡6S7G, 6D8G, ‡6L5G, 19, 6N5	465	
							1693	15	BB12							
							.03		Buffer	B14						
B10612, B10615, B10617	Vol.	17	UM154-SS16										6	6A7, 6D6, 75, 76, ‡48	465	
	Tone	22	K12	6												
E9830	Vol.	18	M		See Note A5		8-8	4	2S567	B33			8	47, ‡56, 57, ‡58, 80	177.5	3-12
	Tone	22	K12													
E9831	Vol.	18	M		See Note A5		8, 8	4	ST595	B3			10	‡56, 57, ‡58, ‡47, 80	177.5	3-13
	Tone	22	K12													
E10913 (Chassis 118B)	Vol.	18	MR48	M23			10	19	BB12				4	1A7G, 1N5G, 1H5G, 1A5G	455	
F9451	Vol.	18	UC512				6-12	1	2S568	B26	292	C3	5	6A7, 6D6, 6B7, 41, 84	456	5-6
							10	15	BB12							
							.02-.02		Buffer	B14						
F9501	Vol.	6	L		EX400		20-4-5-5	6/15	See Note	B5			5	78, 44, 77, 43, 25Z5	456	5-1
F9505	Vol.	15	M				4-4	4	2S567	B33			5	6A7, 42, 75, 78, 80	456	5-2
	Tone	22	L	7			5, 5	15/19	BB12	B3						
F9511	Vol.	9	Y250MP				5	19	BB12				5	1A6, 19, 30, 32, 34	456	5-2
	Tone	22	L													
F9515	Vol.	15	M				6-10-5-5	1/15	UR189	B5	F221	C3	5	6A7, 42, 75, 78, 84	456	5-3
	Tone	22	L	7			.05-.05		Buffer	B14						
F9521	Vol.	6	G7		2		4-4	4	2S567	B33				42, 77, 78, 80		5-3
	Tone	22	L	7												
F9525, F9527	Vol.	6	UC510		EX400		20-4-5-5	6/15	UR189	B5			4	25Z5, 43, 44, 77		5-4
F9531	Vol.	15	N	6			8	5	ST595				8	37, ‡42, ‡78, 80, 85	465	5-5
	Tone	41	L				4	5	BB60							
F9541	Vol.	15	UM154	M26	See Note A96		6-10-5-5	1/15	See Note	B5	292	C3	6	6A7, 41, 75, ‡78, 84	175	5-6
							.05-.05		Buffer	B14						
F9551	Vol.	15	UM147	M26	See Note A96		8-16	4	2S563		292	C3	7	6A7, 37, 41, ‡78, 84, 85	‡	5-7
							10	15	BB12							
F9555	Vol.	7	G		2		6-6	1	2N518				5	2A5, 57, ‡58, 80		5-8
							10-10	15	TN111							
F9591	Vol.	15	N	6			8	5	ST595				8	37, ‡42, ‡78, 80, 85	456	5-5
	Tone	41	L				4	5	BB60							
F9610, F9612, F9613	Vol.	15	N				8, 8	1	RS213				8	2A5, ‡56, ‡57, ‡58, 80	485	6-10
	Tone	22	G12	6			10	15	BB12							
F9618, F9619	Vol.	45	N				8, 8	1	ST595				12	‡46, ‡56, ‡57, ‡58, ‡80	175	7-5
	Suppr.	47	F				5, 5	15/17	BB12							
	Tone	21	N													
F9630, F9635	Vol.	45	N				8-4	4	2S567	B33			7	‡56, ‡57, 58, 2A5, 80	456	
	Tone	22	K12													
F9640, F9645	Vol.	15	N				8, 8	4	ST595				8	2A5, ‡56, 57, ‡58, 80	177.5	
	Tone	22	K12													
F9650, F9654	Vol.	15	M				12	4	ST596				10	‡2A5, 55, 56, 57, ‡58, 80	‡	
	Tone	22	K12				8	4	ST595							
F9660, F9665	Vol.	45	M				12	4	ST596				10	‡2A5, ‡56, 57, ‡58, 80	177.5	
	Tone	22	K12				8	4	ST595							
F9670, F9675	Vol.	45	M				8	3	WE851				12	5Z3, 53, ‡56, 57, ‡58	‡	
	Tone	22	K12				12-8	3	2S568	B78						
F9751	Vol.	15	M				4-4	4	2S567	B33			5	6A7, 42, 75, 78, 80	456	
	Tone	22	L	7			5, 5	15/19	BB12							
F9761, F9767	Vol.	15	N	6			8	26	ST595				8	37, ‡78, 85, ‡42, 80	456	
	Tone	41	L				4	26	BB60							
F9775	Vol.	9	Y250MP				5	19	BB12				5	1A6, 19, 30, 32, 34	456	4-1
	Tone	22	L	7												
F9777	Vol.	15	M				6-10-5-5	1/15	See Note	B5	F221	C3	5	6A7, 78, 75, 42, 84	456	
	Tone	22	L	7			.05-.05		Buffer	B14						
G9503	Vol.	6	G12	6	EX200		16-12	27	2P546				4	6C6, 6D6, 12Z3, 43		6-1
G9505	Vol.	7	UC501	6	EX200		8-4	4	2S567	B33			5	6C6, ‡6D6, 42, 80		6-1
G9511, G9513	Vol.	18	N				8-4	23	2S567	B33			5	6A7, 6D6, 42, 75, 80	465	6-1
G9515	Vol.	18	UM154		See Note A96		6-12	1	2S565	B26	292	C3	5	6A7, 6B7, 6D6, 41, 84	456	6-2
							10	15	BB12							
							.02-.02		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ALLIED RADIO CORP.—Continued																
G9517	Vol.	18	UM154		See Note	A96	6-12	1	2S565	B26	292	C3	6	6A7,[2]6D6, 41, 75, 84	175	6-3
							10	15	BB12							
							.02-.02		Buffer	B14						
G9527	Vol.	18	N				8-4	23	2S567	B33			5	6A7, 6D6, 75, 42, 80	456	7-1
G9533	Vol.	18	N				8-8	4	2S567	B33			6	6A7,[2]6D6, 42, 75, 80	465	6-4
	Tone	22	G12													
G9545, G9547, G9549	Vol.	18	TRP606				3004	28	2N518				8	6A7, 42, 76,[3]78, 80, 85	465	6-5
	Tone	22	Y				1948	28	ST595							
	Suppr.	48	Y10MP													
G9551	Vol.	7	G12	6			4-4	4	2S567	B33			4	42, 77, 78, 80		6-6
	Tone	22	L	7												
G9553	Vol.	15	N				8-20-5	11	UR182	B17			5	6A7, 6D6, 25Z5, 43, 75	456	6-7
							5	15	BB12							
							5	13	BB31							
G9557	Vol.	15	N				5-20-8	11	UR182	B31			5	6A7, 6D6, 25Z5, 43, 75	456	6-6
							5	15	BB12							
G9561, G9563, G9565, G9567	Vol.	15	N										5	1C6,[3]30, 33, 34	456	6-7
	Tone	22	L													
G9561, G9563, G9565, G-9567, (above No. 61700)	Vol.	15	No. 1 Taper			A5							5	1C6, 19, 30, 32, 34	465	6-8
	Tone	22	No. 1 Taper			A5										
G9575 to G9605 Inc.	Vol.	15	N				8-8	1	2N518				8	[2]6D6, 6A7, 75, 76, [2]42, 80	456	7-2
	Tone	22	L				8	14	ST585							
							5	15	BB12							
G9599	Vol.	17	UM154		See Note	A96	6-10	1	2S565	B26	292	C6	6	6A7, 41, 75,[3]78, 84	465	6-9
							5, 5	15	BB12							
							.05-.05		Buffer	B14						
G9611, G9613	Vol.	45	N										6	1A6, 30, 32, 33, 34	465	6-10
G9615	Vol.	18	N				1258	1	RS213		F251	C3	5	6A7, 6D6, 75, 38, 84	465	7-3
	Tone	22	Y	6			1260	1	WE450							
							9328	15	TN111							
							.01-.01		Buffer	B14						
G9617, 9619, 9623, 9625, 9627	Vol.	18	N	7			1291	12	ST595				7	1C6, 34, [3]30, 32, 19	465	7-5
G9629, 31, 33, 35, 37, 39	Vol.	18	N	7			1291	12	ST595				10	[3]34, 1C6,[3]30	465	7-9
	Tone	22	K12													
G9643, G9645	Vol.	17	N	6			1477	1	RS215				7	[2]6D6, 6A7, 75, 76, 41, 80	465	7-6
	Tone	22	K12				1476	1	RS216							
G9881	Vol.	18	UM154		See Note	A96	8876	15	BB11							
							6-12	1	2S565	B26	292	C3	5	6A7, 6B7, 6D6, 41, 84	456	6-2
							10	15	BB12							
G9882	Vol.	18	UM154		See Note	A96	.02-.02		Buffer	B14						
							6-12	1	2S565	B26	292	C3	6	6A7,[2]6D6, 41, 75, 84	175	6-3
							10	15	BB12							
							.02-.02		Buffer	B14						
L5	Vol.	18	N	6			P474	32	WE450				7	5Z4, 6F5, 6F6, 6H6, 6K7, 6L7	456	
	Tone	34	L				P160	32	2S567	B81						
							P304	15	BB12							
L6	Vol.	18	N	6			P474	32	WE450				8	5Z4, 6C5,[2]6F6, 6K7, 6L7,[2]6Q7	456	
	Tone	44	L				P160	32	2S567	B81						
							P304	15	BB12							
L7	Vol.	45	N	7			P391	1	2N516		245C	C3	7	1C6, 19,[3]30,[3]34	456	
	Tone	‡	L				.01-.01		Buffer	B14						
P (AC)	Vol.	15	N				4-4	4	2S567	B33			5	47, 55, 57, 58, 80	175	4-1
	Tone	22	L				10	19	BB12	B3						
P (Batt.)	Vol.	9	Y10MP	6			8	13	EB21	B3			5	[2]32, 33,[3]34	175	4-1
	Tone	22	L				10	‡	BB12							
SG8	Vol.	6	Y	6	See Note	A8	1.8-2.3-2.3	3	See Note	B1			8	[3]24,[2]27,[3]45, 80		3-4
SG9	Vol.	24	DRP119	6		A9	8, 8, 8	3	ST595				9	[3]24,[2]27,[3]45, 80		3-6
	Tone	41	N													
SG10	Vol.	7	Z			A10	2-2.5-2.5	3	See Note	B1			10	24,[2]27,[3]45, 80		3-7
T (Auto.)	Vol.	17	UM154		See Note	A96	6-10	1	2S565	B26	292	C3	6	6A7, 41, 75,[3]78, 84	175	
							5, 5	15	BB12							
							.05-.05		Buffer	B14						
U	Vol.	7	UC510	6			4-20	6	2N507	B90			4	25Z5, 43, 44, 77	456	
U6	Vol.	17	UC514	6			5, 5	15	BB12							
	Tone	22	MR39				P795	4	2S567	B33	294	C3	6	6D6, 6A7, 6K7, 75, 6F6, 84	175	8-10
							G864	15	BB12				6			
V	Vol.	6	UC510		EX400		.0075		Buffer	B14						
							20-4	6	2N507	B90			5	25Z5, 43, 44, 77, 78	‡	
W	Vol.	15	N				5, 5	15	BB12							
	Tone	41	L				8	26	ST595				8	37,[3]42,[3]78, 80, 85	456	
Z4	Vol.	45	SRP275	7			4	26	BB60							
	Tone	44	L				P391	1	2S567	B26	245C	C3	6	1C6, 19,[3]30, 32, 34	456	
Z5	Vol.	45	SRP275	7			.01-.01		Buffer	B14						
	Tone	44	L				P958	1	2N518		245C	C3	6	1C6, 19,[3]30, 32, 34	456	
"Knight" 6280	Vol.	45	N				.01-.01		Buffer	B14						
	Tone	22	‡		See Note	A5	8-4	1	2N518		285NS	C3	6	1C6, 34,[3]30, 19	465	
							.01-.01		Buffer	B14						
AMERICAN BOSCH—See United American Bosch.																
AMERICAN FOUNDATION FOR THE BLIND																
U	Vol.	6	SRP263	6			8-16	6	2N504	B90			5	[2]6C6, 6D6, 43, 25Z5	175	7-1
	Tone	22	K12				2-4	15	TN111							
	Phono.	63	K12													
X	Vol.	6	H12	6	EX200		4-4	4	2S567	B33			5	[2]6D6, 6C6, 42, 80		7-1
	Tone	22	K12				5	15	BB12							
	Phono.	63	Y													
30	Vol.	6	SRP263	6			8-16	6	2N504	B90			5	[2]6C6, 6D6, 43, 25Z5	175	7-1
	Tone	22	K12				2-4	15	TN111							
	Phono.	63	K12													
AMERICAN TRAN. CORP.																
25A (A Unit)	Vol.	35	N										3	[2]26, 27		1-1
250	Vol.	35	M				2-4-4		See Note	B4			7	[3]27,[2]50,[3]81		1-2
AMRAD																
AC5	Vol.	29				A11	360	3	MN272				7	[3]216B, 12,[3]99		1-4
AC6	Vol.	14	M				D-15-30		MN272							
DC6, DC6C	Vol.	29	Q										6	[3]26, 27, 71		1-6
	Vol.	29	S										6	[3]01A, 12A or 71A		1-6
DC7, DC7C	Vol.	29	‡		See Note	A5							7	[3]01A, 71A		
AC7, AC7C	Vol.	10	H12				8-8-8-8	1/14	MN277				8	[3]26, 27, 71A, 80		1-3
70 (Concerto, Nocturn, Opera, Sonata)	Vol.	‡	H12						See Note	B3			8	[3]26, 27, 10 or 50,[2]81		1-8

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
AMRAD—Continued																
81 (Aria, Minuett, Serenata, Duet, Symphony)	Vol.	12	K12				8-8-18-18	1/22	MN278				8	[3]24,[3]27,[3]45, 80		3-1
	Hum	75	Y200MP													
	Hum	75	HU20													
84, 84C, 84D	Vol.	15	N				9-9-18	3	MN277	B83			8	[4]24, 27,[3]45, 80		1-5
171ABC							8-8-8-8	3/14	MN277				1	80		1-2
F516	Vol.	6	G12	6	EX200		W41080	1	ST591				5	[2]6D6, 76, 6B5, 80	450	7-1
							W41081	1	ST592							
F546	Vol.	6	G7		See Note A14		W36057	1	WE4050		246	C3	5	[3]15, 6A7, 38	450	7-3
	Tone	34			See Note A3		W41195	15	BB12							
							.001		Buffer							
F616	Vol.	18	O				W36055	1	WE4050				6	6A8G, 6K7G, 6H6G, 6F5G, 6N6G, 5Z4MG	450	7-5
	Tone	34	L	6			W36057	1	WE4050							
F626	Vol.	...‡..	DRP304				W36055	1	WE4050				6	6A8G, 6K7G, 6J7G, 6C5G, 6N6G, 5Z4MG	450	7-7
	Tone	34	L	6			W36057	1	WE4050							
							W40325	‡..	RS208							
							W37778	15	TN111							
3500-1	Vol.	31	A400P										4	[4]01A		1-1
3500-2	Vol.	14	M										4	[4]01A		1-1
7100	Vol.	40	H12										5	[4]26, 27		1-7
ANDREA																
CA5 (M1)	Vol.	17	MR53				16-8	6	2N504	B90			5	6A7, 78, 6B7, 43, 25Z5		
	Tone	57	MR44				10	15	BB12						470	8-10
D8L, D8S	Vol.	124	MR53				HC99	25	WE1650				8	[2]6K7G, 6A8G, 6H6G, 6F5G, 6V6G, 5Y4G, 6G5	470	9-4
	Tone	57	MR44				HC71	25/13	RM262							
1A5 (A5L)	Vol.	17	MR53				8. 8	1	ST595				5	6A7, 78, 6B7, 42, 80	470	8-1
	Tone	57	MR44				10-10	15	TN111							
1A7 (A7L)	Vol.	17	MR53				8	1	ST595				7	[2]6D6, 6A7, 6B7, 42, 80	470	8-2
	Tone	57	MR44				4-4	13/14	2N518							
							10-10	15	TN111							
1B6 (B6L)	Vol.	15	MR53				HC58	1	2S568	B26			6	6A7, 6K7, 6H6, 6F5, 42, 80	470	8-3
	Tone	57	MR44				4-1	13	Order from	Mfr.						
							HC2	15	TN111							
1B8 (B8L)	Vol.	15	MR53				HC64	1/13	2S563	B41			8	6D6, 6A7,[2]6K7, 6H6, 6F5, 42, 80	470	9-3
	Tone	57	MR44				HC63	1/13	2N518							
							HC2	15	TN111							
1C5 (C5L)	Vol.	18	MR53				HC72	4	WE1250				5	6A7, 78, 75, 41, 80	470	9-1
							HC56	13	CS130							
1D6 (D6L)	Vol.	15	MR53	M26			HC97	4	WE1650				6	6A7, 78, 76, 77, 6V6G, 80	470	
							HC56	13	CS130							
1D7 (D7L)	Vol.	124	MR53				HC99	25	WE1650				7	[2]6K7G, 6A8G, 6H6G, 6F5G, 6V6G, 5Y4G	470	8-5
	Tone	57	MR44				HC71	25/13	RM262							
1D8 (D8L)	Vol.	45	MR53				HC99	25	WE1650				8	[2]6K7G, 6A8G, 6H6G, 6F5G, 6G5, 6V6G, 5Y4G	470	9-4
	Tone	57	MR44				HC71	25/13	RM262							
1D10 (D10L)	Vol.	124	MR53	M26			HC113	3	WE1250				10	[2]6K7G, 6A8G, 6H6G, 6F5G, 6C5G,[2]6V6G, 5U4G, 6G5	470	8-7
	Tone	22	MR48				HC114	3	WE851							
							HC115	13/14	2N518							
							HC61	15	BB13							
1E6 (PE6L)	Vol.	18	MR48	M26			HC128	25	WE4050				6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-5
	Tone	57	MR44				HC129	25	WE1650							
							HC130	13	ST595							
							HC131	15	BB12							
1E6 (PE6S)	Vol.	18	MR48	M26			HC128	25	WE4050				6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-6
	Tone	57	MR44				HC129	25	WE1650							
							HC130	13	ST595							
							HC131	15	BB12							
1E8 (PE8L)	Vol.	15	MR53				HC145	25	WE4050				8	[2]6K7, 6K8, 6H6, 6U5, 6F5, 6V6G, 5Y4G	470	9-9,10
	Tone	57	MR44				HC148	25/13	2S563	B92						
							HC131	15/19	BB12							
2A5 (A5S)	Vol.	17	MR53				8	1	ST595				5	6A7, 78, 6B7, 42, 80	470	8-1
	Tone	57	MR44				10-10	15	TN111							
2B6 (B6S)	Vol.	15	MR53				HC58	1	2S568	B26			6	6A7, 6K7, 6H6, 6F5, 42, 80	470	8-3,4
	Tone	57	MR44				4-1	13	Order from	Mfr.						
							HC2	15	TN111							
2B8 (B8S)	Vol.	15	MR53				HC64	1/13	2S563				8	6D6, 6A7,[2]6K7, 6H6, 6F5, 42 80	470	9-3
	Tone	57	MR44				HC63	1/13	2S567							
							HC2	15	TN111							
2C5 (C5S)	Vol.	17	MR53				HC72	4	WE1250				5	6A7, 78, 75, 41, 80	470	9-1
							HC56	13	CS130							
2D5 (D5)	Vol.	18	MR48	M26			HC121	1/15	3S577				5	6A7, 6D6, 75, 41, 80	470	9-14
2D6 (D6S)	Vol.	15	MR53	M26			HC97	4	WE1650				6	6A7, 78, 76, 77, 6V6G, 80	470	
							HC56	13	CS130							
2D7 (D7S)	Vol.	124	MR53				HC99	25	WE1650				7	[2]6K7G, 6A8G, 6H6G, 6F5G, 6V6G, 5Y4G	470	8-5
	Tone	57	MR44				HC71	25/13	RM262							
2D8 (D8S)	Vol.	45	MR53				HC99	25	WE1650				8	[2]6K7G, 6A8G, 6H6G, 6F5G, 6V6G, 5Y4G, 6G5	470	9-4
	Tone	57	MR44				HC71	25/13	RM262							
2D10 (D10S)	Vol.	124	MR53	M26			HC113	3	WE1250				10	[2]6K7G, 6A8G, 6H6G, 6F5G, 6C5G,[2]6V6G, 5U4G, 6G5	470	8-8
	Tone	22	MR48				HC114	3	WE851							
							HC115	13/14	2N518							
							HC112	15	BB13							
2E6 (PE6L)	Vol.	18	MR48	M26			HC128	25	WE4050				6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-5
	Tone	57	MR44				HC129	25	WE1650							
							HC130	13	ST595							
							HC131	15	BB12							
2E6 (PE6S)	Vol.	18	MR48	M26			HC128	25	WE4050				6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-6
	Tone	57	MR44				HC129	25	WE1650							
							HC130	13	ST595							
							HC131	15	BB12							
2E8 (PE8S)	Vol.	15	MR53				HC145	25	WE4050				8	6K7, 6A8, 6H6, 6U5, 6F5, 6V6G, 5Y4G	470	9-9,10
	Tone	57	MR44				HC148	25/13	2S563	B92						
							HC131	15/19	BB12							
3A7 (A7L)	Vol.	17	MR53				8, 8	1	ST595				7	[2]6D6, 6A7, 6B7, 42, 80	470	8-2
	Tone	57	MR44				4-4	13/14	2N518							
							10-10	15	TN111							
3B6 (B6L)	Vol.	15	MR53				HC58	1	2S568	B26			6	6A7, 6K7, 6H6, 6F5, 42, 80	470	8-3,4
	Tone	57	MR44				4-1	13	Order from	Mfr.						
							HC2	15	TN111							
3D5 (D5, D5E, D5S)	Vol.	18	MR48	M26			HC121	1/15	3S577				5	6A7, 6D6, 75, 41, 80	470	9-14
3D5 (D5L)	Vol.	18	MR48	M26			HC121	1/15	3S577				5	6A7, 6D6, 75, 41, 80	470	9-14
3D7 (D7L)	Vol.	124	MR53				HC99	25	WE1650				7	[2]6K7G, 6A8G, 6H6G, 6F5G, 6V6G, 5Y4G	470	8-5
	Tone	57	MR44				HC71	25/13	RM262							
3D8 (D8L)	Vol.	45	MR53				HC99	25	WE1650				8	[2]6K7G, 6A8G, 6H6G, 6F5G, 6G5, 6V6G, 5Y4G	470	9-4
	Tone	57	MR44				HC71	25/13	RM262							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ANDREA—Continued																
3D10 (D10L)	Vol.	124	MR53	M26			HC113	3	WE1250				10	2/6K7G, 6A8G, 6H6G,		
	Tone	22	MR48				HC114	3	WE851					6F5G, 6C5G, 2/6V6G,		
							HC115	13/14	2N518					5U4G, 6G5	470	8-7
3E8 (PE8L)	Vol.	15	MR53				HC61	15	BB13							
	Tone	57	MR44				HC115	25	WE4050				8	2/6K7, 6K8, 6H6, 6U5,		
							HC148	25/13	2S563	B92				6F5, 6V6G, 5Y4G	470	9-9,10
3E11 (PE11L)	Vol.	15	MR53				HC131	15/19	BB12							
	Tone	22	MR48				HC153	30	ST596				11	2/6K7, 6A8, 6H6, 6F5,		
							HC154	30	WE1835					6U5, 6C5, 2/6V6G,		
							HC155	13	ST595					5U4G	470	9-11,12
4B6 (R6S)	Vol.	15	MR53				HC58	1	2S568	B26			6	6A7, 6K7, 6H6, 6F5,		
	Tone	57	MR44				4-1	13	Order from	Mfr.				42, 80	470	8-3,4
4D5 (D5E)	Vol.	18	MR48	M26			HC2	15	TN111							
4D7 (D7S)	Vol.	124	MR53				HC121	1/15	3S577	B193			5	6A7, 6D6, 75, 41, 80	470	9-13,14
	Tone	57	MR44				HC99	25	WE1650				7	2/6K7G, 6A8G, 6H6G,		
4D8 (D8S)	Vol.	45	MR53				HC71	25/13	RM262					6F5G, 6V6G, 5Y4G	470	8-5
	Tone	57	MR44				HC99	25	WE1650				8	2/6K7G, 6A8G, 6H6G,		
							HC71	25/13	RM262					6F5G, 6V6G, 5Y4G,		
4D10 (D10S)	Vol.	124	MR53	M26										6G5	470	9-4
	Tone	22	MR48				HC113	3	WE1250				10	2/6K7G, 6A8G, 6H6G,		
							HC114	3	WE851					6F5G, 6C5G, 2/6V6G		
							HC115	13/14	2N518					6G5, 5U4G	470	8-8
4E8 (PE8S)	Vol.	15	MR53				HC112	15	BB13							
	Tone	57	MR44				HC145	25	WE4050				8	2/6K7, 6A8, 6H6, 6U5,		
							HC148	25/13	2S563	B92				6F5, 6V6G, 5Y4G	470	9-9,10
4E11 (PE11S)	Vol.	15	MR53				HC131	15/19	BB12							
	Tone	22	MR48				HC153	30	ST596				11	2/6K7, 6A8, 6H6, 6F5,		
							HC154	30	WE1835					6U5, 6C5, 2/6V6G,		
							HC155	13	ST595					5U4G	470	9-11,12
5A5 (A5L)	Vol.	17	MR53				8, 8	1	ST595				5	6A7, 78, 6B7, 42, 80	470	8-1
	Tone	57	MR44				10-10	15	TN111							
5D7 (D7L)	Vol.	124	MR53				HC99	25	WE1650				7	2/6K7G, 6A8G, 6H6G,		
	Tone	57	MR44				HC71	25/13	RM262					6F5G, 6V6G, 5Y4G	470	8-5
5D8 (D8L)	Vol.	45	MR53				HC99	25	WE1650				8	2/6K7G, 6A8G, 6H6G,		
	Tone	57	MR41				HC71	25/13	RM262					6F5G, 6V6G, 5Y4G,		
5D10 (D10L)	Vol.	124	MR53	M26										6G5	470	9-4
	Tone	22	MR48				HC113	3	WE1250				10	2/6K7G, 6A8G, 6H6G,		
							HC114	3	WE851					6F5G, 6C5G, 2/6V6G,		
							HC115	13/14	2N518					5U4G, 6G5	470	8-7
5E8 (PE8L)	Vol.	15	MR53				HC61	15	BB13							
	Tone	57	MR44				HC145	25	WE4050				8	2/6K7, 6K8, 6H6, 6U5,		
							HC148	25/13	2S563	B92				6F5, 6V6G, 5Y4G	470	9-9,10
5E11 (PE11L)	Vol.	15	MR53				HC131	15/19	BB12							
	Tone	22	MR48				HC153	30	ST596				11	2/6K7, 6A8, 6H6, 6F5,		
							HC154	30	WE1835					6U5, 6C5, 2/6V6G,		
							HC155	13	ST595					5U4G	470	9-11,12
6A5 (A5S)	Vol.	17	MR53				8, 8	1	ST595				5	6A7, 78, 6B7, 42, 80	470	8-1
	Tone	57	MR44				10-10	15	TN111							
6D5 (PD5, PD5E)	Vol.	18	MR48	M26			HC121	1/15	3S577				5	6A7, 6D6, 75, 41, 80	470	9-15
6D7 (D7S)	Vol.	124	MR53				HC99	25	WE1650				7	2/6K7G, 6A8G, 6H6G,		
	Tone	57	MR44				HC71	25/13	RM262					6F5G, 6V6G, 5Y4G	470	8-5
6D8 (D8S)	Vol.	45	MR53				HC99	25	WE1650				8	2/6K7G, 6A8G, 6H6G,		
	Tone	57	MR44				HC71	25/13	RM262					6F5G, 6V6G, 5Y4G,		
6D10 (D10S)	Vol.	124	MR53											6G5	470	9-4
	Tone	22	MR48				HC113	3	WE1250				10	2/6K7G, 6A8G, 6H6G,		
							HC114	3	WE851					6F5G, 6C5G, 2/6V6G,		
							HC115	13/14	2N518					5U4G, 6G5	470	8-7
6E8 (PE8S)	Vol.	15	MR53				HC112	15	BB13							
	Tone	57	MR41				HC145	25	WE4050				8	2/6K7, 6A8, 6H6, 6U5,		
							HC148	25/13	2S563	B92				6F5, 6V6G, 5Y4G	470	9-9,10
6E11 (PE11S)	Vol.	15	MR53				HC131	15/19	BB12							
	Tone	22	MR48				HC153	30	ST596				11	2/6K7, 6A8, 6H6, 6F5,		
							HC154	30	WE1835					6U5, 6C5, 2/6V6G,		
							HC155	13	ST595					5U4G	470	9-11,12
7D7 (D7L)	Vol.	124	MR53				HC99	25	WE1650				7	2/6K7G, 6A8G, 6H6G,		
	Tone	57	MR44				HC71	25/13	RM262					6F5G, 6V6G, 5Y4G	470	8-5
7D8 (D8L)	Vol.	45	MR53				HC99	25	WE1650				8	2/6K7G, 6A8G, 6H6G,		
	Tone	57	MR44				HC71	25/12	RM262					6F5G, 6V6G, 5Y4G,		
7D10 (D10L)	Vol.	124	MR53	M26										6G5	470	9-4
	Tone	22	MR48				HC113	3	WE1250				10	2/6K7G, 6A8G, 6H6G,		
							HC114	3	WE851					6F5G, 6C5G, 2/6V6G,		
							HC115	13/14	2N518					5U4G, 6G5	470	8-7
7E8 (PE8L)	Vol.	15	MR53				HC61	15	BB13							
	Tone	57	MR44				HC145	25	WE4050				8	2/6K7, 6A8, 6H6, 6U5,		
							HC148	25/13	2S563	B92				6F5, 6V6G, 5Y4G	470	9-9,10
7E11 (PE11L)	Vol.	15	MR53				HC131	15/19	BB12							
	Tone	22	MR48				HC153	30	ST596				11	2/6K7, 6A8, 6H6, 6F5,		
							HC154	30	WE1835					6U5, 6C5, 2/6V6G,		
							HC155	13	ST595					5U4G	470	9-11,12
8D5 (PD5, PD5E)	Vol.	8	MR48	M26			HC121	1/15	3S577				5	6A7, 6D6, 75, 41, 80	470	9-15
8D7 (D7S)	Vol.	124	MR53				HC99	25	WE1650				7	2/6K7G, 6A8G, 6H6G,		
	Tone	57	MR44				HC71	25/13	2S567					6F5G, 6V6G, 5Y4G	470	8-5
8D8 (D8S)	Vol.	45	MR53				HC99	25	WE1650				8	2/6K7G, 6A8G, 6H6G,		
	Tone	57	MR44				HC71	25/13	2S567					6F5G, 6V6G, 5Y4G,		
8D10 (D10S)	Vol.	124	MR53	M26										6G5	470	9-4
	Tone	22	MR48				HC113	3	WE1250				10	2/6K7G, 6A8G, 6H6G,		
							HC114	3	WE851					6F5G, 6C5G, 2/6V6G,		
							HC115	13/14	2N518					5U4G, 6G5	470	8-7
8E8 (PE8S)	Vol.	15	MR53				HC112	15	BB13							
	Tone	57	MR44				HC145	25	WE4050				8	2/6K7, 6A8, 6H6, 6U5,		
							HC148	25/13	2S563	B92				6F5, 6V6G, 5Y4G	470	9-9,10
8E11 (PE11S)	Vol.	15	MR53				HC131	15/19	BB12							
	Tone	22	MR48				HC153	30	ST596				11	2/6K7, 6A8, 6H6, 6F5,		
							HC154	30	WE1835					6U5, 6C5, 2/6V6G,		
							HC155	13	ST595					5U4G	470	9-11,12
9D10 (D10L)	Vol.	124	MR53	M26			HC113	3	WE1250				10	2/6K7G, 6A8G, 6H6G,		
	Tone	22	MR48				HC114	3	WE851					6F5G, 6C5G, 2/6V6G,		
							HC115	13/14	2N518					5U4G, 6G5	470	8-7
9E8 (PE8L)	Vol.	15	MR53				HC61	15	BB13							
	Tone	57	MR44				HC145	25	WE4050				8	2/6K7, 6A8, 6H6, 6U5,		
							HC148	25/13	2S563	B92				6F5, 6V6G, 5Y4G	470	9-9,10
9E11 (PE11L)	Vol.	15	MR53				HC131	15/19	BB12							
	Tone	22	MR48				HC153	30	ST596				11	2/6K7, 6A8, 6H6, 6F5,		
							HC154	30	WE1835					6U5, 6C5, 2/6V6G,		
							HC155	13	ST595					5U4G	470	9-11,12
10D10 (D10S)	Vol.	124	MR53				HC113	3	WE1250				10	2/6K7G, 6A8G, 6H6G,		
	Tone	22	MR48				HC114	3	WE851					6F5G, 6C5G, 2/6V6G,		
							HC115	13/14	2N518					5U4G, 6G5	470	8-7
10E8 (PE8S)	Vol.	15	MR53				HC112	15	BB13							
	Tone	57	MR44				HC145	25	WE4050				8	2/6K7, 6A8, 6H6, 6U5,		
							HC148	25/13	2S563	B92				6F5, 6V6G, 5Y4G	470	9-9,10
							HC131	15/19	BB12							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ANDREA—Continued																
10E11 (PE11S)	Vol.	15	MR53				HC153	30	ST596				11	‡6K7, 6A8, 6H6, 6F5, 6U5, 6C5, ‡6V6G, 5U4G	470	9-11,12
	Tone	22	MR48				HC154	30	WE1835							
							HC155	13	ST595							
11E6 (PE66L)	Vol.	45	MR48	M26			24-24-10	1/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-17
	Tone	57	MR44				HC142	13	ST595							
11E6 (PE66S)	Vol.	45	MR48	M26			24-24-10	1/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-18
	Tone	57	MR44				HC142	13	ST595							
12E6 (PE66L)	Vol.	45	MR48	M26			24-24-10	1/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-17
	Tone	57	MR44				HC142	13	ST595							
12E6 (PE66S)	Vol.	45	MR48	M26			HC141	1/15	Order from	Mfr.			6	6K8, 6K7, 6J6, 6F5, 6V6G, 5Y4G	470	9-18
	Tone	57	MR44				HC142	13	ST595							
14E6 (PE66L)	Vol.	45	MR48				24-24-10	1/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-17
	Tone	57	MR44				HC142	13	ST595							
14E6 (PE66S)	Vol.	45	MR48	M26			24-24-10	1/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6V6G, 5Y4G	470	9-18
	Tone	57	MR44				HC142	13	ST595							
62PX (PXD5)	Vol.	18	MR48	M26			HC124	6/19	3N528	B93			5	6A7, 6D6, 75, 43, 25Z6	470	9-20
62X (XD5)	Vol.	18	MR48	M26			HC124	6/19	3N528	B93			5	6A7, 6D6, 75, 43, 25Z6	470	9-20
400 (B4)	Vol.	6	Y		2		HC52	4	WE851				4	6A7, 6F7, 41, 80	470	9-21
							HC56	13	CS130							
401 (B4L)	Vol.	6	Y	6	2		HC52	4	WE851				4	6A7, 6F7, 41, 80	470	9-21
							HC56	13	CS130							
410 (UC4)	Vol.	6	Y	6	3		HC90	6/15	3N526				4	6D6, 6C6, 43, 25Z5, C4B		8-10
411 (UC4L)	Vol.	6	Y	6	3		HC90	6/15	3N526				4	6D6, 6C6, 43, 25Z5, C4B		8-10
500 (UB5)	Vol.	18	MR53				HC43	6/13	TN125	B101			5	6A7, 78, 6B7, 43, 25Z5	470	9-22
							HC2	15	TN111							
510 (UC5L), 511 (UC5S)	Vol.	18	MR53				HC72	4	WE1250				5	6A7, 78, 75, 41, 80	470	9-1
							HC56	13	CS130							
510 (UC5S)	Vol.	18	MR53				HC74	27	ST589				5	6A7, 78, 75, 43, 25Z5	470	9-23
							HC75	13	CS130							
511 (UC5L)	Vol.	18	MR53				HC74	27	ST589				5	6A7, 78, 75, 43, 25Z5	470	9-23
							HC75	13	CS130							
520 (UD5S), 521 (UD5L)	Vol.	18	MR48	M26			HC96	6/15	3N528	B61			5	6A7, 6D6, 75, 43, 25Z5	470	9-23
600 (UB6)	Vol.	18	MR48				HC39	1	RM257				6	6A7, ‡78, 6B7, 43, 25Z5	470	9-27
							HC46	1	ST585							
							HC2	15	TN111							
610-613 (C6B)	Vol.	17	MR53				HC77	1	2S566	B26	245	C3	6	‡6S7G, 6D8G, 6T7G, 6L5G, 6K6G	470	9-25
							HC79	15	BB12							
							HC78	13	RM257							
							HC2	15	TN111							
							.015-.015		Buffer	B14						
610-613 (C32B)	Vol.	17	MR53				HC77	1	2S566	B26	See Note	C6	6	‡6S7G, 6D8G, 6T7G, 6L5G, 6K6G	470	9-26,27
							HC79	15	BB12							
							HC78	13	RM257							
							HC2	15	TN111							
							.01		Buffer	B14						
616, 617, 618 (D6B)	Vol.	124	MR53				HC77	1	2S566	B26	245	C3	6	‡6S7G, 6D8G, 6T7G, 6L5G, 6V6G	470	8-13
	Tone	57	MR44				HC117	13/14	2N516							
							HC119	15	TN111							
							.015-.015		Buffer	B14						
620 (UD6S), 621 (UD6L)	Vol.	17	MR53	M26			HC96	6/15	3N528	B61			5	6A7, 78, 75, 25L6, 25Z5	470	9-28
							HC75	13	CS130							
626, 627, 628 (E6B)	Vol.	17	MR53				HC77	1	2S566	B26	246	C3	6	‡6S7G, 6D8G, 6T7G, 6L5G, 6V6G	470	9-29,30
	Tone	57	MR44				HC131	15	BB12							
							HC134	13	BB40							
							.015		Buffer	B14						
630, 631 (PUE6L)	Vol.	18	MR48	M26			HC132	25/19	3N526	B103			5	6K8, 6K7, 6Q7G, 25L6G, 25Z6G, E6B	470	9-31
	Tone	57	MR44				HC133	25/13/15	3N525							
630, 631 (PUE6S)	Vol.	18	MR48	M26			HC132	25/19	3N526	B103			5	6K8, 6K7, 6Q7G, 25L6G, 25Z6G, E6B	470	9-32
	Tone	57	MR44				HC133	25/13/15	3N525							
634 (PUE6S)	Vol.	18			See Note	A5	HC132	25/19	3N526	B103			3	6Q7G, 25L6G, 25Z6G		9-33
	Tone	57	MR44				HC133	25/13/15	3N525							
							HC151	25	BB26							
							HC149	19	BB17							
635 (PUE6L)	Vol.	18			See Note	A5	HC132	25/19	3N526	B103			3	6Q7G, 25L6G, 25Z6G		9-33
	Tone	57	MR44				HC133	25/13/15	3N525							
							HC151	25	BB26							
							HC149	19	BB17							
1401, 1403, 1405, 1409 (UD14L)	Vol.	124	MR53	M26			HC109	1	ST589				11	‡6K7G, 6A8G, 6H6G, 6F5G, 6C5G, ‡25L6G, ‡25Z6G, 6G5	470	8-12
	Tone	22	MR48				HC110	1	RS208							
							HC116	13	ST587							
							HC61	15	BB13							
							HC111	1	2N509							
1402, 1404, 1406, 1408, 1410, (UD14S)	Vol.	124	MR53	M26			HC109	1	ST589				11	‡6K7G, 6A8G, 6H6G, 6F5G, 6C5G, ‡25L6G, ‡25Z6G, 6G5	470	9-34
	Tone	22	MR48				HC110	1	RS208							
							HC116	13	ST587							
							HC61	15	BB13							
							HC111	1	2N509							
1530, 1534, 1536, 1538 (PUE5)	Vol.	15	MR53				HC158	22	RS208				12	‡6K7, 6K8, 6H6, 6F5, 6U5, 6C5, ‡25L6G, ‡25Z6G	470	9-35,38
	Tone	22	MR48				HC159	25	RS208							
							HC160	22/25	2N509							
							HC161	13	BB31							
							HC162	13	2N502							
							HC112	15	BB13							
1531, 1533, 1535, 1537 (PUE1)	Vol.	15	MR53				HC158	22	RS208				12	‡6K7, 6K8, 6H6, 6F5, 6U5, 6C5, ‡25L6G, ‡25Z6G	470	9-35,38
	Tone	22	MR48				HC159	25	RS208							
							HC160	22/25	2N509							
							HC161	13	BB31							
							HC162	13	2N502							
							HC112	15	BB13							
ANSLEY RADIO LA	BS.															
B1	Vol.	12	M			A27	10	19	BB12	B20			4	1A6, 1A4, 32, 33 or 1A6, 1A4, 1F4, 1B4	456	7-1
	Tone	71	O			A4										
DC	Vol.	26	UC510				2-2-1		See Note	B4			7	‡01A, 71A		2-1

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ANSLEY RADIO LA	BS—Continued															
D1	Vol.	50	L				32-8-8	1	See Note	B3			4	25Z5,‡48, 76		6-1
	Hum	51	A3MP				10	15	BB12							
D1 (Rev.)	Vol.	63	M				48	‡	See Note	B3			6	‡6C6,‡48,‡25Z5		7-2
	Tone	41	N													
	Hum	‡	A3MP													
D1, D1A (3rd type)	Vol.	‡	LL				80	12	TN129	B8			6	‡6C6,‡25L6,‡25Z5		8-1
	Tone	41	N													
	Hum	‡	Y500MP													
D3, D4, D6	Vol.	6	SRP263		EX100		16-8	1	2S563				5	25Z5, 43,‡77, 78	175	5-1
							2-4	15	TN111							
D9, D10	Vol.	17	MR53	M26			32-24-12	8	Order from	Mfr.			6	6A8G, 6K7, 6Q7G, 25A6G or 25L6, ‡25Z6G	456	8-2
	Tone	57	MR48				10-10	15	TN111							7-2
D12	Vol.	63	N				48-16-8	46	See Note	B3			6	‡76,‡48,‡25Z5		
	Tone	44	N				10	15	BB13							
	Hum	‡	A3MP													
D16	Vol.	63	M				48	‡	See Note	B3			6	‡6C6,‡48,‡25Z5		7-3
	Tone	41	N													
	Hum	‡	A3MP													
D16 (Rev.)	Vol.	‡	LL				80	12	TN219	B8			6	‡6C6,‡25L6,‡25Z5		8-1
	Tone	41	N													
	Hum	‡	Y500MP													
D17, D18	Vol.	17	MR53	M26			32-24-12	8	Order from	Mfr.			6	6A8G, 6K7, 6Q7G, 25A6G or 25L6, ‡25Z6G	456	8-2
	Tone	57	MR48				10-10	15	TN111							
D20	Vol.	‡	LL				80	12	TN129	B8			6	‡6C6,‡25L6,‡25Z5		8-1
	Tone	41	N													
	Hum	‡	Y500MP													
D21, D22	Vol.	18	MR53	M26			80	12	TN129	B8			12	6A8G, 6K7, 6Q7G, 6C5, ‡25L6, ‡25Z6	456	§9-1
	Tone	21	MR48				32-24-12	1/13	See Note	B3						
D24, D25 (7152)	Vol.	80	MR53				32-24-12	6/12	Order from	Mfr.			15	‡6K7, 6L7, 6Q7, 6G5, 6C5,‡25L6,‡25Z5	456	8-4
	Tone	80	MR48	M26			80	12	TN129	B8						
	Sen.	7	Order from	Mfr.			10	15	BB12							
D26	Vol.	‡	N	6			32-24-12	1/13	Order from	Mfr.			3	6C5, 25L6, 25Z6		8-1
MD1	Vol.	12	G12				3		2N516	B11			5	30,‡32, 71A		2-2
U1 AC-DC	Vol.	12	Y				4-8-2	3	3S584				8	‡24, 27,‡45, 80		2-3
	Tone	21	M													
U2 AC-DC	Vol.	8	K				4-8-2	3	MN275				6	‡36, 37, 38, 80		2-4
	Tone	22	M	6			10	15	BB12							
U3	Vol.	7	H	6	2		8-8-2	3	3S584				8	‡37,‡38,‡39, 80	175	5-2
	Tone	39	M				4	15	BB12							
U8	Vol.	12	M	6			4-4	1	2N518				8	37,‡39, 80, 85,‡89	‡	5-3
	Tone	39	M				10-10	15	TN111							
U10	Vol.	6	E	2			16-16-16	1	See Note	B77			6	6A7, 6C6, 6D6, 12Z3		
	Phono.	50	L				10-10	15	See Note	B77				43, 25Z5	456	6-2
U10, U11 (Late)	Vol.	17	MR53	M26			32-24-12	8	Order from	Mfr.			6	6A8G, 6K7, 6Q7G, 25A6G or 25L6, ‡25Z6G	456	8-2
	Tone	57	MR48				10-10	15	TN111							
APEX—See U. S. Radio & Tel.																
APPEL HENDERSON																
AC	Vol.	6	G7	6	4		8	3	ST595				8	24, 27, 47,‡51, 80	‡	2-2
	Tone	22	G12				4	3	ST595							
DC Comb.	Vol.	6	H7	6	5		.5-1	‡	See Note	B4			8	33,‡36,‡37		2-1
	Tone	22	G12													
4 Tube	Vol.	29	T										4	‡32, 33, 36		2-4
5 Tube Batt	Vol.	40	See Note			A5							5	‡32, 36,‡38		2-4
5 Tube AC	Vol.	6	G7	6	4		4-8	1	2N518				5	‡35, 24, 47, 80		2-3
	Tone	22	G12													
ARBORPHONE																
45	Vol.	10	E12				2-2-2-2	1/14	See Note	B1			8	‡26, 27,‡71, 80		§2-1
ARCADIA—See Wells Gardner																
ARGUS																
B125	Vol.	‡	‡		See Note	A5	8-8-8	3	MN275				7	12,‡99, BH		1-1
B195	Vol.	16	M				‡	‡	See Note	B3			8	‡99, 10,‡81		1-1,2
	Sen.	‡			See Note	A5										
ARIEL RADIO																
101	Vol.	3	Y				15-5	1	MN273				7	‡24,‡27,‡45, 80		§6-2
ARKAY—See R. K. Radio Labs.																
ARVIN—See Noblitt-Sparks																
ATCHISON RADIO MFG CO.																
5AC	Vol.	6	G7		5		‡	‡	See Note	B3			7	24,‡27, 45, 80		1-1
5 (DC Speaker)	Vol.	6	G7		5		‡	‡	See Note	B3			7	24,‡27, 45, 80		1-1
6AC	Vol.	6	G7				‡	‡	See Note	B3			9	24,‡27,‡45, 80		1-2
ATWATER KENT																
37, 37C, 37F	Vol.	5	SRP239		See Note	A12	1.5-1	2	See Note	B1			7	‡26, 27, 71A, 80		1-7
38	Vol.	5	SRP239			A12	1.5-1	2	See Note	B1			8	‡26, 27, 71A, 80		1-7
40, 40F	Vol.	5	SRP239		See Note	A12	1-1.5-1	3	See Note	B1			7	‡26, 27, 71A, 80		1-9
41DC	Vol.	5	SRP239		See Note	A12							7	‡12A,‡71A		1-11
42, 42F	Vol.	5	SRP239		See Note	A12	1-1.5-1	3	See Note	B1			7	‡26, 27, 71A, 80		1-9
43	Vol.	5	SRP239		See Note	A12	‡	3	See Note	B1			8	‡26, 27,‡12A, 80		3-15,19
44, 44F, 45	Vol.	5	SRP239		See Note	A12	1-1-1.5	3	See Note	B1			8	‡26, 27, 71A, 80		3-15,19
46, 47	Vol.	5	SRP239		See Note	A12	‡	3	See Note	B1			8	‡26, 27,‡71A, 80		3-15,19
52	Vol.	5	SRP239		See Note	A12	‡	3	See Note	B1			7	‡26, 27, 71A, 80		1-9
53	Vol.	5	SRP239		See Note	A12	‡	‡	See Note	B1			7	‡26, 27, 71, 80		3-19
55, 55C (Early)	Vol.	12	SRP241		See Note	A30	2-2.3-2.3	30	See Note	B1			7	‡24,‡27,‡45, 80		3-21
55, 55C (Late)	Vol.	25	DRP301				2-2.3-2.3	30	See Note	B1			7	‡24,‡27,‡45, 80		3-23
55F, 55FC (Early)	Vol.	12	SRP241		See Note	A30	1.7-4-1	30	See Note	B1			7	‡24,‡27,‡45, 80		3-24
55F, 55FC (Late)	Vol.	25	DRP301				1.7-4-1	30	See Note	B1			7	‡24,‡27,‡45, 80		3-26
56, 57	Vol.	5	SRP239		See Note	A12	‡	2	See Note	B1			7	‡26, 27, 71A, 80		1-9
60, 60C (Early)	Vol.	12	SRP241		See Note	A30	2-2.5-2.5	30	See Note	B1			8	‡24,‡27,‡45, 80		3-29
60, 60C (Late)	Vol.	52	DRP301				2-2.3-2.3	30	See Note	B1			8	‡24,‡27,‡45, 80		3-31
60, 60C (3rd Type)	Vol.	25	DRP301				.1-2-1	30	See Note	B1			8	‡24,‡27,‡45, 80		3-32
61, 61C (DC)	Vol.	12	SRP241		See Note	A30	4-2	2	See Note	B11			7	‡22,‡12A,‡71A		3-36
66	Vol.	52	DRP301				2.1-2.3-2.3	3	See Note	B2			9	‡24,‡27,‡50,‡81		3-40,41
67, 67C	Vol.	12	L										7	‡22,‡12A,‡71A		3-43
D1 (70, 74, 76)	Vol.	25	DRP301				.5-4-2-1	2	See Note	B11			7	‡22,‡12A,‡71A		3-47,49
D2 (70, 74, 76)	Vol.	25	DRP301				4-2-1-.5	2	See Note	B11			7	‡22,‡12A,‡71A		1-35
F (70, 74, 76)	Vol.	25	DRP301				4-1-.5	2	See Note	B1			8	‡24,‡27,‡45, 80		3-46
L1 (70, 74, 76)	Vol.	25	DRP301				1-2-1-.5	31	See Note	B1			8	‡24,‡27,‡45, 80		3-52
L2 (70, 74, 76)	Vol.	25	DRP301				2-1-1-.5	3	See Note	B1			8	‡24,‡27,‡45, 80		3-53
							.225		See Note	B9						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ATWATER KENT—Continued																
P (75)	Vol.	25	DRP301				2-1-1-.5	‡	See Note	B1			8	324,327,345, 80		1-43
	Phono.	‡	A				.225		See Note	B9						
H1, H2 (72)	Vol.	53	DRP302				1-2-1	3	See Note	B1			9	324,327,345, 80	130	3-57
							.225		See Note	B9						
Q (70, 76)	Vol.	25	DRP303										7	301A,322,371A		3-56
80, 80F	Vol.	8	E	6			23146	4	WE850				6	24,335, 47, 80	130	3-67
							22538	4	WE850							
81, 81 (2nd), 81B, 81C	Vol.	54	UC503				22538	12	WE850				7	336,337,338		3-69
82	Vol.	7	A550P	6			23146/22538	4	WE850				7	324,335, 47, 80	130	3-75
82D	Vol.	15	N	6			20049	12	ST593				6	336,337, 33	130	3-71,72
82F	Vol.	7	A550P	6			22538	4	WE850				7	324, 27,335, 47, 80	130	3-75
							23146	4	WE850							
82Q (1st Type)	Vol.	15	N	6			23146/22538	12	WE850				7	330,332, 33	130	3-76
82Q (2nd Type)	Vol.	15	L	6			22538	13	WE850							
							23146	12	WE850				7	330,332, 33	130	3-79
83, 83F	Vol.	8	E	6			22538	4	WE850				6	24,335, 27, 47, 80	130	3-67
							23146	4	WE850							
							3-4	‡	2S567	B21						
84	Vol.	15	N				22538	4	WE850				6	324, 27, 47, 80	130	3-84
							23146	4	WE850							
84 (Late)	Vol.	7	SRP254	6			22538	4	WE850				6	24, 27,335, 47, 80	130	3-85
							23146	4	WE850							
84D	Vol.	15	N				20049	12	ST593				6	33,336,337	130	3-81
84F	Vol.	15	N				22538	4	WE850				6	324, 27, 47, 80	130	3-84
							23149	4	WE850							
84F (Late)	Vol.	7	SRP254	6			22538	4	WE850				6	24, 27,335, 47, 80	130	3-85
							23149	4	WE850							
84Q	Vol.	15	N				22538	12	WE850				7	330,332, 33	130	3-87
85, 85F (Early Late)	Vol.	8	A550P		See Note A4		22538	4	WE850				6	324,335, 47, 80	130	3-89
	Vol.	8	Y500MP		See Note A27		3-4	4	2S567	B21						
85Q (1st Type)	Vol.	15	L				22538	12	WE850				7	330,332, 33	130	3-91
85Q (2nd Type)	Vol.	15	M				22538	12	WE850				7	330,332, 33	130	3-93
86, 86F	Vol.	8	A550P				22538	4	WE850				8	324, 27,335, 47, 80	130	3-95
							3-4	4	2S567	B21						
87	Vol.	8	SRP254	6			2-2.3-2.3	3	See Note	B1			9	327,335,347, 80	130	3-99
							.25		See Note	B9						
87D	Vol.	25	DRP301				20049	12	ST593				8	333,336, 37, 38	130	3-103
89, 89F, 89P	Vol.	15	N	6			2-2.3-2.3	3	See Note	B1			10	24,327,335,347, 80	130	3-105
							.25		See Note	B9						
90, 90F	Vol.	8	E	6			22538	4	WE850				7	24, 27,335, 47, 80	130	3-109
							23146	4	WE850							
91, 91B, 91C	Vol.	54	N				22472	12	BB31				9	336,337,338	260	3-111
92	Vol.	13	N	6			22538	4	WE850				8	324,335, 47, 80	130	3-113
							23146	4	WE850							
92F	Vol.	13	N				22538	4	WE850				8	24,327,335, 47, 80	130	3-115
							23146	4	WE850							
93 (SW Converter)							22397	4	CS133							
							22538	1	WE850				4	24,327, 80	1000	3-117
94, 94F	Vol.	7	SRP254				19728	1	WE850							
							19728	4	WE851				7	335, 24, 47, 80	130	3-119
96 (1st Type)	Vol.	13	N	6			3-4	4	2S567	B21						
							19060	4	WE851				8	24,327,335, 47, 80	130	3-121
							1-2-1-.5	‡	See Note	B1						
							.225		See Note	B9						
96 (2nd Type)	Vol.	13	N				19060	4	WE851				8	24,327,335, 47, 80	130	3-123
	Tunlgt.	‡	K				1-2-1-5	‡	See Note	B1						
							.225		See Note	B9						
96 (3rd Type)	Vol.	13	N				19060	4	WE851				8	24,327,335, 47, 80	130	3-125
	ToneB'm	‡	M10MP				1-2-1-.5	‡	See Note	B1						
							.225		See Note	B9						
96F	Vol.	13	N	6			19060	4	WE851				8	24,327,335, 47, 80	130	3-127
	Tunlgt.	‡	Y50MP				2-2-1-1-.5	‡	See Note	B1						
99 (Types 1 and 2)	Vol.	15	N				2-2.3-2.3	‡	See Note	B1			10	24,327,335,347, 80	130	3-129
	Tunlgt.	‡	Y50MP				.25	‡	See Note	B9						
99 (3rd Type), 99F	Vol.	15	N				2-2.3-2.3	‡	See Note	B1			10	24,327,335,347, 80	130	3-132
	Tunlgt.	‡	H				.25	‡	See Note	B9						
99P	Vol.	15	N	8			2-2.3-2.3	‡	See Note	B1			10	24,327,335,347, 80	130	3-132
	Tunlgt.	‡	H				.25	‡	See Note	B9						
112	Vol.	20	TRP606	6			28031	28	WE851				12	32A3, 2B7, 5Z3,356, 57,358	472.5	6-1
							27583	28	RS216							
							25385	12	ST585							
							25384	12	ST595							
							25379	15	BB12							
126	Vol.	17	UC512		See Note A1		32136	4	2S564	B33	294	C3	6	6A8, 6F6,306K7, 6Q7, 6X5	264	7-3
							25379	15	BB12							
							.003		Buffer	B14						
135Z	Vol.	19	N	6			26995	1	2N517		F297	C3	5	6A7, 43, 75, 78, 84	264	6-7
							22538	12	WE850							
							25379	15	BB12							
							.05-.05		Buffer	B14						
136	Vol.	17	UC512				32136	4	2S564	B33	294	C3	6	306K7, 6A8, 6Q7, 6F6, 6X5	264	7-3
							25379	15	BB12							
							.003		Buffer	B14						
137	Vol.	18	N	6			22538	4	WE850				7	358, 55, 56, 47, 80	125	7-7
145	Vol.	18	N	6			19060	1	WE851				5	2A7, 58, 2A6, 2A5, 80	264	5-7
							27585	1	WE851							
E145, E145X	Vol.	18	N	6			10	15	BB12							
							28031	1	WE851				5	2A7, 58, 2A6, 2A5, 80	125	7-9
							27585	1	WE851							
							25379	15	BB12							
155	Vol.	60	N				24602	9	3S582	B22			5	77, 44, 75, 43, 25Z5	262.5	3-179
							25167	15	BB12							
155 (2nd Type)	Vol.	60	N				24602	29	CM162	B107			5	77, 44, 45, 43, 25Z5	262.5	3-179
							24939	29	BB31	B107						
							24955	29	3S582	B51						
155 (3rd Type)	Vol.	60	N	6			P24955	29	3S582	B32			5	77, 44, 75, 43, 25Z5	262.5	4-1
165	Vol.	60	N	6			25168	1	WE851				5	57, 58, 2A6, 2A5, 80	262.5	4-2
							25167	15	BB12							
165 (2nd Type)	Vol.	55	N	6			25168	1	WE851				5	57, 58, 2A6, 2A5, 80	264	5-9
							25167	15	BB12							
165Q	Vol.	27	UC513	7		A95	22472	12	BB31				5	1A6, 34, 32, 30, 19	264	4-23
168	Vol.	18	N	6			22538	3	WE850				8	358, 55,247, 80	125	7-13
184	Vol.	‡	A20MP	‡			28031	‡	WE851				4	266C6, 42, 80	450	7-15
							27583	‡	RS216							
185	Vol.	55	N	6			25168	1	WE851				5	57, 58, 2A6, 2A5, 80	264	5-9
							25167	15	BB12							
185A	Vol.	55	N				25168	1	WE851				5	2A7, 58, 2A6, 2A5, 80	264	5-11
							25379	15	BB12							
188, 188F	Vol.	13	N	6			22538	25	WE850				8	358, 57, 47,356, 80	130	3-135

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ATWATER KENT— (Continued)																
188, 188F (2nd Type)	Vol.	13	N	6			22538	25	WE850				8	56,[3]58, 55, 57, 47, 80	130	3-137
	Sil.	12	A20MP													
206	Vol.	17	N				27592	1/15	3S579	B11			6	2A7,[3]58, 2A6, 2A5, 80	472.5	5-13
							22538	1	WE850							
206D	Vol.	18	N				28403	39	2N516	B11			6	[2]78, 6A7, 85,[3]43	472½	7-17
E208	Vol.	18	N	6			29691	1	RS216				8	[2]6K7, 6A8, 6R7,[2]6F6, 5Z4	472½	7-19
							27583	1	RS216							
							25379	15	BB12							
215Z	Vol.	19	N	6			26995	1	2N517	B23	F297	C3	5	6A7, 78, 75, 43, 84	264	6-7
							22538	1	WE850							
							.05-.05		Buffer	B14						
P216	Vol.	18	N	6			28031	1	WE851				6	[2]6D6, 6A7, 75, 42, 80	472½	7-21
							27592	1/14/15	3S579	B11						
217	Vol.	55	N	6			22538/25168	1	WE850				7	[3]58, 55, 56, 2A5, 80	264	4-4
							25379	15	BB12							
217D	Vol.	55	N	6			23981	39	2S562	B11			7	[2]78, 75,[3]43, 37	264	4-5
228	Vol.	13	N	6			22538	4	WE850				8	27, 24,[3]35, 47, 80	130	3-139
228D	Vol	13	N	6			20049	12	ST593				6	[3]36,[3]37, 33	130	3-143
228F	Vol.	13	N	6			22538	4	WE850				8	[3]35, 24,[3]27, 47, 80	130	3-141
							22397	4	CS133							
228Q	Vol.	15	L				19728	12	WE851				7	[3]32,[3]30, 33	130	3-145
							23146	12	WE851							
							22538	12	WE850							
236	Vol.	18	N	6			26381	1	ST595				6	[3]58, 56, 2A6, 2A5, 80	125	7-23
							25379	15	BB12							
237Q	Vol.	18	N	6			31552	1	2N516		294	C3	7	1C6,[3]34, 1B5, 30, 19 6Z4	472.5	6-12
							29529	13	ST585							
							.015-.015		Buffer	B14						
246	Vol.	55	N	6			24099	1	RM262				6	56, 57, 58, 55, 47, 80	262.5	3-147
255	Vol.	19	TRP611				22538	25	WE850				5	6A8, 6K7, 75, 6F6, 80	450	7-25
							27583	25	RS216							
260, 260F (Types 1 and 2)	Vol.	15	N	6			22538	2	WE850				10	[4]58,[3]56,[3]47, 80	130	3-149
	Tone B'm	‡	M15MP													
260, 260F (3rd Type)	Vol.	18	N	6			22538	2	WE850				10	57,[4]58, 55, 56,[3]47, 80	130	3-153
	Tone B'm	‡	M15MP													
	Sil.	12	A20MP													
266	Vol.	18	N	6			22538	1	WE850				6	57, 58, 55, 56, 47, 80	262.5	4-6
273D	Vol.	15	N	6			8-8	39	2N516	B11			3	1A6,[3]34	‡	7-26
275	Vol.	55	N	6			26158	29	UR190	B22			5	6A7, 44, 75, 43, 25Z5	264	4-7
285Q	Vol.	45	N	13		A13	29529	12	ST585				5	1C6, 34, 32, 33, 30	450	6-13
286	Vol.	18	N	6			28031	1	WE851				6	[3]58, 2A7, 2A6, 2A5, 80	472.5	6-15
							27592	1/14/15	3S579	B11						
305Z	Vol.	18	N	6			26995	1	2N517		F297	C3	5	6A7, 78, 75, 43, 6Z4-84	264	6-9
							25379	15	BB12							
							.05-.05		Buffer	B14						
310	Vol.	45	N	6			22538	3	WE850				9	[3]58,[3]56,[2]2A5, 80	130	4-8
	Sil.	7	H													
312, E312	Vol.	15	N				28031	1	WE851				12	[2]6D6, 6A7, [3]76, [2]2A3, 5Z3	472½	7-29
							27583	1	RS216							
							29961	13	ST597							
							25384	13	ST595							
							29962	14	2N518							
							25379	15	BB12							
317	Vol.	18	N	6			28031	1	WE851				7	[2]6K7, 6A8, 6F5, 6F6, 5Z4	472.5	6-17
							27592	1/14/15	3S579	B11						
318	Vol.	55	N				28031	1	WE851				8	[3]58, 2A7, 55,[3]2A5, 80	472.5	5-29
325	Vol.	18	N	6			19060	1	WE851				5	2A7, 58, 2A6, 2A5, 80	264	5-7
							27585	1	RS213							
							10	15	BB12							
328 (Early)	Vol.	18	N	6			29691	1	RS216				8	[2]6K7, 6A8, 6H6, 6F5, 6F6, 5Z4	472.5	6-18
							27592	1/14/15	3S579	B11						
328 (Late)	Vol.	18	N	6			31702	1/14/15	3S570				8	[2]6K7, 6A8, 6H6, 6F5, 6F6, 5Z4	472.5	5-7
							28031	1	WE851							
P336	Vol.	18	N	6			27592	1/14/15	3S579	B11			6	[2]6D6, 6A7, 75, 42, 80	472½	7-21
							28031	1	WE851							
337	Vol.	18	N	6			27592	1/14/15	3S579	B11			7	[2]6K7, 6A8, 6H6, 6F5, 6F6, 5Z4	472.5	6-17
							28031	1	WE851							
356	Vol.	18	N	6			27592	1/14/15	3S579	B11			6	[3]58, 2A7, 2A6, 2A5, 80	472.5	6-15
							28031	1	WE851							
376	Vol.	18	N	6			27592	1/14/15	3S579	B11			6	[3]58, 2A7, 2A6, 2A5, 80	472.5	5-13
							22538	1	WE850							
376D	Vol.	18	N				28403	39	2N516	B11			6	[2]78, 6A7, 85,[3]43	472½	7-18
385Q	Vol.	27	UC513	13			22472	12	BB31				5	1C6, 34, 32, 30, 19	264	6-19
387	Vol.	12	N	7		A95	22472	12	BB31				7	[3]34, 1A6, 32,[3]30	264	4-9
E412, E412X, P412, P412X	Vol.	15	N				29691	46	RS216				12	[2]6K7, 6A8, 6H6, [4]6C5, [2]2A3, 5Z3	472½	7-35
							27583	46	RS216							
							25384	14	ST595							
							29962	14	2N518							
							29964	15	TN111							
415Q	Vol.	45	N	13			29529	12	ST585				5	1C6, 34, 32, 33, 30	450	6-13
416	Vol.	17	UC512				32136	4	2S564	B33	294	C3	6	[2]6K7, 6A8, 6Q7, 6F6, 6X5	264	7-3
							25379	15	BB12							
							.003		Buffer	B14						
424	Vol.	55	N				25385	1	ST585		226	C3	4	77, 41, 75, 41	264	4-11
							24379	15	BB12							
							25384	1	ST595							
							.01-.01		Buffer	B14						
425	Vol.	55	N	6			25168	1	WE851				5	57, 58, 2A6, 2A5, 80	264	4-24
							25379	15	BB12							
							26381	1	ST595							
427	Vol.	55	N	6			25168	1	WE851				7	[3]58, 55, 2A5, 80	264	4-4
							25397	15	BB12							
427D	Vol.	55	N	6			23981	39	2S562	B11			7	[2]78, 75, 37,[3]43	264	4-5
427Q	Vol.	12	N	7			22472	12	BB31				7	1A6,[3]34, 32,[3]30	264	4-9
435	Vol.	18	N				28031	25	WE851				5	6A8, 6K7, 75, 6F6, 80	450	6-21
							27585	25	RS216							
							25379	15	BB12							
435 (2nd Type)	Vol.	18	N	6			8	28	RS213				5	6A8, 6K7, 75, 6F6, 80	450	7-37
							16	28	RS216							
446	Vol.	17	UC512				32136	4	2S564	B33	294	C3	6	[2]6K7, 6A8, 6Q7, 6F6, 6X5	264	7-3
							25379	15	BB12							
							.003		Buffer	B14						
447	Vol.	55	N	6			28031	1	WE851				7	[3]58, 2A7, 55, 2A5, 80	472.5	7-39,40
							4	13	WE450							
							10	15	BB12							
448	Vol.	55	N	6			22538	3	WE850				8	[3]58, 55,[3]47, 56, 80	130	4-12
	Sil.	7	E													
465Q	Vol.	27	UC513	7		A95	22472	12	BB31				5	1C6, 34, 32, 30, 19	264	6-23

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ATWATER KENT—	Continued															
467Q	Vol.	18	N	6			31552	1	2N516		294	C3	7	1C6,[3]34, 1B5, 30, 19, 6Z4	472.5	6-12
							29529	1	ST585							
							.015-.015		Buffer	B14						
469	Vol.	13	N	6			22538	1	WE850				9	[3]58,[3]56,[3]47, 80	130	3-155
	ToneB'm	‡	SRP267													
469 (2nd Type)	Vol.	18	N	6			22538	1	WE850				9	56, 57,[3]58, 55,[3]47, 80	130	3-157
	Sil.	12	Y													
	ToneB'm	‡	M20MP													
469D	Vol.	55	N	6			23981	39	2S562	B11			8	[3]39, 36, 37, 85,[3]48	130	3-163
	Sil.	12	A20MP													
469F	Vol.	13	N	6			22538	3	WE850				9	[3]58,[3]56,[3]47, 80	130	3-155
	ToneB'm	‡	SRP267													
469F (2nd Type)	Vol.	55	N	6			22538	1	WE850				9	[3]58, 56, 57, 55,[3]47, 80	130	3-157
	Sil.	12	Y													
	ToneB'm	‡	M20MP													
469Q	Vol.	55	N				22472	12	BB31				9	[3]34,[3]32,[3]30	130	3-165
475	Vol.	18	N	6			28031	1	WE851				6	2A7, 58, 2A6, 2A5, 80	264	6-27
							27585	1	RS213							
							25379	15	BB12							
480	Vol.	13	N	6			22538	1	WE850				9	[3]58,[3]56,[3]47, 80	472.5	3-159
	ToneB'm	‡	SRP267													
485Q	Vol.	18	N	7			29529	12	ST585				5	1C6,[3]1A4, 1B5, 33	450–472.5	7-41
							28031	12	WE851							
487	Vol.	18	N	6			28031	1	WE851				7	[3]58, 2A7, 2A6, 2A5, 80	472½	7-43
							27592	1/14/15	3S579	B111						
509	Vol.	64	N				22538	3	WE850				9	[3]58, 2A7, 56, 55, [3]2A5, 80	472½	7-45
510	Vol.	45	N	6			22538	1	WE850				10	[3]58,[3]56,[3]2A5, 80	130	4-8
	Sil.	7	H													
511	Vol.	55	TRP606				22538	1	WE850				11	[3]58, 2A7, 2B7,[3]56,[3]2A3, 5Z3	472.5	6-29,31
							25385	12	ST585							
							27911	24	WE1650							
							25384	24	ST595							
							25379	15	BB12							
515Q	Vol.	18	N	7			28031	12	WE851				5	1C6,[3]1A4, 1B5, 33	450	7-41
							29529	12	ST585							
525	Vol.	55	N	6			25168	1	WE851				5	57, 58, 2A6, 2A5, 80	264	5-9
							25167	15	BB12							
							26381	1	ST595							
525Q	Vol.	27	UC513	7		A95	22472	12	BB31				5	1A6, 34, 32, 30, 19	264	4-23
534	Vol.	55	N				25385	1	ST585		226	C3	4	77, 44, 75, 41	450	4-11
							24379	15	BB12							
							25384	1	ST595							
							.01-.01		Buffer	B14						
545	Vol.	18	N	6			22538	1	WE850				5	6A7, 6D6, 75, 42, 80	472.5	6-35
							25384	1	ST595						or 450	
555	Vol.	55	N	6			24403	1	2N518				5	47, 55, 57, 58, 80	262.5	4-14
555 (2nd Type)	Vol.	18	N	6			22538	1	WE850				5	57, 58, 55, 47, 80	262.5	4-15
							25184	1	ST595							
556	Vol.	17	UC512				32273	1	2N517		294	C3	6	[3]6K7G, 6A8G, 6Q7G, 6X5G, 6F6G	264	7-49
							25379	15	BB12							
							.01-.01		Buffer	B14						
557	Vol.	‡	N				28031	‡	WE851				8	[3]58, 2A7, 55,[3]2A5, 80	472.5	5-29
558	Vol.	55	N	6			22538	4	WE850				8	[3]58, 55, 56, 57, 47, 80	130	3-169
	Sil.	12	A20MP													
558D	Vol.	55	N	6			23981	39	2S562	B11			8	[3]39, 37, 36, 85,[3]48	130	3-163
	Sil.	12	A20MP													
558Q	Vol.	55	N				22472	12	BB31				9	[3]30,[3]32,[3]34	130	3-165
559	Vol.	55	N	6			22538	3	WE850				9	58, 55,[3]2A5, 80	472.5	5-25
565Z	Vol.	18	N	6			26995	1	2N517		F297	C3	5	6A7, 78, 75, 43, 6Z4-84	264	6-9
							25379	15	BB12							
							.05-.05		Buffer	B14						
567, 567F	Vol.	8	E	6			22538	4	WE850				7	[3]35, 24, 47, 27, 80	130	3-167
E608	Vol.	18	N	6			29961	1	ST597				8	[3]6D6, 6A7, 85,[3]42, 80	472½	7-51
612	Vol.	55	N	6			22538	1	WE850				11	[3]58, 56, 57, 55,[3]46, 83	130	3-171
	ToneB'm	‡	M20MP				23498	1	WE450							
	Sil.	12	A20MP				23479	15	BB14							
625Q	Vol.	27	UC513	13			22472	12	BB31				5	1C6, 34, 32, 30, 19	264	6-19
627	Vol.	55	N	6			22538	4	WE850				7	[3]58, 56, 55, 47, 80	130	3-173
636	Vol.	55	N				24298	1	BB31				6	[3]39, 36, 85,[3]41	262.5	3-181
E648	Vol.	18	N	6			29961	1	ST597				8	[3]6D6, 6A7, 85,[3]42, 80	472½	7-51
649	Vol.	17	N	6			29691	1	WE1650				9	[3]6K7, 6A8, 6H6, 6C5, [3]6F6, 5Z4	472.5	6-37
							25379	15	BB12							
655Q	Vol.	27	UC513	7		A95	22472	12	BB31				5	1C6, 34, 32, 30, 19	264	6-23
657Q	Vol.	18	N	7			31552	24	2N516				7	1C6,[3]34, 1B5,[3]30	472.5	7-55,56
665	Vol.	55	N	6			25168	1	WE851				5	57, 58, 2A6, 2A5, 80	264	4-24
							26381	1	ST595							
							25379	15	BB12							
666	Vol.	55	UC512	6			26995	1	SR605	B23	296	C3	6	[3]6D6, 6A7, 85, 41 6Z4-84	264	5-31
							25397	15	BB12							
							.05-.05		Buffer	B14						
667	Vol.	55	N				22538	1	WE850				7	[3]58, 56, 55, 2A5, 80	264	4-4
							25397	15	BB12							
667D	Vol.	55	N				23981	39	2S562	B11			7	[3]78, 37, 75,[3]43	264	4-5
708	Vol.	55	N	6			22538	1	WE850				8	58, 2A6, 2A5, 80	472.5	4-17
							25167	15	BB12							
710	Vol.	18	N				28031	1	WE851				10	[3]6D6, 6A7, 6B7, [3]76, [3]45, 5Z3	472½	7-65
							27583	14	RS216							
							25384	14	ST595							
							29964	15	TN111							
711	Vol.	55	N	6			22538	28	WE850				11	[3]58, 55,[3]56,[3]2A3, 5Z3	472.5	4-21
	Sil.	7	H				25384	24	ST595						450	
							25385	24	ST595							
725, 725X	Vol.	18	N	6			28031	25	WE851				5	6A8, 6K7, 75, 6F6, 80	450	7-57
							27585	25	RS213							
							25379	15	BB12							
735	Vol.	18	N	6			28031	1	WE851				5	2A7, 58, 2A6, 2A5, 80	264	6-27
							27585	1	RS213							
							25379	15	BB12							
747Q	Vol.	18	N	7			31552	24	2N516				7	1C6,[3]34, 1B5,[3]30	472.5	7-55,56
P755	Vol.	18	N	6			28031	1	WE851				5	6A7, 6D6, 75, 42, 80	264	7-59
							27583	1	RS216							
							25379	15	BB12							
756, 756B	Vol.	55	MR48				24298	1	BB31				6	[3]39, 36, 85,[3]41	262.5	3-183
E765	Vol.	18	N	6			28031	1	WE851				5	6A7, 6D6, 75, 42, 80	472½	7-61
							27592	1/14/15	3S579	B111						
768Q	Vol.	18	N	7			22472	12	BB31				8	1C6,[3]34,[3]30,32	472.5	6-38
776	Vol.	55	UC512	6			26995	1	SR605	B23	296	C3	6	6A7,[3]6D6, 41, 84, 85	264	6-41
							25379	15	BB12							
							.05-.05		Buffer	B14						
788	Vol.	55	N	6			22538	1	WE850				8	[3]58, 2A6, 2A5, 80	472.5	5-37
	Sil.	7	H				23579	15	BB12							

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ATWATER KENT—	Continued															
808	Vol.	55	N	6			22538	1	WE850				5	§58, 2A6, 2A5, 80	472.5	4-17
							25379	15	BB12							
808A	Vol.	55	N	6			22538	1	WE850				8	§58, 2A6, 2A5, 80	472.5	4-22
							25379	15	BB12							
810	Vol.	19	TRP606	6			22538	1	WE850				10	§6K7, 6A8, 6H6, 6C5, §6F6, 5Z4	472.5	6-44
							27583	1	WE1650							
							29964	15	TN111							
812	Vol.	55	N	6			22538	1	WE850				12	§58, 56, 57, 55, §46, 83	130	3-175
	Tone/Fm	‡	M20MP				23498	1	WE450							
	Sil.	12	Y				23481	1	WE1250							
							23479	16	BB14							
816	Vol.	55	UC512	6			26062	1	SR611	B30	226	C3	6	§39, 6A7, 85, §41	264	5-43
							.05-.05		Buffer	B14						
825 AC-DC	Vol.	55	N	6			26158	29	UR190	B72			5	6A7, 44, 75, 43, 25Z5	264	5-47
854	Vol.	2	Y	6			22538	1	WE850				4	§57, 2A5, 80	450	
							27584	1	ST595							
856	Vol.	18	N	6			28031	1	WE851				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	264	6-45
							27585	1	RS213	B27						
							27583	1	RS216							
P875	Vol.	18	N	6			28031	1	WE851				5	6A7, 6D6, 75, 42, 80	264	7-59
							27583	1	RS216							
							25379	15	BB12							
926	Vol.	55	UC512	6			26864	12	ST595				6	§39, 6A7, 85, §41	264	5-43
936	Vol.	55	UC512	6			26864	12	ST595				6	§39, 6A7, 85, §41	264	5-43
944	Vol.	2	Y	6			22538	25	WE850				4	§57, 2A5, 80	450	5-49
							27584	25	ST595							
976	Vol.	18	N	6			28031	25	WE851				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	264	6-45
							27585	25	RS213	B27						
							27583	1	RS216	B27						
978Q	Vol.	55	N	7			22472	12	BB31				8	1C6, §34, §30, 32	472.5	6-38
AUDIOLA—Also see	Fairbanks-Morse.															
Jr	Vol.	6	G7	6		A14	1-2	1	See Note	B1			5	§24, 45, 80		1-7
	Tone	22	G12													
Jr. No. 1	Vol.	6	G7	6		A14	8, 8	1	RS213				6	§24, 27, 45, 80		2-6
	Tone	22	G12													
Jr. No. 2, 6 Tube	Vol.	6	G7	6		A14	8-8	1	RS213				6	§24, 27, 45, 80		2-6
	Tone	22	G12													
4 Tube Pent. 1931	Vol.	6	G7	6		A14	4-4	1	See Note	B3			4	35, 24, 47, 80		2-2
4 Tube, '32	Vol.	6	G7			A14	6-4	4	See Note	B3			4	35, 24, 47, 80		3-1
13T5	Vol.	6	G7	6		A14	4-4	1	2N518	B3			5	§35, 24, 47, 80		2-2
	Tone	22	M													
6 Tube Pent. '31	Vol.	6	G7	6		A14	8-8	1	See Note	B3			6	§35, 24, 27, 47, 80		1-7
	Tone	22	G12													
7 Tube Sup. Pent.'31	Vol.	6	G7	6			8-8	1	See Note	B3			7	§35, §24, 27, 47, 80	177.5	2-1
	Tone	22	M													
8 Tube Sup. Pent.'31	Vol.	6	G7		3	A14	8-8	1	See Note	B3			8	§35, §27, §24, 47, 80	177.5	1-8
	Tone	22	M													
9 Tube Sup. Pent.'31	Vol.	6	G7	6		A14	8-8		See Note	B3			9	§35-§51, §27, §24, 47, 80	177.5	2-4
10 Tube Sup. '31	Vol.	6	G7		3	A14	8-8	1	See Note	B3			10	§24, §27, §45, 80	177.5	2-3
	Tone	41	O													
B6	Vol.	18	UC512				8-8	25	CM172		297	C3	6	§6D6, 6A7, 75, 41, 84	177.5	5-1
							.02		Buffer	B14						
9T45	Vol.	6	G7	6	3		8, 8	1	RS213				9	§35, §27§24, 45, 80	177.5	2-3
	Tone	41	O													
13S6	Vol.	6	G12			A14	8, 8	1	RS213				6	§24, 27, 35, 47, 80	‡	§6-3
	Tone	22	See Note			A5										
13S9	Vol.	6	G7				4-4	3	2N518	B28			9	§35, 24, §27, §47, 80	177.5	2-4
	Tone	22	M				8	3	ST595	B28						
13T5	Vol.	6	G7	6			4-4	1	See Note	B3			5	§35, 24, 47, 80		5-4
	Tone	22	M													
23S7 Auto	Vol.	15	L				8-8	1	2N518		302S	C1	7	§39, 36, 85-Wunderlich, 79, BR	177.5	4-1
							20	15	BB15		292	C1				
							.05		Buffer	B43						
23S8	Vol.	15	N				8, 8	4	RS213				8	§58, §56, 57, 47, 80	177.5	3-2
	Tone	22	K12													
23S8Q	Vol.	15	L	6			8, 8	1	RS213				8	§35, §27, 24, Wunderlich, 47, 80	177.5	3-3
	Tone	22	See Note			A5	5	17	BB12							
23S10	Vol.	45	M	6			8, 8	4	RS213				10	§38, §56, 57, §47, 80	177.5	3-4
	Tone	22	K12													
23S10 (2nd)	Vol.	45	M	6			12	4	RS215				10	§38, 57, §56, §2A5, 80	177.5	4-3
	Tone	22	K12				8	4	RS213							
23S12	Vol.	45	M	6			8	3	WE850				12	§58, §56, 57, §46, 83	177.5	3-5
	Tone	22	K12				8, 8	3	RS213							
23S12 (Revised)	Vol.	45	M	6			8	3	WE850				12	§58, §56, 57, §59, 5Z3	177.5	5-3
	Tone	22	K12				12	3	RS215							
							8	3	RS213							
23T5	Vol.	6	G7	6		A14	4-4	1	See Note	B3			5	§35, 24, 47, 80		3-6
23T5 SW	Vol.	6	G12	6	EX300		6-4	4	See Note	B3			5	§35, 24, 47, 80		3-6
30B	Vol.	12	D12				1-3-3	3	See Note	B1			7	§24, 27, §45, 80		1-4
31 Series	Vol.	6	G7			A14	8-8-8	3	MN275				7	§24, 27, §45, 80		1-5
	Tone	41	O		See Note A4											
31 Super	Vol.	6	G7				8-8-8	3	MN275				9	§24, §27, §45, 80	175	1-6
	Tone	41	O													
	Tone	22	M		See Note A4											
32S11	Vol.	48	N				8-8-8	25	RS213	B3			11	§35, §27, 24, §47, 80	‡	§6-3
	Tone	22	K12													
33A6	Vol.	15	L			A15	8-8	1	2N518		225	C3	6	§6D6, Wunderlich, 37, 89	177.5	4-5
							5	15	BB12							
							.02		Buffer	B14						
33S5	Vol.	6	K12	6			16-8	6	2N504	B90			5	§6D6-78, 6C6-77, 43, 25Z5	456	4-7
							5	15	BB12							
33S5 (Rev.)	Vol.	6	K12	6			8	4	RS213				5	§58, 57, 2A5, 80	456	5-4
33S6	Vol.	15	L	6			8-8	1	2N518		302S	C1	6	§39, 36, Wunderlich, 89, BR	177.5	4-6
							20	15	BB15		225	C4				
33S6B	Vol.	6	K12										5	32, §34, 30, 19	450	5-6
33S7	Vol.	45	N	6			8-4	4	See Note	B3			7	§58, 57, §56, 2A5, 80	456	4-7
	Tone	22	K12													
33S7 Auto	Vol.	15	L				8, 8	1	2N518		302S	C1	7	6C6, §6D6, 37, 79, 85		
											292	C1		BR-84	177.5	
33S8 32V	Vol.	15	N				8-8	1	2N518		F312	C2	8	§39, §37, 85, 77, 84-BR	‡	4-4
	Tone	22	K12				5	15	BB12		See Note	C2				
							.005		See Note	B44						
							.04		See Note	B44						
33S10 SW	Vol.	15	M				12	4	ST596				10	§58, 57, 55, 56, §2A5, 80	456	5-5
	Tone	22	K12	6			8	4	ST595							
33T4	Vol.	6	K12	6			4-4	1	2N516				4	6D6-78, 6C6-77, 38-89, 12Z3-37		4-7
							5	15	BB12							
34C5 (AC-DC)	Vol.	17	N	6			16-8	6	2N504	B90			5	6A7, 6D6, 75, 43, 12Z3	456	5-6
							5	15	BB12							
34S5	Vol.	17	M	6			8, 8	4	RS213				5	2A7, 58, 2A6, 2A5, 80	456	5-7
							5	15	BB12							

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
AUDIOLA—Continued																
34S5 LW	Vol.	6	K12	6			8-8	4	RS213				5	2A7, 58, 57, 2A5, 80	456	5-8
51, 52	Vol.	17	N				8, 8	4	RS213				5	2A7, 58, 2A6, 2A5, 80	456	5-69
	Tone	22	K12				5	15	BB12							
53	Vol.	18	N				8, 8	4	RS213				5	2A7, 58, 2A6, 2A5, 80	456	
	Tone	22	K12													
346	Vol.	17	UC512	6			8-8	25	2S567	B24	297	C3	6	²6D6, 6A7, 75, 41, 84	177.5	5-1
	Tone	22	K12				.02		Buffer	B14						
347	Vol.	17	N	6			8-8	25	See Note	B3	297	C3	7	²6D6, 6A7, 85,²41, 81	177.5	5-2
	Tone	44	K12				.02		Buffer	B14						
516 (2-volt bat. set)	Vol.	134	K12										5	32,²34, 30, 19	177.5	
889	Vol.	4	A				1-.5-2-2-2		See Note	B1			8	²26, 27,²71, 80		1-10
7330	Vol.	12	D				1-3-3		See Note	B1			7	²24, 27,²45, 80		1-4
8430	Vol.	7	Z				1-3-3-.5		See Note	B1			8	²27,²45, 80		1-3
	Tone	22	M													
AUSTIN																
A	Vol.	6	F7	6		A14	8, 8	1	RS213				5	²24, 45, 80		6-1
J	Vol.	6	E7	6			8-8	1	2N518				6	²24, 45, 80		6-1
	Tone	22	H12													
S	Vol.	6	F7	6			8, 8	1	RS213				8	²24,²27,²45, 80	175	6-2
	Tone	39	G12													
SP	Vol.	6	F7	6		A14	8, 8	1	ST595				8	²51,²27, 24,²47, 80	175	6-3
	Tone	39	G12													
AUTOCRAT																
Jr. 4	Vol.	6	G12	6			8-4	25	2S567				4	²57, 47, 80		4-2
4SA	Vol.	17	G12	6	See Note	A14	12-12	1	2N506				4	6D6, 6C6, 43, 25Z5		5-2
							10	15	BB12							
4LW	Vol.	6	J	6	EX300		8-4-4	8	See Note	B3			4	6D6, 6C6, 43, 25Z5		4-3
5	Vol.	17	UM154		See Note	A96	8-8	4	2S567	B33	292	C3	5	6A7, 6D6, 6B7, 41, 84	456	5-1
							10	15	BB12							
							.008-.008		See Note	B14						
5M	Vol.	6	G7	6	EX450		316	‡	TN122/BB12				4	6D6, 6C6, 43, 25Z5, L55B		§9-2
5SA (55SA)	Vol.	17	N	6			10-5-25	11	UR182				5	6A7, 6D6, 75, 43, 25Z5	456	5-1
							10	15	BB12							
6	Vol.	17	N	6			4-4	1	2N518				6	57, 58, 55, 56, 2A5, 80	175	4-3
	Tone	22	N													
6 (Revised)	Vol.	56	N				7-4	1	2N518				6	2A7, 58, 2B7, 2A5, 80	175	5-2
	Tone	22	N				10	15	BB12							
6D32	Vol.	18	N				8-4	4	2S567		See Note	C7	5	6A7, 6D6, 75, 41, 84	175	5-2
	Tone	22	K12													
56SW, 57SW	Vol.	6	G7	6	EX450		312	4	BB22				4	6D6, 6C6, 25L6G, 25Z5, L55B		§9-2
							324	4	BB25							
57C	Vol.	6	G12	6	EX300		4-4	25	2S567	B24			4	58, 57, 47, 80		4-4
80	Vol.	6	G12		See Note	A14	4-4	25	2S567	B24			5	²58, 57, 47, 80		4-4
90SL	Vol.	15	N				8-8	1	2N518				9	57,²58, 2B7,²56,²2A5, 80	175	5-3
	Tone	21	N													
406	Vol.	7	‡		See Note	A5	5	15	BB11				4	6D6, 6C6, 38, 12Z3		7-2
505	Vol.	18	UM154	M26		A96	505F	1	2N518		294	C3	5	6A7, 6D6, 75, 41, 84	456	7-1
							5	15	BB11							
							.03		Buffer	B14						
518, 618	Vol.	17	UM154			A96	4-8	4	2S567		294	C3	6	²6D6, 6C6, 75, 41, 84	456	7-2
							4	15	BB11							
							.0075		Buffer	B14						
AUTOMATIC																
A1	Vol.	17	N				AG511	4	2S567	B33	503	C3	6	6A7, 6D6, 75, 41, 6E5, 84		
							.02		Buffer	B14						
A5	Vol.	18	UM154		See Note	A96	4-8	4	2S567	B33	503	C3	5	6A7, 6D6, 75, 41, 84	480	7-3
							.02		Buffer	B14						
B10, B10P, B10LW, B15	Vol.	88	O	6	EX200		CE8	24/15	4S715/BB21	B256			4	6D6, 6C6, 43, 25Z5		7-2
B30 Series I	Vol.	18	N	6			CE15	1/15	4S715				5	6A7, 6D6, 75, 43, 25Z5	456	8-2
B30 Series II	Vol.	18	M	6			CE20	23	2P549				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-3
B37, B38	Vol.	18	M	6			CE20	23	2P549				6	6A7, 6D6, 6Q7G, 25L6G, 6E5, 25Z5	456	
B40 Series II	Vol.	18	M	6			CE16	1/15	4S715				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-4
B70, B80, B85, B85LW	Vol.	18	M	6			CE11	1/13	TN127				7	6A7, 6D6, 37, 6E5, 6C6, 25B6, 25Z5	456	8-6
							5	15	BB11							
B100	Vol.	18	M	6			CE21	23	2P549				6	6A7, 6D6, 76, 75, 25L6G, 25Z5	456	
C4	Vol.	7	J	6	EX300		5-20-8	24/15	UR182				3	6D6, 6C6, 25A8		7-1
D5	Vol.	88	O	6	EX200		CE8	24/15	4S715/BB21	B256			4	6D6, 6C6, 43, 25Z5		7-2
D55	Vol.	88	MR48				16-16-8	24/13	2N506/BB21				4	6D6, 6C6, 43, 25Z5		9-1
							5	15	BB12							
J50	Vol.	17	UM154			A96	4-8	4	2S567	B33	503	C3	5	6A7, 78, 75, 41, 84	480	7-3
	Tone	21	MR48				.02		Buffer	B14						
J60	Vol.	17	UM154			A96	4-8	4	2S567	B33	503	C3	6	6A7, 78, 75, 41, 6E5, 84	480	7-3
	Tone	21	MR48				.02		Buffer	B14						
J80	Vol.	17	UM161	M26		A96	1082010	1	2N518		503	C3	8	²78, 6A7, 75, 76,²41, 84	456	7-4
	Tone	22	MR44				.02		Buffer	B14						
M10	Vol.	18	MR48	M26			CE30	10	2S565	B33	294	C3	5	6A7, 6D6, 75, 41, 84	456	8-1
							.007		Buffer	B14						
M20	Vol.	18	MR48	M26			CE30	10	2S565	B33	294	C3	5	6A7, 6D6, 75, 41, 6X5	456	8-1
	Tone	21	MR48				.007		Buffer	B14						
M60	Vol.	17	N	6			CE12	4	2S565	B33	294	C3	6	²6D6, 6A7, 6Q7G, 41, 84	456	8-5
	Sen.	7	D				.007		Buffer	B14						
M70	Vol.	18	UM154	M26		A96	CE12H	23	2S565	B33	294	C3	6	²6D6, 6A7, 6Q7G, 41, 6X5	456	
	Tone	22	MR34				8	13	ST585							
							5	15	BB11							
							.007		Buffer	B14						
M80	Vol.	18	UM154	M26		A96	CE12H	23	2S565	B33	294	C3	9	²6D6, 6A7, 6Q7G, ²76, ²6B5, 0Z4	456	8-7
	Tone	21	MR34				8	13	ST585							
	Sen.	48	C100P				.008		Buffer	B14						
P25	Vol.	12	K12	6			8-8	4	See Note	B3			4	35, 24, 47, 80		3-2
P35, 34	Vol.	12	K12				8, 8	4	ST595				5	²24, 47, 80		2-2
P224 (Midget Tom Thumb)	Vol.	12	Y				8, 8	4	ST595				6	²24, 45, 80		3-1
R6, R61, R63	Vol.	17	N				20-16-5-5	1/15	4S715				6	6A7, 6D6, 75, 25B6, 25Z5	456	
S6	Vol.	7	F	6	2		20-8-5-5	6/15	4S715				5	6A7, 6D6, 75, 43, 25Z5	456	7-1
44, V45, V46, C45, P46	Vol.	7	A5MP				8, 8	4	ST595				6	²24, 47, 80		2-1
845	Vol.	18	MR39	M26			20, 20	25	BB25				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5	456	9-2

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
AUTOMATIC—Continued																
850	Vol.	18	M	6			CE20	23	2P549				6	6A7, 6D6, 6Q7G, 6E5, 25L6G, 25Z5	456	8-8
855	Vol.	18	M	6			40-20		BB27/BB25				6	6A7, 6D6, 76, 6Q7G, 25L6G, 25Z5	456	9-3
							5	19	BB12							
860	Vol.	18	M	6			CE21	23	2P549				6	6A7, 6D6, 76, 75, 25L6G, 25Z5	456	
878	Vol.	18	M	6			CE22	4	BB27/BB25				8	6A7, 6D6, ‡76, 6U5, 6C6, 25B6G, 25Z5	456	9-4
	Tone	22	N				5	20	BB12							
892	Vol.	18	M	6			CE24	24	TN129				10	6A7, 6D6, ‡76, 6G5, 75, ‡25L6G, ‡25Z5	456	9-5
	Tone	41	N				5	15	BB12							
	Sen.	7	F			A11										
933, 935	Vol.	88	MR53	M26			16-16	24	2N506				3	6K7GT, 6J7GT, 25Z6GT		9-2
							8	13	BB21							
933 Series 2	Vol.	88	MR53				CE36	6/13	FPT354				4	6K7GT, 6J7GT, 25A6GT, 25Z6GT		9-1
							5	15	BB12							
950, 955	Vol.	18	MR53	M26			20, 20	25	BB25				5	6A8GT, 6K7GT, 6Q7GT, 25L6GT, 25Z6GT	456	9-2
960, 963	Vol.	18	MR39	M26			20, 20	25	BB25				4	6A7, 6D6, 6Q7G, 25L6G	456	9-2
JR (AR224)	Vol.	15	UM154			A96	E1365GL	1	UR189	B296	292	C3	6	‡6D6, 37, 6C6, 41, 84		§6-3
							.02		Buffer	B14						
SG4 (Tom Thumb)	Vol.	31	A400P										4	22, ‡99		1-1
Tom Thumb (Steering Post)	Vol.	7	G		See Note	A1							4	‡78, 77, 41		4-1
AZTEC RADIO CO.																
Aztec	Vol.	6	G12				8-8	1	2N518				5	‡24, 47, 80		§3-2
BAIRD—See Gen. Electronics Corp.																
BALDWIN																
45	Vol.	6	H12				2-4	4	See Note	B3			4	‡24, 45, 80		4-1
47	Vol.	6	Y				2-8	4	See Note	B3			4	35, 24, 47, 80		4-1
54	Vol.	18	UM154		See Note	A96	6-10	4	See Note	B3	294	C3	5	6A7, 6D6, 75, 42, 84	‡	
							.02		Buffer	B14						
64	Vol.	18	UM154		See Note	A96	6-10	4	See Note	B3	294	C3	6	‡6D6, 6A7, 75, 42, 84	‡	
							.02		Buffer	B14						
80	Vol.	6	H12				2-2	1	See Note	B1			8	‡24, 27, ‡45, 80		§1-1
	Sen.	7	M1MP													
BALKEIT																
A3, A5, A7	Vol.	27	K12		See Note	A5	‡	3	See Note	B1			8	‡27, ‡12A, 80		1-2
B7, B9	Vol.	3	F12				2-3-4	3	See Note	B7			9	‡01A, 50, ‡81, 10		1-1
C	Vol.	6	H12				2-2-2	3	See Note	B1			9	‡27, ‡45, 80		1-3
	Sen.	7	M2MP													
D5	Vol.	7	K	6		A10	4-4	4	2S567	B33			5	‡58, 56, 47, 80		4-3
E	Vol.	6	H12				8-4	3	2N518				6	‡24, 27, 45, 80		3-4
	Tone	22	G12				4	3	ST595							
F	Vol.	6	H12				8-8-8	3	MN275				8	‡27, 24, ‡45, 80		1-4
G16A, G19B	Vol.	18	N				4	32	WE450				6	6A7, 6K7, 6H6, 6F5, 6F6, 80	456	6-2
	Tone	34	‡		See Note	A5	8-4	32	2N518							
G20	Vol.	18	N				4	32	WE450				7	6A8, 6K7, 6H6, 6A6, ‡6F6, 80	456	6-3
							8-4	32	2N518							
G200X	Vol.	18	N				4	32	WE450				7	6A8, 6K7, 6H6, 6A6, ‡6F6, 80	456	6-3
							8-4	32	2N518							
GT16A	Vol.	18	UC509		EX300		4-8-12	8	TN122				5	6C6, 6D6, 75, 43, 25Z5	456	6-1
							10-10	15	TN111							
GT33	Vol.	18	N				18-6	6	2N504				6	6A7, 6D6, 75, ‡43, 25Z5	456	6-4
							5-5	15	TN111							
GT156BA	Vol.	48	N	7			8-8	1	2N517		245C	C3	6	1C6, 34, ‡30, 32, 33	456	6-5
							.01-.01		Buffer	B14						
KP	Vol.	6	H12				8, 8	4	ST595				5	‡24, 47, 80		3-5
	Tone	22	O													
L5	Vol.	18	N	6			P474	32	WE450				7	5Z4, 6F5, 6F6, 6H6, 6K7, 6L7	456	
	Tone	34	L				P160	32	2S567	B81						
							P304	15	BB12							
L6	Vol.	18	N	6			P474	32	WE450				8	5Z4, 6C5, ‡6F6, 6K7, 6L7, ‡6Q7	456	
	Tone	44	L				P160	32	2S567	B81						
							P304	15	BB12							
L7 ('36)	Vol.	45	N	7			P391	1	2N516		245C	C3	7	1C6, 19, ‡30, ‡34	456	
	Tone	‡	L				.01-.01		Buffer	B14						
L7 ('31)	Vol.	6	H12				8, 8	4	RS213				7	27, ‡51, ‡24, 47, 80	175	3-6
	Tone	21	O													
L8	Vol.	7	H	6			4-4-4	3	3S584				8	‡51, ‡27, ‡47, 80	175	4-9
	Tone	41	O													
M	Vol.	6	H12		EX300		8-8	4	RS213				1	‡24, 47, 80		4-2
	Tone	22	O													
ML1, ML2	Vol.	18	SRP275				4	7	RS213				6	6A7, 6K7, 6H6, 6F5, 6F6, 80	456	
							8-4	7	2N518							
SG6	Vol.	6	H12				8-4	3	2N518				6	‡24, 27, 45, 80		4-1
	Tone	22	G12				4	3	ST595							
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19, ‡30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P958	1	2N516		245C	C3	6	1C6, 19, ‡30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
38	Vol.	7	M	6	EX250		8-8	24	2N502				4	6D6, 6C6, 38, 12Z3		5-1
							10	15	BB12							
41A	Vol.	6	UC509		EX250		8-4	1	2N518				6	6A7, 6D6, 6H6, 6F5, 80	456	6-1
42E, 42G	Vol.	6	G12		EX200		4-4	25	2S567	B33			4	58, 57, 47, 80		4-5
45	Vol.	6	UC509		EX250		12-8	6	2N504	B90			4	6D6, 6C6, 43, 25Z5		5-2
							10	15	BB12							
48	Vol.	6	UC509		EX250		16-12	1	2N506				4	6D6, 6C6, 38, 25Z5		5-2
							10-10	15	TN111	B6						
52-1	Vol.	6	H12				4-4	4	2S567	B33			5	58, 57, 47, 80		4-6
	Tone	22	O													
54	Vol.	18	UM154		See Note	A96	6-10	4	See Note	B3	294	C3	5	6A7, 6D6, 75, 42, 84	‡	
							.02		Buffer	B14						
55	Vol.	6	H12				4-4	4	2S567	B33			5	‡57, 58, 47, 80		4-7
59	Vol.	6	G12	6	EX200		20-20	6	2N509				5	6A7, 6D6, 75, 43, 25Z5	456	5-3
							10-10	15	TN111							
60	Vol.	18	N				701	23	2S567	B33			5	6A7, 6D6, 75, 42, 80	456	5-4
64	Vol.	18	UM154		See Note	A96	6-10	4	See Note	B3	294	C3	6	6A7, ‡6D6, 75, 41, 84	‡	
							.02		Buffer	B14						
69	Vol.	6	G7	6	2		20-20	6	2N509				6	6A7, 6D6, 85, ‡43, 25Z5	456	5-3
							3	13	BB20							
							10		BB12							
70	Vol.	18	N				701	23	2S567	B33			5	6A7, 6D6, 75, 42, 80	456	5-4
100	Vol.	17	O				4-4-4	3	See Note	B3			10	‡58, 55, ‡56, ‡45, 82	175	4-8
	Tone	42	O				20	15	BB15							

‡ Data not substantiated. *IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
BARKER BROS.																
L	Vol.	15	N	6			4	3	HS690				10	[3]58, 57, 55, [2]56, [2]46, 82	262	6-1
							8-4	3	See Note	B3						
M	Vol.	15	N	6			8-8	1	See Note	B3			10	[2]57, [2]58, [2]56, 55, [2]59, 82	262	6-1
	Tone	22	UC502				4	15	See Note	B3						
	Sil.	‡			See Note	A5										
P(2 Types)	Vol.	15	N	6			4	1	ST595				7	57, [2]58, 56, 55, 59, 82	262	6-2
	Tone	22	UC502				8	1	ST595							
							10	15	BB12							
BEL CANTO—See Amrad.																
BELL TONE—See Airking																
BELMONT RADIO CORP.																
40AC	Vol.	7	G		2		4-4	4	See Note	B3			4	35, 24, 47, 80		3-7
40A, 41A, 42A	Vol.	7	G				8	4	ST595				4	58, 57, 47, 80		3-7
							4	4	ST595							
40DC, 45, 46	Vol.	6	G12				1		See Note	B7			4	[2]36, 37, 38		3-1
50	Vol.	7	G				6, 6	4	ST595				5	[2]51, 24, 47, 80		3-2
	Tone	22	G12													
50A, 51A, 52A, 53A, 54A	Vol.	7	G				4-4	4	See Note	B3			5	[2]35, 24, 47, 80		3-3
50B, 51B, 52B, 53B, 54B	Vol.	6	G12		See Note	A14	6	4	ST595				5	[2]24, 35, 47, 80	175	3-4
							4	4	ST595							
50C, 51C, 52C, 53C, 54C	Vol.	6	G12				8	4	ST595				5	[2]57, 58, 47, 80	175	3-8
	Tone	22	K12				4	4	ST595							
							25	17	BB15							
50F, 55F	Vol.	7	Z		See Note	A14	4-8	1	2N516				5	[2]39, 36, 38		5-1
							5-5	15	TN111							
53	Vol.	20	N	6			C525	11	UR182	B31			5	6A7, 6D6, 75, 42, 25Z5	456	
60, 61, 62, 63, 64	Vol.	6	G12				6	4	ST595				6	[2]24, 27, 35, 47, 80	175	3-5
	Tone	22	K12													
65, 66	Vol.	6	G12				4	1	See Note	B11			6	[2]36, 37, [2]38		
	Tone	41	N													
70	Vol.	7	G				6	4	ST595				7	[2]51, [2]27, 47, 80	175	3-6
	Tone	22	K12													
70A, 71A, 72A, 73A, 74A	Vol.	17	O				8	4	ST595				7	[2]58, 57, 56, 55, 47, 80	175	5-1
	Tone	22	K12				4	4	ST595							
	Supp.	7	K				10	17	BB12							
71C	Vol.	56	O				P1047	1/15	2N518				7	[2]58, 57, 56, 55, 2A5, 80	175	5-2
	Supp.	7	K				P1048	1	WE850							
	Tone	22	K12	6												
100, 101, 102, 103, 104	Vol.	45	O				8-4-8	5	See Note	B3			10	[2]58, 57, [4]56, [2]59, 83	175	5-1
	Tone	22	K12	6												
	Supp.	6	K													
110	Vol.	62	O				4-4-4	26	See Note	B3			11	[3]35, [2]27, [2]47, 80	175	3-9
	Tone	22	L	6												
401	Vol.	8	UC501				P119-10	1/15	3S579				4	58, 57, 2A5, 80		6-1
401 Series B	Vol.	8	UC501				P119-10	1/15	3S579				4	6K7, 6J7, 6F6, 5Z4 or 5Y3		7-1
403A	Vol.	18	MR53	M27			11935	19	BB15				4	1A7G, 1N5G, 1H5G, 1C5G	465	
404	Vol.	6	TRP601										4	1A6, [2]32, 33	465	6-3
	Fil.	29	M4R													
408 Series A	Vol.	18			See Note	A5	11958	24	BB26		246	C3	4	6D8, 6S7, 6T7, 6K6	465	9-1
							11957	24/15	2N506							
							.003		Buffer	B14						
415 Series A	Vol.	56	MR53	M27			119-28	1	2N516		246	C3	4	1A6, 1A4, 1F6, 1F4	465	8-1
	Tone	21	MR53				.005		Buffer	B14						
	Fil.	29	C6R													
415 Series B	Vol.	18	MR53	M27			119-28	1	2N516		246	C3	4	6D8G, 6S7G, 6T7G, 1F5G	465	8-2
	Tone	22	MR44				.005		Buffer	B14						
420	Vol.	7	Z	6	EX100	A10	119-1	1	4N701				4	6D6, 76, 38, 12Z3		5-3
425	Vol.	7	Z	6	EX100		C538	11	UR182	B31			4	6E7, 6D7, 43, 25Z5	456	4-1
430	Vol.	7	Z	6	EX100		119-3	6/15	4S715				4	6D6, 76, 12A5, 12Z3		5-3
440	Vol.	7	Z	6	EX100	A10	P103-1	11	2N507/BB21	B13			4	6D6, 6C6, 43, 25Z5	456	5-5
444EX	Vol.	8	UC501	6	EX100		P119-18	1	3S575				4	6D6, 6C6, 43, 12Z3		6-5
489 Series A	Vol.	18	O	7			119-28B	1	2N516		246	C3	4	6D8G, 6S7G, 6T7G, 6K6G	465	9-3
							119-22	15	BB12							
							.005		Buffer	B14						
501 Series A	Vol.	64	MR43	M27			11952	20	BB15				5	1D7, [2]1D5, 1H4, 1G5	465	9-2
	Fil.	29	M6R													
504 Series A	Vol.	18	O	7			119-28	1	2N516		246	C3	5	6D8G, 6S7G, 6T7G, 1F5G, 6N5	465	9-5
	Tone	22	MR44				.005		Buffer	B14						
505 Series A	Vol.	18	O	7			119-24B	4	SR633		294	C3	5	6D8G, 6S7G, 6T7G, 6K6G, 6ZY5G	465	9-6
							119-22	15	BB12							
							.008		Buffer	B14						
517 Series A	Vol.	18	MR53	M26			119-38	4	SR633				5	6A7, 6K7, 75, 41, 80	465	9-7
	Tone	21	MR53													
519A	Vol.	18	MR53	M26			11982	24	2N514	B12			5	12A8GT, 12K7GT, 12Q7GT, 35L6GT, 35Z5GT	465	
522	Vol.	62	O	6			119-22	19	BB12				5	1A6, 34, 30, 32, 950	465	7-2
	Batt.	29	M6R													
523	Vol.	15	MR53	M26			119-22	20	BB12				5	1A6, [2]1A4, 30, 950	465	9-8
523B	Vol.	‡	MR53	M26			119-22	20	BB12				5	1A6, [2]1A4, 30, 1G5G	465	9-9
524 Series A	Vol.	18	MR44	M27			119-52	19	BB15				5	1C7G, [2]1D5G, 1F7G, 1G5G	465	9-10
	Fil.	29	M4R													
525	Vol.	17	N	6			C525	11	UR182	B31			5	[2]6D6, 75, 43, 25Z5	456	3-8
526	Vol.	18			See Note	A5	119-47D	42	2S560	B33			5	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G	465	9-11
529	Vol.	18			See Note	A5	119-47D	42	2S560	B33			5	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G	465	
530	Vol.	17	N	6			C525/C538	11	UR182	B31			5	6A7, 6D6, 75, 43, 25Z5	456	4-2
531 Series B	Vol.	18	MR53	M26			11953B	1/19	2N514/BB17				5	6A8, 6K7, 6Q7, 26L6, 25Z6	470	9-12
540	Vol.	17	N	6			C525C/C525D	11	UR182	B31			5	[2]6D6, 75, 43, 25Z5	456	5-7
541	Vol.	82	TRP609	6			P119-7	11	UR193	B31			5	[2]6D6, 75, 43, 25Z5	456	6-7
544, 545	Vol.	82	TRP609				P103-9	1/15	3S570				5	6A7, 6D6, 6B7, 43, 12Z3	465	6-9
	Tone	22	K12	6												
550	Vol.	17	N	6			P1003	4	2S567	B33			5	2A7, 58, 2A6, 2A5, 80	456	4-3
555	Vol.	82	TRP609	6			P103-6	4	RS213				5	6A7, 6D6, 6B7, 42, 80	456	6-11
							P103-7	4	RS213							
556 (Export)	Vol.	62	TRP609	6			P103-6	4	RS213				5	6A7, 6D6, 6B7, 42, 80	465	7-3
							P103-7	4	RS213							
566	Vol.	18	UM154-SS13	M26			119-20	4	2S567		294	C3	5	6A8, 6K7, 75, 84-6Z4, 41	465	7-5
							.01		Buffer	B14	294SW	C14				

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
BELMONT RADIO	CORP.—	Continued														
567A	Vol.	17	UM154-SS13	M26			119-33	4	2S567		294	C3	5	6A8, 6K7, 6Q7, 6F6, 6X5	465	
							.005		Buffer	B14						
575	Vol.	6	Z12	6	EX100		P119-6	4	2S567				5	58,‡57, 2A5, 80	175	5-8
577A	Vol.	18	MR53	M26			119-50	40	2S567		294‡	C24	5	6A8, 6K7, 6Q7, 6K6, 6X5	465	9-13
							.005		Buffer	B14						
577C	Vol.	18	MR53	M26			119-50	40	2S567		294‡	C24	5	6SA7, 6SK7, 6Q7, 6K6, 6X5	465	
							.005		Buffer	B14						
578	Vol.	56	O				P103-6	4	RS213				5	6A7, 6D6, 6B7, 42, 80	456	6-13
							P103-7	4	RS213							
580	Vol.	17	N	6			P119-15	4	2S564		299	C3	5	6D6, 6A7, 75, 42, 84	175	6-15,16
							.01		Buffer	B14						
580 (Revised)	Vol.	17	N	6			P119-15	4	2S564		299	C3	5	6A7, 6D6, 75, 42, 84	175	6-16
							.01		Buffer	B14						
582	Vol.	18	MR53	M26			119-47	23	2S560				5	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G	465	9-15
583 Export Series A	Vol.	18	MR53	M26			119-48	4	2S564				5	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G	465	9-14
585 Series A	Vol.	18	N	6			P119-11	1/15	3S575				5	6F7, 6D6, 75, 42, 80	370	6-19
585 Series B and C	Vol.	18	N	6			P103-6	4	RS213				5	6F7, 6D6, 75, 42, 80	370	6-19
							P103-7	4	RS213						465	
585 Series D	Vol.	18	N	6			103-6	4	RS213				5	6F7, 6K7, 75, 6F6, 80	465	7-7,8
							103-7	4	RS213							
586 Series A	Vol.	18	O	6			103-6	42	RS213				5	6A7, 78, 75, 41, 80	465	7-9
							103-7	42	RS213							
587 Series A	Vol.	18	O	6			103-6	23	RS213				5	6A8, 6K7, 6Q7, 6F6, 5Y3	465	7-11
							103-7	23	RS213							
588 Series A	Vol.	18	MR53	M26			119-38	23	SR633				5	6A8, 6K7, 6Q7, 6F6, 5Y3	465	8-3
589	Vol.	18	MR53	M26			119-38	4	SR633				5	6A8, 6K7, 6Q7, 6K6, 5Y3	465	8-5
600	Vol.	17	N	6			16-16-8-14-2	9/15	Order from	Mfr.			6	‡78, 6A7, 6B7, 43, 25Z5	175	
601 Series A & B	Vol.	18	MR53	M26			119-25	11	RM257	B260			5	6A7, 78, 75, 43, 25Z5	465	7-10
	Tone	22	MR53				119-29	4	2P552	B10						
601 Series C	Vol.	18	MR48	M26			119-29	4	2P552				5	6A7, 78, 75, 43, 25Z5, L49B	465	
	Tone	22	MR53													
602	Vol.	18	MR53	M26			119-39	1	2N509				5	6A8, 6K7, 6R7, 25L6, 25Z6	465	8-6
602B	Vol.	18	MR53	M26			119-42	4	2P546				5	6A8, 6K7, 6R7, 25L6, 25Z6, L49B	470	9-29
602C	Vol.	18	MR53	M26			119-42	4	2P546				5	6A8, 6K7, 6R7, 25L6, 25Z6, L49B	470	9-29
611 Series A	Vol.	18	MR53				11959	24	2N512		246	C3	6	6K8, 6S7, 6T7,‡1H4, 1J6	465	9-17
	Tone	22	MR44	M26			.003		Buffer	B14						
625	Vol.	17	N	6			C525	11	UR182	B31			6	‡78, 6A7, 75, 43, 25Z5	175	4-5
							C525B	11	UR182	B31						
							C525C	11	See Note	B38						
							C525D	11	See Note	B38						
632 Series A	Vol.	18	MR53	M26			11962B	1/18	Order from	Mfr.			5	6A8G, 6K7G, 6Q7G, 25Z6G, 25L6G, L49B	470	9-19
640EX	Vol.	82	TRP609	6			P103-3	4	RS216				6	57, 27, 58, 2A6, 2A5, 80	370	5-9
							P103-4	4	RS216							
650	Vol.	17	N	6			C525C	11	See Note	B31			6	‡6D6, 6A7, 75, 43, 25Z5	175	5-11
							C525D	11	UR182	B31						
660	Vol.	17	N	6			C550	4	CM172		220B	C3	6	‡6D6, 6A7, 75, 89, 6Z4	175	4-6
661	Vol.	18	UM154-SS13				119-37	4	2S564	B33	294	C3	6	‡6K7, 6A8, 6Q7, 41, 6X5	465	8-7
							.005		Buffer	B14						
665 Series A	Vol.	18	MR53	M26			11963B	4	2S563	B33			6	6K8G, 6K7, 6Q7G, 6P5G, 6AC5G, 5Y3G	465	9-21
666 "A"-"B"	Vol.	18	UC512				119-21	1	2N517		294	C3	6	‡6K7, 6A8, 6Q7, 6N6, 84-6X5	465	7-13
							.01		Buffer	B14						
667	Vol.	17	UM147-SS13	M26			119-34	4	RM261		294	C3	6	‡6K7, 6A8, 6Q7, 6F6, 6X5	262.5	9-23,24
	Tone	22	MR53				.01		Buffer	B14						
670	Vol.	17	N	6			P103-2	4	RM262		299	C3	6	6D6, 6C6, 78, 75, 42, 84	175	5-13
							20	15	BB15							
							.02		Buffer	B14						
670A	Vol.	17	N	6		A1	P119-4	4	CM172		299	C3	6	‡6D6, 6C6, 75, 42, 84	175	6-22
							.015		Buffer	B14						
675	Vol.	18	N	6			P103-4	4	RS216				6	57, 27, 58, 2A6, 2A5, 80	370	5-15
							P103-3	4	RS216							
677	Vol.	18			See Note A19		119-51	4	2S567		294	C3	6	‡6K7, 6A8, 6Q7, 6V6, 0Z4-6X5	465	9-25
							.01		Buffer	B14						
678	Vol.	18	Order from	Mfr.			119-78	24	FPQ426		248	C3	6	6K7, 6A8, 6SK7, 6Q7, 6J5, 6N7	465	
	Tone	...‡..	UM161-SS18				.0055		Buffer	B14						
680	Vol.	61	UC511				P119-17	4	CM162		299	C3	6	‡6D6, 6A7, 6B7, 42, 84	175	6-25
							.01		Buffer	B14						
685A	Vol.	18	O	6			103-6	42	RS213				6	6L7, 6C5, 6K7G, 6Q7G, 6F6G, 5Y3	465	7-15
							103-7	42	RS213							
686 "A," "B"	Vol.	18	O	6			103-6	42	RS213				6	6L7, 6K7, 6Q7, 6F6, 6C5, 5Y3	465	7-15,16
	Tone	22	K12				103-7	42	RS213							
690	Vol.	18	UC511				119-17	4	CM172		299	C3	6	‡6D6, 6A7, 6B7, 42, 84		
							.01		Buffer	B14						
691	Vol.	18	MR53	M26			119-45	23	2S567	B33			6	6L7, 6K7, 6Q7, 6C5, 6F6, 5Y3	465	9-27
	Tone	22	K12													
740	Vol.	18	O	6			103-6	4	RS213				7	6A8, 6K7, 6Q7, 6C5, ‡6F6, 5Y3	465	8-9
	Tone	22	M				103-14	4	WE1835							
746 Series A (Ex)	Vol.	18	O	6			103-6	23	RS213				7	6L7, 6C5, 6K7, 6Q7, 6G5, 6F6, 5Y3	465	7-17
	Tone	22	K12				103-7	23	RS213							
750	Vol.	18	N				8, 8	4	WE851				7	‡58, 2A7, 55,‡45, 80	175	4-7
	Tone	21	M				5	14	BB21							
755EX	Vol.	82	TRP609	6			P103-8	4	WE1650				7	‡6D6, 6C6, 76, 6B7, 42, 80	465	6-27
	Tone	21	M				P103-4	4	RS216							
761 Series A	Vol.	18	MR53				103-6	4	RS213				7	6A8, 6K7, 6Q7, 6J5, ‡6F6, 5Y3	465	9-30
	Tone	22	MR44	M26			103-14	4	WE1835							
770 "A"	Vol.	56	TRP611	6			103-8	43	RS216				7	‡6K7, 6C6, 6C5, 6B7, 42, 80	465	7-20
	Tone	21	M				103-4	43	RS216							
775	Vol.	18	N	6			P103-4	4	RS216				7	‡58, 2A7, 55, 2A5, 80	370	5-19
	Tone	21	N				P103-5	4	RS213							
777 Series A	Vol.	18	O	6			P103-4	4	RS216				7	‡6D6, 6C6, 76, 75, 42, 80	465	6-29
	Tone	21	M				P103-3	4	RS216							
777 Series B	Vol.	56	O	6			P103-8	4	RS216				7	‡6D6, 6C6, 76, 6B7, 42, 80	465	6-29
	Tone	62	M				P103-4	4	RS216							
777 Series C	Vol.	56	O	6			103-8	4	RS216				7	‡6K7, 6C6, 6C5, 6B7, 42, 80	465	7-19
	Tone	57	M				103-4	4	RS216							
778 "A"	Vol.	124	1 Meg. No. 1		See Note A19		103-8	25	RS216				7	‡6K7, 6J7, 6C5, 6Q7, 6F6, 5Y3-5W4	465	7-21
	Tone	21	UM180-SS1	M28			103-6	25	RS213							
778 Series B	Vol.	18	1 Meg. No. 1		See Note A19		103-8	25	RS216				7	‡6K7, 6J7, 6Q7, 6C5, 6F6, 5Y3	465	
	Tone	21	UM180-SS1	M28			103-6	25	RS213							

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
BELMONT RADIO CORP.—Continued																
786 "A"	Vol.	18	O	6			103-6	42	RS213				7	6L7, 6K7, 6Q7, 6C5, 6F6, 5Y3, 6G5	465	7-15
	Tone	22	K12				103-7	42	RS213							
787 Series A	Vol.	18	MR53	M26			103-6	23	RS213				7	6L7, 6C5, 6K7, 6Q7, 6G5, 6F6, 5W4	465	8-11
	Tone	22	K12				103-7	23	RS213							
804	Vol.	18	MR48	M27			119-32	1	2N516		246	C3	8	‡6S7G, 6D8G, ‡6L5G, 6T7G, 6N5, 19	465	8-13
	Tone	22	MR39				.005		Buffer	B14						
822	Vol.	62	MR44	M26			103-11	12	ST585				8	1A6, 1A4, ‡30, ‡34, 19	465	8-15
	Tone	21	MR44													
	Fil.	29	Q													
823 Series A (Ex)	Vol.	62	MR44	M27			103-11	24	ST585		246	C3	8	1A6, 1A4, ‡30, ‡34, 19	465	9-31
	Tone	21	MR44				103-26	24	ST585							
							.01		Buffer	B14						
840	Vol.	18	MR53	M26			103-6	4	RS213				8	6A8, 6K7, 6Q7, 6G5, 6C5, ‡6F6, 5Y3	465	8-17
	Tone	22	MR44				103-14	4	WE1835							
842 (Ex)	Vol.	18	MR53	M26			103-6	4	RS213				8	6A8G, 6K7, 6Q7G, 6G5, 6C5, ‡6F6G, 5Y3	465	9-33
	Tone	22	MR44				103-14	4	WE1835							
845 Series A (Ex)	Vol.	18	O	6			119-30	23	2P553				8	6L7, 6C5, 6K7, 6Q7, 6G5, ‡25A6, 25Z6	465	7-23
	Tone	44	M													
848, 849 (Ex)	Vol.	18	MR53	M26			119-30	4	2P553				8	6L7, 6C5, 6K7, 6Q7, 6G5, ‡25L6, 25Z6	465	8-19
	Tone	22	MR44													
856 Series A (Ex)	Vol.	17	1 Meg. No. 1	M26	See Note A19		103-8	25	RS216				8	‡6K7, 6J7, 6Q7, 6G5, 6F6, 5Y3	465	8-21
	Tone	21	UM180-SS1	M28			103-6	25	RS213							
860 Series A	Vol.	18	MR53				103-6	4	RS213				8	6A8, 6K7, 6Q7, 6C5, ‡6F6, ‡6U5, 5Y3	465	9-35
	Tone	22	MR44	M26			103-14	4	WE1835							
878 Series A & B	Vol.	124	1 Meg. No. 1	M26	See Note A19		103-8	25	RS216				8	‡6K7, 6J7, 6C5, 6Q7, 6G5, 6F6, 5Y3	465	8-23
	Tone	21	UM180-SS1	M28			103-6	25	RS213							
879 Series A	Vol.	124	1 Meg. No. 1		See Note A19		103-8	25	RS216				8	‡6K7, 6J7, 6C5, 6G5, 6F6, 5Y3	465	8-26
	Tone	21	UM180-SS1	M28			103-6	25	RS213							
880 (A and B)	Vol.	18	UC511	6			P119-16	1	2S565		299	C3	8	‡6D6, 6A7, 85, ‡76, 6A6, 84	175	6-32
							.01		Buffer	B14						
880 Series C	Vol.	15	UC511				P119-16	1	2S565		299	C3	8	‡6D6, 6A7, 85, ‡76, 6A6, 84	465	6-33
	Tone	22	MR39				.01		Buffer	B14						
880D	Vol.	15	UC511	6			119-16	1	2S565		299	C3	8	‡6D6, 6A7, 85, ‡76, 6A5, 84	465	
	Tone	22	MR39				.015		Buffer	B14						
881	Vol.	18	UM150-SS17				119-43	4	2S563		294	C3	8	‡6K7, 6A8, 6R7, 6C5, ‡6V6, 0Z4	262.5	9-39
	Tone	22	Order from	Mfr.			.003		Buffer	B14						
888, 889	Vol.	18	MR48	M26			103-12	25	WE850				8	‡6K7, 6J7, 6C5, 6Q7, 6F6, 6G5, 5Y3	465	9-37
	Tone	22	K12				103-13	25	RS213							
890 Series A (Ex)	Vol.	18	MR48	M26			103-12	25	WE850				8	‡6K7, 6J7, 6C5, 6Q7, 6G5, 6F6, 5Y3	465	8-27
	Tone	22	K12				103-13	25	RS213							
910 Export	Vol.	‡	MR53				11955	1	2S569				9	‡6K7, 6A8, 6Q7, 6J5, ‡6F6, 6U5, 5Y3	465	9-41
	Tone	22	MR44	M26			11956	13	2S566							
1050	Vol.	15	N				P1048	26	WE851				10	‡58, 2A7, ‡56, ‡45, 80	175	4-8
	Tone	‡	L	6	See Note A5		P1038	26	ST595/TN113							
	Supp.	12	F7		See Note A5											
1070 "A"	Vol.	20	1 Meg. No. 1	6	See Note A19		103-10	1	WE4050				10	‡6K7, 6L7, ‡6C5, ‡6F6, 5Z4, 6H6	465	7-25
	Tone	22	SRP287				103-8	1	RS216							
1070 Series B	Vol.	20	‡		See Note A19		119-19	15	2-BB15				11	‡6K7, 6L7, ‡6C5, 6H6, ‡6F6, 5Z4, 6G5	465	7-25
	Tone	22	SRP287	8			103-10	1	WE4050							
							103-8	1	RS216							
							119-23	15	BB15							
							119-19	15	2-BB15							
1170	Vol.	20	1 Meg. No. 1		See Note A19		103-10	25	WE4050				11	‡6K7, 6J7, 6C5, 6H6, 6G5, 6F5, ‡6F6, 5Z4	465	8-29
	Tone	22	SRP287	8			103-8	25	RS216							
1170B, 1170C	Vol.	20	‡		See Note A19		103-10	1	WE4050				11	‡6K7, 6J7, 6C5, 6H6, 6G5, 6F5, ‡6F6, 5Z3	465	9-43 & 8-31
	Tone	22	SRP287	8			103-8	1	RS216							
1171	Vol.	20	TRP610	6			103-10	25	WE4050				11	‡6K7, 6J7, 6C5, 6H6, 6G5, 6F5, ‡6F6, 5Z4	465	9-45
	Tone	22	SRP287	8			103-8	25	RS216							
1172	Vol.	20	1 Meg. No. 1		See Note A19		103-10	25	WE4050				11	‡6K7, 6J7, 6C5, 6H6, 6G5, 6F5, ‡6F6, 5Z4	465	8-29
	Tone	22	SRP287	8			103-8	25	RS216							
1174	Vol.	20	‡		See Note A19		103-5	30	RS213				11	‡6K7, 6J7, 6C5, 6H6, 6G5, ‡6F6, 5Z3	465	8-33
	Tone	22	SRP287	8			103-10	30	WE4050							
							103-8	30	RS216							
1175 Series A	Vol.	124	1 Meg. No. 1		See Note A19		103-10	25	WE4050				11	‡6K7, 6J7, 6H6, 6F5, 6J5, ‡6F6, 6C5, 6U5, 5U4	465	9-47
	Tone	22	SRP283	8												
BLACKHAWK																
6U	Vol.	18	UC511	6			81028	1	2S568		253	C3	6	‡78, 77, 75, 41, 84	262.5	§5-3
	Tone	22	UC502				81021C	15	TN111							
							.01		Buffer	B11						
BOND RADIO CO.																
34-33, 6TA	Vol.	18	N				8-4	1	See Note	B3			6	2A7, 58, 2A6, ‡2A5, 80	456	
B. O. P.—See United	Motors	Service.														
BOSCH—See United	American Bosch.															
BRANDES																
A1	Vol.	40	Y				2-2	1	See Note	B1			8	‡24, ‡27, ‡45, 80		3-2
B10	Vol.	40	Y				1-.5-.5-.5	1	See Note	B1			7	‡27, 71A, 80		1-1
B11, B12	Vol.	40	Y				2-1	1	See Note	B1			7	‡27, 71A, 80		3-1
B15, B16	Vol.	40	Y				2-1-.5	3	See Note	B1			8	‡27, ‡71A-45, 80		1-3
K48	Vol.	40	Y				2-4	1	See Note	B1			7	‡24, ‡27, 45, 80		
	Sen.	58	UC500													
K60, K62	Vol.	8	E				8, 8	4	RS213				7	‡35, ‡24, 47, 27, 80	175	
K70, K72	Vol.	59	H12				8, 8, 8	4	RS213				8	‡35, ‡24, 27, 45, 80	175	
K80, K82	Vol.	59	H12				8, 8, 8	4	RS213				9	‡35, ‡27, ‡24, ‡47, 80	175	
K90, K92	Vol.	59	H12				8, 8, 8	4	RS213				10	‡35, ‡27, ‡24, ‡47, 80	175	
K110, K112, K120	Vol.	15	N				7337	26	CM175				8	‡58, ‡56, 47, 80	175	
K114	Vol.	15	N				8	12	BB31				9	‡34, ‡30	175	
K130, K132	Vol.	59	H12				7240		CM175	B39			9	‡58, ‡56, ‡47, 80	175	
K133, K143	Vol.	15	N				4	4	See Note	B11			10	‡39, ‡37, ‡38	175	
							4	15	BB12							
BREMER TULLY																
Counterphase 8	Vol.	13	N						See Note	B1			6	‡26, 27, 71A		1-3
6-40, 6-41	Vol.	‡	See Notes		No. 1	3/5	1-2-2	3	See Note	B1			7	‡26, 27, 71A, 80		1-4
7-10	Vol.	6	H12				1-2-2	3	See Note	B1			8	‡26, ‡27, ‡71A, 80		3-1
8-20, 8-20A, 8-21, 8-22	Vol.	‡	E12	6				4	See Note	B7			9	‡26, ‡27, ‡10, 81		1-3
80	Vol.	29	R	6									6	‡01A, 12A		2-2
81, 82	Vol.	7	J	6			1-1.5	2	See Note	B1			8	‡27, ‡45, 80		1-6
S81, S82	Vol.	12	A3MP				1-1	1	See Note	B1			9	‡24, 27, ‡45, 80, D110, D126, 25CY		3-6
	Hum	37	HU30				.275		See Note	B9						
	Hum	30	SRP265				1-2		25 Cycle	B1						
							1		25 Cycle	B9						
83A	Vol.	8	A3MP				2-1-2	3	See Note	B1			8	‡24, 27, ‡45, 80, D126		2-2

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
BRETING																
12	Vol.	18	N				16	25	RS216				12	[2]6B7, [5]6D6, 6C6, [3]42, 5Z3	432	§6-5
	M. Vol.	7	J				8	25	RS213							
	Tone	22	UC502				25	19	BB14							
	Meter		CIMP													
14	Vol.	83	N				16	25	WE1650				14	[4]6K7, [5]6J7, 6L7, 6H6, 6B8, [5]6F6, 5Z3	432	8-1,2
	Tone	22	UC502	6			18	25	WE1650							
	Sil.	7	J				25	44	BP14							
BRONSWICK RADIO																
Bronswick	Vol.	6	D12				8-4	4	See Note	B3			6	[3]58, 57, 47, 80		§4-2
BROWNING DRAKE																
JR	Vol.	8	G	6	See Note	A14	8-8	4	See Note	B3			4	35, 24, 47, 80		3-4
20	Vol.	7	H	6	1		8, 8	4	RS213				6	[4]24, 47, 80		3-1
	Tone	22	K12		RS244	A24										
MB30	Vol.	12	K12				8-8-8	3	See Note	B3			9	[4]24,[3]27,[3]45, 80		
34, 36, 38	Vol.	60	B				8-8-8	3	MN275				8	[5]26, 27, 71A, 80		1-1
40	Vol.	7	H	6	2		8, 8	4	RS213				7	[3]35,[3]24, 47, 80	175	3-2
	Tone	22	G12													
54	Vol.	8	Y10MP				8	1	RS213				9	[3]24,[4]27,[3]45, 80		3-4
							8-8-8	14	MN275							
69	Vol.	12	G12	6			8, 8	4	RS213				9	[3]24,[3]27,[3]45, 80		1-2
70, 71	Vol.	61	M	6			‡	4	See Note	B3			9	[4]24,[3]27,[3]45, 80		1-3
80	Vol.	7	H	6	2		8, 8	4	RS213				7	[3]35,[3]24, 47, 80	175	3-3
	Tone	22	K12													
100	Vol.	43	Y50MP		See Note	A5							5	[3]32, 33		3-4
	Tone	22	K12		See Note	A5										
BRUNSWICK-MERSMAN																
1669, 1689, 2669, 2689, 3689, 4689, 5689	Vol.	18	MR48				17-14249	1/19	3S581				6	6A8, 6U5, 6K7, 6Q7G, 6V6G, 5Y3G	455	9-1
	Tone	21	MR40													
8109	Vol.	18	500M No. 1		See Note	A19	17-14001	1	ST595				8	6K8,[2]6K7, 6Q7G, [2]6V6G, 6U5, 5Y3G	455	9-2
	Tone	44	L				17-14124	14	ST595							
							17-14126	13	ST593							
BRUNSWICK RADIO CORP.																
B17 (For PR17-8 2nd Type)	Vol.	1	SRP145				4-4	4	See Note	B1			7	[4]26, 27, 71, 80		1-22
PR6							3.5-3.5	1	See Note	B1			2	80, 71A		1-26
R1	Vol.	1	SRP144				1-1	2	See Note	B1			7	[4]26, 27, 71A, 80		1-27
3KR0, 3KR6	Vol.	1	SRP144				1-1	2	See Note	B1			7	[4]26, 27, 71, 80		1-14
	Phono.	‡	V													
3KR8	Vol.	1	SRP144				1-1	2	See Note	B1			4	[3]26, 27		1-10
	Phono.	‡	V													
3NW8	Vol.	59	SRP141				4-4	4	See Note	B7			11	[3]27, 50,[3]81	180	3-4,6
	Sen.	1	D12													
5KR, 5KR0, 5KR6, 2KR0	Vol.	1	SRP144				1-1	2	See Note	B1			7	[4]26, 27, 71, 80		1-12
	Phono.	63	V													
5NC8	Vol.	‡	SRP138				2-2	2	See Note	B1			9	[2]27, 71A, 80	180	1-17
5N0	Vol.		SRP138				2-2	2	See Note	B1			9	[2]27, 71A, 80	180	1-15
10	Vol.	8	A5MP	6	1		1-4	25	See Note	B1			5	[3]51, 24, 47, 80		2-1
							.055		See Note	B9						
							2		See Note	B9						
11, 12, 16, 33, "D" Chassis Below No. 25000	Vol.	7	SRP255				7	1	ST595				7	[3]51,[3]24, 47, 80		2-3
							6	1	ST595							
11A, 12A, 16A, 18, 33A, "D" Chassis. Above No. 25000	Vol.	15	SRP273				7	1	ST595				7	[3]51,[3]24, 27, 47, 80	175	2-5
							6	1	ST595							
14, 21, 31 DC	Vol.	11	A5MP	6				‡	See Note	B7			9	[3]01A,[4]71A		2-7
S14, S21, S31, S81, S82C	Vol.	12	A3MP	6			1-1-1	3	See Note	B1			8	[4]24, 27,[3]45, 80		1-29
	Hum	37	HU20				.275		See Note	B9						
S14, S21, S81, S82 (25 Cycle)	Vol.	12	A3MP				2-1-2	3	See Note	B1			8	[4]24, 27,[3]45, 80		1-32
	Hum	37	HU20				1		See Note	B9						
	Hum	30	SRP265													
15B	Tone	22	K12										7	[3]32, 30,[3]31		2-9
15, 22, 32, 42 (AC)	Tone	22	E12				2-2	1	See Note	B1			7	[4]24,[3]45, 80		1-34
	Phono.	63	See Note			A5	4		See Note	B12						
							.14		See Note	B9						
							.25		See Note	B12						
15DC, 22DC, 32DC, 42DC	Tone	22	K12										9	[3]32, 30,[4]71A		2-11
	Phono.	63	See Note			A5										
17, 24, 25, AC	Vol.	9	SRP273				4.5-6	4	See Note	B1			9	[3]51, 27,[3]24,[3]47, 80	175	3-15
BUCKINGHAM																
80	Vol.	3	C12				2-1-3	3	See Note	B1			8	[4]26, 27,[4]71A, 80		§1-2
BUICK MOTOR—See United Motors Service.																
BULOVA WATCH																
M501	Vol.	8	A5MP				1-4-2	28	See Note	B1			5	[3]51, 24, 47, 80		2-1
							.055		See Note	B9						
600, 601, 605, 610	Vol.	8	A5MP		2		1-2-1	3	See Note	B1			6	[3]51,[3]24, 47, 80	175	5-1
							.06/.25		See Note	B9						
							.03		See Note	B9						
M701	Vol.	7	G	6			2-2-2.5	28	See Note	B1			7	[3]51, 24, 27, 47, 80	175	2-3
	Tone	22	K12				.055		See Note	B9						
C751	Vol.	58	F				8, 8	34	RS213				7	[3]35, 27,[3]24, 47, 80	175	2-5
	Tone	22	K12													
G781	Vol.	7	G	6			2-2-2.5	28	See Note	B1			7	[3]51, 24, 47, 27, 80	175	2-3
	Tone	22	K12				.055		See Note	B9						
BUSH AND LANE																
10	Vol.	26	A10MP		See Note	A18	8-8-8	3	3S584				8	[3]27,[3]45, 80		1-1
12	Vol.	12	A10MP		See Note	A18	8-8-8	3	3S584				8	[3]27,[3]24,[3]45, 80		1-2
C R C																
24-27	Vol.	6	G7	6			4-4	1	See Note	B3			4	[3]24, 45, 27		4-1
24-45	Vol.	6	G7				4-4	1	See Note	B3			4	35, 24, 45, 80		4-1
24-47	Vol.	6	G7				4-4	23	See Note	B3			4	35, 24, 47, 80		4-2
58-47	Vol.	6	H7				4-4	23	See Note	B3			4	58, 57, 47, 80		4-2
CABLE-NELSON—See Howard.																

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CADILLAC																
06W	Vol.	18	N	6			P80939	2	2S562		210	C5	6	[2]78, 77, 85, [2]41	262	5-3
	Tone	44	UC502				P80965	14	BB31		210	C5				
							.01		Buffer	B14						
5X	Vol.	56	200M No. 1		See No	te A19	8-8	1	2N518		248	C3	5	[2]6K7, 6J7, 6B7, 6B5	175	8-1
	Tone	22	MR53				.0055		Buffer	B14						
6KB	Vol.	56	200M No. 1		See No	te A19	8-8-12	1/15	3S579		248	C3	6	[2]6K7, 6J7, 6B7, 41, 6A6	175	8-3
	Tone	22	MR53				.0055		Buffer	B14						
6Q	Vol.	56	UM154	M26		A96	P45X208	4	CM172				6	[2]6D6, 6C6, 6B7, 41, 6A6	175	7-1,3
	Tone	34	UC502													
6R	Vol.	17	UM161		See No	te A96	4-5-8	4/15	3S579		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	8-5
	Tone	34	UC502				.0075		Buffer	B14						
6S	Vol.	17	UC511	6			45X204	1	2N518		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	8-7
	Tone	22	M				45X203	15	TN111							
							.01		Buffer	B14						
6T	Vol.	17	‡		See No	te A3							6	[2]6D6, 6C6, 6B7, [2]42	262.5	8-9
	Tone	44	L													
6U2	Vol.	18	UM150		See No	te A96	10-10	1	2S568		294	C3	6	[2]78, 77, 75, 41, 84	262.5	8-4
	Tone	22	UC502				.01		Buffer	B14						
2029, 2029A, 2030	Vol.	‡	G										8	[2]36, [2]37, [2]47	175	
2721 (072)	Vol.	18	N				P80902	13/15	See Note	B45	‡		7	[2]39, 36, 37, [2]38	262	5-5
	Tone	44	UC502													
2722 (072A)	Vol.	18	N				P80902D	15/13	See Note	B45	210		7	[2]39, 37, 36, [2]41	262	5-8,10
	Tone	44	UC502													
56V1	Vol.	17	N		See No	te A3	4-4-.5	13/15	See Note	B46	221	C3	6	[2]78, 77, 6B7, [2]41	262	5-12
	Tone	44	UC502													
1425470, 1425471	Vol.	142	TM246-SS1				45X230	1/15	3S581		248	C3	6	[2]6U7G, 6J7G, 6B8G, 6K6G, 6N7G	175	9-1
	Tone	22	MR57				4	14	BB60							
							.0055		Buffer	B14						
7232502	Vol.	45	TM240	M26	See No	te A96	8-8	2	2N518				5	6K7, 6A8G, 6B8G, 6F8G, 6N7G	262	9-3
	Tone	22	MR48			A96	12	15	B12							
							.01-.01		Buffer	B14	Order fro	m Mfr.				
CALVERT																
A50A	Vol.	2	G12		EX400		8-8	1	2N518				5	[2]24, 47, 80		6-1
A51A, A52A	Vol.	8	UC501				658	1	2N518				5	[2]35, 24, 47, 80		6-2
CAPEHART																
CK	Vol.	13	L				8, 8, 8,	28	RS213	B3			11	[2]58, 57, [4]56, [2]47, 80	175	
	Tone	41	L													
	Phono.	87	M													
	Sil.	8	UC501													
103, 104 (Cosmopolitan) Chassis Z	Vol.	33	See Note			A5	8-8-6	3	See Note	B3			11	[2]78, 6A7, 75, 77, [2]37, [2]2A5, 80	175	5-1
	Tone	22	See Note			A5	8-8	14	See Note	B3						
202	Vol.	15	N				8-8	1	2N518				9	[2]6K7, 6A8, 6H6, 6G5, [2]6F6, 5Z4	465	7-1
	Tone	41	M				4	13/14	BB61							
							5	15	BB11							
203 Tuner	Vol.	17	N				4	13	BB60				5	[2]6K7, 6A8, 6H6	465	7-3
	Tone	44	N													
203 (Amplifier)							8-8-4-2	3/14	See Note	B4			5	[2]6F5, [2]6F6, 5Z3		7-2
400A	Vol.	15	M				8-8-4-2-2	37	See Note	B3			14	[4]58, [2]56, 57, 55, [4]47, [2]80	180	4-1
	Tone	41	O				40	15	BB17							
400B	Vol.	33	M				8-8-4-2-2	3	See Note	B3			17	[4]58, [2]56, 57, 55, [2]2A5, [2]5Z3	180	4-2
	Tone	‡	M				40	15	BB17							
	Supp.	44	UC501													
400, 401, 402	Vol.	8/87	See Note			A5							13	[4]51, [2]27, [4]47, [2]80	180	1-1
	Tone	41	See Note			A5										
400B, 402B, 404B, Tuner	Vol.	33	M				8-8-4-2-2	3	See Note	B3			17	[4]58, 2A7, [2]57, 55, [2]56, [2]2A5, [2]5Z3	180	5-2
	Tone	44	M				40	15	BB17							
	Supp.	8	UC501													
400B, 402B, 404B, All-Wave	Vol.	15	M				8-8-4-2-2	3	See Note	B3			17	[2]58, [2]57, [4]56, 2A7, [2]2A5, [2]5Z3, 55	465	5-4
	Tone	44	M				40	15	BB17							
	Supp.	8	UC501		See No	te A5										
400D Tuner	Vol.	146	M				8-8	13	2N518				9	[4]6K7, 6L7, [4]6C5, 6H6	465	7-4
	B.Tone	146	M				25	15	BB15							
	T.Tone	146	M													
	Sen.	8	k													
400D Treb. Amp							8-8	1	See Note	B4			4	6F5, [2]6F6, 5Z3		7-6
400D Bass Amp							8-8-4-2-2	3	See Note	B4			8	[2]6F5, [4]6F6, [2]5Z3		7-5
Standard Amp							8-8-4-2	3	See Note	B3			6	[2]56, [2]2A5, 5Z3		5-5
							40	15	BB17							
CASE—Also see U. S.	Radio &	Tel.														
601 (Chassis 16SM)	Vol.	18	N	6			A15313	25	RS216				6	6D6, 6A7, 6K7, 75, 6F6, 80	262.5	7-1,3
	Tone	34	UC502				A15237-2	25	WE850							
701 (Chassis 16SME)	Vol.	18	N	6			A15313	25	RS216				7	6D6, 6A7, 6K7, 75, 6G5, 6F6, 80	262.5	7-4,6
	Tone	34	UC502				A15237-2	25	WE850							
801-802 (Chassis 27SME)	Vol.	18	M	6			A15313	25	RS216				8	6K7, 6L7, 76, 6D6, 75, 6G5, 42, 80	262.5	7-7,9
	Tone	34	UC502				A15427	25	RS216	B12						
							A15237-2	25	WE850							
1001 (Chassis 19RSME)	Vol.	15	P	6			A15236	25	WE3050				10	[2]6K7, 6L7, 6H6, 6G5, 6C5, [2]6F6, 5Y3	262.5	7-10,12
							A15237	25	WE850							
							A15258	13/15	2N517							
1017 Chassis 110	Vol.	17	UC502	6			16	56	RS216				10	[2]6F6, [2]6C5, 6F5, 6H6, [2]6K7, 6L7, 5Z3	262	
1050	Vol.	17	TRP618	6			16	56	WE1835							
	Tone	22	UC502				B16554-2	1	WE4050				10	[2]6K7G, 6L7G, 6C5G, 6Q7G, 6G5, [2]6F6G, 5Z3	456	
							B15427	1	WE1835							
							B16551-3	15	TN111							
1101, 1102 (Chassis 110RSME)	Vol.	45	UC502	6			16	56	RS216				10	[2]6K7, 6L7, [2]6C5, 6H6, 6E5, [2]6F6, 5Z3	262.5	7-13,15
							16	56	WE1835							
							A15102	14	BB13							
							A15178	13/14	TN111/BB61							
1250	Vol.	140	TRP610				B16613-2	1	2S565				12	[2]6K7G, 6L7G, [2]6C5G, 6H6G, 6G5, 6F5G, [2]6L6G, 5Z3	456	
	Tone	140	P				B16614-3	13/15	2N516							
CAVALCADE																
54	Vol.	18	UM154		See No	te A96	6-10	4	See Note	B3	294	C3	5	6A7, 6D6, 75, 42, 84	‡	
							.02		Buffer	B14						
64	Vol.	18	UM154		See No	te A96	6-10	4	See Note	B3	294	C3	6	[2]6D6, 6A7, 75, 42, 84	‡	
							.02		Buffer	B14						
357	Vol.	18	N	6			8-8	4	See Note	B3			5	6A7, 6D6, 75, 42, 80	456	6-1
359	Vol.	18	UM154		See No	te A96	6-10-.05	4	See Note	B3	294	C3	6	[2]6D6, 6A7, 75, 42, 84	456	6-2
							.02		Buffer	B14						
3511	Vol.	45	M	6			8-8	1	2N518	B3	245C	C3	6	1C6, 34, 32, 33, [2]30	456	
							.01-.01		Buffer	B14						

‡ Data not substantiated.

*** IMPORTANT: Read Notes in Note Section if specified in Note Column.**

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CENTURY																
4-47	Vol.	6	G12	6	EX200	A5	8, 8	1	ST595				4	35, 24, 47, 80		3-1
4-78	Vol.	6	See Note	6		A5	8, 8	1	ST595				4	58, 57, 47, 80		3-2
5-38	Vol.	6	See Note	6		A5							5	36,‡38,‡39		3-3
5-47	Vol.	6	G12	6	EX200	A5		1	See Note	B3			5	‡24, 47, 80		3-4
7-38 Auto Radio	Vol.	64	N		See Note	A5							7	‡37,‡38,‡39		3-5
"Ace"	Vol.	18	N				16	3	ST597				10	‡58,‡56, 46,‡47, 80	175	3-6
	Tone	34	K12				8	3	ST595							
	Supp.	7	G	2												
"Queen"	Vol.	6	Y	6	EX200		8-4	1	2N518				6	‡57, 58,‡47, 80	175	3-7
	Tone	34	K12		See Note	A4	10	17	BB12							
CHAMPION																
4T AC-DC	Vol.	6	H12				16-12	23	2P546				4	6D6, 6C6, 43, 25Z5		7-3
5T (3 band)	Vol.	18	N				8-4	23	2S567				5	2A7, 78, 2A6, 2A5, 80, or 6A7, 6D6, 75, 41, 80	465	7-1
6T (3 band)	Vol.	45	N				8-4	23	2S567				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	465	7-2
	Tone	22			See Note	A3										
30	Vol.	6			See Note	A3	8-14-10-10	1/15	4S715				3	6D6, 6C6, 12A7		9-1
40R, 40RM, 40DW, 40DWM	Vol.	6	H12				8-4	23	2S567				4	6D6, 6C6, 42, 80, or 6K7, 6J7, 6F6, 5Z4		7-5
42	Vol.	6	H12				4-4	1	2N518				4	6D6, 6C6, 42, 80 or 58, 57, 2A5, 80		7-3
52 (Early)	Vol.	6	H12				5	15	BB11							
							4-4	1	2N518				5	‡58, 57, 47, 80 or ‡6D6, 6C6, 42, 80	456	7-4
52 (Late)	Vol.	6	H12				5	17	BB11							
							4-4	1	2N518				5	6A7, 6D6, 6C6, 42, 80	456	7-5
52DWG	Vol.	18	N				5	15	BB11							
							16-12	27	2P546				5	6A7, 6D6, 75, 43, 25Z5	465	7-4
54, 55	Vol.	6	MR21			A14	16-16	1	2N506				4	6K7, 6J7, 25L6 or 25A6, 25Z6, K55		9-2
							10	15	BB12							
307	Vol.	1			See Note	A3	10-10-10-10	1/15	4N701				3	6D6, 6C6, 12A7, K86C		9-1
317	Vol.	1			See Note	A3	16-12-10-10	1	4S715				3	6D6, 6C6, 25A7, K86C		9-1
500	Vol.	18	‡		See Note	A3	8-8	1	2N518		294	C3	5	6A7, 6D6, 6B7, 41, 84 or 6A7, 6D6, 75, 41, 84	456	7-6
							10	15	BB12							
							.02-.02		Buffer	B14						
501	Vol.	18	UM154			A96	8-8	4	2N518		294	C3	5	6A7, 6D6, 75, 41, 0Z4	456	7-7
							.01-.01		Buffer	B14						
558	Vol.	6	H12				4-4	1	2N518				5	‡57, 58, 47, 80	456	7-7
600	Vol.	18	UM154			A96	5	17	BB11							
							6-12	1	2S565		294	C3	6	‡6D6, 6A7, 75, 41, 84	175	7-8
							10	15	BB12							
							.01-.01		Buffer	B14						
601	Vol.	18	UM154			A96	8-8	4	2S567		294	C3	6	‡6K7, 6A8, 6Q7, 6F6, 0Z4	175	7-9
	Tone	22	G12				.01		Buffer	B14						
CHEVROLET—See United Motors Service.																
CLAGO																
Radiochron "B"	Vol.	6	G12				1-2	1	See Note	B1			6	‡24, 45, 80		§4-9
	Tone	22	G12													
531 "Heritage"	Vol.	6	G7		See Note	A14	1-2-2-1-1	‡	See Note	B1			5	‡24, 45, 80		§9-3
	Tone	22	G12													
CLARION—Also see Transformer Corp.																
11A (52.3)	Vol.	18	MR48				18-102	1/15	3S575				6	6A7, 6D6, 75, 6G5, 41, 80	456	
	Tone	21	MR48	M26												
29, 35 (537)	Vol.	18	MR48	M27			16-100	19	BB12				4	1D7G, 1D5G, 1H6G, 1G5G, NB1	456	
31, 37 (453)	Vol.	18	MR53	M26			1845	1	2N516		246	C3	5	6D8G, 6S7G, 6T7G, 6N5, 1F5G	456	
							.008		Buffer	B14						
55A, 57A (645)	Vol.	18	MR48				18-102	1/15	3S575				6	6A7, 6D6, 75, 6G5, 41, 80	456	
	Tone	21	MR48	M26												
58B (735)	Vol.	18	MR48				18-202	25	RS215				7	6A7, 76, 6D6, 6Q7G, 6G5, 6V6G, 80	456	
	Tone	21	MR48	M26			18-201	25	WE1835							
60, 61 series (646)	Vol.	18	UM157			A96	18-203	74/19	3S584	B119	294	C3	6	6K7, 6A8, 6D6, 75, 41, 84	262	
	Tone	21	MR48				.005		Buffer	B14						
70, 71 Series (746)	Vol.	18	UM157			A96	18-204	24/15	3S575		294	C3	7	6K7, 6A8, 6K7G, 6Q7G, 6J5G, 6N7G, 0Z4	262	
	Tone	22	Order from	Mfr.			.008		Buffer	B14						
70X (715A)	Vol.	17	MR53	M26			18-211	1	2N512	B66			6	6A7, 6D6, 6Q7G, 6G5, 25B5, 25Z5, L24B	456	
80, 81 (846)	Vol.	18	UM157			A96	18-204	24/15	3S575		294	C3	8	‡6K7, 6A8, 6K7G, 6J5G, 6N7G, 0Z4	262	
	Tone	22	Order from	Mfr.			.008		Buffer	B14						
88X, 89X	Vol.	148	‡		See Note	A5	18-202	1	RS215				8	6A7, 6D6, 6H6G, 6G5, 6Y7G, ‡6V6G, 80	456	
	Tone	41	‡		See Note	A5	18-201	1	WE1835							
93 (885)	Vol.	148	‡		See Note	A5	18-202	1	RS215				8	6A7, 6D6, 6H6G, 6G5, 6Y7G, ‡6V6G, 80	456	
	Tone	41	‡		See Note	A5	18-201	1	WE1835							
Chassis 562	Vol.	18	MR48				1845	1	2N516		246	C3	5	1C6, 1A4, 6T7G, 6N5, 41	456	
	Tone	21	‡		See Note	A5	.01-.01		Buffer	B14						
700, 701 (710)	Vol.	17	MR53	M26			18-211	1	2N512	B66			6	6A7, 6D6, 6Q7G, 6G5, 25B5, 25Z5, L42B	456	
Chassis 1102	Vol.	148			See Note	A5	18-214	1	RS216				11	‡6C5G, 6A8G, 6K7G, 6H6G, 6G5, ‡6J7G, ‡6V6G, 80	456	
	Tone	44	Order from	Mfr.			18-215	1	RS215							
							18-216	13	ST585							
Chassis 1105	Vol.	148	‡		See Note	A5	18-214	1	RS216				11	‡6C5G, 6A8G, 6K7G, 6H6G, 6G5, ‡6J7G, ‡6V6G, 80	456	
	Tone	44	Order from	Mfr.			18-215	1	RS215							
							18-216	13	ST585							
CLEARTONE																
110 (Compact)	Vol.	16	N				3-3-2	3	See Note	B1			6	§Kellog, 80		1-3
	Clr'ty	26	K													
112	Vol.	14	N				2-2	1	See Note	B7			7	‡26, 27, 50, 81		1-3
CLIMAX																
4 tube AC-DC	Vol.	6	G12	6	EX300		2031	1/15	TN125				4	6D6, 6C6, 43, 12Z3		7-2
4 tube Battery	Vol.	135	Y10MP				2037	12	BB33				4	‡34, 32, 33		7-1
5 tube AC-DC	Vol.	6	G12		EX300		2027	11/15	2N504/2N502	B120			5	6D6, 6C6, 43, 37, 12Z3		7-2
6 tube Battery	Vol.	45	N	6			2037	12	BB33				6	1C6,‡34,‡30, 33	456	7-1
AA, AAX	Vol.	6	G12	6	EX300		2027	11/15	2N504/2N502	B120			4	6K7, 6J7, 43, 25Z5		7-3
AB, ABX	Vol.	6	G12		EX300		2027	11/15	2N504/2N502	B120			5	6A8, 6K7, 6J7, 43MG, 25Z5MG	458	7-4
ABX (late)	Vol.	17	N	6			306	11/15	2N512/2N502	B122			5	6A8, 6K7, 6H6, 43MG, 25Z5MG	456	7-5

‡ Data not substantiated, * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CLIMAX—Continued																
AC 60	Vol.	45	N	6			317	4	RS213				7	6A7, 6D6, 76, 6G5, 6F6G, 42, 80	456	8-15
AC 61	Vol.	45	N	6			317	4	RS213				6	6A7, 6D6, 76, 6F5G, 42, 80	456	8-15
AC 64, AC 64B	Vol.	45	N	6			317	4	RS213				7	6A7, 6D6, 76, 6G5, 6F5G, 42, 80	456	8-15
AC 65	Vol.	45	N	6			317	4	RS213				6	6A7, 6D6, 76, 6F5G, 42, 80	456	8-15
AD	Vol.	18	N	6			317	4	RS213				5	6A7, 6D6, 75, 42, 80	456	8-2
AD6	Vol.	45	N	6			317	4	RS213				7	6A7, 6D6, 76, 6F5G, 6G5, 42, 80	456	9-2
AH	Vol.	18	N	6			311 314	27 27	ST589 ST585				5	6A7, 6D6, 75, 43, 25Z5, L49C	456	8-2
AHE	Vol.	18	N	6			311 314	27 27	ST589 ST585				6	6A7, 6D6, 75, 6G5, 43, 25Z5, L42C	456	8-2
AJ	Vol.	18	N	6									5	1C6, 1A4, 1B5, 30, 19	‡	8-4
AKE	Vol.	18	N	6			324 304 .01	1 15	ST585 BB12 Buffer	 B14	See Note	C8	5	6A7, 6S7G, 6T7G, 6G5, 41	‡	8-5
AL	Vol.	6	G12	6	EX400		324 312	4 4	BB25 BB22				4	6D6, 6C6, 26L6, 25Z5, L55B		9-1
AR	Vol.	6	Y	6	EX300		324 312	4 4	BB25 BB22				4	6K7, 6J7, 25L6, 25Z5		9-2
ASE	Vol. Tone	45 22	N ‡	6	See Note A5		311 314	4 4	ST589 25L6				7	6A7, 6D6, 76, 6G5, 25L6, 25Z5, L80B	‡	9-1
ATE	Vol. Tone	45 22	N ‡	6	See Note A5		311 314	4 4	ST589 ST585				7	6A7, 6D6, 76, 6G5, 25L6, 25Z5, L73B, L80B	456	9-1
AX	Vol. Tone	45 22	N ‡	6	See Note A5		317	4	RS213				6	6A7, 6D6, 76, 6F5G, 42, 80	‡	
A4	Vol.	6	G12	6	EX300		2004 2005	1 15	2N507 TN111				4	39-44, 77, 43, 12Z3		7-6
Diamond	Vol.	6	G12	6	EX500		5-10-25	40/15	UR182	B3			4	6D6, 6C6, 43, 25Z5		
Duke	Vol.	6	G12	6	EX300		316	‡	TN122/BB12				4	6D6, 6C6, 43, 25Z5, L55B		8-5
E	Vol.	6	G12	6	EX275		316	8	TN122/BB12				4	6D6, 6C6, 43, 25Z5		8-7
E02	Vol.	6	G12	6	EX300		316	‡	TN122/BB12				4	6D6, 6C6, 43, 25Z5		9-1
F	Vol.	6	G12	6	EX275		311 314	23 23	ST589 ST585				4	6D6, 6C6, 43, 25Z5		8-7
G	Vol.	6	G12	6	EX275		311 314	27 27	ST589 ST585				4	6A7, 6F7, 43, 25Z5	456	8-8
HE	Vol.	18	N	6			311 314	27 27	ST589 ST585				6	6A7, 6D6, 6Q7G, 25B5, 25Z5, 6G5	456	8-9
JE	Vol.	18	N	6			311 314	27 27	ST589 ST585				6	6A7, 6D6, 6Q7G, 25B5, 25Z5	456	8-9
JEBT	Vol.	18	N	6			311 314	27 27	ST589 ST585				6	6A7, 6D6, 6Q7G, 6G5, 25B5, 25Z5	456	8-13
JL	Vol. Tone	83 22	N Z12	6			317 304	1 15	RS213 BB12				11	6A7, 6D6, 76, 6G5, 6F5G, 42, 80	456	8-10
KSW4	Vol.	6	G12	6	EX300		8-4	4	2S567	B33			4	58, 57, 47, 80		7-7
LEE SW5	Vol.	6	G12	6	EX300		8-4	4	2S567	B33			5	58, 57, 47, 80		7-7
M (early)	Vol.	18	N	6			2016	1/15	3S579				5	6A7, 6D6, 75, 42, 80	456	7-9
M and ME (late)	Vol. Tone	45 34	N Z12	6			317 304	1 15	RS213 BB12				8	6A7, 76, 6D6, 6F5G, 6G5, 42, 80	456	8-11
MEBT	Vol. Tone	45 34	N Z12	6			317 304	1 15	RS213 BB12				8	6A7, 76, 6D6, 6G5, 6F5G, 42, 80	456	8-11
M4	Vol.	6	G12	6	EX300		2006	24/15	4N701				4	39/44, 36, 38, 37		7-6
OPAL	Vol.	6	G12	6	EX300		322	24/15	3N525				4	6D6, 6C6, 38, 76		8-1
Q69	Vol.	6	G12	6	EX400		316	‡	TN122/BB12				4	6D6, 6C6, 43, 25Z5, L55B		8-14
R	Vol.	6	G12	6	EX275		316	8	TN122/BB12				4	6D6, 6C6, 43, 25Z5		8-8
RBT	Vol.	6	G12	6	EX250		316	‡	TN122/BB12				4	6D6, 6C6, 43, 25Z5		8-12
SBT	Vol.	45	N	6			311 314	27 27	ST589 ST585				7	6A7, 76, 6D6, 6H6G, 6Q7G, 25B5, 25Z5	456	8-13
T	Vol.	6	G12	6	EX275		320	40/15	2P541/BB12				4	6D6, 6C6, 43, 25Z5		8-12
U series, UE	Vol.	18	N	6			311 314	27 27	ST589 ST585				6	6A7, 6D6, 75, 6G5, 43, 25Z5, L42C or 6A7, 6D6, 75, 43, 25Z5, L49C	‡	9-2
Z55	Vol.	6	G12	6	EX400		316	‡	TN122/BB12				4	6D6, 6C6, 43, 25Z5, L55B		8-14
7	Vol.	6	G12	6	EX300		313	24/25	4S715				4	6D6, 6C6, 38, 76		7-8
7B	Vol.	6	G7	6	EX300		313	24/25	4S715				4	6D6, 6C6, 38, 76		7-9
10, 12, 14, 19	Vol.	6	G12	6	EX300		309	6/15	4S715				4	6D6, 6C6, 43, 25Z5		7-10
30-34	Vol.	6	G12	6	EX300		308	6/15	2N507/TN111				4	6D6, 6C6, 43, 25Z5		7-11
35	Vol.	17	N				311 10	23 23	ST589 BB22				6	6A7, 6D6, 75, 43, 6G5, 25Z5	456	7-12
50, 56, 59	Vol.	17	N	6			308	6/15	2N507/TN111				5	6A7, 6D6, 75, 43, 25Z5, L55S2	456	7-13
66	Vol.	17	UM154			A96	2031	1/15	3S579		294	C3	6	6A7, 6D6, 76, 75, 41, 84	456	7-15
90, 91, 93	Vol. Tone	45 34	N Z12	6			.01 302		Buffer 3S579	B14			7	6A7, 6D6, 76, 75, 6E5, 42, 80	456	7-14
90B, 96B, 99B	Vol. Tone	45 34	N Z12	6			302	1/15	3S579				7	6A7, 6D6, 76, 75, 42, 80, 6G5	456	7-15
424	Vol.	6	G12		EX200		4, 4	1	ST595				4	24, 47, 80		§5-4
457	Vol.	6	G12	6	EX300		2000	4	2S567				4	58, 57, 47, 80		7-16
557	Vol.	6	G12	6	EX300		2000	4	2S567				5	58, 57, 47, 80		7-16
CLINTON																
6V6	Vol. Tone	45 34	MR48 MR39	M27			C220 .005	1	2N516 Buffer	 B14	245	C3	6	6D8G, 1E5G, 21H6G, 6T7G, 1J6G	456	
19B (194, 195)	Vol.	6	SRP263	6			8-20-8	8	UR182				4	6D6, 6C6, 43, 25Z5		
51	Vol.	6	SRP263	6			C212	8/15	UR182/BB12				4	6D6, 6C6, 43, 25Z5, L55B		
56P	Vol.	6	SRP263	6			8-20-8 5	6 15	UR182 BB12				4	6D6, 6C6, 43, 25Z5, L55B		
57PG, 58PG, 59PG	Vol.	6	SRP263	6			C212	8/15	UR182/BB12				4	6D6, 6C6, 43, 25Z5		
C625Q	Vol.	18	MR48	M26			C214	27	UR192				5	6A7, 6D6, 75, 43, 25Z5		
C71XF	Vol. Tone	18 21	MR48 MR48	M26			C221	4	RM262				7	6A7, 6D6, 76, 75, 42, 6G5, 80	456	
C83	Vol. Tone	18 106	MR48 MR48				C216 C213	3 3	WE851 ST595				8	6D6, 76, 75, 6U5, 6B5, 80	456	
C93	Vol. Tone	106 106	MR48 MR39				8 8 10	1 1 5	WE851 ST595 BB12				9	6D6, 76, 75, 42, 6G5, 80	456	
C113XF	Vol. Tone	106 106	MR48 MR48				C216 C205	1 1	WE851 ST595				11	6D6, 76, 6C6, 42, 6U5, 80	456	

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CLINTON—Continued																
C123	Vol.	106	MR48				C123	1	WE851				12	[3]6C6, 6D6, [4]76, [3]42, 6G5, 80	456	
	Tone	106	MR39				8-8	1	2N518							
							10	15	BB12							
152, 153	Vol.	6	SRP263	6			8-20-8	8	UR182				4	6D6, 6C6, 43, 25Z5		
300	Vol.	17	MR48	M26			10-12-10	6/15	3N534				5	6A7, 6D6, 6Q7G, 25B5, 25Z5	465	
	Tone	21	MR44													
440 AC-DC Chassis 32	Vol.	6	SRP263				12-8-6	‡	TN122				4	6K7, 6J7, 25L6, 25Z6G		
610SP, 611SP	Vol.	7	MR19	M26			C219	8/15	UR182/BB12				5	76, 6D6, 6C6, 43, 25Z5, 65R4	456	
612SP	Vol.	18	MR48	M26			C227	8/15	TN125/BB12				5	6A7, 6D6, 75, 43, 25Z5, L49B	456	
615SQ	Vol.	18	MR48	M26			C214	27	UR192				5	6A7, 6D6, 75, 43, 25Z5		
620XP	Vol.	7	G	6			C224	‡	2S563				5	6A7, 6D6, 76, 43, 25Z5, 65R4	456	
622XF	Vol.	62	MR48	M26			C221	4	2S567				7	6A7, 6D6, [4]76, 6AB6G, 6G5, 80	456	
	Tone	22	L				8	13	BB61							
630P	Vol.	6	SRP263	6			C219	8	UR182				4	6D6, 6C6, 43, 25Z5, L80B		
							5	15	BB12							
716SQ	Vol.	18	MR48	M26			6-20-8	8	UR182				6	6A7, 6D6, 75, 43, 6U5, 25Z5, 140R8	456	
							5	15	BB12							
717SF	Vol.	18	MR48	M26			20	8	ST589				6	6A7, 6D6, 75, 43, 6U5, 25Z5, 140R8	456	
							12	8	BB22							
							8	8	ST585							
							5	15	BB12							
723XF	Vol.	62	MR48	M26			C221	4	2S567				7	6A7, 6D6, [4]76, 6AB6G, 6G5, 80	456	
	Tone	22	L				8	13	BB61							
803, (1935, 1936)	Vol.	‡	‡		See Note A5		8-8	‡	CM172		294	C3		‡	‡	
							‡		Buffer	B14						
818SF	Vol.	45	MR48				C226	6	BB27				7	6A7, 6D6, 76, 6Q7G, 25B5, 25Z5, 6G5	456	
	Tone	22	L				C200	6	BB24							
							C204	13	BB21							
824XF	Vol.	18	MR48	M26			C221	4	2S567				7	6A7, 6D6, 75, 76, [3]42, 80, 6U5	456	
	Tone	106	MR39				10	15	BB12							
							8	13	CS133							
831SP	Vol.	18	MR48	M26			C227	8/15	TN125/BB12				6	6A7, 6D6, 75, 43, 25Z5, 6U5, L80B	456	
1501	Vol.	15	MR48				8	3	RS213				15	6L7, [3]6K7, [4]6G5, [3]6H6, [3]6V6, 5V4, 6G5	456	
	Tone	41	N				20	3	RS216							
							10	15	BB13							
							20	15	BB15							
							8	13	ST585							
COAST TO COAST																
A14	Vol.		NN				3	3	See Note	B7			7	[3]37, 42, 82		§3-3
83	Vol.	15	N				8, 8	3	RS213				6	[2]56, 83, [3]46		§3-4
							8, 8, 8		RS213							
							10	15	BB12							
56-2'59-2'81	Vol.	15	N				4-4-4	14	See Note	B3			7	[2]59, [2]50, [2]81, 56		§3-4
	Tone	41	M				2-2-4	3	See Note	B7						
525	Vol.	7	E				8-8-8	3	3S584				9	[3]35, [3]24, [3]27, [3]47, 80		4-1
	Tone	41	L													
D3008	Vol.		N				16-4	24	See Note	B3			7	[3]37, [2]A3, [2]82-83		4-2
							4	13	See Note	B3						
							4-4	1	See Note	B3						
							5	15	BB12							
D3031	Vol.	16	N				12-12	9	2S562	B11			5	37, [2]43, [2]25Z5		4-3
	Tone	65	N				8-4	14	2N516	B3						
							5	15	BB11							
4978	Vol.	15	M				2-2-2	3	See Note	B7			6	24, 45, [2]50, [2]81		4-4
	Tone	41	M													
COLONIAL—Also See Sears Roebuck																
16-5	Fil.	29	Q										5	[5]01A		1-2
16-6	Fil.	29	Q										6	[6]01A		1-1
17-5	Fil.	29	Q										5	[5]01A		1-2
25	Vol.	15	N				2-2-2	3	See Note	B7			8	[2]01A, [2]99, 10, [2]81		1-4
	Primary		M30R				.085		See Note	B9						
26	Vol.	29	T										6	[4]01A, 71		1-5
	Fil.	29	HU20		See Note A33											
31AC	Hum	37	C30P				8-8-8	3	MN275				7	[2]26, [2]27, [2]71A, 80		1-10
31DC	Fil.	‡	M20R										7	[5]26, [2]71A		1-8,9
32AC	Vol.	24	GK				1445P	3	MN275				8	[4]24, 27, [2]45, 80		1-14
Cavalier, Picadilly, Moderne 32 DC	Vol.	24	GK										7	[4]24, 27, [2]45		1-11
33, 34, 35							8-8	1	MN272				7	[2]24, 27, [2]45, 80		1-15
36	Hum	66	SRP266				D4758P	1	RS213				6	[2]24, [2]45, 80		1-19
36P							D4758P	1	RS213				6	[2]24, [2]45, 80		1-19
37							R5734A	4	RS216				7	[3]35, 24, [2]45, 80		2-7
37P							R5734A	4	RS216				7	[2]35, 24, 45, 80		2-9,10
38	Hum	66	SRP266				D4758P	1	RS213				6	[2]24, [2]45, 80		2-11
39							4758P	4	RS213				5	[2]24, 45, 80		1-18
41, 42							R5734A	4	RS216				6	[2]35, 24, [2]45, 80		1-18
41P							R5734A	1	RS216				6	[2]35, 24, [2]45, 80		2-16
44	Vol.	6	H7		1		4758P	4	RS213				6	[2]24, 35, 47, 27, 80	175	2-21,22
46 (Midget)	Vol.	7	H				R6122	1	2N518				4	35, 24, 47, 80		2-23
47, 48	Vol.	6	H7		1		D4758P	4	RS213				8	[3]35, 24, 27, [2]47, 80	175	2-26
49 (Midget)							4758P	4	RS213				5	[3]35, 24, 47, 80		2-30
50 (AVC)	Vol.	7	H				D4758P	4	RS213				10	[4]35, 27, 24, [2]47, 80	175	2-32
51	Tone	21	N	6			D4758P	25	RS213				8	[3]35, 24, [2]27, 47, 80	175	3-1
52	Vol.	6	H		1		D4758P	4	RS213				7	[3]35, 27, 24, 47, 80	175	3-2
	Tone	21	N													
55							R6645	1	ST595				4	24, 27, 35, 80	1000	3-6
56	Vol.	15	N				8	12	CS133				7	[2]32, [2]30, 33	175	3-8,9
	Tone	57	N				5	17	BB12							
62	Vol.	6	H7	6			8	25	RS213				7	57, [2]58, 24, 47, 80	175	3-10
	Tone	57	N				4	13	See Note	B3						
65	Vol.	29	U	6									4	[2]34-32, 32, 33, Bal.		3-15
69	Tone	22	N				8	12	BB31				7	[2]32, [2]30, 33, Bal.	175	3-17
							20	19	BB15							
71	Supp.	7	W	6			D4758P	2	RS213				12	[2]58, [2]57, [2]46, 83	175	3-19,22
	Tone	66	N													
73	Vol.	6	H7	6	1		D4758P	23	RS213				6	57, 58, [2]24, 47, 80	175	3-23
76	Vol.	6	H12	6			14	4	WE1650				9	[2]57, 58, 56, [2]46, [2]80	175	3-25
	Tone	22	N				D4758P	4	RS213							
	Hum	37	HU20				16	13	BB11							
106B	Vol.	17	N				UE115	1	CS133		221	C3	7	[2]36, 39, 85, [2]41, 84	175	4-7,8
	Tone	44	N				R7917	17	BB15							
							.02		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
COLONIAL— Continued																
114	Hum	66	SRP266				8	1	RS213				6	[3]35, 24, [3]45, 80		1-19
117	Hum	66	SRP266				D4758P	1	RS213				6	[3]24, [3]45, 80		2-11
125							4758P	4	RS213				5	[3]21, 45, 80		1-18
136	Vol.	6	H12	6			R9150	29	CM165	B47			4	78, 77, 43, 25Z5		4-13
							5	15	BB12							
150	Vol.	18	N	6			R8837	1	2N518		271	C3	4	6A7, 78, 75, 41	480	4-15,18
							R9144	15	BB12							
164	Vol.	17	SRP252	6			R9743	1	2N518		220B	C3	6	[2]78, 6A7, 6B7, 41, 84	175	5-3
	Tone	22	N				R9144	15	BB12							
							.01-.01		Buffer	B14						
164B	Vol.	18	SRP252				R9743	1	2N518		296	C3	5	78, 6A7, 6B7, 41, 84	175	5-3,7
	Tone	22	N				R9144	15	BB12							
							.01-.01		Buffer	B14						
182	Vol.	17	SRP252	6			R9780	4	2S567				6	78, 6A7, 6F7, 6B7, [2]41	175	5-10
	Tone	44	N					15	BB12							
250	Vol.	68	D12				R8053	9	CM165	B49			5	6A7, 6B7, 77, 43, 25Z5	175	4-22
							R8058	15	BB12							
250AC	Vol.	68	D12				R8247	23	2S567				5	6A7, 6B7, 77, 41, 84	175	4-27
250AC (Ex. Range)	Vol.	18	N	6			R8749	23	CS133				5	6A7, 78, 75, 41, 84	175	4-31
							R8748	23	BB31							
250-300 AC-DC	Vol.	18	N	6			R8053	29	CM165	B123			5	6A7, 78, 75, 43, 25Z5	175	4-29
279 (A)	Vol.	68	D12				R8053	9	CM165	B49			5	6A7, 6B7, 77, 43, 25Z5	175	4-22
							R8058	15	BB12							
279AC	Vol.	68	D12				R8247	23	2S567	B33			5	6A7, 6B7, 77, 41, 84	175	4-27
279 (B)	Vol.	68	D12				R8053	29	CM165	B123			5	6A7, 6B7, 77, 43, 25Z5	175	4-23
							R8058	15	BB12							
300 (A)	Vol.	68	D12				R8053	9	CM165	B49			5	6A7, 6B7, 77, 43, 25Z5	175	4-22
							R8058	15	BB12							
300 (B)	Vol.	68	D12				R8053	29	CM165	B123			5	6A7, 6B7, 77, 43, 25Z5	175	4-23
							R8058	15	BB12							
300AC, 301AC	Vol.	68	D12				R8247	23	2S567				5	6A7, 6B7, 77, 41, 84	175	4-27
300 (Ex. Range)	Vol.	18	N	6			R8749	23	CS133				5	6A7, 78, 75, 41, 84	175	4-31
							R8748	23	BB31							
301 (A)	Vol.	68	D12				R8053	9	CM165	B49			5	6A7, 6B7, 77, 43, 25Z5	175	4-22
							R8058	15	BB12							
301 (B)	Vol.	68	D12				R8053	29	CM165	B123			5	6A7, 6B7, 77, 43, 25Z5	175	4-23
							R8058	15	BB12							
T345, C399	Vol.	6	H12				D4758P	23	RS213				6	39, [3]36, [3]89, 80	175	3-30
	Tone	21	N													
T397	Vol.	6	H12				D4758P	23	RS213				6	[2]58, [3]24A, 47, 80	175	3-31
	Tone	21	N													
400	Vol.	19	1 Meg		See Note A19		R8624	23	RS213				6	[2]78, 6A7, 85, 41, 84	175	4-36
	Tone	57	O													
	Power	7	A550P		See Note A14											
C495	Vol.	6	H12				D4758P	23	RS213				6	[2]58, [3]24A, 47, 80	175	3-31
	Tone	21	N													
500 (A)	Vol.	68	D12				R8053	9	CM165	B49			5	6A7, 6B7, 77, 43, 25Z5	175	4-22
							R8058	15	BB12							
500 (B)	Vol.	68	D12				R8053	29	CM165	B123			5	6A7, 6B7, 77, 43, 25Z5	175	4-23
							R8058	15	BB12							
501	Vol.	18	N	6			R8053	29	CM165	B123			5	6A7, 78, 75, 43, 25Z5	175	4-43
	Tone	21	N				R9229	29	BB41	B52						
501AC	Vol.	18	N	6			R9345	23	ST595				5	6A7, 78, 75, 41, 84	175	4-45
	Tone	21	N				R9344	23	ST585							
C595	Vol.	15	O				R8624	23	RS213				8	[2]58, 56, 27, 47, 80	175	3-36
	Tone	21	N	6												
600, 600A	Vol.	18	UC503				R7236	23	WE1650				6	[2]78, 6A7, 85, 41, 80	175	4-49
	Tone	22	N				D4758P	23	RS213							
601	Vol.	18	N				R7236	23	WE1650				9	[2]78, 6A7, 75, [3]45, 83	175	4-53
	Power	7	UC500				D4758P	23	RS213							
	Tone	106	N				R9237	13	BB40							
602	Vol.	15	N				R7236	23	WE1650				12	6A7, [2]78, [2]6B7, [3]37, [2]2A3, 83, 56	175	5-15
	Tone	44	N				R9344	13	ST590							
	Sen.	7	H				R8748	13	BB31							
603	Vol.	18	N				D4758P	23	RS213				6	[2]78, 41, 75, 42, 80	480	5-19
	Tone	...‡	N													
604	Vol.	18	N				R7236	23	WE1650				8	[2]78, 6A7, 75, [3]47, 80, 37	445	5-21
	Tone	...‡	O				R8488	23	RS213							
							R9237	13	BB40							
605	Vol.	18	N	6			8-8	23	RS213				7	[2]78, 41, 37, 75, 47, 80	175	6-1
	Tone	22	N													
650	Vol.	18	N	6			R4758P	23	RS213				5	6A7, 78, 75, 41, 80	175	5-25
	Tone	...‡	N				R7236	23	WE1650							
651	Vol.	18	N	6			R8744	23	ST595				5	6A7, 78, 75, 41, 84	480	5-27,28
							R8748	23	BB31							
652	Vol.	18	N	6			R8624	23	RS213				5	6A7, 78, 75, 42, 80	480	5-29
							8	13	BB61							
653	Vol.	6	D7				D4758P	23	RS213				5	6A7, 78, 37, 41, 80	480	5-31
654	Vol.	7	D	6			R10689	24	2N502				5	6A7, 78, 37, 38, 1V	480	5-33
655	Vol.	18	N	6			8-8	23	RS213				6	[2]78, [3]41, 75, 84	480	5-35
656	Vol.	18	N				D4758P	23	RS213				6	[2]78, 41, 75, 42, 80	175	5-37
	Tone	...‡	N	6												
657	Vol.	18	N	6			R10601	29	UR190	B53			5	6A7, 78, 75, 43, 25Z5	480	5-40,41
658	Vol.	18	N	6			D4758P	23	RS213				6	[2]78, [3]41, 75, 80	480	5-43
	Tone	...‡	N				8	23	WE850							
659	Vol.	29	U				R10673	13/19	2N516/BB15				6	[3]951, 30, 32, 33, 30, Bal.	480	5-45,46
	Tone	34	N													
662	Vol.	18	N	6			R9204	23	RS213				5	6A7, 78, 51, 41, 84	480	6-2
							R8748	23	BB31							
C695	Vol.	15	O				D4758P	23	RS213				10	[2]58, [3]56, 27, [3]47, 80	175	3-37
	Tone	57	N													
700, 701, 702	Vol.	18	N	6			R9397	29	ST585				5	6A7, 78, 75, 43, 25Z5	175	4-57
700AC, 701AC, 702AC	Vol.	18	N			A88	R8624	23	RS213				5	6A7, 78, 75, 41, 84	175	4-62
							R9204	23	RS213							
C995	Tone	22	N				R7236	7	WE1650				12	[2]58, 24, [2]57, [2]46, [2]82	175	3-41
							8	7	RS213							
1580	Vol.	6	H7				8, 8	25	RS213				7	57, [2]58, 56, 57-24, 47, 80	175	
	Tone	57	N													
COLUMBIA PHONO. CO.																
C1, C2, C3, C4	Vol.	14	L				2-2-2	3	See Note	B1			7	[2]26, 27, 71A, 80		1-1,2
C5 (205)	Vol.	14	L				3-2-2	3	See Note	B1			9	[3]26, 27, 50, [2]81		1-3
C5 (310)	Vol.	14	L				3-4-4	3	See Note	B1			9	[3]26, 27, 10, [2]81		1-3
C6, C7	Vol.	14	L				...‡	‡	See Note	B1			6	[3]01A, 71A		1-4
31, 33	Vol.	7	A5MP	6			1-4-2	25	See Note	B1			5	[2]51, 24, 47, 80		2-1,2
							.055		See Note	B9						
C33, C34	Vol.	7	G				2-2	25	See Note	B1			7	[3]51, 24, 27, 47, 80		2-3
							8	25	RS213							
							.08		See Note	B9						
C80A	Vol.	15	M				8-8-10	25/15	3S579				8	[4]58S, 56, 4-S, 47, 82	175	3-2
	Tone	22	K12	6												

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
COLUMBIA PHONO.—Continued																
C80B	Vol.	15	M				8-8-10	25/15	3S579				8	[458S, 56, 4-S, 47, 82	175	3-3
	Tone	22	K12	6												
C90, A, B	Vol.	15	M				7489	2	CS136				11	[458S, 56, [257S, [347, 82, 4S	175	3-7,9
	Supp.	12	Y				7278	13/14	CM162	B54						
	Tone	22	M	6			7402	15	BB12	B54						
	Hum	37	HU20				7784	15	BB15	B54						
C100	Vol.	15	M				8-8-8	3	MN275				8	[24, 27, [345, 80		3-10
120B	Vol.	43	GG										6	30, [32, 33	175	3-11
C800	Vol.	15	M				8-8-10	25/15	3S579				8	[458S, 56, 4-S, 47, 82	175	3-4
	Tone	22	K12	6												
900, 901	Vol.	87	‡		See Note A5		3-4	1	See Note	B7			4	26, 10, [81, 876		1-4
902	Vol.	63	‡		See Note A5		3-4	1	See Note	B7			6	[27, [50, [81		1-5
920, 930	Hum	37	HU20				2-2-.5	3	See Note	B7			4	27, [45, 80		1-6
930-300	Vol.	63	‡		See Note A5		3-4	1	See Note	B7			4	26, 10, [81		1-7
931	Vol.	63	‡		See Note A5		3-2	1	See Note	B7			3	26, 50, 81		1-7
940	Vol.	40	Y				2-1-.5	3	See Note	B1			8	26, [27, [45, 80		2-4
950, 961	Vol.	40	G12				3-2-2	3	See Note	B7			7	[26, 27, 50, 81		1-8,9
	Phono.	63	‡		See Note A5											
980	Vol.	14	L				1-1-1	3	See Note	B1			12	[26, [27, 80, [50, [81		1-10
	Phono.	63	‡		See Note A5		3-4	1	See Note	B7						
990	Hum	37	HU20				2-2-5	3	See Note	B1			4	27, [45, 80		1-6
COLUMBIA RADIO CORP.																
SG5 ('30)	Vol.	7	Z				2-1	1	See Note	B1			5	[24, 45, 80		3-1
SG8	Vol.	69	Y	8		A8	2-2-2	3	See Note	B1			8	[24, [27, [45, 80		1-2
SG9	Vol.	25	G12	6		A20	8-8-8	3	See Note	B3			9	[24, [27, [45, 80		3-3
	Tone	41	N													
SG10	Vol.	7	Z		See Note A10		2-2.5-2.5	3	See Note	B1			10	[24, [27, [45, 80		3-4
COMET—See Air King																
COMMONWEALTH																
150	Vol.	17	N	6			5-18-7	11	UR182	B31			5	6A7, 6D6, 75, 43, 25Z5	456	§5-5
CONSOMELLO																
8 in line	Vol.	10	D7				‡	3	See Note	B3			8	[26, 27, 71A, 80		§6-4
CONTINENTAL																
(Slagle) 9 ('71A)							2-4-2	3	See Note	B1			10	[27, [71A, 80		1-1
(Slagle) 10, A, B, ('71A)							2-4-2	3	See Note	B1			11	[27, [71A, 80		1-2
29A, 29B							2-4-2	3	See Note	B7			12	[27, [50, [81		1-4
(Slagle) 29C ('71)	Phono.	63	Y50MP		See Note A3		2-4-2	3	See Note	B7			11	[27, [71A, 80		1-3
29C, 29B ('50)	Phono.	63	Y50MP		See Note A3		2-4-2	3	See Note	B7			12	[27, [50, [81		1-3,5
"Star Raider" R20, R30, R40							2-4-1-2	37	See Note	B7			11	[48], [585, [81, VR		1-6
A31	Vol.	18	N				8-4	23	2S567	B33			5	6A7, 6D6, 75, 42, 80	456	7-1
"Admiral" L5	Vol.	18	N	6			P474	32	WE450				7	5Z4, 6F5, 6F6, 6H6, 6K7, 6L7, 6C5	456	7-3,4
	Tone	34	L				P160	32	2S567	B81						
							P304	15	BB12							
"Admiral" L6	Vol.	18	N	6			P474	32	WE450	B81			8	5Z4, 6C5, [6F6, 6K7, 6L7, [6Q7	456	7-5,6
	Tone	44	L				P160	32	2S567							
							P304	15	BB12							
"Admiral" L7	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, 19, [30, [31	456	7-7
	Tone	‡	L				.01-.01		Buffer	B14						
M1	Vol.	18	N	6			P160	1	2S567	B26			6	6A8, [6K7, 6Q7, 6F6, 5Y3	456	7-9
	Tone	34	L													
"Admiral" U6	Vol.	17	UC514				P759	4	CM172		294	C3	6	6D6, 6A7, 6K7, 75, 6F6, 84		
	Tone	22	MR39				G864	15	BB12							
X8	Vol.	18	N	6			P160	1	2S567	B26			5	6A7, 6D6, 75, 42, 80	456	7-11
X641, X741	Vol.	45	N				8-8	1	2N516		245C	C3	6	1C6, 34, [30, 32, 33	456	7-2
							.01-.01		Buffer	B14						
Z2	Vol.	45	N	6			P160	1	2S567	B26			6	6A7, 6D6, 6H6, 6F5, 42, 80	456	7-13
	Tone	34	L													
Z3	Vol.	45	MR48	M26			8-4	1	2S567	B26			6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	456	
	Tone	34			See Note A3											
"Admiral" Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 34, [30, 32, 19	456	7-15
	Tone	44	L				.01-.01		Buffer	B14						
"Admiral" Z5	Vol.	45	SRP275	7			P958	1	2N517		245C	C3	6	1C6, 19, [30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
4A	Vol.	18	MR48	M27			P2602	19	BB15				4	1A7G, 1N5G, 1H5G, 1C5G	456	
5A	Vol.	18	MR53	M26			P2397	23	2S567	B33			5	6A7, 6D6, 75, 41, 5Y3G	456	9-1
5AZ	Vol.	18	MR53	M26			5-5	23	RM262				5	6A7, 6D6, 75, 41, 80	456	9-2
5C	Vol.	6	MR36	M26			P2216	1	2N506				1	6D6, 6C6, 25L6G, 25Z5, L55GB		9-3
5C-PH	Vol.	6	MR36	M26			P2216	1	2N506				4	6D6, 6C6, 25L6G, 25Z5, L55GB		
	Phono.	63	MR48	M27												
5E	Vol.	18	MR48	M26			P2434	25	BB26				5	6A8, 6K7, 6Q7, 25L6, 25Z6	456	9-4
							P2427	25	BB22							
5EA	Vol.	18	MR48	M26			P2668	1	2N512				5	6A8, 6K7, 6Q7, 25L6, 25Z6	456	
5F	Vol.	18	MR48	M26			P2456	23	BB61				5	6A7, 6D6, 75, 41, 80	456	9-5
5G	Vol.	6	MR35	M26			P2456	25	BB61				5	6D6, 76, 6C6, 41, 80	456	9-6
5M	Vol.	18	N	6			P1591	23	2S567				5	6A7, 6D6, 75, 41, 80	456	8-1
5VU	Vol.	18	MR48	M26			4-8	23	2S567	B33			5	6A7, 6D6, 75, 41, 80	456	9-7
5X	Vol.	18	N				8-4	23	2S567	B33			5	6A7, 6D6, 75, 41, 80	456	8-2
5Z	Vol.	18	MR53	M26			P1511	23	RN262				5	6A7, 6D6, 75, 41, 80	456	8-3
6D	Vol.	18	MR48				P2251	1	2N516		850	C3	6	6A8G, 6J5G, 6U7G, 6Q7G, 6G6G, 6ZY5G	456	9-7
							.015		Buffer	B14						
6G	Vol.	18	MR48	M26			P2575	25	CS135				6	6A7, 6D6, 76, 75, 41, 80	‡	
	Tone	22	MR48													
6H	Vol.	18	N				‡	23	See Note	B3			5	6A7, 6D6, 75, 25B6G, 25Z5	456	9-9
6K	Vol.	18	MR48	M26			P3086	1/15	3S577				6	6A7, 76, 6D6, 75, 41, 80	456	
6L	Vol.	18	N	6			P1561	4	2P549				5	6A7, 6D6, 75, 25B6G, 25Z5	456	9-10
6P	Vol.	18	N				P958	1	2N518		245C	C3	6	6D8G, 6S7G, 6T7G, [30, 19	456	8-5
	Tone	44	L				.01-.01		Buffer	B14						
6PU	Vol.	18	MR48	M26			P958	1	2N518		245C	C3	6	6D8G, 6S7G, 6T7G, [30, 19	456	9-11
	Tone	44	MB39				.01		Buffer	B14						
6Q	Vol.	62	O				10	19	BB12				5	1A6, [1A4, 30, 1G5G, 1B1	‡	8-4
	Tone	22	L													
6W	Vol.	18	N	6			P1591	23	2S567				6	6A7, 6D6, 75, 6H5, 41, 80	456	8-7
	Tone	22	L													
6Y	Vol.	18	N				P1561	27	2P549				5	6A7, 6D6, 75, 25B6G, 25Z5, L49BJ	456	8-8

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CONTINENTAL—Continued																
7A	Vol.	18	N				P2140	1/15	3S570		850	C3	7	6D8G, 6L5G, 6S7G, 6T7G, 6G6G, 6ZY5G, 6AB5	456	9-12
	Tone	34	L	7			.015		Buffer	B14						
7G	Vol.	18	N	6			P2575	25	CS135				7	6A7, 76, 6D6, 75, 41, 6G5, 80	456	9-13
	Tone	22	MR48													
7M	Vol.	139	500M No. 1		See Note A19		4-16	23	2S563	B33			7	6A7, 6D6, 76, 75, 6U5, 42, 80	456	8-10
	Tone	139	O				10	19	BB12							
7MU	Vol.	139	500M No. 1		See Note A19		16-4	23	2S563	B33			7	6A7, 6D6, 76, 75, 6U5, 42, 80	456	8-11
	Tone	139	O				10	19	BB13							
8A	Vol.	18	N	6			P2631	1	2S568				8	6A7,[3]76, 6D6, 75,[3]41, 80	456	
8K	Vol.	140	1 Meg. No. 1		See Note A19		P1825	1/13	3S584				8	6A7, 6D6, 75, [3]76, [3]42, 80	456	8-13
	Tone	140	MR48				P1873	15	BB12							
8KU	Vol.	140	1 Meg. No. 1		See Note A19		6-6-2	46	3S584				8	6A7, 6D6, [3]76, 75, [3]42, 80	456	8-15
	Tone	140	O				10	15	BB12							
8T	Vol.	140	1 Meg. No. 1		See Note A19		20-25	1	2N514				7	6A7, 6D6, 75, 76, [3]43, 25Z5, 17AJ	...‡..	9-14
	Tone	140	O				10	15	BB12							
8TU	Vol.	140	MR53	M26			20-25	1	2N514				7	6A7, 6D6, 75, 76, [3]43, 25Z5, 17AJ	456	9-15
	Tone	140	MR53				10	15	BB12							
9G	Vol.	140	1 Meg. No. 1		See Note A19		P1971	1	2S563				9	6A7, 6D6, [3]76, 75, [3]42, 80	456	9-16
	Tone	140	O				P1983	15	BB12							
11A	Vol.	20	TM249-SS1				P1939	1	2N518				11	6A8G, [2]6K7G, [3]6J5G, [2]6F6G, 5Z3	456	
	Tone	...‡..	MR53				P1937	13	WE3050							
11S	Vol.	140	1 Meg. No. 1		See Note A19		P1937	1	WE3050				11	6A8, [2]6K7, 6J7, [3]6J5, [2]6F6, 5Z3	456	8-17
	Tone	140	MR53				P1939	1/13	2N518							
16R	Vol.	.....	Order from Mfr.				P1993	30	WE3050				16	[2]6K7G, 6L7G, [2]6H6G, [3]6J5G, 6J7G, [2]6L6G, [3]5Z3	456	9-17,20
	Tone	34	M				P1994	30	WE1250							
	Bass	15	N				P1992	30	WE3050							
							P1997	13/14	2N517							
55	Vol.	18	MR48	M26			P2329	23	CM172		850	C3	5	6A8, 6K7, 6Q7G, 6K6G, 6X5G	456	9-21
							.006		Buffer	B14						
61	Vol.	18	N				8-4	23	2S567	B33			5	6A7, 6D6, 75, 42, 80	456	9-22
66	Vol.	17	UC514	6			P1293	4	2S567	B33	850	C3	6	[2]6D6, 6A7, 75, 41, 84	175	
	Tone	22	UM161			A96	P1312	15	BB11							
							.0075		Buffer	B14						
69	Vol.	18	UM154-SS3	M26			P1293	23	2S567		294	C3	6	[2]6K7, 6A8G, 6Q7G, 6K6G, 6X5G	175	9-23
	Tone	22	UM161			A96	.0075		Buffer	B14						
77	Vol.	45	UM154-SS3	M26			P1293	23	2S567	B33	294	C3	7	6D6, 6A7, 6K7, 6H6, 6C5, 6V6G, 84	175	8-20
	Tone	22	‡		See Note A3											
78	Vol.	45	UM154-SS3	M26			P1293	23	2S567		294	C3	7	6D6, 6A7, 6K7, 6H6, 6C5, 6V6G, 84	175	8-20
	Tone	22			See Note A3		.0075		Buffer	B14						
88	Vol.	17	MR53				6-8	1	2N518		294	C3	8	6D6, 6A7, 6K7, 6R7, 6C5, [2]6V6G, 0Z4	175	9-24
	Tone	22	250M No. 1		See Note A3		.0075		Buffer	B14						
440	Vol.	6	MR29	M26	EX200		233	8	UR193	B124			4	6K7, 6J7, 25L6, 25Z6G		
660	Vol.	17	UC514	6			P1293	4	2S567		850	C3	6	[2]6D6, 6A7, 75, 41, 84	175	9-22
	Tone	22	UM161		See Note A96		P1312	15	BB11							
							.0075		Buffer	B14						
770	Vol.	45	UM154			A96	8-6	23	2S567		294	C3	7	6D6, 6A7, 6K7, 6H6, 6C5, 6V6G, 84	175	8-20
	Tone	22	‡		See Note A3											
780	Vol.	45	UM154-SS3	M26			P1293	23	2S567		294	C3	7	6D6, 6A7, 6K7, 6H6, 6C5, 6V6G, 84	175	8-20
	Tone	22			See Note A3		.0075		Buffer	B14						
880	Vol.	17	MR53				6-8	1	2N518		294	C3	8	6D6, 6A7, 6K7, 6R7, 6C5, [2]6V6G, 0Z4	175	9-24
	Tone	22	250M No. 1		See Note A3		.0075		Buffer	B14						
L2	Vol.	18	SRP275				4	32	WE450				6	6A7, 6K7, 6H6, 6F5, 6F6, 80	456	6-2
	Tone	34	O	6			8-4	32	2S567	B81						
L4, ML4	Vol.	18	SRP275				4	7	WE450				7	6A8, 6K7, 6H6, 6A6, [2]6F6, 80	456	6-1
	Tone	44	L	6			8-4	7	2N518							
ML156, ML266	Vol.	18	SRP275				5	15	BB12							
	Tone	34	O	6			4	32	WE450				6	6A7, 6K7, 6H6, 6F5, 6F6, 80	456	6-2
137X, 150X, 171X, X541	Vol.	18	N		See Note A21		8-4	32	2S567	B81						
	Vol.	18	N				8-4	23	2S567	B33			6	6A7, 6D6, 75, [3]42, 80	456	6-3
							18-6	6	2N507				6	6A7, 6D6, 75, [3]43, 25Z5	456	6-4
							5	15	BB12							
CORONA																
108	Vol.	18	MR48				16-16	27	2P546				5	6A7, 6D6, 75, 43, 25Z5	456	9-1
	Tone	34	K12													
110	Vol.	18	M				12-4	23	2S563				5	6A7, 6D6, 75, 42, 80	456	7-1
	Tone	34	K12													
203	Vol.	6			See Note A3		2010	1/15	4S715				4	6D6, 6C6, 43, 25Z5, K55C		9-2
209	Vol.	138			See Note A3		2012	23	2S563				6	6A7, 6D6, 76, 6F5, 42, 80	456	9-3
210	Vol.	138			See Note A3		2012	23	2S563				7	6A7, 6D6, 76, 6F5, 42, 80, 6G5	456	9-4
212	Vol.	45	MR48	M26			8-8	1	2N517		See Note C8		6	1C6, 1A4, [3]30, 1B4, 19	...‡..	8-1
214	Vol.	45	MR48	M26			8-8	1	2N517		See Note C8		7	1C6, 1A4, [3]30, 1B4, 19	...‡..	8-2
406	Vol.	98	‡		See Note A5		‡	24	See Note	B3			4	6D6, 6C6, 38, 12Z3		7-2
							5	15	BB12							
CORONADO—See Gamble-Skogmo																
"CRANE" (American Radiator Co.)																
23T8 LW	Vol.	15	N				8, 8	4	ST595				8	[3]58,[3]56, 57, 47, 80	177.5	§5-6
	Tone	22	K12													
CROSLEY																
Buddy, Chum	Vol.	7	A400P				W4943	24	MN272				6	[3]24,[3]71A, 80, 27		1-17
AC7, AC7C	Vol.	29	A550P				15-15-5	3	MN275				6	[3]99, 12A, BH		1-18
A155	Vol.	45	UC514	6			W32759	1	RS213	B130	247	C3	5	[3]78, 6F7, 6B7, 42	181.5	
							W32802	1/15	2S567							
							.005		Buffer	B14						
A156	Vol.	56	UM162-SS14				W37020	4	CM172		850	C3	5	6A7, 6B7, 6D6, 42, 84	262.5	7-1
							.005		Buffer	B14						
A157	Vol.	18	MR53	M26			W50160	23	2S567		294	C3	5	6A8G, 6U7G, 6Q7G, 6K6G, 6X5G	455	8-1,2
							.01		Buffer	B14						
A158	Vol.	18	MR53	M26			W50528	23	2S567		850	C3	5	6A8G, 6U7G, 6Q7G, 6K6G, 6X5G	455	9-1
							.0065		Buffer	B14						
A166	Vol.	17	UM162-SS14				W38427	1/15	3S575		273C		6	6D6, 6A7, 6B7, 76, [3]41	262	7-3
							W32904	‡	BB15							
							W38430	‡	BB12							
A167	Vol.	45	TM-222			A96	W50045A	1	2N518		294	C3	6	[2]6K7G, 6A8G, 6B8G, 6N6G, 6X5G	262	8-3
							.005		Buffer	B14						
A168	Vol.	18	MR53	M26			W50674	24	FPD231		850	C3	6	6A8G, 6U7G, 6Q7G, 6P5G, 6AC5G, 6X5G	455	9-3
							.0065		Buffer	B14						
A177	Vol.	17	TM252			A96	W50076A	1/15	3S575		294	C3	7	[2]6K7G, 6A8G, 6R7G, [2]6V6G, 6W5G	262	8-5,6
							W38430	15	BB12							
							.006		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CROSLEY — Continued																
A255	Vol.	17	UM162-SS14				W38473	1	2N518		273C		5	6D6, 6A7, 6B7, 76, 6B5	450	
A258	Vol.	18	MR53	M26			W50528	23	2S567		850	C3	5	6A8G, 6U7G, 6Q7G, 6K6G, 6X5G	455	9-1
							.0065		Buffer	B14						
A266	Vol.	15	UM147-SS14				W38786	4	2S567		850	C3	6	[26]D6, 6A7, 6B7, 42, 84	262	7-5
							.005		Buffer	B14						
A267	Vol.	124	TM252			A96	W50194	23	2S567		850	C3	6	[26]K7G, 6A8G, 6Q7G, 6K6G, 0Z4	262	9-7
							.01-.01		Buffer	B14						
A268	Vol.	18	MR53	M26			W50674	24	FPD231		850	C3	6	6A8G, 6U7G, 6Q7G, 6P5G, 6AC5G, 6X5G	455	9-5
							.0065		Buffer	B14						
A355	Vol.	17	UM162-SS14				W38473	1	2N518		273C		5	6D6, 6A7, 6B7, 76, 6B5	450	
A358	Vol.	18	MR53	M26			W50673	24	FPT332		850	C3	5	6A8G, 6U7G, 6Q7G, 6K6G, 6X5G	455	9-9
							.0065		Buffer	B14						
A366	Vol.	20	TM242-SS14				W38427	1/15	3S575		273C		6	6D6, 6A7, 6B7, 76, [41]	262.5	7-7
	Tone	39	MR44				W38430	15	BB12							
A455, A555	Vol.	18	UM162-SS14				W38473	1	2N518		273C		5	[26]D6, 6A7, 6B7, 6B5	450	
2C1 (Sampler)	Vol.	6	‡		See Note A3		W34704A	24/15	3N526				2	6F7, 12A7		6-1
4A1	Vol.	18	UC512	6			W32759	1	RS213	B130	247	C3	4	6F7, 6B7, 6D6, 42	456	5-17
							W30419A	13/15	2N518							
							.005		Buffer	B14						
4B1 Batt. (Forty)	Vol.	70	Y10MP	13	See Note A13								1	[21]A6, 34, 33	456	6-2
5A1	Vol.	73	UC514	6			W31631B	1	ST591		223	C3	5	[28], 6B7, 41	181.5	5-47
							W30419A	1/15	2N518							
							.01		Buffer	B14						
5A3 (Roamio)	Vol.	18	UC514	6			W32759	1	RS213	B130	247	C3	5	[28], 6F7, 6B7, 42	181.5	6-3
							W32802	1/15	2S567							
							.005		See Note	B14						
5B3 (Batt. Fiver)	Vol.	70	Y10MP	13	EX2M								5	[21]A6, [34], 33	456	6-5
5M3 (Fiver Jr.)	Vol.	6	E7	6	2		W29150B	1/15	SR615				5	[26]D6, 76, 42, 80	456	5-20
5V1 (Deluxe Fiver)	Vol.	17	N	6			W30059C	4/14	SR616				5	6A7, 6D6, 6B7, 42, 80	181.5	5-21
5V2 (Fiver Deluxe)	Vol.	17	O	6			W30059C	4/14	SR616				5	6A7, 6D6, 6B7, 42, 80	181.5	6-6
6B1 (Batt. Six)	Vol.	45	O				W34898	1	RS213		247	C3	6	[15], 6A7, 30, 38	456	6-7
	Tone	22	Z	6			W34899	13	RS213							
							W34896	1/13	RM257							
							.005		Buffer	B14						
6H2 (61, 61LB)	Vol.	17	UC504				W26194B	4	WE1250				6	6A7, 6D6, 6B7, 76, 42, 80	456	5-34
	Tone	22	Z	6			W29097C	4/14	SR615							
6H3	Vol.	17	UC504				W26194B	4	WE1250				6	6D6, 6A7, 6B7, 76, 42, 80	456	6-18
	Tone	22	Z	6			W27097D	4/14	SR615							
6V2 (Dual Sixty)	Vol.	56	O				B30059B	4/13	SR616				6	[58], 2A7, 55, 2A5, 80	181.5	5-29,31
	Tone	22	Z	6												
7H2 (72, 72LB)	Vol.	56	O				W29097C	4/13	SR615				7	[58], 2A7, 2B7, 2A5, 80	456	5-38
	Tone	22	Z	6			W26194B	4	WE1250							
7H3 (72, 72LB)	Vol.	56	O				W26194B	4	WE1250				7	[26]D6, 6A7, 6B7, 6F7, 42, 80	456	5-41
	Tone	34	Z	6			W29097C	4/14	SR615							
7V2 (Dual Seventy)	Vol.	17	UC504				W26194B	1	WE1250				7	[58], [56], 2A5, 80	181.5	
	Tone	22	Z	6			W29150B	15/24	SR615							
8B3	Vol.	45	O				W33990	12/13	RM262				8	[34], 1C6, [30, 31, 19]	456	6-10
	Tone	22	Z	14												
8H1 (80, 80LB)	Vol.	56	O				W26194B	1	WE1250				8	[26]D6, 6A7, 6B7, 6F7, [42], 80	456	5-46
	Tone	44	Z	6			W29097C	3	SR615							
							W32258	13	ST595							
7 (Converter)							W23701	1	RS213				4	[24], 27, 80		2-1
							W27676	1	2N502				3	[77], [37]		4-1
10													6	[22], [01]A, 71A		1-19
20, 21, 22	Vol.	6	T		See Note A22								7	[22], [12]A		2-3
26	Vol.	12	L										6	[32], [31]		2-4
27, 28	Vol.	4	SRP263										7	[24], [27], [45], 80		1-20
30S, 31S, 33S, 34S	Vol.	7	SRP188				W5253	3	MN275				2	[25]Z5		4-1
38 (Field Supply)							W29806A	1	2S562				8	[24], [27], [45], 80		1-21
40S, 41S, 42S	Vol.	89	DRP305	1st type			W5253	3	MN275							
	Vol.	90	DRP305	2nd type												
	Vol.	91	SRP188	3rd type												
41, 41A, 42	Vol.	3	SRP185				W4943	1	MN272				8	[26], 27, [71], 80		1-22
48	Vol.	6	SRP263				W21459	1	RS213				5	[24], 45, 80		3-4
50, 50LB (51H1)	Vol.	18	UC504				W26194B	4	WE1250				5	6A7, 6F7, 6B7, 42, 80	456	5-25
	Tone	22	Z	6			W29097C	4/14	SR615							
51 (5C2)	Vol.	56	UC503	6			W31992	11/15	Order from	Mfr.			5	78, 6F7, 6B7, 43, 25Z5	181.5	5-28
							W4943	1	MN272				5	[24], 45, 80		1-24
53, 54	Vol.	6	SRP263				W20156	39	2S562	B11			5	[32], 12A, 71A		1-25
55	Vol.	2	L				W21292	15	BB15							
							W20156	39	2S562	B11			5	[32], 12A, 71A		1-25
56	Vol.	2	SRP263				W21292	15	BB15							
							W4943	1	MN272				5	[24], 45, 80		1-24,28
57, 58	Vol.	6	SRP263				W23705	4	RS215				5	[35], 24, 47, 80		2-6
59AC	Vol.	6	E7		See Note A14		W23701	4	RS213							
							W5253	3	MN275				8	[22], [12]A, [71]A		1-28
60S, 61S, 62S, 63S	Vol.	12	SRP188				W20156	1	2S562	B11			6	[24], [71]A		1-29
76	Vol.	15	M				W21292A	‡	BB15							
							W20341A	3	MN277	B60			7	[24], [27], [45], 80		1-30,31
77-1	Vol.	6	SRP263				W20341A	3	MN277	B60			7	[24], [27], [45], 80		1-30,31
77A, 77B, 77L	Vol.	15	M				W5253	3	MN275				8	[24], [27], [45], 80		1-21
82S	Vol.	89	DRP305	1st type												
	Vol.	90	DRP305	2nd type												
	Vol.	91	SRP188	3rd type												
84	Vol.	15	M				W20341	3	MN277	B60			8	[21], [27], [45], 80		1-32
84C, 84D	Vol.	15	M				W20341	3	MN277	B60			8	[21], [27], [45], 80		1-33
90 (Roamio)	Vol.	26	K12										5	[24], [12]A		3-5
91 (Roamio)	Vol.	15	M				W21292A	16	BB15				6	[36], 37, 71A		3-6
92 (Roamio)	Vol.	15	L				W21292B	19	BB15				6	[30], 39, [37], 41	181.5	3-6
95 (Roamio)	Vol.	15	UC504				W25857B	12/15	UR180				6	36, [39], 85, 89	181.5	3-7
96 (Roamio)	Vol.	17	UC504	6			W25857B	12/15	UR180				5	[28], 77, 75, 89	181.5	4-2
98	Vol.	17	UC504	6			W28068	1	CS135		223	C3				
	Supp.	7	J				W25857B	12/15	UR180							
							W28406	‡	BB12							
							W26870A	15	BB12							
							.01		Buffer	B14						
99	Vol.	17	UC504	6	See Note A1		W28068	1	CS135		223	C3	5	77, [78], 79, 89	181.5	4-3
	Supp.	56	J				W25857B	15/14	UR180							
	Tone	44	Z				W28406	‡	BB12							
							W26870A	15	BB12							
							.01		Buffer	B14						
102	Vol.	‡	UC512	6			W29808	1	ST585		223	C3	5	[28], 6B7, 41	181.5	4-4
							W29809	12/15	UR180							
103	Vol.	17	UC514	6			W29808	1	ST585		223	C3	5	[28], 6B7, 41	181.5	5-2
							W30419	1/15	2N518							
							.02		Buffer	B14						
104, 104R, 105, 105R, 106 (Pwr. Packs)							10-10-10	3	MN275					80		1-7

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CROSLEY—Continued																
117 Power Pack							W44217	1	RS216		W246	C3				
							W44131	1	RS207							
							.01		Buffer	B14						
119	Vol.	15	UC504				W28978B	1	ST587		F223	C3	6	278, 6B7, 75, 37, 43	181.5	5-5
	Tone	22	Z	6			W30568A	13/15	3S572							
							.01		Buffer	B14						
120	Vol.	6	G7				W20341A	3	MN277	B60			8	224, 27, 245, 80	175	1-34
	Tone	22	M													
121 Series "A"	Vol.	8	SRP264				W23701	1	RS213				10	235, 24, 227, 247, 80	175	2-8
	Tone	44	M				W23705	1	RS215							
121 Series "B"	Vol.	15	M	6			W23701	3	RS213				10	351, 224, 227, 247, 80	175	2-8
	Tone	41	M				W23705	3	RS215							
122	Vol.	6	D7				W22363	4	ST595				7	235, 24, 47, 80	175	2-9
	Tone	22	K12				W21459	4	RS213							
123	Vol.	6	SRP264				W23701	1	RS213				8	235, 24, 47, 80, 27	175	2-10
	Tone	34	K12													
124	Vol.	6	E7	6	2		W23801	1	CM172				8	235, 24, 227, 247, 80	175	2-11
	Tone	34	K12													
124-1	Vol.	6	E7		2		W24342	1	RS213				8	235, 24, 227, 247, 80	175	3-9
	Tone	44	Z				W23701	1	RS213							
125	Vol.	6	E7	6	2		W23801	1	CM172				5	35, 24, 47, 80	175	2-13
	Tone	22	K12													
126	Vol.	92	SRP264				W20156	1	2S562	B11			7	36, 37, 71A	175	2-14
	Tone	44	L				W21292B	‡	BB15							
126-1	Vol.	92	SRP264	8			W20156	1	2S562	B11			7	36, 37, 71A	175	2-14
	Tone	34	M				W24282	‡	BB15							
127	Vol.	15	M				W23701	3	RS213				10	235, 24, 227, 247, 80	175	2-15
	Tone	41	M				W23705	3	RS215							
127-1	Vol.	15	M				W23701	3	RS213				10	235, 24, 227, 247, 80	175	3-11
	Tone	44	Z	6			W23705	3	RS215							
128	Vol.	71	SRP262	14	5		W24282	19	BB15				8	232, 230, 231	175	3-12
	Tone	44	M													
129	Vol.	6	E7		4		W25542	1	CM172				6	24, 58, 57, 242, 80	181.5	3-13
	Tone	44	Z	6			W24779	13	CS133							
129-1	Vol.	6	SRP262		2		W26118	1	CM172				6	24, 58, 57, 242, 80	181.5	3-14
	Tone	44	Z	6			W26119	13	UR180							
130	Vol.	23	DRP232				W25462	1	ST595				9	258, 57, 256, 242, 80	181.5	4-5
	Tone	44	Z	6			W26119	24	UR180							
130-1	Vol.	23	DRP232				8-8	1	2S567				9	258, 57, 256, 242, 80	181.5	4-6
	Tone	44	Z	6			W26119	13	UR180							
131	Vol.	6	SRP262	6	4		W24342	1	RS213				4	24, 35, 47, 80	175	3-12
							W23701	1	RS213							
							W25303	16	BB12							
132-1	Vol.	23	DRP232				W26194B	3	WE1250				12	258, 256, 242, 246, 82	181.5	3-15
	Tone	44	Z	6			W26118	3	CM172							
	Sil.	‡	Y500MP				W26119	24	UR180							
133	Vol.	6	E7		2		W25542	1	CM172				7	235, 24, 227, 47, 80	181.5	3-16
	Tone	72	N	6			W25503	19	BB12							
134	Vol.	15	UC504				W25542	1	CM172				8	235, 24, 227, 47, 80	181.5	3-17
	Tone	72	N	6			W25857	15/24	UR180							
134-1	Vol.	15	UC504				W23701	1	RS213				8	235, 24, 227, 47, 80	181.5	3-18
	Tone	72	N	6			W25676	2/16	3S584							
135	Vol.	6	E7		3		W25542	1	CM172				5	224, 35, 47, 80	181.5	3-19
	Tone	72	N	6			W25303	16	BB12							
136-1	Vol.	23	DRP232				W26118	1	CM172				10	256, 258, 242, 80	181.5	3-20
	Tone	44	Z	6			W26119A	2	UR180							
137	Vol.	6	SRP262	6	1		W25542	1	CM172				4	24, 35, 47, 80	181.5	3-21
							W25303	16	BB12							
141	Vol.	6	E7	6			W25542A	1	CM172				5	24, 58, 57, 47, 80	181.5	3-22
							W25303	16	BB12							
143	Vol.	9	Y10MP	14			W24779	13	CS133				8	234, 230, 19	181.5	4-7
	Tone	57	UC504				W28869	‡	BB60							
146	Vol.	15	UC504				W26194	2	WE1250				9	258, 56, 57, 89, 246, 82	181.5	3-23
	Tone	67	Z	6			W26896	2/15	2S563							
	Sen.	7	Y500MP													
146-1	Vol.	17	UC504				W26194	2	WE1250				9	258, 57, 55, 89, 246, 82	181.5	3-24
	Tone	67	Z	6			W25542	1	CM172							
	Sen.	7	E7		3		W25857B	15	UR180							
147	Vol.	6	E7	6	2		W27676	1	2N502				4	39, 36, 38, 37, KR		3-25
148	Vol.	6	E7	6	2		W27677A	15	TN111				5	258, 57, 42, 80	456	3-26
							W23701	1	RS213							
150	Vol.	15	M				W27488	1/15	UR180				6	258, 57, 55, 42, 80	181.5	3-27
	Tone	67	Z	6			W25542A	1	CM172							
154	Vol.	2	G12	6			W26870A	15	BB12				4	58, 57, 42, 80	456	3-34
							W23701	1	RS213							
155	Vol.	6	E7	8	3		W25857B	15	UR180				4	36, 39, 37, 48	456	3-28
							W27789	1	CS133							
156	Vol.	9	G12	13	EX1500		W26870A	15	BB12				5	30, 234, 32, 33	456	3-29
157, 158	Vol.	15	UC504										10	258, 57, 256, 242, 80	181.5	3-30
	Tone	67	Z	6			W26118A	1	CM172							
159	Vol.	6	E7	6	2		W25857	14/15	UR180							
							W28978	1	ST587		F223	C3	5	278, 77, 43	456	4-8
							W28976	1	CS133							
							W26870A	15	BB12							
							W29012	Order	from Mfr.							
							.01		Buffer	B14						
160	Vol.	17	UC504				M28468	1	2S563				12	458, 256, 259, 80	181.5	3-32
	Tone	67	Z12	6			W25857B	14/15	UR180							
							W28340	1	2S563							
163	Vol.	6	E12	6	EX200		W28068	6	CS135				5	278, 77, 38, 12Z3	456	3-33
							W25857B	6/15	UR180							
							W26870A	15	BB12							
164	Vol.	45	UC504				W23705	3	RS215				9	258, 57, 256, 2A5, 80	456	4-11
	Tone	44	Z	6			W29097C	3/14	SR615							
166	Vol.	6	E12	6	EX200		W29264A	6/15	SR617				4	78, 6F7, 38, 12Z3	456	4-12
167	Vol.	6	E7	6	2		W23701B	1	RS213				5	258, 57, 42, 80	456	4-9, 10
							W27488	1/15	UR180							
167 Series 2	Vol.	6	E7	6	2		W29150A	1/15	SR615				5	258, 2A5, 80	456	4-9, 10
168	Vol.	17	UC504				W23701B	1	RS213				6	258, 2A5, 56, 80	181.5	4-13
	Tone	34	Z	6			W27677A	15	TN111							
169	Vol.	6	SRP262	6	3		W23701	1	RS213				4	58, 2B7, 42, 80	456	4-14
							W25857B	1/15	UR180							
169 (Revised)	Vol.	6	E7	6	2		W29150A	1/15	SR615				4	58, 2B7, 42, 80	456	5-3, 4
170	Vol.	15	UC504				W23705A	3	RS215				10	456, 358, 32A5, 80	181.5	4-15
	Tone	44	Z	6			W29097A	3/14	SR615							
171	Vol.	15	UC504				W23705A	3	RS215				12	458, 356, 2B7, 32A5, 80	181.5	4-16
	Tone	44	Z	6			W29097	3/24	SR615							
	Supp.	98	A5MP													
172	Vol.	6	E12	6	EX200		W29264A	6/15	SR617				4	78, 6F7, 38, 12Z3	456	4-12
173, 173-5	Vol.	73	N	6			W30124	8	RM259	B67			6	278, 6B7, 43, 25Z5	456	4-17
							W27677A	15	TN111							
174	Vol.	6	E12	6	EX200		W29804A	11	RM259	B68			4	78, 6F7, 43, 25Z5	456	4-18

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CROSLEY — Continued																
175	Vol.	15	UC504				W26194B	28	WE1250				14	58, 55, 56, 45, 5Z3	181.5	4-19
	Supp.	58	A5MP				B30059	28/13	SR616							
	Tone	‡	‡	6	See Note A19											
176	Vol.	6	E12	6	EX200		W28068	1	CS135				5	78, 36, 38, 12Z3	456	4-11
							W25857B	1/15	CR180							
							W26870A	15	BB12							
178	Vol.	9	Y10MP	13	EX2M								5	34, 1A6, 33, 32	456	5-6
179	Vol.	15	UC504				W26194B	1	WE1250				7	58, 56, 2A5, 80	181.5	5-8
	Tone	22	Z	6			W29150A	15/24	SR615							
180	Vol.	15	UC504				W26194B	28	WE1250				10	58, 56, 2A5, 80	181.5	5-10
	Tone	44	Z	6			B30059A	28/13	SR616							
181	Vol.	45	O				W30059	4/14	SR616				6	2A7, 58, 56, 2A5, 80	456	5-12
	Tone	34	Z	6												
182	Vol.	56	O	6			W30962	11	2N512				5	6A7, 78, 6B7, 43, 25Z5	456	5-14
							W30963	11	ST587							
							W26870A	15	BB12							
184	Vol.	6	E7	6	2		W29150A	1/15	SR615				4	58, 6F7, 2A5, 80	456	5-16
415	Vol.	54	Y10MP	13									4	1A6, 34, 33	450	7-9
416	Vol.	6	E7	6	3		W34896	1/15	3S577		246	C3	4	6A7, 15, 38	450	8-7,8
							.001		Buffer	B14						
418 (Vanity)	Vol.	6	MR33	M26			W45783	4	BB24				3	6D6, 6C6, 25A7G, W45788		9-11
425	Vol.	6	E7	6	2		W29804A	11	RM259	B68			4	78, 6F7, 43, 25Z5	450	7-11
428 (Vanity Deluxe)	Vol.	6	MR33	M26			W45783	4	BB24				4	6D6, 6C6, 25L6G, 25Z6G		9-13
435	Vol.	6	E7	6	3		W34896	1/15	3S577		246	C3	4	6A7, 15, 38	450	7-13
							.001		Buffer	B14						
438-M (438-48m)	Vol.	18	MR53	M26			W46128	4	BB44				4	6U7G, 6Q7G, 6V6G, 5Y3G		9-15
448 (Comb.)	Vol.	6	MR33	M26			W45783	1	BB24				4	6D6, 6C6, 26L6G, 25Z6G		9-28
458 (Batt. Vanity)	Vol.	17	MR53	M27			W45783	12	BB24				4	1A7G, 1N5G, 1H5G, 1C5G	455	
505	Vol.	17	UC504	6			W35750	1/15	RM265				5	6A7, 6D6, 75, 41, 80	450	6-13
506 (C-516)	Vol.	18	O				W43280	40	RS207				4	6A7, 75, 43, 25Z5	450	8-11
507 (Refrigerator Radio)	Vol.	18	MR53	M26			W44012	23	RS216				5	6A8G, 6U7G, 6Q7G, 6K6G, 5Y3	455	
							W43450	23	RS216							
515 (Fiver)	Vol.	6	G12	6	EX200		W36719	1	RM262				5	6D6, 6B5, 76, 80	450	6-11
516	Vol.	6	G12	6	EX200		W41080	1	RS215				5	6D6, 76, 6B5, 80	450	7-58
							W41081	1	RS216							
517	Vol.	18	O	6			W41081	4	RS216				5	6A8G, 6U7G, 6Q7G, 6K6G, 5Y3	455	8-13
							W43450	4	RS216							
525	Vol.	17	UC504				W35750	1/15	RM265				5	6A7, 6D6, 75, 41, 80	450	
526	Vol.	‡	DRP304			A87	W36055	1	WE4050				5	6A8G, 6K7G, 6J7G, 6N6G, 5Z4MG	450	7-16
	Tone	22	MR40	M26			W36057	1	WE4050							
527	Vol.	18	Order from	Mfr.			41081	12	RS216				5	1C7, 1D5, 1H6, 1H4, 1J5	455	9-19
534	Vol.	18	O	6			B30059C	4/14	SR616				5	6A7, 6D6, 75, 42, 80	456	6-15
535	Vol.	6	Order from	Mfr.									5	34, 1A6, 1B5, 33	450	7-17
536	Vol.	6	E7	6	2		W29804A	11	RM259	B68			5	6K7G, 6J7G, 25A6G, 25Z6G	450	7-19
537	Vol.	18	O	6			W41081	23	RS216				5	6A8G, 6U7G, 6Q7G, 6K6G, 5Y3	455	8-15
							W43450	23	RS216							
545	Vol.	6	E7	6	2		W31992	11/15	Order from	Mfr.			5	6D6, 6B7, 43, 25Z5	450	7-21
546	Vol.	6	G7		See Note A14		W36057	1	WE4050		246	C3	5	6A7, 15, 38	450	7-24
	Tone	34	‡	6	See Note A5		W41195	15	BB12							
							.001		Buffer	B14						
547	Vol.	18	O	6			W41081	4	RS216				5	6A8G, 6U7G, 6Q7G, 6K6G, 5Y3	455	9-17
							W43450	4	RS216							
548	Vol.	18	MR48				W45968	12	ST587				5	1C7G, 1D5G, 1H6G, 1H4G, 1G5G	455	9-38
555	Vol.	‡	DRP304	6		A87	W36055	1	WE4050				5	6A8, 6K7, 6J7, 6F6, 5Z4	450	7-25
							W36057	1	WE4050							
							W36931	15	BB12							
556	Vol.	54	Order from	Mfr.									5	1A6, 34, 1B5, 33	450	7-27
557	Vol.	18	Order from	Mfr.			W44012	13	RS216		W246	C3	5	1C7G, 1D5G, 1F7G, 1H4G, 1F5G	455	9-21,24
							W44217	1	RS216							
							W44131	1	RS207							
							.01		Buffer	B14						
566	Vol.	‡	Order from	Mfr.			W41081	13	RS216				5	1C6, 34, 1B5, 30, 950	450	8-17
567	Vol.	18	O	6			W44012	23	RS216				5	6A8G, 6U7G, 6Q7G, 6K7G, 5Y3	455	9-25
							W44013	23	RS216							
568 (Trouper)	Vol.	6	MR33	M26		A14	W46398	1	2N506				4	6K7GT, 6J7GT, 25L6GT, 25Z6GT, W46416		
577	Vol.	18	O	6			W43280	4	RS207				5	6A8G, 6U7G, 6Q7G, 25A6G, 25Z6G	455	9-29
586 (B637)	Vol.	15	Order from	Mfr.									5	34, 1A6, 1B5 or 25S, 950	262	8-19
587	Vol.	18	MR53	M27			W44769A	23	2S560	B33	850	C3	5	6A8G, 6U7G, 6Q7G, 6K6G, 6X5G	455	
							.01		Buffer	B14						
588 (Super Vanity Fiver)	Vol.	18	MR53	M26			W46398	1	2N506				5	6A8GT, 6K7GT, 6Q7GT, 25L6GT, 25Z6GT	455	
596 (C526)	Vol.	18	N	6			W42439	4	RS207				5	6A8G, 6K7G, 6Q7G, 25A6G, 25Z6G	450	8-21
							W41958	15	RS200							
597	Vol.	18	MR53	M26			44935	4	RS207				5	6A8, 6K7, 6Q7, 25A6, 25Z6	455	
598 (Vanity)	Vol.	6	MR33	M26			46398	1	2N506				4	6K7GT, 6J7GT, 25L6GT, 25Z6GT, W46416		
602 (Band Box)	Vol.	4	SBP185				10-10-10	3	MN275				7	26, 27, 71A, 80		1-7
605	Vol.	33	O										6	34, 1A6, 1B5, 30, 19	450	7-30
	Sen.	54	Order from	Mfr.												
608 (Gembox)	Vol.	3	SBP185				W4943	1	MN272				6	26, 27, 71A, 80		1-8
609 (Gemchest), 610 (Gembox)	Vol.	3	SRP185				W4943	1	MN272				7	26, 27, 71A, 80		1-9
614	Vol.	17	UC504				W26194B	4	WE1250				6	6D6, 6A7, 6B7, 76, 42, 80	456	6-18
	Tone	22	Z	6			W27097D	4/14	SR615							
615	Vol.	56	N	6			W31992	11/15	Order from	Mfr.			6	6A7, 6D6, 6B7, 43, 25Z5	450	7-32
616	Vol.	18	O				W36055	1	WE4050				6	6A8G, 6K7G, 6H6G, 6F5G, 6N6G, 5Z4MG	450	7-33
	Tone	34	MR40	M26			W36057	1	WE4050							
617	Vol.	18	O				W44438	1	RS208				6	6A8G, 6U7G, 6Q7G, 6K6G, 5Y3G	455	9-31
	Tone	44	MR40	M26			W44012	1	RS216							
626	Vol.	‡	DRP304				W36055	1	WE4050				6	6A8G, 6K7G, 6J7G, 6C5G, 6N6G, 5Z4MG	450	7-36
	Tone	34	MR40	M26			W36057	1	WE4050							
							W40325	13	RS208							
							W37778	15	TN111							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CROSLEY — Continued																
628	Vol.	46	MR53	M26			W44012	23	RS216				6	6A8G, 6U7G, 6P5G, 6F5G, 6K6G, 2W3	455	9-42
							W45968	23	ST587							
629 (666)	Vol.	15/15	DRP304	6	See Note	A87	W36055	1	WE4050				6	6A7, 6D6, 76, 75, 6B5, 5Y3	450	8-25
							W36057	1	WE4050							
634 (656)	Vol.	15/15	DRP304		See Note	A87	W36055	1	WE4050				6	6A8, 6K7, 6H6, 6F5, 6N6, 5Z4MG	450	8-23
	Tone	34	MR40	M26			W36057	1	WE4050							
635 (Buccaneer)	Vol.	15	O	6			B30059C	4/13	SR616				6	6A7,[26]D6, 76, 42, 80	450	6-19
636	Vol.	18	O				W36057	1	WE4050		246	C3	6	6A7, 6B7,[315], 19	450	7-38
	Tone	11	Z	6			W37778	15	TN111							
							.001		Buffer	B14						
637	Vol.	18	O	6			W36057	23	WE4050				6	6A8G, 6U7G, 6Q7G, [26]K6G, 5Y3G	455	9-35
							W41081	23	RS216							
638	Vol.	46	MR53	M26			W44012	23	RS216				6	6A8G, 6U7G, 6P5G, 6F5G, 6K6G, 2W3	455	9-42
							W45968	23	ST587							
644 (5666)	Vol.	...‡..	DRP304	6	See Note	A87	W36055	1	WE4050				6	6A7, 6D6, 76, 75, 6B5, 5Y3	450	8-25
							W36057	1	WE4050							
645	Vol.	17	UC504	6									6	[26]D6, 6A7, 85,[248]	450	7-39
	Sen.	6	E7													
646	Vol.	18	O				W37628	12	RS207				6	1C6,[231], 1B5, 30, 19	450	7-41,42
	Tone	34	Order from Mfr.													
647	Vol.	18	O	6			W40325	29	RS208				6	6A8G, 6U7G, 6Q7G, 25A6G, 25Z6G	455	9-39
							W36057	29	WE4050							
							W41081	13	RS216							
648 (Super Sextette)	Vol.	18	MR53	M26			46398	1	2N506				5	6A8G, 6U7G, 6Q7G, 25A6G, 25Z6G, W16773	455	
649 (5656)	Vol.	...‡..	DRP304				W36055	1	WE4050				6	6A8, 6K7, 6H6, 6F5, 6N6, 5Z4MG	450	
	Tone	34	MR40	M26			W36057	1	WE4050							
655	Vol.	18	O	6			B30059C	4/14	SR616				6	6A8,[26]K7, 6H6, 6F6, 5Z4	450	7-43
667	Vol.	18	MR53				W44012	24	RS216		850	C3	6	6A8, [26]S7G, 6T7G, 6K6G, 6X5G	455	
	Tone	34	MR39	M26			W44990	24	RS207							
							.006 (60 Cy)		Buffer	B14						
							.003 (25 Cy)		Buffer	B14						
676 (C629)	Vol.	18	MR48	M26			W40325	29	RS208				5	6A8G, 6Q7G, 25A6G, 25Z6G, 6K7G	450	8-27
							W36057	29	WE4050							
							W41081	13	RS216							
704 (Showbox) (Jewelbox)	Vol.	3	SRP185			A23	W5253	1 24	MN275				7	[26], 27, 71A, 80		1-10
704A (Jewelbox)	Vol.	3	SRP185			A23	W4736	1	MN272				7	[26], 27, 71A, 80		1-11
704B	Vol.	3	SRP185			A23	W5253	1/12	MN275				8	[26], 27,[271A], 80		1-12
705 (Showbox DC)	Vol.	1	SRP185			A23	W4929	1	MN272				8	[201A],[271A]		1-13
706 (Showbox)	Vol.	3	SRP185			A23	W1943	1	MN272				8	[26], 27,[271A], 80		1-14
714	Vol.	18	O				W26194B	4	WE1250				7	[26]D6, 6A7, 6B7, 6F7, 42, 80	456	6-21
	Tone	34	Z	6			W29097D	1/13	SR615							
715 (Corsair)	Vol.	15	O				W36055	4	WE4050				7	6D6, 6A7, 6B7, [276], 42, 80	450	6-22
	Tone	22	Z	6			W36056	1/24	SR615							
718	Vol.	46	TM240-SS1	M26			W44012	23	RS216				7	6J8G, 6U7G, 6P5G, 6F5G, 6V6G, 5Y3G, 6U5	455	9-46
							W46822	23	RS207	B12						
							W45968	23	ST587							
725	Vol.	15	O				W36056	1/24	SR615				7	6D6, 6A7, 6B7, [276], 42, 80	450	7-45
	Tone	22	Z	6			W36055	1	WE4050							
744, 745 (716)	Vol.	18	O				W36055	1	WE4050				7	6A8, 6C5, 6K7, 6H6, 6F5, 6N6, 5Z4MG	450	8-29
	Tone	34	MR40	M26			W36057	1	WE4050							
759 (736)	Vol.	15	O				W36055	1	WE4050				7	6A8, [26]K7, 6H6, 6C5, 6N6, 5Z4	450	8-33
	Tone	34	MR40	M26			W36057	1	WE4050							
769 (726)	Vol.	20	TM237-SS1				W36055	1	WE4050				7	[26]K7, 6A8, 6H6, 6F5, 6N6, 5Z4MG	450	8-31,33
							W36057	1	WE4050							
							W41081	13	RS216							
804 (Jewel Box)	Vol.	7	A1MP		See Note	A24	W5684	3	MN277				8	[527],[271A], 80		1-15
814	Vol.	17	...‡...		See Note	A5	W26194B	3	WE1250				6	6A7, 6D6, 6F7, 6B7, 42, 80	456	6-25
	Tone	149	Z	6			W29097D	3	SR615							
							W32258	14	RS213							
815	Vol.	45	O				W33990	24	RM262				8	[230],[234], 1C6, 19	450	7-47
	Tone	22	Z	14												
816	Vol.	19	TRP615				W36055	1	WE4050				7	6A8G,[26]K7G, 6R7G, [26]N6, 5Z4MG	450	7-49,50
	Tone	34	Z	6			W41080	1	RS215							
							W41081	24	RS216							
							W41598	15	RS200							
817	Vol.	18	MR53				W44054	23	WE4050				8	6A8G,[26]K6G,[26]U7G, 6Q7G, 5Y3G	456	9-44
	Tone	44	MR40	M26			W36057	23	WE4050							
818	Vol.	18	MR53				W36057	23	WE4050				8	6A8G, [26]K6G,[26]U7G, 6Q7G, 5Y3G	455	
	Tone	44	MR40	M26			W44054	23	WE4050							
828	Vol.	18	TM240-SS1				W44054	23	WE4050				8	6J5G, 6A8G, 6U7G, 6Q7G, 6J5G, [26]K6G, 5Y3G	455	
	Tone	44	L	6			W36057	23	RS208							
855	Vol.	17	O				W36055	4	WE4050				8	[26]K7, 6A8,[26]H6, 6C5, 6F6, 5Z4	450	7-51
	Tone	22	Z	6			W36056	24	SR615							
865	Vol.	17	O				W36055	4	WE4050				8	[26]K7, 6A8,[26]H6, 6C5, 6F6, 5Z4	450	7-53
	Tone	22	Z	6			W36056	24	SR615							
915	Vol.	18	O				W36055	...‡..	WE4050				9	6D6, 6A7, 6B7, [276], [242], 5Z3	450	7-55
	Tone	44	Z	6			W36057	...‡..	WE4050							
							W36548	...‡..	BB15							
916	Vol.	93	DRP304				W36055	1	WE4050				8	[26]K7, 6A8, 6R7, 6C5, [26]N6, 5Z4MG	450	7-59
	Tone	44	Z	6			W36057	1	WE4050							
							W37778	15	TN111							
955	Vol.	93	DRP304				W36055	1	WE4050				9	[26]K7,[36]C5, 6L6, 6Q7, [26]F6, 5Z4	450	7-61
	Tone	34	Z	6			W36057	14	WE4050							
							W37778	15	TN111							
989 (926)	Vol.	20	TRP615				W36055	1	WE4050				8	[26]K7, 6A8, 6H6, 6C5, [26]N6, 5Z4	450	8-35
							W41080	1	RS215							
							W41081	14	RS216							
							W41598	15	RS200							
1014 (Centurion)	Vol.	17	O				W26194B	7	WE1250				10	[26]D6, 6A7, 6F7, [276], [242], 80	456	6-26
	Tone	44	Z	6			W34596	7/24	RM265							
1016	Vol.	93	DRP304				W36055	1	WE4050				9	[26]K7, [36]C5, 6A8, 6R7, [26]N6, 5Z4MG	450	7-63
	Tone	44	Z	6			W36057	1	WE4050							
							W37778	15	TN111							
1018	Vol.	15	MR53				W44054	23	WE4050				10	[36]K6G, 6A8G, [36]U7G, [36]C5G, 6K5G, 5Y3G	455	
	Tone	44	MR39	M26			W36057B	23	WE4050							
1026	Vol.	...‡..	DRP304				W36055	1	WE4050				9	[26]K7, 6A8, [36]C5, 6R7, [26]N6, 5Z4	450	8-37
	Tone	34	Z	6			W36057	1/13	WE4050							
							W37778	15	TN111							
1055	Vol.	18	O				W36055	30	WE4050				10	[26]K7, 6A8, [36]C5, [36]F6, 6H6, 5Z4	450	7-67
	Tone	44	Z	6			W36057	30	WE4050							
							W36548	15	BB15							
1117	Vol.	45	MR53				W44054	23	WE4050				11	6A8G, [26]U7G, [36]C5G, [36]K6G, 5Y3G, 6C5, 6K5G	455	9-48
	Tone	44	MR40	M26			W36057	23	WE4050							
1118	Vol.	20	TRP608				W44054	23	WE4050				11	[36]K6G, 6A8G,[26]U7G, [36]C5G, 6K5G, 5Y3G	455	
	Tone	34	MR39	M26			W36057	23	WE4050							
							W41598	15	BB17							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
CROSLEY—Continued																
1127	Vol.	45	TRP608				W44054	23	WE4050				11	6A8G, 26U7G, 26C5G,		
	Tone	34	MR39	M26			W36057	23	WE4050					6K5G, 26K6G,		
							W41598	15	RS200					5Y3G, 6T5	455	9-51
1128	Vol.	20	TRP608				W44054	23	WE4050				11	26K6G, 6A8G, 26U7G,		
	Tone	34	MR39	M26			W36057	23	WE4050					26C5G, 6K5G,		
							W41598	15	BB17					5Y3G	455	
1137	Vol.	45	TRP608				W44054	23	WE4050				11	6A8G, 26U7G, 26C5G,		
	Tone	34	MR39	M26			W36057	23	WE4050					6K5G, 26K6G,		
							W41598	15	RS200					5Y4G	455	9-55,57
1155	Vol.	93	DRP304				W36055	1	WE4050				11	26K7, 6L7, 6C5, 6H6,		
	Tone	44	Z	6			W36057	1	WE4050					6Q7, 26F6, 5Z4	450	7-69
							37632	15	2N512							
1199 (1126)	Vol.	20	TRP615				W36055	1	WE4050				9	26K7G, 6A8, 6J7, 6H6,		
							W42386	1/14	WE3035					6R7, 26N6, 5Z4	450	8-41
							W41598	15	RS200							
1211 (1216)	Vol.	...‡..	Order from	Mfr.			W36055	1	WE4050				10	26K7, 6A8, 6J7, 6H6,		
							W42386	1/14	WE3035					6R7, 6C5, 26N6, 5Z4	450	8-45
							W37778	15	TN111							
1217	Vol.	18	TM240-SS1				W44672	13	RS208				12	26U7G, 6A8G, 26K6G,		
	Tone	...‡..	MR53	M26			W44054	23	WE4050					26Q7G, 25Y3G	455	
							W36057B	23	WE4050							
1227	Vol.	18	TM240-SS1				W44672	13	RS208				12	26U7G, 6A8G, 26K6G,		
	Tone	...‡..	MR53	M26			W44054	23	WE4050					26Q7G, 25Y3G	455	
							W44438A	23	RS208							
1313 (1336)	Vol.	...‡..	Order from	Mfr.			W36055	1	WE4050				11	26K7, 6A8, 6J7, 6H6,		
							W36057	1/14	WE4050					6R7, 26C5, 26N6,		
							W41598	15	RS200					5Z4MG	450	8-51
1316	Vol.	93	Order from	Mfr.			W36055	1	WE4050				12	26K7, 6A8, 6R7, 6J7,		
	Fidlty.	...‡..	UC504	6			W36057	1	WE4050					6H6, 6C5, 26N6,		
							W36057	13	WE4050					25Z4MG	450	7-73
							W37632	15	2N512							
1516	Vol.	...‡..	Order from	Mfr.			W36055	1	WE4050				13	26K7, 6A8, 6J7, 6H6,		
							W36057	1/13	WE4050					6R7, 26C5, 26N6,		
							W41598	15	RS200					25Z4	450	8-55
5515 (Fiver)	Vol.	6	G12	6	EX200		W36719	1	RM252				5	26D6, 76, 6B5, 80	450	6-11,12
5516	Vol.	6	G12	6	EX200		W41080	1	RS215				5	26D6, 76, 6B5, 80	450	7-58
							W41081	1	RS216							
5517	Vol.	18	O	6			W44012	23	RS216				5	6A8G, 6U7G, 6Q7G,		
							W43450	23	RS216					6K6G, 5Y3G	455	9-17
5526	Vol.	...‡..	DRP304				W36055	1	WE4050				5	6A8G, 6K7G, 6J7G,		
	Tone	44	MR40	M26			W36057	1	WE4050					6N6G, 5Z4MG	450	7-15
5536	Vol.	6	E7	6	2		W29804A	11	RM259	B68			5	26K7G, 6J7G, 25A6G,		
														25Z6G	450	7-19
5548	Vol.	18			See Note A3		W45968	13	ST587				5	1C7G, 1D5G, 1H6G,		
														1H4G, 1G5G	455	9-38
5555	Vol.	...‡..	DRP304	6			W36055	1	WE4050				5	6A8, 6K7, 6J7, 6F6,		
							W36057	1	WE4050					5Z4	450	7-25
							W36931	15	BB12							
5587	Vol.	18			See Note A3		W44868A	23	RM262		850	C3	5	6A8G, 6U7G, 6Q7G,		
							.01		Buffer	B14				6K6G, 6X5G	455	
5597	Vol.	18	MR53	M26			44935	4	RS207				5	6A8, 6K7, 6Q7, 25A6,		
														25Z6	455	
5628	Vol.	46	MR53	M26			W44012	23	RS216				6	6A8G, 6U7G, 6P5G,		
							W45968	23	ST587					6F5G, 6K6G, 2W3	455	
6516	Vol.	6	G12	6	EX200		W41080	1	RS215				5	26D6, 76, 6B5, 80	450	7-58
							W41081	1	RS216							
6615	Vol.	17	O				W36057	1	WE4050		246	C3	6	215, 6A7, 6B7, 31, 38	450	7-75
	Tone	34	Z	6			W34896	1/24	RM257	B80						
							.001		Buffer	B14						
6625	Vol.	...‡..	DRP304				W36055	1	WE4050				6	6A7, 6D6, 6C6, 76,		
	Tone	34	MR40	M26			W36057	1	WE4050					6B5, 80	450	7-77
							W40325	13	RS208							
							W37778	15	TN111							
CROYDON—See Airking.																
DELCO—Also see United Motors Service.																
RA-B, RB-B	Vol.	9	Y25MP	6									7	32, 30, 31		3-1
	Tone	41	‡		See Note A5											
RA3, RB3	Vol.	7	K										6	36, 38		3-3
	Tone	22	L													
RB1, RC1	Vol.	6	‡		See Note A5		4-4	7	See Note	B3			7	24, 27, 35, 47, 80	175	3-4
	Tone	22	‡		See Note A5		8	7	See Note	B3						
2002	Vol.	26	UC513	6									5	24, 27, 12A		1-1
3026	Vol.	48	‡		See Note A5								8	36, 37, 47	175	4-1
DELTA																
"Class B Amp."	Vol.	16	N										6	56, 2VT1, 2VT2		
	Mic.	74	M600P													
DETROLA																
4 Tube TRF '32	Vol.	6	Y				941	4	2S567	B33			4	35, 24, 47, 80		5-1
"Road Chief"	Vol.	6	G12		See Note A1		10	15	BB12				5	39, 36, 37, 41		5-3
"Road Master"	Vol.	56	N				10	15	BB12				5	36, 39, 85, 41	175	5-2
"Warwick"	Vol.	15	L	6			8-4	4	See Note	B3			5	57, 58, 55, 47, 80	175	6-1
	Tone	21	N				10	17	BB12							
4C	Vol.	6	G12		See Note A14		4-16-8	11	UR193				4	77, 78, 43, 25Z5		6-1
4D	Vol.	6	G12		See Note A14		4-4	1	2N518				4	78, 77, 42, 80		5-1
							10	15	BB12							
4F	Vol.	6	G12	6	See Note A14		4-20-8	11	UR182	B31			4	77, 78, 43, 25Z5		6-2
4H	Vol.	6	G12	6	See Note A14		8-4	40	2S560				4	36, 37, 38, 39		6-1
4J	Vol.	6	G12	6	See Note A14		4-4	1	2N518				4	77, 78, 42, 80		6-2
							10	15	BB12							
4W	Vol.	6	G12	6	See Note A14		4-20-8	11	UR182	B31			4	6D6, 6C6, 43, 25Z5		6-2
4Y	Vol.	6	K12	6			4-20-8	11	UR182	B31			4	6D6, 6C6, 43, 25Z5		6-2
5B	Vol.	17	O				1398	1	2N518				5	6A7, 78, 75, 42, 80	370	6-3
	Tone	22	M	6			578	15	BB12							
5D	Vol.	18	O				1014	1	RM262				5	78, 6F7, 75, 42, 80	455	6-5,6
	Tone	22	M	6			595	19	BB12							
5L	Vol.	6	G12	6	See Note A14		1460	11	UR182	B31			5	*77, 76, 78, 43, 25Z5		6-2
5T (Super Midget)	Vol.	6	K12				16-8	11	2S563				5	78, 44, 77, 43, 25Z5	459	5-3
5W	Vol.	17	O				1624	1	CM172				5	6A7, 6D6, 75, 42, 80	370	6-7
	Tone	34	M	6			10	14	BB12							
5WG	Vol.	18	MR53				4-20-8	11	UR182				5	6A7, 78, 75, 43, 25Z5	370	7-9
5X	Vol.	17	O				1624	1	CM172				5	6A7, 78, 75, 42, 80	370	6-8
	Tone	34	M	6			578	14	BB12	*						
5Y	Vol.	6	SRP263	6	See Note A14		1460	11	UR182	B31			5	6D6, 76, 43, 25Z5		6-1
6A	Vol.	17	UC512		See Note A25		8-8	1	See Note	B3	2203	C3	6	78, 6F7, 75, 42, 84	262	6-10
							10	15	BB12							
							.02		Buffer	B14						

‡ Data not substantiated.

*IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
DETROLA—Continued																
6M, 6R	Vol.	17	UC512		See Note A25		1882	1	2S563		294	C3	6	‡6D6, 6A7, 75, 42, 84	262	6-11
	Tone	22	L				5-5	15	TN111							
							.0075		Buffer	B14						
6W	Vol.	17	O				1624A	1	CM172				6	6A7,‡78, 75, 42, 80	370	6-13
	Tone	34	M	6			578	14	BB12							
6X	Vol.	17	O	6			1678	1/15	UR189	B81			6	6A7,‡78, 75, 43, 25Z5	370	6-14
	Tone	34	M	6												
6ZM	Vol.	17	O				8-8	1	2N518				6	‡6K7, 6A8G, 75, 6F6G, 5Y3	370	7-2
	Tone	34	L				10	15 19	BB13							
7A	Vol.	17	O				1014	28	RM262				7	‡78, 37, 75, 42, 80	262	6-15,16
	Tone	22	M	6			1085	28	RS213							
7ZM	Vol.	15	O				8-8	1	2N518				7	‡6K7, 6A8, 6H6, 6F5, 6F6, 5Y3	370	7-3
	Tone	34	L				10	15/19	BB13							
10ZM	Vol.	15	O				12-12	1	2S568				10	‡6K7, 6A8, 6H6, 6F5, 6C5,‡6F6, 5Y3	456	7-4
	Tone	44	L				10	15/19	BB13							
14-129	Vol.	18	N	7			3575	1	CS133		245	C3	4	6D8G, 6S7G, 6T7G, 33	456	7-4
	Tone	147	P				3574	13	2S563							
							.01		Buffer	B14						
14-142ES	Vol.	18	N	6			3375	25	RS216				7	78, 6A7, 6D6, 75, 6G5, 42, 80	456	6-1
	Tone	147	P				3351	25	WE850							
48	Vol.	6	G12	6	See Note A14		784	24	2P542				4	37, 38, 77, 78		
100	Vol.	45	N	6			2591	23	BB24				6	6A7, 6D6, 76, 6C6, 43, 25Z5	456	7-6
							2594	23	RS207							
101, 101A	Vol.	6	H12	6			2591	4	BB24				4	6A7, 6F7, 43, 25Z5	456	7-7
							2594	4	RS207							
102	Vol.	18	N	6			2732	29	2S560				7	6A7, 6D6, ‡76, 6C6, 43, 25Z5	456	7-8
	Tone	147	P				8	29	BB31							
							2594	29	RS207							
103	Vol.	136	N	7			2698	12	RS216				4	1C6, 1A4, 1A6, 950, 1B1	480	7-9
104	Vol.	7	H	6			3229	23	2P544				4	6D6, 6C6, 43, 25Z5		7-1
106, 106E	Vol.	18	N	6			2767	23	RS213				6	6A7, 6D6, 75, 41, 1V, 6G5	456	7-10
	Tone	147	P				2766	23	WE1835							
107	Vol.	18	N	6			3375	23	RS216				7	6A7, 6D6, 75, 76, ‡42, 80	456	
	Tone	147	P				3351	23	WE850							
108	Vol.	18	N	6			2767	23	RS213				6	‡6D6, 6A7, 75, 41, 84	456	7-10
	Tone	147	P				2766	23	WE1835							
109	Vol.	18	MR48	M26			16	25	RS216				5	6A7, 6D6, 75, 43, 1V		7-11
							8	25	ST585							
110	Vol.	18	N	6			2879	25	RS216	B8			7	6A7, 6D6, 75, 76, ‡43, 25Z5	456	
	Tone	147	P													
111	Vol.	18	UC512				2994	1	2-CS133	B85	294	C3	5	78, 6A7, 75, 6B5, 0Z4	262	8-1
	Tone	22	MR36				.0075		Buffer	B14						
	Sen.	7	CIMP													
112	Vol.	18	UM157-SS17				2994	1	2-CS133	B85	294	C3	6	‡78, 6A7, 75, 42, 84	262	
	Tone	22	MR36				578	15	BB12							
	Sen.	7	CIMP				.0075		Buffer	B14						
114	Vol.	18	N	6			2698	71	RS216				6	6A7, 6D6, 76, 6C6, 43, 25Z5	456	7-12
	Tone	147	P				2594	71	RS207							
116	Vol.	18	MR48	M26			16-24	27	2P553				5	6A7, 6D6, 75, 43, 25Z5	456	7-11
116X	Vol.	18	N	6			2591	4	BB24				5	6A7, 6D6, 75, 25B6G, 25Z5	456	
							2594	4	RS207							
117, 117B	Vol.	31	N	7			2698	12	RS216				4	1C6, 1A4, 1B5, 1F4, 1B1	480	8-2
120	Vol.	7	H	6			16	23	RS216				4	6D6, 6C6, 43, 25Z5		7-1
							8	23	ST585							
121	Vol.	7	H	6			2698	23	RS216				5	6D6, 6C6,‡43, 25Z5		7-1
							2594	23	RS207							
125	Vol.	18	N	6			3285	3	RS216				7	6A7, 6D6, 75, 76, ‡43, 25Z5	456	
	Tone	147	P				4234	3	CM172							
127	Vol.	18	N	6			3375	23	RS216				7	6A7, 6D6, 75, 76, ‡42, 80	456	
	Tone	147	P				3351	23	WE850							
130	Vol.	7	H	6			3229	23	2P544				4	6D6, 6C6, 43, 25Z5, BK55B		8-3
134A, 134AZ, 134AB, 134X	Vol.	58	H	6			3229	23	2P544				4	6A7, 6C6, 43, 25Z5	456	8-3,4
135, 135E	Vol.	18	N	6			2698	23	RS216				6	6A7, 6D6, 75, 43, 25Z5, 6G5	456	8-4
							2594	23	RS207							
136, 136T	Vol.	18	N	6			2767	25	RS216				5	6A7, 6D6, 75, 41, 1V	456	8-5
							3351	25	WE850							
137	Vol.	18	N	6			2698	23	RS216				5	6A7, 6D6, 75, 43, 25Z5	456	8-6
							2594	23	RS207							
139	Vol.	18	N	6			2767	23	RS216				6	6A7, 6D6, 75, 41, 1V	456	8-7
	Tone	147	P				2766	23	WE1835							
140	Vol.	18	N	6			2698	71	RS216				6	6A7, 6D6, 76, 6C6, 43, 25Z5	456	8-8
	Tone	147	P				2594	71	RS207							
141, 141A	Vol.	6	H12	6			3397	24/15	UR189	B189			4	6D6, 6C6, 38, 76		8-3
144, 144B, 144C	Vol.	18	N	7			3417	1	CS133		245	C3	5	6D8G, 6S7G, 6T7G, ‡1F5G	456	8-9
	Tone	147	P				2594	13	RS207							
							.015		Buffer	B14						
145B, 145CR	Vol.	18	N	7			8	1	ST585		245	C3	6	6D8G, 6S7G, 6T7G, ‡33, 1H4G	456	8-10
	Tone	147	P				16	1	ST587							
							8	13	CS133							
							.01		Buffer	B14						
147, 147E, 147ECR	Vol.	18	N	6			3375	23	RS216				8	6A7, 6D6, 75, 76, ‡42, 80, 6G5	456	8-12
	Tone	147	P				3351	23	WE850							
148	Vol.	45	MR48	M26			8-8	29	CM162				7	6A7, 6D6, 76, 6C6, 43, 25Z5	456	8-13
	Tone	147	MR55				8	29	ST585							
							24	29	RS207							
149, 149E	Vol.	18	N	6			2767	25	RS216				5	6A7, 6D6, 75, 41, 1V	456	8-5
							3351	25	WE850							
150	Vol.	18	N	6			3285	3	RS216				7	6A7, 6D6, 75, 76, ‡43, 25Z5	456	8-14
	Tone	147	P				4234	3	CM172							
151	Vol.	18	N	6			3638	23	2S567				5	6A7, 6D6, 75, 43, 25Z5	456	
152	Vol.	18	N	6			2767	25	RS216				5	6A7, 6D6, 75, 41, 1V	456	
							3351	25	WE850							
153	Vol.	7	H	6			3229	23	2P544				4	6D6, 6C6, 25B6G, 25Z5, BK55B		
154E	Vol.	18	N	6			3877	23	2N517				6	6A7, 6D6, 75, 6G5, 41, 84	456	8-15
155, 155X	Vol.	124	TRP621				3111	72	HD683				11	‡6K7, 6A7, 6H6, 6G5, 6C5,‡76,‡42, 80	456	8-16
	Tone	147	UM181-SS1	M28			3112	72	RS216							
	Sen.	48	A2MP				3113	72	WE1835							
							3136	72	BB15							
157A	Vol.	7	H				16-6	23	2P544				4	6D6, 6C6, 43, 25Z5		8-3
159	Vol.	18	N	6			3638	23	2S567				5	6A7, 6D6, 75, 43, 25Z5	456	8-19
161	Vol.	7	MR22	M26			3229	27	2P544				4	6C6, 6D6, 43, 25Z5		
162	Vol.	7	H	6			3229	23	2P544				4	6D6, 6C6, 43, 25Z5		8-11

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
DETROLA—Continued																
163	Vol.	124	TRP621				3111	72	HD683				15	[36]K7G, 6A7, 6H6G, [76],[42], 5Z3, 6G5	456	8-18
	Tone	147	UM181-SS1	M28			3112	72	RS216							
	Sen.	48	A2MP				4062	72	WE4050							
							3079	14	BB21							
							4071	72/15	BB14							
164, 165	Vol.	124	TRP621				3111	72	HD683				10	[36]D6, 6A7, 75, 76, 6G5, [42], 80	456	8-21
	Tone	147	UM181-SS1	M28			3112	72	RS216							
	Sen.	105	A2MP				3113	72	WE1835							
							3136	72	BB15							
166	Vol.	18	UM157-SS17				4165	1/15	3S575		294	C3	6	6D6, 78, 75, 42, 84, 76	456	8-20
							.007		Buffer	B14						
167	Vol.	18	N	6			2698	23	RS216				5	6A7, 6D6, 75, 43, 25Z5	456	8-23
							2594	23	RS207							
168	Vol.	7	H	6			3229	23	2P544				4	6D6, 6C6, 25B6G, 25Z5, BK55B		8-19
169	Vol.	18	N	6			4297	73	RS207				8	6A7, 6D6, 6Q7G, 6G5, [76],[43], 25Z5	456	8-24
	Tone	147	P				4298	73/15	3N532							
172	Vol.	58	H	6			3229	23	2P544				4	6A7, 6C6, 43, 25Z5	456	8-19
173	Vol.	18	N	6			3375	23	RS216				7	6A7, 6D6, 75, 76,[42], 80	456	
	Tone	147	P				3351	23	WE850							
174	Vol.	18	N	6			4297	73	RS207				8	6A7, 6D6, 6Q7G, 6G5, [76],[43], 25Z5	456	
	Tone	147	P				4298	73/15	3N532							
175	Vol.	18	N	6			3375	23	RS216				8	6A7, 6D6, 75, 6G5, [76],[42], 80	456	9-1
	Tone	147	P				3351	23	WE850							
176	Vol.	8	MR22				16-6	23	2P544				4	6D6, 6C6, 25B6G, 25Z5, BK55B	456	9-2
177	Vol.	18	N	6			2698	23	RS216				5	6A7, 6D6, 75, 43, 25Z5	456	9-3
							2594	23	RS207							
178	Vol.	18	MR48				8-8	23	2S567				5	6A7, 6D6, 75, 41, 84	456	
179	Vol.	58	H	6			3229	23	2P544				4	6A7, 6C6, 43, 25Z5	456	
180	Vol.	18	MR48	M27			4459	24	2N512		245	C3	4	6D8G, 6S7G, 6T7G, 1D5G	456	
							.03		Buffer	B14						
182	Vol.	58	H	6			3229	23	2P544				4	6A7, 6C6, 43, 25Z5	456	
183	Vol.	18	N	6			3375	23	RS216				11	6A7, 6D6, 6Q7G, [76], [42], 80, 6G5	456	9-4
	Tone	147	P				4062	23	WE4050							
							4528	13	BB21							
184	Vol.	18	N	7			4459	24	2N512		245	C3	4	6D8G, 6S7G, 6T7G, 1D5G	456	9-3
							.03		Buffer	B14						
185	Vol.	18	N	6			3375	23	RS216				8	6A7, 6D6, 75, 6G5, 76,[42], 80	456	
	Tone	147	P				3351	23	WE850							
190, 193 (T2, T3)	Vol.	18	N	6			3375	23	RS216				8	6A7, 6D6, 75, 6G5, 76,[42], 80	456	9-1
	Tone	147	P				3351	23	WE850							
191	Vol.	18	MR48	M26			3375	23	RS216				11	6A7, 6D6, 6Q7G, 6G5, [76],[42], 80	456	
	Tone	147	MR55				4062	23	WE4050							
							4528	14	BB21							
192	Vol.	20	TRP621				4649	4	WE3050				14	[46]D6, 6A7, 6H6G, 6G5,[76],[42], 80	456	9-6
	Tone	...‡..	MR55				4062	4	WE4050							
							3079	13	BB21							
193	Vol.	18	MR48	M26			3375	23	RS216				9	6A7, 6D6, 6Q7G, 6G5, [76],[42], 80	456	9-1
	Tone	147	MR55				3351	23	RS213							
195 (C4)	Vol.	18	N	6			3375	23	RS216				8	6A7, 6D6, 75, 6G5, 76,[42], 80	456	9-1
	Tone	147	P				3351	23	WE850							
197	Vol.	8	MR22	M26			16-6	23	2P544				4	6K7, 6J7, 25L6, 25Z6		9-3
204	Vol.	18	MR48				3375	23	RS216				9	6A7, 6D6, 6Q7G, [76] [42], 80, 6G5	456	9-8
	Tone	106	MR55				3351	23	WE850							
206	Vol.	45	MR48				10-6	1	2S568				6	6A7, 6D6, 76, 6AC5G, 41, 80	456	9-9
207							6-16	4	2P544				3	[36]C5, 6L7		9-2
208A, 208AP	Vol.	8	MR22	M26			16-6	23	2P544				4	6D6, 6C6, 25L6G, 25Z5, BK55BG		9-9
	Phono.	63	MR39													
209	Vol.	18	MR48				3285	1	WE1650				8	6A7, 6D6, 6Q7G, 76, [41], 80, 6G5	456	
	Tone	107	MR55	M26			5101	1	WE1835							
210	Vol.	45	MR48				3285	1	WE1650				9	6A7, 6D6, [76], 6G5, 6K5G,[36]V6G, 80	456	
	Tone	107	MR55	M26			5101	1	WE1835							
211	Vol.	18	MR48	M26			16-8	4	2P544				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, BK49BG	456	9-9
212	Vol.	18	MR48	M26			16-8	4	2P544				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, BK47BG	456	9-10
216	Vol.	8	MR22	M26			16-6	23	2P544				4	6K7, 6J7, 25L6, 25Z6		9-10
218	Vol.	8	MR22	M26			16-6	23	2P544				4	6K7, 6F5, 25L6, 25Z6		9-11
219	Vol.	18	MR48	M26			20-10	4	2P549				5	6A8, 6K7, 6Q7, 25L6, 25Z6	456	9-11
220	Vol.	138	MR48				16-8	1	2N504				6	6A7, 6D6, 76, 6K5G, 25L6G, 25Z5	456	9-10
221	Vol.	18	MR48				16-8	4	2P544				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, BK49BG	456	9-11
222	Vol.	135	MR48				16-8	4	2P544				6	6A7, 6D6, 76, 6K5, 25L6G, 25Z5, BK42BG	456	9-12
223	Vol.	18	MR48				5389	1	2S562				7	6A7, 6D6, 6Q7G, 76, [43], 25Z5	456	9-13
225	Vol.	18	MR48				5272	29	BB31				7	6A7, 6D6, 6Q7G, 76, [43], 25Z5	456	9-14
							5420	29	BB31							
							5419	29	2N516							
226, 227	Vol.	18	MR48	M26			16-8	1	2N504				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5 (No. 227 uses BK49BG	456	9-12
228	Vol.	18	MR48				5272	29	BB31				7	6A7, 6D6, 6Q7G, 76, [43], 25Z5	456	9-14
							5420	29	BB31							
							5419	29	2N516							
231	Vol.	46	MR48				5507	1	RS216				8	6A7, 6D6,[76], 6K5G, 6V6G, 80, 6G5	456	9-15
	Tone	44	MR39				5101	1	WE1835							
235	Vol.	8	MR22	M26			16-6	23	2P544				4	6D6, 6C6, 25L6G, 25Z5, BK55BG		9-12
503	Vol.	6	K				8-4	1	2N518				5	[58], 57, 47, 80	456	5-4
	Tone	22	K12				10	17	BB12							
1000	Vol.	7	K	6			4-4-21	11	UR182	B31			4	6D7, 6E7, 43, 25Z5		
1200	Vol.	15	TRP623	6			50-8-8-10	64	2-UR182	B226			12	[36]D6,[37], 85,[43],[25]Z5	175	5-5
	Tone	44	K12													
	Supp.	7	J													
1900	Vol.	57			See Note A19		16	1	ST597				7	[58], 2A7, 55, 53, 56, 80	175	9-16
	Tone	22	MR33				8	1	ST595							
							10	15	BB12							
DEWALD																
AC-LW15-6	Vol.	6	E7	6	3		2062	4	CS133				6	[35], 24, 27, 47, 80		
B-A-C	Vol.	6	F7	6	5		2095	4	RM261				4	58, 57, 47, 82		3-8
B-A-G	Vol.	6	F7	6	5		2062	4	CS133				6	[24], 27, 35, 47, 80	175	3-9
							2063	4	CS131							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
DEWALD—Continued																
B-A-H	Vol.	6	F7	6	4		2063	4	CS131				8	58,256, 35,257, 47, 82	175	3-10
							2062	4	CS133							
B-A-H-9	Vol.	6	F7	6	4		2062	4	CS133				9	58, 35,256,257,247, 82	175	5-19
							2063	4	CS131							
B-A-M	Vol.	15	K12				8-8	4	CM172				12	258,235, 27,256,247, 82	465	5-20
	Tone	44	Y													
B. L. G.	Vol.	6	F7		4		4-8	4	2S567				7	258, 56, 57, 47, 82	115	4-16
K. A. D.	Vol.	6	H12	6	EX700								4	39, 36, 201A, 71A		3-10
K. A. F.	Vol.	6	H12	6	EX800								6	236, 39, 37,233	175	3-11
K. R. E.	Vol.	6	H12		EX700								5	239, 37,233		5-21
AC14-45	Vol.	7	E12				3-3-1.5	2	See Note	B1			7	24,27, 45, 80		2-2
AC24-45	Vol.	6	E12				1.5-3-1.5	2	See Note	B1			8	24,27,245, 80		2-2
40	Vol.	6	F7	6	5		4-4	4	CM172				4	58, 57, 47, 82		3-5
41	Vol.	6	G7	6	5		8-5	1	2N518				4	78, 77, 38, 25Z5		4-1
							10-10	15	TN111							
42, 42R	Vol.	6	F7	6	5		2170	1	2N518				4	78, 36, 38, 12Z3		5-1
							10-10	15	TN111							
50	Vol.	6	F7	6	5		2103	4	RM261	B86			5	24, 58, 57, 47, 82	175	4-2
51	Vol.	6	F7	6	5		8-4	4	2S567				5	24, 58, 57, 47, 82	175	3-12
52	Vol.	15	N				‡	‡	See Note	B3	221	C3	5	236, 85, 37, 89	175	4-3
							10	15	BB12							
53	Vol.	6	H12	6	EX800								5	236,233		3-12
54	Vol.	7	UC501	6	EX200		2128B	1	2N518				5	36,237, 38, 39		3-6
							2129A	15	TN111							
55	Vol.	6	G7		2		2134B	27	CM165	B88			5	78, 44, 77, 43, 25Z5	156	3-7
							5	15	BB12	B6						
55R, 55X	Vol.	6	G7	6	2		2171	6	2S562				5	278, 77, 43, 12Z3	‡	4-4
							10, 10	15	BB12							
56	Vol.	6	G7		2		12-7	1	2P544				5	6A7, 41, 77, 43, 25Z5	456	1-5
							5	15	BB12							
58	Vol.	6	‡		See Note	A5	12-12	1	2N504				5	26D6, 6C6, 43, 12Z3	455	5-3
							4, 4	15	BB12							
58L, 59	Vol.	6	J	6			12-12	27	2P544				5	6A7, 6D6, 6C6, 43, 12Z3	456	5-4
							4, 4	15	BB12							
60	Vol.	6	G7		1		14-8	4	2P544				6	239, 37,243, 25Z5		1-6
							5	15	BB12							
60EX	Vol.	6	J	6			7-12	4	2P544				6	278, 77, 37, 43, 25Z5	Early, 455 Late, 175	4-7
							10, 10	15	BB12							
61	Vol.	56	UM154		See Note	A96	2147	1	CS133		292	C3	6	6A7, 78, 85, 37, 41, 84	456	1-8
							2133	15	BB27							
							.025		Buffer	B14						
62 Batt	Vol.	54	O										6	1A6, 34, 32, 30,249	175	4-13
80	Vol.	15	N				8, 8	1	ST595				8	6A7,278, 37,242, 80	456	4-14
							10-, 10	15	BB12							
81	Vol.	15	N	6			8, 8	1	ST595				8	6A7,278, 37,242, 80	456	5-5
	TunLgt.	‡	C15MP				10, 10	15	BB12							
81R	Vol.	15	N	6			8, 8	1	ST595				8	6A7,26D6, 37, 42, 80	456	5-6
	TunLgt.	‡	C15MP				10, 10	15	BB12							
	Tone	22	UC502													
90	Vol.	‡	‡		See Note	A5	2179	‡	CM172				9	258,256, 55,245, 80	262.5	
							2180	‡	CS130							
							2181	‡	BB21							
100	Vol.	15	N				8, 8	1	ST595				10	6A7,278,237,242, 80	456	4-15
							10, 10	15	BB12							
AC145	Vol.	10	G12				2-1-2	37	See Note	B1			7	226,227, 45, 80		2-1
AC171-2	Vol.	10	G12				1-3-1	5	See Note	B1			8	226, 27,271A, 80		2-3
DC173-4	Vol.	10	G12				2-1	2 12	See Note	B1			7	212A,271A		2-3
AC245	Vol.	10	G12				2-2-2	3	See Note	B1			8	226,227,245, 80		2-1
DC273	Vol.	10	G12				2-1	2	See Note	B1			7	212A,271A		2-3
400	Vol.	6	J		See Note	A14	10-10	1	2N506				4	6D6, 6C6, 25B5, 25Z5		8-3
							5	15	BB12							
402	Vol.	6	Y		EX500		10-10	6	2N506				4	6D6, 6C6, 43, 25Z5		6-1
							5-5	15	TN111							
403-4	Vol.	6	G7				2283	1 15	4N703				4	6D6, 6C6, 43, 12Z3		6-3
403-4 Type 2	Vol.	6	SRP263				2283	24 15	4N703				4	6D6, 6C6, 38, 1V		6-2
405	Vol.	6	J		See Note	A14	10-10	1	2N506				4	6D6, 6C6, 25B5 25Z5		8-3
							5	15	BB12							
406, 406LW	Vol.	6	SRP263				2448	24	2N514				4	6K7GT, 6J7GT, 25L6GT, 25Z6GT		9-1
425R	Vol.	6	SRP263				10-12-4-4	6	4N703				4	6D6, 6C6, 43, 12Z3		5-7
430	Vol.	6	Y			A14	4-8	24	2N502				1	6D6, 6C6, 38, 12Z3		7-1
							4	15	BB12							
440	Vol.	6	SRP263				10-12-4-4	6	4N703				4	6D6, 6C6, 43, 12Z3		5-7
AC447M	Vol.	7	A20MP	6	EX250		2-2	4	See Note	B1			4	35, 24, 47, 80		2-5
500A	Vol.	6	G7	6	4		2242	6	2N506				5	6A7, 6D6, 6C6, 43, 12Z3	130	5-8
							4-4	15	TN111							
501	Vol.	6	G7	6	4		8-8	6	2N502				5	6A7, 6D6, 6C6, 43, 12Z3	456	5-9
							4, 4	15	BB12							
503-4	Vol.	6	‡		See Note	A5	8-4	1	2N518				5	2A7, 58, 57, 2A5, 80	456	5-10
	Tone	22	K12				5	15	BB12							
505	Vol.	6	Y		See Note	A14	8-8	6	2N502				5	6A7, 6D6, 75, 43, 25Z5	456	6-6
							5	15	BB12							
505F	Vol.	6	SRP263		EX800		12-20	27	2P549				5	6A7, 6D6, 75, 43, 25Z5	456	6-4
							5	15	BB12							
505R	Vol.	6	SRP263		EX800		2272	6/15	UR189				5	6A7, 6D6, 75, 43, 25Z5	456	6-5
506	Vol.	7	UC509		See Note	A14	10-10	1	2N502				5	6D6, 276, 43, 12Z3		6-6
							5, 5, 5	15	BB12							
506R	Vol.	6	SRP263		See Note	A14	2279	27/15	UR189	B94			4	6D6, 6C6, 43, 25Z5, 185-Bal		6-7
510	Vol.	6	‡	6	See Note	A5	2292	4	CM172				5	6A7, 6D6, 6C6, 42, 80	456	6-4
515	Vol.	6	Y				10-10	1	2N506				4	6D6, 6C6, 43, 25Z5, L55B		7-1
							4	15	BB12							
517	Vol.	17	MR48	M26			8-8	1	2N518		294	C3	5	6A7, 6D6, 75, 41, 0Z4	456	7-2
	Tone	22	MR36				5	15	BB12							
							.01-.01		Buffer	B14						
517R	Vol.	17	MR48	M26			8-8	1	2N518		294	C3	5	6A7, 6D6, 75, 41, 84	456	
	Tone	22	MR36				5	15	BB12							
							.01		Buffer	B14						
518	Vol.	6	Y				10-10	1	2N506				4	6D6, 6C6, 43, 25Z5, L55B		7-5
							4	15	BB12							
520	Vol.	6	E12				8-8	4	2S567				5	6A7, 6D6, 76, 42, 80	456	7-5
522	Vol.	18	MR48										5	1A6, 1A4, 1B5, 30, 33	456	8-4
AC524	Vol.	40	G12				8	4	RS213				5	224, 45, 80		2-4
527	Vol.	18	MR48	M26			8-8	23	2S567		294	C3	5	6A7, 6D6, 75, 41, 84	456	8-5
	Tone	22	Z12				.01		Buffer	B14						
528, 528LW	Vol.	6	‡		See Note	A5	10-10	1	2N506				4	6D6, 6C6, 25L6G, 25Z5, M55F		8-6
							5	15	BB12							
529, 529LW	Vol.	18	N				5-5	23	2S567				5	6A7, 6D6, 75, 41, 84	456	8-7

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
DEWALD — Continued																
530, 530LW, 531, 531LW	Vol.	6			See Note	A3	16-10	1	2N506				4	6D6, 6C6, 25L6G, 25Z5, M35F		9-2
532-3	Vol.	6	E7	6	3		.25-2	1	See Note	B7			5	§36, §33		2-5
	Tone	21	O													
533, 533LW	Vol.	8	MR14				16-10	1	2N506				4	6A7, 6C6, 25L6G, 25Z5, L55F		9-2
							5	15	BB11							
534	Vol.	6			See Note	A3	16-10	1	2N506				4	6D6, 6C6, 25L6G, 25Z5, M35F		
535-6	Vol.	6	E7	6	4		8-4	4	2S567				5	§35, 24, 47, 80		2-6
547	Vol.	6	E7	6	5		4-4	4	See Note	B3			5	§35, 24, 47, 80		2-6
547A	Vol.	6	E7	6	3		4-4	4	See Note	B3			5	§35, 24, 47, 80		2-7
553-4S	Vol.	6	G7	6	2		12-12	6	2N506				5	§6D6, 6C6, 43, 12Z3	456	5-11
							4, 4	15	BB12							
555	Vol.	6	Y	6	EX250		1.5-4.5	1	See Note	B3			5	58, 57, 27, 2A5, 80		5-12
570	Vol.	6	J	6	EX1000		8-4	1	See Note	B3			5	2A7, 57, 58, 2A5, 80	455	5-13
	Tone	22	K12				5	15	BB12							
600	Vol.	6	J	6	EX500		16-16	6	2N506				6	6A7, 78, 37, 6C6, 43, 25Z5	456	5-14
	Tone	22	K12				4-4	15	TN111							
605	Vol.	17	UM154	M26	See Note	A96	8-8	1	2N518		253Y	C3	6	§6D6, 6A7, 75, 41, 84	175	6-9
							5-5	15	TN111							
							.025-.025		Buffer	B14						
606	Vol.	17	UM154			A96	2269	1	CM172		294	C3	6	§6D6, 6A7, 75, 41, 84	175	7-3,4
	Tone	22			See Note	A3	2270	15	TN111							
							.025-.025		Buffer	B14						
607	Vol.	17	UM151	M26	See Note	A96	8-8	1	2N518		294	C3	6	§6D6, 6A7, 75, 41, 84	456	6-8
							5-5	15	TN111							
							.0075		Buffer	B14						
609	Vol.	6	SRP263	6	EX800		2294	27/15	UR182	B95			5	6A7, 6K7, 6J7, 43, 25Z5	456	6-11
609 Revised	Vol.	6	SRP263		EX800		20-12	4	2P549				5	6A7, 6K7, 6J7, 43, 25Z5	456	7-11
							5	15	BB12							
610, 610LW	Vol.	17	N	6			2292	4	CM172				6	6A8, 6K7, 6H6, 6F5, 6F6, 80	456	6-12
611, 611LW	Vol.	6	‡	6	See Note	A5	20-12-5	27/15	UR182	B95			6	6A8, 6K7, 6H6, 6F5, 43, 25Z5	456	6-13
	Tone	21	‡		See Note	A5										
612, 612LW, 615, 615LW	Vol.	6	SRP263	6	EX800		2301	27/15	UR182	B95			5	6A8, 6K7, 75, 43, 25Z5	456	6-14
616	Vol.	6	C12				20-12-5	27/15	UR182				5	6A7, 6D6, 76, 43, 25Z5, M49B	456	7-6
617	Vol.	17	UM154	M26		A96	2269	1	CM172		294	C3	6	§6D6, 6A7, 75, 41, 84	175	7-3,4
	Tone	22	‡		See Note	A3	2270	15	TN111							
							.025-.025		Buffer	B14						
618	Vol.	18	‡		See Note	A5	16-16	27	2P546				5	6A7, 6D6, 75, 43, 25Z5, L49C	456	7-7
	Tone	21	‡		See Note	A5										
619	Vol.	6	C12				20-12-5	27/15	UR182				5	6A7, 6D6, 76, 43, 25Z5, L49C	456	7-6
620, 620LW	Vol.	18	‡		See Note	A5	8-8	4	2S567				6	6A7, 6D6, 75, 6G5, 42, 80	456	7-7
	Tone	147	‡		See Note	A5										
621, 621LW	Vol.	17	‡			A5	20-12	27	2P549				5	6A7, 6D6, 75, 43, 25Z5, L49C	456	7-8
	Tone	147	‡			A5										
AC624	Vol.	7	E				8-5	4	See Note	B3			6	§24, 15, 80		
	Tone	21	M													
629, 629LW	Vol.	18	N				16-16	1	2N506				6	6A7, 6D6, 75, 25L6G, 6G5, 25Z5	456	8-7
							5	15	BB12							
630	Vol.	6	H7		5		16-16-8	11	See Note	B96			6	§78, 6A7, 77, 43, 25Z5	456	5-15
	Tone	22	K12				5	15	BB12							
DC632	Vol.	40	G12										6	§30, §31, §32		2-8
636, 636LW, 636S, 636LW-S	Vol.	18	MR48				8-8	1	2N518				6	6A7, 6D6, 6Q7G, 6V6G, 6U5, 6X5G	456	9-3
							5	19	BB11							
637, 637LW, 637S, 637LW-S	Vol.	17	MR48				16-16	1	2N506				6	6A7, 6D6, 6Q7G, 25L6G, 6U5, 25Z5, L42F	456	9-3
	Tone	22	MR28													
637-8	Vol.	6	Y			A14							6	§36, 37, §38		2-7
640	Vol.	17	N				2210	1	CM172	Order	from Mfr		6	§6D6, 6A7, 75, 41, 84	175	5-16
							5-5	15	TN111							
							.025-.025		Buffer	B14						
645, 645LW	Vol.	17	MR48				16-10	1	2N506				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, M49F	456	9-4
							5	15	BB11							
648, 648LW, 650, 650LW	Vol.	17			See Note	A5	16-10	1	2N506				6	6A7, 6D6, 6Q7G, 25L6G, 76, 25Z5, M42F	456	9-5
	Tone	21			See Note	A3	5-5	15	TN111							
649, 649LW, 651, 651LW	Vol.	18			See Note	A3	8-8	1	2N517				6	6A7, 6D6, 76, 6Q7G, 41, 84	456	9-9
	Tone	21	MR48				5	19	BB11							
652	Vol.	17	MR48				16-10	1	2N506				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, M49F	456	9-4
							5	15	BB11							
700, 700LW	Vol.	18	N				16-16	27	2P546				6	6A7, 6D6, 75, 6G5, 25Z5, L42C, 43	456	8-9
	Tone	21	‡		See Note	A5										
700A, 700A-LW	Vol.	17	N				20-20	6	2N509				7	6A7, 6D6, 75, 25L6G, 25Z5, L42C, 6G5	456	8-9
	Tone	22	L				5	15	BB12							
701, 701LW	Vol.	17	MR48				20-20	1	2N509				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, D-150	456	9-7
							10	15	BB12							
702	Vol.	18	UM154	M26		A96	8-8	23	2S567		294	C3	7	§6D6, 6A7, 75, 41, 6H6, 84	175	8-10
	Tone	22	UM137			A96	.01		Buffer	B14						
703, 703LW	Vol.	18	N				16-16	1	2N506				6	6A7, 6D6, 75, 25L6G, 6G5, 25Z5	456	8-7
							5	15	BB12							
AC724	Vol.	40	G12				1.5-3-1	3	See Note	B1			7	§24, 27, §45, 80		2-9
724-1	Vol.	6	G7	6		A14	12-8	1	2S563				7	§24, 27, §45, 80		3-1
	Tone	41	‡		See Note	A5										
DC727	Vol.	40	G12										7	§24, §27, §45		3-2
746-7M	Vol.	6	E7	6			8, 8	4	ST595				8	§35, §27, §24, 47, 80	175	3-3,4
802, 803	Vol.	17	N				8, 8-8	5	3S584				8	§58, 2A7, 2A6, 2A5, §45, 80	456	5-17
	Tone	21	O				4-4	15	TN111							
804, 805	Vol.	76	N	6			2282	26	CS133				8	§58, 2A7, 2A6, 2A5, §45, 80	456	6-15
	Tone	76	N				2286	26	RM262							
							2259	15	BB12							
804S, 805A, 805C	Vol.	76	N	6			2282	26	CS133				8	§58, 2A7, 2A6, 2A5, §45, 80	456	7-9
	Tone	76	N				2286	26	RM262							
							2259	15	BB12							
807	Vol.	73	MR48				16-16	1	2N506				7	6A7, 6D6, §76, 75, 25L6G, 25Z5, L42F	456	9-8
							5	15	BB12							
811A	Vol.	15	N				8, 8	1	ST595				8	§6D6, 6A7, 37, 42, 80	456	5-18
	Tone	22	H12				10-10	15	TN111							
1002, 1003	Vol.	108			See Note	A19	2426	1	ST597				10	§6K7, 6A7, 6H6, §6J5, §6F6, 6U5, 80	456	9-6
	Tone	22			See Note	A3	2427	1	ST597							
							2428	15	BB13							

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
DEWALD—Continued																
1100 (Early)	Vol.	114	N				20-12	4	2P549				9	6A8, 6K7, 6H6, 6C5, ‡43, ‡25Z5, 2600, 2601	456	7-11
	Tone	114	O				5	15	BB12							
1100 (Late)	Vol.	114	N				20-12	4	2P549				9	6A8, ‡6K7, 85, ‡43, ‡25Z5	456	7-12
	Tone	114	O				8	‡	CS133							
							5	13	BB61							
							5	15	BB12							
1104, 1105	Vol.	17			See Note	A19	40	1	RS208				8	‡6K7, 6A7, 6R7, ‡25L6G, 6U5, 25Z5	456	9-10
	Tone	41	MR53				16	‡	ST587							
							5	15	BB12							
1200	Vol.	15	MR48				16-16	1	2N506				8	6A7, 6D6, ‡76, 75, 25L6G, ‡25Z5	456	8-6
							5	15	BB12							
1201	Vol.	108	MR48				16-16	1	2N506				8	6A7, 6D6, ‡76, 75, 25L6G, D200, D150, D35, ‡25Z5	456	9-8
							5	15	BB11							
EARL																
21, 22AC	Vol.	13/10	DRP240				1 2-4-1	3	See Note	B1			8	‡26, ‡27, ‡71A, 80		1-2
21DC, 22DC, 24DC, 31DC, 32DC	Vol.	13	M										9	‡01A, ‡71A		1-1,3
31AC, 32AC	Vol.	7	K		See Note	A10	1-4-2-1	3	See Note	B1			8	‡27, ‡45, 80		1-4
33S-AC	Vol.	1/7	DRP308				1-1-4	3	See Note	B1			8	‡24, 27, ‡45, 80		1-3
41AC, 42AC	Vol.	7	K				1-4-2-1	3	See Note	B1			9	‡27, ‡45, 80		1-5
ECHOPHONE																
F	Vol.	6	Y				8	4	RS213				6	‡24, ‡45, 80		2-2
	Tone	44	H12													
S3	Vol.	6	C12				2-1	25	See Note	B1			5	‡24, 45, 80		1-1
4	Vol.	6	Y				6790B	4	2S567				4	58, 57, 47, 80		3-12
S4	Vol.	3	D12				1-2	25	See Note	B1			6	‡24, 27, 45, 80		1-4
5	Vol.	77	N				8, 8	4	RS213				6	55, 57, ‡58, 47, 80	175	3-1
	Tone	22	Y													
S5 (Dynatron)	Vol.	6	H7				8	4	RS213				7	‡24, ‡45, 80	175	1-7
	Tone	44	H12													
S5 (Rev.)	Vol.	6	Y				8	4	RS213				8	‡24, 27, ‡45, 80	175	1-8
10	Vol.	77	N				8, 8	1	RS213				8	‡58, 55, 57, ‡47, 80	175	3-4
	Tone	44	Y													
12	Vol.	6	G7	6	2		8	4	ST595				5	‡57, 58, 47, 80	175	3-7
							4	4	ST595							
14	Vol.	77	N				8, 8	1	RS213				6	55, 57, ‡58, 47, 80	175	3-3
	Tone	22	Y													
15	Vol.	77	N				8, 8	1	RS213				8	‡58, 57, 55, ‡47, 80	175	3-4
	Tone	44	Y													
16, 17, 18	Vol.	77	N				8, 8	1	RS213				8	55, 56, 57, ‡58, ‡47, 80	175	3-5
	Tone	22	Y													
20	Vol.	77	N				8, 8	4	RS213				8	‡58, 57, 55, ‡47, 80	175	3-4
	Tone	44	Y													
35, 36	Vol.	15	UM154		See Note	A96	8, 8	1	RS213				12	55, ‡56, 57, ‡58, ‡46, 80	175	3-9,11
	Tone	22	N				8	12	RS213							
	Sen.	‡	M100P													
38	Vol.	6	G7		2		8-4	4	See Note	B3			5	‡57, 58, 47, 80	175	3-7
40 Echoette	Vol.	6	Y	6	EX300		8-4	4	See Note	B3			4	24, 35, 47, 80		2-3
44	Vol.	6	Y		EX300		6790B	4	2S567				4	58, 57, 47, 80		3-12
50	Vol.	6	H7				8, 8	4	RS213				6	24, 27, ‡35, 47, 80	175	3-13
	Tone	22	Y													
60	Vol.	6	Y	6	EX200		8, 8	4	RS213				7	24, 27, ‡35, 47, 80	175	2-4
	Tone	22	Y													
70DC	Vol.	6	Y	6	EX200		6	1	2N506	B11			8	‡37, ‡39, ‡71A	175	3-16
	Tone	22	Y													
80	Vol.	6	Y	6	EX200		8	1	RS213				8	24, 27, ‡35, ‡47, 80	175	2-5
	Tone	22	Y				4	1	ST595							
81	Vol.	15	N	6			8-8	4	RS213				8	24, ‡27, ‡35, 47, 80	175	3-18
	Tone	22	Y													
90	Vol.	6	Y	6	EX200		8	1	RS213				8	24, 27, ‡35, ‡47, 80	175	2-7
	Tone	22	Y				12	1	RS215							
90 (Rev.)	Vol.	6	H7		2		12	1	RS215				8	24, 27, ‡35, ‡47, 80	175	3-17
	Tone	22	Y				8	1	RS213							
110	Vol.	7	UC509	6			12-5	24	2N504				4	78, 77, 38, 12Z3		
							10	15	BB12							
111	Vol.	7	UC509		EX350		12-5	24	2N504				4	78, 77, 38, 12Z3		5-1
							10-10	15	TN111							
119	Vol.	18	N	‡			8-4	1	See Note	B3			5	2A7, 58, 2A6, 2A5, 80	456	5-2
	Tone	22	K12	‡			307	15	BB12							
124	Vol.	18	N				8-4	1	See Note	B3			7	56, 57, ‡58, 2A6, 2A5, 80	456	5-3
	Tone	22	K12				10	15	BB13							
126	Vol.	18	N	‡			8-4	1	See Note	B3			5	2A7, 58, 2A6, 2A5, 80	456	5-3
128	Vol.	7	UC509		See Note	A14	5-12-5	8	UR182				4	78, 77, 43, 25Z5		5-1
							5	15	BB12							
139, 139C	Vol.	18	N				8-8	1	See Note	B3			6	6A7, 6D6, 75, ‡42, 80	456	6-1
	Tone	22	‡		See Note	A5	10	15	BB13							
143	Vol.	18	N	6			150	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	5-4
							307	15	BB12							
180	Vol.	‡	N	6			16	11	BB34					‡	‡	
	Tone	22	K12				8	11	BB31							
1731	Vol.	18	N				8-4	1	See Note	B3			5	58, 2A7, 2A6, 2A5, 80	456	
1734, 1734A	Vol.	18	N				8-4	1	See Note	B3			5	2A7, 58, 2A6, 2A5, 80	456	
							10	15	BB12							
1800	Vol.	6	SRP263		See Note	A14	8-4	1	2N518				4	58, 57, 2A5, 80		
							10	15	BB12							
7110	Vol.	7	UC509		See Note	A14	12-5	24	2N504				4	77, 78, 38, 12Z3		
							10-10	15	TN111							
7114	Vol.	6	SRP263		See Note	A14	5-16-5	11	UR182	B31			5	6A7, 6D6, 75, 43, 25Z5	456	
7124	Vol.	18	N				8-4	1	2N518				7	‡58, 57, 56, 2A6, 2A5, 80	456	
	Tone	22	K12				10	15	BB13							
7126	Vol.	7	UC509		See Note	A14	5-12-10-10	24/15	See Note	B5			4	77, 78, 38, 12Z3		
7127	Vol.	18	N	‡			8-4	1	See Note	B3			5	58, 2A7, 2A6, 2A5, 80	456	
	Tone	22	K12	‡			10	15	BB13							
EDISON-BELL																
36	Vol.	42	G	6			8, 8	4	ST595				6	24A, ‡58, ‡47, 80		5-1
	Tone	22	K12													
53	Vol.	6	K12	6	EX200		16-8	6	2N504				5	‡6C6, 6D6, 43, 25Z5	175	5-1
							4-4	15	TN111							
53LW	Vol.	6	K12	6	EX200		16-8	6	2N504				5	6A7, ‡6D6, 6C6, 43, 25Z5	115	5-2
							2-4	15	TN111							
55AW	Vol.	17	N	6			16-16-4-4-2	8/15	See Note	B3			5	6A7, 6D6, 75, 43, 25Z5	456	5-3
63	Vol.	56	N	6			16-16	1	2N506				6	37, 6A7, 6D6, 75, 43, 25Z5	175	5-4
							4-1	1/15	2N500							
631LW	Vol.	18	N	6			16-16	8	2N506				6	‡6D6, 6A7, 75, 43, 25Z5	115	5-5
							4-1	8/15	2N500							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
EDISON BELL—Continued																
66AW	Vol.	17	N	6			16-16-8-4-4	11	See Note	B3			6	§6D6, 6A7, 75, 43, 25Z5	456	5-6
THOMAS A. EDISON																
"Abbey" Battery	Vol.	14	SRP278										6	§01A, 71A		1-11
(Splitdorf) "Abbey" Jr.	Vol.	14	SRP278				4-6	1	See Note	B1			7	§26, 27, 71A, 80		1-11
C1 (SC)	Vol.	10	SRP277		(Rear)	A35	2.5-2.5-2.5	28	See Note	B2			9	§26, 27, §50, §81		1-1,5
	Regen.	10	SRP276		(Front)	A35										
C2, R1, R2 (Jr., Jc. 25 Cy.)	Vol.	10	SRP277		(Rear)	A35	2-1	4	See Note	B1			7	§26, 27, 50, 81		1-4
	Regen.	10	SRP276		(Front)	A35										
C2, R1, R2, (Jr., Jc. 60 Cy.)	Vol.	10	SRP277		(Rear)	A35	2-1	4	See Note	B2			7	§26, 27, 50, 81		1-5
	Regen.	10	SRP276		(Front)	A35										
C4, R4, R5 (Chassis 7-R)	Vol.	24	DRP306				2-2-1	3	See Note	B1			8	§27, §45, 80		1-6
R4, R5, (DC)	Vol.	24	DRP306				1-2-2	1	See Note	B11			9	§27, §71A		3-1
R6, R7	Vol.	20	TRP607				1.5-1-1.5	3	See Note	B1			9	§24, §27, §45, 80		1-10
(Splitdorf) M5	Vol.	10	SRP277		(Rear)	A35	2-1	4	See Note	B1			7	§26, 27, 50, 81		
	Regen.	10	SRP276		(Front)	A35										
(Splitdorf) M6	Vol.	10	SRP277		(Rear)	A35	2.5-2.5-2.5	28	See Note	B2			9	§26, 27, §50, §81		
	Regen.	10	SRP276		(Front)	A35										
(Splitdorf) E-175	Vol.	10	‡		See Note	A36	‡	1	See Note	B1			7	§26, 27, 71A, 80		1-13
Splitdorf PAD4	Vol.	10	‡		See Note	A36	2-1	4	See Note	B2			7	§26, 27, 50, 81		§6-31
EILEN RADIO LABS.																
5 Tube	Reg.	12	L				8-8	1	2S567				5	6D6, 6C6, 76, 42, 84		
	Sen.	7	D		5											
ELEC. AUTO LITE																
No. 11	Vol.	7	UC510										6	§5, §24, 27, §71A		
062A, 3622A	Vol.	45	N				4	15	BB11		205	C3	6	§39, 36, 37, 41	262	4-1
	Tone	21	L													
072A, 3722A	Vol.	18	N				4	12	CS133		210		7	§39, 36, 37, §41	262	4-2
	Tone	44	L				4	15	BB11							
82	Vol.	15	MR48				10	19	BB12				7	§36, 37, §27, 47		
	Tone	21	MR48													
E & A (Electric & Automotive Products Co.)																
4M	Vol.	6	SRP263	6			16-8	1	2N504				4	78, 77, 38, 12Z3		6-1
							5-5	15	TN111							
1L-5	Vol.	6	SRP263		EX500		16-10	1	2N506				5	6A7, 78, 77, 43, 25Z5	125	6-3
							5-5	15	TN111							
6AW	Vol.	17	N				8-8	1	2N518				6	§78, 6A7, 75, 42, 80	456	6-4
							5-5	15	TN111							
SW-6	Vol.	18	N				10	1	See Note	B3			6	2A7, §58, 2A6, 2A5, 80	456	6-2
							5	15	BB11							
25AW	Vol.	17	N				8-8	1	2N518				5	6A7, 78, 75, 42, 80	456	6-1
							5-5	15	TN111							
30AW	Vol.	17	N				10-25	1	2N512				6	§78, 6A7, 75, 43, 25Z5	456	6-3
							5-5	15	TN111							
35AW	Vol.	17	N				8-8	1	2N518				6	§78, 6A7, 75, 42, 80	456	6-4
							5-5	15	TN111							
1L55LW	Vol.	6	SRP263		EX500		25-10	6	UR182				5	6A7, 78, 77, 43, 25Z5	125	6-3
303	Vol.	6	SRP263		EX500		5	15	BB12				3	6A7, 6F7, 12A7	456	6-4,5
							10	1	BB22							
303LW	Vol.	6	SRP263		EX500		5-5	15	TN111							
							10	1	BB22				3	6A7, 6F7, 12A7	456	6-5
303SW	Vol.	6	SRP263		EX500		5-5	15	TN111							
							10	1	BB22				3	6A7, 6F7, 12A7	456	6-5
405	Vol.	6	SRP263		EX500		5-5	15	TN111							
							16-10	1	2N506				4	6A7, 6F7, 43, 12Z3	456	6-6
405LW	Vol.	6	SRP263		EX500		5-5	15	TN111							
							16-10	6	2N506				4	6A7, 6F7, 43, 12Z3	456	6-6
							5-5	15	TN111							
ELECTRICAL RESEARCH LABS.	—See "Erla"															
ELECTRONIC																
331							8-8-20	1	UR190	B97	292	C3		84		4-2
							.02-.02		Buffer	B14						
332 32V							8-8-25	1/19	UR190	B97	§221	C3		25Z5		4-2
							.02-.02		Buffer	B14						
EL-REY																
4 Tube Midget	Vol.	6	SRP263	6	EX200		4-4	23	CM172				4	58, 57, 47, 80		§5-14
	Tone	22	Y													
7 Tube AW	Vol.	56	M	6			8-8	1	See Note	B3			7	55, 56, 57, §58, 2A5, 80	456	6-2
	Sen.	7	C				10	15	BB12							
	Tone	22	Y													
10, 15	Vol.	6	SRP263		EX300		4-4	23	CM172				4	58, 57, 47, 80		6-1
	Tone	22	Y		See Note	A4										
20	Vol.	17	M	6			4-8	4	See Note	B3			6	57, 58, 59, 55, 80, 56	465	6-1
	Tone	22	Y				25	15	BB15							
644	Vol.	18	N	6			8-8	23	See Note	B3			6	6A7, §6D6, 75, 42, 80	465	6-3
	Tone	22	Y													
845	Vol.	17	N				8-8	1	See Note	B3			8	55, 56, 57, §58, §2A5, 80	465	6-4
	Tone	44	Y													
ELEC. SPEC. EXPORT CORP. "Stratfield"																
R502	Vol.	6	G12	6	2		20-20	6	UR192				5	6A7, 6D6, 75, 43, 25Z5	456	5-4
							10-10	15	TN111							
38	Vol.	6	UC509	6	EX250		8	24	BB21				4	6D6, 6C6, 38, 12Z3		5-1
							10	15	BB12							
45	Vol.	6	M				8-12-10-10	6/15	See Note	B5			4	6D6, 6C6, 43, 25Z5		5-2
48	Vol.	6	M		EX250		16-12-10-10	1/15	4N703				4	6D6, 6C6, 38, 25Z5		5-1
69	Vol.	6	G12	6	EX200		20-20	1	UR192				6	6A7, 6D6, 85, §43, 25Z5	456	5-3
							10	15	BB12							
EMERSON																
A130, A132 (type 1) up to 799, 301	Vol.	6	E12	6	EX500		3CC261	6	RS207				5	6A7, 6D6, 76, 43, 25Z5	456	7-31,32
							KKC145	15	TN111							
A130, A132 (type 2) 799, 301 to 819, 200	Vol.	6	E12	6	EX500		3CC261	6	RS207				5	6A7, 6D6, 75, 43, 25Z5	456	7-31,32
							KKC145	15	TN111							
A130, A132 (type 3) 819, 201 up	Vol.	18	MR48	M26			3CC261	6	RS207				5	6A7, 6D6, 75, 43, 25Z5	456	7-31,32
							KKC145	15	TN111							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
EMERSON—Continued																
AA131 (chassis AA) below 1,266,501	Vol.	18	MR44	M26			3CC261 YC98A	25 13	RS207 BB20				5	6A7, 6D6, 75, 43, 25Z5	456	8-15
AA131 (chassis AA) above 1,266,501	Vol.	18	MR44	M26			3CC261 3CC337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-15
AB178 (below 1,373,394)	Vol. Tone	18 ‡	500M No. 1 N		See Note A19 6		3XC329 YC98A IC43A	1 13 15	WE4050 BB20 BB12				11	[2]6K7, 6A8, [2]6C5, [2]6F6, [2]80	456	9-25
AB178 (above 1,373,394)	Vol. Tone	18 ‡	500M No. 1 N		See Note A19 6		3XC329 YC98A IC43A	1 13 15	WE4050 BB20 BB12				14	[2]6K7, 6A8, [2]6J5, [2]6F6, [2]80	456	9-25
AB182 & AB183 (below 1,373,391)	Vol. Tone	18 ‡	500M No. 1 N		See Note A19 6		3XC329 YC98A IC43A	1 13 15	WE4050 BB20 BB12				14	[2]6K7, 6A8, [2]6C5, [2]6F6, [2]80	456	9-25
AB182 & AB183 (above 1,373,394)	Vol. Tone	18 ‡	500M No. 1 N		See Note A19 6		3XC329 YC98A IC43A	1 13 15	WE4050 BB20 BB12				14	[2]6K7, 6A8, [2]6J5, [2]6F6, [2]80	456	9-25
AB184 (AB)	Vol. Tone	18 127	N	6	See Note A19		3XC-329 YC-98A IC-43A	1 13 15	WE4050 BB20 BB12				15	[2]6K7, 6A8, [2]6J5, [2]6F6, [2]80, 6G5	456	9-21
AC130	Vol.	18	MR44	M26			3RC318A	23	CM172				5	6A7, 6D6, 6Q7, 41, 80	456	8-9
AC149	Vol.	18	MR44	M26			3RC318Z	23	CM172				5	6A7, 6D6, 6Q7, 41, 80	456	8-9
AC168	Vol.	18	MR44	M26			3RC-318A	23	CM172				5	6A7, 6D6, 6Q7, 41, 80	456	8-9
AC202 (AC)	Vol. Tone	18 114	MR18 MR18	M26			3RC-318A	23	CM172				5	6A7, 6D6, 6Q7G, 41, 80	455	9-45
AD108	Vol.	18	MR18	M26			4DC345	1	2N506				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-1
AD110	Vol.	18	MR18	M26			4DC345	1	2N506				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-1
AD125	Vol.	18	MR48	M26			4DC345	1	2N506				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-1
AE163 (chassis AE)	Vol.	18	MR48	M26			3CC261	1	RS207				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-37
AF171, AF173, AF176, AF179, AF180, AF185	Vol.	18	MR48	M23			VVC221	12	BB21				6	[3]1A4, 1C6, 1B5, 1F4, 1E1	456	8-45
AG151 (chassis AG)	Vol. Tone	18 44	MR44 L				3MC290 3MC291 3MC292 KKC145	1 1 13 15	RS208 RS208 ST585 TN111				9	6K7, 6A8, 6D6, 6Q7G, 6C5, [2]25L6, [2]25Z5	456	8-29
AH162 (AH)	Vol.	18	MR48	M26			IHC348 IC43A	1 15	UR192 BB12				5	6A7, 6D6, 6Q7G, 25L6, 25Z5	456	8-35
AH166, 171, 173, 174, 176, 180, 185 (AH)	Vol. Vol.	18 18	MR44 MR18	M26 M26		A27	4HC-348A IC-43A	1 15	UR192 BB12				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, 1.49BG	455	9-3
AJ130, AJ137, AJ149	Vol.	18	MR48	M27			VVC221A	13	BB21				5	1C6, 1A4, 1B5, 30, 1F4	456	8-11
AL130, AL132, AL149	Vol.	18	MR48	M26			3CC261	1	RS207				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-13
AL164	Vol. Tone	18 ‡	N MR18	6 M26			3CC261	1	RS207				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-39
AL168	Vol.	18	MR18	M26			3CC261	1	RS207				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-13
AL202 (AL)	Vol. Tone	18 ‡	MR48 MR18	M26 M26		A4	3CC-261	1	RS207				5	6A7, 6D6, 6Q7, 25L6, 25Z5, R12	456	9-11
ALLW130, ALLW132, ALW149, ALLW168	Vol.	18	MR48	M26			3CC261 IC43A	1 15	RS207 BB12				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-13
AM131	Vol.	18	MR44	M26			3CC261 3CC337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	9-1
AM153 (AM)	Vol.	18	MR48	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 2UR-224	456	9-1
AM169 (AM)	Vol.	18	MR48	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 2UR-224	456	9-1
AM187 (AM)	Vol.	18	MR48	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 2UR-224	456	9-1
AP165, AP166 (AP)	Vol.	18	MR44	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 3CR-241	456	9-13
AP171, AP173, AP174, AP176 (chassis AP)	Vol.	18	MR44	M26			3CC261 3CC337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	8-47
AP177 (AP)	Vol.	18	MR44	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 3CR-241	456	9-13
AP180, AP185 (AP)	Vol.	18	MR44	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 3CR-241	456	8-47
AR165 (below 1,326,200)	Vol.	45	MR48	M26			3LC314 3ZC341	23 23	ST596 2S568	 B8			6	6A7, 6D6, [2]76, 41, 80	456	9-15
AR165 (above 1,326,200)	Vol.	18	MR48	M26			3LC314 3ZC341	25 25	ST596 2S568	 B8			6	6A7, 6D6, 6Q7, [2]41, 80	456	9-15
AR165 (Between 1412601-1413601 above 1416650)	Vol.	15	MR44	M26			3LC314 3ZC-341	25 25	ST596 2S568	 B8			6	6A7, 6D6, 6Q7, 76, 6AC5G, 80	456	9-16
AR166 (below 1,326,200)	Vol.	45	MR48	M26			2NC246 2NC247	23 23	RS216 WE1650				6	6A7, 6D6, [2]76, 41, 80	456	9-16
AR166 (above 1,326,200)	Vol.	18	MR48	M26			2NC246 2NC247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7, [2]41, 80	456	9-16
AR166 (Between 1412601-1413601 above 1416650)	Vol.	15	MR44	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7, 76, 6AC5G, 80	456	9-16
AR171, AR173 (Below 1326000)	Vol.	45	MR48	M26			2NC-246 2NC-247	23 23	RS216 WE1650				6	6A7, 6D6, [2]76, 41, 80	456	8-41,44

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
EMERSON—Continued																
AR171, AR173 (Above 1326000)	Vol.	18	MR48	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7,‡41, 80	456	9-18
AR171, AR173 (Between 1412601 and 1413601 above 1416650)	Vol.	18	MR44	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7, 76, 6AC5G, 80	456	9-16
AR174 (Below 1,326,000)	Vol.	45	MR48	M26			3LC-314 3ZC-341	23 23	ST596 2S568	 B8			6	6A7, 6D6,‡76, 41, 80	456	8-41,44
AR174 (Above) 1,326,000)	Vol.	18	MR48	M26			3LC-314 3ZC-341	25 25	ST596 2S568	 B8			6	6A7, 6D6, 6Q7,‡41, 80	456	9-18
AR174 (Between 1412601 and 1413601 above 1416650)	Vol.	18	MR44	M26			3LC-314 3ZC-341	25 25	ST596 2S568	 B8			6	6A7, 6D6, 6Q7, 76, 6AC5G, 80	456	9-16
AR176 (Below 1326000)	Vol.	45	MR48	M26			2NC-246 2NC-247	23 23	RS216 WE1650				6	6A7, 6D6,‡76, 41, 80	456	8-41,44
AR176 (Above 1326000)	Vol.	18	MR48	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6,‡76, 41, 80	456	9-18
AR176 (Between 1412601 and 1413601 above 1416650)	Vol.	18	MR44	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7, 76, 6AC5G, 80	456	9-16
AR177 (below 1,326,200)	Vol.	45	MR48	M26			2NC246 2NC247	23 23	RS216 WE1650				6	6A7, 6D6, ‡76, 41, 80	456	9-16
AR177 (above 1,326,200)	Vol.	18	MR48	M26			2NC246 2NC247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7, ‡41, 80	456	9-16
AR177 (Between 1412601-1413601 above 1416650)	Vol.	15	MR44	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7, 76, 6AC5G, 80	456	9-16
AR180, AR185 (Below 1326000)	Vol.	45	MR48	M26			2NC-246 2NC-247	23 23	RS216 WE1650				6	6A7, 6D6,‡76, 41, 80	456	8-41,44
AR180, AR185 (Above 1326000)	Vol.	18	MR48	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7,‡41, 80	456	9-18
AR180, AR185 (Between 1412601-1413601 above 1416650)	Vol.	18	MR44	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7, 76, 6AC5G, 80	456	9-16
AS179	Vol.	18	MR48	M26			4SC355 .02-.02	1 	2S565 Buffer	 B14	294	C3	5	6D8G, ‡6S7G, 6Q7, 41	456	8-49
AT170, AT172, AT181 (AT) (Below 1386551)	Vol.	18	MR48	M26			2NC-246 2NC-247	23 23	RS216 WE1650				6	6A7, 6D6, 6Q7G, 76, 41, 80	456	8-41
AT170, AT171, AT181 (AT) (Above 1386551)	Vol.	18	MR48	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7,‡41, 80	456	9-18
AU190 (AU)	Vol.	18	MR48	M26			4DC-345	1	2N506				5	6A7, 6D6, 6Q7, 25L6, 25Z5	456	9-24
AV193 (AV)	Vol.	18	MR48	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, L49D	455	9-29
AW171, 173, 174, 176, 180, 185, (AW)	Vol.	18	MR48	M26			2NC-246 2NC-247	25 25	RS216 WE1650				6	6A7, 6D6, 6Q7G, ‡41, 80	456	9-19
AX211, 212, 217, 219 (AX)	Vol. Tone	18 ‡	MR44 MR48	M26 M26			4HC-348B	1	UR192				5	6A8, 6K7, 6Q7, 25L6, 25Z6	455	9-51
AY194, 195 (AY)	Vol.	18	MR48	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 3CR-241	456	9-33
AZ196 (AZ)	Vol.	18	MR48	M26			4ZC-379 4ZC-380	25 25	WE1650 WE1835				6	6A7, 6D6, 6Q7, 76, 6AC5G, 80	456	9-35
B-AC-10	Vol. Tone Supp.	18 44 3	N G12 E12	6			EC17 EC25	1 1	ST596 ST595				10	‡58, 55, 56, 57,‡46, 82	175	3-7
B131	Vol.	18	MR44	M26			3CC261 YC98A	25 13	RS207 BB20				5	6A7, 6D6, 75, 43, 25Z5	456	7-33
BA199, BA201 (BA)	Vol.	6	MR36	M26			4DC-345A	1	2N506				4	6D6, 6C6, 25L6, 25Z5, L55BG		9-31
BB208, BB209 (BB)	Vol.	6	MR36	M26			4DC-345A	1	2N506				4	6D6, 6C6, 25L6, 25Z5, L55BG		9-40
BD197 (BD)	Vol.	18	MR48	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 3CR-241	456	9-33
BE198 (BE)	Vol.	18	MR48	M26			3RC-318A	23	CM172				5	6A7, 6D6, 6Q7, 41, 80	456	9-37
BF191 (BF)	Vol.	18	MR48	M26			3CC-261 3CC-337	1 1	RS207 RS208				5	6A7, 6D6, 6Q7, 25L6, 25Z5, 2UR-224	456	9-1
BG138, 140, 142, 146 (BG)	Vol.	18	MR44	M26			4HC-348A	1	UR192				6	6A7, 6D6, 6Q7G, 25L6G, 25Z5, 6G5, L49BG	455	9-3
BG178, 182, 183 (BG)	Vol.	18	MR44	M26			4HC-348A	1	UR192				6	6A7, 6D6, 6Q7G, 25L6G, 25Z5, 6G5, L49BG	455	9-3
BJ200, 210, 214 (BJ)	Vol.	18	MR48	M26			3CC-261	1	RS207				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, L49BG	455	9-41
BL200, 210, 214 (BL)	Vol.	18	MR48	M26			3RC-318A	23	CM172				5	6A7, 6D6, 6Q7G, 41, 80	455	9-43
BM206, 215, 216, BN206 215 (BM, BN)	Vol. Tone Phono.	6 ‡	MR36 MR36	M26 M26			4DC-345A	1	2N506				4	6D6, 6C6, 25L6, 25Z5, ‡L55BG		9-47

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
EMERSON—Continued																
BN216 (BN)	Vol.	6	MR36	M26			4DC-345A	1	2N506				4	6D6, 6C6, 25L6G, 25Z5, L55BG		9-50
	Phono.	‡	MR36	M26												
BQ225, 228 (BQ)	Vol.	18	MR18	M26			4ZC-379	25	WE1650				6	6K8, 6K7, 6Q7G, 76, 6AC5G, 80	455	9-53
							4ZC-380	25	WE1835							
BR226 (BR)	Vol.	18			See Note A19		3XC-329	1	WE4050				15	[3]6K7, 6K8, 6Q7, [3]6J5, [4]6AC5G, [2]80, 6AF6G	455	9-55
	Tone	21	MR48	M26			3SC-303	13	WE4050							
BS227 (BS)	Vol.	18			See Note A19		3XC-329	1	WE4050				15	[3]6K7, 6K8, 6Q7, [3]6J5, [4]6AC5G, [2]80, 6AF6G	455	9-55
	Tone	21	MR48	M26			3SC-303	13	WE4050							
BU229, 230 (BU)	Vol.	18	MR18	M26			4ZC-379	23	WE1650				7	6K8, 6K7, 6Q7G, 76, 6AC5G, 6U5, 80	455	9-53
							4ZC-380	23	WE1835							
BW231 (BW)	Vol.	18	MR48	M26			4ZC-379	23	WE1650				6	6K8, 6K7, 6Q7G, 76, 6AC5G, 80	455	9-55
							4ZC-380	23	WE1835							
BY233 (BY)	Vol.	18	MR44	M26			4HC-348B	1	UR192				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, L19BG	455	9-18
CS	Vol.	6	G7	6	3		A-404	4	BB60				5	[2]24, 35, 47, 80	175	3-4
C131, C136, C138, C139, C140, C142	Vol.	18	MR48				3BC282	4	RS215				8	[2]6K7, 6A8, 6R7, 6G5, 6C5-6J7, 6F6-6L6, 5W4	456	7-35,36
	Tone	‡	MR48				3BC289	4	WE4050							
							3BC281	14	BB31							
DC4	Vol.	7	‡	6	See Note A5		1-1	1	See Note	B7			4	[2]39, 36, 33		3-2
D5	Vol.	6	Y		EX500		UC-93	4	CM172				5	[2]58, 57, 47, 80	456	4-1
D134, D136, D138, D139, D140, D142, D146	Vol.	20	TM230-SS1	M26			3AC255	3	WE851				10	[2]6K7, 6A8, 6H6, 6G5, 6F5, 6C5, [2]6F6, 5Z3	456	7-37,38
	Tone	22	MR48				3AC277	3	WE1050							
							IC43B	15	BB12							
							3AC256	15	BB11							
D134LW, D136LW, D138LW, D139LW, D140LW, D142LW, D146LW (DLW)	Vol.	20	TM230-SS1	M26			3AC-255	3	WE851				10	[2]6K7, 6A8, 6H6, 6F5, 6C5, [2]6F6, 6G5, 5Z3	456	8-19
	Tone	22	MR48				3AC-277	3	WE4050							
E128	Vol.	45	UM157		See Note A96		QQC160C	1/15	4S718		294	C3	6	78, 6A7, 6B7, 76, 41, 84	172.5	7-30
							.0075		Buffer	B14						
F	Vol.	6	H12				8, 8, 8	3	RS213				8	[2]27, 24, [2]45, 80		1-1
F117	Vol.	18	MR44	M26			3EC288	25	RS207				5	6A7, 6D6, 75, 43, 25Z5	456	7-25,26
							YC98A	13	BB20							
F122 (F)	Vol.	18	MR44	M26			3EC-288	25	RS207				5	6A7, 6D6, 75, 43, 25Z5	456	7-25,26
							YC-98A	13	BB20							
F133 (F)	Vol.	18	MR44	M26			3EC-288	25	RS207				5	6A7, 6D7, 75, 43, 25Z5	456	7-25,26
							YC-98A	13	BB20							
F135 (F)	Vol.	18	MR44	M26			3EC-288	25	RS207				5	6A7, 6D6, 75, 43, 25Z5	456	7-25,26
							YC-98A	13	BB20							
F141 (F)	Vol.	18	MR44	M26			3EC-288	25	RS207				5	6A7, 6D6, 75, 43, 25Z5	456	7-25,26
							YC-98A	13	BB20							
G4	Vol.	7	UC509	6	EX300		4-4	1	2N502				4	39, 36, 38, 37		3-9
							HC32	15	TN111							
G127 (G)	Vol.	18	MR44	M26			3CC-261	25	RS207				5	6A7, 6D6, 75, 43, 25Z5, 3CR-241	456	8-7
							YC-98A	13	BB20							
H5	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	[2]78, 77, 43, 25Z5	172.5	3-6
H5L	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	6A7, 78, 77, 43, 25Z5	132	4-5
H130, H137	Vol.	17	MR48	M27			VVC221A	12	BB21				5	[2]1A4, 1A6, 1B5, 1F4, 1B1	456	7-39
J	Vol.	6	G7	6	3		A404	4	BB60				5	[2]24A, 35, 47, 80		
JS	Vol.	6	G7	6	3		A404	4	BB60				5	[2]24, 35, 47, 80	175	3-3
J106	Vol.	17	MR48	M26			2C222	6	2N506				5	6A7, 6D6, 75, 43, 25Z5	456	7-9
							CCC146B	15	TN111							
KS	Vol.	7	G	6	1		8	4	CS133				8	[2]35, [2]24, 27, 47, 80	175	3-3
	Tone	22	G12				4	13	BB60							
K116, K121, K123	Vol.	6	E12	6	2		TTC159	1/15	3S579				5	[2]6D6, 76, 41, 80	456	7-19,20
LA (Early)	Vol.	7	Y		EX300		8-4	4	CM172				4	78, 77, 38, 1V		5-10
							5	15	BB12							
LA (Revised)	Vol.	7	Y		EX300		8-4	4	CM172				4	6D6, 6C6, 38, 1V		5-10
							5	15	BB12							
LAC4	Vol.	6	‡		See Note A5		4-4	4	See Note	B3			4	58, 57, 47, 80		3-1
LAC5	Vol.	6	‡		See Note A5		8	4	ST595				5	[2]58, 57, 47, 80		3-1
							4	4	ST595							
L117 (early)	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 85, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L117 (late)	Vol.	18	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 75, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L117LW	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 85, 42, 80	456	7-23,24
							2NC247	1	WE1650							
							IC43A	15	BB12							
L122 (early)	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 85, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L122 (late)	Vol.	18	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 75, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L122LW, L133 (early)	Vol.	56	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 85, 42, 80	456	7-23,27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L133 (late)	Vol.	18	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 75, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L133LW	Vol.	56	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 85, 42, 80	456	7-23,24
							2NC247	1	WE1650							
							IC43A	15	BB12							
L135 (early)	Vol.	56	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 85, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L135 (late)	Vol.	18	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 75, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L135LW	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 85, 42, 80	456	7-23,24
							2NC247	1	WE1650							
							IC43A	15	BB12							
L141 (early)	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 85, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							
L141 (late)	Vol.	18	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 75, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	15	BB12							

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
EMERSON—Continued																
L141LW	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 85, 42, 80	456	7-23,24
							2NC247	1	WE1650							
							IC43A	15	BB12							
L143 (early)	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 85, 41, 80	456	8-23
							2NC247	1	WE1650							
							IC43A	15	BB12							
L143 (late)	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 75, 41, 80	456	8-23
							2NC247	1	WE1650							
							IC43A	15	BB12							
L150	Vol.	18	MR44	M26			2NC246	1	RS216				5	6A7, 6D6, 75, 41, 80	456	7-27
							2NC247	1	WE1650							
							IC43A	14	BB12							
MAC7	Vol.	6	E7	6	2		BC9	4	CM172				7	[3]58, 56, 55, 47, 80	175	3-5
	Tone	34	SRP263													
M134, M136, M138, M139, M140, M142, M146				[4]												
	Vol.	18	MR39				3MC290	27	RS208				10	6K7, 6A8, 6D6, 85, 6G5, 6C5, [2]43, [2]25Z5	456	8-21
	Tone	22	MR44				3MC291	27	RS208							
							3MC292	13	ST585							
							3AC256	15	BB11							
P117, P135	Vol.	18	MR44				3PC307	1	2S567		Order from Mfr.		6	[2]1A4, 1A6, 1B5-25S, 30, 1E7G	456	8-3
							3PC310	15	BB15							
							.0125-.0125		Buffer	B14						
Q157	Vol.	6	Z12				3QC338	1	2N506				4	6D6, 6C6, 25L6, 25Z5		9-23
R152, R153, R156, R158 (R)	Vol.	18	MR48	M26			3RC318	23	CM172				5	6A7, 6D6, 75, 41, 80	456	9-5
R167 (R)	Vol.	18	MR48	M26			3RC-318	23	CM172				5	6A7, 6D6, 75, 41, 80	456	9-5
R189 (R)	Vol.	18	MR48	M26			3RC-318	23	CM172				5	6A7, 6D6, 6Q7G, 41, 80	456	9-5
S7	Vol.	6	E7	6			1C42	4	CM172	B3			7	[3]58, 57, 59, 80	465	4-19
							IC43	20	BB12							
S50	Vol.	6	E7	6	2		1C42	4	CM172	B3			7	[3]58, 57, 59, 80	465	4-19
							IC43	20	BB12							
S147, S151	Vol.	18	MR48				3SC303	1	WE4050				6	[3]6K7, 6A8, 6Q7, 6F6, 5W4-5Z3	456	8-27
	Tone	34	L				3BC289	1	WE4050							
							IC43A	15	BB12							
T	Vol.	6	G7	6	3		A403	4	See Note	B3			4	35, 24, 47, 80		3-2
							A404	4	BB60							
TS	Vol.	6	G7	6	3		A310	4	See Note	B3			4	35, 24, 47, 80		3-2,3
							A404	4	BB60							
U154	Vol.	45	UM162		See Note	A96	3VC320C	1/15	3S579		29Y	C3	6	6A7, [3]6D6, 76, 41, 84	262	8-33
							IC43A	15	BB12							
							.0075		Buffer	B14						
V4 (Early)	Vol.	7	Y		EX300		8-4	4	CM172				4	78, 77, 38, 1V		4-10
							5	15	BB12							
V4 (Revised)	Vol.	7	Y		EX300		8-4	4	CM172				4	6D6, 6C6, 38, 1V		5-10
							5	15	BB12							
V155	Vol.	15	UM162		See Note	A96	3VC320	1/15	3S579		29Y	C3	8	6D6, 6A7, 6B7, [2]76, [2]41, 84	262.5	9-9
	Tone	44	K12				.005		Buffer	B14						
X146	Vol.	18	500M No. 1		See Note	A19	3XC329	1	WE4050				15	[2]6K7, 6A8, [2]6C5, 6G5, [2]6F6, [2]80	456	9-25
	Tone	...‡..	N	6			YC98A	13	BB20							
							IC43A	15	BB12							
X146 (above 1,328,650)	Vol.	18	500M No. 1		See Note	A19	3XC329	1	WE4050				15	[2]6K7, 6A8, [2]6J5, 6G5, [2]6F6, [2]80	456	9-25
	Tone	...‡..	N	6			YC98A	13	BB20							
							IC43A	15	BB12							
X175 (X)	Vol.	18			See Note	A19	3XC-329	1	WE4050				15	[2]6K7, 6A8, [2]6J5, [2]6F6, [2]80, 6G5	456	9-21
	Tone	127	N	6			YC-98A	13	BB20							
							IC-43A	15	BB12							
X178 (below 1,328,650)	Vol.	18	500M No. 1		See Note	A19	3XC329	1	WE4050				15	[2]6K7, 6A8, [2]6C5, 6G5, [2]6F6, [2]80	456	8-25
	Tone	...‡..	N	6			YC98A	13	BB20							
							IC43A	15	BB12							
X178 (above 1,328,650)	Vol.	18	500M No. 1		See Note	A19	3XC329	1	WE4050				15	[2]6K7, 6A8, [2]6J5, 6G5, [2]6F6, [2]80	456	9-25
	Tone	...‡..	N	6			YC98A	13	BB20							
							IC43A	15	BB12							
X183 (below 1,328,650)	Vol.	18	500M No. 1		See Note	A19	3XC329	1	WE4050				15	[2]6K7, 6A8, [2]6C5, 6G5, [2]6F6, [2]80	456	9-25
	Tone	...‡..	N	6			YC98A	13	BB20							
							IC43A	15	BB12							
X183 (above 1,328,650)	Vol.	18	500M No. 1		See Note	A19	3XC329	1	WE4050				15	[2]6K7, 6A8, [2]6J5, 6G5, [2]6F6, [2]80	456	9-25
	Tone	...‡..	N	6			YC98A	13	BB20							
							IC43A	15	BB20							
Z117, Z122, Z133	Vol.	45	N	6			2NC246	23	RS216				6	6A7, 6D6, [2]76, 41, 80	456	8-5
							2NC247	23	WE1650							
Z135, Z141	Vol.	45	MR48	M26			2NC246	23	RS216				6	6A7, 6D6, [2]76, 41, 80	456	8-5
							2NC247	23	WE1650							
Z150 (early)	Vol.	45	MR48	M26			12	23	ST596				6	6A7, 6D6, [2]76, 41, 80	456	8-5
							8	23	ST595							
							8	13	BB31							
Z150 (late)	Vol.	45	MR48	M26			12	23	ST596				6	6A7, 6D6, [2]76, 41, 80	456	
							24	23	2S568	B8						
							8	13	BB31							
Z159, Z160	Vol.	45	MR48				2NC246	23	RS216				6	6A7, 6D6, [2]76, 41, 80	456	8-5
							2NC247	23	WE1650							
3LW	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	6A7, 78, 77, 43, 25Z5	132	4-5
5A	Vol.	17	UM154		See Note	A96	8-8	1	See Note	B3	27S		5	[2]78, 6A7, 85, 42	172.5	6-1
							10-10	15	TN111							
6A	Vol.	17	UM154		See Note	A96	QQC169A	1	4S718		25Y	C3	5	[2]78, 6A7, 85, 41, 84	172.5	6-1
							.008		Buffer	B14						
19 (UV4)	Vol.	6	Y		EX300		KKC143	6	2N504				4	6A7, 6F7, 43, 25Z5	456	6-3
							KKC145	15	TN111							
20A	Vol.	6	UC509	6	EX200		HC31	1	2N516				4	36, 37, 38, 39		3-9
							HC32	15	TN113							
23 (4B)	Vol.	6	Z12	6	EX200		UC93	4	CM172				4	6A7, 77, 42, 80	456	5-1
25A	Vol.	7	UC509	6	EX300		HC31	1	2N516				4	36, 37, 38, 39		3-9
							HC32	15	TN113							
26 (DAC5)	Vol.	6	Y	6	EX500		8-8	4	See Note	B3			5	[2]58, 57, 47, 80	456	4-1
28 (5J)	Vol.	6	Y	6	EX300		UC93	4	CM172				5	[2]6D6, 6C6, 42, 80	456	5-2
							IC43	15	BB12							
30	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	[2]78, 77, 43, 25Z5	172.5	3-6
30AW	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	25Z5, 43, 77, [2]78	456	4-2
30LW	Vol.	6	Y	6			KC68	11	UR193	B264			5	6A7, 78, 77, 43, 25Z5	132	4-5
32 (U5S)	Vol.	17	N				GGC137	6/15	UR189	B98			5	6A7, 6D6, 75, 43, 25Z5	456	6-4
33AW	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	25Z5, 43, 77, [2]78	456	4-2
33LW	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	6A7, 78, 77, 43, 25Z5	132	4-5
34C (C6-D6)	Vol.	55	M				8-8	4	See Note	B3			6	6A8, [2]6K7, 75, 6F6, 80	456	6-5
	Tone	22	M	6												

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
EMERSON—Continued																
34F7	Vol.	55	MR48	M26			2KC237	1	2N516		222		6	6A7, [3]15, 85, 76, 19	456	7-1,2
	Tone	22	MR44				2KC249	13	BB31							
							2KC234	15	TN111							
35 (T6)	Vol.	17	N	6			12-12-8	11	See Note	B3			6	[3]78, 75, 43, 25Z5	172.5	4-3
36 (B5)	Vol.	6	E12		EX150		5	15	BB12							
							8-6	1	See Note	B3			5	[2]6D6, 76, 42, 80	456	6-7
38 (U6)	Vol.	17	N				12	15	BB12							
	Tone	22	Y				CCC125	6/13	TN122				6	6A7, [2]6D6, 25Z5, 43, 75	456	6-9
38 (U6D)	Vol.	6	Z12	6	EX200		HC32	15	TN113							
							CCC125	6/13	TN122				6	6A7, [2]6D6, 25Z5, 43, 75	456	5-3
39 (D-S5)	Vol.	...‡	MN	6			HC32	15	TN113							
							8-8	4	CM172				5	2A7, 2B7, 47, 58, 80	456	5-5
							4	13	BB31							
							5	15	BB12							
40	Vol.	17	O	6			PC83	11	UR182	B31						
41	Vol.	6	Y		EX500		8-8	4	See Note	B3			6	6B7, 25Z5, 43, [3]78	175	4-6
42 (U6)	Vol.	17	N				CCC125	6/13	TN122				5	[3]58, 57, 47, 80	456	4-1
	Tone	22	Y		See Note A4		HC32	15	TN113				6	6A7, [2]6D6, 25Z5, 43, 75	456	6-9
42 (U6D)	Vol.	6	Z12	6	EX200		CCC125	6/13	TN122							
							HC32	15	TN113				6	6A7, [2]6D6, 25Z5, 43, 75	456	5-3
45 (6BD)	Vol.	6	E7	6	4		8-4	4	See Note	B3			6	[2]6D6, 6A7, 75, 42, 80	456	5-7
							8	12	See Note	B3						
							5	15	BB12							
49 (U6)	Vol.	17	N				CCC125	6/13	TN122				6	6A7, [2]6D6, 25Z5, 43, 75	456	6-9
	Tone	22	Y		See Note A4		HC32	15	TN113							
49 (U6D)	Vol.	6	Z12	6	EX200		CCC125	6/13	TN122				6	6A7, [2]6D6, 25Z5, 43, 75	456	5-3
							HC32	15	TN113							
50L	Vol.	6	E7	6			IC42	4	CM172	B3			7	55, 56, [3]58, 59, 80	115	4-17
	Tone	34	Y				IC43	20	BB12							
50M	Vol.	6	E7				BC9	4	CM172	B3			7	47, 55, 56, [3]58, 80	175	4-18
	Tone	34	SRP263													
AW55	Vol.	7	H		2		8-4	4	See Note	B3			6	[2]24, 47, 56, 58, 80	445	3-4
59 (DS5)	Vol.	...‡	MN	6			8-8	4	See Note	B3			5	2A7, 2B7, 47, 58, 80	456	5-5
							4	13	BB40							
							5	15	BB12							
65	Vol.	7	UC500				2-1-1	1	See Note	B1						
71 (AW7)	Vol.	17	O	6			8-8	1	See Note	B3			9	[2]24, [2]27, [2]45, 80, 99		1-2
	Tone	41	SRP263				4	13	BB40				7	[2]6D6, 6A7, 75, [2]42, 80	456	5-9
77	Vol.	17	O				8-8	4	See Note	B3						
	Tone	34	SRP263										7	2A6, 47, 56, [3]58, 80	172.5	4-4
101 (C6-D6)	Vol.	18	M													
	Tone	22	M	6			8-8	4	See Note	B3			6	6A8, [2]6K7, 75, 6F6, 80	456	6-5
101F7	Vol.	55	MR48	M26												
	Tone	22	MR44				2KC237	1	2N516		222		6	6A7, [3]15, 85, 76, 19	456	7-1,2
							2KC249	13	BB31							
101U	Vol.	55	MR48				2KC234	15	TN111							
	Tone	22	MR44	M26			ZZC192A	11/13	UR193	B265			6	6A8, [2]6K7, 75, 43, 25Z5	456	7-3,4
102	Vol.	17	TRP611				YC98	11	BB20							
	Tone	22	N				NNC155	1	2N518				9	[2]6K7, 6A8, 75, 6E5, 6C5, [2]6F6, 80	456	7-5,6
							IC43	15	BB12							
102LW (B8)	Vol.	18	TRP611				NNC226	‡	BB61							
	Tone	22	N				2HC217	1	2N518				8	[2]6K7, 6A8, 75, 6C5, [2]6F6, 80	456	7-7,8
							NNC226	1	BB61							
103 (F5)	Vol.	17	N	7			IC43	15	BB12							
													5	1C6, 34, 25S, 30, 33, LLL25	456	6-8
104	Vol.	17	TRP611				NNC155	1	2N518				9	[2]6K7, 6A8, 75, 6E5, 6C5, [2]6F6, 80	456	7-5,6
	Tone	22	N				IC43	15	BB12							
							NNC226	‡	BB61							
104LW (B8)	Vol.	17	TRP611				2HC217	1	2N518				8	[2]6K7, 6A8, 75, 6C5, [2]6F6, 80	456	7-7,8
	Tone	22	N				NNC226	1	BB61							
							IC43	15	BB12							
105 (A11)	Vol.	20	‡		See Note A19		2AC-209A	30	UR191	B3			11	5Z3, 6A8, 6C5, [2]6F6, 6H6, [2]6K7	456	6-11
	Tone	22	N	6			IC43	19	BB12							
106 (U6B)	Vol.	18	N	6			2CC-194	27	CM165				6	6A7, 6D6, 6H6, 6F5, 43, 25Z5	456	6-13
107 (U6A)	Vol.	55	N	6												
	Tone	22	M				ZZC-192A	11/27	UR193	B99			6	6A8, [2]6K7, 75, 43, 25Z5	456	6-15
107 (U6F)	Vol.	45	MR48				YC98A	11	BB20							
							16-8-4	6/13	RM257				6	6A7, 6K7, 6H6, 6F5, 43, 25Z5	456	7-10
107AC	Vol.	18	MR44	M26			4	13	BB31							
							2NC246A	1	RS216				5	6A7, 78, 75, 41, 1V	456	7-11
							2NC246B	1	RS216							
107LW (U6C)	Vol.	45	MR48	M26			1C43A	15	BB12							
	Tone	22	MR44				4-8-16	25/13	See Note	B3			6	6A7, 6K7, 6H6, 6F5, 43, 25Z5	456	7-13,14
108-110	Vol.	18	MR48	M26			2DC300	27	2P544				5	6A7, 6D6, 75, 43, 25Z5	456	6-17,18
108LW (U5B)	Vol.	18	MR48	M26			2DC203	27	2P544				5	6A7, 6D6, 75, 43, 25Z5	132	7-15,16
109 (U4A)	Vol.	6	Z12	6	See Note A14		KKC143	6	2N504				4	6A7, 6F7, 43, 25Z5	456	7-15,16
110LW	Vol.	18	MR48	M26			KKC145	15	TN111							
							2DC203	27	2P544				5	6A7, 6D6, 75, 43, 25Z5	132	7-15,16
111 (U6A)	Vol.	18	MR48	M26												
	Tone	22	MR44				ZZC-192A	11	UR193	B99			6	6A8, [2]6K7, 75, 43, 25Z5	456	6-15
111 (U6F)	Vol.	45	MR48	M28			YC-98A	11	BB20	B99						
							16-8-4	6	See Note	B3			6	6A7, 6K7, 6H6, 6F5, 43, 25Z5	456	7-10
111LW (U6C)	Vol.	45	MR48	M26			4	13	BB20							
	Tone	22	MR44				4-8-16	25/13	UR193	B3			6	6A7, 6K7, 6H6, 6F5, 43, 25Z5	456	7-13,14
112	Vol.	17	TRP611													
	Tone	22	N				NNC155	1	2N518				9	[2]6K7, 6A8, 75, 6E5, 6C5, [2]6F6, 80	456	7-5,6
							IC43	15	BB12							
114	Vol.	18	MR44	M26			NNC226	‡	BB61							
							2NC246A	1	RS216				5	6A7, 78, 75, 41, 1V	456	7-11
							2NC246B	1	RS216							
116	Vol.	6	E12	6	See Note A11		IC43A	15	BB12							
117	Vol.	56	MR44	M26			TTC159	1/15	3S579				5	[2]6D6, 76, 42, 80	456	7-17,18
							2NC246	1	RS216				5	6A7, 6D6, 85, 42, 80	456	7-21,22
							2NC247	1	WE1650							
117LW	Vol.	56	M	6			IC43A	15	BB12							
							2NC246	1	RS216				5	6A7, 6D6, 85, 42, 80	456	7-23
							2NC247	1	WE1650							
							IC43A	15	BB12							
118	Vol.	6	Z12	6			GGC137	6/15	UR189	B98			4	6D6, 6C6, 43, 25Z5		7-12
119 (U6A Rev)	Vol.	55	MR48	M26			ZZC192A	11	UR193	B99			6	6A8, [2]6K7, 75, 43, 25Z5	456	7-29
	Tone	22	MR44				YC98A	11	BB20							
							VVC221	11	BB21							
120	Vol.	6	Z12	6			GGC137	6/15	UR189	B98			4	6D6, 6C6, 43, 25Z5		7-12
121	Vol.	6	E12	6	See Note A11		TTC159	1/15	3S579				5	[2]6D6, 76, 42, 80	456	7-17,18
126	Vol.	6	Z12	6			GGC137	6/15	UR189	B98			4	6D6, 6C6, 43, 25Z5		7-12
138	Vol.	18	MR48				3BC282	4	RS215				8	[2]6K7, 6A8, 6R7, 6C5, 6C5-6J7, 6F6-6L6, 5W4	456	
	Tone	...‡	MR48				3BC289	4	WE4050							
							3BC281	14	BB31							
250	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	[3]78, 77, 43, 25Z5	172.5	3-6

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
EMERSON—Continued																
250AW	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	25Z5, 43, 77, ‡78	456	4-2
250LW	Vol.	6	Y	6			KC68	11	UR193	B264			5	6A7, 78, 77, 43, 25Z5	132	4-5
280 (F6D)	Vol.	17/15	Order from	Mfr.									4	1C6, 34, 1A6, 33, LLL25	456	6-19
300	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	‡78, 77, 43, 25Z5	172.5	3-6
321AW, 330AW, 350AW	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	25Z5, 43, 77, ‡78	456	4-2
321LW, 350LW	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	6A7, 78, 77, 43, 25Z5	132	4-5
375	Vol.	17	O	6			PC83	11	UR182	B264			6	6B7, 25Z5, 43, ‡78	175	4-6
375LW	Vol.	13	O	6			KC68	11	UR193	B264			6	78, 6A7, 6B7, 77, 43, 25Z5	125	4-7
409, 410, 411 (A4)	Vol.	6	Y	6	EX300		RC84	1	2N502				4	78, 6F7, 38, 1V		4-8
							RC85	15	TN111							
409, 410, 411 (U4C)	Vol.	6	Z12	6			2WC239	6	BB21/TN111				4	6D6, 6C6, 43, 25Z5		7-40
							2WC240	6	BB24							
415, 416	Vol.	6	Y	6	EX300		8-4	4	2P542				4	78, 77, 38, 1V		5-10
415, 416 (Revised)	Vol.	6	Y	6	EX300		8-4	4	2P542				4	1V, 6C6, 6D6, 38		5-10
							8	15	BB12							
420 (V4)	Vol.	6	Y	6	EX300		QC78	4	2P541				4	78, 77, 38, 1V		4-10
456	Vol.	6	Y	6	EX300		KC68	11	UR193	B264			5	77, ‡78, 43, 25Z5	456	4-2
667	Vol.	17	UM161	M26	See Note	A96	6-10	1	2N518	B3	296	C3	7	6A7, ‡41, 75, ‡78, 84	172.5	5-11,12
							IC43	15	BB12							
							.015		Buffer	B14						
678 Type 1	Vol.	‡	See Note			A19	4-8	1	2N518		222		5	78, 6A7, 6B7, ‡41	172.5	4-11
	Tone	39	H12				4-8	13	See Note	B3						
	Supp.	‡	C1MP		See Note	A33	5	15	BB12	B6						
678 Type 2	Vol.	‡	UM147-SS3	M26			4-8	1	2N518		222		5	78, 6A7, 6B7, ‡41	172.5	4-11
	Tone	39	H12				4-8	13	See Note	B3						
	Supp.	‡	C1MP		See Note	A33	5	15	BB12	B6						
L755	Vol.	6	E7	6	2		IC42	4	CM172	B3			7	55, 56, ‡58, 59, 80	115	4-17
	Tone	34	SRP263				IC43	20	BB12							
M755	Vol.	6	E7		2		BC9	4	CM172	B3			7	47, 55, 56, ‡58, 80	175	4-18
	Tone	34	SRP263													
S755	Vol.	6	E7	6	2		IC42	4	CM172	B3			7	‡58, 59, 80, 57	465	4-19,20
							IC43	19	BB12							
770 (AW7)	Vol.	17	O	6			8, 8	1	ST595				7	6A7, ‡6D6, ‡42, 75, 80	456	5-9
	Tone	41	SRP263				4	13	BB40							
965	Vol.	17	UM161	M26	See Note	A96	ZC100	1	2N518		296	C3	5	6A7, 41, 75, 78, 84	172.5	5-13,14
							IC43	15	BB12							
							.02		Buffer	B14						
EMPIRE																
10	Vol.	7	UC509	6	EX300		16-8	6	CM165	B3			4	25Z5, 36, 39, 43		4-1
							2-4	15	TN111	B6						
20	Vol.	7	UC509	6	EX300		16-8	6	CM165	B3			5	39, 36, 37, 43, 25Z5		4-2
							2-4	15	TN111	B6						
30	Vol.	6	SRP263	6			16-8	6	CM165	B3			5	‡77, 78, 43, 25Z5	175	4-3
							2-4	15	TN111							
40	Vol.	18	N	6			16-16	1	CM164	B3			6	6A7, 78, 75, 43, 37, 25Z5	175	4-4
							4-4	18/15	See Note	B3						
40SW	Vol.	18	N	6			4-16-16-8-4	8/14	3N526/2N502	B131			6	6A7, ‡6D6, 75, 43, 25Z5	456	5-1
51	Vol.	17	N	6			12-8	4	See Note	B3			5	2A7, 58, 2A6, 2A5, 80	175	5-2
60	Vol.	17	N	6			8-4	1	2N518		292	C3	6	‡78, 6A7, 75, 41, 84	175	4-5
							2-4	15	TN111	B6						
							10-10	‡	TN111							
							.02		Buffer	B14						
71	Vol.	18	N	6			16-8	23	See Note	B3			7	2A5, 2A6, 2A7, ‡58, 80	175	5-3
74	Vol.	6	G12	6			8-8	4	See Note	B3			7	‡58, 57, 2A5, 80	462.5	4-6
400AC	Vol.	8	G				6-6	4	See Note	B3			4	57, 58, 47, 80		3-2
400DC	Vol.	3	G12		EX200								4	‡39, 36, 33		3-1
450A	Vol.	17	N	6			16-4-16-4-2	8/13/15	3N526/2N500	B132			5	6A7, 6D6, 75, 43, 25Z5	456	5-4
460B	Vol.	17	N	6			16-4-16-8-4	8/15	3N526/2N502	B131			6	‡6D6, 6A7, 75, 43, 25Z5	456	5-5
470C	Vol.	17	N	6			8-16	1	See Note	B3			7	‡58, 2A7, 2B7, 2A6, 2A5, 80	456	5-6
							2	13	BB40	B3						
							4-4	15	TN111							
480C	Vol.	17	N				16-4-16-8-4	8/15	3N526/2N502	B131			8	‡6D6, 6A7, 75, ‡43, ‡25Z5	456	5-7
							6	13	See Note	B3						
500AC	Vol.	8	G				8, 8	4	ST595				5	‡58, 57, 47, 80		3-3
	Tone	22	K12													
500DC	Vol.	6	G12										5	‡36, 37, ‡33		3-1
550AC	Vol.	6	G12	6	EX300		6-6	4	2S567				5	‡58, 47, 80		3-4
	Tone	34	K12													
575	Vol.	6	G7	6			8-8	4	2S567				5	57, 58, 55, 47, 80	175	4-7
	Tone	22	K12													
600AC	Vol.	7	G	6			8-8	4	2S567				6	‡58, 24, ‡47, 80		3-5
	Tone	44	K12													
700DC	Vol.	6	G7	6	EX200								7	‡39, ‡37, ‡48		5-8
	Tone	44	K12													
ERLA (ERLA-SENTINEL)	Also see		Sentinel†													
R1 (Power Pack "A")	Vol.	13	M				2-1-2	3	See Note	B2			10	‡26, 27, ‡50, ‡81		1-1
R2 (Power Pack "A" 2)	Vol.	40	G12				1-2-2	3	See Note	B1			8	‡26, 27, ‡71A, 80		1-2
10M, 10MF	Vol.	17	UM154	M26		A96	1188	1	2N518		294	C3	5	6A7, 6D6, 6B7, 41, 84	370	8-5
							8876	15	BB12							
							.02		Buffer	B14						
11M	Vol.	18	UM154	M26	See Note	A96	1973	4	CM172		294	C3	6	‡6D6, 6A7, 75, 41, 84	465	8-6
	Tone	34	M				.02		Buffer	B14						
14A	Vol.	7/18	DRP314	6			1477	1	RS215				9	‡6D6, ‡76, 75, ‡41, 80	465	9-1,2
	Tone	44	M				1476	1	RS216							
19A	Vol.	18	N	6			1477	25	RS215				6	6A7, 6D6, 75, ‡42, 80	465	8-7
	Tone	34	K12				1476	25	RS216							
							1110	13	BB60							
20A	Vol.	18	N	6			1477	25	RS215				5	6A7, 6D6, 75, 42, 80	465	7-1
	Tone	22	K12				1476	25	RS216							
22U	Vol.	18	N	6			2159	11	UR182				5	6A7, 6K7, 75, 43, 25Z5	465	
	Tone	22	K12													
25A	Vol.	18	N				1477	25	RS215				7	6A7, 6D6, 75, 76, ‡41, 80	465	
	Tone	44	K12				1476	25	RS216							
27A	Vol.	7/18	DRP314	6			1477	1	RS215				9	‡6D6, ‡76, 75, ‡41, 80	465	
	Tone	44	M				1476	1	RS216							
							1693	15	BB12							
30 (248)	Vol.	7	J	6			8-8	1	See Note	B3			7	‡24, 27, ‡35, 47, 80		3-2
	Tone	22	‡		See Note	A5										
30A	Vol.	6	Y	6			2158	25	RS213				4	6D6, 6C6, 42, 80		8-8
							1260	25	RS213							
							8876	15	BB12							
31, 32, 33 (A3, R3)	Vol.	6	G7				2-2-1	3	See Note	B3			8	‡27, ‡45, 80		2-1
							.05		See Note	B9						

‡ Data not substantiated.

† Rider References Volumes 1-5 are listed under Electrical Research Labs. Volume 6 and above will be found under Sentinel.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ERLA—Continued																
31B	Vol.	18	N				2272	1	CM164		245A	C3	6	1C6,[2]34,[2]30, 19	465	6-1
	Tone	22	K12	7			.02		Buffer	B14						
32B	Vol.	18	MR48										4	1C6, 34, 1B5, 33	465	8-9
33B	Vol.	18	N	14			2289	12	BB21				5	1C6, 34, 1B5, 30, 19	465	8-10
	Tone	22	K12													
34B	Vol.	18	MR48	M27			2272	1	CM164		245A	C3	4	1C6, 34, 1B5, 38	465	8-11
	Tone	57	MR48				.02		Buffer	B14						
35, 37, 38, 39 (230)	Vol.	15	M				6638-0	3	RS213				9	[2]24,[2]27,[2]45, 80		2-5
	Tone	41	O													
35B	Vol.	18	MR48				2289	12	BB21				6	1C6,[2]34,[2]30, 19	465	6-3
	Tone	22	MR53	M24												
36L	Vol.	18	N	6									6	6A7, 6D6, 75, 76, [2]48	465	8-12
	Tone	44	K12													
37B	Vol.	18	MR48										4	1C6, 34, 1B5, 33, 5E1	465	8-13
38B	Vol.	18	N	14			2289	13	BB21				5	1C6, 34, 1B5, 30, 19	465	8-14
	Tone	22	K12													
39B	Vol.	18	MR48				2289	13	BB21				6	1C6,[2]34,[2]30, 19	465	8-15
	Tone	22	MR33	M24												
40A, 40B	Vol.	18	MR48				1477	25	RS215				6	6A7, 6D6, 6H6, 6F5, 42, 80	465	8-16
	Tone	34	K12				1476	25	RS216							
47A, 47AE	Vol.	18	500M No. 1		See Note	A19	3167	25	WE3050				11	[2]6K7, 6L7, 6J7, 6H6, 6G5,[2]6C5,[2]6F6, 5Z3	465	7-5,6
	Tone	22	K12	6			1476	25	RS216							
							3170	19	BB13							
							8876	15	BB12							
							1110	13	BB60							
48A	Vol.	7	E		3		2627	1/15	2S579				5	6A7, 6D6, 76, 41, 80	465	8-17
	Tone	22	K12	6												
49B	Vol.	18	MR48				2272	1	CM164		245A	C3	5	1C6, 34, 6B7, 30, 19	465	8-18
	Tone	22	K12	7			.02		Buffer	B14						
50B	Vol.	45	N				2272	1	CM164		245A	C3	7	1C6,[2]34,[2]30, 19	465	8-19,20
	Tone	22	K12	7			.02		Buffer	B14						
54A	Vol.	18	MR48				2627	1/15	3S579				5	6A7, 6D6, 75, 41, 80	465	8-23
	Tone	22	K12													
55U	Vol.	18	N	6			12-20	27	2P549				5	6A7, 6D6, 75, 43, 25Z5	465	8-24
60B	Vol.	18	MR48										4	1C6, 34, 1F6, 33, 5E1	465	8-25
61, 62, 63 (250)	Vol.	8	UC501				8-2	1	See Note	B3			6	[2]24, 27, 35, 47, 80	175	3-2
							7850-0	1	BB60							
63B	Vol.	18	MR48				3060	1	2N518		245A	C3	1	[2]15, 75, 41	465	8-26
	Tone	22	N				1693	15	BB12							
							.01		Buffer	B14						
65B	Vol.	18	N				3150	13	RS216				5	1C6, 34, 1F6, 30, 19	465	8-27
	Tone	22	MR33	M24												
66B, 66BE	Vol.	45	2 Meg. No. 1		See Note	A19	3060	1	2N518		215A	C3	8	[2]15, 6S7, [2]76, 6G5, 19	465	9-3,4
	Tone	44	MR33	M26			8876	15	BB12							
							.02		Buffer	B14						
67L	Vol.	18	MR48										6	6A7, 6D6, 75, 76, [2]48	465	
	Tone	22	K12	6												
68B, 68BE	Vol.	45	MR48				3060	1	2N518		215A	C3	7	6A7, [2]15, [2]76, 6G5, 19	465	
	Tone	22	K12	6			1693	15	BB12							
							.01-.01		Buffer	B14						
69U	Vol.	6	H12	6	EX200		20-12	27	2P549				4	6D6, 6C6, 43, 25Z5		
							1693	15	BB12							
70A	Vol.	7	E	6	3		3041	1	2N518				5	6A7, 6D6, 76, 41, 80	465	8-28
71U	Vol.	17	N	6			20-12	27	2P549				5	6A7, 6D6, 75, 43, 25Z5	465	8-31
72A, 72AE	Vol.	17	N	6			3041	1	2N518				5	6A7, 6D6, 75, 41, 80	465	9-13
	Tone	22	MR33													
73B	Vol.	17	N				3060	1	2N518		245	C3	5	6D8G, [2]6S7G, 6L5G, 41	465	
	Tone	22	MR33				1693	15	BB12							
							.03		Buffer	B14						
74, 76 (210)	Vol.	‡	‡		See Note	A38							7	[2]30,[2]32,[2]71A		2-2
76A	Vol.	20	TM251-SS16				3167	25	WE3050				11	[2]6K7, 6A8, 6J7, 6H6, [2]6C5,[2]6F6, 80	465	9-17,19
							3041	25/15	2N518							
							1110	13	BB60							
							1693	20	BB12							
75, 77 (231)	Vol.	12	Z12	6									7	[2]30,[2]32,[2]71A		2-6
78B	Vol.	17	UM154-SS16				3060	1	2N518		215	C3	7	6D8G, [2]6S7G, [2]6L5G, 6N5, 19	465	
	Tone	22	MR33	M26			1693	15	BB12							
							.03		Buffer	B14						
80B	Vol.	17	MR48										4	1C6, 34, 1F6, 33, 5E1	465	
81, 82 (245)	Vol.	7	G	6			6638-0	1	RS213				8	[2]24,[2]27,[2]45, 80	175	1-5
	Tone	41	O													
81P, 82P (248)	Vol.	7	UC501	6			6638-0	1	RS213				7	[2]24, 27,[2]35, 47, 80	175	3-2
	Tone	22	‡		See Note	A5										
82A, 82AE	Vol.	17	UM154-SS16				3718	1	2N518				7	6A7, 6D6, 76, 75, 6G5, 41, 80	465	9-21,22
	Tone	22	MR33				1693	15	BB12							
85U, 85UE	Vol.	17	MR48	M26			3638	27	2P553				6	6A7, 6D6, 75, 43, 6G5, 25Z5, M49B-M420	465	9-20
	Tone	22	MR33													
86AE	Vol.	17	‡		See Note	A19	3718	1	2N518				8	6A8G, 6K7G, 6Q7G, 6G5, 6G5G,[2]6K6G, 5Y4G	465	
	Tone	44	K12	6			1108	20	CS130							
90B	Vol.	17	MR48										4	1C6, 34, 1F6, 33, 5E1	465	9-23,24
93L	Vol.	17	UM154-SS16										6	6A7, 6D6, 75, 76, [2]48	465	9-25,26
	Tone	22	MR33	M26												
95B	Vol.	17	UM154-SS16				3150	12	RS216				6	1C6, 34, 1F6, [2]30 (4-1)	465	
	Tone	44	MR33	M24			1693	15	BB12							
96BE	Vol.	17	MR48	M26			3060	1	2N518		215	C3	6	6D8G, [2]6S7G, 6L5G, 6M5, 41	465	
	Tone	22	MR33				1693	15	BB12							
							.03		Buffer	B14						
107AE	Vol.	17	MR48				3718	1	2N518				6	6A7, 6D6, 75, 6G5, 41, 80	465	
	Tone	22	K12	6												
224AC	Vol.	12	F7	6			1-2-2-3	3	See Note	B1			8	[2]24,[2]27,[2]45, 80		1-3
224B	Vol.	12	F7	6			3-2-1-1	3	See Note	B1			8	[2]24,[2]27,[2]45, 80		2-3
225	Vol.	25	GE				6638-0	1	RS213				8	[2]24,[2]27,[2]45, 80		2-4
	Tone	41	O													
271A	Vol.	25	GE				6552-0	1	RS213				7	[2]24,[2]27, 26, 45, 80		2-7
	Tone	57	N													
335	Vol.	7	UC501	6	See Note	A10	6958-0	1	ST595				4	35, 21, 45, 80		1-6
							6938-0	1	ST595							
336	Vol.	6	G12	6			4-4	1	See Note	B11			4	[2]36,[2]38		2-8
570, 570X	Vol.	6	K12	6	EX250		4-20-8	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	262	
599	Vol.	6	H12	6	EX250		4-20-8	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	262	
603	Vol.	17	N	6			1247	1	2N518	B3	292	C3	6	[2]78, 6A7, 75, 41, 84	265	5-1
							9328	15	TN111							
							.005		Buffer	B14						
620, 622, 623	Vol.	17	M	6			9659	1	RM262				6	[2]57, 58, 2A6, 2A5, 80	465	
	Tone	22	K12				8876	15	BB12							
630, 634, 635	Vol.	17	M	6			9659	1	RM262				6	[2]57, 58, 2A6, 2A5, 80	465	
	Tone	22	K12				8876	15	BB12							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ERLA—Continued																
5001, 5002	Vol.	6	H12		EX250		9925	12	CS133				5	†78, 37, 77, 38	465	
							5-5	15	TN111							
5700, 5721	Vol.	18	N	6			9659	1	RM262				5	2A7, 58, 2A6, 2A5, 80	465	5-3
							1108	12	CS130							
6100	Vol.	6	H12	6	EX250		9925	12	CS133		F221	C3	5	†78, 77, 38, 25Z5, or 84	465	5-5
							8705	1	CS133							
							9328	15	TN111							
							.02-.02		Buffer	B14						
6300, 6315, 6317, 6323	Vol.	17	M	6			9659	1	RM262				6	2A7,†58, 2A6, 2A5, 80	465	5-7,8
	Tone	22	K12				1110	13	BB60							
							8876	15	BB12							
6900	Vol.	18	N	6									6	6A7, 6D6, 75, 76,†48	465	8-29,30
7700, 7732, 7741	Vol.	18	N	6			1291	12	ST585				6	1C6, 34,†30, 32, 19	465	5-11
8100B	Vol.	18	MR48	M26			9659	1	RM262				8	†6D6, 6A7, 76, 75,†41, 5Z3	465	7-17,18
	Tone	39	MR44													
ESPEY																
675	Vol.	17	MR48				20	12	BB25				7	6A7, 6D6, 6R7, †43, †25Z5	456	8-1
	Tone	41	MR48				30	6	BB26							
							16	6	BB24							
							10	15	BB12							
771	Vol.	...‡..	MR53	M26			677	...‡..	TN129				6	6A8B, 6K7, 6Q7B, 25L6,†25Z6B, BK23B	456	
	Tone	...‡..	MR48				678	...‡..	TN111							
782	Vol.	...‡..	MR53	M26			677	...‡..	TN129				7	6A8B, 6K7, 6Q7B, 25L6, 6C5,†25Z6B, BK23B	456	
	Tone	...‡..	MR48				678	...‡..	TN111							
891	Vol.	...‡..	MR53	M26			677	...‡..	TN129				9	6A8B, 6K7, 6R7, 6C5, †25Z6B,†25L6, 6G5	456	
	Tone	...‡..	MR48				5.228	...‡..	TN129	B8						
							678	...‡..	TN111							
5111	Vol.	18	N				30	1	BB26				10	6A7, 6K7, 6R7, †43, †25Z5	456	8-2
	Tone	41	N				16	1/18	BB24							
							20	12	BB22							
7111	Vol.	15	MR53				5.117	1	RS216				11	†6K7, 6L7, 6H6, 6E5, 6F5, 6C5,†6L6, 5Z3	456	8-3
	Tone	39	MR48	M26			5.117A	1	WE4050							
	Sen.	7	Order from	Mfr.			678	15	TN111							
7151, 7153	Vol.	80	MR53				677	6/13	TN129				15	†6K7, 6L7, 6Q7, 6G5, 6C5, †25L6, †25Z5	456	8-4
	Tone	80	MR48	M26			5.228	12	TN129	B8						
	Sen.	7	Order from	Mfr.			10	15	BB12							
EVEREADY—See National Carbon.																
EVERETTE PIANO—See "Orgatron"																
FADA																
KA60	Vol.	15	O				2-2-2-1-1	66/13	See Note	B1			9	†24A,†27,†45, 80		
KB (81, 82, 84, 86)	Vol.	15	O				2.5-2-1-2	3	See Note	B7			12	†24,†27,†71A		2-7
	Sen.	12	E12													
KE (122)	Vol.	12	Y	13									7	†30,†31,†32		2-8
KF (43) KG (761, 762, 764, 766)	Vol.	24	DRP119				2-2-1-1	30/14	See Note	B1			7	†24, 27,†45, 80		1-21
KO (51) KOC (53, 57)	Vol.	8	D	6	See Note A39		3-1301-MS.	1	RS213				7	†35,†24, 27, 47, 80	175	1-30
							3-1313-MS.	17	BB15							
KOC (171, 173) 110 V DC	Vol.	8	F	6									8	†36,†37,†38	175	2-9
KU (45, 45Z)	Vol.	7	F	6	See Note A40		3-1301-MS.	3	RS213	B10			8	†35,†27, 24,†47, 80	175	1-22
KW (48, 49)	Vol.	15	O	6	See Note A85		3-1301-MS.	3	RS213				10	†27,†35,†47, 80	175	1-23
	F.O.G.	...‡..	F													
	Tone	41	M			A4										
KX (61, 66)	Vol.	42	F	6			3-1301-MS.	4	RS213				5	†35, 24, 47, 80		2-6
							3-1384-MS.	4	RS213							
KY (66) Early. Late	Vol.	64	O	6			3-1301-MS.	1	RS213				10	†24,†35,†27, 47, 80	175	3-10,14
NA (14)	Vol.	64	O	6			5-1209-MS.	1	RM262				6	6A7, 6D6, 37, 42, 77, 80	265	4-15
	Tone	57	UC509			A*0	4-1343-MS.	15	TN111							
NE (151, 152)	Vol.	15	O	6			5-1209-MS.	1	RM262				6	6A7, 6D6, 37, 77, 42, 80	265	4-16
	Tone	57	M				4-1343-MS.	15	TN111							
NF	Vol.	17	O	6			4-1488-MS.	1	2N518				6	6A7, 6B7,†6D6, 42, 80	125	5-2
	Tone	57	UC502				4-1314-MS.	15/19	BB12							
NK (126, 127, 128)	Vol.	16	O	7			4-1380-MS.	1	2N516		245A	C3	7	†34, 1A7,†30	262.5	7-8
	Tone	34	M													
RA (74, 76, 83, 88, 89)	Vol.	15	O	6			3-1473-MS.	28	RS213				9	†58,†56,†47, 80	175	3-22
	F.O.G.	...‡..	Y25MP				3-1384-MS.	28	RS213							
							3-1301-MS.	28	RS213							
							3-1313-MS.	15	BB15							
RC (78, 79)	Vol.	...‡..	NN	6			3-1473-MS.	28	RS213				11	†58,†56, 57,†47, 80	175	3-23
	F.O.G.	...‡..	Y25MP				3-1384-MS.	28	RS213							
	Sil.	12	G12				3-1381-MS.	28	RS213							
RE (73, 75, 85, 98)	Vol.	17	O	6			3-1473-MS.	25	RS213				7	†58, 55, 56, 47, 80	175	3-18
							3-1301-MS.	25	RS213							
							3-1313-MS.	17	BB15							
RG (55)	Vol.	6	G12	6			4-1219-MS.	1	RS213				5	†57, 58, 47, 80	175	3-6
RH (74, 76, 83, 87, 88, 89, 97)	Vol.	15	O	6			3-1473-MS.	28	RS213				9	†56,†58,†47, 80	175	
	F.O.G.	...‡..	Y25MP				3-1384-MS.	28	RS213							
							3-1301-MS.	28	RS213							
							3-1313-MS.	15	BB15							
RK (101 Motoset)	Vol.	17	UM154	M26	See Note A96		4-1254-MS.	1	2N518		221	C3	8	†39, 37, 84, 85,†89	175	3-26
							.01		Buffer	B14						
RL (103 Fadalette)	Vol.	6	G12	6			4-1312-MS.	6	2N502				4	36, 38, 39, 25Z5		3-25
							4-1314-MS.	15	BB12							
RN (105, 106, 107)	Vol.	17	O	6									5	6A7, 78, 6B7, 43, 25Z5	470	4-8
							4-1362-MS.	6	TN120	B10						
							4-1343-MS.	15	TN111							
RP (102 Motoset)	Vol.	16	UM154	M26	See Note A96		4-1254-MS.	1	2N518		221	C3	8	37,†39, 85, 89, 79, 84	175	4-5
	Tone	40	L				4-1363-MS.	12	CS133							
							4-1367-MS.	15	BB12							
							.01		Buffer	B14						
RS (112)	Vol.	17	O	6			4-1362-MS.	6	TN120				5	6A7, 78, 6B7, 43, 25Z5	470	4-11
	Tone	22	L				4-1343-MS.	15	TN111							
RU (131, 132)	Vol.	15	O	6			4-1450-MS.	9	RM257				6	6A7, 6D6, 25Z5, 37, 43, 77	265	4-12
	Tone	22	L				4-1451-MS.	9	RS213							
							4-1343-MS.	15	TN111							
RV (104B) Auto	Vol.	17	UM161	M26		A96	4-1254-MS.	1	2N518		221	C3	6	6A7, 6B7,†78, 41, 84	175	4-7
							4-1343-MS.	15	TN111							
							4-1439-MS.	15	BB12							
							.01		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
FADA—Continued																
RW, 78-10, 79-10, 97-10, 133, 134, 135	Vol.	17	O	6			4-1488-MS	28	2N518				9	6D6,37, 85,42, 80	265	4-14
	Tone	21	M				4-1494-MS	28	RS213							
	F.O.G.	‡	M10MP													
RX 93, 95	Vol.	17	O	6			3-1473-MS	1	RS213				7	58, 55, 56, 47, 80	125	4-1
							3-1384-MS	1	RS213							
RY (108, 109, 125)	Vol.	17	O	6			4-1362-MS	6	TN120				5	6A7, 78, 6B7, 43, 25Z5	470	4-10
							4-1343-MS	15	TN111				7	24,27,45		5-1
S, 26-36	Vol.	25	DRP307		See Note	A3							5	6A8GT, 6K7GT, 6Q7GT, 25L6GT, 25Z6GT	456	9-14
5F60	Vol.	18	MR48	M26			20.84	1	BB26							
							20.83	1	BB24							
"7AC" (475-UA or CA, 472-UA or CA, SF45/75-UA or CA, SF45/72-UA or CA)	Vol.	14	SRP256			A3							7	27, 71		1-5
E180, E180Z							2-4-5-6	‡	See Note	B1				80		1-26
E420, E420Z							1-2-3-4-5	‡	See Note	B1				80		1-27
M250, M250Z	Vol.	7	SRP257				1-2-3-4-5	‡	See Note	B1			8	27,45, 80		1-16
"Special A. C." (262-UA or CA, 265-UA or CA, RP-62-UA or CA, RP-65-UA or CA	Vol.	14	SRP256			A3							6	27, 71		1-6
10, 10Z, 11, 11Z	Vol.	14	SRP256				‡	‡	See Note	B1			7	27, 71, 80		1-10
15M, 15MZ	Vol.	11	SRP257				1-2-3-4-5	‡	See Note	B1			8	27, 24,45, 80		1-15
16, 16Z, 17	Vol.	4	SRP256		(Early)	A27	1-2-4-5-6	‡	See Note	B1			8	27,71, 80		1-11
	Vol.	8	SRP257		(Late)	A4										
18DC	Vol.	4	SRP257				1-2-2-1	‡	See Note	B7			7	12A,71A		1-12
20, 20Z	Vol.	8	SRP257				1-2-4-5-6	‡	See Note	B1			8	27,71, 80		1-13
20, 20A, 20T	Vol.	6	E12		2		20.79	1	3N526				5	6A7, 6D6, 76, 25L6G, 25Z5, 115.41	456	9-1
25, 25Z	Vol.	11	SRP257				‡	‡	See Note	B1			8	27,24,45, 80		1-15
30, 30Z, 31, 31Z	Vol.	35	SRP256				‡	3	See Note	B1			7	27, 71, 80		1-10
31	Vol.	18	MR48	M26			20.84	1	BB26				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5, 115.41	456	
	Tone	22	MR48				20.83	1	BB24							
32, 32Z	Vol.	8	SRP257			A4	‡	‡	See Note	B1			8	27,71, 80		1-11
	Vol.	4	SRP256	(Early)		A27										
35B	Vol.	25	DRP307				‡	‡	HS690				8	27,24,45, 81		1-17
35, 35Z	Vol.	12	D12				1-2-3	‡	HS690				7	24,27,45, 81 (or 80)		1-18
40	Vol.	25	‡		See Note	A47	1-2-3	‡	HS690				8	24,27,45, 80		1-19
	Tone	21	O													
41, 42	Vol.	64	O				1-2-3-4-5	‡	See Note	B1			9	24,27,45, 80		1-20
43	Vol.	24	DRP119				1-2-3-4	3/14	See Note	B1			7	24A, 27,45, 80		1-21
44	Vol.	64	O				1-2-3-4-5	‡	See Note	B1			9	24,27,45, 80		1-20
46, 47	Vol.	64	O				1-2-3-4-5	‡	See Note	B3			9	24,27,45, 80		1-20
48, 49	Vol.	‡	‡		See Note	A85							10	27,35,47, 80		1-24
	F.O.G.	‡	F7													
50, 50Z	Vol.	14	SRP256										9	27,71A, 80		1-25
70, 71, 72, 70Z	Vol.	14	SRP257										9	27,71A, 80		1-25
75	Vol.	12	SRP259				1-2-4-6-7	‡	See Note	B1			8	24,27,10, 81		1-29
77	Vol.	12	SRP257				1-4-5-7	‡	See Note	B1			8	24,27,10, 81		1-29
86V P.P.							‡	‡	See Note	B1				80		1-9
110A, 110B	Vol.	6	UC509	6	EX200		4-8	24	2N518				4	6D6, 6C6, 38, 12Z3		
							2-4	15	TN111							
130	Vol.	6	SRP263	6	EX200		20.22	6	2N504				5	6C6, 6D6, 43, 25Z5	175	
							20.17	15	TN111							
130L	Vol.	6	SRP263	6	EX200		20.22	6	2N504				5	6A7, 6D6, 6C6, 43, 25Z5	175	
							20.17	15	TN111							
140	Vol.	18	MR48	M26			16-16	6	2N506				6	6A7, 6D6, 75, 43, 37, 25Z5	175	
							4-4	6/15	2N500							
140L	Vol.	18	MR48	M26			16-16	8	2N506				6	6D6, 6A7, 75, 43, 25Z5	175	
							4-4	8/15	2N500							
140SW	Vol.	18	MR48	M26			8-4-4-16-16	8/15	2N506/3N520				6	6D6, 6A7, 75, 43, 25Z5	175	
150 (Two Types)	Vol.	17	N	6			20.8	1/15	3S579				5	6A7,6F6-42,6K7-6D6, 75, 80	456	6-1
150A	Vol.	17	O	6			20.33C	1/15	4S718				5	6A7, 6K7, 75, 6F6, 80	456	
155	Vol.	4	G12	6	EX450		20.28	6/15	3N526				5	6A7, 6D6, 76, 43, 25Z5	456	6-3
156	Vol.	6	G12	6	EX450		20.28	6/15	3N526				5	6A7, 6D6, 76, 43, 25Z5	456	6-5
157	Vol.	6	G12	6	EX450		20.35	6/15	3N525				5	6A8, 6C5, 6K7, 43, 25Z5	456	6-6
158, 159	Vol.	6	G12	6	EX450		20.28	6/15	3N526				5	6A7, 6D6, 76, 43, 25Z5	456	
160	Vol.	17	O	6			20.33A	1/15	4S718				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	456	6-7
160A	Vol.	15	O	6			20.33C	1/15	4S718				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	456	
162	Vol.	18	MR53				20.37	12	BB20				6	34, 1C6, 1B5, 30, 19	456	
163	Vol.	15	UM161	M26		A96	20.38	1	2N517		245	C3	6	6K7, 6A8, 75, 6C5, 79	456	
							20.39	15	TN111							
							20.40	13	BB40							
							.005		Buffer	B14						
165	Vol.	17	O	6			20.1A	8/15	2N506/2N500				6	6A8, 6K7, 75, 6H6, 43, 25Z5	456	
166 Motoset	Vol.	17	UM161	M26	See Note	A96	20.29	1	2N517		253Y	C3	6	78, 6A7, 75, 41, 84	175	6-9
	Tone	22	MR39				20.30	15	TN111							
							.01		Buffer	B14						
167, 168	Vol.	17	N	6			20.36	6/15	4S715				6	6A7, 6K7, 75, 6H6, 43, 25Z5	456	7-1,2
	Tone	22	MR44													
170	Vol.	17	O	6			20.33A	1/15	4S718				6	6A8, 6F5, 6F6, 6A6, 6K7, 5Z4	456	6-11
							20.34	13	CS133							
190	Vol.	17	O				20.7	1	WE1250				9	6A8, 6F5, 6F6, 6H6, 6K7, 5Z4	456	6-13
							20.4	1	RS213							
							20.34	13	CS133							
							20.6	15	TN111							
192	Vol.	7/17	DRP314	6			20.32	‡	4S715/2N502	B139			9	6K7, 6A8, 6H6, 6C5, 43,25Z5	456	6-17
193	Vol.	7/17	DRP314	6			20.32	‡	4S715/2N502	B139			9	6K7, 6A8, 6H6, 6C5, 43, 25Z5	456	
211	Vol.	17	TRP610	8			20.47	6	2N514				10	6K7, 6A8, 6Q7, 6C5, 25A6, 6G5, 25Z6	456	7-3
	Tone	22	N	6			20.25	13	BB21							
							20.44	15	TN111							
211B (220V)	Vol.	17	TRP610	8			20.54	1	Order from	Mfr.			10	6K7, 6A8, 6Q7, 6C5, 6G5,25A6,25Z6	456	8-3
	Tone	22	N	6			20.55	13	BB31							
	F.O.G.	‡	O	8			20.44	15	TN111							

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
FADA—Continued																
212	Vol.	17	TRP610	8			20.50	3	WE1650				12	2-6K7, 6L7, 2-6C5, 6Q7, 6L6, 6E5, 25W4	456	8-4
	Tone	22	N				20.4	3	RS213							
	F.O.G.	...‡..	O	8			20.44	15	TN111							
216	Vol.	17	TRP610	8			20.47	1	2N514				15	2-6K7, 6L7, 2-6C5, 6Q7, 2-25A6, 2-25Z6, 6G5	456	8-5
	Tone	22	N				20.52	8	2N509							
	F.O.G.	...‡..	O	8			20.25	13	BB21							
							20.27	13	BB24							
							20.44	15	TN111							
242	Vol.	17	MR53	M27			20.37	12	BB20				4	1C6, 1A4, 1F6, 1F4	456	8-9
246	Vol.	17	MR53	M27			20.57	1	2N516		W215	C3	4	1C6, 1A4, 1F6, 1F4	456	8-10
							.007		Buffer	B14						
250	Vol.	6	E12	6			20.48	1	2N518				5	6A7, 6D6, 76, 6B5, 80	456	7-4
254	Vol.	6	E12	6	EX200		20.58	1/15	3S579				5	6A8, 6D6, 76, 25L6, 25Z5	456	8-12
255	Vol.	114	MR53	M26			20.48	1	2N518				5	6A7, 6D6, 75, 6B5, 80	456	8-13
	Tone	114	MR48				20.39	15	BB12							
260, 261	Vol.	6	G12	6	EX450		20.49	6/15	3N526				5	6A7, 6D6, 76, 43, 25Z5	456	8-14, 7-5
262	Vol.	6	G12	6	EX450		20.49	6/15	3N526				5	6A8, 6K7, 6C5, 43, 25Z5	456	7-7
265	Vol.	114	MR53	M26			20.48	1	2N518				6	6A7, 6D6, 75, 6B5, 6G5, 80	456	8-15
	Tone	114	MR48													
266, 266SD, 266SG	Vol.	17	UM161	M26	See Note A96		20.42	1	2N517		294	C3	6	78, 6A7, 6K7, 6Q7, 41, 84	175	8-16
	Tone	22	MR39				20.30	15	TN111							
	Fil.	29	R				.007		Buffer	B14						
267 Series	Vol.	17	UM161	M26		A96	20.59	4	RM262		294	C3	6	78, 6A7, 75, 41, 84	175	8-17
	Tone	22	MR39				.004		Buffer	B14						
270, 271	Vol.	15	O	8			20.4	1	RS213				7	6A8, 6K7, 6H6, 6F5, 6F6, 5W4, 6G5	456	7-9,11
	Tone	22	N	6			20.45	12	CS133							
							20.44	15	TN111							
272, 273	Vol.	17	MR53	M26			20.46	8	2N506/BB21				6	6A8, 6K7, 6H6, 6Q7, 43, 25Z5	456	7-12,13
	Tone	21	MR48				20.44	15	TN111							
280, 281	Vol.	17	MR53	M26			20.46	8	2N506/BB21				7	6A8, 6K7, 6Q7, 6H6, 43, 6G5, 25Z5	456	7-14,15
	Tone	21	MR48				20.44	15	TN111							
290	Vol.	17	TRP610	8			20.51	1	WE1250				9	2-6K7, 6A8, 6Q7, 6C5, 2-6L6, 6G5, 5Z4	456	7-16
	Tone	22	N	6			20.4	1	RS213							
	F.O.G.	...‡..	O	8			20.45	13	CS133							
							20.44	15	TN111							
291	Vol.	17	TRP610	8			20.51	1	WE1250				9	2-6K7, 6A8, 6Q7, 6C5, 2-6L6, 6E5, 5Z4	456	7-17
	Tone	22	N	6			20.4	1	RS213							
	F.O.G.	...‡..	O	8			20.45	13	CS133							
							20.44	15	TN111							
311	Vol.	17	TRP610	8			20.47	6	2N514				10	2-6K7, 6A8, 6Q7, 6C5, 2-25A6, 6E5, 2-25Z6	456	7-18
	Tone	22	N	6			20.25	13	BB21							
	F.O.G.	...‡..	O	8			20.44	15	TN111							
312	Vol.	17	TRP610	8			20.50	3	WE1650				12	2-6K7, 2-6C5, 6L7, 6Q7, 2-6L6, 6E5, 2-5W4	456	8-20
	Tone	22	N				20.4	3	RS213							
	F.O.G.	...‡..	O	8			20.44	15	TN111							
316	Vol.	17	TRP610	8			20.47	8	2N514				15	2-6K7, 6L7, 2-6C5, 6Q7, 2-25A6, 2-25Z6, 6G5	456	8-21
	Tone	22	N				20.52	8	2N509							
	F.O.G.	...‡..	O	8			20.25	13	BB21							
							20.27	13	BB24							
							20.44	15	TN111							
350	Vol.	15	MR53	M26			20.75	1/15	UR188				4	6A7, 6B7, 25L6G, 25Z5	456	8-23
351	Vol.	17	MR53	M26			20.70	1/15	TN120/BB15				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5	456	8-24
352	Vol.	15	MR53	M26			20.75	1/15	UR188				4	6A7, 6B7, 25L6G, 25Z5	456	9-4
353	Vol.	17	MR53	M26			20.70	1/15	TN120/BB15				5	6A7, 6D6, 6Q7, 25L6G, 25Z5	456	
354	Vol.	17	MR53	M26			20.72	1	2N518				5	6A7, 6D6, 6Q7G, 25L6, 25Z5	456	8-25
							20.68	15	BB12/BB15							
355	Vol.	17	MR53	M26			20.72	1	2N518				5	6A7, 6D6, 6Q7G, 25L6, 25Z5	456	
							20.68	15	BB12/BB15							
358	Vol.	17	MR53	M26			20.70	1/15	TN120/BB15				5	6A7, 6D6, 6Q7G, 25L6G, 25Z6	456	
360	Vol.	17	MR53	M26			20.67	6	2N514				5	6A7, 6D6, 6Q7G, 25L6, 25Z5	456	9-5
							20.68	15	BB12/BB15							
361	Vol.	17	MR53	M26			20.73	1/15	TN127/BB15				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5	456	
362	Vol.	17	MR53	M26			20.67	6	2N514				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5	456	
							20.68	15	BB12/BB15							
365	Vol.	20	MR53	M26			20.71	1/15	3S579/BB12				6	6A8G, 6D6, 76, 6Q7G, 6V6G, 80	456	9-6
368	Vol.	17	MR53	M26			20.73	6/15	TN127/BB15				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5	456	
370	Vol.	15	MR53	M26			20.64	6	BB26				6	6A8G, 6D6, 76, 6Q7G, 25L6G, 25Z5	456	9-7
	Tone	22	MR48				20.66	6/15	3N526/BB12							
380	Vol.	15	MR53	M28			20.69	1	RS215				8	6A8G, 2-6K7, 76, 6Q7G, 6V6G, 6G5, 80	456	9-8
	Tone	22	MR48	M26			20.3	1	RS216							
							20.4	13	RS213							
390	Vol.	15	MR53	M28			20.64	6	BB26				7	6A8G, 6K7, 76, 6Q7G, 25L6G, 6G5, 25Z5	456	9-9
	Tone	22	MB48	M26			20.65	6/15	3N526							
410	Vol.	15	TM243-SS1	M28			20.69	1	RS215				10	6A8G, 2-6K7, 6J7, 6H6, 76, 6Q7G, 6V6G, 6G5, 80	456	9-10,11
	Tone	22	MR48	M26			20.3	1	RS216							
							20.4	13	RS213							
							20.39	15	TN111							
413	Vol.	15	TM243-SS1	M28			20.3	3	RS216				13	2-6K7, 6A8G, 6J7, 2-76, 2-6V6G, 6H6, 6Q7G, 6G5, 5Z3	456	9-12
	Tone	22	MR48	M26			20.4	3	RS213							
							20.77	15	TN111							
450	Vol.	6	SRP263		EX300		20.78	1	2N506				4	6D6, 6C6, 25L6G, 25Z5		9-14
451	Vol.	18	MB48				20.81	23	2S567/BB14				5	6A8, 6D6, 6Q7G, 6Y6G, 80	456	9-15
	Tone	22	MR48													
454	Vol.	18	MR53				20.80	23	2S563				5	6A8G, 6K7, 6Q7G, 6Y6G, 80	456	9-16
460	Vol.	18	MR53	M26			20.79	1	3N526				5	6A8G, 6K7, 6Q7G, 25L6G, 25Z5	456	9-17
461	Vol.	18	MR48		See Note A3		32-16-25	1	3N534				5	6A7, 6D6, 6Q7G, 25L6G, 25Z5	456	9-18
	Tone	22														
1242	Vol.	17	MR53	M27			20.37	12	BB20				4	1C6, 1A4, 1F6, 1F4	456	
1246	Vol.	17	MR53	M27			20.57	1	2N516		W245	C3	4	1C6, 1A4, 1F6, 1F4	456	
							.007		Buffer	B14						
1250	Vol.	6	E12	6			20.48	1	2N518				5	6A7, 6D6, 76, 6B5, 80	456	
1255	Vol.	114	MB53	M26			20.48	1	2N518				5	6A7, 6D6, 75, 6B5, 80	456	8-26
	Tone	114	MR48													
1262	Vol.	6	G12	6	EX250		20.49	6/15	3N526				5	6A8, 6K7, 6C5, 43, 25Z5	456	8-27

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
FADA—Continued																
1265	Vol.	114	MR53	M26			20.48	1	2N518				6	6A7, 6D6, 75, 6B5,		
	Tone	114	MR48				20.39	15	TN111					6G5, 80	456	8-28
1450	Vol.	17	MR48	M26			20.1	8/15	2N506/2N500				5	6A7, 6D6, 75, 43, 25Z5	456	
1452	Vol.	17	MR48	M26			8-8-5	1/15	3S579				5	6A7, 6D6, 75, 42, 80	456	
1453	Vol.	17	MR48	M26			4-8-8	1/15	3S579				5	6A7, 6D6, 75, 42, 80	456	
1460	Vol.	17	MR48	M26			16-16-8-4-1	8/15	2N506/3N520	B140			6	²⁶6D6, 6A7, 75, 43, 25Z5	456	
1462 (above Ser. 22102)	Vol.	17	N	6			20.36	6/15	4S715				6	6A7, 6K7, 75, 6H6, 43, 25Z5	456	7-19
1462	Vol.	17	N	6			20.1	6/15	2N506/2N500				6	6A7, 6K7, 6G5, 75, 43, 25Z5	456	6-19
1463	Vol.	17	N	6			20.36	6/15	4S715				6	6A7, 6K7, 75, 6H6, 43, 25Z5	456	7-20
1470	Vol.	17	N				8	1	RS213				7	²58, 2A7, 2B7, 2A6,		
							16	1	RS216					2A5, 80	456	
							4-4	15	TN111							
1480	Vol.	17	N				20.1	8/15	2N506/2N500				8	²6D6, 6A7, 75, ²43, ²25Z5	456	
1556	Vol.	6	SRP263	6	EX200		20.22	1	2N504				5	²6C6, 6D6, 43, 25Z5	456	6-21
							20.17	15	TN111							
1582	Vol.	17	O				20.7	1	WE1250				8	²6D6, 6A7, 75, ²42, 80	456	6-22
							20.4	1	RS213							
							20.5	12	BB60							
							20.6	15	TN111							
1583	Vol.	17	O				20.7	1	WE1250				8	²6A7, 6D6, ²42, 75, 80	456	6-16
							20.4	1	RS213							
							20.5	13	BB60							
							20.6	15	TN111							
FAIRBANKS-MORSE—Also see Audiola																
B6	Vol.	17	UC512	...‡			8-8	25	CM172	B39	297	C3	6	²6D6, 6A7, 75, 41, 84	177.5	5-12
							.02		Buffer	B14						
C6	Vol.	18	Order from	Mfr.			8-8	4	CM172	B3	294	C3	5	6A7, ²6D6, 42, 75, 84	177.5	6-2
							.02		Buffer	B14						
4A	Vol.	17	MR53	M27									4	1C7G, 1D5G, 1F7G, 1F5G	456	9-1,3
4B	Vol.	17	MR53	M27			8-8	1	2N516		246	C3	4	1C7G, 1D5G, 1F7G, 1F5G	456	9-1,3
							.01-.01		Buffer	B14						
5A (5AT-1)	Vol.	6	‡	6	See No	te A5	231-2	1	2S567				5	6A7, 6D6, 76, 41, 80	456	9-4,6
5B	Vol.	18	TM231-SS1	M26			232-1	4	2S567				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3	456	9-7
5C	Vol.	18	TM231-SS1	M26			211-1	4	RS216				5	6A8G, 6K7G, 6Q7G,		
							231-3	4/13	2N517					6F6G, 5Y3	456	8-2
5D (5DC-1B), (5DT-3B)	Vol.	18	N	7			210-1	12	ST585				5	1C7G, 1D5G, 1F7G, 1H4G, 1J6G	456	8-3,4
6A	Vol.	18	TM231-SS1	M26			211-1	4	RS216				6	6A8G, 6K7G, 6Q7G,		
							231-3	4/13	2N517					6G5, 6F6G, 5Y3	456	8-1,2
6C (6CC-2B), (6CT-4B)	Vol	18	TM231-SS1	M26			210-1	1	ST585		246	C3	6	6D8G, 15, 6T7G,		
							230-1	15	BB12					6L5G, 1J6G, 6N5	456	8-5,6
							.01-.01		Buffer	B14						
7A	Vol.	140	500M No. 1		See No	te A19	236-1	4	2S563				7	6K8, 6K7, 6J5G,		
	Tone	140	MR48	M26										6F5G, 6V6G, 6U5, 5Y3G	455	
8A (8AC-2), (8AC-3), (8AT-8)	Vol.	80	TM230-SS1				211-2	4	RS216				8	²6K7G, 6C5G, 6L7G,		
	Tone	80	MR53	M26			214-1	4	WE1650					6Q7G, 6G5, 6V6G, 5Y3G	456	8-7,8
9A (9AC4, 9AC5)	Vol.	80	TM230-SS1	M26			211-2	4	RS216				9	²6K7G, 6L7G, 6J7G,		
	Tone	80	N				214-2	4	WE4050					6C5G, 6H6G, 6Q7G, 6V6G, 5V4G	456	8-9,10
9C	Vol.	140	500M No. 1		See No	te A19	210-2	13	RS213				9	²6K7, 6K8, 6Q7G,		
	Tone	140	MR48	M26			211-2	4	RS216					6J5G, ²6V6G, 5Y3G, 6U5	455	
12A (12AC6)	Vol.	140	TM230-SS1	M26			214-2	4	WE4050				12	²6K7G, 6L7G, 6J7G,		
	Tone	140	N				214-3	13	RS215					²6C5G, 6H6G, 6Q7G		
							211-3	1	RS216					²6L6G, 5V4G	456	8-11
							214-1	1	WE1835							
							210-2	13	RS213							
12B	Vol.	45			See No	te A19	231-4	15	TN111							
	Tone	22			See No	te A3	211-5	4	RS216				12	²6K7, 6K8, 6B8G,		
							214-4	4	WE4050					6Q7G, ²6J5, ²6V6G, 5V4G, 6AF6G	455	
23S12	Vol.	45	M	6			235-1	13	Order from	Mfr.			12	²58, 57, ²56, ²46, 83	177.5	
	Tone	22	K12				8	3	WE851							
32S11	Vol.	45	N				8-8	3	2N518							
	Tone	22	K12				8	3	WE851				11	³35, 27, 24, ²47, 80	177.5	
33A6	Vol.	15	L			A15	8-8	3	2N518							
							8-8	1	2N518	B42	225	C3	6	²6D6, 6C6, 85, 37, 89	177.5	
							5	15	BB12							
							.02		Buffer	B14						
40 (4015)	Vol.	40	Y	6			5026	4	RS216				4	²6C6, 41, 80	456	6-1
41 (4015)	Vol.	27	UC513	13		A41	5025	4	RS213							
42 (42TOB) (42CHB)	Vol.	79	N	7			5438	12	ST585				4	1C6, 34, 32, 33	456	6-1,7-3
43 (43THB) (43CHB)	Vol.	79	N	7			6051	12	BB31				4	1C6, ²1B4, 33	456	8-17
							6051	12	BB31		246	C3	4	²1B4, 1F4, 1C6	456	8-19
							5612	1	2N518							
							.01-.01		Buffer	B14						
51 (5106, 5107, 5109, 5111, 5112, 5141, 5143); 52 (5212, 5212A, 5241); 53 (5312, 5312A, 5341)	Vol.	17	N	6			EL8	4	RS213				5	2A7, 58, 2A6, 2A5, 80	456	5-1
	Tone	22	K12				EL6	15	BB12							
54 (5416, 5445)	Vol.	18	N				5026	4	RS216				5	6A7, 6D6, 75, 42, 80	456	6-4,7-4
	Tone	22	N	6			5518	4	RS216							
55 (5516, 5545)	Vol.	18	N				5026	4	RS216				5	6A7, 6D6, 42, 75, 80	456	
	Tone	22	N	6			5518	4	RS216							
56 (5619, 5645)	Vol.	18	N	6			5025	4	RS213				5	6A7, 6D6, 75, 42, 80	456	6-2
							5519	4	RS216							
57 (57TO)	Vol.	18	N	6			5880	4	RS213				5	6A8G, 6Q7G, 2K7G,		
							5881	4	RS213					6F6G, 5Y3	456	8-21
58 (58T1, 58T2, 58C1)	Vol.	18	N	6			5825	4	RS213				5	5Y3, 6A8G, 6F6G,		
							5823	4	RS213					6K7G, 6Q7G	456	8-23
60 (6010, 6044)	Vol.	18	M				8	14	BB61							
	Tone	22	K12	6			EL8	4	RS213				6	²6D6, 6A7, 6B7, 42, 80	456	6-11
61	Vol.	17	N	6			EL16	4	RS216							
	Tone	22	K12				5-16-10	11	UR182	B31			6	6A7, 6B7, ²6D6, 25Z5,		
														43	456	5-6

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
FAIRBANKS-MORSE—Continued																
62 (6210, 6244)	Vol.	18	M				EL23	8	UR182	B104			6	[2]6D6, 6A7, 6B7, 43, 25Z5	456	6-13
	Tone	34	K12	6												
63 (6317, 6316)	Vol.	18	N				5025	4	RS213				6	[2]6D6, 6A7, 75, 42, 80	456	7-8
	Tone	22	N	6			5026	4	RS216							
							5429	13	RS213							
64 Auto	Vol.	18	UM147		See Note A96		8-8	4	2N518		294	C3	6	[2]6D6, 6A7, 75, 42, 84	177.5	6-3
							25	15	BB15							
							.02		Buffer	B14						
64 Home	Vol.	18	N				5429	12	RS213				6	1C6,[2]34, 30, 19	456	6-4
	Tone	22	K12	13												
65 (6517, 6546)	Vol.	18	M				EL23	8	UR182	B104			6	[2]6D6, 6A7, 6B7, 43, 25Z5	456	9-10
	Tone	34	K12													
66 (6616, 6645)	Vol.	18	N				5026	4	RS216				5	6A7, 6D6, 75, 42, 80	456	7-11
	Tone	22	N	6			5518	4	RS216							
67 (6717, 6746)	Vol.	18	N				5429	13	RS213		246	C3	5	[2]15, 6A7, 75, 19	456	7-12
	Tone	22	N	6			5317	15	BB12							
							5612	1	2N518							
							.01		Buffer	B14						
68	Vol.	18	N				16-16	6	2N506				3	6A7, 6D6, 75, 43, 25Z5	456	8-25
							5	15	BB12							
69	Vol.	6	E12				6198	27	2P544				5	6A7, 6D6, 76, 43, 25Z5	456	8-28
70 (7014, 7040, 7042)	Vol.	18	M				EL21	4	RS216				7	[2]6D6, 6A7, 6B7, 42, 80	456	5-7
	Tone	22	K12	6			EL8	4	RS213							
							EL18	14	2N517							
71	Vol.	18	N				5026	4	RS216				7	[2]6K7, 6A8, 6F5, 6H6, 6F6, 5Z4	456	6-5, 7-14
	Tone	22	N	6			5025	4	RS213							
							5429	13	RS213							
72 (72T3, 72C2, 72C3)	Vol.	80	TRP616				16	4	RS216				7	5Y3, 6A8G, [2]6K7G, 6Q7G, 6L6, 6E5	456	8-29
	Tone	80	N				8-8	4/13	RS213							
73 (73T3B, 73C3B)	Vol.	20	TRP616				5429	13	RS213		246	C3	7	[2]15, 6A7, 75, 76, 19, 6E5	456	8-31
	Tone	21	N				5612	1	2N518							
							5317	15	BB12							
							.01-.01		Buffer							
74 Auto	Vol.	18	Order from Mfr.				8-8	4	CM172	B39	294	C3	7	[2]6D6, 6A7, 85, 41, 6A6, 84	177.5	7-10
							8	15	BB13							
							.01		Buffer	B14						
81 (8110, 8114)	Vol.	18	N	7			4	21	ST585				8	[2]34, 1C6,[2]30, 32	456	6-15
	Tone	22	K12													
82 (8218, 8247, 8248)	Vol.	18	M				5026	1	RS216				8	[3]6D6, 6A7, 85, [2]42, 80	456	6-6
	Tone	41	L	6			5317	14	BB12							
90	Vol.	18	M				5026	1	RS216				9	[3]6K7, 6A8, 6H6, 6C5, [2]6F6, 5Z4	456	6-7
	Tone	41	L	6			8	14	BB41							
91 (91T4, 91C4, 91C5)	Vol.	80	TRP616				5888	4	WE4050				9	5Z4, 6F5, 6H6, [2]6K7, 6L6, 6L7	456	8-33
	Tone	80	N	6			5920	4	RS216							
							5889	13	RS213							
100 (10049, 10050)	Vol.	45	M				5445	31	RS213				10	[3]6D6, 6A7, [2]76, 42, [2]2A3, 5Z3	456	7-20,22
	Tone	22	L	6			5025	31	RS213							
							5317	15	BB12							
110	Vol.	18	M				5445	3	RS213				11	[3]6K7, 6A8, 6H6, 6C5, 6F6,[2]2A3,[2]5Z4	456	7-23
	Tone	22	L	6			5025	3	RS213							
							5317	15	BB12							
120 (12C6)	Vol.	18	N				6035	3	WE1650				12	[3]6K7, 6L7, 6J7, 6H6, 6C5,[3]6L6, 6E5	456	8-15
	Tone	80	N				5888	3	WE4050					[2]5W4		
							5823	3	RS213							
							5317	15	BB12							
346	Vol.	17	UC512	‡			8-8	25	CM172	B39	297	C3	6	[2]6D6, 6A7, 75, 41, 84	177.5	5-12
	Tone	22	K12				.02		Buffer	B14						
347	Vol.	18	UC512	‡			8-8	25	CM172	B39	297	C3	7	[2]6D6, 6A7, 85,[2]41, 84	177.5	5-12
	Tone	44	K12				.02		Buffer	B14						
816, 840 (32 Volt)	Vol.	15	N				EL9	1	BB31		F221	C10	8	[2]37, [2]39, 85, 79, 25Z5	177.5	5-13
	Tone	22	K12				EL-6	15	BB12							
							.01		Buffer	B14						
FEDERAL RADIO CORP.																
D Code 79-070	Vol.	11	SRP279				4-4-4	3	See Note	B1			6	[4]01A, 71A, BA		1-9
E Code 79-060	Vol.	11	SRP279				4-4-4	3	See Note	B1			7	[5]01A, 12A, BA		
F Code 79-080	Vol.	11	SRP279				4-4-4	3	See Note	B1			8	[6]01A, 12A, BA		1-14
F (25 Cycles)	Vol.	13	SRP279										7	[5]01A, 71A, 12A		1-16
G (25 Cycles)	Vol.	14	N				2-4-4	3	See Note	B1			7	[3]26,[2]71A, 80, 27		1-17
H (71-030)	Vol.	14	N				1-1-2-1	3	See Note	B1			7	[3]26,[2]27, 71A, 80		1-18
K	Vol.	14	UC503				2-4-4	3	See Note	B1			7	[3]27, 24,[2]71, 80		1-21
L	Vol.	‡	‡				‡	3	See Note	B1			8	[3]27,[2]71A-45, 80,[2]27		
M	Vol.	13	N				1-1-2-1	‡	See Note	B1			8	[3]27, 80,[2]45		1-22
FEDERATED PURCHASER—"Aeratone"																
Cathedral Tone	Vol.	12	N	6			8-8	4	See Note	B3			5	[3]24, 45, 80		3-2
2	Vol.	6	G7	6			2-2	1	See Note	B1			5	[3]24, 47, 80		2-1
5	Vol.	6	H7	6			5-5	4	See Note	B3			6	[3]24, 51, 27, 47, 80	175	2-2
							5	4	See Note	B3						
6A	Vol.	15	UC503				12-8	4	See Note	B3			10	[3]58,[3]56,[3]59, 5Z3	175	5-2
	Tone	21	L				5-5	15	TN111							
	Supp.	12	Y													
7A	Vol.	17	UC503				8-4	4	2S567				6	[2]58, 56, 2A6, 47, 80	465	5-1
	Tone	22	L				5	15	BB12							
8A	Vol.	7	J	6			16-8-4	11	UR182	B31			5	6A7, 78, 77, 43, 25Z5	465	5-1
8B	Vol.	45	N				4	32	WE450				7	6A8, 6K7, 6H6, 6A6, [2]6F6, 80	456	7-1
	Tone	44	‡		See Note A5		8-4	32	2N518							
Royal 9A	Vol.	7	J	6	EX500		4-4	1	See Note	B3			4	77, 78, 43, 25Z5		6-3
							5	15	BB12							
10	Vol.	59	Y10MP				8-8	4	See Note	B3			6	[3]35, 27, 47, 80		
11B	Vol.	45	N				4	32	WE450				7	6A8, 6K7, 6H6, 6A6, [2]6F6, 80	456	7-1
	Tone	44	‡		See Note A5		8-4	32	2N518							
12A	Vol.	15	UC503				12-8	4	See Note	B3			10	[3]58,[3]56,[3]59, 5Z3	175	5-2
	Tone	21	L				5-5	15	TN111							
	Supp.	12	Y													
13A	Vol.	17	UC503				8-4	4	See Note	B3			6	[2]58, 56, 2A6, 47, 80	465	5-1
	Tone	22	L				5	15	BB12							
14A	Vol.	56	‡		See Note A5		4-4-4	7	See Note	B3			8	[3]58,[3]56, 55, 53, 80	175	5-2
	Tone	22	‡		See Note A5											
17	Vol.	15	N				4-4	4	2S567				6	57, 58, 56, 55, 47, 80	175	§4-3
	Tone	21	M													
24A	Vol.	17	UC503				8-4	4	2S567				6	[2]58, 56, 2A6, 47, 80	465	5-1
	Tone	22	L				5	15	BB12							
26A	Vol.	6	K12				5-16-8	11	UR182	B31			4	77, 78, 43, 25Z5		
29C, 30C, 31C	Vol.	18	N	6			4	32	WE450				8	6L7, 6C5, 6K7, [2]6Q7, [2]6F6, 5Z4	456	7-3,4
	Tone	44	L				8-4	32	2N518							
31-40	Vol.	8	G				1948	3	RS213				8	[3]51,[2]27,[2]47, 80	175	3-1
	Tone	41	P	6			1976	3	ST595							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
FEDERATED PURCHASER—Continued																
32A	Vol.	15	TRP623	6			50-8-8-10	64	2-UR182	B226			12	[6]6D6,[37] 85,[43],[25]Z5	175	5-3
	Tone	44	K12				8	13	See Note	B3						
	Supp.	7	J				10	18	See Note	B3						
32C, 33C (L7)	Vol.	45	N	7			P391	1	2S560		215C	C3	7	1C6,[34],[30], 19	456	7-5
	Tone	‡	L				.01-.01		Buffer	B14						
35AC	Vol.	8	G				1948	3	RS213				8	[51],[27],[47], 80	175	
	Tone	41	P	6			1976	3	ST595							
36A	Vol.	15	TRP623	6			50-8-8-10	64	2-UR182	B226			12	[6]6D6,[37] 85,[43],[25]Z5	175	5-3
	Tone	44	K12				8	13	See Note	B3						
	Supp.	7	J				10	18	See Note	B3						
38A	Vol.	6	K12				8-4	1	2S567				5	[58], 57, 47, 80	456	5-5
	Tone	22	K12													
39A	Vol.	15	N				8	1	RS213				8	[57],[56],[58], 2A5, 80	485	5-6
	Tone	22	G12	6			10	15	BB12							
40 Auto	Vol.	17	UM154		See Note	A96	8-8	1	See Note	B3	294	C3	6	[6]6D6, 6A7, 75, 41, 84	175	6-4
							5-5	15	TN111							
							.025-.025		Buffer	B14						
43A, 44	Vol.	15	N				8	1	RS213				8	[57],[58],[56], 2A5, 80	485	5-6
	Tone	22	G12	6			10	15	BB12							
49	Vol.	18	MR48				6-12	1	2S565		292	C3	5	6A7, 6D6, 6B7, 41, 84	456	8-1
							10	15	BB12							
							.02-.02		Buffer	B14						
52A	Vol.	6	J	6	EX750		10-10	1	2N504	B3			5	77, 78, 43,[12]Z3		5-8
							5-5	15	TN111							
53, 54, 58, 59	Vol.	6	G12	6			10-12	1	2N504				4	6D6, 6C6, 43, 12Z3		5-8
							4-4	15	TN111							
65, 66	Vol.	6	Y	6			12-12	1	2N506				5	[6]6D6, 6C6, 43, 12Z3	455	6-1
							4-4	15	TN111							
67	Vol.	17	N				8-4	25	2S567				5	6A7, 78, 75, 42, 80		
							25	19	BB15	B6						
79, 80	Vol.	62	N	6			8, 8	1	ST595				11	[58],[56],[57],[46], 80	175	5-9,6-2
	Tone	39	N				5	12	BB61							
	QAVC	7	F				5	15	BB12							
86, 87	Vol.	15	N				8	1	RS213				8	[58],[57],[56], 2A5, 80	485	5-6
	Tone	22	G12	6			10	15	BB12							
88	Vol.	6	D7		2		8-4	1	2N518				5	2A7, 57, 58, 2A5, 80	455	6-3
	Tone	22	K12				5	15	BB12							
SW88	Vol.	15	N				8, 8	1	RS213				8	[56],[57],[58], 2A5, 80	485	
	Tone	22	G12	6			10	15	BB12							
92	Vol.	17	N	6			6-8	4	2S567		292	C3	6	[6]6D6, 6B7, 41, 84	175	5-11
	Tone	22	H12				10	15	BB12							
							.02		Buffer	B14						
92A-94A (Above 500,001)	Vol.	17	UC512	6			8-6	4	2S567		292	C3	6	[6]6D6, 6B7, 41, 84 or 6Z4	175	
	Tone	22	H12				.02		Buffer	B14						
93, 94, 96, 97	Vol.	18	N				8-8	1	2N518	B3			7	[6]6D6, 6A7, 76, 75, 41, 80	370	5-12
	Tone	22	G12	6			10-10	15	TN111							
100	Vol.	6	G12		EX300		4-4	1	2N518				4	[24], 47, 80		6-1
104	Vol.	7	‡		See Note	A5	‡	4	See Note	B3			6	2A7, 58, 57, 56, 2A5, 80		
	Tone	57	‡		See Note	A5										
107 Midget	Vol.	6	G12	6			2-2	1	See Note	B1			5	[24]A, 45, 80		
117	Vol.	17	M	6			9659	1	CM172				6	2A7,[58], 2A6, 2A5, 80	465	6-7
	Tone	22	K12				1110	13	BB60							
							8876	15	BB12							
SA120-SA123	Vol.	64	N				8, 8	1	ST595				12	[56],[57],[58],[46], 80	175	
	Tone	39	N				5	15	BB12							
	Sil.	59	F				5	17	BB12							
120 Amplifier	Vol.	16	M				6-6	2	See Note	B3			5	[56],[45], 80		
121	Vol.	6	SRP263	6	EX300		8-8	4	2P542				5	6A7, 6D6, 6C6, 43, 25Z5	456	6-8
							16	13	BB24							
							4	12	BB20	B10						
125 Amplifier	Vol.	16	LL				‡	3	See Note	B2			8	[57],[56],[50],[81]		
126	Vol.	16	LL				4-4	1	See Note	B2			8	[57],[56],[50],[81]		
215	Vol.	6	SRP263	6	EX400		16-16	4	2P546				5	6D6, 76, 6C6, 43, 25Z5		6-8
228, 229	Vol.	62	N										6	1C6, 34,[30], 32, 19	456	6-4
	Tone	22	K12													
248	Vol.	17	N										6	[6]6D6, 6A7, 85,[48]	175	7-2
	Tone	119	K12													
424 Climax	Vol.	6	G12	6	EX300		4-4	1	See Note	B3			4	[24]A, 47, 80		
460	Vol.	17	UC512	6			8-6	4	2S567		292	C3	6	[6]6D6, 6B7, 41, 84 or 6Z4	175	
	Tone	22	H12				.02		Buffer	B14						
470-474 (600, 001 and up)	Vol.	18	N				8-8	1	2N518				7	[6]6D6, 6A7, 75, 41, 80, 76	370	
	Tone	22	G12	6			10-10	15	TN111							
708	Vol.	23	LL				4-4-8	3	See Note	B3			7	[57],[56],[32]A3, 83		
728							8-8	24	See Note	B3			3	57, 2B6, 80		
							5-5	15	TN111							
734	Vol.	23	LL				8	12	2N506	B11			8	[77],[37],[48]		
745 Amplifier	Vol.	16	LL				8	12	BB61	B3			6	[77],[37],[46]		
749	Vol.	18	N										4	[78], 6A7, 85	175	
1000	Vol.	6	K12				5-16-8	11	UR182				4	77, 78, 43, 25Z5		
1200	Vol.	15	TRP623	6			50-8-8-10	64	2-UR182	B226			12	[6]6D6,[37] 85,[43],[25]Z5	175	
	Tone	44	K12													
	Supp.	7	J													
1940	Fader	82	TRP609				8, 8	1	WE851				10	[6]K7, 6A8, 6H6, 6E5, 6C6, 79,[6]B5, 5Z3	456	8-2
	Vol.	15	MR53													
FIRESTONE														§		
54	Vol.	18	UM154		See Note	A96	6-10	4	See Note	B3	294	C3	5	6A7, 6D6, 75, 42, 84	456	
							.02		Buffer	B14						
64	Vol.	18	UM154		See Note	A96	6-10	4	See Note	B3	294	C3	6	[6]6D6, 6A7, 75, 42, 84	456	
							.02		Buffer	B14						
R1322	Vol.	56	UC511	6							289Y	C3	7	77,[78], 85,[41], 76	177.5	
	Tone	44	Z12				83803	15	BB12							
							.005		Buffer	B14						
R1332	Vol.	17	UC512	6		A3					294	C3	5	6A7, 6D6, 75, 41, 84	456	
							83803	15	BB12							
							.03-.03		Buffer	B14						
R1651AS, R1651WS, (R165)	Vol.	6	Y	6			88033	25	RS213				5	[6]6D6, 6C6, 41, 84	456	7-1,2
							88007	25	RS213							
R1661 (R166 chassis)	Vol.	18	TRP623	6			88512	1	RS216				7	6A8, 6K7, 6H6, 6G5, 6F5, 6F6, 5Z4	456	7-3,4
	Tone	57	N				88511	1	RS216							
							89755	13	ST595							
R3051 (R305)	Vol.	18	MR53	M26			110497	4	2S567				5	6A8G, 6U7G, 6Q7G, 6K6G, 5W4G	465	9-1
	Tone	21	MR48				110377	19	BB12							
3061 to 3069 (R306)	Vol.	18	MR53	M26			89937	25	WE1050				6	6L7G, 6U7G, 6Q7G, 6K6G, 6C5G, 5W4G	465	9-3
	Tone	21	MR48				112315	25	ST597							
							110768	25	ST595							
							112710	25	ST596							
							110377	19	BB12							
							111689	19	BB15							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
FIRESTONE—Continued																
3071 to 3079 (R307)	Vol.	18	MR53	M26			39937	25	WE4050				7	6L7G, 6U7G, 6Q7G,		
	Tone	57	MR48				111352	25	ST595					6C5G, 6K6G, 6U5,		
							112284	25	ST595					5W4G	465	9-5
							110377	19	BB12							
							112113	19	BB13							
3085 (R308)	Vol.	20			See Note A19		89937	25	WE4050				11	‡6K7, 6L7, 6C5, 6J7,		
							111469	25	ST597					6U5, 6H6, 6F5,		
							110377	15	BB12					6L6, 5U4G	465	9-7,8, 9,10
							111298	13	BB31							
7405-1	Vol.	6	MR21	M26			4806-A	23	2P546				4	6D6, 6C6, 43, 25Z5		8-1
7406-1	Vol.	18	MR48				8-8	1	2N516		245	C3	5	1C6, 1A4, 75, 30, 19	456	8-2
							.005		Buffer	B14						
7407-1	Vol.	18	MR48				8-8	1	2N516		245	C3	7	1C6, ‡34, ‡30, 19	456	8-2
							.005		Buffer	B14						
7422-3	Vol.	6	MR29				7-27	4	2P553				4	6D6, 6C6, 25L6, 25Z5		
														185R8		8-3
FORD-LINCOLN																
"Glove Box" (Zenith)	Vol.	17	SRP252	6	See Note A42		8-8	4	CM172	B3	296	C3	6	‡6D6, 6F7, 75, 42, 84	252.5	5-4
							10	15	BB12							
							.02		Buffer	B14						
"Glove Box" (Police)	Vol.	17	SRP251				8-8	4	CM172	B3	220B	C3	6	‡6E7, 6A7, 6C7, 42,		
	Sen.	40	G12				10	15	BB12					6Y5	‡	5-1
							.008-.008		Buffer	B14						
"Glove Box" (40-18805)	Vol.	17	SRP251				8-8	4	CM172	B3	220B	C3	6	‡6E7, 6A7S, 6C7, 42,		
							10	15	BB12					6Y5	‡	5-3
							.008-.008		Buffer	B14						
Police (Grigsby-Grunow)	Vol.	17	M				8	12	See Note	B3			6	‡39, ‡38, 85	‡	6-1
B18805	Vol.	54	M				8	12	See Note	B3			6	‡39, 85, ‡38	‡	5-2
N "Center Control"	Vol.	20	TRP614	6			30-2030	1	SR638		500P	C3	6	‡44, 77, 75, 41, 84	260	6-2,3
							30-2076	15	BB12							
							.01		Buffer	B14						
111	Vol.	17	SRP251				8-8	1	See Note	B3			6	‡39, ‡38, 85	‡	
FORDSON																
FP (330001 Up)	Vol.	15	M				4-4	4	2S567				5	6A7, 78, 75, 42, 80	456	5-1
	Tone	22	SRP284	7		A75	5	19	BB11							
							5	15	BB12							
FP Batt. (173501 Up)	Vol.	54	M				5	20	BB11				5	1A6, 34, 32, 30, 19	456	5-1
	Tone	22	L													
FP 32V (350001 Up)	Vol.	15	M	‡			6-10	1	2S563		F221	C3	5	6A7, 78, 75, 42, 84	456	5-2
	Tone	22	SRP284	7		A75	5	15	BB12							
							.05-.05		Buffer	B14						
FR	Vol.	6	G12	‡	EX100		4-4	4	2S567				4	58, 57, 2A5, 80		5-2
	Tone	22	SRP284	7		A75										
FU	Vol.	6	L	6	See Note	A14	4-20	6	2N507				5	78, 44, 77, 43, 25Z5	456	5-3
							5-5	15	TN111							
FV	Vol.	7	UC510	6	See Note	A14	4-20	6	2N507	B3			4	44, 77, 43, 25Z5		5-4
							5-5	15	TN111							
FW	Vol.	17	N	6			4-8-4	26	See Note	B3			8	‡78, 37, 85, ‡42, 80	456	5-5
	Tone	41	L													
R	Vol.	6	G12	‡			4-4	4	2S567				4	78, 77, 42, 80 or 57,		
	Tone	22	SRP284	7		A75								58, 2A5, 80		
U	Vol.	6	L	6	See Note	A14	4-20	6	2N507				5	78, 44, 77, 43, 25Z5	456	
							5-5	15	TN111							
V	Vol.	7	UC510	6	See Note	A14	20-4	6	2N507				4	44, 77, 43, 25Z5		
							5-5	15	TN111							
V (All-Wave)	Vol.	15	N	6			40-8	6	2N514				1	6F7, 77, 43, 25Z5		
							5	15	BB12							
W All Wave	Vol.	17	N	6			4-8-4	5	See Note	B3			8	37, ‡78, 85, ‡42, 80	456	
	Tone	41	L													
X	Vol.	6	G12	6	EX200		4-4	4	2S567				5	‡6D6, 6C6, 42, 80		
							5-5	15	TN111							
"Warwick"	Vol.	15	L	6			8-4	4	See Note	B3			5	57, 58, 55, 47, 80	175	
	Tone	21	N				10	17	BB12							
"Goldentone" 6T	Vol.	15	L	6			6T28	1	CM172				6	‡58, 55, ‡59, 80	456	§3-5
							6T26	15	BB12							
6TA	Vol.	18	N				8-4	1	See Note	B3			6	2A7, 58, 2A6, ‡2A5, 80	456	
FRANKLIN																
6 Tube	Vol.	6	G7	6	5		4, 4	1	ST595				6	27, ‡24, 35, 47, 80	175	3-3
	Tone	22	G12													
43AB or CL	Vol.	7	J	6			DS197	1	See Note	B3			4	37, 39, 38, 36	456	4-6
53	Vol.	6	H12		See Note	A14	8-4	6	2N518				5	‡78, 77, 43, 25Z5	456	4-5
							4-4	15	TN111							
54L	Vol.	15	N	6			4-8-4	8	TN120				5	6A7, 78, 6B7, 43,		
														25Z5	456	4-6
55U	Vol.	56	N	6			8-8-8-8	45	UR190	B105			5	6A7, 78, 6B7, 43,		
							5	15	BB12					25Z5	456	
63L	Vol.	6	G12				8-8	4	2S567				6	57, 58, 56, 2A6, 47, 80	130	4-7
	Tone	21	P													
64	Vol.	6	G12	6			8	1	ST595				6	57, ‡58, 59, 55, 80	‡	4-8
	Tone	22	L				5	15	BB12							
65VL, 65VU	Vol.	56	N				8-8-8-8	45	UR190	B105			6	6A7, ‡78, 6B7, 43,		
							5	15	BB12					25Z5	456	
94	Vol.	15	M				8-8-8	3	See Note	B3			9	‡57, ‡58, 2B7, 56, ‡59,		
	Tone	41	N											5Z3	450	4-9,13
	Sen.	8	A10MP	6												
100 (Auto)	Vol.	7	UC501		See Note	A3							6	‡36, 37, ‡38	175	3-1
102	Vol.	6	G12				8-4	4	2S567				5	‡24, 35, 47, 80	175	3-1
	Tone	22	G12													
104	Vol.	6	G12		EX500		4-4	1	2N518				5	‡35, 24, 47, 80		3-4
	Tone	22	G12													
105	Vol.	6	G7	6			DS29	1	2N518				4	58, 57, 47, 80		4-14
106	Vol.	6	G12				DS23	1	2N518				5	57, 58, 55, 47, 80	‡	4-14
	Tone	21	P		See Note	A4										
200 (Auto)	Vol.	15	N										6	‡36, 85, 37, ‡39	177	4-15,16
FREED TELEVISION & RADIO CORP.																
A7	Vol.	17	N				4-4	15	TN111		210		4	6A7, 78, 6B7, 41	456	4-1
A9	Vol.	15	UM154		See Note	A96	16	1	Order from	Mfr.	210	C3	6	6A7, 6D6, 85, ‡37, 41	456	4-1
							8-20	1	Order from	Mfr.						
							5-5	19	TN111							
							.05		Buffer	B14						
FE63 DC	Vol.	6	Y			A14							6	‡39, ‡36, ‡89		3-8
	Tone	22	L													

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
FREED TELEVISION & RADIO CORP.—Continued																
FE96 DC	Vol.	6	H12	6			24.7	1	See Note	B3			8	§36, 37, §38		3-9
	Tone	22	‡		See Note	A5										
FE98	Vol.	7	‡		See Note	A5	24.30	1	See Note	B3			8	§24, §35, 27, §45, 80	175	3-10
	Tone	22	‡		See Note	A5	24.23	1	See Note	B3						
FE99	Vol.	6	G12										6	§36, 37, §33		3-8
	Tone	22	L													
NR55 DC	Vol.	5	M				1-2	1	See Note	B7			7	§01A, §71A		1-9
NR55 AC, NR56 AC	Vol.	81	DRP240				2-1-4	3	See Note	B1			8	§27, §26, §71, 80		1-10
NR57	Vol.	4	N										6	§26, 71, 27		1-11
NR60 AC	Vol.	4	M										6	§26, 27, 71A		1-13
NR60 DC	Vol.	4	M										7	§01A, §71A		1-12
NR70 AC	Vol.	4	M										7	§26, 210, 27		1-15
NR78 AC, NR79 AC	Vol.	7	K				1-1-4-1	3/14	See Note	B1			8	§27, §45, 80		1-18
NR78 DC, NR79 DC	Vol.	13	M										9	§01A, §71A		1-17
NR80 DC	Vol.	4	C										8	§01A, 12A, §71A		1-19
NR80 AC	Vol.	4	E12										8	§26, 27, 71, 80		1-20
NR85 AC	Vol.	4	E12										8	§26, 27, 50, 81		1-21
NR90 S	Vol.	24	DRP308				1-2-4	3	See Note	B1			8	§24, 27, §45, 80		1-22
NR95 AC	Vol.	7	K12				1-1-4-1	3/14	See Note	B1			9	§27, §45, 80		1-23
MB5	Vol.	7	G12	6			‡	28	See Note	B3			5	§51, 24, 47, 80		3-3
MB7	Vol.	6	G12				8-4	1	See Note	B3			7	§58, 56, 55, 47, 80	175	3-4
	Tone	22	L				4	17	BB11							
MB9	Vol.	6	G12				4-8-8	3	See Note	B3			9	§58, §56, 55, §46, 80	175	3-5
	Tone	22	K12				4	15	BB11							
							4	17	BB12							
51DC	Vol.	6	Y	6									5	§39, 36, §89	175	3-1
54	Vol.	8	G				8-4	1	2N518				5	§58, 57, 47, 82		3-3
56	Vol.	8	G				8-4	1	2N518				5	§58, 57, 47, 80		3-3
58 AC	Vol.	6	Y				8-4	4	2S567				5	57, 58, 55, 47, 80	175	3-1
	Tone	22	K12													
59	Vol.	8	G				8-4	1	2N518				5	§58, 57, 47, 82		3-3
72, 74	Vol.	6	G12	6			8-4	1	2N518				7	§58, 56, 55, 47, 80	175	3-4
	Tone	22	L				4	17	BB11							
90	Vol.	6	G12	6			4-8-8	3	See Note	B3			9	§58, §56, 55, §46, 80	175	3-5
	Tone	22	K12				4	15	BB11							
91 DC	Vol.	6	H12				‡	1	See Note	B7			5	§36, 37, 33		3-6
92 AC	Vol.	8	G12	6			‡	28	See Note	B3			5	§51, 24, 47, 80		3-7
346	Vol.	6	G12	6			8-4	1	2N518				4	78, 77, 42, 80		4-2
							5	15	BB11							
354	Vol.	6	G12	6			8-4	1	2N518				5	6A7, 78, 75, 42, 80	456	4-3
							5	15	BB11							
355	Vol.	6	G12	6			25-14	6	2N509				5	6A7, 78, 75, 43, 25Z5	456	4-4
							5	15	BB11							
360, 360X	Vol.	6	G12	6			8-4	1	2N518				6	6A7, 78, 75, 76, 42, 80	175	4-5
							5	15	BB11							
365, 365X	Vol.	6	G12	6			25-14	6	2N509				6	6A7, 78, 75, 76, 43, 25Z5	456	4-6
							5	15	BB11							
FREED MFG. CO., INC.																
FE24A	Vol.	6	Y				40	24	BB27				4	6D6, 6C6, 43, 25Z5, K55B		9-1
							8	24	BB21							
							5	15	BB12							
27D	Vol.	18	MR48				40	6	BB27				7	6A7, 6D6, 75, 6G5, 26L6G, §25Z5, MT300, §K34B	456	9-2
	Tone	22	MR44				20	6	BB25							
							5	15	BB12							
30D	Vol.	18	MR48				40	24	BB27				6	6A7, 6D6, 75, 6G5, 43, 25Z5, MT650, §K18B	456	9-2
							8	24	BB21							
							5	15	BB12							
FE30L	Vol.	6	Y				4-4	24	2N500				3	6D6, 6C6, 12A7		7-1
FE33	Vol.	6	Y		EX700		12-8	24	2N504				3	6D6, 6C6, 25A7		8-1
							5	15	BB12							
FE48	Vol.	6	Y		EX700		4-4	24	2N500				4	6D6, 6C6, 38, 76		8-1
							5	15	BB12							
FE50, FE51L	Vol.	6	Y		EX700		12-8	24	2N504				4	6D6, 6C6, 43, 25Z5, K55C		8-2
							5	15	BB12							
FE52, FE56, FE58	Vol.	6	MR14				8-12	6	2N504				5	6A7, 6D6, 75, 43, 25Z5	456	7-2
							5	15	BB12							
FE60	Vol.	6	MR14	M26	See Note	A14	12-8	6	2N504				5	6A7, 6D6, 75, 43, 25Z5, K49C	456	8-3
							5	15	BB12							
FE62	Vol.	6	MR14	M26	See Note	A14	12-8	6	2N504				5	6A7, 6K7, 75, 43, 25Z5, L49E	456	8-3
							5	15	BB12							
FE69X	Vol.	45	MR48	M26			8-8	23	2S567				6	6A7, 6D6, 76, 75, 42, 80	456	8-4
							5	15	BB12							
96	Vol.	18	MR48				8-16	23	2S563				6	6A7, 6D6, 75, 41, 6G5, 80	456	9-1
FE97	Vol.	18	MR48				8-16	23	2S563				8	6A7, 6D6, §76, 75, 41, 6G5, 80	456	9-1
	Tone	22	MR44				5	15	BB12							
FE351L	Vol.	6	Y		EX700		12-8	24	2N504				4	6D6, 6C6, 43, 25Z5, K55B		8-2
							5	15	BB12							
351, 351P, 351L	Vol.	6	SRP263		EX400		12-8	6	2N504				4	6D6, 6C6, 43, 25Z5		6-1,2
							5-5	15	TN111							
357P	Vol.	6	Z12		EX400		8-14	6	2N504				5	6A7, 6D6, 76, 43, 25Z5	456	6-2
							5-5	15	TN111							
357L, 358L	Vol.	6	Z12		EX300		8-14	6	2N504				5	6A7, 6D6, 75, 43, 25Z5	132	6-3
							5-5	15	TN111							
369S	Vol.	6	Z12		EX300		8-14	6	2N504				6	6A7, 6D6, 76, 75, 43, 25Z5	456	6-4
							5-5	15	TN111							
JESSE FRENCH																
"G" Jr	Vol.	25	DRP119	6			1-2	1	See Note	B1			5	§24, 45, 80		2-1
H1	Vol.	25	GE	6			8-8-1	1	2N518/TP418				5	§24, 45, 80		2-4
H2 AC	Vol.	6	G12				4	1	ST595				5	24, 47, §51, 80		2-3
H2 Jr	Vol.	6	G12				4, 4	1	ST595				5	§24, 45, 80		3-1
	Tone	21	O													
H2 Special 110V DC	Vol.	40	E12				2-2	1	See Note	B11			5	30, §32, 71A		2-3
S2	Vol.	25	DRP119	6			5483	2	2N518				8	§24, 27, §45, 80		3-2
	Tone	41	O													
U1	Vol.	7	C	6			8, 8	34	ST595				7	§24, 27, §35, 47, 80	175	2-5
	Tone	22	K12													
5-093	Vol.	13	K12				‡	37	See Note	B1			9	§26, 27, §45, 80		1-2
JESSE FRENCH EXPORT.																
5X, 6X, 7X	Vol.	15	M	6			22-173	30	WE851				8	§58, §57, 56, 59, 80	175	5-1
	Tone	34	N													
	Sen.	7	‡		See Note	A5										
8 AC	Vol.	1	K12				‡	3	See Note	B1			9	§26, 27, §71, 80		1-1
FRESHMAN																
G (1st Type)	Vol.	35	M				‡	1	See Note	B4			7	§26, 27, 71, 80		1-2
G (2nd Type)	Vol.	35	M				‡	3	See Note	B4			7	§26, 27, 71, 80		1-3
G (3rd Type)	Vol.	3	G12				2-2-6-4-2-1	3/14	See Note	B4			7	§26, 27, 71, 80		1-3
H	Vol.	35	M				‡	1	See Note	B4			8	§26, 27, 210, §81		1-4

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
FRESHMAN—Continued																
K	Vol.	35	M				‡	1	See Note	B4			7	[4]26, 27, 12A, 213		1-5
L DC	Vol.	35	M										6	[4]01A,[2]12A		1-7
M	Vol.	60	K12		See Note	A43	2-4	1	See Note	B1			7	71,[4]26, 27, 80		1-6
N	Vol.	60	K12		See Note	A43	1-4	1	See Note	B2			7	[4]26, 27, 50, 81		1-7
Q15, Q16	Vol.	60	G12				2-4	1	See Note	B1			5	22, 27, 26, 71, 80		1-9
QD-16-S	Vol.	4	G12				1-2-2	3	See Note	B1			5	22, 27, 26, 71, 80		1-11
2N with 2N60S	Vol.	60	K12		See Note	A43	1-4	1	See Note	B2			7	[4]26, 27, 50, 81		1-8
3Q15, 3Q16	Vol.	4	G12				1-4	1	See Note	B1			5	22, 27, 26, 71, 80		1-11
21AC and 22AC	Vol.	81	DRP240				2-1-4	3	See Note	B1			8	[3]26,[3]27,[3]71A, 80		
21 DC	Vol.	13	M										7	[3]01A,[3]71A		
31, 32, (AC)	Vol.	7	K				1-1-4	3	See Note	B1			8	[3]27,[3]45, 80		
31S, 32S, (AC)	Vol.	58	M				1-1-4	3	See Note	B1			8	[3]27,[3]45, 80		
41 (AC)	Vol.	7	K				1-1-4	3	See Note	B1			9	[3]27,[3]45, 80		
FROST MINTON																
FM4, FM5	Vol.	6	G12				4, 4	25	ST595				5	[3]24, 45, 80		4-3
4PW	Vol.	6	G12				4-4	25	2S567	B3			5	[3]24, 47, 80		4-1,2
FULTON																
Pre							8-8	4	See Note	B3			3	[3]76, 84		6-1
							10	15	BB12							
Z	Vol.	16	M				8-8-8	4/17	RM265	B106			4	2A3, 2A6, 5Z3, 56		6-1
							5-5	15	TN111							
13B	Vol.	95	MM				16	1	See Note	B3			6	2A6, 5Z3,[2]50, 53, 56		6-2
	Equal.	‡	M				4	1	See Note	B4						
							8	17	BB13							
							4	13	BB60							
15B	Vol.	‡	MM				16-6	‡	See Note	B2			6	[3]2A3, 5Z3, 6A6, 75, 76		6-1
	Equal.	95	M		See Note	A3	4	13	BB60							
							8	17	BB13							
35B	Vol.	‡	MM				6-16	1	See Note	B3			7	[2]50, 56, 57, 59,[2]83		6-2
	Equal.	95	M		See Note	A3	2-3	1	See Note	B4						
							10	14	BB13							
							8	15	BB11							
GALVIN MFG CO. "Motorola"																
Super 6	Vol.	56	Order from	Mfr.			8420	1	CM172		270B		6	77,[2]78, 85,[2]12A5	456	4-10
	Tone	44	L													
Dual 6	Vol.	77	Order from	Mfr.			8825	1	SR611		253	C3	6	[2]78, 77, 75, 42, 84	262	5-1,7
	Tone	22	Order from	Mfr.			.01		Buffer	B14						
JB	Vol.	7	K		EX200		32-16-16	11	SR613				6	[2]6D6, 6A7, 75, 43, 25Z5	‡	
	Tone	22	K12				10	15	BB12							
J8	Vol.	7	K		EX150		21632	11	SR613				6	[2]6D6, 6A7, 75, 43, 25Z5	175	4-3
	Tone	22	K12													
S10	Vol.	83	N				8-8-12	3	See Note	B3			8	[2]78, 77, 85, 56, [2]45, 83	175	4-4
	Tone	22	K12				25	15	BB15							
	Sen.	7	K		EX300											
Twin "8"	Vol.	15	Order from	Mfr.			8825	1/19	SR611		253	C3	8	[2]LA, 37, 77, [2]78, 84, 85	262	5-1,7
	Tone	22	Order from	Mfr.			.01		Buffer	B14						
Auto Set	Vol.	7	UC509										6	[3]24, 01A,[2]12		§1-7
"Golden Voice"	Vol.	18	UM154-SS10	M26			2326	1	SR612		901M	C3	10	[2]6K7, 6A8, 6R7,[2]6H6, 6C5,[2]6F6, 0Z4	262	7-1,9
	Tone	22	Order from	Mfr.			.005		Buffer	B14						
	Sen.	7	Order from	Mfr.												
Golden Voice (1937)	Vol.	45	TM230-SS7	M26			3348	1/19	SR609		901M	C3	8	[2]6K7, 6A8G, 6H6G, 6C5G, 6J5G, 6N7G, 0Z4/6X5G	262	8-1
							.005		Buffer	B14						3-1
5 Tube, "Split Case"	Vol.	7	UC510		See Note	A3							5	§01A,[3]24, 71A		
5T (5-1)	Vol.	18	UM147-SS16				14H37285	4	2S567				5	6A7, 6D6, 75, 41, 80	465	8-3
	Tone	34	MR33	M26												
5T late (5-3)	Vol.	15	UM147-SS16				14H37285	4	2S567				5	6A7, 6D6, 75, 41, 80	465	
	Tone	34	MR33	M26												
5T1, 5T2, 5Y9 (5-2)	Vol.	18	UM147-SS16				14H37285	4	2S563				5	6A7, 6D6, 75, 42, 80	465	8-5
	Tone	34	MR33	M26												
6A (6-1)	Vol.	18	UM147-SS16				14H37281	4	2S563				6	6A7, 6D6, 75, 42, 6G5, 80	465	8-6
	Tone	34	MR33	M26												
5T 71	Vol.	7	UC510		See Note	A3	8	12	See Note	B3			5	[3]24, 38, 71A		3-2
6A1 (6-5)	Vol.	15	UM147-SS16				14H37285	4	2S567				6	6A7, 6D6, 75, 41, 80, 6U5	465	
	Tone	34	MR33	M26												
6T, 6Y (6-2)	Vol.	18	UM147-SS16				14H37275	25/13/19	SR623				6	6A8G, 6K7G, 6H6G, 6F5G, 6V6G, 5Y3	465	8-7
	Tone	34	MR33	M26			14H37277	4	WE851							
							14H37288	13	BB60							
6T-12PL	Vol.	7	UC510		See Note	A3	50	‡	See Note	B3			6	[3]24, 01,[2]12		3-3
6X (6-3, 6-6)	Vol.	18	MR48	M26			14H37286	6	2N514				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z6G	465	
							14H37284	15	TN111							
7T-38	Vol.	15	L										7	[3]24, 37,[2]38		3-4
7T-38A	Vol.	62	N										7	[3]51,[2]37,[2]38		3-6
7T-47A	Vol.	62	N				10	19	BB13				7	[3]37,[2]39,[2]LA	175	3-7,9
8-30	Vol.	18	UM154-SS7	M26			23A5186	24/19	SR637		902M	C3	6	[2]78, 6A7, 75, 41, 84	262	9-1,9, 10,11
							.01		Buffer	B14						
8-40	Vol.	18	UM147-SS19	M26			23A4014	1/19	SR637		902M	C3	6	[2]78, 6A7, 75, 41, 84	262	9-2,9, 10,11
							.01		Buffer	B14						
8-50	Vol.	18	UM154-SS19	M26			23A4309	4	2S567		902M	C3	6	[2]78, 6A7, 75, 42, 0Z4	262	9-3,9, 10,11
							.01		Buffer	B14						
8-60	Vol.	18	UM154-SS19	M26			23A4309	4	2S567		902M	C3	6	[2]78, 6A7, 75, 41, 84	262	9-5,9, 10,11
							.01		Buffer	B14						
8-70	Vol.	19	TM231-SS19	M26			23A4571	1/15	SR640		901M	C3	8	[2]6K7G, 6A8G, 6V7G, 6C5G,[2]6V6G, 0Z4	262	9-4,9, 10,11
							.005		Buffer	B14						
8-80	Vol.	19	TM231-SS19	M26			23A4662	1/15	SR640		901M	C3	8	[2]6K7G, 6A8G, 6V7G, 6C5G,[2]6V6G, 0Z4	262	9-7,11
							005		Buffer	B14						
9A, 9R, 9Y (9-1, 9-2, 9-3)	Vol.	20	TM220-SS16				14H37275	25/13/19	SR623				9	6A8G, [2]6K7G, 6H6G, [2]6J5G, 6V6G, 6G5, 5Y3	465	8-9
	Tone	34	MR33	M26			14H37277	4	WE851							
							14H37279	4	ST595							
							14-H-37288	13	BB60							
9-24	Vol.	18	SM302				23A12645	24/19	FPT381		903M	C3	6	[2]7A7, 7B8, 7B6, 7B5, 0Z4/6X5	455	
							.006		Buffer	B14						
9-24A	Vol.	18	SM302				23A12645	24/15	FPT381		903M	C3	6	[2]6K7GT, 6A8GT, 6Q7GT, 6K6GT, 0Z4/6X5	455	
							006		Buffer	B14						
9-29	Vol.	18	UM154-SS19	M26			23A5186	24/15	SR637		902M	C3	6	[2]78, 6A7, 75, 41, 84	262	
							.006		Buffer	B14						
9-39	Vol.	18	UM154-SS19	M26			22A5186	24/15	SR637		902M	C3	6	[2]78, 6A7, 75, 41, 84	262	
							006		Buffer	B14						
9-44	Vol.	18	UM154-SS19	M26			23A14219	1/19	FPT381		902M	C3	6	[2]78, 6A7, 75, 41, 84	262	
							.01		Buffer	B14						
9-49	Vol.	18	UM154-SS19	M26			23A12645	1/19	FPT381		902M	C3	6	[2]7B7, 7A8, 7C6, 7C5, 0Z4, or [2]7A7, 7B8, 7B6, 7B5, 6X5	262	
							.01		Buffer	B14						
9-69	Vol.	45	TM225-SS19	M26			23A13037	1	FPD231		901M	C3	7	7A7, 7B8, 7A6, 7B6, [2]6V6, 0Z4	262	
							.005		Buffer	B14						

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GALVIN MFG CO.—Continued																
10Y (10-1)	Vol.	45	UM147-SS16				14H37275	25/13/19	SR623				10	²6K7G, 6A8G, ²6J5G,		
	Tone	‡	MR39	M26			14H37277	25	WE850					6H6G, 6V6G, 6G5,		
	Fid.	‡	MR48				14H37288	13	BB60					5Y3	465	8-11,12
	Sen.	7	MR19				14H37279	13	ST595							
10Y late (10-3)	Vol.	18	UM147-SS16				14H37275	25/13/19	SR623				10	²6K7G, 6A8G, ²6J5G,		
	Tone	‡	MR39	M26			14H37277	25	WE850					6H6G, 6V6G, 6G5,		
	Fid.	‡	MR48				14H37279	13	ST595					5Y3	465	
	Sen.	7	MR19													
10Y1 (10-2)	Vol.	18	UM147-SS16				14H37274	25	WE3050				10	²6K7G, 6A8G, 6B8G,		
	Tone	‡	MR39	M26			14H37277	25	WE850					6H6G, 6G5, 6J7G,		
	Fid.	‡	MR48				14H37273	13/19	Order from	Mfr.				6R7G, 6V6G, 5Y3	465	9-13,20
	Sen.	7	MR19				14H37279	13	ST595							
12Y, 12Y1 (12-1)	Vol.	18	UM147-SS16				14H37274	25	WE3050				12	²6K7G, 6A8G, 6B8G,		
	Tone	‡	MR39	M26			14H37277	25	WE850					²6J5G, 6H6G, 6J7G,		
	Fid.	‡	MR48				14H37273	13/19	Order from	Mfr.				6R7G, 6V6G, 5X4G,		
	Sen.	7	MR19				14H37279	13	ST595					6U5	465	9-15,20
15F	Vol.	18	UM154-SS7	M26			23A12645	1/19	FPT381		902M	C3	6	²78, 6A7, 75, 41, 84	455	
							.006		Buffer	B14						
16C	Vol.	18	UM154-SS20	M26			23A12645	1/19	FPT381		902M	C3	6	²7A7, 7B8, 7B6, 0Z4,		
							.01		Buffer	B14				7B5	455	
17D	Vol.	18	TM230-SS21	M26			23K13504	1/15	FPT381		902M	C3	6	²78, 75, 6A7, 6V6, 0Z4	455	
							.007		Buffer	B14						
18O	Vol.	18	Order from	Mfr.			23A12645	1/19	FPT381		902M	C3	6	7A8, ²7A7, 7C6, 0Z4,		
							.01		Buffer	B14				7C5	455	
19B	Vol.	18	TM230-SS1	M26			23A13637	1	FPD234		901M	C3	7	²7A7, 7B8, 7B6, ²6V6,		
							.004		Buffer	B14				0Z4	455	
20P	Vol.	18	UM154-SS19	M26			23A12645	1/19	FPT381		901M	C3	7	²78, 6A7, 6Q7GT, ²41,		
							.01		Buffer	B14				0Z4	455	
21L	Vol.	18	UM154-SS19	M26			23A12645	1/19	FPT381		901M	C3	7	²78, 6A7, 6Q7GT, ²41,		
							.01		Buffer	B14				0Z4	455	
22S	Vol.	18	UM154-SS19	M26			23A12645	1/19	FPT381		902M	C3	6	²78, 6A7, 75, 41, 84	455	
							.006		Buffer	B14						
24K	Vol.	18	UM154-SS19	M26			23A12645	1/19	FPT381		901M	C3	7	²78, 6A7, 6Q7GT, ²41,		
							.01		Buffer	B14				0Z4	455	
25N	Vol.	18	UM154-SS19	M26			23A12645	1/19	FPT381		902M	C3	6	²78, 6A7, 75, 41, 84	455	
							.006		Buffer	B14						
34	Vol.	77	UC515	6			8426	1	CM172		901M	C3	6	²78, 77, 75, 42, 84	456	5-8
							R2520	19	BB15							
							.02		Buffer	B14						
35	Vol.	18	UM154-SS8	M26			3344	19/24	SR632		901M	C3	6	²78, 6A7, 75, 41, 84/		
							.01		Buffer	B14				6Z4	262	8-15
44	Vol.	17	SRP280				1823	1	SR601		235	C3	5	12A5, 75, 77, ²78	456	4-5,8
							10	15	BB12							
							.01		Buffer	B14						
45	Vol.	18	UM154-SS8	M26			3344	1/19	SR632		901M	C3	6	²78, 6A7, 75, 41, 84/		
							.01		Buffer	B14				6Z4	262	8-16
49BT1, 49BT2	Vol.	18	MR48	M27			20	19	BB15				4	1A7G, 1N5G, 1H5G,		
														1A5G	455	
50	Vol.	18	UM154-SS11	M26			2317	1	SR602		901M	C3	6	6A7, ²78, 75, 41, 84	262	7-2
							.01		Buffer	B14						
51	Vol.	83	N										5	²36, 39, 85, 41	175	
52T, 52Y	Vol.	18	MR44										4	1C7G, 1D5G, 1F7G,		
														1G5G	465	
55	Vol.	56	SRP280	7			88300	24	2N518		231	C3	5	77, ²78, 75, LA	456	4-9
							830	1/19	SR603							
							.01		Buffer	B14						
56T, 56Y	Vol.	18	Order from	Mfr.			14H37283	1	Order from	Mfr.	246	C3	5	6D8G, 6S7G, 6T7G,		
	Tone	22	MR33	M26			10-10	15	TN111					6K6G, 6Z7G	465	
							.005		Buffer	B14						
57	Vol.	17	UM154-SS15	M26			1540	1/19	SR604		253T	C3	5	6A7, 41, 75, 78, 84	456	6-1
							.01		Buffer	B14						
59F1	Vol.	18	MR53	M27			15-10-20	1/19	TN136				5	6A7, 6D6, 75, 6V6G,		
														80	455	9-22
59K1 (59R5)	Vol.	80	TM231-SS22				23A11336	1	TN139				5	6A7, 6D6, 75, 41, 80	455	9-23
	Tone	80	UM160-SS22	M26		A99										
59T1, 59T3 (59R3, 59R1)	Vol.	18	MR53	M26T			23A11519	24/19	TN129	B10			4	6C6, 6D6, 75, 25A7G,		
							23A10846	24/19	TN129					M73B	455	9-26
59T2, 59T4 (59R2, 59R4)	Vol.	18	MR53	M26T			23K11087	25	TN136				5	6A7, 6D6, 75, 41, 80	455	9-27
59T5 (59R5)	Vol.	80	TM231-SS22				23A11336	1	TN139				5	6A7, 6D6, 75, 41, 80	455	9-23
	Tone	80	UM160-SS22	M26		A99										
60	Vol.	18	UM154-SS10	M26			2188	1	SR605		901M	C3	6	78, 6A7, 75, 6B5, 84	262	7-3,6
							.008		Buffer	B14						
61	Vol.	83	N				8200 L or W	1	CS133		302S	C3	5	²36, 39, 85, 41	175	3-15
							.1		Buffer	B14						
62	Vol.	17	UM154-SS15	M26			1540	1/19	SR604		253T	C3	5	6A7, 41, 75, 78, 84	456	6-1
							.01		Buffer	B14						
65	Vol.	18	UM154-SS9	M26			3345	1	2N517		901M	C3	6	²78, 6A7, 75, 6AB6G,		
							.01		Buffer	B14				0Z4/6X5G	262	8-7
66	Vol.	17	Order from	Mfr.			8420	1	CM172		270B		6	77, ²78, 85, ²12A5	456	4-10
	Tone	44	L													
69K1 (69R1)	Vol.	80	TM231-SS22				23K11357	25	TN139				6	6A7, 6D6, 6Q7G, ²42,		
	Tone	80	UM160-SS22	M26		A99								80	455	9-29
70	Vol.	18	UM154-SS7	M26			3346	4	2S567		901M	C3	6	²78, 6A7, 75, 42, 0Z4/		
							.005		Buffer	B14				6X5G	262	8-18
75	Vol.	18	UM154-SS15	M26			1465 or 1468	1/19	SR607		253T	C3	6	²78, 77, 75, 41, 84	262	6-1,2
							.01		Buffer	B14						
77	Vol.	17	SRP280				8300A	4	BB61		230	C3	7	²39, 77, 75, ²LA	456	4-11,15
							8300B	4	BB61							
							6530	19	SR608							
							.01		Buffer	B14						
77A	Vol.	56	SRP280				8420	1	CM172		270B		7	²12A5, 77, ²78, 85	456	4-12
	Tone	44	L													
78	Vol.	15	N										7	²36, ²38, 39, 85, 37	175	
79	Vol.	56	UM154-SS15	M26			1468 or 1465	1/19	SR607		253T	C3	6	²78, 77, 75, 41, 84	262	6-1,2
							.01		Buffer	B14						
80	Vol.	55	UM154-SS10	M26			2185	1	SR609		901M	C3	8	²6K7, 6A8, 6H6, 6C5,		
	Tone	76	Order from	Mfr.			.005		Buffer	B14				²6N6, 0Z4	262	7-4,7
88	Vol.	15	N				8200 L or W	1	CS133		302S	C3	7	²36, 39, 85, 37, ²38	175	3-10,14
							.05		Buffer	B14						
89K1, 89K2 (89R1)	Vol. & Tone		Order from	Mfr.			23A10045	1	WE4050				8	²6D6, 6A7, ²75, ²42, 80	455	9-31,32
							23A10044	1	WE4030							
89K3	Vol.	80	TM240-SS1				23A11951	25	FPS146				8	6A7, 6D6, ²75, ²42, 80,		
	Tone	80	MR54			A99	23A10044	25	WE4030					76	455	
100	Vol.	77	UM154-SS11	M26			1388	1/19	SR610		253T	C3	8	²78, 77, 85, 76, ²LA, 84	262	6-2,5
							.01		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GALVIN MFG CO.	—Continued															
109K1, 109K2	Vol.	80	TM240-SS1				23A10045	25	WE4050				10	[2]6K7G, 6J5G, 6A8G,		
	Tone	80	MR54			A99	23A10044	25	WE4030					6H6G, 6Q7G,		
							23A11710	14	BB41					[2]6F6G, 5Z3, 6U7G	455	
							23K12069	‡	BB17							
110	Vol.	18	UM154-SS11	M26			1388	1/19	SR610		253T	C3	8	[2]78, 77, 85, 37, [2]LA, 84	262	6-2,3
							.01		Buffer	B14						
496BT1	Vol.	18	MR48	M26			23A11959	24/15	FPT357		246A	C3	4	6D8G, 6S7G, 6T7G,		
							.03		Buffer	B14				6G6G	455	
GAMBLE SKOGMO																
A1	Vol.	45	N	6			44X31	23	WE1250				8	6J7, 6K7, 6C5, 6H6,		
	Tone	34	UC502				44X35	23	WE3035					6G5, 6F5, 6F6,		
														5Y3G, or 6J7G,		
														6U7G, 6C5G, 6H6,		
														6G5, 6F6G, 5Y3G	456	
A2	Vol.	20	TM228-SS1	M26			44X30	25	RS216				11	[2]6K7, [2]6J7, [2]6C5, 6H6,		
	Tone	34	O				44X11	25	WE1835					6G5, [2]6F6, 5Y3G,		
							45X223	13	BB31					or [2]6U7G, [2]6J7G,		
							45X222	19	BB15					[2]6C5G, 6H6, 6G5,		
														[2]6F6G, 5Y3G	456	
A3	Vol.	20	TRP618	6			44X21	25	WE3050				13	[3]6K7, 6J7, 6C5, 6H6,		
	Tone	65	O				44X36	25	WE4030					6G5, [2]6L6, [2]5Y3G,		
							45X224	‡	BB15					or [3]6U7G, 6J7G,		
														[2]6C5G, 6H6, 6G5,		
														[2]6L6G, [2]5Y3G	456	
A6	Vol.	20	TRP618	6			44X21	25	WE3050				13	[3]6K7, 6J7, [3]6C5, 6H6,		
	Tone	65	O				44X36	25	WE4030					6G5, [2]6L6, [2]5Y3G,		
							45X224	‡	BB15					or [3]6U7G, 6J7G,		
														[2]6C5G, 6H6, 6G5,		
														[2]6L6G, [2]5Y3G	456	
06A	Vol.	97	TRP602				P80968	12	BB31				5	32, [2]34, 19, 30	175	7-3
07A	Vol.	15	O	6			P80990	25	RS216				6	[2]6D6, 6C6, 37, 42, 80	175	7-4
	Tone	22	UC502				P80916	25	RS213							
							8	15	BB12	B10						
2-ODM-578	Vol.	7/15	DRP315	6T			44X10	4	RS216				10	[4]6K7, [2]76, [2]45, 80	456	7-49
	Tone	41	UC504				44X11	4	WE1635							
							44X18	13	RS213							
5Y	Vol.	17	P	6			P82002	1/15	CM175		286S	C3	5	[2]6D6, 6C6, 75, 41	175	7-1
							.007		Buffer	B14	G286S	C16				
6C1	Vol.	18	UM147-SS3	M26			45X210	4	CM172		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	8-1,2
	Tone	22	UC502				.0075		Buffer	B14						
6J Series	Vol.	56	TM220-SS3	M26			45X219	1/15	3S579		248	C3	6	[2]6K7, 6J7, 6B7, 41,		
	Tone	22	MR53				.0055		Buffer	B14				6A6	175	8-3,6
6K	Vol.	18			See Note	A19	P45X211	1	CM175/BB12	B8	248	C3	6	[2]6K7, 6J7, 6B7, 41,		
	Tone	22	MR53				.005		Buffer	B14				6A6	175	9-1
6L	Vol.	18	UM154-SS3	M26			P45X210	4	CM172		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	
	Tone	22	UC502				.0075		Buffer	B14						
6U	Vol.	18	UC511	6			P81028	1	CM172		253	C3	6	[2]78, 77, 75, 41, 84	262	7-5
	Tone	22	UC502				P91021	15	TN111							
							.01		Buffer	B14						
7J512, 7J574	Vol.	56	N				44X11	23	WE1835				7	[2]6D6, 76, 6B7, 42, 80	456	7-6,8
	Tone	34	UC502				44X10	23	RS216							
11B	Vol.	15	N	6			17644	1	WE1650				11	[2]6K7, 6A8, [2]6C5, 6F5,		
	Tone	130	N				17645	1	RS216					6G5, [2]6L6, [2]5Y3	456	8-7
							17672	14	BB31							
							17080	15	BB12							
20C7, 20C8	Vol.	45	P	6			P81039	2	RS216				10	[4]6D6, [2]76, [2]45, 80	456	6-1,2
	Tone	41	UC504				P81018	12/13	CM175							
22CM756	Vol.	7/15	DRP315	6			P44X21	25	WE3050				12	[4]6K7, [2]76, [2]6F6, [2]80	456	7-11,13
	Tone	22	UC504				P44X11	25	RS216							
							P44X20	19	Order from	Mfr.						
26B5	Vol.	56	N	6			P81016	23	CM172		F251	C3	6	6F7, 6D6, 6B7, 12A5,		
	Tone	34	UC502				.015		Buffer	B14				[2]12Z3	175	7-15,16
26FM552	Vol.	7/15	Order from	Mfr.			P44X22	3	WE3050				16	[4]6K7, [2]76, 6B7, 6F7,		
	Tone	34	O				P44X23	13	RS208					[2]A3, 45, [2]5Z3	456	7-16,22
							P45X205	13/‡	CM162/BB31							
							P44X26	13	BB42							
26R1	Vol.	17	UC514	6			E45X206C	4/15	3S575		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	7-23,24
	Tone	34	UC502				.0075		Buffer	B14						
26S1	Vol.	17	UC514	6			45X204	1	2S567		253	C3	6	[2]6D6, 6C6, 75, 41, 84	175	6-3,4
	Tone	22	M				45X203	15	TN111							
27C1, 27C5	Vol.	45	O				P81014	12	CM164				7	[3]34, [3]30, 19	175	6-7,8
30A	Vol.	6	SRP263	6	EX200		1258	25	CS133				4	6D6, 6C6, 42, 80		7-91
							1260	25	CS131							
31BT	Vol.	45	N				2272	1	CM164		245A	C3	6	1C6, [3]34, [3]30, 19	465	7-27,28
	Tone	22	K12	7			.02		Buffer	B14						
34BT	Vol.	18	N	7			2272	1	CM164		245A	C3	4	1C6, 34, 1B5, 38	465	7-29,30
	Tone	57	N				8876	15	BB12							
							.02		Buffer	B14						
36L	Vol.	18	N	6									6	6A7, 6D6, 75, 76, [3]48	465	7-31,32
	Tone	44	Y													
42DL670	Vol.	45	TM247-SS1	M26			30	2	WE3050				13	[4]6K7, [3]6C5, 6H6, 6G5,		
	Tone	65	P				12	2	RS215					[2]6L6, [2]5Z4MG	456	8-9,11
46L1	Vol.	18	UM154-SS3	M26			45X210	4	CM172		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	7-33,34
	Tone	22	UC502				.0075		Buffer	B14						
47LL	Vol.	17	TRP612	6			14	23	RS216				8	[3]6K7, 6C5, 6Q7, 6G5,		
	Tone	34	Order from	Mfr.			18	23	WE1835					6F6, 5Z4MG	456	8-15,16
47P608	Vol.	18	MR48	M26			30-12	13/15	BB14/BB12				7	[3]6K7, 6A8, 85, 43, 6A6	456	8-17,19
	Tone	44	MR36													
47R, 47RL	Vol.	56	N	6			P44X10	23	RS216				8	[3]6K7, 76, 6B7, 6G5,		
	Tone	34	Order from	Mfr.			P44X11	23	WE1835					6F6, 80	456	8-21,23
51C	Vol.	6	G12	6			8	4	RS213				5	[3]57, 58, 47, 80	175	7-42
	Tone	22	K12				4	4	ST595							
							25	17	BB15							
70	Vol.	15	O				8-8	1	2N518				9	[4]35, [3]27, [2]47, 80	262	8-12
	Tone	44	UC502				8	13	CS133							
							8	15	BB13							
71C	Vol.	56	O				8-4	1	2S567				7	[3]58, 57, 55, 2A5, 56, 80	175	9-3
	Tone	22	K12	6			12	15	BB12							
72 (8, 8X)	Vol.	15	O				8-8	1	CM172				7	[3]35, [3]27, 47, 80	262	9-4
	Tone	22	L													
77, 77A	Vol.	15	N	7									7	1C6, 19, [2]30, 32, [2]34	456	6-6,7-14
85	Vol.	6	G12				3366	1	CS131				5	[2]24A, 35, 47, 80	262	7-35,36
							2803	1	CS133							
90, 92D, 92M	Vol.	2/10	DRP241				4	13	BB31				5	[3]32, 33	175	8-20,24
400A, 410B	Vol.	135	UC501										4	1C6, 34, 32, 33	456	7-37
401, 402	Vol.	6			See Note	A3	18-219	24/15	4N701				4	6K7, 6F5, 25L6, 25Z6		9-5
404	Vol.	97	TRP601										4	1A6, [2]32, 33	465	7-38
	Fil.	29	M4R													
425	Vol.	7	G				8	4	RS213				4	58, 57, 47, 80		7-40
							4	4	RS213							

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GAMBLE SKOGMO—Continued																
430	Vol.	2	G12				17080	19	BB12				3	1A6, 19, 33	456	7-39
457 (Regal)	Vol.	6	G12		See Note A14		8-8	4	2S567				4	58, 57, 47, 80		7-40
460	Vol.	6	H12	6	See Note A14		1840	4	RS215				1	6A7, 6C6, 42, 80	456	8-25
							1841	4	RS216							
501	Vol.	70	H12										5	‡32, 34, 33, 30	465	7-41
	Fil.	29	R													
510, 511	Vol.	17	MR48	M26			8, 8	4	CS133				5	6A7, 6D6, 75, 42, 80	456	8-26
							10	15	BB12							
516	Vol.	134	K12										5	32, ‡34, 30, 19	456	7-41
Z516	Vol.	15	N	6			22-173	23	CS133				8	‡58, 56, ‡57, 59, 80	175	8-27,28
	Tone	34	M				22-172	23	CS130							
521	Vol.	17	MR53				18-102	1/15	3S575				5	6A7, 6D6, 75, 41, 80	456	9-6
Z521	Vol.	20	TRP606				22-167	28	CS133				10	‡58, ‡56, ‡59, 57, 80	175	7-43
	Tone	41	M				22-169	15	BB13							
	Sen.	7	UC500													
525	Vol.	17	N	6			C525	11	UR182	B31			5	6D6, 75, 43, 25Z5	456	7-42
526	Vol.	6			See Note A3		18-212	24/15	3N532				4	6D6, 6C6, 43, 25Z5, L55C		9-5
Z530	Vol.	20	TRP606	6			22-167	28	CS133				12	‡58, ‡56, ‡59, ‡57, 80	175	7-45
	Tone	41	M				22-169	15	BB13							
	Sen.	7	UC500													
540	Vol.	17	N	6			C525C/C525D	11	UR182	B31			5	‡6D6, 25Z5, 43, 75	456	6-10
540 (Batt.)	Vol.	131	N	7			17080	19	BB12				4	1C6, 1A4, 1B5, 950	456	
541	Vol.	56	MR48	M27			17080	19	BB12				4	1C7G, 1D5G, 1H6G, 1G5G	456	
550AC	Vol.	17	MR48	M26			P1003	4	RM262				5	2A7, 58, 2A6, 2A5, 80	456	8-29
550 (Batt.)	Vol.	15	N				17080	19	BB12				5	1A6, 34, 30, 32, 33	456	7-53
566	Vol.	18	UM154-SS13	M26			119-20	4	2S567				5	6A8, 6K7, 75, 41, 84	465	9-7
							.01		Buffer	B14						
575	Vol.	6	Z12	6	EX100		P119-6	4	2S567				5	58, ‡57, 2A5, 80	175	6-12
578	Vol.	56	O				P103-6	1	RS213				5	6A7, 6D6, 6B7, 42, 80	456	7-47
							P103-7	4	RS213							
580	Vol.	17	N	6			P119-15	4	2S564		294	C3	5	6D6, 6A7, 75, 42, 84	175	7-51
							.01		Buffer	B14						
585 Series "A"	Vol.	18	N	6			P119-11	1/15	3S575				5	6F7, 6D6, 75, 42, 80	370	7-55
585 Series B and C	Vol.	18	N	6			P103-6	4	RS213				5	6F7, 6D6, 75, 42, 80	370	7-55
							P103-7	4	RS213						465	
586A	Vol.	18	O	6			P103-6	42	RS213				5	6A7, 78, 75, 41, 80	465	7-57
							P103-7	42	RS213							
600	Vol.	18	MR48				18-102	1/15	3S575				6	6A7, 6D6, 6G5, 75, 41, 80	456	9-9
623	Vol.	18	MR48				18-102	1/15	3S575				6	6A7, 6D6, 75, 6G5, 41, 80	456	9-10
	Tone	21	MR48	M26												
645	Vol.	18	MR48				18-102	1/15	3S575				6	6A7, 6D6, 75, 6G5, 41, 80	456	9-11
	Tone	21	MR48	M26												
648	Vol.	18	MR53	M26			18-226	1	2S568				6	6A7, 6D6, 75, 76, 6AC5G, 80	455	9-12
	Tone	22	MR48													
650A, B, C	Vol.	62	N	7			17080	19	BB12				6	1C6, ‡1A4, 30, ‡950	456	8-30
660	Vol.	17	N	6			C550	4	CM172		220B	C3	6	‡6D6, 6A7, 75, 89, 6Z4	175	7-63
670	Vol.	17	N	6			P103-2	4	RM262		299	C3	6	6D6, 6C6, 78, 75, 42, 84	175	6-13
							20	15	BB15							
							.02		Buffer	B14						
670A	Vol.	17	N	6			P119-4	4	CM172		299	C3	6	‡6D6, 6C6, 75, 42, 84	175	7-61
675	Vol.	18	N	6			P103-4	4	RS216				6	2A5, 2A6, 27, 57, 58, 80	370	6-15,16
							P103-3	4	WE1835							
675A	Vol.	18	MR48	M27			E17080	19	BB12				5	‡1D5G, 1C7G, 1H6G, 1G5G	456	
680, 680B	Vol.	62	N	7			E17355	12	BB31				7	1C6, ‡34, ‡30, 1B5, 19	456	
680 Auto	Vol.	61	UC514	6			P119-17	4	CM162		299	C3	6	‡6D6, 6A7, 6B7, 42, 84	175	7-64
							.01		Buffer	B14						
685B	Vol.	18	MR48	M27			E17080	19	BB12				6	‡1D5G, 1C7G, 1H6G, 1G5G	456	
686 "A" and "B"	Vol.	18	O	6			P103-6	42	RS213				7	6L7, 6K7, 6Q7, 6C5, 6F6, 5Y3, 6G5	465	7-65
	Tone	22	K12													
690	Vol.	18	MR48				16-16	1	2S566				6	6A8G, 6K7G, 6Q7G, ‡6K6G, 5Y3G	456	
	Tone	22	MR39													
715, 715B	Vol.	18	MR48				16	1	RS216				7	6A8G, 6K7G, 6Q7G, 6C5G, ‡6F6G, 5Y3G	456	
	Tone	22	MR39				16	1	WE1650							
735	Vol.	18	MR48				18-202	25	RS215				7	6A7, 6D6, 76, 6Q7G, 6V6G, 6G5, 80	456	9-14
	Tone	21	MR48	M26T			18-201	25	RS215							
740 series A	Vol.	18	O	6			103-6	4	RS213				7	6A8, 6K7, 6Q7, 6C5, ‡6F6, 5Y3	465	8-31
	Tone	22	M				103-14	4	RS216							
750	Vol.	18	N				8, 8	4	WE850				7	‡58, 2A7, 55, ‡45, 80	175	7-67
	Tone	21	M				5	14	BB31							
762	Vol.	45	MR48	M26			44X31	23	WE1250				8	6J7, 6K7, 6C5, 6H6, 6G5, 6F5, 6F6, 5Y3G, or 6J7G, 6K7G, 6C5G, 6H6, 6G5, 6F5G, 6F6G, 5Y3G	456	8-33,36
	Tone	34	UC502				44X35	23	WE3035							
770	Vol.	56	TRP611	6			P103-8	43	RS216				7	‡6K7, 6C6, 6C5, 6B7, 42, 80	465	7-69
	Tone	21	SRP286	8			P103-4	43	RS216							
774	Vol.	45	TM228-SS1	M26			44X30	25	RS216				11	‡6K7, ‡6J7, ‡6C5, 6H6, 6G5, ‡6F6, 5Y3G, or ‡6U7G, ‡6J7G, ‡6C5G, 6H6, 6G5, ‡6F6G, 5Y3G	456	8-37,40
	Tone	34	MR53				44X11	25	WE1835							
							45X223	13	BB31							
							45X222	19	BB15							
777C and 777L, Series "A"	Vol.	18	O	6			P103-4	4	RS216				7	‡6D6, 6C6, 76, 75, 42, 80	465	7-71
	Tone	21	M				P103-3	4	WE1835							
777C and 777L, Series "B"	Vol.	56	O	6			P103-8	4	RS216				7	‡6D6, 6C6, 76, 6B7, 42, 80	465	7-71
	Tone	57	M				P103-4	4	RS216							
778A	Vol.	18	TRP611	6			P103-8	25	RS216				7	‡6K7, 6J7, 6C5, 6Q7, 6F6, 5Y3	465	7-75
	Tone	21	SRP286	8			P103-6	25	RS213							
780, 780B	Vol.	15	N	7			E17355	12	BB31				7	1C6, ‡34, ‡30, 1B5, 19	456	7-74
787	Vol.	18	MR53	M26			103-6	23	RS213				7	6L7, 6C5, 6K7, 6Q7, 6G5, 6F6, 5W4	465	8-41
	Tone	22	K12				103-7	23	RS213							
810	Vol.	15	N	6			17644	1	WE1650				8	6A8, 6K7, 6C5, 6G5, ‡41, 80, 6F5	456	8-43
	Tone	130	UC513	6		A86	17645	1	RS216							
							17080	15	BB12							
822	Vol.	56	MR44	M27			103-11	12	ST585				8	1A6, 1A4, ‡30, ‡34, 19	465	8-43
	Tone	21	MR44													
850B	Vol.	15	N				17355	12	BB31				8	‡1A4, 1C6, ‡30, ‡950	456	8-52
	Tone	140	UC502	6		A86	17080	19	BB12							
1050	Vol.	15	N				P1048	26	WE850				10	‡58, 2A7, 456, ‡45, 80	175	7-77
	Tone	...‡	L	6			P1038	26	WE850							
	Supp.	12	F7													
1170	Vol.	20	TRP611	6			102-10	25	WE3050				11	‡6K7, 6J7, 6C5, 6H6, 6F5, ‡6F6, 5Z4, 6G5	465	8-45
	Tone	22	E12				103-8	25	RS216							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GAMBLE SKOGMO—Continued																
2078D	Vol.	6	G12	6			4703	1	CM172				5	[3]57, 58, 47, 80	455	7-79
2090	Vol.	15	M				8-8-8	28	See Note	B3			9	[3]58, [3]57, 56, [4]46, 80	262	7-82
	Tone	95	L				4	‡	See Note	B3						
	Sen.	98	F													
2092, 2094	Vol.	15	M				8-8-8	28	See Note	B3			10	[3]58, [3]56, [4]46, 80	262	7-85
	Tone	95	K12				8-8	‡	See Note	B3						
3128	Vol.	6	Y				4-12-4	11	UR182	B182			5	6F7, 78, 75, 43, 25Z5	455	7-90
3132, 3134, 3140	Vol.	6	F7										5	[3]32, 34, 33, 30	455	9-15
	Fil.	29	M6R													
5953A	Vol.	18	N	6									6	6A7, 6D6, 75, 76, [3]48	465	7-87,89
6100	Vol.	6	MR21				9925	1	BB61		F221	C3	6	[3]78, 37, 77, 38, 25Z5	465	9-17
							9328	15	TN111							
							8705	1	BB61							
							.02		Buffer	B14						
6953A	Vol.	18	N	6									6	6A7, 6D6, 75, [3]48	465	7-87,89
7735, 7742, 7755	Vol.	45	N	7			1291	12	ST585				6	1C6, 34, [3]30, 32, 19	465	7-91
GAROD																
Challenger I	Vol.	17	N	6			12-12	1	2N506				5	6A7, 6D6, 75, 25L6, 25Z5	456	8-3
							5	15	BB12							
Challenger II	Vol.	17	MR48	M26			12-12	1	2N506				5	6A7, 6D6, 75, 25L6, 25Z5	456	9-1
							5	15	BB12							
Challenger III	Vol.	140	1 Meg. No. 1		See No	te A19	40-25	1	2N514				6	6A7, 6D6, 75, 25L6, 25Z5, 6F5	456	9-1
	Tone	140	MR53				10	15	BB12					‡		3-2
EM	Vol.	16	N				4-4	1	2N518							
2B2, 2B2-1	Vol.	‡	MR53	M27									6	1C7G, [3]1D5G, 1H6G, 1H4G, 1J6G	456	9-2
	Tone	44	MR39													
2B6, 2B6-1	Vol.	‡	MR53	M27			20-20	1	UR192		W245	C3	6	1C7G, [3]1D5G, 1H6G, 1H4G, 1J6G	456	9-2
	Tone	44	MR39				.01		Buffer	B14						
3B2, 3B2-3	Vol.	‡	MR53	M27			20-20	1	UR192	B3			7	[3]1D5G, 1C7G, 1H6G, 1H4G, 1J6G	456	
	Tone	44	MR39													
3B6, 3B6-3	Vol.	‡	MR53	M27			20-20	1	UR192	B3	W245	C3	7	[3]1D5G, 1C7G, 1H6G, 1H4G, 1J6G	456	
	Tone	44	MR39				.01		Buffer	B14						
25	Vol.	17	N	6			8, 8	4	ST595				5	6A7, 6D6, 75, 42, 80	‡	6-1
	Tone	34	L				12, 12	4	ST596	B12						
26	Vol.	15	N	6			12, 12	4	ST596				6	6A8, 6K7, 6H6, 6F5, 6F6, 80	456	7-1
	Tone	34	L													
27	Vol.	64	N	6			12, 12	4	ST596				7	[3]6D6, 6A7, 76, 42, 80	456	6-2
	Tone	34	L													
31, 31LW	Vol.	45	N	6			20-12	6	2N509				6	6A7, 6K7, 6H6, 6F5, 43, 25Z5	456	7-3
	Tone	22	L				5	15	BB12							
32, 32LW	Vol.	45	N	6			25-12-20	63	TN127	B3			7	6A7, 6K7, 6H6, 6F5, 43, [3]25Z5	456	7-4
	Tone	22	L				5	15	BB12							
33 and 33LW	Vol.	18	N				20-12-8	11	TN125				6	6A7, 6D6, 75, 43, 76, 25Z5	456	6-3
	Tone	22	L				5-5	15	TN111							
33, 33LW (Rev.)	Vol.	45	N	6			20-12	6	2N509				6	6A7, 6K7, 6H6, 6F5, 43, 25Z5	456	7-3
	Tone	22	L				5	15	BB12							
35SW	Vol.	7	G	6			20-12	6	2N509				5	6A7, 6D6, 6C6, 43, 12Z3	456	7-6
	Tone	22	L				5	15	BB12							
49, 49M	Vol.	45	N	6			12, 12	1	ST596				10	[3]6K7, 6A8, 6H6, 6E5, [3]6V6, [3]45, 80	456	7-7,8
	Tone	44	L													
58	Vol.	7	D	6			8-20-12	8	UR182	B3			8	6A7, [3]6D6, [3]25Z5, [3]43, 85	456	6-4
	Tone	22	L				5	15	BB12							
60	Vol.	18	N	6			20-12	6	2N509				5	6A7, 6K7, 75, 43, 25Z5, BK49D	456	7-2
							5	15	BB12							
66	Vol.	18	N	6			20-12	6	2N509				7	6A7, [3]6D6, 75, [3]43, 25Z5	456	6-5
	Tone	22	L				10-10	15	TN111							
73, 73LW	Vol.	45	N	6			12, 12	4	ST596				7	[3]6D6, 6A7, 76, 42, 80	456	7-13
	Tone	34	L				5	15	BB12							
83 and 83LW	Vol.	18	N	6			25-12-20	6/12	UR182	B3			8	6A7, [3]6D6, [3]25Z5, [3]43, 85	456	6-6
	Tone	44	L													
104, 104M	Vol.	18	N	7			12-25	6	2N512				11	[3]6K7, 6A7, 85, 6E5, [4]43, [3]25Z5	456	7-9,10
	Tone	44	L	6			20	12	BB25							
	Sen.	7	D				25	44	BB26	B3						
115	Vol.	7	D	8			20	75	BB25				10	6A7, [3]6D6, 85, [4]43, [3]25Z5	456	8-1,2
	Tone	22	L	6			12	75	BB22							
							8	75	BB21							
205, 205C, 205L, 205-1	Vol.	80	1 Meg. No. 1		See No	te A19	16, 16	4	ST597				5	6A7, 6K7, 6Q7, 42, 80	456	9-3
	Tone	80	MR53													
206, 206C, 206L, 206-1, 206P4	Vol.	80	1 Meg. No. 1		See No	te A19	16, 16	4	ST597				6	6A7, 6K7, 6Q7, 6U5, 42, 80	456	9-3
	Tone	80	MR53													
237	Vol.	8	D				8	11	BB21				7	6A7, [3]6D6, 85, [3]43, 25Z5	456	9-4
	Tone	44	L				20	11	BB25							
							12	11	BB22							
250	Vol.	18	MR48				9	25	ST596				5	6A7, 6K7, 75, 42, 80	456	9-5
307, 307E, 307L, 307T, 307-1	Vol.	140	1 Meg. No. 1		See No	te A19	16	4	RS216				7	6A8G, 6K7, 6H6, 6F5, 6U5, 6V6, 80	456	9-6
	Tone	140	MR53				9	4	RS213							
309 series	Vol.	140	1 Meg. No. 1		See No	te A19	16, 16	4	RS216				9	[3]6K7, 6A8G, 6H6, 6F5G, 6U5, 6L6G, 80	456	9-7,8
	Tone	140	MR53													
	Sen.	7	D													
310	Vol.	18	N	7			25-20-12	75	TN127				10	[3]6D6, 6A7, 85, [4]43, [3]25Z5	456	8-1,2
	Tone	22	‡		See No	te A5										
	Sen.	42	D	6												
311	Vol.	45	MR48	M27			25-20-12	75	TN127				11	[3]6K7, 6A7, 6H6, 6C5, [4]43, [3]25Z5	456	8-4
	Tone	‡	‡		See No	te A5										
	Sen.	42	D	6												
337	Vol.	8	D				8	11	BB21				7	6A7, [3]6D6, 85, [3]43, 25Z5	456	9-4
	Tone	44	L				20	11	BB25							
							12	11	BB22							
370, 371 series	Vol.	20	TRP611	6			16	4	RS216				7	6A8G, 6K7G, 6H6G, 6F5G, 6G5, 6L6G, 5Y3, or 6A8, 6K7, 6H6, 6F5, 6G5, 6L6, 5X4	456	8-5
	Tone	22	L				9	4	RS213							
380, 381 series	Vol.	20	TRP611	6			16, 16	4	RS216				8	[3]6K7, 6A8, 6H6, 6F5, 6L6, 5Y3, or [3]6K7G, 6A8G, 6H6G, 6F5G, 6G5, 6L6G, 5Y3	456	8-6,7
	Tone	34	L													
511A, 511G, 511P	Vol.	45	N	7			12, 12, 12	3	RS215				12	[4]6K7, 6A8, 6H6, 6E5, [3]6C5, [3]45, 5Z3	456	7-11,12
	Tone	34	L	6			12	13	RS215							
							5	15	BB12							
							25	15	BB14							
514	Vol.	45	N	7			20-12	‡	2N509				14	[4]6K7, 6A7, 6H6, [3]6C5, [4]43, [3]25Z5	456	7-15,16
	Tone	44	UC503	6			25	‡	RS207							
514M	Vol.	45	N	7			20-12	‡	2N509				15	[4]6K7, 6A7, 6H6, [3]6C5, 6E5, [4]43, [3]25Z5	456	7-17,18
							30	‡	RS207							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GAROD—Continued																
520 Twenty Grand	Vol.	45	N	7			12, 12, 12	3	RS215				20	[1]6K7, 6A8, [2]6H6, [4]6C5, 6E5, [4]45, [5]5Z3	456	7-19,20
	Tone	...‡..	L	6			8, 8	40	RS213							
							[2]	13	BB63							
							5	15	BB12							
							25	15	BB14							
602, 602C, 602L, 602-1	Vol.	80	1 Meg. No. 1		See No	te A19	20-12	1	2N509				5	6A7, 6K7, 6Q7G, 25L6G, 25Z5	456	9-9
	Tone	80	MR53				10	15	BB12							
							7	13	BB21							
620	Vol.	18	MR48	M26			20-12	1	2N509				5	6A7, 6K7, 75, 43, 25Z5	456	8-8
							5	15	BB12							
703E, 703EC, 703L	Vol.	140	1 Meg. No. 1	M26			20-12	1	2N509				6	6A7, 6K7, 6Q7G, 25L6G, 25Z5, 6U5	456	9-10
	Tone	140	MR53				7	13	BB21							
							10	15	BB12							
731	Vol.	18	MR48	M26			20-12	1	2N509				6	6A7, 6K7, 75, 43, 25Z5, 6G5	456	8-9
	Tone	22	L				10	15	BB12							
762	Vol.	140	1 Meg. No. 1		See No	te A19	40-25	1	2N514				6	6A7, 6D6, 76, 6F5, 25L6G, 25Z5	456	9-13
	Tone	140	MR53				10	15	BB12							
782, 782-1	Vol.	80	1 Meg. No. 1		See No	te A19	40-25	6	2N514				6	6A7, 6D6, 6Q7G, 25L6, [2]25Z5	456	9-11
	Tone	80	MR53				10	15	BB12							
803L, 803T, 803-1	Vol.	80	1 Meg. No. 1		See No	te A19	40-25	6	2N514				7	6A8G, 6K7, 6Q7G, 6U5, 25L6, [2]25Z6	456	
	Tone	80	MR53				10	15	BB12							
830, 830C, 830D, 830KC, 831, 831C, 831D, 831KC	Vol.	20	TRP611	6			20-12	6	2N509				7	6A8, 6K7, 6H6, 6F5, 6G5, 25A6, 25Z6, or 6A8G, 6K7G, 6F5G, 6G5, 25A6G, 25Z6	456	8-10
	Tone	22	L				10	15	BB12							
830A, 831A	Vol.	80	TRP611	6			40-25	6	2N514				7	6A8, 6K7, 6Q7, 6G5, 25L6, [2]25Z6, or 6A8G, 6K7G, 6Q7G, 6G5, 25L6, [2]25Z6	456	8-11
	Tone	80	MR53				10	15	BB12							
903 series	Vol.	80	1 Meg. No. 1		See No	te A19	80	75	TN129	B8			9	6K7, 6A8G, 6B8G, 6Q7G, 6G5, [2]25L6, [2]25Z6G	456	9-15
	Tone	80	MR53				25	75	RS207							
	Sen.	7	D	6			40	75	RS208							
930, 931 series	Vol.	17	TRP611	6			30-20	75	BB26/BB25				9	[1]6K7, 6A8, 6R7, 6G5, [2]25A6, [2]25Z6, or [1]6K7G, 6A8G, 6R7G, 6G5, [2]25A6G, [2]25Z6G	456	8-12
	Tone	44	L				12	75	BB22							
930A	Vol.	80	TRP611	6			60-25-40	75	Order from	Mfr.			9	6K7, 6A8, 6B8, 6Q7, 6G5, [2]25L6, [2]25Z6, or 6K7G, 6A8G, 6B8, 6Q7G, 6G5, [2]25L6G, [2]25Z6	456	8-14
	Tone	80	MR53													
1203-1204 series	Vol.	80	1 Meg. No. 1		See No	te A19	40-25	75	2N514				12	6A7, 6A8G, 6B8G, 6Q7G, 6U5, [2]25L6, [2]25Z6G	456	9-17
	Tone	80	MR53				80	75	TN129	B8						
1240, 1240E, 1240LC	Vol.	17	TRP611	7			30-20	75	BB26/BB25				12	[1]6K7G, 6A8G, 6H6G, 6C5G, 6G5, [4]25A6G, [2]25Z6G, or [1]6K7, 6A8, 6H6, 6C5, 6G5, [2]25A6, [2]25Z6	456	8-15
	Sen.	7	D	6			12	75	BB22							
							10	15	BB12							
1240A	Vol.	80	TRP611	7			60-25-40	75	Order from	Mfr.			12	6K7, 6A8, 6B8, 6Q7, 6G5, [2]25L6, [2]25Z6, or 6K7G, 6A8G, 6B8G, 6Q7, 6G5, [2]25L6, [2]25Z6G	456	8-17
	Tone	80	MR53				10	15	BB12							
	Sen.	7	D	6												
1603, 1604	Vol.	140	TM243-SS1	M27			80	75	TN129	B8			16	[1]6K7, 6A8G, 6H6, 6U5, 6F5, 6J5G, [2]25L6, [2]25Z6G	456	9-19
	Tone	140	MR53	M26			10-10	15	TN111							
	Sen.	7	D	6												
1650, 1650H and 1650LC	Vol.	20	TM243-SS1	M27			20-12-10	75/15	RM259/TN111	B266			16	[1]6K7, 6L7, 6H6, 6G5, [2]6C5, [2]25A6, [2]25Z6, or [1]6K7G, 6L7G, 6H6G, 6G5, [2]6C5G, [2]25A6G, [2]25Z6	456	8-18
	Tone	...‡..	K12	6			30	75	RS207	B266						
							8-8	13	2N516							
1650A	Vol.	17	1 Meg. No. 1		See No	te A19	25-40-10-10	75/15	Order from	Mfr.			16	[1]6K7, 6L7, 6Q7, 6G5, 6C5, [2]25L6, [2]25Z6, or [1]6K7G, 6L7G 6Q7G, 6G5, 6C5G, [2]25L6, [2]25Z6	456	8-20
	Tone	...‡..	MR53	M26			60	75	TN127	B8						
							8-8	13	2N516							
3012 series	Vol.	140	TM243-SS1	M27			16, 16	25	WE1650				12	[1]6K7, 6A8G, 6H6, 6U5, [2]6J5G, [2]6V6G, 80	456	9-21
	Tone	140	MR53													
	Sen.	7	D	6												
3016	Vol.	140	1 Meg. No. 1		See No	te A19	16, 16, 16	3	WE1650				16	[1]6K7, 6A8G, [2]6H6, 6U5, [2]6J5G, [2]6V6G, [2]80	456	9-23
	Tone	140	MR53	M26			16	13	RS216							
	Sen.	7	E	6												
4012 series	Vol.	140	TM243-SS1	M27			16, 16	25	WE1650				12	[1]6K7, 6A8G, 6H6, 6U5, [2]6J5G, [2]6V6G, 80	456	9-21
	Tone	140	MR53													
	Sen.	7	D	6												
4016	Vol.	140	1 Meg. No. 1		See No	te A19	16, 16, 16	3	WE1650				16	[1]6K7, 6A8G, [2]6H6, 6U5, 6J5G, [2]6V6G, [2]80	456	9-23
	Tone	140	MR53	M26			16	13	RS216							
	Sen.	7	MR14	M26												
4110	Vol.	20	TM243-SS1	M27			16	1	RS216				11	[1]6K7, 6L7, 6H6, 6F5, 6G5, 6C5, [4]45, 5Y3	456	9-25
	Sen.	7	D	6			16	1	WE1650							
							5	15	BB12							
5140	Vol.	20	TM243-SS1	M27			16, 16, 16	3	WE1650				14	[1]6K7, 6L7, 6H6, 6G5, [1]6C5, [2]6L6, 5Z3, or [1]6K7G, 6L7G, 6H6G, 6G5, [1]6C5G, [2]6L6G, 5Z3	456	9-27
	Tone	...‡..	K12	6			16	13	RS216							
							8-8	13	2N516							
							10	15	BB12							
5240	Vol.	...‡..	MR53	M27			5-5	1	RS215				24	[1]6K7, 6L7, [1]6C5, 6J7, [2]6H6, 6G5, [1]6L6, 6X5, [3]5X4	456	8-21
	Bass	15	MR53	M26			16	1	WE1650							
							9, 9	‡	ST585							
							16, 16	13	RS216							
							8-8-8	13	3S583							
							10	15	BB12							
GENERAL ELECTRIC																
A52	Vol.	18	N				RC409	1	RS216				5	6A8, 6K7, 6Q7, 6F6, 5Z4	465	7-1,3
							RC403	1	RS213							
							RC511	15	TN111							
A53	Vol.	8	A5MP				RC402	1	RS213				5	5Z4, 6A8, 6F6, 6J7, 6K7	465	6-4
							RC403	1	RS213							
							RC511	15	TN111							
A54	Vol.	18	N				RC524	8	RM259	B108			5	6A8, 6K7, 6Q7, 25A6, 25Z6	465	7-5,6
							RC516	8/15	2N504	B108						
A55	Vol.	18	N				RC409	1	RS216				5	6A8, 6K7, 6Q7, 6F6, 5Z4	465	7-1,3
							RC403	1	RS213							
							RC511	15	TN111							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GENERAL ELECTRIC—Continued																
A60—See RCA—Victor M-32																
A63	Vol.	62	M	6			RC409	1	RS216				6	6A8, 6K7, 6H6, 6C5, 6F6, 5Z4	465	6-9
							RC403	1	RS213							
							RC501	13/15	2N518							
A64	Vol.	19	TRP603				RC404	1	RS215				6	6A8, 6K7, 6H6, 6J7, 6F6, 5Z4	465	6-14
	Tone	34	G12				RC407	1	RS216							
							RC501	13/15	2N518	B109						
							RC502	13/14	2N518	B109						
A65	Vol.	62	M	6			RC409	1	RS216				6	6A8, 6K7, 6H6, 6C5, 6F6, 5Z4	465	6-9
							RC403	1	RS213							
							RC501	13/15	2N518	B109						
A67	Vol.	19	TRP603				RC404	1	RS215				6	6A8, 6K7, 6H6, 6J7, 6F6, 5Z4	465	6-14
	Tone	34	G12				RC407	1	RS216							
							RC501	13/15	2N518	B109						
							RC502	13/14	2N518	B109						
A70	Vol.	19	TRP603				RC404	1	RS215				7	5Z4, 6A8, 6C5, 6F6, 6H6, ½6K7	465	6-19,23
	Tone	34	L	6			RC407	1	RS216							
							RC502	13/14	2N518	B109						
							RC503	15	TN111							
A75	Vol.	19	TRP603				RC404	1	RS215				7	5Z4, 6A8, 6C5, 6F6, 6H6, ½6K7	465	6-19,23
	Tone	34	L	6			RC407	1	RS216							
							RC502	13/14	2N518	B109						
							RC503	15	TN111							
A81—See RCA—Victor P31																
A82	Vol.	...‡..	DRP311				RC405	1	RS215				7	½6K7, 6A8, 6H6, 6C5, 6F6, 5Z4	465	6-24
	Tone	34	L				RC408	1	RS216							
	Sen.	7	C				RC502	13/14	2N518	B109						
							RC504	15	BB12							
A83, A85	Vol.	15	TRP613				RC406	1	WE1650				8	½6K7, 6A8, 6H6, 6F5, ½6F6, 5Z4	456	7-21,24
	Tone	22	N	6			RC415	1	RS216							
							RC525	13/15	3S575							
							RC526	15	BB15							
A87	Vol.	...‡..	DRP311				RC405	1	RS215				8	½6K7, 6A8, 6H6, 6C5, ½6F6, 5Z4	465	6-24,30
	Tone	34	L				RC408	1	RS216							
	Sen.	7	C				RC502	13/14	2N518	B109						
							RC504	15	BB12							
A125	Vol.	...‡..	DRP318				RC406	1	WE1650				12	½6K7, 6L7, 6C5, ½6H6, 6F5, ½6F6, 5Z4	465	7-33,39
	B.Tone	...‡..	M				RC412	1	WE3050							
	T.Tone	22	M	6			RC509	13/15	BB31/TN111							
	Sen.	7	C				RC518	13	BB31							
							RC510	19	BB13							
A205	Vol.	2/45/21	Order from	Mfr.			RC411	46/13	WE3050				20	½6K7, ½6H6, ½6C5, ½6F6, 6L7, ½5Z4	465	9-55 to 60,9-69
	Treble	...‡..	MR39	M26			RC515	46	RS216							
	Bass	21	MR44				RC512	19	BB19							
	Sen.	7	A20MP				RC520	13/15	Order from	Mfr.						to 74
	Meter	7	MR14													
A205E	Vol. and Tone	15/21	Order from	Mfr.			RC411	46/13	WE3050				19	½6K7, 6L7, ½6C5, 6H6, 6B8, ½6F6, ½6L6, ½5Z4	465	9-75 to 80
	Bass	...‡..	MR39				RC406	13	WE1650							
	Vol.	15	MR48				RC515	46	RS216							
	Sen.	7	A20MP				RC512	19	BB19							
							RC504	15	BB12							
							RC520	13/15	Order from	Mfr.						
A208	Vol.	2/45/21	Order from	Mfr.			RC411	46/13	WE3050				20	½6K7, ½6H6, ½6C5, ½6F6, 6L7, ½5Z4	465	9-61 to 74
	Treble	...‡..	MR39	M26			RC515	46	RS216							
	Bass	21	MR44				RC512	19	BB19							
	Sen.	7	A20MP				RC520	13/15	Order from	Mfr.						
	Meter	7	MR14													
A208E	Vol. and Tone	15/21	Order from	Mfr.			RC411	46/13	WE3050				19	½6K7, 6L7, ½6C5, 6H6, 6B8, ½6F6, ½6L6, ½5Z4	465	9-75 to 80
	Bass	...‡..	MR39				RC406	13	WE1650							
	Vol.	15	MR48				RC515	46	RS216							
	Sen.	7	A20MP				RC512	19	BB19							
							RC504	15	BB12							
							RC520	13/15	Order from	Mfr.						
E50	Vol.	7	E	6	2		RC564	1	2N518				5	6A8, 6K7, 6C5, 6F6, 5W4	465	8-4,6
E51	Vol.	18	MR48	M26			RC566	8	2N504				5	6A8, 6K7, 6Q7, 25A6, 25Z6	465	8-9,12
							RC565	8/15	2N512							
E52	Vol.	7	E	6	2		RC564	1	2N518				5	6A8, 6K7, 6C5, 6F6, 5W4	465	8-1,6
E61, E62	Vol.	15	TM248-SS1	M26			RC413	4	RS216				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	465	7-9,12
							RC403	4	RS213							
							RC567	4	SR634	B20						
E68	Vol.	15	TM248-SS1	M26			RC413	4	RS216				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	465	7-9,12
							RC403	4	RS213							
							RC567	4	SR634	B20						
E71, E72, E76	Vol.	15	TRP613	6			RC413	1	RS216				7	6A8, ½6K7, 6H6, 6F5, 6F6, 5W4	465	7-13,16
							RC412	1	WE3050							
E79	Vol.	20	TRP613	6			RC413	1	RS216				7	6A8, ½6K7, 6H6, 6F5, 6F6, 5W4	465	8-41,46
							RC412	1	WE3050							
E81	Vol.	15	TRP613	6			RC414	1	RS216				8	½6K7, 6A8, 6H6, 6F5, 6L6, 5Z4	465	7-17,20
	Tone	22	SRP285	6			RC415	1	RS216							
							RC563	13/14	2N517							
E86	Vol.	15	TRP613	6			RC414	1	RS216				8	½6K7, 6A8, 6H6, 6F5, 6L6, 5Z4	465	7-17,20
	Tone	22	SRP285	6			RC415	1	RS216							
							RC563	13/14	2N517							
E91	Vol.	15	TRP613	6			RC414	1	RS216				9	½6K7G, 6A8, 6H6, 6F5, 6C5, 6L6, 5Z4	465	7-25,28
	Tone	22	SRP285	6			RC415	1	RS216							
							RC562	13/14	CM173							
E95	Vol.	15	TRP613	6			RC414	1	RS216				9	½6K7, 6A8, 6H6, 6F5, 6C6, 6L6, 5Z4	465	7-25,28
	Tone	22	SRP285	6			RC415	1	RS216							
							RC562	13/14	CM173							
E101	Vol.	15	TRP613				RC414	1	RS216				10	½6K7, 6A8, 6J7, 6H6, 6F5, 6C5, 6L6, 5Z4	465	7-29,32
	Tone	22	SRP285	6			RC425	1	WE3050							
							RC424	13	RS207							
							RC423	13	RS207							
							RC561	13/15	BB40/TN111							
E105, E106	Vol.	15	TRP613	6			RC414	1	RS216				10	½6K7, 6A8, 6J7, 6H6, 6F5, 6C5, 6L6, 5Z4	465	7-29,32
	Tone	22	SRP285	6			RC425	1	WE3050							
							RC424	13	RS207							
							RC423	13	RS207							
							RC561	13/15	BB40/TN111							
E115	Vol.	15	TRP613				RC405	1	RS215				11	½6K7, 6A8, 6H6, ½6C5, ½6F6, ½5W4	465	8-57,60
							RC568	1/15	2S563/BB12	B6						
E126	Vol.	20	TRP621	6			RC411	1	WE3050				12	½6K7, 6L7, 6J7, 6H6, 6C5, ½6F6, 5Z4	465	8-62,70
	Tone	41	SRP286	6			RC412	1	WE3050							
							RC426	14	ST587							
							RC551	13/15	ST595/BB12							
							RC558	13/15	BB19/BB12							

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GENERAL ELECTRIC—Continued																
E129	Vol.	20	TRP621	6			RC411	1	WE3050				12	6J7, ½6K7, 6L7, 6H6,		
	Tone	41	SRP286	6			RC412	1	WE3050					6C5, ½6F6, 5Z4	465	8-71,81
							RC426	14	ST587							
							RC551	13/15	ST595/BB12							
							RC558	13/15	BB19/BB12							
E155	Vol.	20	Order from	Mfr.			RC406	3	WE1650				15	½6K7, 6L7, 6J7, ½6H6,		
	Tone	22	SRP284	6			RC411	3	WE3050					6C5, 6F6, ½6L6, ½5Z4	465	8-83,92
							RC409	3	RS216							
							RC553	13/15	BB19/2N518							
							RC554	13/14	3S584							
							RC504	15	BB12							
F40	Vol.	6	F7	6	4		RC585	1	3S584				5	6A7, 6H7, 41, 80	455	9-1,2
F51	Vol.	18	MR55	M26			RC587	4	SR634				5	6A7, 6D6, 75, 41, 80	455	9-7,8
F53	Vol.	7	E	6	2		RC564	1	2N518				5	6A8, 6K7, 6C5, 6F6, 5W4	465	8-21,22
F63	Vol.	20	TM245-SS1	M26			RC574	4	SR634				6	6A8, 6K7, 6H6, 6F5, 41, 80	465	8-27,28
F65, F66	Vol.	20	TM245-SS1	M26			RC574	4	SR634				6	6A8, 6K7, 6H6, 6F5, 41, 80	465	8-27,28
F70	Vol.	20	TM245-SS1				RC575	1/15	SR641				7	6A8, ½6K7, 6H6, 6F5, 42, 80	465	8-29,31
F74	Vol.	20	TM245-SS1	M26			RC589	1/14/15	SR641				7	6A8, 6H6, 6K7, 6F5, 41, 80, 6U5	465	9-15,17
F75	Vol.	20	TM245-SS1				RC575	1/15	SR641				7	6A8, ½6K7, 6H6, 6F5, 42, 80	465	8-29,31
F77	Vol.	20	TM245-SS1	M26			RC589	1/14/15	SR641				7	6A8, 6H6, 6K7, 6F5, 41, 80, 6U5	465	9-15,17
F80	Vol.	20	TM245-SS1				RC575	1/14/15	SR641				8	6A8, ½6K7, 6H6, 6F5, 42, 80, 6U5	465	9-18,20
F81	Vol.	20	TM245-SS1				RC569	1/14/15	SR641				8	6A8, ½6K7, 6H6, 6F5, 42, 80	465	8-51,55
F85	Vol.	20	TM245-SS1				RC575	1/14/15	SR641				8	6A8, ½6K7, 6H6, 6F5, 42, 80, 6U5	465	9-18,20
F86	Vol.	20	TM245-SS1				RC569	1/14/15	SR641				8	6A8, ½6K7, 6H6, 6F5, 42, 80	465	8-51,55
F88	Vol.	20	TM245-SS1				RC575	1/14/15	SR641				8	6A8, ½6K7, 6H6, 6F5, 42, 6U5, 80	465	9-21,25
F96	Vol.	20	TM253-SS1				RC427	1	WE1650				9	½6K7, 6A8, 6J5G, 6H6,		
							RC428	1	WE3050					6F5, 42, 80	465	9-26,31
							RC579	14/15	Order from	Mfr.						
F107	Vol.	20	TM253-SS1				RC427	1	WE1650				10	½6K7, 6A8, ½6J5G,		
							RC428	1	WE3050					½6H6, 6L6G, 5Z4	465	9-40,46
							RC579	14/15	Order from	Mfr.						
F135	Vol.	20	TM253-SS1				RC427	30	WE1650				13	½6K7, 6L7, ½6J5G,		
							RC429	30	WE3050					½6H6G, ½6L6G, 5Z3	465	9-49,56
							RC580	30/15	Order from	Mfr.						
FA60	Vol.	15	UM161-SS12				RC570	1/15	3S579		248	C3	6	½6K7, 6A8, 6H6, 6F5, 6F6	175	8-23,26
							.02-.02		Buffer	B14						
FA61	Vol.	15	UM161-SS12				RC570	1/15	3S579		248	C3	6	½6K7, 6A8, 6H6, 6F5, 6F6	175	8-23,26
							.02-.02		Buffer	B14						
FA80	Vol.	15	UM161-SS12				RC571	1/15	3S579/BB42		248	C3	8	½6K7, 6A8, ½6C5, 6H6, 6R7, 6N7	175	8-47,50
							.02-.02		Buffer	B14						
FB52, FB53, FB56, FB57	Vol.	17	MR55				RC572	13	TN120		W246	C3	5	1C7G, ½1D5G, ½1F7G	465	8-17,20
							RC573	1	BB34							
							.03-.03		Buffer	B14						
FB72, FB73, FB76, FB77	Vol.	17	MR55				RC572	13	TN120		W246	C3	7	1C7G, ½1D5G, 1F7G,		
							RC573	1	BB34					1H4G, 1J6G, 1E5G	465	8-37,40
							.03-.03		Buffer	B14						
FD62	Vol.	17	TM249-SS1	M26			50-50	4	Order from	Mfr.			5	6A8, 6K7, 6Q7, 43, 25Z5, BL49C	465	9-13,14
FD625	Vol.	17	TM249-SS1	M26			50-50	4	Order from	Mfr.			5	6A8, 6K7, 6Q7, 43, 25Z5, BL49C	465	9-13,14
FE62	Vol.	20	TM245-SS1				RC576	1/14/15	Order from	Mfr.			6	6A7, 6K7, 6H6, 6F5, 42, 80	455	
FE63	Vol.	20	TM241-SS1	M26			RC589	1/14/15	SR641				6	6A8, 6K7, 6H6, 6F5, 41, 80	465	
FE67, FE68	Vol.	20	TM245-SS1				RC576	1/14/15	Order from	Mfr.			6	6A7, 6K7, 6H6, 6F5, 42, 80	455	
FE82	Vol.	20	TM245-SS1				RC427	1	WE1650				8	½6K7, 6A8, 6H6, 6F5, 42, 80	455	
FE87	Vol.	20	TM245-SS1				RC583	‡	3S579/BB64	B141						
FE112	Vol.	20	TM248-SS1				RC427	1	WE1650				8	½6K7, 6A8, 6H6, 6F5, 42, 80	455	
							RC583	1/14/15	3S579/BB64	B141						
							RC429	1	WE3050				11	½6K7, 6L7, 6J5G, ½6H6,		
							RC428	1	WE3050					6F5, 6L6G, 6U5, 5Z3	455	
							RC584	14/15	3S579/BB14	B144						
FE116	Vol.	20	TM248-SS1				RC429	1	WE3050				11	½6K7, 6L7, 6J5G, ½6H6,		
							RC428	1	WE3050					6F5, 6L6G, 6U5, 5Z3	455	
							RC584	14/15	3S579/BB14	B144						
FE119	Vol.	20	TM248-SS1				RC429	1	WE3050				11	½6K7, 6L7, 6J5G, ½6H6,		
							RC428	1	WE3050					6F5, 6L6G, 6U5, 5Z3	455	
							RC584	14/15	3S579/BB14	B144						
G50	Vol.	18	MR55	M26			RC587	4	3S584	B8			5	6A7, 6D6, 75, 41, 80	465	9-3,4
G53	Vol.	20	TM246-SS1	M26			RC593	1	2N518				5	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G	455	9-9,11
G55	Vol.	18	MR55	M26			RC587	4	3S584	B8			5	6A7, 6D6, 75, 41, 80	465	9-3,4
G56	Vol.	20	TM246-SS1	M26			RC593	1	2N518				5	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G	455	9-9,11
G57	Vol.	18	MR55	M26			12-8	4	3S584	B8			5	6A7, 6D6, 75, 41, 80	465	9-3,4
G61	Vol.	17	TM259-SS1				RC594	1/13	3S584				6	6A8G, 6K7, 75, 76, 6AC5G, 5Y3G	455	
G66	Vol.	17	TM259-SS1				RC594	1/13	3S584				6	6A8G, 6K7, 75, 76, 6AC5G, 5Y3G	455	
G68	Vol.	17	TM259-SS1				RC594	1/13	3S584				6	6A8G, 6K7, 75, 76, 6AC5G, 5Y3G	455	
G69	Vol.	17	TM259-SS1				RC594	1/13	3S584				6	6A8G, 6K7, 75, 76, 6AC5G, 5Y3G	455	
G75	Vol.	17	TM246-SS1	M26			RC593	1	2N518				7	6A8G, 6K7, 6H6, 6F5, 6K6G, 5Y3G, 6U5,	455	
G76	Vol.	17	2 Meg		See Note A19		8-8-12	1/13	See Note	B3			6	6k7, 75, 76, 6AC5G, 6U5, 5Y3G	455	
G78	Vol.	17	TM259-SS1				RC594	1/13	3S584				7	6A8G, 6SK7, 6H6, 6SF5, 76, 6AC5G, 5Y3G	455	
G85	Vol.	17	TM259-SS1				12-8-8	1/13	2N518/BB63				8	6A8G, ½6K7, 6Q7G, 76, 6AC5G, 6U5, 5Y3G	455	
G86	Vol.	17	TM259-SS1				RC594	1/13	3S584				8	6A8G, 6SK7, 6H6, 6SF5, 76, 6AC5G, 6U5, 5Y3G	455	

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GENERAL ELECTRIC—Continued																
G95	Vol.	17	TRP609				RC429	25	WE3050				9	²⁶K7, 6A8, 6H6, 6F5, 6J5G,²⁶V6G, 5U4G	455	
							RC695	14/15	BB62/BB15							
G97	Vol.	20	TM253-SS1				RC247	1	WE1650				9	³⁶K7, 6A8G, 6J5G, 6H6, 6F5, 42, 5Y3G	465	9-47,48
							RC248	1	WE3050							
							10-10-4-25	14/15	See Note	B3						
G99	Vol.	17	TM259-SS1				RC594	46	38584				9	6A8G,²⁶K7, 6H6, 6F5, 76, 6AC5G, 6U5, 5Y3G	455	
G105, G106	Vol.	17	TM251-SS1				RC129	25	WE3050				9	²⁶K7, 6A8G, 6H6, 6F5, 6J5G, 6V6G, 6U5, 5U4G	455	9-32,39
							RC596	14/15	BB62/BB15							
GA62	Vol.	18	TM230-SS1	M26			RC5127S	74	ST595		854	C3	6	²⁶K7, 6A8, 6Q7, 6K6G, 6X5G	465	
							.01		Buffer	B14						
GB400	Vol.	18	MR55				RC5118	12	BB31				4	1A7G, 1N5G, 1H5G, 1C5G	455	
GD41, GD41U	Vol.	7	UM128-SS1	M26		A14	RC598W	1	TN125				4	6D6, 6C6, 25L6G, 25Z5, L55F		9-6
GD44A, GD44B	Vol.	7	MR28	M26			RC598W	1/15	TN125				4	6D6, 6C6, 25L6G, 25Z5, L55F		
	Phono.	50	MR39													
GD52	Vol.	20	TM258-SS1	M26			RC599	4	2P549				5	6A8G, 6K7, 6Q7G, 25L6G, 25Z5, 49A	455	
							RC5106	4	2P553	B12						
GD52A	Vol.	18	MR55				RC599	4	2P549				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z5, 49A	455	
GD62, GD67	Vol.	18	MR55	M26			RC586	40	Order from	Mfr.			5	6A7, 6D6, 75, 25L6G, 25Z6G, BL49B	465	
GD63	Vol.	18	TM258-SS1	M26			RC5119	24/15	FPT311				5	6A8G, 6K7, 6Q7G, 25L6G, 25Z5, 49A	455	
							RC5114	24	BB24	B12						
GD500	Vol.	6	MR24	M26			RC5120	24	FPD211				5	6K7GT, 6F5GT, 6J5GT, 25L6GT, 25Z6GT	455	
GD520, GD521	Vol.	18	MR48	M26			RC5125R	24	2N509				5	6A8GT, 6K7GT, 6Q7GT, 25L6GT, 25Z6GT	456	
GD600, GD630	Vol.	6	MR18				RC5121	4	2P552				5	6A8G, 6SK7, 6SF5, 25L6G, 25Z6G, BL49B	455	
							RC5115	4	BB27	B12						
GD610, GD620	Vol.	18	MR55				RC5121	4	2P552				5	6A8G, 6SK7, 6SQ7, 25L6G, 25Z6G, BL49B	455	
							RC5115	4	BB27	B12						
H73, H77, H78, H79	Vol.	45	TM248-SS1				RC5130	‡	FPQ416				7	6SA7, 6SK7, 6H6, 6SF5, 6J5G, 6Y6G, 5Y3G	455	
H87	Vol.	124	2 Meg.		See Note	A19	RC5130	‡	FPQ416				8	6SA7, 6SQ7, ²⁶Y6G, 6J5G,³⁵Y3G, 6SK7	455	
H91, H91R	Vol.	8	K		See Note	A16	G5020	4	CS133				9	24,²27,³35,³47, 80	175	4-1,4
	Tone	‡	K		See Note	A16										
H116, H118	Vol.	124	2 Meg.		See Note	A19	RC5130	‡	FPQ416				11	6SA7, ²⁶SK7, 6H6, 6SF5, 6J5G, 6U5, ²⁶Y6G,³5Y3G	455	
H500, 501, 510, 511, 520, 521 (W and X)	Vol.	124	MR55				RC5135	24/15	FPT311				5	12A8GT, 12SK7, 12SQ7, 35L6GT, 35Z5GT	455	
H634, H638, H640	Vol.	124	TM248-SS1				RC5134	24/13/15	FPQ410				6	6SA7, 6SK7, 6SQ7, 6J5G, 25L6G, 25Z6G, BL42D	455	
N60	Vol.	17	UM163-SS3	M26			RC779	4/15	CM175	B3	294	C3	6	6F6, 6J7,²6K7, 6Q7, 6X5	175	7-7,8
	Tone	34	MR42				.0075		Buffer	B14						
U50	Vol.	45	MR53				4	12	BB31				5	1A6, 34, 30, 32, 1F4	175	8-7,8
U51, U55	Vol.	18	MR53	M26			RBC502	46	TN127		246	C3	5	1C6,³34, 1B5, 1F4	456	8-12,16
							.01		Buffer	B14						
U70, U75	Vol.	45	O	7			RBC504	1	RS207	Order	from Mfr.		7	³34, 1C6,³30, 19	456	8-32,36
	Tone	‡	UC502				RBC503	1/13	RM259							
For all other General Electric Models see the Cross Reference below.																

CROSS REFERENCE OF GENERAL ELECTRIC—RCA VICTOR MODELS

A-90—See RCA Victor M30
BX—See RCA Victor R17M
B40—See RCA Victor M34
B52—See RCA Victor M116
B81—See RCA Victor 142B
B86—See RCA Victor 241B
C30—See RCA Victor 91B
C41—See RCA Victor M105
C60—See RCA Victor M107
C61—See RCA Victor M123
C62—See RCA Victor 126B
C67—See RCA Victor 223
C70—See RCA Victor 135B
C75—See RCA Victor 235B
D50—See RCA Victor M101
D51—See RCA Victor M104
D52—See RCA Victor M108
D72—See RCA Victor M109
E52—See RCA Victor T5
H31—See Radiola 80
H32—See RCA Victor R50
H51—See Radiola 82
H51R—See Radiola 82R
H71—See Radiola 86
H71R—See Radiola 86R
H72—See RCA Victor RAE 59
H91, H91R—See Previous Page
J70—See RCA Victor R4
J72—See RCA Victor R70 and R70N
J75—See RCA Victor R6
J80—See RCA Victor R8
J82—See RCA Victor R71
J83—See RCA Victor R-73 with 47's
J83A—See RCA Victor R73 with 2A5's
J85—See RCA Victor R12
J86—See RCA Victor R72
J87—See RCA Victor R75 (47's)
J87A—See RCA Victor R75 (2A5's)
J88—See RCA Victor R71
J100—See RCA Victor R100
J105—See RCA Victor R76
J107—See RCA Victor R77
J109—See RCA Victor RE81
J125—See RCA Victor R78
J125A—See RCA Victor R78 (2)
JZ30—See RCA Victor SW2
JZ822—See RCA Victor R24
JZ822A—See RCA Victor R24A (47)
JZ826—See Victor R24
JX828-J88 with SW adapter
JZ835—See RCA Victor RO23
K40—See RCA Victor R27
K40A—See RCA Victor R18W
K41—See RCA Victor R17M
K43—See RCA Victor 100
K48—See RCA Victor 300
K50—See RCA Victor R28
K50P—See RCA Victor R28P
K51—See RCA Victor R28
K51P—See RCA Victor R28P
K52—See RCA Victor 110
K53—See RCA Victor 111
K53M—See RCA Victor 115
K54—See RCA Victor RE40
K54P—See RCA Victor RE40P
K55—See RCA Victor 210
K58—See RCA Victor 310
K60—See RCA Victor R37
K60P—See RCA Victor R37P
K62—See RCA Victor R11
K63—See RCA Victor 120
K64—See RCA Victor 121
K64D—See RCA Victor 127
K65—See RCA Victor R38
K65P—See RCA Victor R38P
K66—See RCA Victor 220
K66M—See RCA Victor 222
K78—See RCA Victor 330
K79—See RCA Victor 331
K80—See RCA Victor 140 and 140E
K80X—See RCA Victor 141 and 141E
K82—GE K62 in clock cabinet
K85—See RCA Victor 240
K88—See RCA Victor 340
K88X—See RCA Victor 34E
K105—See RCA Victor 261
K106—See RCA Victor R90
K106P—See RCA Victor R90P
K107—See RCA Victor R260
K126—See RCA Victor 280
KZ-62P—See RCA Victor RE18, RE18A
L50—See RCA Victor R22S
L51—See RCA Victor R22W
L52—See RCA Victor 112
L52A—See RCA Victor 112A
L53—See RCA Victor 114
M40—See RCA Victor 102
M41—See RCA Victor 101
M42—See RCA Victor 103
M49—See RCA Victor 301
M50—See RCA Victor 117
M51—See RCA Victor 118
M51—See RCA Victor 118 (mod)
M52—See RCA Victor 119
M55—See RCA Victor 214
M56—See RCA Victor 211
M61—See RCA Victor 128
M62—See RCA Victor 125
M63—See RCA Victor 124
M65—See RCA Victor 221
M66—See RCA Victor 226
M67—See RCA Victor 224
M68—See RCA Victor Duo 321
M69—See RCA Victor 322
M81—See RCA Victor 143
M85—See RCA Victor 243
M86—See RCA Victor 242
M89—See RCA Victor 341
M106—See RCA Victor 262
M107—See RCA Victor 263
M125—See RCA Victor 281
M128—See RCA Victor Duo 380
M128R—See RCA Victor 380HR
M129—See RCA Victor 381
N60—See Previous Page
S22—See RCA Victor R7
S22X—See RCA Victor R7
S22D—See RCA Victor R7 DC
S42—See RCA Victor R9
S42B—See RCA Victor R43
S42D—See RCA Victor R9 DC
S132—See RCA Victor R10
SZ42P—See RCA Victor RE16
T12—See RCA Victor R5
T11D—See RCA Victor R5 DC
T12E—See RCA Victor R5X
T41—See RCA Victor Radiola 48

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GENERAL ELECTRONICS																
AW50	Vol.	17	N				8, 8	1	ST595				7	[3]58, 55, 47, 56, 80	465	§5-7
							25	17	BB15							
GENERAL FIREPROOFING																
P	Vol.	7	‡		See Note A5		A407	1	2N516				4	77, 78, 38, 6Z3, or 1V		
							A408	15	TN111							
GENERAL HOUSEHOLD UTILITIES—See Grunow																
GENERAL MOTORS—"Day-Fan"																
"Little General"	Vol.	24	DRP309				8	4	RS213				6	[4]24, 45, 80		
	Tone	22	G12		See Note A45		12	4	RS215							
F	Vol.	7	K										6	[4]36, [3]38		
	Tone	22	L													
"Day-Fan" 5AC	Vol.	11	A400P				2-2-1	3	See Note	B1			6	[3]27, BH		1-3
"Day-Fan" 25, 26, 27, 28	Vol.	5	K12				‡	3	See Note	B1			9	[3]26, 27, [3]71, 80		1-10
"Day-Fan" 43, 48	Vol.	5	K12				‡	3	See Note	B1			9	[3]26, 27, [3]71, 80		1-10
110	Vol.	24	DRP309				8	4	RS213				7	[3]24, 45, 80		3-1
	Tone	22	G12		See Note A45		12	4	RS215							
120, 130, 140, ("A", "B") Below serial 29100A-1700B	Vol.	25	DRP310				3-2-4-4-5	‡	See Note	B1			8	[3]24, [3]27, [3]45, 80		1-14
	Tone	41	N													
120, 130, 140 ("A", "B") Between serials 29100A & 62100A, & 1700B & 1964B	Vol.	24	DRP309				3-2-4-4-5	‡	See Note	B1			8	[3]24, [3]27, [3]45, 80		1-15
	Tone	41	N													
120, 130, 140 ("A", "B") Above serial 62100A, 1964B	Vol.	25	DRP309				8, 8, 8	3	RS213				8	[3]24, [3]27, [3]45, 80		1-16
	Tone	41	N													
170E	Vol.	29	SRP268										7	[4]32, 30, [3]31		1-17,18
	Tone	41	N													
180, 190	Vol.	24	DRP309				8	4	RS213				6	[4]24, 45, 80		3-1
	Tone	22	G12		See Note A45		12	4	RS215							
200-201 (E2)	Vol.	54	Y50MP	6									7	[4]32, 30, [3]31		3-3,4
	Tone	41	O													
211 (S9A, S9B)	Vol.	6	K12	6			8-8	1	CM172				6	[3]24, 35, 27, 47, 80	175	3-5,6
216, 217, 219 (S1A, S1B)	Vol.	6	K12				1203346	7	RM261				7	24, [3]35, [3]27, 47, 80	175	2-7,8
	Tone	22	L				8	7	RS213							
220 (S10A, S10B)	Vol.	8	Y10MP				206566	1	CM172				7	[3]35, [3]27, 24, 47, 80	175	2-13,14
250 (S1A, S1B)	Vol.	6	K12				1203346	28	RM261				7	24, [3]35, [3]27, 47, 80	175	2-7,8
	Tone	22	L				8	28	RS213							
251 (S2A, S2B)	Vol.	14	UC501	6			C6629	28	RS213				8	24, [3]35, [3]27, 47, 80	175	2-9,10
	Tone	22	L				8	28	RS213							
252, 253, 254, 255 256, 257, 258 (S3A, S3B)	Vol.	84	UC501	6			8, 8, 8	28	RS213				10	24, [3]27, [3]35, [3]45, 80	175	2-11,12
	Tone	22	K12													
281 (R1A)	Vol.	‡	G7		See Note A44								2	36, 37	535	3-7,8
290, 291, 292, 293 (S4A, S4B)	Vol.	7	G	6			8, 8	1	RS213				10	24, [3]27, [3]35, [3]45, 80	175	5-1,2
	Tone	22	‡		See Note A5											
A5003	Vol.	2	K12				5-3-3-1	3	See Note	B1			9	[3]26, 27, [3]45, 80		1-12
A5005	Vol.	12	K12				1-3-5-4	3	See Note	B1			7	[3]24, 27, 80, [3]45		2-1,2
A5010	Vol.	5	M				1-3-3-5	3	See Note	B1			9	[3]26, 27, [3]45, 80		1-12
A5020	Vol.	12	K12				1-3-4-5	3	See Note	B3			7	[3]24, 27, [3]45, 80		2-1,2
5051, MG Set	Vol.	26	L				2-12-4	3	See Note	B3			6	[4]01A		1-5
5052	Vol.	26	K12										6	[4]01A		1-8
5057	Vol.	26	Y				2-2-2	3	See Note	B1			7	[4]Kellog, BH		1-6
5060	Vol.	26	Y										6	[4]01A		1-8
5065 AC	Vol.	26	K12										6	[4]26, 27, 71		1-7
5066	Vol.	26	K12											‡		1-7
5077	Vol.	2	K12				‡	3	See Note	B1			9	[3]26, 27, [3]71, 80		1-11
5080	Vol.	2	K12				‡	‡	See Note	B1			9	[3]26, 27, [3]71, 80		1-11
5091	Vol.	2	K12				5-3-1-2	3	See Note	B1			9	[3]26, 27, [3]45, 80		1-13
GENERAL TELEVISION																
"A," "B," "C," "E," "SW"	Vol.	6	K12	6			20-4-10	6/15	UR182	B110			4	12Z3, 43, 44, 77		§6-9
	Tone	22	L	7												
"G," "GSW," "M," "MSW"	Vol.	6	G12				4-4	4	See Note	B3			4	58, 57, 47, 80		§6-9
	Tone	22	L													
GENERAL TELEVISION & RADIO CORP.																
PR4	Vol.	6	MR24				12-12-5-5	6/15	4S715				4	6F7, 6C6, 43, 25Z5		§9-4
GILFILLAN																
GN6	Vol.	29	Q										5	[3]01A		3-1
X	Vol.	17			See Note A3		8-16	24	2S563		292	C3	5	6A8, 6K7, 6Q7, 6F6, 84		
	Tone	22			See Note A3		.01		Buffer	B14						
4T	Vol.	6	G12			A14	4-4	23	2S567				4	2A5, 57, 58, 80		5-3
5B8	Vol.	18	MR48				10005	23	2S567				5	6A8, 6K7, 6Q7, 6F6, 5Z4	460	9-1
5C, 5T	Vol.	17	N	6			8-4	23	2S567				5	2A5, 2A6, 57, 58, 80	175	5-3
	Tone	22	K12													
5G8	Vol.	18	MR48				10005	23	2S567				5	6A7, 78, 75, 42, 80	460	9-1
5S8	Vol.	18	MR48				A10005	23	2S567				5	6A7, 78, 75, 42, 80	460	9-2
5T8	Vol.	18	MR48				A10005	23	2S567				5	6A8, 6K7, 6Q7, 6F6, 5W4 or 5Z4	460	
5 tubes all wave	Vol.	18	M	6			8-4	1	2N518				5	6A7, 78, 75, 42, 80	460	
							10	19	BB12							
5X	Vol.	6	H12				8-16	6	2N504				5	25Z5, [3]36, 39, 43	450	5-4
6C, 6T	Vol.	15	N	6			8-8	4	2S567				6	2A5, 2A7, 55, [3]58, 80	262.5	5-1
	Tone	22	K12				10	15	BB12							
6X8	Vol.	17	MR48	M26			8	23	BB61				6	6A7, 78, 75, 42, 6U5, 80	175	9-2
	Tone	22	MR33													
7A	Vol.	15	UM154		See Note A96		8-8	1	2N518		296	C3	7	76, [3]77, 78, 85, 42, 84	175	6-7
							10	15	BB12							
7 tubes all wave	Vol.	18	M	6			8-8	1	2N518				7	6A7, [3]78, 75, [3]42, 80	460	
							10	19	BB13							
7C8, 7T8	Vol.	18	MR48				8	25	RS213				7	6A7, 78, 6H6, 6F5, 42, 6T5, 80	460	9-3
	Tone	22	MR33				10	19	BB12							
8C, 8T	Vol.	15	N	6			8-8	36	See Note	B3			8	[2]2A5, 2A7, 55, 56, [3]58, 80	262.5	5-1,2
	Tone	85	K12													
8C8	Vol.	45	MR48				8, 8	1	ST595				8	[6]6K7G, 6A8G, 6H6G, 6F5G, 6F6G, 5Y3, 6U5	460	9-4
	Tone	22	MR33													
	Sen.	7	D													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GILFILLAN—Continued																
8C8E	Vol.	18	MR48				8, 8	1	ST595				8	[1]6K7G, 6A8G, 6H6G,		
	Tone	22	MR33											6F5G, 6F6G, 6U5,		
	Sen.	7	D											5Y3	460	9-5
8T8	Vol.	45	MR48				8	1	ST595				8	[1]6K7G, 6A8G, 6H6G,		
	Tone	22	MR33				10	44	BB13					6F5G, 6F6G, 6U5,		
	Sen.	7	D											5Y3	460	9-4
8T8E	Vol.	18	MR48				8, 8	1	ST595				8	[1]6K7G, 6A8G, 6H6G,		
	Tone	22	MR33											6F5G, 6F6G, 6U5,		
	Sen.	7	D											5Y3	460	9-5,6
8X	Vol.	7/83	DRP314				8-8	74	2N518		294	C3	8	[1]6K7, 6A8, 6R7, 6C5,		
	Tone	22	MR33				10	19	BB12					[1]6F6, 84	265	7-1
							.01		Buffer	B14						
13C8	Vol.	15	500M No. 1		See Note	A19	18	1	WE2050				13	[1]6K7G, 6A8G, 6H6G,		
	Sen.	7	D				10	1	RS215					6F5G, [1]6C5G,		
														[1]6F6G, [1]5Y3, 6U5	460	9-7
13C8E	Vol.	18	500M No. 1		See Note	A19	18	1	WE2050				13	[1]6K7G, 6A8G, 6H6G,		
							10	1	RS215					6F5G, [1]6C5G,		
							25	19	BB14					[1]6F6G, 6U5, [1]5Y3	460	9-7
30	Vol.	6	G12				4-4	4	CM172				4	2A5, 57, 58, 80		5-3
32	Vol.	17	N	6			8-4	4	CM172				5	2A5, 2A6, 57, 58, 80	175	5-3
	Tone	22	K12													
33	Vol.	3	G12				‡	3	See Note	B4			8	[1]27, [1]12, 80		1-1
34	Vol.	6	H12				16-8	6	2N504				5	25Z5, [1]36, 39, 43	450	5-4
35 with 71's	Vol.	7	K				2-2-4	3	See Note	B1			8	[1]27, [1]71, 80		6-1
35 with 2A5	Vol.	18	N	6			8-4	4	CM172				5	57, 58, 2A6, 2A5, 80	175	5-3
	Tone	22	K12													
41	Vol.	17	N	6			8-4	4	CM172				5	2A5, 2A6, 57, 58, 80	175	5-3
	Tone	22	K12													
42A	Vol.	6	H7				5-5	23	See Note	B3			4	42, 77, 78, 80		6-2
43A	Vol.	6	G12	6			4-4	4	CM172				4	2A5, 57, 58, 80		6-2
44	Vol.	3	G12				‡	3	See Note	B3			8	[1]27, [1]12, 80		1-1
47, 50	Vol.	15	N	6			8-8	36	See Note	B3			8	[1]2A5, 2A7, 55, 56, [1]58,		
	Tone	85	K12											80	262.5	5-1,2
52A, 54A	Vol.	6	H12				4-4	4	CM172				5	[1]77, 78, 42, 80	460	6-5
55A, 55B	Vol.	6	H12				16-8	6	2N504				5	25Z5, [1]36, 39, 43	450	5-4
60	Vol.	86	J				2-2-3	3	See Note	B1			7	[1]26, 27, 71, BII		1-2
62BX	Vol.	17	N	6			8-4	23	See Note	B3			6	5Z4, 6F5, 6F6, 6H6,		
	Tone	22	K12											6J7, 6K7	175	6-4
63B, 63X (AC)	Vol.	17	M	6			8-8	1	See Note	B3			6	5Z4, 6A8, 6F5, 6F6,		
							10	19	BB13					6H6, 6K7	460	6-4
							‡	3	See Note	B1			8	[1]10, [1]27, 81		1-2
66	Vol.	3	E12													
67A, 67R	Vol.	18	UM154			A96	6-8	4	CM172	B3	294	C3	6	[1]6K7, 6A8G, 6Q7G,		
	Tone	22	UM134			A96	.005		Buffer	B14				6K6G, 84	252.5	
77	Vol.	3	G12				‡	3	See Note	B4			8	[1]12, [1]27, 80		1-1
77R	Vol.	45	UM154			A96	6-8	4	CM172		294	C3	7	[1]6K7G, 6A8G, 6H6G,		
	Tone	22	UM134			A96	.005		Buffer	B14				6F5G, 6F6G, 84	252.5	
78B, 78X	Vol.	17	N				8-8	1	See Note	B3			7	5Z4, 6A8, 6F5, 6F6,		
	Tone	76	K12				10	19	BB12					6H6, [1]6K7	460	6-5
87R	Vol.	45	UM154		See Note	A96	A10002	4	2S567				8	[1]6K7G, 6A8G, 6H6G,		
	Tone	22	UM133		See Note	A96	.005		Buffer	B14	294	C3		6F5G, 6C5G,		
														6N7G, 84	262.5	
100 with PP 71's	Vol.	58	K				2-2-4	3	See Note	B1			8	[1]27, [1]71, 80		6-1
100 with 45	Vol.	6	G12				2-2-2	3	See Note	B1			8	[1]27, 45, 80		1-1
105, 106 (1st Type)	Vol.	6	H12				2-2	1	See Note	B1			6	[1]24, 45, 80		3-1
	Tone	22	H12													
116B, 116X, 117B, 117X	Vol.	46	N	6			16	1	RS216				11	[1]6K7, 6A8, 6H6, [1]6C5,		
	Tone	76	M				18	1	RS216					[1]6F6, 5Z4	460	6-6
	Sen.	7	UC500				10	19	BB13							
402T	Vol.	6	H12			A14	5-5	23	CM172				4	78, 77, 42, 80		7-2
410	Vol.	6	G12				4-4	23	CM172				4	57, 58, 2A5, 80		6-7
412T	Vol.	6	G12			A14	4-4	23	CM172				4	58, 57, 2A5, 80		7-2
501T	Vol.	18	MR48				5, 5	23	ST595				5	6A7, 6D6, 75, 42, 80	460	9-8
	Tone	22	MR33													
510	Vol.	18	N	6			8-4	23	CM172				5	57, 58, 2A6, 80, 2A5	175	6-8
	Tone	22	K12													
515	Vol.	18	M	6			8-4	1	CM172				5	6A7, 78, 75, 42, 80	460	6-9
							10	19	BB12							
520	Vol.	18	N	6			8-4	23	CM172				5	57, 58, 2A6, 2A5, 80	175	6-8
	Tone	22	K12													
521T-C	Vol.	18	MR48				5-5	23	CM172	B3			5	6A7, 6D6, 75, 42, 80	460	8-1
	Tone	22	K12				10	15	BB12							
525	Vol.	18	M	6			8-4	1	CM172				5	6A7, 78, 75, 42, 80	460	6-9
							10	19	BB13							
615	Vol.	15	N	6			8-8	4	See Note	B3			6	2A7, [1]58, 55, 2A5, 80	262.5	6-10
	Tone	22	K12				10	15	BB12							
625	Vol.	15	N	6			8-8	4	See Note	B3			6	2A7, [1]58, 55, 2A5, 80	262.5	6-10
	Tone	22	K12				10	15	BB12							
700	Vol.	15	UM154		See Note	A96	8-8	1	CM172		296	C3	7	42, 76, [1]77, 78, 84, 85	175	6-7
							10	15	BB12							
							.015		Buffer	B14						
711T	Vol.	45	MR48	M26			8-4	23	CM172				7	6A8, 6K7, 6H6, 6G5,		
	Tone	22	K12											6F5, 6F6, 5Y3	175	8-2
715	Vol.	18	M	6			8-8	1	See Note	B3			7	6A7, [1]78, 75, [1]42, 80	460	6-9
							10	19	BB13							
723T-C	Vol.	45	M				8	12	BB31				7	1C6, [1]34, [1]30, 32, 19	460	7-2
	Tone	41	N				5	‡	BB21							
725	Vol.	18	M	6			8-8	1	CM172				7	6A7, [1]78, 75, [1]42, 80	460	6-9
							10	19	BB13							
731T-C	Vol.	124	MR48	M26			8-8	1	CM172				7	6A8, 6K7, 6H6, 6G5,		
	Tone	22	K12				10	19	BB12					6F5, 6F6, 5Y3	460	8-3
815, 825	Vol.	15	N	6			8-8	36	See Note	B3			8	2A7, [1]58, 55, 56, [1]2A5,		
	Tone	22	K12											80	262.5	6-10
831T-C	Vol.	7/17	DRP314				16	1	WE1650				8	[1]6K7, 6A8, 6B7, 6G5,		
	Tone	22	K12				18	1	WE2050					6F6, 5Y3	462	7-3
							10	19	BB12							
1131C	Vol.	7/83	DRP314				16	1	WE1650				11	[1]6K7, 6A8, 6R7, 6G5,		
	Tone	44	K12				18	1	WE2050					[1]6C5, [1]6F6, 5X4G	462	7-4
							8	13	BB61							
							25	19	BB15							
1331C	Vol.	7/46	DRP314				16	1	RS216				13	[1]6K7, 6A8, 6H6, 6G5,		
	Tone	44	K12				8	13	BB61					6Q7, [1]6C5, [1]6F6,		
							25	15	BB15					5X4G	462	8-4
GILT EDGE—See Airking																
GLORIATONE—See U. S. Radio & Tel.																
GOLDENTONE L5	Vol.	18	N	6			P474	32	WE450				7	5Z4, 6F5, 6H6, 6K7,		
	Tone	34	L				P160	32	2S567	B81				6L7, 6C5, 6F6	456	
							P304	15	BB12							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GOLDENTONE — Continued																
L6	Vol.	18	N	6			P474	32	WE450				8	5Z4, 6C5,[2]6F6, 6K7,		
	Tone	44	L				P160	32	2S567	B81				6L7,[2]6Q7	456	
							P304	15	BB12							
L7	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, 19,[3]30,[3]34	456	
	Tone	‡	L				.01-.01		Buffer	B14						
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19,[3]30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275				P958	1	2N516		245C	C3	6	1C6, 19,[3]30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
GOLD MEDAL																
L5	Vol.	18	N	6			P474	32	WE450				7	5Z4, 6F5, 6F6, 6H6,		
	Tone	34	L				P160	32	2S567	B81				6K7, 6L7, 6C5	456	
							P304	15	BB12							
L6	Vol.	18	N	6			P474	32	WE450				8	5Z4, 6C5,[2]6F6, 6K7,		
	Tone	44	L				P160	32	2S567	B81				6L7,[2]6Q7	456	
							P304	15	BB12							
L7	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, 19,[3]30,[3]34	456	
	Tone		L				.01-.01		Buffer	B14						
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19,[3]30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19,[3]30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
GOODYEAR																
523	Vol.	15	MR53	M26			119-22	19	BB12				5	1A6,[1]1A4, 30, 950	465	8-1
	Fil.	29	M6R										5§			
540	Vol.	17	N	6			C525C, D	11	UR182	B31			5	[2]6D6, 75, 43, 25Z5	456	6-1
575	Vol.	6	Z12	6	EX100		P119-6	4	2S567					2A5,[2]57, 58, 80	175	6-2
580	Vol.	17	N	6			119-15	4	CM172		299	C3	5	6D6, 6A7, 75, 42, 84	175	7-4
							.01		Buffer	B14						
585 Series A, B, C	Vol.	18	MR48	M26			4-3	1	2N518				5	6F7, 6D6, 75, 42, 80	370,	
							P103-6	4	RS213						465	9-1,2
							P103-7	4	RS213							
588	Vol.	18	MR53	M26			119-38	23	2S567				5	6A8, 6K7, 6Q7, 6F6,		
														5Y3	465	8-3,4
602	Vol.	18	MR53	M26			119-39	1	2N509				5	6A8, 6K7, 6R7, 25L6,		
														25Z6, L49B	465	8-2
661	Vol.	18	UM154-SS13	M26			119-37	4	2S567		294	C3	6	[2]6K7, 6A8, 6Q7, 41,		
							.005		Buffer	B14				6X5	465	8-5
667	Vol.	17	UM147-SS13	M26			119-34	4	2S567		294	C3	6	[2]6K7, 6A8, 6Q7, 6F6,		
	Tone	22	MR53				.01		Buffer	B14				6X5	262.5	8-6
670	Vol.	17	N	6			P103-2	4	2S567		299	C3	6	6C6, 6D6, 42, 75, 78,		
							20	15	BB15					84	175	6-3,4
							.02		Buffer	B14						
675	Vol.	18	N	6			P103-4	4	RS216				6	2A5, 2A6, 27, 57, 58,		
							P103-3	4	RS216					80	370	6-5,6
741	Vol.	18	MR53	M26			103-6	4	RS213				7	6A8, 6K7, 6Q7, 6C5,		
	Tone	22	MR44				103-14	4	WE1650					[2]6F6, 5Y3	465	8-7,8
777 series A	Vol.	18	O	6			P103-4	4	RS216				7	[2]6D6, 6C6, 76, 75, 42,		
	Tone	57	M				P103-3	4	RS216					80	465	7-1,3
777 series B	Vol.	56	O	6			P103-8	4	RS216				7	[2]6D6, 6C6, 76, 6B7,		
	Tone	57	M				P103-4	4	RS216					42, 80	465	7-1,3
888, 889	Vol.	18	MR48	M26			103-13	25	RS213				8	[2]6K7, 6J7, 6Q7, 6F6,		
	Tone	22	MR33				103-12	25	WE825					[2]6G5, 5Y3	465	9-3
1173	Vol.	20	‡		See Note	A19	103-10	25	WE3050				11	[2]6K7, 6J7, 6C5, 6H6,		
	Tone	22	SRP287	8			103-8	25	RS216					6F5, [2]6F6, 5Z3, 6G5	465	8-9,10
1174	Vol.	20	‡		See Note	A19	103-5	30	RS213				11	[2]6K7, 6J7, 6C5, 6H6,		
	Tone	22	SRP287	8			103-10	30	WE3050					6F5, [2]6F6, 5Z3, 6G5	465	9-5,6
							103-8	30	RS216							
101500 Wings Jr.	Vol.	18	UM154	M26		A96	4, 4	23	ST595			C3	5	6A7, 6D6, 6Q7G, 41,		
							.0038		Buffer	B14				84	456	9-7
101501 Wings All-Weather	Vol.	18	UM154	M26		A96	8, 8	23	ST595			C3	6	[2]6K7, 6A8, 6R7G, 6V6,		
	Tone	22	UM147		See Note	A96	.005		Buffer	B14				6X5G	262	9-9
101503	Vol.	18	MR48				1012118227	1	2-BB27				7	6A7, 6D6, 75,[2]25L6G,		
	Tone	22	MR48	M26			40	4	BB27	B12				25Z5, BM17C	456	9-11
GRAYBAR ELECTRIC CO.																
GB4 (Graybarette)	—See RCA Model R5															
GB8 (Midget)	—See RCA Model R7															
GB8A	—See RCA Model R7A															
GB9	—See RCA Model R11															
GB100	—See RCA Model R55															
GB300	—See RCA Model Rad. 16															
GB310	—See RCA Model Rad. 18															
GB311	—See RCA Model R33															
GB320	—See RCA Model Rad. 51															
GB330	—See RCA Model Rad. 60															
GB340	—See RCA Model R62															
GB500	—See RCA Model R44															
GB550	—See RCA Model R46															
GB600	—See RCA Model R66															
GB678	—See RCA Model R48															
GB700	—See RCA Model R80															
GB770	—See RCA Model R82															
GB900	—See RCA Model R86															
GB989	—See RCA Model R10															
GC13	—See RCA Model R6															
GC14	—See RCA Model R12															
GG15	—See RCA Model R6															
GT7	—See RCA Model R4															
GT8	—See RCA Model R8															
GT8-56	—See RCA Model R71															
GT8-69	—See RCA Model R72															
GT10-69	—See RCA Model R74															
GT10-88	—See RCA Model R76															
GT10-99	—See RCA Model R77															
GREBE																
AH1	Vol.	8	A1MP	6			‡	1	See Note	B4			7	[3]24, 27,[3]45, 80		1-20
	Tone	34	L				.01		See Note	B9						
Challenger III	Vol.	140	1 Meg.		See Note	A19	40-25	1	2N514				6	6A7, 6D6, 76, 25L6,		
	Tone	140	MR53				10	15	BB12					25Z5, 6F5	456	
HS3	Vol.	6	G12	6			8, 8	4	ST595				5	[3]24, 35, 47, 80	175	3-1
	Tone	22	L													
HS4 1 Pentode	Vol.	7	E	6			8, 8, 8	3	RS213				7	[3]35,[3]24, 27, 47, 80	175	1-21
	Tone	22	L													
HS4 with 45PP	Vol.	6	F12	6			8, 8, 8	3	RS213				8	[3]24,[3]27,[3]45, 80	175	1-22
	Tone	22	L													
HS5	Vol.	7	E	6			8, 8, 8	3	RS213				8	[3]27,[3]35, 24,[3]47, 80	175	1-23
	Tone	22	L													

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GREBE—Continued																
HS6	Vol.	15	N	6			8, 8, 8	3	RS213				10	[3]27,[4]35,[2]47, 80	175	3-3
	Tone	...‡..	Y100MP		See No	te A46										
HS7	Vol.	7	E	6			6, 6	3	RS213				7	[3]24, 27,[2]35, 47, 80	175	3-4
	Tone	22	L													
HS8	Vol.	64	N	6			8, 8, 8	5	RS213				8	[4]35,[3]27, 47, 80	175	3-5
	Tone	22	L													
HS11	Vol.	18	N	6			6, 6	3	RS213				11	[4]35,[3]27,[2]47, 80, 24	175	4-5
	Sil.	12	A5MP		See No	te A14										
	Tone	34	L													
HS12	Vol.	62	N	6			8, 8, 8	3	RS213				11	[3]27,[4]35, 24,[2]47, 80	175	3-6
	Supp.	12	A400P													
Synchrophase SK4	Vol.	8	A3MP				‡	3	See Note	B4			7	[3]24, 27,[2]45, 80		1-19
61R	Vol.	56	N				8-8	1	2N518		292	C3	6	6A7, 37, 41, 78, 84, 85	456	4-2,3
							5	15	BB12							
							.025		Buffer	B14						
89	Vol.	6	E12				8, 8	4	RS213				8	[2]56,[3]58,[2]59, 80	175	4-4
111B	Vol.	18	M				16	35	RS216				11	[3]46, 55, 56,[4]58, 57, 82,	175	4-1
	Supp.	8	UC500				8	35	RS213							
428 Console	Vol.	26	‡		See No	te A5	‡	1	See Note	B4			11	[4]26, 27,7 1A,[2]81,[3]50, 80		1-14
762	Vol.	140	1 Meg.		See No	te A19	4-25	1	2N514				6	6A7, 6D6, 76, 6F5,		
	Tone	140	MR53				10	15	BB12					25L6G, 25Z5	456	
782	Vol.	18	1 Meg. No. 1		See No	te A19	40-25	6	2N514				6	6A7, 6D6, 6Q7G,		
	Tone	80	MR53				10	15	BB12					25L6,[3]25Z5, 6-141	456	
GRIGSBY - GRUNOW—See Majestic																
DAVID GRIMES "New Yorker" 110 V. DC	Vol.	26	K										6	[4]12,[3]71		§1-9
	Fil.	29	S													
GRUNOW†																
2A (1101)	Vol.	...‡..	P				27710	28	WE850				11	[3]78, 6F7, 6B7, 85, 37,		4-17,21
	Tone	41	O				27711	28	RS213					[4]45, 5Z3	262	5-20
							27715	28	CM172							
4A (450, 451)	Vol.	6	G12	6			29168	1	CM172				4	[2]6F7, 42, 84	455	5-1,2
							24789	15	BB12							7-1
4B (460, 461), 4BX (460X, 461X)	Vol.	6	F7	6	3		31208	4	CM172				4	6A7, 6F7, 42, 80	455	5-3,7-2
4C (470)	Vol.	6	F7	6	3		31208	4	CM172				4	6A7, 6F7, 41, 80	465/490	6-1,2
4NB (410, 411)	Vol.	18	M	6			35202	1	CM172		245	C3	4	1A6, 1A4, 75, 41	465	8-1
							32987	15	BB12							
							.0075		Buffer	B14						
5A (500)	Vol.	18	O	6			27713	1	RS213				5	6F7, 78, 75, 47, 80	455	4-1,2
							27712	1	RS213							
							27838	13	BB12							
							27489	17	BB12							
5AB (508, 509)	Vol.	18	MR48	M27			8-16	1	3S582	B8	294	C3	5	6D8G, 6S7G, 6T7G,		
							32987	15	BB12					41, 84	465	
							.0075		Buffer	B14						
5AD	Vol.	6	MR33	M26			39941	1	2N506				4	6D6, 6C6, 25L6, 25Z5		
5B (501, 520, 530, 550)	Vol.	17	N	6			27151	11/15	SR618				5	6F7, 25Z5, 43, 75, 78	455	6-3,4
5C (502, 503)	Vol.	6	G12										5	[2]32, 30, 34, 33	455	4-5,6
	Fil.	29	R													
5D (570, 571)	Vol.	17	O	6			29562	4	RS216				5	6A7, 6D6, 75, 42, 80	455	6-7,8
							27711	4	RS213							
							31477	24	RS215							
							24789	15	BB12							
5E (560)	Vol.	17	N	6			31849	1	2N518				5	6A7, 6D6, 75, 42, 80	455	6-5,6
							31857	15	TN111							
5G (580, 581)	Vol.	18	TRP604	6			31424	4	RS215				5	6A7, 6D6, 42, 75, 80	465/490	6-9,10
							33469	4	RS216							
							33371	14	ST587							
							32987	15	BB12							
5H (532)	Vol.	7	E	6	2		35181	4	RS213				5	6A7, 6D6, 76, 41, 80	465	8-24
							34744	4	RS215							
5J (542)	Vol.	18	M	6			34813	4	RS213				5	6A8, 6K7, 6Q7, 6F6,		
							34669	4	RS215					5W4	465	8-38
5K (551, 553)	Vol.	18	TRP623	6			33469	4	RS216				5	6A8, 6K7, 6Q7, 6F6,		
							33369	4	RS215					5W4	465	8-3,4
5L (555, 572)	Vol.	18	TRP605	6			33369	4	RS215				5	6A8, 6K7, 6Q7, 6F6,		
							33469	4	RS216					5W4	465	8-5,6
5M (590)	Vol.	18	M	6			35177	4	CM164				5	6A8, 6K7, 6Q7, 25A6,		
														25Z6	465	8-7,8
5N (592, 594)	Vol.	18	M	6			35177	1	CM164				5	6A7, 6D6, 75, 43, 25Z5	465	9-4
5NB (510)	Vol.	18	MR44	M23									5	[2]1A4, 1A6, 1B5, 33	465	8-2
5P (599)	Vol.	18	TRP623	6			33369	4	RS215				5	6A7, 6D6, 75, 42, 80	465	9-3
							33469	4	RS216							
5Q (573)	Vol.	18	TRP605	6			33469	4	RS216				5	6A8, 6K7, 6Q7, 6F6,		
							33369	4	RS215					5W4	465	8-11,13
5R (564)	Vol.	7	E	6			36350	4	RM262	B73			5	6A7, 6D6, 76, 41, 80	465	8-9
5S (566)	Vol.	7	E	6	2		36350	4	RM262	B73			5	6A7, 6D6, 76, 41, 80	465	8-10,11
5T (576, 578)	Vol.	7	E	6			36350	4	RM262	B73			5	6A7, 6D6, 76, 41, 80	465	9-1
5U (587, 589)	Vol.	18	TRP623	6			33369	4	RS215				5	6A7, 6D6, 75, 42, 80	465	9-3
							33469	4	RS216							
5UA (585)	Vol.	18	TRP623	6			33369	4	RS215				5	6A7, 6D6, 75, 42, 80	465	
							33469	4	RS216							
							39546	4	2S569							
5V (596, 598)	Vol.	18	MR44	M26			36350	4	RM262	B73			5	6A7, 6D6, 75, 41, 80	465	
5VB (544, 545)	Vol.	15	MR48										4	1C6, 34, 1F6, 33	465	
5W (583, 585, 586, 588)	Vol.	18	MR44	M26			36350	4	RM262	B73			5	6A7, 6D6, 75, 41, 80	465	9-2
6A Early (650, 651)	Vol.	17	TRP610	6			29557	4	CS133				6	6A7,[3]6D6, 42, 75, 80	262	5,7-8
	Tone	22	M				29086	4	RS216							7-11
6B (622)	Vol.	18	MR44	M26			38608	4	RS207				5	6A8, 6K7, 6Q7, 25L6,		
							38610	4	RS207					25Z5	465	9-5
							38709	13	2N500							
6C Early (660, 661, 662)	Vol.	17	TRP610	6			29562	23	RS216				6	[3]6D6, 6A7, 75, 42, 80	262	5-9,10
	Tone	22	M				29557	23	CS133							
6D (670, 671)	Vol.	17	O				30091	4/13								
								15/19	SR614				6	[3]6D6, 6A7, 75, 42, 80	455	5-11,12
	Tone	22	L	6												6-13
6E (663)	Vol.	18	TRP623	6			33369	4	RS215				6	[3]6K7, 6A8, 6Q7, 6F6G,		
							33469	4	RS216					80	465	9-8
6F (690, 691)	Vol.	17	TRP608	6			30091	4/13								
								15/19	SR614				6	[3]6D6, 6A7, 75, 42, 80	455	6-14
	Tone	22	L													
6G (680, 681)	Vol.	18	TRP604	6			33369	4	RS215				6	6A8, 6K7, 6H6, 6F5,		
							33469	4	RS216					6F6, 5Z4	465	6-15,16
							33371	14	ST587							7-15,16
							32987	15	BB12							

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

† Rider references will be found under General Household Utilities.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GRUNOW—Continued																
6H (632)	Vol.	18	MR44	M26			33369	4	RS215				6	2,6K7, 6A8, 6Q7, 6F6G, 80	465	9-7
							33469	4	RS216							
6HB (620, 621)	Vol.	15	P	7			33943	12	WE825				6	1C6, 34, 230, 32, 19	465	7-6,8
6J (640, 641)	Vol.	17	TRP604	6			33369	4	RS215				6	6A7, 26D6, 42, 75, 80	465/490	6-11,12
							33370	4	WE1835							7-9,10
							33371	14	ST587							
							33469	‡	RS216							
							32987	15	BB12							
6K (623, 627)	Vol.	18	TRP623				38608	4	RS207				5	6A8, 6K7, 6Q7, 25L6, 25Z5	465	9-6
							38610	4	RS207							
							38611	13	BB12							
6L (653)	Vol.	18	TRP623	6			33369	4	RS215				6	6A8G, 6K7G, 6H6G, 6F5G, 6F6G, 80	465	
							33469	4	RS216							
6M (631, 643)	Vol.	18	TRP605	6			33469	4	RS216				6	6A8, 26K7, 6Q7, 6F6, 5W4	465	8-17,18
							33369	4	RS215							
6N (654)	Vol.	18	M	6			33369	4	RS215				6	6A8G, 26K7G, 6Q7G, 6F6G, 80	465	8-19,20
							33469	4	RS216							
6Q (624)	Vol.	18	MR44	M26			38608	4	RS207				5	6A8, 6K7, 6Q7, 25L6, 25Z5	465	9-5
							38610	4	RS207							
							38709	13	2N500							
7A (700, 701)	Vol.	20	TRP610				27414	1	RS213				7	278, 37, 75, 42, 80	262	4-7,8
	Tone	22	M				27413	23	RS213							
7B (750, 751, 752, 753)	Vol.	17	TRP610	6			29558	1	CS135				7	6D6, 6A7, 6F7, 75, 76, 42, 80	262	5-13,16
	Tone	22	Order from	Mfr.			29562	1/23	RS216							
							31052	23	CS133							
							29559	23	CS133							
7C (760, 761)	Vol.	20	TRP611				33369	1	RS215				7	26K7, 6A8, 6H6, 6F5, 6F6, 5Z4	175	7-20,22
							33371	1	ST587							
							33469	14	RS216							
							33169	15	TN111							
7DB (720, 721)	Vol.	15	P	7			33943	12	WE825				6	1C6, 34, 230, 32, 19	465	7-17,19
7M (723, 731, 733, 735)	Vol.	19	TRP605	6			33369	4	RS215				7	6A8, 26K7, 6Q7, 6F6, 5W4, 6E5	465	8-21,23
							33469	4	RS216							
7NB (711)	Vol.	19	TRP608				35202	1	CM172		245	C3	7	31A4, 6A7, 1B5, 30, 19	455	8-25,28
							35154	24	ST587							
							35340	‡	Order from	Mfr.						
							.0075		Buffer	B14						
7Q (755)	Vol.	18	TRP623	6			33369	4	RS215				7	26K7G, 6A8G, 6Q7G, 6F6G, 80, 6G5	465	8-29,30
							33469	4	RS216							
8A (801)	Vol.	17	TRP610	6			27414	1	RS213				8	278, 37, 85, 6B7, 42, 80	262	4-9
	Tone	34	M				27413	1/23	RS213							
8B (821)	Vol.	17	O				27414	1	RS213				8	278, 6A7, 85, 237, 42, 80	262	6-17,18
	Tone	22	M				27413	1/23	RS213							
							29562	23	RS216							
							27668	15	BB12							
8D (861)	Vol.	17	TRP610				29562	23	RS216				8	26D6, 6A7, 276, 75, 42, 80	455	6-19,22
	Tone	22	Order from	Mfr.			29558	23	CS135							
							30152	13	CS133							
8E (871)	Vol.	17	TRP611				33852	24	RS215				8	26K7, 6A8, 6H6, 6C5, 26F6, 5Z4	455	7-23,25
							33598	1	RS215							
							33469	1	RS216							
							33371	13	ST587							
							32987	15	BB12							
8H (823, 831, 833, 835)	Vol.	20	TRP611				33369	1	RS215				8	26K7, 6A8, 6H6, 6F5, 6F6, 6E5, 5Z4	455	8-31,34
							33469	1	RS216							
							33371	14	ST587							
							33169	15	TN111							
9A Early (901, 902)	Vol.	17	TRP610	6			27710	1	WE850				9	278, 37, 85, 245, 6B7, 80	262	4-11,12
	Tone	41	O				27711	1/23	RS213							
							27670	14/15	RM262							
							28400	‡	RM262							
9A (901, 902) Revised	Vol.	17	TRP610	6			8	1	RS213				9	278, 37, 6B7, 85, 245, 80	262	5-19
	Tone	41	O				8-8	24	RM262							
							27670	14/15	RM262							
9B (1101)	Vol.	‡	P				27710	1	WE850				11	278, 6F7, 6B7, 85, 37, 245, 5Z3	262	4-17,21
	Tone	41	O				27711	1	RS213							5-20
							27715	24	CM172							
9C (921)	Vol.	17	TRP610	6			27710	28	WE850				9	278, 6A7, 85, 37, 76, 245, 80	262	7-26
	Tone	44	O				27711	28	RS213							
							29562	28	RS216							
							27670	14/15	RM262							
							24789	15	BB12							
9E (941)	Vol.	20	TRP611				33852	24	RS215				9	26K7, 6A8, 6H6, 6C5, 26F6, 6E5, 5Z4	455	8-35,37
							33598	1	RS215							
							33469	1	RS216							
							33371	14	ST587							
							32987	15	BB12							
10D (1067)	Vol.	20	TRP610	6			36752	1	WE3050				10	26K7, 6A8, 6H6, 26C5, 26F6G, 5Z3	465	9-9,10
							36720	1	WE3035							
							36721	14	RS215							
10G (1091)	Vol.	20	TRP608	6			36752	1	WE3050				10	26K7, 6A8, 6J7, 6H6, 6N7, 26F6G, 5Z3	465	9-11,12
							36720	1	WE3035							
							36721	14	RS215							
11A Type 1 (1151, 1152)	Vol.	17	O	6			27710	1	WE850				11	26D6, 6A7, 276, 85, 245, 5Z3	262	5-17,18
	Tone	41	N				27711	1/23	RS213							6-23,26
							27715	14/19	CM172							
							29632	13	CS133							
							24789	15	BB12							
11A Type 2 (1151, 1152, 1161, 1162)	Vol.	17	O	6			31743	1	WE1250				11	26D6, 6A7, 276, 85, 245, 5Z3	262	6-27,28
	Tone	41	N				31629	1/23	WE1835							
							27715	14/19	CM172							
							29632	13	CS133							
							24789	15	BB12							
11B (1151, 1152, 1161, 1162)	Vol.	17	O	6			31743	28	WE1250				11	26D6, 6A7, 276, 85, 245, 5Z3	262	6-27,28
	Tone	41	N				31629	28	WE1835							
							27715	4/19	CM172							
							29632	13	CS133							
							24789	15	BB12							
11C (1171)	Vol.	17	TRP608				33645	4	WE850				11	26K7, 6A8, 6H6, 26C5, 6F5, 26F6, 5Z4	455	7-27,30
							33768	4	RS215							5-17
							34466	1	RS216							
							33371	13	ST587							
							33169	15	TN111							
							33646	19	BB11							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
GRUNOW—Continued																
11G (1191)	Vol.	17	TRP610	6			36719	46	WE2050				11	6G5,[3]6K7, 6A8, 6H6, [2]6C5,[3]6F6, 5Z3	465	8-41,43
							36752	46	WE3050							
							36720	46	WE3035							
							36721	46	RS215							
11H (1181, 1183, 1185)	Vol.	20	TRP608	6			36752	1	WE3050				11	[3]6K7, 6A8, 6J7, 6H6, [2]6C5,[3]6L6G, 5Z3	465	9-13,14
							36720	1	WE3035							
							36721	14	RS215							
12A (1241)	Vol.	20	TRP608				33947	33	WE850				12	5Z4, 6A8,[3]6C5, 6F5, [3]6F6, 6H6,[3]6K7	455	7-31,33
							33946	33	WE1250							
							34466	33	RS216							
							33646	33	BB11							
							33169	15	TN111							
12B (1291), 12W (1297)	Vol.	18	TRP608	6			36752	46	WE2050				12	[3]6K7, 6A8, 6J7, [3]6C5, 6H6,[3]6L6, or [3]6F6, 5Z3	465	7-34,36
							36720	46	WE3050							
							36721	46	RS215							
							33371	14	ST587							8-44,46
							33169	15	TN111							
							36776	15	BB12							
15W (1541)	Vol.	18	TRP608				36290	31	HS690				15	[4]6K7, 6L7,[3]6J7, 6H6, 6R7, 6C5,[3]6F6,[3]5Z4	455	7-37,42
							36596	31	WE1250							
							36466	31	RS216							
							36597	14	BB22							
							33646	19	BB11							
30 Apex Auto Set	Vol.	7	UC501										5	[2]24, 26, 01A, 71A		
99 and 99A	Vol.	6	G12				8-4	1	2N518				5	[2]24, 35, 47, 80	175	
513	Vol.	6	Y				4-12-4	11	UR182				5	6F7, 78, 75, 43, 25Z5	455	
614-618	Vol.	18	TM241-SS3				35390	1/15	4S718		294	C3	6	[3]6K7G, 6A8G, 6Q7G, 6F6G, 6X5G	262	8-14,16
							.005		Buffer	B14						
625	Vol.	17	TM241-SS3				34119	1/15	4S718		273D		6	[3]6K7G, 6A8G, 6R7G, 6C5G, 6A6	262	8-15,16
	Tone	22	MR53													
GULBRANSEN (Also see Wells-Gardner)																
Champion Jr	Vol.	6	G12				1-1-1	28	See Note	B7			7	[2]24, 27,[3]45, 80		
	Tone	41	O													
V6Z2	Vol.	17	N	6			P80956	25	3S575	B145	292	C12	6	77,[3]78, 75, 41, 84	262	4-1,8
							P80937	14/15	2N500							
							‡		Buffer	B14						
Z6Z1	Vol.	17	N	6			P80956	25	3S575	B145	292	C12	6	77,[3]78, 75, 41, 84	262	4-17,24
							P80937	14/15	2N500							
05A	Vol.	6	G12	6	EX300		5-15-8	11	UR193	B31			5	[3]77, 78, 43, 25Z5	262	
							4	20	BB11							
06W	Vol.	56	N				16-8	1	2S563		210	C3	6	[3]78, 77, 85,[3]41	262	4-9,16
							4	15	BB12							
062A	Vol.	45	N				4	15	BB11		206	C3	6	[3]39, 36, 37, 41	262	
	Tone	34	UC502				4	13	BB31							
9 in line (Club)	Vol.	1	E12				2-1-1-1-.5	3	See Note	B1			9	[2]26, 24,[3]45, 80		
	Vol.	1/15	DRP241													
10 Series, 13	Vol.	7	F		1		80848	23	RS213				7	[3]35,[2]24, 27, 47, 80	175	3-4,2-1
	Tone	22	O	6			80849	23	RS213							
20 Series	Vol.	‡	N				8, 8, 8	28	RS213				10	[4]35,[3]27,[3]47, 80	175	2-5,7
	Tone	41	P	6												
23	Vol.	‡	N				8, 8, 8	28	RS213				10	[4]35,[3]27,[3]47, 80	175	2-9,13
	Tone	41	P	6												
53 Battery	Vol.	6	H7		2								5	[2]24,[3]01A, 71		3-1,2
	Tone	21	O	6												
53 AC	Vol.	59	SRP272				80894	23	CM172				7	[3]35,[2]24, 47, 80	175	3-9,10
	Tone	34	UC502				80891B	13	BB31							
60, 63	Vol.	6	TRP600				P80849	25	RS213				6	[4]24, 45, 80		1-1,2
							P80848	25	RS213							
80A 60 Cycles	Vol.	6	D7				1-1-1	5	See Note	B1			8	[2]24,[3]27,[3]45, 80		
	Tone	41	O													
80A 25 Cycles	Vol.	24	GG				2.5-4-2	28	See Note	B1			8	[2]24,[3]27,[3]45, 80		
	Tone	41	O													
92, 93	Vol.	2/10	DRP241										5	[4]32, 33	175	3-6,7
160, 161, 60 Cycles	Vol.	24	GG				1-1-1.5-1.5	28	See Note	B1			8	[2]24,[3]27,[3]45, 80		1-3
	Tone	41	O	6												
160, 161, 25 Cycles	Vol.	24	GG				2.5-4-2	28	See Note	B1			8	[3]27,[3]45, 80,[2]24		1-4
	Tone	41	O													
162	Vol.	‡	TRP600				P80849	25	RS213				6	[2]24, 45, 80		
	Tone	41	O	6			P80848	25	RS213							
200, 291, 292, 295	Vol.	1/15	DRP243				2-1-1-1-.5	‡	See Note	B7			9	[2]26, 24,[3]45, 80		1-5,6
	Vol.	1	E12			A4										
322	Vol.	64	Z12				8	30	WE850				12	[4]58,[3]56,[3]57,[3]46, 82	175	3-11,12
	Tone	41	L	6			8-4	30	2N518							
	Supp.	8	A5MP				4	19	BB31							
351	Vol.	6	H7	6			80894	4	CM172				5	[3]57, 35, 47, 80	262	3-5,7
362	Vol.	45	N										6	[3]39, 36, 37, 38	262	2-14
392	Vol.	18	N										9	[3]34,[6]30	175	§6-11
	Tone	22	UC502													
742	Vol.	40	‡		See Note	A5	1.5-1-3	3	See Note	B1			7	[2]24, 27,[3]45, 80		
872	Vol.	59	SRP271				80894B	23	CM172				7	[3]58,[3]57, 47, 80	175	5-1,2
	Tone	34	UC502				80891	13	BB31							
9950	Vol.	1/15	DRP243				2-1-1-1-.5	‡	See Note	B7			9	[2]26, 24,[3]45, 80		1-5,6
	Vol.	1	E12			A4										
HALLICRAFTERS																
H8PA	Vol.	18	500M No. 1		See Note	A19	8-8	1	2N518				8	[3]6K7, 6A7, 75, 76, 6G5, 80	465	8-2
	Tone	22			See Note	A3	10	15	BB12							
S9, SK9	Vol.	45	500M No. 1		See Note	A19	4210	1	ST595				9	[3]6K7, 6L7, 6H6, 6F5, 6C5, 6F6, 5Z4	456	7-5
	Tone	22	MR54				4200	15	BB12							
	Gain	7	UC501													
S11 (Super Skyrider 1937)	Vol.	18	‡		See Note	A19	16	1	ST597				11	[4]6K7, 6L7, 6C5, 6G5, 6R7,[3]6L6, 5Z3	465	8-3
	Tone	22	‡		See Note	A3	10	15	BB12							
	Gain	7	UC501													
S12 (Commercial Skyrider)	Vol.	18	‡		See Note	A19	16	1	ST597				11	[4]6K7, 6L7, 6C5, 6G5, 6R7,[3]6L6, 5Z3	1600	8-6
	Tone	22	‡		See Note	A3	10	15	BB12							
	Gain	7	UC501													
S14 (Sky Chief)	Vol.	18	MR48				12	4	ST596				7	6D6, 6A7, 6F7, 75, 6B5, 80, 6G5	465	8-8
	Tone	57	MR48				8	4	ST595							
	Gain	7	UC501													
S15 (Sky Challenger)	Vol.	18	MR48				16	1	ST597				9	[4]6K7, 6L7, 6C5, 6Q7G, 6F6G, 80	465	8-9
	Tone	57	‡		See Note	A3	10	15	BB12							
	Gain	7	UC501													
S22 (Skyrider Marine)	Vol.	18	MR48				42-026	1	RS208				7	[3]6K7, 6L7,[3]6J5, 6Q7, 25L6, 25Z5	465	9-5
	Tone	57	MR48				42-025	15	BB15							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
HALLICRAFTERS—Continued																
SX16 (Super Skyrider 1938)	Vol.	18	1 Meg. No.1		See No	te A19	42019	1	RS216				11	6K7, 6L7, 6J5, 6J7, 6R7, 6V6, 5Z3	465	8-11
	Tone	22	MR53	M26			42002	15	BB12							
	Meter	7	A550P													
	B.F.O.	‡	MR48	M26												
	Sen.	7	E	6												
SX17 (Super Skyrider)	Vol.	18	1 Meg. No. 1		See No	te A19	42019	1	RS216				13	6K7, 6L7, 6J5G, 6R7G, 6V6G, 6J7, 6J7G, 6J5, 5Z3	465	9-7 to 11
	Tone	22	MR53	M26			42002	15	BB12							
	B.F.O.	‡	MR48	M26												
	Meter	7	A550P	6												
	Gain	7	E	6												
5PA "Sky Buddy"	Vol.	18	N	6			4214	23	RM261	B3			5	6A7, 6F7, 75, 42, 80		
5T (Sky Buddy)	Vol.	18	MR48				8	23	ST595				5	6A7, 6F7, 75, 42, 80	465	8-1
							4	23	ST595							
S10 "Ultra Sky Rider"	Vol.	45	500M No. 1		See No	te A19	4216	1	RS216				10	6K7, 6L7, 6C5, 6R7, 6J7, 6Q7, 6F6, 5Z4	1600	9-1
	Tone	‡	O	6			4203	15	TS106							
	Sil.	8	G													
	BFO.	‡	N													
HALSON																
"Dual Range"	Vol.	7	G	6			8. 8	4	RS213	B3			6	35, 24, 47, 80		3-2
	Tone	22	O													
"Roadmaster"	Vol.	15	N				8-8	1	2N518		220B		5	6A7, 78, 75, 42, 84	456	4-5
							5	15	BB12							
A-5	Vol.	6	‡		See No	te A3	2575	1/15	3N525				4	6K7GT, 6J7GT, 25L6GT, 25Z6GT, L49B		9-1
AW6	Vol.	45	M	6			1572	23	2P552				6	6A7, 6D6, 6H6, 6J7, 43, 25Z5, or 6A7, 6D6, 76, 6C6, 43, 25Z5	456	7-2
C-6	Vol.	18	MR48	M26			2444A	23	2P553				5	6A7, 6D6, 75, 25L6G, 25Z5, L42D	456	9-1
MA63	Vol.	45	M				1591	25/13	3S584				6	6A8, 6K7, 6H6, 6J7, 6F6, 5Y3	456	7-8
	Tone	22	Y													
MG5	Vol.	6	Y				16-8-5-5	6/15	4S715				4	6K7, 6J7, 43, 25Z5, 55A1		7-1
NS40	Vol.	6	UC509	6	EX150		4-16-4	8	UR193				4	78, 77, 43, 25Z5		4-3
							5	15	BB12							
NS50	Vol.	7	G	6	1		4-16-8	8	UR193				5	6A7, 78, 75, 43, 25Z5	456	4-3
NS60	Vol.	7	G		2		4-16-16	8	UR182				6	78, 6A7, 75, 43, 25Z5	456	
							5	15	BB12							
5L-E	Vol.	6	‡		See No	te A5	16-12-4-5-5	25/15	4S715/BB20				4	6D6, 6C6, 43, 25Z5, L49B		7-1
6L6	Vol.	45	M				1652	25	RS213				7	6A7, 6D6, 76, 6C6, 6E5, 42, 80	456	7-3
							1835	25/13	2N518							
10	Vol.	18	MR48	M26			40	23	BB27				5	6A7, 6D6, 75, 25L6G, 25Z5, L42B	456	9-2
20	Vol.	18	MR48	M26			16	23	BB24				6	6A7, 6D6, 76, 6F5, 41, 80	456	9-3
							2353	25	RS216							
20A	Vol.	6	G7	6	1		2308-2	25/13	2N518				5	78, 77, 43, 25Z5		4-1
							8-4	6	2N502							
							5	15	BB12							
20B, 20B "European"	Vol.	7	G	6	1		8-8	6	2N502				5	6A7, 78, 77, 43, 25Z5	456	4-1,2
							5	15	BB12							
25	Vol.	18	N	6			2263	23	2P552				5	6A7, 6D6, 75, 43, 25Z5	456	8-1
30	Vol.	17	MR48	M26			2634	11	TN129				6	6A7, 6D6, 75, 25L6G, 25Z5, L15B	456	9-4
35	Vol.	18	N	6			2270	23	RS213				5	6A7, 6D6, 75, 41, 80	456	8-2
							2271	23	WE825							
45	Vol.	6	SRP263	6			1408	6/15	UR189	B98			4	6D6, 6C6, 43, 12Z3		6-1
50S	Vol.	18	M	6			1533	40	2P552				5	6A7, 6K7, 75, 43, 25Z5	456	7-4
50X	Vol.	18	N				1977	6/15	UR182				5	6A7, 6K7, 75, 43, 25Z5, L42B	456	7-5
52	Vol.	6	SRP263	6			1437	25	BB61				5	6D6, 6C6, 41, 76, 80		6-1
54	Vol.	6	SRP263	6			1440	38	2P546				5	6D6, 6C6, 43, 25Z5, 76		6-2
60L	Vol.	18	M				1818	6/15	TN127				6	6A7, 6D6, 75, 43, 6E5, 25Z5	456	7-7
60M	Vol.	18	M				1818	6/15	TN127				5	6A7, 6K7, 75, 43, 25Z5, L42D	456	7-6
66AW	Vol.	8	‡	6	See No	te A5	6606	8	UR182				6	6A7, 6D6, 75, 43, 25Z5	456	6-3
							6611	16	BB11							
100, 100M	Vol.	18	N				1961	6/15	TN127				5	6A7, 6D6, 75, 43, 25Z5 (L42B)	456	7-9
102	Vol.	18	N	6			2302	6	2N514				5	6A7, 6D6, 75, 25L6G, 25Z5	456	8-3
							10	15	BB12							
103	Vol.	18	N	6			2302	6	2N514				6	6A7, 6D6, 75, 6G5, 25L6G, 25Z5	456	8-3
							10	15	BB12							
104	Vol.	18	N	6			1652	25	RS213				6	6A7, 6D6, 76, 6F5, 41, 80	456	8-4
							2308-2	25/13	RM261							
106	Vol.	18	N	6			1652	25	RS213				7	6A7, 6D6, 76, 6G5, 6F5, 41, 80	456	8-4
							2308-2	25/13	RM261							
161	Vol.	98	E	6	See No	te A14	2412	23	2P552				4	6A7, 6C6, 25L6G, 25Z5, L49D	456	8-5
162	Vol.	98	E	6	See No	te A14	2412	23	2P552				5	6A7, 6C6, 25L6G, 6F5, 25Z5, L42D	456	8-5
163	Vol.	18	MR48	M26			2444A	23	2P553				5	6A7, 6D6, 75, 25L6G, 25Z5, L42D	456	9-1
310	Vol.	46	MR48	M26			2444-1	23	2P553				10	6A7, 6D6, 6G5, 6F5G, 25L6G, 76	456	8-6
410	Vol.	6	Y	6	EX300		1194	25	BB61				4	6D6, 6C6, 42, 80		5-1
515	Vol.	6	G12				8	4	ST595				5	35, 24, 47, 80		3-1
							6	4	ST595							
515SW	Vol.	6	G12	6			8	4	ST595				5	35, 24, 47, 80		3-1
							6	4	ST595							
516	Vol.	3	G12	6									5	39, 38, 33		3-3
520	Vol.	6	Y	6	EX100		1194	25	ST595				5	6A7, 6D6, 6C6, 42, 80	456	5-2
530	Vol.	6	SRP263	6			1320	7	3S582				5	6A7, 6D6, 6C6, 43, 12Z3	456	5-3
535	Vol.	6	SRP263	6			1392	38	UR190				5	6A7, 6D6, 6C6, 43, 25Z5	456	6-4
536	Vol.	18	N	6			1921	1	RS213				5	6A7, 6K7, 75, 41, 80	456	7-10
							1914	1	RS213							
580	Vol.	6	SRP263	6			1381	27	2P544				5	6A7, 6D6, 6C6, 43, 12Z3	456	6-5
606	Vol.	46	MR48				1652	25	RS213				7	6A7, 6K7, 6F5, 76, 42, 80, 6E5	456	9-6
							1835	25	ST595							
610	Vol.	18	N	6			1088	1/13	3S584				6	6A7, 6D6, 75, 42, 80	456	5-4

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
HALSON—Continued																
612	Vol.	46	MR48	M26			2353	1	RS216				9	6A7, 6D6, 76, 6G5, [2]6F5,[3]41, 80	456	9-7
							2308-2	1	RM261							
							2369	15	BB15							
615	Vol.	26	G12										6	[5]01A, 33		3-3
620, 630	Vol.	18	L	6			1230	38	UR190/BB20				6	6A7,[2]6D6, 75, 43, 25Z5	456	5-5,6
711	Vol.	46	MR48	M26			2444-1	23	2P553				10	6A7, 6D6, 6G5, 6F5G, 25L6G,[2]76	456	8-6
770 AW	Vol.	17	M				‡	1	See Note	B3			5	57, 58, 2A6, 2A5, 80	456	6-6
	Tone	22	P													
770 AW (Late)	Vol.	17	M				8, 8	1	ST595				7	57, 56,[3]58, 2A6, 2A5, 80	456	9-8
	Tone	22	P													
1200	Vol.	18	MR48				2061-1	3	RS207				11	[3]6K7, 6L7, 6J5, 6G5, 6R7, [2]25N6,[2]25Z6, L85CC	456	9-10
							2186-1	3	2-BB26							
							2061-1	12	RS207							
							2172	15	BB12							
1900	Vol.	18	MR44				2601-1	3	RS207				19	[3]6K7, 6L7, 6J5, 6G5, [3]6H6, [3]6C5, [2]25A6, [2]25Z6, L75CC	456	9-9
							2059-1	1/3	TN127							
							2070-1	1	RS207							
							2062	15	3-BB12							
HAMMARLUND MF G. CO.																
"Comet Pro" Battery	Vol.	7	H										7	[4]77,[4]78, 42	465	
	Tone	22	Y	6												
"Comet Pro" Dec. 1931	Vol.	7	H				8, 8	1	RS213				8	[2]24A,[2]35, 47, 80,[2]27	465	3-1
	Tone	34	L	6			8	16	BB12							
"Comet Pro" July 1932	Vol.	7	H				8, 8, 8	3	RS213				8	[2]24A,[2]35, 80,[2]27	465	3-1
	Tone	34	Y	6			8	15	BB12							
"Comet Pro" Feb. 1933	Vol.	7	H				8, 8, 8	3	RS213				8	[2]57,[2]58, 2A5, 80	465	2-1
	Tone	34	G12	6			8	18	BB12							
"Comet Pro" Sept. 1932	Vol.	7	H				8, 8, 8	3	RS213				8	[2]57,[2]58, 47, 80	465	3-2
	Tone	34	G12	6			8	19	BB12							
"Comet Pro" Oct. 1932	Vol.	7	H				8, 8, 8	3	RS213				8	[2]57,[2]58, 47, 80	465	3-2
	Tone	34	G12	6			8	19	BB12							
"Comet Pro" Standard Model	Vol.	7	H				8, 8, 8	3	RS213				8	[2]57,[2]58, 2A5, 80	465	4-1,4
	Tone	34	G12	6			8	19	BB12							
"Comet Pro" (Crystal)	Vol.	7	H				8, 8, 8	3	RS213				8	[2]57,[2]58, 2A5, 80	465	4-5,8
	Tone	34	Y	6			8	19	BB12							
"Comet Pro" AVC Model	Vol.	15	M				8, 8, 8	3	RS213				9	[2]57,[2]58, 2B7, 2A5, 80	465	5-1,2
	Gain	7	H	6			8	19	BB12							
Super Pro	A.F.	18	M				3833	3	HS690				16	[5]6D6, 6A7, [3]6C6, [3]6B7, [2]76,[2]42, 5Z3, 1V	465	7-1,4
•	I.F.	9	K				3832	3/14	ST597							
	R.F.	9	O				3834	‡	38581							
	Tone	34	K12													
SP110 Series	Vol.	46			See Note A4		3832	2/14	ST597				16	6L7, 6J7,[3]6K7,[3]6D6, [3]6B7, 6C6, 6C5, [3]6F6, 5Z3, 80	465	9-1,4
	Sen.	‡	K				3834	‡	38584							
							3835	15	2BH9							
HAMMARLUND ROBERTS																
HiQ 30 AC	Vol.	12	Y				‡	‡	See Note	B1			8	[2]24,[2]27,[2]45, 80		1-5
HiQ 30 Battery	Vol.	12	Y										6	[2]22,[2]12A, 71A		1-5
HiQ 30 DC	Vol.	12	Y										7	[2]24,[2]27,[2]45		1-6
HiQ 31 AC	Vol.	12	H12				‡	‡	See Note	B1			8	[2]24, 27,[2]45, 80		1-6
HARRIS																
100A	Vol.	63	MR48	M26			8, 8	1	ST595				4	6C5,[3]6F6, 5Z4		§9-4
	Tone	41	MR39													
500	Vol.	45	MR48	M26			8-8	4	2S567				7	6A8, 6K7, 6H6, 6C5, [3]6F6, 5Z4	465	8-1
	Tone	41	MR39													
501W	Vol.	45	MR48	M26			8-8	4	2S567				7	6A8, 6K7, 6H6, 6C5, [3]6F6, 5Z4	465	8-2
	Tone	41	MR39													
600	Vol.	45	MR48	M26			8-8	4	2S567				7	6A8, 6K7, 6H6, 6C5, [3]6F6, 5Z4	465	8-1
	Tone	41	MR39													
700	Vol.	45	MR48	M26			8-8	4	2S567				7	6A8, 6K7, 6H6, 6C5, [3]6F6, 5Z4	465	8-1
	Tone	41	MR39													
701W	Vol.	45	MR48	M26			8-8	4	2S567				7	6A8, 6K7, 6H6, 6C5, [3]6F6, 5Z4	465	8-2
	Tone	41	MR39													
800	Vol.	18	MR48	M26			16-16-8	63	See Note	B3			7	6A8, 6K7, 6R7,[2]25A6, [2]25Z6	465	8-3
	Tone	41	MR39													
900	Vol.	45	MR48	M26			8-8	4	2S567				7	6A8, 6K7, 6H6, 6C5, [3]6F6, 5Z4	465	8-2
	Tone	41	MR39													
1000	Vol.	18	MR48	M26			16-16-8	63	See Note	B3			7	6A8, 6K7, 6R7,[2]25A6, [2]25Z5	465	8-4
	Tone	41	MR39													
1201W	Vol.	45	MR48	M26			8-8	4	2S567				7	6A8, 6K7, 6H6, 6C5, [3]6F6, 5Z4	465	8-2
	Tone	41	MR39													
HATRY & YOUNG																
H-Y "7"	Vol.	12	Y										6	[2]24,[2]27	175	§1-10
	Sens.	9	E12													
H-Y "7B"	Vol.	12	K12				‡	3	See Note	B1			8	[2]24,[2]27, 45, 80	175	§1-10
	Sens.	7	E													
H-Y Short-Wave 6 "7" Battery	Vol.	12	L										6	01A,[2]12A,[2]22	175	§1-10
	Sens.	9	K12													
HETRO																
6 Tube AC	Vol.	17	N	6			8	4	RS213				6	[2]6D6, 6A7, 6B7, 42, 80	456	6-11
	Tone	34	K12				10	15	BB12							
6 Tube AC-DC	Vol.	17	N	6			C2092	6/15	3N528				6	6A7, [2]6D6, 6B7, 43, 25Z5	456	6-12
	Tone	34	K12				10	15	BB12							
8 Tube Superhet	Vol.	15	P				622	3	RS213				8	2A7,[3]58, 55, 56,[2]A5, 80	456	6-13,14
	Tone	41	N	6			604	3	RM262							
							490	15	BB12							
9 Tube Air Ace	Vol.	18	N	6			30	1	WE3050				9	[2]6D6, 6A7, 85,[2]42, 80, 76	456	6-15,16
	Tone	44	K12				14	1	RS216							
							10	15	BB12							
9 Tube Air Ace (Rev.)	Vol.	18	N	6			30	1	WE3050				9	[2]6K7, 6A8, 6R7, 6C5, [2]6B5, 5Z3	456	7-4
	Tone	22	K12				14	1	RS216							
							10	15	BB12							
6 LB, 6 SB	Vol.	18	N										6	1C6, 34, 1B5,[2]30	456	6-4
	Tone	21	O													
F9 to F12	Vol.	17	M				24	4	BB26				5	6A8, 6K7, 6Q7, 25A6, 25Z5	456	7-1
							16	4	BB24							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
HETRO—Continued																
F13 to F20	Vol.	80	500M No. 1		See No	te A19	30	4	WE3050				6	6A8, 6K7, 6Q7, ²6F6,		
	Tone	80	N				16	4	RS216					80	456	7-2
							10	15	BB12							
F21 to F28	Vol.	140	500M No. 1		See No	te A19	24	27	BB26				6	6A8, 6K7, 6Q7, ²25A6,		
	Tone	140	N				16	27	BB24					25Z6	456	7-3
H47, H48	Vol.	18	MR48				1703	23	2S567				6	6A8, 6D6, 6Q7, 41,		
	Tone	34			See No	te A3								6G5, 80	465	9-12
H61, H62	Vol.	18	MR44	M26			1211445	25	RS216				5	6A8G, 6K7G, 6Q7G,		
	Tone	57	MR48				1211444	25	RS216					6K6G, 5V4G	456	9-1
							1212000	13	BB40							
HP61, HP62	Vol.	17	MR44	M26			1211445	25	RS216				5	6A8G, 6K7G, 6Q7G,		
	Tone	21	MR48				1211444	25	RS216					6K6G, 5V4G	456	9-1
							1212000	13	BB40							
H63, HP63	Vol.	45	TM220-SS1				1211972	25	RS216				7	6A8, 6K7, 6H6, 6F5,		
	Tone	57	MR48				1211870	25	RS213					6G5, 6L6, 5V4G	456	9-3
							1211455	19	BB12							
							1211334	13	WE825							
H64, HP64	Vol.	45	TM220-SS1				1211972	25	RS216				7	6A8, 6K7, 6F5, 6H6,		
	Tone	57	MR48				1211870	25	RS213					6G5, 6L6, 5V4G	456	9-3
							1211455	13	WE825							
							1211334	19	BB12							
HA67	Vol.	18	UM154			A96	8-8	1	2N518		See Note	C8	6	²6D6, 6L7, 76, 6B5, 75	465	9-5
	Tone	22	UM144			A96	.005		Buffer	B14						
H85, HP85	Vol.	45	TM220-SS1				1211972	25	RS216				8	²6K7, 6A8, 6H6, 6F5,		
	Tone	57	MR48				1211870	25	RS213					6L6, 6G5, 5V4G	456	9-7
							1211931	13	WE825							
							1211455	19	BB12							
H87, HP87	Vol.	45	TM220-SS1				1211444	25	RS216				7	6A8G, 6K7G, 6H6,		
	Tone	57	MR48				1211445	25	RS216					6F5G, 6F6, 6G5,		
							1212000	13	BB40					5Z4	456	9-9
H93, HP93	Vol.	45	TM220-SS1				1211972	25	RS216				8	²6K7, 6A8, 6H6, 6G5,		
	Tone	57	MR48				1211870	25	RS213					6F5, 6L6, 5V4G	456	9-7
							1211931	13	BB40							
							1211455	19	BB12							
22	Vol.	6	H12		EX200		8-8	1	See Note	B3			8	²58, 57, ²47, 56, 80	115	6-1
	Tone	22	Y													
31	Vol.	77	N				8-8	1	See Note	B3			8	57, ²58, 55, ²47, 80	175	6-2
	Tone	44	Y													
71	Vol.	56	N				10-25-10	11	UR182	B31			5	²6D6, 75, 43, 25Z5	456	6-3
207	Vol.	17	N	6			623	4	ST595	B3			5	2A7, 58, 2A6, 2A5, 80	456	6-5
							490	15	BB12							
209	Vol.	17	N	6			623	4	ST595	B3			5	2A7, 58, 2A6, 2A5, 80	456	6-6
							490	15	BB12							
251	Vol.	6	H12		EX250		428	4	2S567				4	57, 58, 2A5, 80		6-7
	Tone	22	Y	6												
257, 259	Vol.	17	N	6			623	4	ST595	B3			5	2A7, 58, 2A6, 2A5, 80	456	6-5,6
							490	15	BB12							
293	Vol.	6	Y		EX200		2023	23	CM164				4	6D6, 6C6, 43, 25Z5		7-4
295	Vol.	17	N	6			466	11	UR182	B31			5	²6D6, 75, 43, 25Z5	456	6-8
							490	15	BB12							
297	Vol.	17	N	6			466	11	UR182	B31			5	6A7, 6D6, 75, 43, 25Z5	456	6-9
							490	15	BB12							
412, 466	Vol.	17	N				659	6/15	3N528				6	²6D6, 6A7, 75, 43, 25Z5	456	6-10
	Tone	22	L	6			10	15	BB12							
10310, 10410, 10510, 10610 Series B	Vol.	18	MR48				16-12	4	2P546				6	6A7, 6D6, 75, 25L6, 6G5, 25Z5, L49C	465	9-11
14610, 14710	Vol.	18	MR48				8-4	23	2S567				7	²6K7, 6A8, 6G7, 6F6,		
	Tone	34	‡		See No	te A3								6G5, 5Y3	465	9-13
14810, 14890, 14910, 14990	Vol.	18	MR48				8-4	23	2S567				6	6A7, 6D6, 75, 42, 80,		
	Tone	22	‡		See No	te A3								6G5	465	9-14
15010, 15110	Vol.	18	MR48				8-4	23	2S567				6	²6K7, 6A8, 6G7, 6F6,		
	Tone	34	‡		See No	te A3								5Y3	465	9-13
15210	Vol.	18	MR48				8-4	23	2S567				7	²6K7, 6A8, 6G7, 6F6,		
	Tone	34	‡		See No	te A3								6G5, 5Y3	465	9-13
HIGH FREQUENCY LABS.																
A. C. Special	Vol.	7	UC509				5-9-9	24/1	See Note	B1			10	²24, ²27, 71A, 80	‡	1-1
L	Vol.	7	H				4, 4	4	ST595				4	24, 35, 47, 80		
"Mastertone" 1929	Vol.	12	K12				5-15-5	3	MN277	B60			11	²24, ²27, ²45, 80		1-2
"Mastertone" Super 10, 1931	Vol.	12	G12				8-8-8	3	See Note	B3			10	²24, ²27, ²45, 80		§6-12
"Nine in Line"	Vol.	33	M										9	²01A, 12A	175	1-1
4 Tube Pentode	Vol.	7	J				4, 4	1	ST595				4	51, 24, 47, 80		§6-12
117-4	Vol.	7	H				8-8	4	See Note	B3			7	²27, 24, ²35, 47, 80	175	3-1
	Tone	22	N													
160-6 (280)	Vol.	7	H				4, 4	4	ST595				4	35, 24, 47, 80		3-2
200	Vol.	7	H				8-8	25	See Note	B3			6	27, ²35, 47, 80		3-2
	Tone	41	N													
208-1	Vol.	7	H				4, 4	4	ST595				5	24, ²35, 47, 80		
	Tone	22	N													
222	Vol.	7	H				4, 4	4	ST595				7	²24, 27, ²35, 47, 80	‡	3-1
	Tone	22	N													
HI-LO																
34TDDA 4 Tube AC-DC	Vol.	7	MR54		See No	te A10	12-6	6	2N504				4	39, 36, 41, 25Z5		
							10-10	15	TN111	B6						
HOODWIN																
Aero A. F. Amplifier							4-4	25	See Note	B3			4	56, 57, 47, 80		4-7
							8	14	See Note	B3						
6 Tube Super (DC)	Vol.	33	L				20	15	BB15				6	²36, ²38	175	4-2
	Tone	22	L													
Aero Auto Radio	Vol.	26	H12										6	²24, ²27, 45		2-1
Aero Auto Pent. "A"	Vol.	7	H		4								6	²36, ²38		3-1
Aero Auto Pent. "B"	Vol.	7	H		3								6	²56, ²38		3-2
International Aero.	Vol.	15	L				8-8-6	3	See Note	B3			11	²56, ²58, 55, ²47, 80	485	4-8
	Tone	95	L													
4 Tube AC	Vol.	7	H				6-8	25	See Note	B3			4	²35, 47, 80		4-1
4 Tube DC	Vol.	7	G				20	15	BB15				4	²36, ²38		4-2
4 T.R.F.	Vol.	6	G12				8-8	1	See Note	B3			4	58, 57, 47, 80		4-6
5 Tube (Midget)	Vol.	7	H	6			4-8	25	See Note	B3			5	57, ²58, 47, 80		4-7
5 Tube T.R.F.	Vol.	88	P				8-8	1	See Note	B3			5	57, ²58, 47, 80		4-6
5 Tube 110V, 220V DC	Vol.	7	H				6-6	12	See Note	B3			5	²36, ²38		4-7
							20	15	BB15							
6 Tube Super	Vol.	33	L				4-8	25	See Note	B3			6	55, 56, 57, 58, 47, 80	175	4-4
6 Tube Batt. Super	Vol.	54	Y100MP										6	32, 33, ²34, 30	175	4-3

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
HOODWIN—Continued																
6 Tube 32V DC	Vol.	15	L										6	[3]36, 37, [2]38	175	4-5
	Tone	22	L													
6-33 AVC	Vol.	33	N				8-8	25	See Note	B3			6	[3]58, Wunderlich, 47, 80		
	Tone	21	N													
6 Tube Superhet 110V DC Super	Vol.	15	L				8-8	1	See Note	B3			6	[3]36, 37, [2]38	175	4-5
	Tone	22	L				10	15	BB12							
HERBERT H. HORN	"Tiffany	Tone"														
4T	Vol.	6	MR18				5-5	23	2S567				4	6D6, 6C6, 41, 80		9-1
5	Vol.	6	SRP263				4-4	23	CM172				5	57, 58, 56, 2A5, 80	465	6-1
5A	Vol.	6	Y				5-5	23	2S567				5	‡	465	7-1
	Tone	22	K12													
5MT	Vol.	6	SRP263				5-5	23	2S567				5	6J7, 6K7, 6C5, 6F6, 5Z4	465	6-2
													5	‡	465	7-2
5MTD	Vol.	18	N				5-5	23	2S567							
	Tone	22	K12													
7MT	Vol.	56	N				8-8	23	2S567				7	6A8, 6K7, 6H6, [2]6C5, 6F6, 5Z4	465	6-3
	Tone	22	K12													
9MT, 9MTC	Vol.	46	N				16, 16	23	RS216				9	[3]6K7, [2]6A8, 6H6, 6C5, 6F6, 5Z4	465	6-4,7-3
	Tone	22	Y													
10MT	Vol.	45	N				8-8	23	CM172	B3			10	[3]6K7, 6L7, 6C5, 6H6, 6G5, 6J7, 6F6, 5Y3	1600	7-4
	Tone	22	K12				10	19	BB12							
11A	Vol.	80	750M		See Note	A19	16	1	RS216				11	6A8, [2]6K7, [4]6J5, 6J7, [2]6F5, 5Y3	465	9-2
	Tone	80	MR44				5	1/13	ST595							
15	Vol.	6	H7				8, 8	4	RS213				6	[4]24, 45, 80		3-1,2
	Tone	22	L													
15M	Vol.	6	D7				8, 8	4	ST595				6	27, 47, 80, [3]35		6-5
	Tone	22	G12													
16MT	Vol.	‡	‡		See Note	A3	8, 8, 8	30	ST595				16	[4]6K7, [2]6A8, [2]6H6, [2]6C5, [2]6F6, [3]5Z4	1600	8-1
	H. F. Tone	22	M				8	15	BB13							
							10	15	BB12							
17MT	Vol.	83	N				16-8-8-8	‡	See Note	B3			17	[4]6K7, 6L7, [4]6C5, [2]6H6, 6G5, [2]6F6, [3]5Y3	1600	7-5
	Bass	‡	UC513				8	15	BB13							
							8	13	BB61							
21	Vol.	6	UC501	6			4-8	23	CM172				4	57, 58, 47, 82		4-1
	Tone	22	G12													
24	Vol.	6	SRP263				4-4	4	CM172				4	2A7, 57, 2A5, 80	465	4-2
25	Vol.	6	G12	6			8-4	23	CM172				4	57, 58, 47, 80		4-1
	Tone	22	G12													
36	Vol.	17	N	6			4-4	4	See Note	B3			5	6A7, 78, 6B7, 42, 80	465	4-2
	Tone	22	N													
49	Vol.	6	C12				8-8	1	See Note	B3			5	[3]24, 45, 80		
50, 50B	Vol.	18	MR48				5-5	23	2S567				5	6A8, 6K7, 75, 42, 80, or 6A7, 6D6, 75, 6F6, 5Y3	465	9-1
51	Vol.	18	N				8-8	23	2S567				5	6A7, 6D6, 75, 42, 80	465	7-6
52	Vol.	18	N				8-8	23	2S567	B3			5	6A8G, 6K7G, 75, 6F6G, 5Y3	465	7-7
	Tone	22	K12													
55	Vol.	56	N				8-8	23	See Note	B3			5	57, 58, 2A6, 2A5, 80	465	6-1
	Tone	22	Y													
58	Vol.	15	N	6			8-8	1	See Note	B3			7	2A7, [3]58, 56, 57, 2A5, 80	465	5-2
	Tone	76	N				10	15	BB12							
58 (1933)	Vol.	15	N				8-8	1	See Note	B3			7	2A7, [3]58, 56, 2A5, 80, 57	465	4-3
	Tone	21	N				10	15	BB12							
59	Vol.	7	G				8-8	1	See Note	B3			8	[2]27, [3]51, [2]47, 80	175	3-3
	Tone	39	M													
62	Vol.	18	N				8-8	23	2S567				5	6A8G, 6K7G, 75, 6F6G, 5Y3	465	7-6
	Tone	22	K12													
63	Vol.	18	N				8-8	23	2S567				5	6A8, 6K7, 75, 6F6, 5Y3	465	7-8
	Tone	22	K12													
66	Vol.	15	N				8-8	23	See Note	B3			6	‡	465	6-6
66MT	Vol.	18	N				5-5	23	CM172	B3			6	6A8, 6K7, 6H6, 6J7, 6F6, 5Z4	465	6-9,7-1
	Tone	22	K12													
67	Vol.	18	MR48				5-5	23	2S567				6	6A7, 6D6, 75, 42, 80, 6U5	465	9-3
	Tone	22	MR33													
69	Vol.	7	G				8-8	1	See Note	B3			8	[2]27, [3]51, [2]47, 80	465	3-3
	Tone	39	M													
70, 71	Vol.	6	G12	6			8-8	4	RS213				7	[3]35, [2]24, 27, 47, 80	175	3-4,5
76	Vol.	45	N				8-8	23	See Note	B3			7	6A8, 6K7, 6H6, 6J7, 6F6, 6E5, 5Y3	465	7-4
	Tone	22	K12													
77	Vol.	83	N				8-8	23	See Note	B3			7	2A7, [3]58, 55, [2]2A5, 80	465	6-1
	Tone	22	Y													
	Sen.	7	J													
79	Vol.	6	G12				8-8	4	See Note	B3			8	[2]27, [3]51, [2]47, 80	175	6-7,8
	Tone	22	M													
83	Vol.	83	N				8-8	23	CM172	B3			7	6A8, 6K7, 6H6, 6G5, 6J7, 6F6, 5Y3	465	7-8
	Tone	22	K12													
87	Vol.	18	MR48				12	23	RS215				7	[2]6K7, 6A8, 6U5, 75, 6V6G, 5Y3G	465	9-4
	Tone	22	MR33				12	23	WE1625							
90	Vol.	7	G				8-8	1	See Note	B3			8	[2]27, [3]51, [2]47, 80	175	3-3
	Tone	39	M													
97	Vol.	18	MR48				10	25	RS215				9	[2]6K7, 6A8, 6Q7, 6U5, 6F6, [2]6C5, 5Y3	465	9-4
	Tone	22	MR48				12	25	WE1625							
							10	15	BB13							
99	Vol.	6	G12				8-8	4	See Note	B3			8	[2]27, [3]51, [2]47, 80	175	6-7,8
	Tone	22	M													
101	Vol.	15	M				8-8	4	See Note	B3			11	[4]27, [4]35, [2]47, 80	175/550SW	2-1,2
	Tone	39	N													
	Tunlgt.	‡	A10MP													
101B, 102B	Vol.	15	N	6			8-8	1	See Note	B3			12	[3]24, [4]27, [2]35, [2]47, 80	175	3-6,8
	Tone	39	N													
	Tunlgt.	‡	A10MP													
109	Vol.	6	G12				8-8	4	See Note	B3			8	[2]27, [3]51, [2]47, 80	175	6-7,8
	Tone	22	M													
110	Vol.	15	N				8-8	4	See Note	B3			10	[4]27, [2]35, [2]47, 80	175/550SW	2-1,2
	Tone	39	N													
	Tunlgt.	‡	A10MP													
112A	Vol.	15	N				8-8-4	32	See Note	B3			12	[3]58, 2A7, [3]56, [2]2A3, 5Z3	175	5-1
	Tone	22	N													
156	Vol.	56	N	6			4-4	23	See Note	B3			5	2A7, 2B7, 58, 2A5, 80	465	5-2
	Tone	22	N													
156AW	Vol.	56	N	6			4-4	23	See Note	B3			5	2A7, 58, 2B7, 2A5, 80	465	6-2
	Tone	22	N													
158 (1933)	Vol.	15	N				8-8	1	See Note	B3			7	2A7, [3]58, 56, 57, 2A5, 80	465	4-4
	Tone	21	N													
518	Vol.	18	MR48				5-5	23	2S567				5	6A7, 6D6, 75, 42, 80	465	9-3
535	Vol.	18	N				4-4	4	See Note	B3	291	C3	5	6A7, 6D6, 75, 42, 84	465	7-7
							.02		Buffer	B14						
536	Vol.	18	N				4-4	4	See Note	B3	291	C3	5	6A7, 6D6, 75, 42, 84	465	
	Tone	22	K12				.02		Buffer	B14						

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
HERBERT H. HORN—Continued																
537, 538	Vol.	18	MR48				5-5	23	2S567		294	C3	5	6A8, 6K7, 6Q7, 6F6, 84	465	8-2
	Tone	22	K12				.01		Buffer	B14						
1934	Vol.	17	N				4-4	1	See Note	B3			5	6A7,‡78, 6B7, 42	172	5-2
	Tone	22	K12													
HOWARD																
AA25	Vol.	6	H12	‡	EX300		16-12	4	2P546				4	6D6, 6C6, 43, 25Z5		6-3
AP	Vol.	16	‡	‡	See Note A5		2335	3	CS133				9	55,‡56,‡58,‡42, 80	175	
	Tone	41	P	6			1948	3	RS213							
							2209	3	CS133							
A SW Converter							1976	3	RS213							
AVH (45, 60)	Vol.	94	N				1859	1	ST595				4	‡24, 35, 27		3-9
	Tone	44	N	6			1883	3	3S584				9	‡27,‡35,‡47, 80	175	2-6,7
AVO (35-A)	Vol.	35	N													
	Tone	34	L	6			1883	3	3S584				8	‡35,‡27, 47, 80	175	3-11
A12	Vol.	6	H12	‡	EX300		2282	16	BB12							
B13	Vol.	17	N				16-12	4	2P546				4	6D6, 6C6, 43, 12Z3		6-1
							8-16-12	27	UR182	B115			5	6A7, 6D6, 75, 43, 25Z5	456	6-1
CC23, CC24	Vol.	17	N				8, 8	1	ST595				6	‡6D6, 75, 42, 76, 80	456	6-3
D4 (Cable-Nelson)	Vol.	8	‡	6	See Note A5		10	15	BB12							
							1869	1	CS133				4	51, 24, 47, 80		2-12
D8	Vol.	19	TRP606	6			2209	1	CS133							
	Tone	22	Y				3004	28	RM262				8	‡78, 6A7, 85, 76, 42, 80	465	6-17
	Supp.	9	G				1948	28	RS213							
EX (Dual Range)	Vol.	8	G													
	Tone	44	N	6			1869	3	CS133				10	‡27,‡51,‡47, 80	140	3-2
E5B	Vol.	18	MR48				2209	3	CS133							
							4	12	BB31				4	1C6, 1A4, 1F6, 1F4, 1B1	465	9-1
E14, E107	Vol.	18	N	6			8-4	23	CM172				6	6C6, 6D6, 75, 42, 80, 76	455	6-2
E57 (Long Wave)	Vol.	18	N	6			8815	11	2N504				5	6A7, 6D6, 75, 43, 25Z5	456	7-12,13
							8816	11	BB21							
E256	Vol.	45	MR48				40-10	6	2N514				6	6A7, 6D6, 76, 6K5, 25B5, 25Z5, K42B	465	9-1
E259	Vol.	18	MR48				40-10	6	2N514				5	6A7, 6D6, 75, 42, 80	465	9-2
F	Vol.	15	N				3288	1	CM172				12	6A7,‡78, 85,‡76,‡42,‡80	465	6-4
	Tone	22	Y				3004	25	RM262							
	Sen.	7	G				1948	25	RS213							
F (with 45's)	Vol.	24	‡		See Note A5		1748	1	RS213				7	‡24, 27,‡45, 80		2-1
	Tone	41	UC504	6												
Series 1 (Grand)	Vol.	15	N				8-8	1	RM262				19	‡76, 6C6,‡78, 80, 85,‡42 84, 5Z3	175	6-15,16
	Tone	15	N				8-8	24	2N516							
	Hum	30	A10MP				5	15	BB11							
							25	15	BB15							
Series 2 (Grand)	Vol.	15	N	6			8-8	12	RM262							
	Tone	15	N				8-8	1	RM262				19	‡78, ‡76, 6C6, 85, ‡42, 5Z3, 80, 84	465	7-1,2
	Hum	30	A10MP				8-8	24	2N516							
							5	15	BB11							
							25	15	BB15							
							30-8	1	See Note	B3						
"Green Diamond" 8 Mag. Speaker	Vol.	1	D12				‡	‡	See Note	B4			9	‡26, 27,‡71A, 80		1-3
	Phono.	10	K12													
"Green Diamond" 8 Dyn. Speaker	Vol.	1	D12				P1727	3	See Note	B3			9	‡26, 27,‡71A, 80		1-4
	Phono.	10	K12				P1728	3	See Note	B3						
"Green Diamond" 8 Dyn. Speaker 45's	Vol.	1	D12				SA1090	3	MN275				9	‡26, 27,‡45, 80		1-5
	Phono.	10	K12													
G26	Vol.	6	H12		EX300		8-8-10-10	24	4N701				4	39, 36, 38, 37		6-3
H (with 45's) (35, 40)	Vol.	8	G				1948	1	RS213				8	‡51,‡27,‡45, 80	175	3-3,4
	Tone	41	N	6												
H (35, 40) (with 47's)	Vol.	8	G				1948	3	RS213				8	‡51,‡27,‡47, 80	175	2-3,5
	Tone	41	N	6			1976	3	RS213							
Auto (Series 1)	Vol.	18	UC512	6			8-8	1	2N518		249	C3	6	‡6D6, 76, 75, 42, 6L7	465	
	Tone	22	MR39				.005		Buffer	B14						
HA1 (670A)	Vol.	17	N	6			P119-4	4	CM172		294	C3	6	6C6,‡6D6, 75, 42, 84	175	6-7,9
							.015		Buffer	B14						
HA2 (52, 502)	Vol.	18	UM154		See Note A96		8-8	4	CM172		292	C3	5	6A7, 6D6, 75, 41, 84	456	6-10
							10-10	15	TN111							
HA3	Vol.	17	UM154		See Note A96		.008-.008		Buffer	B14						
							8-8	4	CM172		294	C3	5	6A7, 6D6, 75, 41, 84	456	6-11
							5-5	15	TN111							
							.015-.015		Buffer	B14						
HA4	Vol.	18	UC512		See Note A3		8-8	4	CM172		294	C3	6	‡6D6, 6A7, 75, 41, 84	175	6-12
							10	15	BB12							
							.015-.015		Buffer	B14						
HA6	Vol.	‡	UC512				8826	‡	RM262		249	C3	6	‡6D6, 6L7, 75, 76, 6B5	465	7-3,10
	Tone	22	MR39				.005		Buffer	B14						
HA7	Vol.	18	UM157-SS17				26-266	4	2S567		294	C3	6	‡6K7G, 6A8G, 6Q7G, 6V6G, 0Z4	262	
							.0075		Buffer	B14						
HA8	Vol.	18	UM157-SS17				27-266	1	2N518		294	C3	8	‡6K7G, 6A8G, 6Q7G, 6C5G,‡6V6G, 0Z4	262	
							.0075		Buffer	B14						
HA9	Vol.	18	UM157-SS17				26-266	4	2S567		294	C3	6	‡6K7G, 6A8G, 6Q7G, 6V6G, 0Z4	262	
							.0075		Buffer	B14						
"Highwayman"	Vol.	17	UC512	6			P103-2	4	RM262		299	C3	6	6D6, 6C6, 78, 75, 42, 84	175	
			N				.02		Buffer	B14						
J3	Vol.	8	G	6			2178A	1	2N518				6	‡78, 77, 43, 84, 37	456	3-12
							2427	12	BB60							
							2177	15	TN111							
K (400)	Vol.	13	L				1869	28	CS133				10	‡56, 57,‡58,‡47, 80	175	3-8
	Tone	41	P	6			2335	28	CS133							
	Supp.	7	G													
L (410)	Vol.	13	M				2335	3	CS133				11	55,‡56,‡58,‡42, 80	175	3-5,6
	Supp.	56	M				1869	3	CS133							
	Tone	41	P	6												
M (420)	Vol.	13	M				2335	3	CS133				13	55,‡56,‡58,‡42, 84	175	3-6,7
	Supp.	18	M	6												
	Tone	41	P	6												
O (20, 25, 30, 32)	Vol.	8	‡		See Note A5		1858	1	2S567				7	‡51,‡27, 47, 80	175	2-8,9
	Tone	21	‡		See Note A5		1859	1	BB60							
Q	Vol.	15	M				2303	28	CM172				7	‡78, 6A7, 76, ‡12A5, 80, 77	170	4-2,3
	Tone	22	M	6			2427	28	CS133							
R9	Vol.	15	M				2803	3	CM172				9	‡76, 77, 78, 6B7,‡42, 80	465	5-1,3
	Tone	22	‡	6	See Note A5		2427	3	CS133							
SG "A," "C," (R.F. chassis)	Vol.	24	DRP244										4	‡24, 27		1-6
SG "A," SG "C" (A.F. Chassis)							P1080	3	MN275				3	‡45, 80		1-7

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
HOWARD—Continued																
SG "B"	Vol.	8	G				1748	1	RS213				6	[3]24, 27, 45, 80		2-14
	Tone	21	P	6												
SG "T"	Vol.	8	F	6	3		1868	1	CM172				5	[3]51, 24, 47, 80		2-10,11
S2, S7	Vol.	15	‡	7	See Note A5								8	1A6,[3]30, 32,[3]34,[3]49	175	4-1,7-9
W 1st Type	Vol.	15	N										10	[3]56,[3]57,[3]58, 2A7, 2B7	465	5-4,12
	Tone	22	N	6												
	Supp.	8	G													
	AVC	‡	Y1000MP													
W 2nd Type	Vol.	15	N										10	[3]56,[3]57,[3]58	465	5-5,12
	Tone	22	N	6												
	Supp.	12	G12													
	Tunlgt.	‡	O													
W 2nd Revision	Vol.	17	N				8	13	BB61				19	2A7,[3]56,[3]58,[2]2A5, 83V	465	6-13,14
	Tone	22	N	6			10	15	BB13							
	Sen.	8	G													
W (Power Amplifier)							2851	3/14	HS692/UR191	B116			9	83V,[2]2A5,[3]56		5-6
							2850	4	CM162							
							2427	15	BB12							
X2, X3, X8	Vol.	17	N	6			1948	3	RS213				7	6A7, 6B7, [3]78, 77, 12A5, 80	175	4-4,5
							1976	3	RS213							
							2427	15	BB12							
Z4	Vol.	15	N	6			1948	3	RS213				10	6A7,6B7,[3]78,[3]77,[2]2A5, 80	175	4-6,7
							2209	3	CS133							
4B	Vol.	18	MR48				4	12	BB31				4	1A7G, 1N5G, 1H5G, 1C5G	465	
4BT	Vol.	18	MR48	M27			36-266	12	FPS143				4	1A7G, 1N5G, 1H5G, 1C5G	465	
5B	Vol.	18	N	7			23-266	12	ST595				4	1C6, 1A4, 1F6, 1F4, 1B1	465	8-1,3
6B	Vol.	18	MR48				8, 8	1	BB31		245C	C3	6	6D8G, [3]1A4, 6T7G, 30, 19	465	9-4
	Tone	22	MR48				.005		Buffer	B14						
6B-A	Vol.	124	O	7			20-266	1	2N504		245C	C3	6	6D8G, [3]6S7G, 6T7G, 30, 19	465	9-4,5
	Tone	22	N				.005		Buffer	B14						
6B-T	Vol.	124	O	7			20-266	1	2N504		245C	C3	6	6D8G, [3]6S7G, 6T7G, 30, 19	465	
	Tone	22	N				.005		Buffer	B14						
7BT	Vol.	18	MR48				8-16	1	2S563		245C	C3	5	6D8G, 6S7G, 6T7G, 41, 6L5G	465	9-6
							10	15	BB12							
							.005		Buffer	B14						
47A	Vol.	6	H12	6	EX300		16-12	4	CM164				4	6D6, 6C6, 43, 25Z5		7-11,12
50SW	Vol.	6	H12	6			8812	4	2P546				5	[3]6D6, 6J7, 43, 25Z5		7-11,12
							3003	15	BB12							
50 (Series 2)	Vol.	6	H12	6	EX300		16-12	4	2P546				5	[3]6D6, 6J7, 43, 25Z5		7-11,12
							5	15	BB12							
56	Vol.	18	MR48				16-12	4	2P546				5	6A7, 6D6, 75, 43, 25Z5, K49B	465	8-2
57A, 57AUS	Vol.	18	N	6			8815	11	2N504				5	6A7, 6D6, 75, 43, 25Z5	456	7-12,14
							8816	11	BB21							
58 (B5)	Vol.	45	N	6			8812	27	2P546				5	6A7, 6D6, 75, 43, 25Z5	465	7-15,16
59	Vol.	18	MR48	M26			8812	27	2P546				5	6A7, 6D6, 75, 43, 25Z5, K49C	465	9-26
60 (Series 1), 60 (Short Wave)	Vol.	18	N	6			8815	11	2N504				6	6A7, 6D6, 6H6, 6F5, 43, 25Z5	456	7-12,14
							8816	11	BB21	B3						
67, 67C, 67T	Vol.	18	N	6			8817	1	2N518				6	6A7, 6D6, 6H6G, 6F6G, 42, 80	465	8-15
							3003	15	BB12							
68	Vol.	18	MR48	M26			8826	1	2S567				6	6A7, 6K7, 6Q7, 6B5, 80, 6G5	465	7-17,18
	Tone	22	MR48													
77C, 77T	Vol.	18	N	6			3004	1	RM262				7	6A8,[3]6K7, 6H6, 6F5, 6F6, 5Y3	465	7-19,20
							8814	14	BB60							
							3003	15	BB11							
99, 99C, 99T	Vol.	15	N	6			3004	1	RM262				9	[3]6K7, 6A8, 6H6, 6C5, [3]6F6, 5Z4	465	7-23,24
	Tone	41	N				8814	14	BB60							
							3003	15	BB11							
118	Vol.	45	O	6			17-266	1	RS213				11	[3]6K7, 6A7, 6H6, 6F5, 6C5,[3]6F6G, 6G5, 80	465	8-7,9
	Tone	22	N				8826	1/13	2S567							
135AC (395, 445, 470, 495)	Vol.	10	GK				P1603A	3	See Note	B2			7	[2]26, 27, 10, 81		1-8
135 D. C.	Vol.	10	E12										6	[3]01A, 71A		2-2
200	Vol.	6	MR48		EX300		16-12	4	2P546				4	6K7GT, 6J7GT, 25L6, 25Z5		9-26
210, 211							16-8	24	2N504				2	6A7, 1V		
214	Vol.	‡	Order from	Mfr.			8	1	RS213				14	[3]6K7G, 6L7G,[3]6J5G, 6H6, 6G5, [3]6F5, [3]6V6G,[3]80	465	8-11,12
	B.Tone	‡	MR53	M26			8-8	1/14	2N518							
							8-4	14	2N517							
218	Vol.	45	O	6			17-266	1	RS213				11	[3]6K7, 6A7, 6H6, 6F5, 6C5,[3]6F6G, 6G5, 80	465	8-7,9
	Tone	22	N				8826	1/13	2S567							
220	Vol.	18	MR53	M26			31-277	1	FPD231				5	6A7, 6D6, 75, 41, 80	465	
221	Vol.	18	MR48	M26			32-266	1	FPD208				5	6A7, 6D6, 75, 25L6G, 25Z5, K49B	465	
225, S225	Vol.	18	MR48				28-266	1	2S567				5	6A7, 6D6, 75, 41, 80	465	9-9,14
	Tone	22	MR48	M26												
240-1	Vol.	18	MR48				28-266	1	2S567				6	6A7, 6D6, 75, 6U5, 41, 80	465	9-7,8
	Tone	21	MR48	M26												
240-2	Vol.	18	MR48				28-266	1	2S567				6	6A7, 6D6, 75, 6U5, 41, 80	465	9-7,8
	Tone	21	MR48	M26												
250, S250	Vol.	18	MR48				28-266	1	2S567				5	6A7, 6D6, 75, 41, 80	465	9-9,14
	Tone	22	MR48	M26												
256, S256	Vol.	18	MR48				4-8	1	2N518				5	6A7, 6D6, 75, 42, 80	465	8-10
259, S259	Vol.	18	MR48				40-10	6	2N514				6	6A7, 6D6, 76, 6K5, 25B5, 25Z5,K24B	465	8-13
260, S260	Vol.	18	MR48				28-266	1	2S567				6	6A7, 6D6, 75, 6U5, 41, 80	465	9-10,14
	Tone	22	MR48	M26												
266	Vol.	45	N	6			24-266	1/19	3S579				6	6A7, 6D6, 76, 6F5G, 42, 80	465	8-4,6
	Tone	22	N													
268	Vol.	45	N	6			19-266	1/13	3S584	B79			7	6A7, 6K7, 76, 6F5G, 6B5, 80, 6G5	465	8-1,4
	Tone	22	N													
270	Vol.	18	MR53	M26			31-277	1	FPD231				5	6A7, 6D6, 75, 41, 80	465	
271	Vol.	18	MR48	M26			32-266	1	FPD208				5	6A7, 6D6, 75, 25L6G, 25Z5, K49B	465	
275, 275C, 275T, 280	Vol.	18	MR48				29-266	1	2N518				6	6A7, 6D6, 75, 6V6G, 6U5, 80	465	9-11,14
	Tone	21	MR48	M26												
318	Vol.	124	MR53				8824	1	WE850				10	[3]6K7, 6A7, 6U5,6Q7G, 6C5G,[3]6V6G, 80	465	9-15,18
	Tone	21	MR48	M26			8826-5	1/13	2S567							
325	Vol.	124	MR53				8824	1	WE850				10	[3]6K7, 6A7, 6Q7G, 6C5G, [3]6V6G, 6U5, 80	465	9-15,18
	Tone	22	MR48	M26			8826-5	1/13	2S567							
368	Vol.	124	MR53				19-266	1/13	3S584				8	6A7,[3]6K7, 6H6, 6F5G, 6V6G, 6U5, 80	465	9-15,18
	Tone	21	MR48	M26												
368A (with Aut. Tuning)	Vol.	124	MR53				19-266	1/13	3S584				9	6A7, 6A8,[3]6K7, 6H6, 6U5, 6F5G, 6V6G, 80	465	
	Tone	21	MR48	M26												

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
HOWARD—Continued																
375	Vol.	18	MR48				10-10-10	1/15	FPT332				6	6K8G, 6D6, 75, 6V6G, 6U5, 80	465	
	Tone	21	MR48	M26												
400	Vol.	...‡..	DRP232				17-266	1	RS213				12	²6K7, 6L7, ²6J5, 6Q7G, 6U5, 6F5, ²6V6G, 80	465	9-19,25
	Tone	...‡..	MR53	M26			29-266	1/14	2S567							
							8-4	14	2N517							
400A	Vol.	...‡..	DRP232				17-266	1	RS213				12	²6K7, 6L7, ²6J5G, 6Q7G, 6U5, 6F5, ²6V6G, 80	465	9-20,25
	Tone	...‡..	MR53	M26			29-266	1/14	2S567							
418	Vol.	45					8824	1	WE850				13	²6K7, 6K8G, 6A7, 6Q7G, 6F5G, 6J5G, ²6V6G, 6U5, §80	465	
	Bass	...‡..	MR53	M26			30-266	1/14	FPD231							
425	Vol.	...‡..	DRP232				17-266	1	RS213				14	²6K7, 6L7, ²6J5G, 6H6, 6U5, ²6F5G, ²6L6G, §80	465	9-19,25
	Tone	...‡..	MR53				29-266	1/14	2S567							
							8-8	14	2N518							
425A	Vol.	...‡..	DRP232				17-266	1	RS213				14	²6K7, 6L7, ²6J5G, 6H6, 6U5, 6J6G, 6F5, ²6L6G, §80	465	9-20,25
	Tone	...‡..	MR53	M26			29-266	1/14	2S567							
							8-8	14	2N517							
430 Type 2	Vol.	18	MR48				31-266	1	FPD231				6	6K8G, 6C5, 6K7, 6Q7G, 41, 5W4	465	
							35-266	13/15	FPT332							
438	Vol.	17	MR53				30-266	1	FPD231				8	²6K7, 6C5, 6K8G, 6Q7G, 41, 80	465	
							35-266	13/15	FPT332							
468	Vol.	...‡..					33-266	1/13	FPT389				9	6K8G, ²6K7, 6A7, 6U5, 6Q7G, 6V6G, 6F5G, 80	465	
	Bass	...‡..	MR53	M26												
525	Vol.	...‡..					8824	46	WE850				14	²6K7, 6K8G, 6A7, 6H6G, ²6F5G, 6J5G, ²6L6G, 6U5, §80		
	Bass	...‡..	MR53	M26			33-266	46/13	FPT389							
626	Vol.	18	N	6			8817	1	2N518				6	6A7, 6D6, 6H6, 6F5G, 42, 80	465	8-14,16
							3003	15	BB12							
1626	Vol.	18	N	6			8817	1	2N518				6	6A7, 6D6, 6H6G, 6F5G, 42, 80	465	8-14,16
							3003	15	BB12							
HUDSON-ROSS																
38	Vol.	6	M	6	EX250		8-8	24	2N502				4	6D6, 6C6, 38, 12Z3		5-1
							10	15	BB12							
48	Vol.	6	M	6	EX250		16-12	1	2N506				4	6D6, 6C6, 38, 25Z5		5-1
							10	15	BB12							
59	Vol.	6	G7	6	2		20-20	6	2N509				5	6A7, 6D6, 75, 43, 25Z5		5-2
							10	15	BB12							
69	Vol.	6	G7	6	2		20-20	6	2N509				6	6A7, 6D6, 85, §43, 25Z5	456	5-3
							3	13	BB40							
							10	15	BB12							
80	Vol.	18	N	6			701	23	2S567				5	6A7, 6D6, 75, 42, 80	456	5-4
"Legion"	Vol.	6	M	6	EX250		8-8	24	2N502	B3			4	6D6, 6C6, 38, 12Z3		§6-13
							10	15	BB12							
HUDSON-TERRAPLANE (Also see			R. C. A.-Victor, Zenith.)													
CB-6	Vol.	18	TM241		See Note	A96	8	1	RS213		249	C3	6	²6D6, 6A7, 85, 6C5, 6A6	260	9-1
	Tone	22	UM140		See Note	A96	8-10-10	1/15	ST595/TN111							
							.01-.01		Buffer	B14						
DB-37	Vol.	18	TM241-SS4				12234	1	RS213		249	C3	6	6D6, 6A7, 6K7, 85, 6C5, 6A6	260	9-3,7
	Tone	22	UM140		See Note	A96	12238	1/15	ST595/TN111							
							.01-.01		Buffer	B14						
Hudson H6	Vol.	56	UM147		See Note	A96	8	1	RS213		294	C3	6	²6D6, 6A7, 6B7, 41, 84	260	7-33 (RCA)
							4	1	RS211							
							.02-.02		Buffer	B14						
SA-37	Vol.	45	UM157-SS4				13114	1	2N518		249	C3	5	6D6, 6A8, 6K7, 6B7, 42	260	9-7,9
							.01-.01		Buffer	B14						
650HD, 651HE, 660TD, 660TE	Vol.	17	N				22-236	1/15	SR628		292	C3	6	²6D6, 6F7, 75, 42, 84	252.5	
	Tone	34	K12				.02		Buffer	B14						
680	Vol.	18	UM154	M26		A96	22-347	1	CM172		294	C3	6	²6D6, 6C6, 75, 42, 84	252.5	
							.01		Buffer	B14						
IMPERIAL FURNITURE																
14	Vol.	6	Y				8-8-8-16	6/15	UR189	B98			5	‡		
3SB5	Vol.	76	N				8-4	25	2S567					6A7, 78, 75, 42, 80	456	
	Tone	76	M				25	19	BB15							
IMPERIAL RADIO																
5M-17	Vol.	6	K12	6			B16973	27	RS207				4	6D6, 6C6, 43, 25Z5		
							B17042	27	RS207							
6M-27	Vol.	17	O				B17041-3	4	RS208				5	6A8G, 6K7G, 6Q7G, 25B6G, 25Z6G	456	
	Tone	...‡..	M	6			B17197	4	RS208							
6U-107, 6L-137, 6C-607	Vol.	18	N	6			B16466	4	RS216				6	6A8G, 6K7G, 6Q7G, 6G5, 6K6G, 5Y3	456	
	Tone	34	UC502				B16467-2	4	WE825							
7U-117, 7L-147, 7C-707	Vol.	18	N	6			B16466	4	RS216				7	6L7G, 6C5G, 6K7G, 6Q7G, 6G5, 6F6G, 5Y3	456	
	Tone	34	UC502				B16567-2	4	WE825							
8C-807	Vol.	18	N	6			A15236-3	25	WE3050				8	6A8G, 6K7G, 6Q7G, 6G5, 6C5G, ²6F6G, 5Y3	456	
	Tone	44	UC502				A15237-2	25	RS215							
8U-127	Vol.	18	N	6			A15236-3	25	WE3050				8	6A8G, 6K7G, 6Q7G, 6G5, 6C5G, ²6F6G, 5Y3	456	
	Tone	44	SRP284	8			A15237-2	25	RS215							
10C-1007	Vol.	17	TRP618	6			B16554-3	1	WE3050				10	²6K7G, 6L7G, 6C5G, 6Q7G, 6G5, ²6F6G, 5Z3	456	
	Tone	22	UC502				B15427	1	RS216							
							B16551-4	15	TN111							
INSULINE CORP.																
"Classic"	Vol.	17	N	6			32-16	27	2P553				5	6A7, 78, 6B7, 43, 25Z5	132	5-6
							5-5	15	TN111							
"Conquerer"	Vol.	8	D		2		2-4-4	3	See Note	B3			5	51, §27, 47, 80		2-6
AVC Super Seven, AVC Long Wave 110V DC	Vol.	6	G7	6	2		8	39	See Note	B11			7	§39, 85, 37, §43	175/115	4-3
"Elite"	Vol.	17	N	6			32-16	27	2P553				5	6A7, 78, 6B7, 43, 25Z5	132	5-5
							5-5	15	TN111							
"Envoy"	Vol.	8	G		2		4, 4	1	ST595				6	§51, 24, 47, 80		2-1
"Envoy Midget"	Vol.	8	C	6			8-4	1	See Note	B3			5	§51, 24, 47, 80		2-1
"Envoy Midget" DC	Vol.	8	C	6			8	39	See Note	B11			5	§36, §33		2-2
	Tone	21	M													
"Envoy DC" Broadcast—Long Wave	Vol.	6	E12	6			8	39	See Note	B11			5	§36, §33		2-3
"Envoy AC" Broadcast—Long Wave	Vol.	8	A2MP	6	2		8-4	1	See Note	B3			5	§51, 24, 47, 80		2-4
"Envoyette" AC	Vol.	8	G	6	2		8-4	1	See Note	B3			5	§58, 56, 47, 80		3-2
"Envoyette" DC 5T Rec	Vol.	8	G	6	2								5	§39, 37, §43		3-2

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
INSULINE CORP.—Continued																
"Envoyette" AC 5T Receiver—Long Wave	Vol.	8	G	6	2		8-4	1	See Note	B3			5	²58, 57, 47, 80		3-2
							25	17	BB15							
"Icasix"	Vol.	17	N	6			8-8	1	See Note	B3			6	²6D6, 6A7, 80, 75, 42	462.5	5-3
							5-5	15	TN111							
LW 4 Tube Midget AC	Vol.	8	G	6	2		4-4	1	See Note	B3			4	51, 24, 47, 80		2-5
"Insulette & Mascot" 4 Tube Midget AC	Vol.	8	G	6	2		4-4	1	See Note	B3			4	51, 24, 47, 80		2-5
"Super-Conqueror" Short and Long Wave AC	Vol.	8	G	6	3		8-8-8	3	See Note	B3			8	²57, ²58, 55, 47, 80	115	2-7
	Tone	22	Z12				25	17	BB15							
"Super-Conqueror" AC 108-250 V w/ Noise Suppressor	Vol.	18	N				8-8-8	3	See Note	B3			9	55, ²57, ²58, 47, 80	115	4-14
	Supp.	32	A5MP				5	17	BB11							
Super Six AVC LW	Vol.	6	G7		2		8-8	1	See Note	B3			6	55, 57, ²58, 47, 80	115	4-4
							25	17	BB15							
Super Six AVC Broadcast	Vol.	6	G7	6	2		8-8	1	See Note	B3			6	55, 57, ²58, 47, 80	175	4-5
							25	17	BB15							
"Super Seven" AC LW	Vol.	17	N	6			8-8	1	See Note	B3			7	55, 57, ²58, 47, 80	115	4-16
							25	17	BB15							
							10	‡	BB13							
"TransPacific"	Vol.	15	N	6			6-6-6	3	CM175				8	6A7, ²78, 6B7, 77, ²45, 80	1580	5-2
	Sen.	7	G				5-5	15	TN111							
"Universal Companion" "AC-DC Battery Portable"	Vol.	8	E		2		4-8	1	2N502				5	36, ²37, ²38		2-8,9
"Universal Mascot" AC-DC	Vol.	7	M	6	EX300		8-8-4	8	TN120				5	39, 37, 36, 43, 25Z5		2-8
							5-5	15	TN111							
"Universal Companion" AC-DC Battery Portable (Revised)	Vol.	4	C				4-4	1	2N500				7	²36, ²37, ²33		2-9
"Trans-Atlantic"	Vol.	15	N	6			6-6-6	3	CM175				8	6A7, ²78, 6B7, 77, ²45, 80	1580	5-1
	Sen.	7	G		2		5-5	15	TN111							
"Americus" 5T Unaradio Super AC-DC	Vol.	17	N	6			32-16	27	2P553				5	6A7, 78, 6B7, 43, 25Z5	132	4-6
"Aiglon" 5T Unaradio Super. AC-DC	Vol.	17	N	6			4-8-8	8	TN120				5	6A7, 78, 6B7, 43, 25Z5	132	4-7
							5-5	15	TN111							
"Bijou" 5T Unaradio Super. AC-DC	Vol.	17	N	6			4-8-8	8	TN120				5	6A7, 78, 6B7, 43, 25Z5	132	4-9
							5-5	15	TN111							
"Atlantic" 5T Unaradio Super. AC-DC	Vol.	17	N	6			32-16	27	2P553				5	6A7, 78, 6B7, 43, 25Z5	132	4-8
							5-5	15	TN111							
"Latinic" 5T Unaradio Super. AC-DC	Vol.	17	N	6			32-16	27	2P553				5	6A7, 78, 6B7, 43, 25Z5	132	4-10
							5-5	15	TN111							
"Mignon" 5T Unaradio Super. AC-DC	Vol.	18	N	6			4-8-8	8	TN120				5	6A7, 78, 6B7, 43, 25Z5	132	4-11
							5-5	15	TN111							
"Uni-Nine"	Vol.	18	N	6			32-16	27	2P553				9	²78, 6A7, 85, 77, ²43, ²25Z5	115	4-15
	Sil.	...‡	E													
"Gnome" 5T Unaradio Super AC-DC	Vol.	17	N	6			4-8-8	8	TN120				5	6A7, 78, 6B7, 43, 25Z5	132	4-12
							5-5	15	TN111							
"Pacific" 5T Unaradio Super. AC-DC	Vol.	17	N	6			32-16	27	2P553				5	6A7, 78, 6B7, 43, 25Z5	132	4-13
							5-5	15	TN111							
"Superheterodyne" 6T AC	Vol.	6	G7	6	2		8-8	1	See Note	B3			6	²35, ²24, 47, 80	175	3-1
"Superheterodyne" 7T 220V DC	Vol.	6	G7	6	2		8	39	See Note	B11			7	²39, ²36, 37, ²71	175	3-1
"Envoyette" 1CAette	Vol.	6	H12	6			24-12	6	2N512				5	6A7, 6D6, 6C6, 43, 12Z3	456	§6-14
							10-10	15	TN111							
INTERNATIONAL RADIO CORP.—"Kadette"																
A, B Kadette	Vol.	77	M	6			A424	11	UR193	B31			5	6A7, 6D6, 6B7, 43, 25Z5	262.5	4-1,2
	Tone	22	K12													
All Wave Duo	Vol.	6	UC501				8-8	4	See Note	B3			8	²24, 27, ²35, 47, 80		
	Tone	22	M													
Chassis D, DSP, (DA8, DA9, DA10, D11, D12, D14)	Vol.	56	M	6			A430	11	UR193	B31			5	6A7, 6D6, 6B7, 43, 25Z5	262.5	5-7
CB (Battery)	Vol.	9	M	6			A416	19	BB15				5	1A6, 32, 30, 31, 33	262.5	5-3
CM	Vol.	6	M	6			A414	27	2P542				5	²6D6, 73, 38, 12Z3	262.5	5-4,8
CMS	Vol.	6	M	6			A414	27	2P542				5	6A7, 6D6, 76, 38, 12Z3	262	5-3
CS	Vol.	6	G7		2		A404	4	CM170	B3			5	35, ²24, 47, 80	175	3-3,4
DAC (A7, BW, CD)	Vol.	56	M	6			A429	27	2P544				5	6A7, 6D6, 6B7, 43, 25Z5	262.5	5-5
DAS (A8, A9, A10, AD11, AD12)	Vol.	56	M	6			A430	11	UR193	B31			5	6A7, 6D6, 6B7, 43, 25Z5	262.5	5-6,8
ES (ES19, ES20, ES25)	Vol.	56	M				A412	27	SR620				5	6A7, 6D6, 6B7, 43, 25Z5	262.5	5-8
	Tone	22	K12													
Kadette	Vol.	7	UC509	6	EX150		A407	1	2N500				4	39, 36, 38, 1V		3-2
							A408	15	SR619							
"F" Kadette Jr							A427	1/15	UR183				2	6F7, 12A7		4-3
"J," "JS"	Vol.	6	G7				A404	4	CM170				5	35, ²24, 47, 80	175	3-1,5
	Tone	22	‡		See Note A5											
"KS"	Vol.	7	G	6	1		A-3	4	BB61				7	²35, ²24, 27, 47, 80	175	3-1
	Tone	22	K12				A18	4	BB61							
							A20	14	BB60							
"K6" (K60 St. Regis)	Vol.	17	UM154	M26	See Note A96		A402	1	2N518		296	C3	6	²6D6, 6F7, 75, 42, 84	262.5	5-1,2
							A417	15	BB12							
							.02		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
INTERNATIONAL RADIO CORP.—Continued																
"M" (K40 Regal)	Vol.	6	G12				A3	4	BB61				4	35, 24, 47, 80		3-6
	Tone	22	G12				A4	‡	BB60							
"P"	Vol.	7	‡		See Note A5		A407	1	2N500				4	78, 77, 38, 1V or 39, 36, 38, 6Z3		9-8
"T"	Vol.	6	‡		See Note A5		A408	15	SR619							
"TS"	Vol.	6	G12		2		A404	4	CM170				4	35, 24, 47, 80		3-5
10, 11, 12, 13, 14, 15, 16	Vol.	17	MR48				A404	4	CM170				4	35, 24, 47, 80		3-5
K10	Vol.	18	MR48				30-16	1	2N514				5	6D6, 6Q7, 25B5, 25Z5	448	8-1
							A417	15	BB12							
							A470	9/13	UR190/BB31	B163			5	6A7, 6D6, 6Q7, 25B5, 25Z5, 165R4	448	9-1
21, 22, 24	Vol.	6	‡		See Note A3		A449	4	SR620				4	6D6, 6C6, 43, 25Z5		8-1
25	Vol.	88	UC513		EX100		A437	1/15	3S579				4	6D6, 6C6, 41, 80		6-3
K25 to K28	Vol.	18	MR48				A466	1/15	TN127				5	6A7, 6D6, 75, 25B5, 25Z5, 165R4	448	9-2
26	Vol.	88	UC513		EX200		A438	1/15	3S579				4	6J7G, 6F6G, 5Z4		6-1,2
35	Vol.	18	MR48				A453	1/15	3S579				5	6D6, 75, 41, 80	448	8-2
	Tone	22	MR33													
36	Vol.	18	N				A451	4	2S563				6	6D6, 76, 75, 41, 80	448	8-3
	Tone	34	K12													
40 (Jewel)	Vol.	88	UC513	6	EX200		A421	1/15	UR183				3	6C6, 12A7		6-4,7-1
K41, K43 (1938)	Vol.	6	‡		See Note A5		A467	4	2P552				3	6K7, 6J7, 25A7		9-2
50	Vol.	6	UC509	‡	EX250		A419	4	CM172				1	37, 47, 80		6-4
52	Vol.	88	UC513	6	EX200		A438	1/15	3S579				5	6A8G, 6K7G, 6J7G, 6F6G, 5Z4	448	6-5,6
53 (Early, Late)	Vol.	6	UC509		EX250	A27	A439	1	2N518				5	6A8G, 6K7G, 75 or 6J7G, 5Z4, 6F6G	448	6-7,8
	Vol.	17	N			A4	A417	15	BB11							
	Tone	34	K12	6												
55	Vol.	6	UC509		EX250		A419	4	CM172				4	37, 47, 80		6-10
"AW" 55	Vol.	7	H	6	2		8-4	4	CM172				6	21, 56, 58, 47, 80	445	3-4
56	Vol.	88	UC513		EX100		A437	1/15	3S579				4	6D6, 6C6, 41, 80		6-3
56X	Vol.	18	MR48				A456	1	2N512				5	6A7, 6D6, 75, 25B5, 25Z5, 165R4	448	8-4
60	Vol.	56	M				A412	27	SR620				5	6A7, 6D6, 6B7, 43, 25Z5	262	6-10
	Tone	22	K12													
61	Vol.	56	N				A440	6	2N509				5	6A8G, 6K7G, 6B7, 43, 25Z5	448	6-11,12
	Tone	22	K12	6			A417	15	BB11							
65	Vol.	56	M				A412	27	SR620	B115			5	6A7, 6D6, 6B7, 43, 25Z5	262	6-13
	Tone	22	K12													
66	Vol.	6	UC509	6	EX150		A422	4	2P553				5	6D6, 76, 43, 25Z5	448	
66X	Vol.	6	L	6	EX250		A443	4	2P552				5	6D6, 6C6, 43, 25Z5, 165R4 Ballast Tube	448	7-1,2
70	Vol.	40	K12				A416	19	BB15				5	1A6, 32, 30, 33	262	6-13
	Tone	22	K12													
71	Vol.	56	N				A416	19	BB15				5	1A6, 34, 25S, 30, 33	456	6-14
	Tone	22	K12													
71C	Vol.	56	N				A431	12	BB20				5	1C6, 34, 25S, 30, 33	456	6-14
72	Vol.	17	N				A442	12	BB31				5	1C6, 34, 25S, 30, 19	448	6-15,16
76, 76X	Vol.	6	SRP263	6	EX300		A450	4	2P552				5	6D6, 6C6, 43, 25Z5, 165R4 Ballast Tube		8-4
77 (777, 778, 779)	Vol.	6	UC509	6	EX250		A444	4	SR620				6	6A7, 6D6, 76, 43, 25Z5	262.5 or 456	7-3,4
85	Vol.	56	M	6			A412	27	SR620				5	6A7, 6D6, 6B7, 43, 25Z5	456	6-17,18
86	Vol.	6	L	6	EX250		A443	4	2P552				5	6D6, 6C6, 43, 25Z5, 165R4 Ballast Tube	448	7-2
86X	Vol.	18	MR48				A456	1	2N512				5	6A7, 6D6, 75, 25B5, 25Z5, 165R4	448	8-4
87 Series	Vol.	17	N	6			A444	4	SR620				6	6A7, 6D6, 75, 43, 25Z5, 878R48 Ballast Tube	448	7-5,6
90	Vol.	17	M				A425	1/15	UR183				4	6D6, 6C6, 75, 12A7	262/456	6-19,20
96	Vol.	6	L	6	EX250		A443	4	2P552				5	6D6, 6C6, 43, 25Z5, 165R4 Ballast Tube	448	7-2
105, EL105	Vol.	56	N				A435	1	ST595				6	6A7, 6D6, 85, 76, 42, 80	456	6-21,22
	Tone	22	K12	6			A436	1	ST595							
							A417	15	BB12							
120	Vol.	17	N				A439	1	2N518				7	6K7G, 6A8G, 6H6G, 6C5G, 6F6G, 5Z4	448	6-23,24
	Tone	22	K12	6			A417	15	BB12							
150, 151	Vol.	18	MR48	M26			A462	4	2P552				4	6A8, 6K7, 6Q7, 25A7	448	8-5
							A417	15	BB12							
210 (Converter)							A480	1	2N500				2	6J8G, 25Z5		9-8
226	Vol.	88	UC513		EX200		A438	1/15	3S579				4	6J7, 6F6, 5Z4		6-1,2
400	Vol.	17	N	7									4	1C6, 34, 25S, 950	448	7-7,8
500	Vol.	17	N	7			A442	12	BB31				5	1C6, 34, 25S, 33	448	7-9,10
553 (Early, Late)	Vol.	6	UC509		EX250	A27	A439	1	2N518				5	6A8G, 6K7G, 6J7 or 75, 6F6G, 5Z4 or 5Y3	448	6-7,9
	Vol.	17	N			A4	A417	15	BB11							
	Tone	22	K12	6												
617	Vol.	6	MR39		EX250		A443	4	2P552				5	6D6, 6C6, 43, 25Z5, 165R4	448	9-2
630AC	Vol.	18	MR48				A459	9	3S582				5	6A7, 6D6, 6R7, 43, 25Z5, 165R4	448	9-3
							A460	9/13/15	3S570							
634, 635	Vol.	18	MR48				A451	4	2S563				6	6D6, 75, 41, 76, 80	448	9-3
	Tone	34	MR33													
661	Vol.	56	N				A440	6	2N509				5	6A8G, 6K7G, 6B7, 43, 25Z5	448	6-11,12
	Tone	22	K12	6			A417	15	BB11							
666	Vol.	6	UC509	6	EX250		A422	4	2P552				5	6D6, 76, 43, 25Z5	448	
676	Vol.	6	SRP263	6	EX300		A450	4	2P552				5	6D6, 6C6, 43, 25Z5, 165R4 Ballast Tube		
735	Vol.	45	MR48				A459	9	3S582				6	6A7, 6D6, 6H6, 6C5, 43, 25Z5, 140R4	448	9-3
							A460	9/13/15	3S570							
739	Vol.	18	MR48				A457	9	UB192/BB33				6	6A7, 6D6, 6Q7, 25B5, 76, 25Z5, 140R8	448	9-5
	Tone	44	K12				A458	9/13	3S582							
777, 778, 779	Vol.	6	UC509	6	EX250		A444	4	SR620				6	6A7, 6D6, 76, 43, 25Z5	448	7-3
950	Vol.	45	MR48				A457	9	UR192/BB31				8	6A7, 6D6, 76, 6G5, 6H6, 6K5, 25B5, 25Z5, 100R8	448	9-5
	Tone	44	K12				A458	9/13	3S582							
1019	Vol.	62	M	6			8-8-8-12	29	UR190	B89			7	6A7, 6D6, 76, 41, 25Z5	448	8-6
1030, 1035	Vol.	62	MR41	M26			A168	29	UR190	B89			7	6A7, 6D6, 76, 41, 25Z5, 320R4, 200R, 250R	448	9-9
1050	Vol.	56	N				A435	1	ST595				6	6A7, 6D6, 85, 76, 42, 80	456	6-22
	Tone	22	K12	6			A436	1	ST595							
							A417	15	BB12							
1129	Vol.	62	MR48				A469	9	UR190				8	6A7, 6D6, 76, 41, 25Z5, 300R4, 200R, 250R	448	9-7
	Tone	34	K12													
1140	Vol.	62	MR48				A469	9	UR190				8	6A7, 6D6, 76, 41, 25Z5, 300R4, 200R, 250R	448	9-9
	Tone	149	K12													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
INTERNATIONAL RADIO CORP.—Continued																
1149	Vol.	62	MR48				A469	9	UR190				7	6A7, 6D6, [2]76, 25Z5, 300R4, 200R, 250R, [2]41	448	9-7
	Tone	34	K12													
1159	Vol.	62	MR48				A469	9	UR190				8	6A7, 6D6, [2]76, [2]41, 25Z5, 300R4, 200R, 250R	448	9-7
	Tone	34	K12													
1200, 2200	Vol.	17	N				A139	1	2N518				7	[2]6K7G, 6A8G, 6H6G, 6C5G, 6F6G, 5Z4	448	6-23,24
	Tone	34	K12	6			A417	15	BB12							
3734	Vol.	18	MR48				A151	4	2S563				6	[2]6D6, 75, 41, 76, 80	448	9-3
	Tone	34	MR33													
INTEROCEAN RADIO CORP.—Also See Zenith																
500, 515, 516	Vol.	15	N				22-173	23	CS133				8	[3]58, 56, [3]57, 59, 80	175	7-1,2
	Tone	34	N				22-172	23	CS130							
520, 521, Chassis 2035	Vol.	10	TRP606				22-167	28	WE850				10	[3]56, 57, [3]58, [3]59, 80	175	5-1,2
	Tone	41	N				22-169	15	BB13							
	Sen.	7	‡		See Note A5											
530, 531, 533, Chassis 2038	Vol.	20	TRP606				22-167	28	WE850				12	[3]56, [3]57, [3]58, [3]59, 80	175	5-3,4
	Tone	41	N				22-169	15	BB13							
JACKSON BELL CO. LTD.																
S	Vol.	4	C	6			4-2	1	See Note	B1			8	[3]26, [3]27, [3]71, 80		
	Reg.	‡	A													
4	Vol.	6	G12	6			4, 4	23	ST595				4	[3]57, 47, 80		7-1
	Tone	22	M													
5	Vol.	10	B				4-4-2	1/13	See Note	B1			4	01A, 27, 12, BH		
5A	Vol.	10	C				2-2	1	See Note	B1			5	[3]26, 27, 71A, 80		5-1
8	Vol.	3	C	6			4-2	1	See Note	B1			8	[3]26, [3]27, [3]71, 80		
	Reg.	‡	A													
8 (45 Output)	Vol.	6	C	6			4-1-2	3	See Note	B1			8	[3]26, [3]27, [3]45, 80		
	Reg.	‡	A													
24	Vol.	6	G12	6			4, 4	23	ST595				4	[3]57, 47, 80	175	3-1
	Tone	22	M													
25	Vol.	6	G7	6	1		4, 4	4	ST595				5	35, [3]24, 47, 80	175	3-2
25A, 25U	Vol.	6	G12	6			4, 4	4	ST595				5	24, [3]58, 47, 80	175	3-3
26	Vol.	6	G7	6	2		8, 8	4	ST595				5	35, [3]24, 47, 80		3-4
26S, B, L	Vol.	6	G7	6	3		8-4	23	2S567				6	56, [3]57, 58, 47, 80	175	3-6
27 Type 1	Vol.	6	G12				8, 8	4	ST595				7	[3]51, 24, 27, [3]47, 80	175	3-5
27 Type 2	Vol.	6	G12	6			8, 8	23	ST595				7	24, 27, [3]35, [3]47, 80	175	3-6
	Tone	22	G12													
28	Vol.	6	G12				8, 8	4	ST595				8	[3]35, 27, [3]24, 47, 80	175	3-7,8
	Tone	22	G12													
29	Vol.	‡	N	6			8, 8	23	ST595				9	[3]24, [3]27, [3]35, [3]47, 80	175	3-9,10
	Tone	22	G12													
33							4-4	1	2N518				3	24, 27, 80		2-1
50	Vol.	6	D12	6			8-8	4	2S567				5	[3]24, 45, 80		7-2
	Tone	22	G12													
59	Vol.	6	C12				2-4	1	See Note	B1			7	[3]26, 27, [3]71, 80		7-3
60	Vol.	6	C				8, 8	1	ST595				7	24, [3]26, [3]71A, 80		7-3,5
62, 63, 64	Vol.	6	D7				8	41	RS213				6	[3]24, 45, 80		3-3
	Tone	22	G12				2-4	41	See Note	B3						
62 Series 2 and 3	Vol.	6	D7	6	3		8, 8	4	RS213				6	[3]24, 45, 80		7-4,5
	Tone	22	G12													
68	Vol.	6	D7	6			8, 8	4	RS213				8	[3]24, 27, [3]45, 80		7-5,6
	Tone	22	G12													
69 DC	Vol.	12	H12				8-8	1	See Note	B3			7	[3]32, [3]30, [3]31		
	Tone	22	G12													
79	Vol.	7	D	6			8, 8	4	RS213				8	[3]35, 24, [3]27, [3]45, 80	175	
	Tone	41	N													
84 "Peter Pan"	Vol.	6	G12		EX300		4, 4	23	ST595				4	[3]24, 47, 80		6-1
86	Vol.	6	G12	6	2		4, 4	23	ST595				6	24, [3]27, 35, 47, 80	175	5-2
87	Vol.	6	D7	6	1		4	23	RS213				7	[3]27, [3]35, 47, 80, 24	175	6-2
	Tone	22	N				8	23	RS213							
88	Vol.	6	G7	6	1		8, 8	23	ST595				8	24, [3]27, [3]35, 47, 80	175	6-3
	Tone	22	N													
89	Vol.	6	D7	6	2		4, 4, 4	3	ST595				8	[3]27, 24, [3]35, [3]47, 80	175	4-1
	Tone	41	G12				10	15	BB12							
89A	Vol.	6	G7	6	1		4-4	1	2N518				9	24, [3]27, [3]35, [3]47, 80	175	6-4
	Tone	39	N													
96	Vol.	6	Y		EX300		4, 4	1	ST595				6	[3]24, 27, [3]47, 80		5-2
							4	13	CS131							
99	Vol.	6	D7	6	1		8-4	1	See Note	B3			9	24, [3]27, [3]35, [3]47, 80	175	5-1
	Tone	39	N				4	13	CS131							
205 Auto	Vol.	15	M	6			5	19	BB11				5	55, 57, [3]58, 47	465	3-1
645M	Vol.	6	C	6			4-2	1	See Note	B1			6	[3]27, 45, 80		
	Tone	22	N													
845S	Vol.	6	C	6			4-1	1	See Note	B1			8	[3]27, [3]45, 80		7-1
	Tone	39	N													
JACKSON RADIO & TELEVISION CO.																
447, J104, 401A	Vol.	6	G12	6	EX250		4, 4	1	ST595				4	[3]24, 47, 80		§5-8
SF547, 504B, J105, LK447	Vol.	3	G7				4, 4	1	ST595				5	[3]57, 47, 80 or 82		§4-4
JACKSON RESEARCH																
NJ8	Vol.	12	K12				2-2	1	See Note	B1			8	[3]24, 27, 45, 80	175	§6-15
JEFFERSON 6L6SPAMP	Vol.	82	TRP609				16, 16	12	CS136				8	6J7, 6N7, [2]6F6, [2]6L6, [2]83		
							8, 8	2	CS133							
							2	13	CS130							
							10	15	BB13							
KADETTE—See International																
KARADIO CORP.																
56	Vol.	17	UM147		See Note A96								6	77, 78, 6F7, 75, [2]41	456	§5-9
57B	Vol.	18	UM147		See Note A96		8-4	1	See Note	B3	296	C3	7	6F7, [2]41, 75, 77, 78, 84	456	
	Tone	11	UM147		See Note A96		.01		Buffer	B14						
KELLER FULLER MFG. CO. LTD. —"Radiette"																
F	Vol.	6	E12				3-3	1	See Note	B1			5	24, [3]27, 45, 80		3-1
F12	Vol.	6	C12	6			4-2-2	3	See Note	B1			5	[3]27, 24, 45, 80		3-2
F14	Vol.	6	C12	6			4-2-2	41	See Note	B1			6	[3]24, 45, 80		3-2
F14A	Vol.	6	C12	6			8, 8	1	ST595				6	[3]24, 27, 45, 80		3-3
F14B	Vol.	6	C12	6			8, 8	4	ST595				6	[3]24, 27, 45, 80		3-3
M	Vol.	3	C12				4-2	1	See Note	B1			6	[3]01A, 27, 71A, 80		3-1
20	Vol.	8	A10MP				8, 8	1	ST595				7	[3]36, 37, [3]38, 71A		3-4
Radiette "30"	Vol.	8	A10MP				8, 8	1	ST595				7	[3]36, 37, [3]38, 71A		3-4

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
KELLER FULLER M	FG. CO.	LTD.	—Continued													
Radiette "40"	Vol.	7	A2MP	6	2		8-4	23	2S567				4	[2]24, 47, 80		3-5
	Tone	21	N													
Radiette "50"	Vol.	6	H12				8, 8	4	ST595				5	[2]24, 45, 80		3-5
	Tone	22	G12													
Radiette "60"	Vol.	6	H12				8, 8	4	ST595				6	[2]24, 45, 80		3-6
	Tone	22	N													
Radiette "70"	Vol.	8	G				8, 8	1	ST595				6	[2]24,[2]51, 47, 80	175	3-6
	Tone	21	N													
80	Vol.	8	E				8, 8	4	ST595				9	[2]24,[2]27,[2]45, 80	175	
	Tone	41	N													
KELLOGG SWITCH	BOARD	& SU	PPLY CO.													
"A" AC7 Tube	Vol.	8	G				10-7	1	See Note	B1			8	[4]401, 403 (Kellogg) 80		1-2
"B"	Vol.	8	‡		See Note A5		10-7	1	See Note	B1			6	[4]401, 403 (Kellogg) 80		1-2
523, 524, 525, 526, 527, 528	Vol.	8	X				5-2	1	See Note	B3			9	[2]24,[2]27,[2]45, 80		1-3
	Sen.	40	K12													
533, 534, 535, 536	Vol.	8	Y50MP				5-2	1	See Note	B1			8	[2]24,[2]27,[2]45, 80		1-6
COLIN B. KENNED	Y CORP.															
5T AC-DC	Vol.	6	K	6	See Note A34		D324	11	UR182	B118			4	6E7, 6D7, 43, 25Z5		
Royal	Vol.	11	A10MP		See Note 18/26		8-8-8	3	RM265				8	‡		1-5
10	Vol.	11	A10MP		See Note A26		302	3	RM265				8	[2]27,[2]45, 80		1-4
20	Vol.	11	A10MP		See Note A26		317	3	RM265				8	[2]24,[2]27,[2]45, 80		1-3,4
22	Vol.	25	GG				6-6	24	See Note	B11			7	[2]22,[2]12A,[2]71A		2-1,2
	Tone	22	K12													
26	Vol.	25	GK				8-8-8	3	RM265				8	[2]24,[2]27,[2]45, 80		1-6
	Tone	22	K12													
30, 32	Vol.	12	A10MP				8-8-8	3	RM265				8	[2]24,[2]27,[2]45, 80		1-7
	Tone	22	K12													
34	Vol.	12	G12										3	[2]24		1-8,9
36, 38, 40	Vol.	25	GK				6-6	24	See Note	B11			7	[2]22,[2]12A,[2]71A		2-1,2
	Tone	22	K12													
42 "Coronet"	Vol.	40	G12	6			6-16	1	See Note	B3			6	[2]24, 27, 45, 80		1-11
42B	Vol.	6	G7	6	1		8-8	1	See Note	B3			6	[2]51,[2]27, 47, 80		4-1
44	Vol.	40	G12				8-16	1	See Note	B3			6	[2]24, 27, 45, 80		2-4
48	Vol.	12	G12				8-8-8	3	See Note	B3			8	[2]24,[2]27,[2]45, 80		2-5
	Tone	22	K12	6												
50	Vol.	6	G7		1		15302	1	RS213				5	[2]35, 24, 47, 80		2-6
							16302	1	RS213							
52	Vol.	6	G7		1		16302	1	RS213				5	[2]35, 27, 47, 80	175	2-7
	Tone	22	K12	6			17302	1	RS215							
55	Vol.	6	G7		1		1-10-302	1	CM172				4	58, 57, 47, 80		4-2
56	Vol.	6	G7	6	1		16302	1	RS213				8	[2]51, 24,[2]27,[2]47, 80	175	2-12
	Tone	22	K12				17302	1	RS215							
"Royal" 60	Vol.	35	N				1.5-4-4	3	See Note	B1			7	[4]26, 27, 71A, 80		1-5
62	Vol.	‡	N	6			16302	3	RS213				10	[4]35,[2]27,[2]47, 80	175	2-13,14
	Tone	22	K12				27302	3	RS213							
							48302	3	CS133							
62A	Vol.	14	N	6			16302	3	RS213				10	[4]27,[2]35,[2]47, 80	175	3-1,2
	Tone	22	K12				27302	3	RS213							
							48302	3	CS133							
62D (882)	Vol.	15	N	6			8	3	RS213	B3			10	55, 57,[2]56,[2]58,[2]47, 80	175	3-3,4
	Tone	44	K12				8	3	CS133	B3						
	Sil.	8	G													
63, 63A (563A)	Vol.	17	N	6			110302	1	CM172				5	55, 57, 58. 47, 80	175	3-5,6
64	Vol.	6	G7	6			10	1	RS215				10	[2]24,[2]35,[2]27, 47,[2]80	175	2-15
	Tone	22	K12													
64B (164B)	Vol.	6	G7	6	1		10	1	RS215				10	[2]56,[2]57,[2]58, 47,[2]80	175	3-7,8
	Tone	22	K12													
64C (882)	Vol.	15	N	6			8	3	RS213	B3			10	55,[2]56,[2]57,[2]58,[2]47, 80	175	3-9,10
	Tone	44	K12				8	3	CS133	B3						
	Sil.	8	G													
66, 66A	Vol.	94	N	6			16302	3	RS213				12	[2]24,[2]27,[2]35,[2]47,[2]80	175	3-11,12
	Tone	22	K12				27302	3	RS213							
							48302	3	CS133							
66B (266B, 366B)	Vol.	94	N				16302	3	RS213				12	[4]56,[2]57,[2]58,[2]80,[2]47	175	3-13,14
	Tone	22	K12	6			27302	3	RS213							
							48302	3	BB61							
80	Vol.	35	N				1.5-1.5-4	3	See Note	B1			9	[2]26, 27,[2]71, 80		1-12
164B (Chassis 64B)	Vol.	6	G7	6		A14	10, 10	1	RS215				10	[2]58,[2]57,[2]56, 47,[2]80	175	3-7
	Tone	22	K12													
266B (Chassis 66B)	Vol.	16	N				8, 8	3	RS213				12	[2]58,[2]57,[2]56,[2]47,[2]80	175	3-13
	Tone	22	K12	6			8	3	BB61							
366B (Chassis 66B)	Vol.	16	N				8, 8	3	RS213				12	[2]58,[2]57,[2]56,[2]47,[2]80	175	3-13
	Tone	22	K12	6			8	3	BB61							
826B	Vol.	25	GK				8-8-8	3	RM265				11	[4]24,[2]27,[2]45, 80		1-12
	Tone	22	K12													
	Reg.	12	G12													
KING MFG. CORP.	—Also S	ee Sear	s Roebuck													
FF	Vol.	4	G12				‡	1	See Note	B1			6	27,[2]26, 12A, 80		3-1
H	Vol.	4	F12				1-1-2	3	See Note	B1			7	[4]26, 27, 71A, 80		1-3
J	Vol.	4	F12				3-2-3	1/14	See Note	B1			8	[4]26, 27,[2]71A, 80		1-4
82	Vol.	10	E12				4-4	1	See Note	B2			7	99,[2]26, 10, 81		1-5
97 "Royal"	Vol.	6	G12				1-2-2	3	See Note	B1			8	[2]26,[2]27,[2]71A, 80		1-6,7
98 "Imperial"	Vol.	6	G7				1-2-1	3	See Note	B1			9	[2]27,[2]45, 80		1-6
101 "Monarch"	Vol.	6	G12				1-2-1	3	See Note	B1			7	[2]24,[2]27,[2]45, 80		1-7
218	Vol.	6	G12				8-8-8	3	MN275				7	[2]24, 27,[2]45, 80		3-2
	Tone	34	K12													
KINGSTON PRODU	CTS CO	RP.														
"Gypsy"	Vol.	6	G7	6	3		8-8	1	2N502				5	[2]77, 78, 38, 1V	456	5-1
							5-5	15	TN111							
55	Vol.	6	G12	6			12-8-12-12	6/15	3N526/BB15				5	[2]78, 77, 38, 12Z3	456	5-1
							10	15	BB12							
500, 500A	Vol.	18	N	6			6-6	1	2N518				5	6A7, 6D6, 75, 42, 80	456	5-2
							E-17080	15	BB12							
600A, 600B, 610B	Vol.	18	N				6-6	1	2N518				6	[2]78, 6A7, 75, 42, 80	Early 182.5	5-3
	Tone	21	N	6			10	15	BB12						Late 172.5	
700, 700A, 700B	Vol.	18	N				E17125	1/15	CM172				7	76,[2]6D6, 75, 42, 80	456	5-4
	Tone	34	L	6			E17217	1	RS213							
							12	15	BB12							
KNIGHT—Also See "Allied"																
A31	Vol.	18	N				8-4	23	See Note	B3			5	6A7, 6D6, 75, 42, 80	456	§5-10

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
KOLSTER RADIO, Inc.																
6F, 6J, 6K, 6L, 6M, 6R	Vol.	29	‡		See Note	A48	2-2-2	30	See Note	B1			7	26, 27, 71, 80		1-2
7 Tube (60~ & 25~)	Vol.	5	‡		See Note	A5	2-2-2	30	See Note	B1			8	26, 27, 71A, 80		
K20	Vol.	10	H12				2-2-2	30	See Note	B1			7	26, 27, 71, 80		1-3
K21, K22, K23	Vol.	10	H12				2-2-1	30	See Note	B1			8	26, 27, 71A, 80		1-3,4
K24 (210 O.P., 250 O.P.)	Vol.	4	H12				3-4-2	30	See Note	B2			9	26, 27, 10 or 50, 81		1-5
K25, K27, K28	Vol.	40	Y				2-2-1	30	See Note	B1			7	26, 27, 71A, 80		1-3,4-1
K30, K32	Vol.	10	Y										6	01A, 71A		1-6
K38	Vol.	14	K12				3-2-2	30	See Note	B2			9	27, 50, 81, 886		4-2
K42	Vol.	40	Y	6			2-2-2	30	See Note	B1			8	26, 27, 71, 80		1-7
K43, K43A	Vol.	25	DRP244				2-1-5	30	See Note	B1			8	24, 27, 45, 80		1-8
K44	Vol.	25	DRP244				2-2	1	See Note	B2			9	24, 27, 45, 81		1-9
K45	Vol.	‡	‡		See Note	A3	2-2	1	See Note	B2			11	24A, 27, 50, 81		1-10
K48	Vol.	40	Y				2-2-1	41	See Note	B3			7	24, 27, 45, 80		§6-17
	Equal	7	A1MP		See Note	A3										
K60, K62	Vol.	8	A5MP				8-8-8	26	See Note	B3			7	24, 35, 47, 80, 27	175	1-11,2-4
K63	Vol.	40/42	DRP239				4	12	See Note	B11			7	36, 37, 38	175	3-1
K70, K72	Vol.	59	H12				8-8-8	26	See Note	B3			8	24, 27, 35, 47, 80	175	1-12,2-5
K73	Vol.	40/42	DRP239				4	12	See Note	B11			7	36, 37, 38	175	3-1
K80, K82	Vol.	59	H12				8-8-8	26	See Note	B3			9	24, 27, 35, 47, 80	175	1-13
K83	Vol.	40/42	DRP239				‡	12	See Note	B11			9	36, 37, 38	175	3-2
K90, K92	Vol.	59	H12				8-8-8	26	See Note	B3			10	24, 27, 35, 47, 80	175	1-14
K93, K103	Vol.	40/42	DRP239				4	12	See Note	B11			9	36, 37, 38	175	3-1,2
K110	Vol.	15	N				6-6-6	26	CM175				8	56, 58, 47, 80	175	3-3,4
K113	Vol.	15	N				4	12	See Note	B11			8	37, 38, 39	175	3-9
K114	Vol.	15	N				8	12	BB31				9	30, 34	175	3-6
K120, K122	Vol.	15	N	6			6-6-6	26	CM175				8	56, 58, 47, 80	175	3-3,4
K123	Vol.	15	N				4	12	See Note	B11			8	37, 38, 39	175	3-9
K130, K132	Vol.	15	N	6			6-6-6	5	CM175				9	56, 58, 47, 80	175	3-7,8
K133	Vol.	15	N				4	12	See Note	B11			10	37, 38, 39	175	3-5
							4	15	BB12							
K140, K142	Vol.	15	N	6			8-8-8	26	CM175				10	56, 58, 47, 80	175	3-10,11
K143	Vol.	15	N				4	12	See Note	B11			10	37, 38, 39	175	3-5
							4	15	BB12							
K165 "Intern'tl"	Vol.	15	K12				6-6-6	40/23	CM175				8	56, 58, 47, 80	535	
K175 "Intern'tl"	Vol.	15	N	6			6-6-6	40/23	CM175				8	56, 58, 47, 80	505	
S.W. "Converter"	Vol.	11	K12										3	56, 57, 58		3-12
KROHLER																
93B Viking	Vol.	7	G	6			8	4	RS213				7	27, 35, 47, 80	175	§6-19
	Tone	22	Y													
KYLECTRON—See	United Reproducers															
R. E. LECAULT																
LR4	Vol.	31	A400P										9	01A	175	§1-11
	Sen.	29	T													
L2 Ultradyne	Vol.	31	A400P										8	01A	175	§1-11
LAFAYETTE RADIO & TELEVISION CO.																
Fireside No. 1	Vol.	7	F	6		A14	8, 8	34	ST595				7	35, 24, 27, 47, 80	175	8-1
	Tone	22	K12													
Fireside No. 2 2Y2280	Vol.	8	G	6			8, 8	4	ST595				7	58, 57, 56, 47, 80	175	8-1
Mighty Atom	Vol.	6	L	6			2-2-1	‡	See Note	B1			5	51, 24, 47, 80		9-2
Thriller	Vol.	6	MR18				4, 4	4	ST595				5	57, 58, 47, 80	175	9-8
A7	Vol.	6	G	6	2		533	4	CM170				7	56, 57, 58, 47, 80	115	5-2
	Tone	21	M				721	4	BB61							
AM8	Vol.	18	N	‡			1085/1295	8	UR182				7	6A7, 75, 76, 78, 43, 25Z5	175	5-1
	Tone	21	M													
AM10	Vol.	6	G12	6			1085/1295	8	UR182				7	76, 77, 78, 43, 25Z5	115	5-1
	Tone	22	M				928	15	BB15							
A11	Vol.	6	G12	6			965	8	UR182				5	77, 78, 43, 25Z5	175	§4-5
							928	15	BB15							
A12	Vol.	76	N	6			496	4	CM170				5	6A7, 78, 75, 42, 80	175	§4-5
	Tone	76	M				928	19	BB15							
A14	Vol.	18	N	6			1085	8	UR182				5	78, 6A7, 75, 43	175	§4-6
	Tone	21	M				928	15	BB15							
A15	Vol.	6	G12	6			1085	8	UR182				5	77, 78, 43, 25Z5	175	5-2
							928	15	BB15							
A19	Vol.	6	G12	6			1085	8	UR182				6	77, 78, 43, 25Z5	115	§4-6
	Tone	22	M				928	15	BB15							
A20	Vol.	18	N				8, 8, 8	4	RS213				7	56, 58, 2A6, 2A5, 80	175	6-7
	Tone	21	M													
AM20	Vol.	18	UM154		See Note	A96	6-6	2	See Note	B3	296	C3	6	75, 77, 78, 41, 84	175	6-8
							25	15	BB15							
							.015		Buffer	B14						
AM25	Vol.	6	G12	6			1295	8	UR182				5	77, 78, 43, 25Z5	115	5-3
							928	15	BB15							
AM26	Vol.	17	N	6			721	25	See Note	B3			5	6A7, 75, 58, 42, 80	175	5-3
							1379	25	See Note	B3						
							928	19	BB15							
AS-5	Vol.	6	MR18				14-8	6	2N504				4	6D6, 6C6, 43, 25Z5, L55-S1		9-3
							8-5	15	TN111							
AS-6	Vol.	18	MR18				10-20	6	2N507				5	6A7, 6D6, 75, 43, 25Z5, L55-S2	465	9-3
							10-10	15	TN111							
B51, B52, B53, B54	Vol.	17	P	6			P80984	2/13/44	UR191/BB21	B164			12	55, 56, 58, 45, 82	175	5-4
	Tone	41	UC504													
B60	Vol.	15	O				P80968	12	BB31				9	30, 34, 10AB	175	5-5,6
	Tone	44	UC502													
B62	Vol.	17	UM163	M26	See Note	A96	P82002	2/15	CM175		286S	C3	5	6C6, 6D6, 75, 41	175	6-12
							.007		Buffer	B14						
B97, B98	Vol.	20	TM247-SS1				30	2	WE3050				13	6K7, 6C5, 6H6, 6G5, 6L6, 25Z4MG	456	8-10,12
	Tone	65	MR55				12	2	RS215							
C25	Vol.	18	MR48				8-8	23	See Note	B3			5	6A7, 6D6, 75, 42, 80	456	8-4
C40	Vol.	18	MR48				8-4	4	28S67				6	6C6, 6D6, 75, 42, 80, 76		8-8
C60	Vol.	17	UM154		See Note	A96	8-8	1	2N518		294	C3	5	6A7, 6D6, 75, 41, 84	175	6-11
							5	15	BB11							
							.0015		Buffer	B14						
C78, C78L	Vol.	18	MR48				20-12-8	8	TN125				6	6A7, 6D6, 75, 43, 76, 25Z5	456	9-8
	Tone	22	MR39													
C79, C80	Vol.	45	MR48				20-12	6	2N509				6	6A7, 6K7, 6H6, 6G5, 43, 25Z5	456	7-5,6
	Tone	22	L													
D10	Vol.	6	‡		See Note	A5	12	1	RS215				4	6A7, 6C6, 42, 80	456	8-3
							16	4	RS216							
D11	Vol.	18	MR48				8-8	23	See Note	B3			5	6A7, 6D6, 75, 42, 80	456	8-3
D30, D31	Vol.	17	MR48				8, 8	4	RS213	B3			7	6D6, 76, 75, 42, 80, 6G5	456	8-6
	Tone	22	L													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
LAFAYETTE RADIO & TELEVISION CO.—Continued																
E20	Vol.	45	MR48	M26			9193	3	3S584				10	³58, ²57, 55, ³59, 80	115	7-3,4
	Tone	22	K12				9197	14	BB41							
	NSC	‡	‡		See Note A5		9196	15	BB15							
							8876	15	BB11							
E204	Vol.	‡	MR48	M26			9193	3	3S584				10	³58, ²57, 55, ³59, 80	115	7-3,4
	Tone	22	K12				9197	14	BB41							
	NSC	‡	‡		See Note A5		9196	15	BB15							
							8876	15	BB11							
FB8	Vol.	18	MR48	M26			20-12	27	2P549				4	6A7, 6D6, 75, 25A7	456	8-2
FB9	Vol.	6	MR21	M26			4806A	27	2P544				4	6D6, 6C6, 43, 25Z5		8-2
F20	Vol.	70	H12		EX250								5	²32, 30, 34, 33	465	8-5
J60	Vol.	45	MR48				8-1	1	See Note	B3	285XS	C3	6	1C6, 34,³30, 19	465	
	Tone	22	‡		See Note A5		.01-.01		Buffer	B14						
JB3	Vol.	6	MR44				30-8	4	2P552				6	6A7, 6D6, 76, ³43, 25Z5, 60R30	456	9-2
L1, L2, L3, L4	Vol.	45	Z12				8	58	RS213				12	³56,²57,458,³46, 82	175	5-9
	Tone	41	UC502				4	58	BB60							
	Sen.	8	E				4	19	BB40							
L11, L12	Vol.	45	N										9	⁶30,³34	175	5-10
	Tone	22	UC502													
	Fil.	29	R	7												
L16, L17, L18, L19	Vol.	59	SRP271				P80894B	23	CM172				7	²57,³58, 47, 80	175	5-11,12
	Tone	34	UC502				P80891B	23	BB40							
L30	Vol.	18	M	6			8-8	1	2N518		253	C3	6	75, 77,³78, 84, 41	262.5	5-13,14
	Tone	34	UC502				10-10	15	TN111							
							.01		Buffer	B14						
LW10	Vol.	17	N	6			2210	1	2N518		294	C3	6	²6D6, 6A7, 75, 41, 84	175	5-7,8
							2212	15	TN113							
							2211	15	BB12							
							.025-.025		Buffer	B14						
M14-20	Vol.	12	K12				‡	1	See Note	B4			5	²78, 37,³48		6-6
							5	15	BB12							
M15	Vol.	12	K12										4	²34, 32, 33		7-7
M31 (1936)	Vol.	18	MR48										6	6A7, 6D6, 75, 76,³48	465	9-5
M31-71	Vol.	6	MR18	M26			4-8	1	2N518				5	²57, 58, 47, 80	175	9-6
M35, 37	Vol.	15	N				4-8-4	4	See Note	B3			7	55, 56,²58, 47, 80	175	6-9,8-7
	Tone	22	M													
M44	Vol.	45	MR48				4-4	1	See Note	B3	285XS	C3	6	1C6, 34,³30, 19	456	8-7
	Tone	22	MR33				.01-.01		Buffer	B14						
M47	Vol.	18	N	6			4-4-8	26	See Note	B3			10	55,³56,²58,²47, 80	520	6-10
	Sen.	8	G12													
M69, 70	Vol.	6	G	6	2		533	4	CM170	B3			7	²56, 57, 58, 47, 80	115	5-2
	Tone	21	M				721	4	CS133							
M99 (Pigmy)	Vol.	6			See Note A5		‡	8	TN125	B3			5	²77, 78, 43, 25Z5	175	9-7
PA	Vol.	6	MR18		See Note A14								4	39, 36, 01A, 71A		9-5
P15754							8, 8	1	ST585				6	77, 37,²48		7-16
R71	Vol.	6	G		5		4-4	4	See Note	B3			4	58, 57, 47, 80		8-9
S61, S62	Vol.	76	MR48				20-12	11	2P549				9	6A8, 6K7, 6H6, 6C5, ³43, 6G5, ²25Z5, 2600, 2601	456	9-7
	Tone	76	MR53				8	11	BB21							
S17762	Vol.	17	N				8-16	1	2S563		210	C3	6	77,³78, 85,²41	262	5-15,16
							4	15	BB12							
							.01		Buffer	B14						
SL45	Vol.	6	D7	6	2		10	4	ST596				5	58, 2A7, 57, 2A5, 80	175	8-8
							6	4	ST595							
							10	15	BB12							
SL71	Vol.	7	MR44	M26			12-8-10-10	6/15	4S715				4	78, 6F7, 43, 12Z3		8-9
T21 (Early and Late)	Vol.	6	K12				16-8	11	2P544				4	6B7, 6D7, 43, 25Z5 or 6D6, 6C6, 43, 25Z5		9-4
	Vol.	6	Y		EX300	A1										
U145	Vol.	127	MR48	M26			6-4-4	3	3S584				8	²58, 56,³57, 47, 80	507	9-9
	Tone	22	MR33													
U155	Vol.	20	TM230-SS1				8-4-4	3	3S584				10	²58,³57,²47, 80	507	9-9
	QAVC	12	E				5	13	BB41							
							8	19	BB13							
XP15949							12, 12, 12	3	ST596				3	²6C6, 80		7-16
							25	15	BB15							
2A5 (1st Minstrel)	Vol.	6	MR18				8, 8	4	ST595				5	²24, 51, 47, 80	175	9-1
10, 12	Vol.	12	K12				8, 8, 8	3	ST595				6	²58, 56,²59, 80		7-2
							5	15	BB12							
							25	15	BB15							
10C10	Vol.	18	N				P80900	30	RS213				10	²27,³35,²47, 80	175	6-2,5
	Tone	41	P	6			P80901	30	RS213							
40A	Vol.	8	A5MP			A27	80873B	30	BB60				8	²24, 27,²35, 47, 80	175	6-13,14
	Vol.	14	N			A4	80874	30	BB60							
	Tone	34	UC502				80875	30	BB60							
							80878	30	BB40							
53	Vol.	15	N	‡			4-8-4	4	See Note	B3			7	55, 56,²58, 47, 80	175	6-9
	Tone	22	M													
80M (2 Types)	Vol.	8	A5MP		See Note A27		80873B	30	BB60				8	²24, 27,²35, 47, 80	175	6-13,14
	Vol.	14	N		See Note A4		80874	30	BB60							
	Tone	34	UC502				80875	30	BB60							
							80878	30	BB40							
100A	Vol.	‡	NN				8	2	See Note	B3			5	²57,³59, 83		6-16
102A	Vol.	15	N				8	2	See Note	B3			9	²57,³53,⁴2A3, 83		6-16
	Tone	21	N				5-5	4	2P542							
							5-5	15	TN111							
106A	Vol.	15	N				8-8	2	See Note	B3			6	53,³56,²6B5, 83		6-17
	Tone	21	N				25	15	BB15							
115A	Vol.	15	N				8-8	2	See Note	B3			9	²53, 2A3,³45, 83		6-18
							10-10-10	26	See Note	B3						
120A	Vol.	15	O				8-4-16	2/12	See Note	B3			4	6C6, 6A6,²6B5		6-17
	Tone	21	N				25	15	BB15							
132A, 133A	Vol.	15	N				8-8	2	See Note	B3			6	²75, 6A6, ²6B5, 5Z3		7-8
							25	15	BB15							
137X	Vol.	18	MR48				8-4	23	See Note	B3			6	6A7, 6D6, 75, ³42, 80	456	7-10
143, 144	Vol.	18	MR48				8-4	23	See Note	B3			6	6A7, 6D6, 75, ³42, 80	456	7-11
149	Vol.	18	MR48				8-4	23	See Note	B3			6	6A7, 6D6, 75, ³42, 80	456	7-11
150X	Vol.	18	MR48				8-4	23	See Note	B3			6	6A7, 6D6, 75, ³42, 80	456	7-10
151, 154	Vol.	15	TRP606	6			3288	1	2N518				12	²78, 6A7, 85, ²76, ³42, ³80	465	7-12,14
	Tone	22	Y				3004	25	RM262							
	Sen.	7	G				1948	25	RS213							
158P	Vol.	6	G12		See Note A28		8	2	See Note	B3			6	53, 55, 57, 58, 2A5, 83		6-18
	Vol.	15	N		See Note A29		32	2	See Note	B3						
							25	15	BB15							
							5	15	BB12							
171X	Vol.	18	MR48				8-4	23	See Note	B3			6	6A7, 6D6, 75, ³42, 80	456	7-10
186, 188	Vol.	15	TRP606	6			3288	1	2N518				12	²78, 6A7, 85, ²76, ³42, ³80	465	7-12,14
	Tone	22	Y				3004	25	RM262							
	Sen.	7	G				1948	25	RS213							
324	Vol.	114	N				8-8-8	26	See Note	B3			8	²58, 2A7, 2A6, 2A5, ²45, 80	456	7-15
	Tone	114	P				4	15	BB12							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
LAFAYETTE RADIO & TELEVISION—Continued																
"Orthotone"	Vol.	15	‡		See Note	A19	6-4-4	3	See Note	B3			10	56,[3]57,[3]58,[2]47, 80		6-1
	Supp.	12	J	6			8	17	BB13							
480	Vol.	18	MR48				8-4	1	2N517		See Note	C8	4	6A7, 34, 1B5, 11	456	9-10
							10	15	BB12							
							.01		Buffer	B14						
2001 (Minstrel 1932)	Vol.	6	MR18				5-5	4	2S567				5	[3]24, 51, 47, 80	175	9-1
LANG RADIO CO.																
BA5	Vol.	40	D12				8	4	ST595				5	[3]24A, 45, 80		1-1
							1	4	ST595							
BA5P	Vol.	49	D12				8, 8	4	ST595				5	[3]24A, 47, 80		2-2
	Tone	22	K12													
BD5P	Vol.	10	D12										5	[3]36, 37,[3]33		1-1
	Tone	22	K12													
BD6	Vol.	40	D12										6	30,[3]31,[3]32		1-1
BD6P	Vol.	49	D12										6	[3]36,[3]37,[3]33		1-2
	Tone	22	K12													
DC6	Vol.	6	G12										6	[3]39,[3]37,[3]48		
	Tone	44	K12													
F7 110V DC	Vol.	10	D12										7	[3]12A,[3]71A		2-1
F9	Tone	34	L										9	[3]12A,[3]71A		1-2
J7	Tone	34	L										5	[3]22, 12A, 71A		1-2
M7	Vol.	12	A5MP				2-4	1	See Note	B1			8	[3]24,[3]45, 80, 27		1-3
	Tone	34	L													
MA7	Vol.	6	G7	6	2		8, 8	4	ST595				7	[3]24, 27,[3]35, 47, 80	175	2-3
	Tone	22	K12													
MA8	Vol.	62	N	6			8-8	4	See Note	B3			8	[3]24,[3]27,[3]35, 47, 80	175	3-1
	Tone	22	K12				5	15	BB12							
MD7	Vol.	6	G7	6	3								7	[3]36, 37,[3]33	175	2-3
	Tone	22	K12													
MD8	Vol.	15	N	8									8	[3]33, 36,[3]37,[3]39	175	3-1
	Tone	22	K12													
SA7	Vol.	6	G12				16-8	4	2S563				7	[3]24,[3]35, 47, 80	175	2-4
	Tone	22	K12													
SA8	Vol.	6	G12				4-8-4	26	See Note	B3			8	[3]24, 27,[3]35,[2]47, 80	175	2-4
	Tone	22	K12													
UG5B	Vol.	6	G12	6	EX200		12-8-10-10	6/15	UR189	B98			5	[3]6C6, 6D6, 43, 12Z3	456	5-1
UG5H	Vol.	7	E	2			12-8-10-10	6/15	UR189	B98			6	6A7, [3]6D6, 6C6, 43, 12Z3	456	
40UL	Vol.	6	G12	6	EX120		E1153A	6/15	UR189	B98			4	6A7, 6C6, 43, 25Z5	470	6-1
50AS	Vol.	6	G12		EX120		4-8-12	4/12	See Note	B3			5	6A7, 6D6, 76, 38, 80	470	6-2
50UP	Vol.	6	G12	‡			12-8-10-10	6/15	UR189	B98			5	6A7, 6D6, 76, 43, 25Z5	470	6-2
50US	Vol.	6	G12	6	EX120		E1153A	6/15	UR189	B98			5	6A7, 6D6, 76, 43, 25Z5	470	6-1
60AA	Vol.	18	N				8-8	4	See Note	B3			6	[3]6D6, 6A7, 75, 41, 80	470	6-3
							4-4	13	2N516							
							5	15	RB12							
60UP	Vol.	6	G12	‡			12-8-10-10	6/15	UR189	B98			5	6A7, 6D6, 76, 43, 25Z5	470	6-2
80UA	Vol.	17	N				16, 16, 16	8	RB24				6	[3]6D6, 6A7, [2]75, [2]43, 25Z5	470	6-4
502UA	Vol.	7	E		2		12-8-10-10	6/15	UR189	B98			5	6A7, 6D6, 6C6, 43, 12Z3	456	
502US	Vol.	14	E	6	2		E1153A	6/15	UR189	B98			5	6A7, 6D6, 6C6, 43, 12Z3	456	5-2
503AS	Vol.	17	N				12-8-5	4/15	See Note	B3			5	2A7, 58, 2A6, 2A5, 80	175	5-3
503US	Vol.	7	E	6	2		8-12-10-10	6/15	UR189	B98			5	6A7, 6D6, 6C6, 43, 25Z5	470	5-1
503UT, 523UT	Vol.	17	O				8-16-8	6	UR190	B3			5	6A7, 6D6, 75, 43, 25Z5	470	6-5
							10	15	BB12							
703US	Vol.	17	N				16-8-8	11	UR190	B3			7	6A7, 6D6, 85, [2]43, [2]12Z3	175	5-4
							6	12	BB21	B3						
							5	15	BB12							
LARKIN CO.																
84	Vol.	6	F7				3-2-2	30	See Note	B1			6	‡	175	§6-20
	Tone	21	N													
88	Vol.	42	G				8-8	4	See Note	B3			7	24,[3]27,[3]35, 47, 80	175	5-1
	Tone	21	O				5	15	BB12							
90	Vol.	17	N				5	15	BB12				6	77,[3]78, 85,[2]41	175	5-1
91	Vol.	17	N				6-10	1	See Note	B3	292	C3	7	6A7,[3]78, 85,[2]41, 84	175	5-2
							5	15	BB12							
							.015		Buffer	B14						
LAUREHK MFG. CO.																
L44T	Vol.	6	G7				8-8	4	2S567				4	6K7, 6J7, 6F6, 80		§7-8
							10	15	BB12							
L55T	Vol.	6	G7				8-8	4	2S567				5	[3]6K7, 6J7, 6F6, 80		§7-8
							10	15	BB12							
L69 (Musique)	Vol.	6	G7				5-14	12/18	2N504				4	6D6, 6C6, 43, 25Z5, 1.55B		§8-5
L600 (Musique)	Vol.	18	MR53				15-20	1	2N509				5	6A8, 6K7, 6R7, 25L6, 25Z6, L49B	465	§8-5
LEAR-WUERFUL CO.																
Suprex Six	Vol.	6	Y				8-8	4	See Note	B3			6	[3]24, 27, 47, 51, 80	175	§5-11
	Tone	22	M													
C. R. LEUTZ INC.																
"C"	Vol.	12	K										6	[3]22,[3]01A, 71A		1-1
"Seven Seas Console"	Vol.	16	M				8-8	1	See Note	B2			9	[3]24,[3]27,[3]10 or [3]50,[3]81		1-2
	Sen.	12	UC513													
"Silver Ghost"	Vol.	33	‡		See Note	A5	2-4-2	3	See Note	B3			11	[3]22, 01A, 40, 12A,[3]10, [3]81		1-1
"Trans-Oceanic"	Vol.	15	N										9	[3]01A, 12A		1-2
LEWOL MFG. CO.																
LW4, LW4DW	Vol.	6	SRP263		EX300		110	27	UR182	B115			4	6D6, 6C6, 43, 25Z5		5-1
60MS	Vol.	20	‡		See Note	A19	8-16-4	11	UR193	B31			6	[3]78, 6A7, 85, 43, 25Z5	456	5-2
63	Vol.	20	‡		See Note	A19	8-16	4	See Note	B3			6	[3]78, 6A7, 85, 42, 80	262.5	5-3,4
64	Vol.	20	‡		See Note	A19	12-16-6	11	UR182	B31			6	[3]78, 6A7, 85, 43, 25Z5	262.5	5-2
9682	Vol.	64	N	7			8-4	1	See Note	B3	285XS	C3	6	1C6, 34,[3]30, 19	465	
	Tone	22	‡		See Note	A5	.01-.01		Buffer	B14						
LINCOLN RADIO CORP.																
"Hollister" AC8	Vol.	12	D12										8	[2]24,[3]27, 50	‡	4-4
DCSW8	Vol.	12	K12										8	[3]30, 31,[3]32	‡	4-1
R9	Vol.	16	N				8	1	RS213				11	[2]56,[2]58,[2]45, 80	480	4-1
	Sen.	12	K													

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
LINCOLN RADIO CORP.—	Continued															
"DeLuxe" 10	Vol.	58	F				2-2-2	3	See Note	B1			11	[3]21,[3]27,[3]45, 80	‡	3-1
31	Vol.	7	K				2-4	1	See Note	B1			11	[3]21,[3]27,[3]45, 80	‡	1-1
SW32	Vol.	7	K	6			4	1	RS213				11	[3]27,[3]24,[3]45, 80	‡	3-1
SW33	Vol.	23	NN				8	1	RS213				11	[3]35,[3]56,[3]45, 80	‡	4-2,3
	Sen.	98	k													
LONG RADIO CORP.																
70	Vol.	6	G12				8-8	1	See Note	B3			6	[3]24, 27, 45, 80		
R. H. MACY & CO.																
MB5	Vol.	6	UC501				8	1	See Note	B3			5	24,[3]51, 47, 80		3-1
56, 58	Vol.	6	‡		See Note	A5	8-8	4	See Note	B3			5	55, 57, 58, 47, 80		3-1
	Tone	22	‡		See Note	A5										
MB92	Vol.	6	G12				2	3	See Note	B2			9	55,[3]56,[3]58,[3]46, 80		3-3
	Tone	22	M				8-8	3	See Note	B3						
							4	15/17	BB12							
MB710	Vol.	6	G12				8-4	1	See Note	B3			7	55,[3]58, 56, 47, 80	175	3-2
	Tone	22	L				4	17	BB11							
410 AC-DC	Vol.	18	MR48				30-12	6	2N512				7	6A7, 6D6, 6R7, [3]43, [3]25Z5	456	7-1
	Tone	41	MR48				20-5	24	2N507							
							10	15	BB12							
706-70623	Vol.	18	MR48				30-16	1	2N511				10	6A7, 6K7, 85 or 6R7, [3]43,[3]25Z5	456	7-2
	Tone	41	N				16	18	BB24							
							20	12	BB25							
MAJESTIC†																
7BP3, 7BP6							3-4-3-3	47	See Note	B121				80		1-6,7
							2-3-3-2	47	See Note	B121						
7P3, 7P6							2-6-2-2-1	47	See Note	B121				80		1-2,4
8P3, 8P6							2-2-3-1-1	47	See Note	B121			2	[3]81		1-9
9P3, 9P6							4-4-1-2	47	See Note	B121				80		1-24
10 (11)							6433	1	CM172				3	[3]24, 80	1000	3-14,15
15 Below 65149	Vol.	6	G7	6	3		5414	4	CS133				5	[3]24, 47, 51, 80	175	2-4,5
	Tone	22	K12				8385	4	CM172							
15, 15B (151, 153, 154, 155, 156) Above 65150	Vol.	6	G12	6	EX300		5414	4	CS133				5	[3]24, 51, 47, 80	175	2-6,7
	Tone	22	K12				8385	4	CM172							
20 (21, 22, 23)	Vol.	8	E	6			2-2	1	See Note	B1			8	[3]27,[3]51,[3]45, 80	175	1-14,15
							.07		See Note	B9						
25 (251, 253, 254)	Vol.	8	F	6	2		4713	3	CS133				9	[3]27,[3]51,[3]47, 80	175	2-8,9
	Tone	44	Z12				5414	3	CS133							
25B (251B, 253B, 254B)	Vol.	15	F12	6			5608	3	CS133				9	[3]27,[3]51,[3]47, 80	175	2-10,15
							4713	3	CS133							
							.15 mf		See Note	B9						
							.35 mf		See Note	B12						
30 (31)	Vol.	24	DRP122	6	See Note	A24	2-3	1	See Note	B1			6	[3]24,[3]45, 80		1-16
							.1		See Note	B9						
35 (351, 353)	Vol.	15	F12	6			4713	1	CS133				10	[3]27,[3]51,[3]45, 80	175	2-12,15
	Tone	22	G12				5806	1	CS133	B1						
							.15		See Note	B9						
							.35		See Note	B12						
44, 49 (Chassis 440)	Vol.	6	F7	6	3		10536	1/15	SR629				4	6A7, 6F7, 41, 6Z5	456	4-12
50 (51, 52)	Vol.	24	DRP122				3-2	1	See Note	B1			8	[3]27,[3]24,[3]45, 80	175	1-18,19
							.09		See Note	B9						
F50	Vol.	15	M	6			16-16-10-20	2/15	UR191/TN111	B3			10	[3]56,[3]58,[3]47, 82	175	5-1
	Tone	22	M													
55 (56, 57, 58)	Vol.	6	H7	6	2		6501	4	CM172				6	24, 27,[3]35, 47, 80	175	3-1,2
	Tone	22	k12													
55, 59 (Chassis 500)	Vol.	17	M	6			10827	1/15	CM172/BB12				5	6A7, 6F7, 6B7, 42, 80	456	4-24
58 (Chassis 10)							6433	1	CM172				3	[3]24, 80	1000	3-14
60 (61, 62)	Vol.	7	SRP223				2-2-2-1	3	See Note	B1			9	27,[3]51,[3]24,[3]45, 80	175	1-20,22
							4-3-3-1	3	See Note	B1						
							.07		See Note	B9						
							.25		See Note	B12						
66	Vol.	17	M	6			9979	4	CM172		220B	C3	6	[3]6E7, 6A7, 6C7, 89, 6Y5	175	4-1,6
	Tone	22	K12				10067	15	BB12							
							.008-.008		Buffer	B14						
67 (68, 69)	Vol.	18	M				16	1	RS216				6	[3]58, 2A7, 55, 2A5, 80	175	
	Tone	22	M				8	1	RS213	B3						
							10	15	BB12							
70, 70B (71, 72)	Vol.	40	G12										8	[3]26, 27,[3]71, 80		1-1,2
75 (Chassis 500)	Vol.	17	M	6			10827	1/15	CM172/BB12				5	6A7, 6F7, 6B7, 42, 80	456	4-24
77 (Chassis 330)	Vol.	15	M				8721	1	RS216				7	[3]58, 56, 55, 59, 80	175	3-29
	Tone	22	M	6			8722	1	RS213							
							8118	15	BB15							
85, 86 (Chassis 800)	Vol.	18	M				11017	25	RS216				8	[3]58, 2A7, [3]48, 56, 53, 80	175	4-30,31
	Tone	22	M	6			11200	25/13	RM261							
							11099	15	BB15							
90, 90B (91, 92, 93)	Vol.	7	Z				2-2-2-1	2	See Note	B1			8	[3]27,[3]45, 80		1-11,12
	Equal	7	SRP160				4-4-2-1	2	See Note	B1						2-3
95 (Chassis 520)	Vol.	18	M	7									5	[3]34, 1A6, 25, 33	175	4-27
100 (101)	Vol.	7/63	DRP222		See Note	A49	See the		9P3, 9P6				7	[3]27,[3]45		1-11,
	Equal	7	SRP160													2-3
100B (102, 103)	Vol.	7/16	DRP312				2-2-2-1	2	See Note	B1			8	[3]27,[3]45, 80		1-12
	Equal	7	SRP160				4-4-2-1	2	See Note	B1						
105 (Chassis 520)	Vol.	18	M	7									5	[3]34, 1A6, 25, 33	175	4-27
110	Vol.	15	Y100MP										7	[3]36,[3]37,[3]38		2-17,4-7
114	Vol.	8	M				8	1	BB61				6	[3]39,[3]38, 85	175	3-48,4-8
							8286	15	BB12							
							7784-2	15	BB15							
116 (Type 1)	Vol.	17	M				9337	4	CM162		220B		6	57,[3]58, 75, 89, 6Z5	175	3-44,45
116 (Type 2, 3)	Vol.	17	M				9337	4	CM162		220B		6	57,[3]58, 85, 89, 6Y5	175	3-46
116 (Type 4)	Vol.	17	M				9979	4	CM172		220B		6	57,[3]58, 75, 89, 6Z5	175	3-47
118, 118P	Vol.	17	SRP251				10369	4	CM172		220B		6	[3]6E7, 6A7, 6C7, 42, 6Y5	175	5-2
							10488	15	BB12							
120 (121)	Vol.	24	GG	7									6	30,[3]32, 33	175	2-18,19
120B (123)	Vol.	24	GG										6	30,[3]32, 33	175	§6-10
130A (131, 132, 133)	Vol.	8	A1MP				2-2-2	3	See Note	B1			7	[3]24,[3]45, 80		1-13
							4-4-2	3	See Note	B1						
150	Vol.	6	G7	6	3		5414	4	CS133				5	[3]24, 51, 47, 80	175	2-21
	Tone	22	K12				8385	4	CM172							
	Phono.	63	W													
151, 153, 154, 155, 156 (Chassis 15)	Vol.	6	G7	6	3		5414	4	CS133				5	[3]24, 51, 47, 80	175	2-4,6
	Tone	22	K12				8385	4	CM172							
160 (163)	Vol.	8	SRP223				2-2-2-1	3	See Note	B1			9	27,[3]51,[3]24,[3]45, 80	175	1-23
							4-3-3-1	3	See Note	B1						
							.07		See Note	B9						
							.25		See Note	B12						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

† Note: Rider's references will be found under Grigsby-Grunow.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MAJESTIC—Continued																
174 (Chassis 570)	Vol.	18	M				12038-1	25	RS216				6	258, 2A7, 55, 2A5, 80	175	5-3
	Tone	22	M	6			12039-1	25	RS213							
							12026-2	15	BB15/BB12							
180 (181)	Vol.	7	DRP222		See Note A49								9	§27,§50,§81		1-8,10
194 (Chassis 440)	Vol.	6	F7	6	3		10536	1/15	SR629				4	6A7, 6F7, 41, 6Z5	456	4-12
195 (Chassis 500)	Vol.	17	M	6			10827	1/15	CM172/BB12				5	6A7, 6F7, 6B7, 42, 80	456	4-24
200 (201, 203, 204)	Vol.	15	N				6277	28	CM175				8	§35, 27, G2S, 47, 80	175	3-3,6
	Tone	22	K12	6												
204 (Chassis 10, Chassis 200)	Vol.	15	N				6277	28	CM175				11	§35, 27, G2S, 47, §24, §80	175	3-3
	Tone	22	K12	6			6433	1	CM172							
210 (211, 214, 215)	Vol.	15	M				4713	3	CS133				10	§35,§27,§47, 80, G2S	175	3-7,9
	Tone	44	L	6			6324	3	CS133							
220 (221, 223)	Vol.	15	M				4713	3	CS133				12	§27,§35,§50,§81, G2S	175	3-10,13
	Tone	22	K12	6												
230A (233 Comet)	Vol.	8	DRP313				2-2-2	3	See Note	B1			7	§24,§45, 80		1-13
							4-4-2	3	See Note	B1						
251, 253, 254 (Chassis 25)	Vol.	8	F	6	2		4713	3	CS133				9	§27,§51,§47, 80	175	2-8
	Tone	44	Z12				5414	3	CS133							
251B, 253B, 254B (Chassis 25B)	Vol.	15	F12	6			5608	3	CS133				9	§27,§51,§47, 80	175	2-10
							4713	3	CS133							
							.15		See Note	B9						
							.35		See Note	B12						
290 (291, 293, 294)	Vol.	15	M				7173	2	CS133				9	§58, 56, 57, 47, 80, 48	175	3-16,17
	Tone	22	K12	6			7278	14	CM162							
	Supp.	12	E12				7402	15	BB12							
294 (Chassis 10, Chassis 290)	Vol.	15	M				7173	2	CS133				12	§58, 56, 48, 57, 47, §24, §80	175	3-14,16
	Tone	22	K12	6			7278	14	CM162							
	Supp.	12	E12				7402	15	BB12							
							6433	1	CM172							
300, 300A (303, 304, 307)	Vol.	15	M				7489	2	CS136				5	58, 56, 57, 47, 82	175	3-18,20
	Tone	22	M	6			7278	14	CM162							
	Supp.	12	Y				7402	15	BB12							
	Hum	37	HU20				7784	15	BB15							
310A (311)	Vol.	15	M				7824	1	2S563				7	§58, 55, 56, 47, 80	175	3-21,24
	Tone	22	K12	6			8118	16	BB15							
310B (314, 315)	Vol.	15	M				7824	1	2S563				7	§58, 56, 55, 47, 80	175	3-22,25
	Tone	22	K12	6			8118	16	BB15							
	Hum	37	HU20				7402	15	BB12							
320 (324)	Vol.	15	M				7489	2	CS136				12	§58, 56,§57,§47, 82,§48	175	3-26,28
	Tone	22	M	6			7988	14	CS123							
	Supp.	12	Y				7784	15	BB15							
	Hum	37	HU20				7402	19	BB12							
330 (331, 336, 77)	Vol.	15	M				8721	1	RS216				7	§58, 56, 55, 59, 80	175	3-29,30
	Tone	22	M	6			8722	1	RS213							
							8118	15	BB15							
340, 340B (344)	Vol.	15	M				8722	3	RS213				11	56,§58,§57,§59, 82, 55	175	3-31,32
	Tone	22	M	6			8721	3	RS216							
	Supp.	12	Y				7988	14	CS123							
							9019	19	BB12							
							8118	15	BB15							
351, 353 (Chassis 35)	Vol.	15	F12	6			4713	1	CS133				10	§27,§51,§45, 80	175	2-12
	Tone	22	G12				5806	1	CS133	B1						
							.15		See Note	B9						
							.35		See Note	B12						
360 (363)	Vol.	45	M				8721	2	RS216				11	§58,§56,§57,§59, 82	175	3-33,35
	Tone	22	M	6			7988	14	CS123							
	Supp.	12	Y				8118	18	BB15							
	Hum	37	HU20				9019	19	BB12							
370 (371, 373)	Vol.	6	Y	6	EX250		9219	1	CM172				5	§57, 58, 59, 80	456	3-36,38
							9019	15	BB12							
380 (381)	Vol.	6	K12	6	EX250		8755	1	CM172				4	57, 58, 89, 84		3-39
							8774	15	BB12							
390 (393)	Vol.	17	M				8722	1	RS213				8	§56,§58, 55, 53, 80	175	3-40,41
	Tone	22	M	6			8721	1	RS216							
							8118	15	BB15							
400 (411, 413)	Vol.	6	Y	6	EX250		9661	6/15	SR630				5	§57, 58, 43, 25Z5	456	3-42
400A (411A, 413A)	Vol.	6	Y	6	EX250		9661	6/15	SR630				5	§6D7, 6E7, 43, 25Z5	456	4-10
440 (44, 49, 194)	Vol.	6	F7	6	3		10536	1/15	SR629				4	6A7, 6F7, 41, 6Z5	456	4-11,12
460 (461, 463)	Vol.	56	M				10207	1	RS216				6	§58, 2A7, 55, 2A5, 80	175	4-13,14
	Tone	22	M	6			10193	1	RS213							
							10208	15	TN111							
490 (491, 493)	Vol.	18	M				10630	4/15	CM172/BB12		F220C	C11	6	§6E7, 6A7, 85, 42, 6Y5	175	4-15,21
	Tone	22	M	6			10946	18	TN111		F294	C11				
							.008-.008		Buffer	B14						
500 (55, 59, 75, 195, 560, 566)	Vol.	17	M	6			10827	1/15	CM172/BB12				5	6A7, 6F7, 6B7, 42, 80	456	4-23,24
520 (95, 105)	Vol.	18	M	7									5	§34, 1A6, 25, 33	175	4-25,29
570	Vol.	18	M				12038-1	25	RS216				6	§58, 2A7, 55, 2A5, 80	175	5-3
	Tone	22	M	6			12039-1	25	RS213							
							12026-2	15	BB15/BB12							
600 AC-DC	Vol.	17	M	6			16-8	6	2N504				6	6A7, §6E7, 6C7, 43, 25Z5	456	5-4
							10	15	BB12							
800 (85, 86, 998)	Vol.	18	M				11017	25	RS216				8	§58, 2A7, 56, 53, 80,§48	175	4-30,31
	Tone	22	M	6			11200	13	RM261							
							11099	15	BB15							
998	Vol.	18	M				11017	25	RS216				8	§58, 2A7,§48, 56, 53, 80	175	4-30,31
	Tone	22	M	6			11200	25/13	RM261							
							11099	15	BB15							
MAJESTIC RADIO AND TELEVISION																
Charlie McCarthy 1-2	Vol.	18	MR48	M26			40	25	BB27				5	6A8GT, 6K7GT, 25L6GT, 25Z6GT, L49B, 6Q7GT	455	9-1
							16	25	BB24							
42	Vol.	6	MR33		EX300		16, 16	1	BB24				4	6K7, 6J7,§25L6		9-1
50 (1937)	Vol.	6	K12	6			B16973	4	RS207				4	6D6, 6C6, 43, 25Z5		8-1
							B17042	4	RS207							
52	Vol.	18	MR48				16	25	BB24				5	6A8, 6K7, 6Q7, 25L6, 25Z6	455	9-1
							40	25	BB27							
60 (1937)	Vol.	17	O				B17041-3	4	RS208				5	6A8G, 6K7G, 6Q7G, 25B6G, 25Z6G	456	8-2
	Tone	‡	M	6			B17197	4	RS208							
62A	Vol.	18	MR53				CE43	1/19	2S563/BB15				6	6A7, 6D6, 75, 41, 80, 76	455	9-2
65, 66 (1937)	Vol.	18	O	6			B16466	4	RS216				6	6A8G, 6K7G, 6Q7G, 6G5, 6K6G, 5Y3	456	7-1
	Tone	22	UC502				B16467-2	4	RS213							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MAJESTIC RADIO AND TELEVISION—Continued																
75, 76 (1937)	Vol.	18	O	6			B16466	4	RS216				7	6L7G, 6K7G, 6Q7G, 6F6G, 6C5, 5Y3, 6C5G	456	1 7-2,8-5
	Tone	22	UC502				B16467	4	RS213							
85, 86	Vol.	18	O	6			A-15236-3	25	WE3050				5	6C5G, [36]F6G, 6G5, 5Y3	456	7-3
	Tone	22	SRP284	8			A-15237-2	25	RS215							
511, 511A, 519P	Vol.	18	MR48				8, 8	1	BB41				5	6A7, 6D6, 75, 41, 80	455	9-3
551	Vol.	18	MR53				8, 8	1	BB41				5	6A7, 6D6, 75, 41, 80	455	9-3
620	Vol.	45	MR53				B16466	25	RS216				5	6A8G, 6K7G, 6H6G, 6K6G, 5Y3G	456	8-4
	Tone	‡	MR44				B16467-2	25	RS213							
639, 639B	Vol.	18	MR48				CE43	1/19	2S563/BB15				6	6A7, 6D6, 75, 41, 80, 6J5	455	9-4
650 (1937)	Vol.	18	O	6			B16466	4	RS216				6	6A8G, 6K7G, 6Q7G, 6K6G, 6G5, 5Y3	456	7-1,8-5
	Tone	22	UC502				B16467-2	4	RS213							
739	Vol.	20			See Note	A19	CE7	1/15	3S579				7	6K8, 6K7, 6J5G, 6Q7, 6K6G, 6U5, 5Y3G	455	9-5
	Tone	21			See Note	A3										
750 (1937)	Vol.	18	O	6			B16466	4	RS216				7	6C5G, 6L7G, 6K7G, 6Q7G, 6F6G, 6G5, 5Y3	456	7-2,8-5
	Tone	22	UC502				B16467	4	RS213							
800	Vol.	17	MR53				B17041-3	28	RS208				7	6A8G, 6K7G, 6Q7G, 25L6, [25]Z6G, 6G5	456	8-7
	Tone	22	MR21				B17197	28	RS208							
							B17042	28	RS207							
850 (1937)	Vol.	18	O	6			A15236-3	25	WE3050				8	6A8G, 6K7G, 6Q7G, 6C5G, 6G5, [36]F6G, 5Y3	456	7-3,8-5
	Tone	22	UC502				A15237-2	25	RS215							
939	Vol.	17			See Note	A19	‡	1	See Note	B3			9	[36]K7, 6K8, 6U5, 6Q7, 6J5G, [36]K6G, 80	455	9-7
1050	Vol.	17	TRP618	6			B16554-2	1	WE3050				10	[36]K7G, 6L7G, 6Q7G, 6C5G, 6G5, [36]F6G, 5Z3	456	7-4
	Tone	22	UC502				B15427	1	RS216							
							B16551-3	15	TN111							
1250	Vol.	17	TRP610	6			B16613-2	1	2S568				12	[36]K7G, 6L7G, 6H6G, [36]6C5G, 6G5, 6F5G, [36]6L6G, 5Z3	456	8-9
	Tone	22	P				B16614-3	14/15	CM172							
11056, 11058	Vol.	18	MR48				16-16-10	1/15	2S569/BB12				10	[36]U7G, 6A8G, 6J5G, [36]6Q7G, 6V6G, 6G5, 5Y3G	455	9-9
							10	15	BB12							
11356	Vol.	18	MR53	M26			40	1	WE4050				12	[36]U7G, 6L7G, 6J5G, 6H6G, 6G5, 6Q7G, [36]F5G, [36]V6G, 5X4G	455	9-11
							30	1	WE3050							
							20-20-10	14/15	TN127							
							4	13	BB40							
11656	Vol.	45	MR53	M26			CE15	22	WE3050				16	[36]U7G, 6L7G, 6J5G, 6H8G, [36]F5G, [36]L6G, 6J7G, 6A8G, 6H6G, 6G5, 6Q7G, 5X4G	455	9-13
	Sen.	7	UC500				CE13	22	WE4050							
							B17042	14	RS207							
							CE25	15	BB12							
							CE27	13	BB40							
MAJOR LABORATORIES																
ML 210 Amp	Vol.	16	N				4-2-4	3	See Note	B4			4	27, [31]0, 81		§1-14
	Mon.	‡	M													
	Bias	‡	M2MP													
250 Amp	Vol.	16	N										5	27, [32]6, [35]0		§1-14
P. R. MALLORY & CO.																
"B" Eliminator Types 1 to 4 incl.							15233	3	On Order	B125	201	C3		BR		4-1,4
Types 5 and 6							15233	3	On Order	B125	205	C3				
"B" Eliminator 10 to 14 Incl. 1933-34							16736	3	On Order	B125	210					4-3
							16737	3	On Order	B125						
							16738	3	On Order	B125						
"Vibrapacks"																
VP551							A40980-1		Buffer	B125	725					
VP552							A40980-1		Buffer	B125	725					
VP553							A40980-1		Buffer	B125	825			6X5		
VP554							A40980-1		Buffer	B125	825			0Z4 or 6X5		
VP555							A40980-6		Buffer	B125	825		2	[30]Z4 or [36]W5G		
							10141	*	On Order	B125						
VP-G556							A40980-1		Buffer	B125	G275					
VP557							A12086-1		Buffer	B125	825		2	[36]X5		
							X-26080	*	On Order	B125						
VP-F558											F826			0Z4		
MARTI																
T	Vol.	4	‡		See Note	A5	6-2	3	See Note	B1			8	[6]27, 10, 81		§4-10
							.02		See Note	B9						
MASTER																
Mighty Midget (50, 70)	Vol.	6	‡	6	See Note	A5	2-2	1	See Note	B1			6	[32]6, 24, 45, 80		§3-9
424	Vol.	6	F12				2-2	1	See Note	B1			6	[32]4, 45, 80		
McMILLAN RADIO CO.																
8 (Two Types)	Vol.	5	K12				‡	3	See Note	B1			9	[32]6, 27, [37]1A, 80		1-1
900 Series	Vol.	13	K12				1-2-3-5	3	See Note	B1			9	[32]6, 27, [34]5, 80		1-2
MEISSNER																
8	Vol.	15	N	6			8, 8, 8	3	RS213				8	[36]K7, 6A8, 6C5, 6H6, 6F5, 6F6, 5Z4	‡	
	Tone	22	UC501				10	15	BB12							
	Sen.	7	J													
METEOR—See Airking																
MID-WEST RADIO CORP.—"Miraco"																
AC6 '33 Model	Vol.	83	N	6			4-4	25	CM170				6	55, 56, [35]8, 59, 80	450	
AC6 Midget	Vol.	6	G7	6	2		8-8	1	See Note	B3			6	[32]4, 27, 45, 80		
	Tone	22	G12													
AC8 ('32)	Vol.	83	N	6			8, 8	1	RS213				8	55, 56, 57, [35]8, [32]A5, 80	450	
	Tone	22	K12													
AC8-33 (4 Bands)	Vol.	83	N	6			8-8	1	2N518				8	57, 56, [35]8, 55, [32]A5, 80	450	8-27
	Tone	22	N													
AC8 ('33) 5 Bands	Vol.	83	N				8-8	1	2N518				8	55, 56, 57, [35]8, [35]9, 80	456	8-27
	Tone	22	K12													
AC9 (1SG, 227 Type)	Vol.	7	‡		See Note	A5	2-2-2	3	See Note	B3			9	24, [32]7, [34]5, 80		
							.1		See Note	B9						
AC9-4SG	Vol.	6	Y				8, 8, 8	28	RS213				9	[6]24, [32]7, [34]5, 80		3-2
	Tone	22	G12													
AC9 Pentode Super (2 Types)	Vol.	62	N				8-8	4	See Note	B3			9	24[3], 27, [33]5, [34]7, 80	175	3-4
	Tone	22	N		See Note	A27										
	Tone	22	L		See Note	A4										
AC9 T.R.F.	Vol.	14	‡		See Note	A5	4-2-2-1	3	See Note	B1			9	[32]6, 27, [37]1A, 80		3-4

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MID-WEST—Continued																
AC10	Vol.	6	G12				8-8	1	See Note	B3			10	[3]24,[3]27,[3]45, 80	175	
	Tone	44	G12													
AC11 '31	Vol.	‡	UC513				8-8	4	See Note	B3			11	[3]35,[3]24,[3]27,[3]47, 80	175	3-4
	Tone	149	M													
AC12	Vol.	45	N				25	15	BB15				12	55,[6]58,[3]42, 80, 57	450	
	Sen.	7	UC500				8-8	3	See Note	B3						
							25	15	BB15							
Battery 6 Super	Vol.	15	N										6	[3]30,[3]34, 19	456	8-5
Battery 7 (2 Volt Model)	Vol.	10	M										6	[3]30, 31,[3]32		
Battery 8 (Super-2 Volt)	Vol.	76	M				24	12	See Note	B3			8	[6]30,[3]34	‡	
	Tone	76	M													
C4-1932 Converter							8-8	1	2N518				4	57, 56, 58, 80		9-1
"Imperial"	Vol.	‡	NN				16	3	RS216				18	[6]6D6, [3]6C6, [3]76, 6B7, [2]2A5, 5Z3	456	8-61,63
	Tone	‡	Order from	Mfr.			8	3	RS213							
	Supp.	12	K12				10	15	BB33							
	Att.	‡	Order from	Mfr.			25	15	BB15							
Miraco 18G-226	Vol.	25	DRP240				4-2-2-1-1	3	See Note	B1			9	24,[6]26, 27,[3]71, 80		4-1
Miraco 16 Tube ('32)	Vol.	15	N	6			4	1	HS691	B3			16	55,[3]56, 57,[3]58, 42,[3]46, 80, 82	450	3-3
	Tone	22	K12				8	1	HD683	B3						
	Supp.	7	UC500				4-4-8	3	See Note	B3						
							8	13	RS213							
Regal (1936)	Vol.	18	N				25	3	WE3050				22	[3]6K7, [3]6H6, 6L7,[3]6C5, 6J7, [6]6N6, [5]W4, [3]80,[2]M2	456	8-65,68
	Tone	‡	N				24	3	WE3050							
							40	3	WE3050							
							20	13	WE1625							
							60	15	BB17							
Regal (1937)	Vol.	18	N				25	3	WE3050				20	[3]6K7, [3]6C5, 6J7, [3]6H6, 6L7, [6]6N6, [3]80, [2]M2	456	9-18,20
	Tone	‡	N				40	3	WE4050							
							24	3	WE3050							
							60	15	BB17							
							20	13	WE2050							
"Royale"	Vol.	64	N				16, 16	1	WE1650				24	[3]6K7, [3]6C5, [3]6H6, 6J7, [3]6F6, [5]Y3 or [5]Z4	456	7-1,4
	Tone	133	L				16, 16	37	WE1650							
	Att.	‡	Order from	Mfr.												
SW5-36 (AC-DC)	Vol.	6	‡	6	See Note	A5	20-12-5	27/15	UR182	B221			5	6A8, 6K7, 75, 43, 25Z5	456	8-1
Z4 Short Wave Converter							8-8	1	See Note	B3			4	24,[3]27, 80	‡	
6DC (110 Volt)	Vol.	56	N										6	37,[3]78, 85,[3]43	175	
6-33	Vol.	83	N	6			4-4	1	CM170				6	[3]58, 56, 55, 59, 80	450	8-2
6-34	Vol.	83	N				8, 8	1	RS213				6	[3]58, 2A7, 2B7, 2A5, 80	450	8-3,4
	Tone	22	K12													
6-37	Vol.	18	N	6			20-12	27	2P549				5	6A7, 6D6, 75, 43, 25Z5	456	8-7,8
	Tone	107	N													
6-37 (Auto)	Vol.	17	UM154-SS17	M26			8-8	1	2N518		294	C3	6	[3]6D6, 6A7, 75, 41, 84	175	8-6
	Tone	22	MR39				5-5	15	TN111							
							.025-.025		Buffer	B14						
6-Tube Battery	Vol.	15	MR48										6	[3]34,[3]30, 19	‡	8-5
5-36	Vol.	17	UM154	M26	See Note	A96	8-8	1	2N517		294	C3	5	6A7, 6D6, 75, 41, 0Z4	456	9-3
	Tone	22	UM137		See Note	A96	.01-.01		Buffer	B14						
6-38 (AC-DC) (Export)	Vol.	18	MR48	M26			20-12	4	2P549				5	6A8, 6K7, 6Q7, 25B6, 25Z5, L49B	456	8-18
	Tone	147	MR48													
7-36	Vol.	56	N				8, 8	25	RS213				7	[3]58, 56, 55, 2A5, 80	456	7-2,4
	Tone	22	N													
7-36 (AC-DC)	Vol.	18	N	6			20	63	RS207				7	6A7, 6K7, 6H6, 6F5, 43,[2]25Z5	450	8-9,10
	Tone	22	L				12-25-5-5	63/15	4N708							
7-36 (Batt.)	Vol.	45	N				8-20	1	See Note	B3	245	C3	7	1C6,[3]34,[3]30, 19	465	8-11,12
	Tone	22	K12	6			.02		Buffer	B14						
7-36 (Metal Tube)	Vol.	56	N				8, 8	25	RS213				7	[3]6K7, 6C5, 85, 42, 80	456	
	Tone	22	N													
7-37	Vol.	18	N	6			8, 8	25	RS213				7	[3]6K7, 6C5, 6Q7, 6F6, 5Y3	456	8-13,14
	Tone	22	K12													
7-37 (AC-DC)	Vol.	64	N	6			20	6	RS207				7	6A8, 6K7, 6H6, 6F5, 25A6,[2]25Z6	456	8-15,17
	Tone	22	N				10	15	BB12							
7-37 (Batt.)	Vol.	45	N				8	1	BB31		245	C3	7	6A7,[3]15,[3]76, 19, 6G5	465	8-19,20
	Tone	22	K12	6			10	15	BB12							
							.02		Buffer	B14						
7-38 (AC-DC)	Vol.	18	MR48	M26			12-20	4	2P549				5	6A8, 6K7, 6Q7, 25B6, 25Z5	456	8-21
	Tone	147	MR48													
7-38 (AC-DC) (Export)	Vol.	18	MR48	M26			20-12	4	2P549				6	6A8, 6K7, 6Q7, 25B6, 25Z5, 6G5, L49B	456	8-22
	Tone	107	MR48													
7-38 Battery (Export)	Vol.	45	MR48	M26			8-8	1	2N517		245	C3	7	6D8, 6S7, [3]6L5, 6Z7, or 1J6, 6N5	456	8-23
	Tone	22	MR48				10-10	15	TN111							
							.015		Buffer	B14						
8-'31 (Batt.)	Vol.	129	M				24	19	BB15				8	[3]32,[3]30	‡	8-24
	Tone	129	M													
8-38 (AC-DC)	Vol.	18	MR48	M26			12-20	4	2P549				6	6A8, 6K7, 6Q7, 6G5, 25B6, 25Z5	456	8-29
	Tone	147	MR48													
8-38 (AC-DC) (Export)	Vol.	18	MR48	M26			20-12	4	2P549				7	6A8, 6K7, 6Q7, 6C5, [2]25B6, 25Z5, K17R	456	8-30
	Tone	21	MR48													
8-38 (Batt.)	Vol.	45	MR48	M26			8-8	1	2N518		245	C3	7	6D8, 6S7, [3]6L5, 6N5, 1J6	456	8-31
	Tone	22	MR48				10	15	BB12							
							.015		Buffer	B14						
8-39	Vol.	56	‡		See Note	A19	C240	1	2S569				8	6A8, 6K7, 6H6,[2]6P5, 6AC5G, 6G5, 80	456	9-8
9-31 (3SG)	Vol.	7	K				6-2-4	3	See Note	B3			9	[3]24,[3]27,[3]45, 80		8-24
	Tone	41	N													
9-31 (4SG)	Vol.	6	MR24				8, 8, 8	28	ST595				8	[3]24,[3]47, 45, 80		8-32
	Tone	22	MR18													
9-32	Vol.	107	N				8-8	4	CM172	B3			9	[3]35, 24, [3]27, [3]47, 80	175	8-33
	Tone	39	N													
9-34	Vol.	83	N				8, 8	1	RS213				9	55, 56, 57,[3]58,[2]A5, 80	456	6-1
	Tone	149	K12													
	Sen.	7	UC500													
9-34 (RT9, G9, F9, H9)	Vol.	83	N				8, 8	1	RS213				9	[3]58, 57, 56, 55,[2]A5, 80	456	4-2
	Tone	149	K12				1	12	CS130	B3						
	Sen.	7	UC500													
9-38 (AC-DC)	Vol.	18	MR48	M26			20-12	4	2P549				7	6A8, 6K7, 6Q7, 6C5, [2]25B6, 25Z5	456	8-34,36
	Tone	39	MR48													
9-38 (AC-DC) (Export)	Vol.	18	MR48	M26			20-12	4	2P549				7	6A8, 6K7, 6Q7, 6C5, 25B6, 6G5, 25Z5, K17R	456	8-35
	Tone	21	MR48													

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MID-WEST—Continued																
10A-33-34	Vol.	45	N				8, 8	1	RS213				10	56,458,32A5, 80	456	6-5
	Tone	22	K12				1	12	CS130	B3						
	Sen.	7	UC500													
10-34	Vol.	83	N				8, 8	1	RS213				10	56, 57,358,32A5, 80	456	6-3,4
	Tone	22	K12				2	13	CS130	B3						
	Sen.	7	UC500				1	13	CS130	B3						
10-35	Vol.	45	N	6			8	1	RS213				10	56,458,32A5, 80	456	6-12,13
	Tone	22	K12				16	1	RS216							
	Sen.	7	UC500				1	12	CS130							
10-37	Vol.	18	N	7			20	12	RS207				10	6K7, 6A7, 85, 43, 25Z5	456	8-37,38
	Tone	44	L	6			25-12	6	UR182	B18						
	Sen.	7	D													
10-38 (AC-DC)	Vol.	18	MR48	M26			20-12	4	2P549				8	6A8, 6K7, 6Q7, 6G5, 6C5,25B6, 25Z5	456	8-39
	Tone	39	MR48													
11-31	Vol.	107	N				8, 8	4	RS213				11	35, 24, 27, 47, 80	175	8-40
	Tone	149	M													
11-36	Vol.	45	N				16	1	RS216				11	6K7,6C5, 6H6,6F6, 5Z4	456	7-3,4
	Tone	21	K12				8	1	RS213							
							2	14	CS130							
							12	15	BB12							
11-37	Vol.	18	N	6			24	1	WE3050				11	6K7, 6C5, 6H6,6F6, 5Z3	456	8-41,44
	Tone	21	N				40	1	WE4050							
11-37 (AC-DC)	Vol.	64	N	6			25	1	RS207				11	6K7, 6C5, 6H6, 25B6G, 25Z6	456	8-42,44
	Tone	21	N				40	1	RS208							
12-33	Vol.	83	N				8	3	RS213				12	58, 55, 57, 42, 80	450	8-45,46
	QAVC	7	UC500				8-8	3	2N518							
							5	15	BB11							
12-38 (AC)	Vol.	...‡..	MR48	M26			24	1	WE3050				12	6K7, 6L7,6C5, 6H6, 6J7, 6C8, 6V6, 80	456	8-47,49
							40	1	WE4050							
							10	15	BB12							
12-38 (Batt.)	Vol.	...‡..	TM230-SS1				24	1	WE3050		245	C3	12	6S7, 6L7, 6L5, 6J7, 6H6, 6N5,6K6	456	8-48,49
							25	15	BB15							
							.005		Buffer	B14						
12-39	Vol.	...‡..				See Note A19	24	1	WE3050				12	6K7G, 6L7G, 6H6G, 6P5G, 6J5G, 6J7G, 6V6G, 80	456	9-10
							40	1	WE4050							
14-37	Vol.	18	N	6			16	25	RS216				14	6K7, 6H6,6C5,6F6, 5Z3	456	8-50,54
	Tone	21	N				20	25	WE2050							
							8	13	RS213							
							25	15	BB15							
14-37A	Vol.	64	N	6			24	1	WE3050				14	6K7, 6C5, 6H6,6F6, 5Z3	456	8-52,54
	Tone	21	N				40	1	WE4050							
16-33	Vol.	18	N				4	3	HS691				16	58,56, 55, 42,46, 80, 83	456	3-3, 6-2
	Tone	22	K12				4	3	RS213	B3						
	Sen.	7	UC500				8	3	RS213	B3						
							25	15	BB15							
16-34 (RT16, A16, B16, D16, PR16, RM16)	Vol.	15/22	MN				8, 8, 8	26	RS213				16	6D6, 6C6, 78, 6B7, 37,45, 5Z3, 56	450	6-7,8
	Tone	22	K12				25	19	BB14							
	Supp.	..‡..	K12				10	19	BB13							
							12	15	BB12							
16-35 1935 Delnxe (J-16, L-16, M-16, S16), (EP16)	Vol.	...‡..	MN				8	3	RS213				16	6D6, 76, 6B7, 2A5, 45, 6C6, 5Z3	456	6-9,14
	Tone	...‡..	Order from	Mfr.			16	3	RS216							
							10	17	BB13							
							25	15	BB15							
							10	15	BB12							
16-37	Vol.	45	N				25	1	WE3050				16	6K7,6C5, 6H6, 6J7, 6N6,280	456	8-55,56
	Tone	21	N				40	1	WE4050							
16-37 AFC	Vol.	83	MR48				24	1	WE3050				16	6K7, 6L7, 6H6,6C5, 6J7,6N6,280	456	9-11
	Tone	21	MR48				40, 10	1/13	WE4050							
16-38	Vol.	45	TM230-SS1				24	1	WE3050				16	6K7, 6L7,6C5,6H6, 6J7,6V6,280	456	8-57, 9-11,12
							40	1	WE4050							
							10	15	BB12							
18-36	Vol.	64	N				8	3	RS213				18	6K7,6C5, 6H6,6F6, 25Z4, or 25Y3	456	7-4,5
	Tone	132	N				16	3	RS216							
							2	13	BB20							
							8-25-25	15	BB31/ 2-BB15							
18-36A	Vol.	45	N				20	1	WE2050				18	6K7,6C5, 6H6, 6J7, 6L7,6N6,280	456	8-59,60
	Tone	...‡..	N				40	1	WE4050							
							8-25-25	13/15	BB31/ 2-BB15							
18-37	Vol.	45	N				25	1	WE3050				18	6K7,6C5, 6H6, 6J7, 6L7,6N6,280	456	7-6, 9-14,15
	Tone	...‡..	Order from	Mfr.			40	1	WE4050							
							20	14	RS207							
							60	15	BB19							
18-37 AFC	Vol.	45	MR48				24	1	WE3050				18	6K7, 6L7, 6H6,6C5, 6J7,6N6,280	456	9-16
	Tone	21	MR48				40, 40	1/13	WE4050							
18-38AC	Vol.	45				See Note A19	24	1	WE3050				18	6K7, 6L7,6H6,6C5, 6J7,6V6,280	456	8-64
							40	1	WE4050							
							10	15	BB12							
20-38	Vol.	45	500M No. 1			See Note A19	24	1	WE3050				20	6K7, 6L7,6H6,6C5, 6J7, 6R7, 6V6, 280	456	8-69,70
							40	1	WE4050							
							10	15	BB12							
35-5-SW AC DC Super	Vol.	7	G	...‡..			12-20	6	2N509				4	6A7, 6D6, 6C6, 12Z3	465	6-6, 9-2
	Tone	22	L				5-5	15	TN111							
746M & 747M ('31-'32)	Vol.	6	E12		...‡..		8-8	4	See Note	B3			8	24,27,35, 47, 80	175	
MISSION BELL RADIO CO.																
4A	Vol.	96	UM133		See Note A96		10	15	BB13				4	39, 38		3-1
6A	Vol.	61	UM147		See Note A96								6	39, 37, 24, 47		3-2
10A	Vol.	15	UM147		See Note A96		4-4	1	See Note	B3	292	C3	6	36,39, 84, 85, 41	252	4-1
							25	15	BB15							
							.02		Buffer	B14						
11, 12	Vol.	18	UM147		See Note A96		4-4	1	See Note	B3	292	C3	6	75, 77,278, 42, 84	252	5-1
							25	15	BB15							
							.05		Buffer	B14						
14	Vol.	18	UM154		See Note A96		4-8	1	See Note	B3	292	C3	5	77, 78, 75, 42, 84	456	5-2
							25	15	BB15							
							.05		Buffer	B14						
16	Vol.	18	UM154	M26	See Note A96		4-4	23	See Note	B3	292	C3	5	6A7, 6D6, 75, 41, 84	465	6-1
							.02-.02		Buffer	B14						
16 Auto	Vol.	18	UM154		See Note A96		6-6	23	28567				5	6A7, 78, 75, 41, 84	456	7-1
	Tone	22	UM147		See Note A96		.006		Buffer	B14	292	C3				
17, 18	Vol.	15	MR48				6-6	4	28567		294	C3	7	6K7, 6A8, 6R7, or 6H6 and 6C5, 6F6, 84	262	7-2
	Tone	22	M				10	15	BB12							
							.006		Buffer	B14						

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MISSION BELL—Continued																
19, 19A	Vol.	15	UM154		See Note	A96	4-8	1	See Note	B3	Order from Mfr.		5	57, 58, Wunderlich, 41, 1V	252	4-2
							10	15	BB12							
25A	Vol.	15	UM154		See Note	A96	4-8	1	See Note	B3	292	C3	6	77, ‡78, 75, 42, 84	252	5-3
	Tone	22	L				25	15	BB15							
							.05		Buffer	B14						
35	Vol.	6	G12	6	EX300		4-1	4	See Note	B3			4	6D6, 76, 42, 80		6-1
40	Vol.	18	N	6			4-1	4	See Note	B3			5	2A7, 58, 2A6, 2A5, 80	456	5-3
40 All-Wave	Vol.	18	N	6			4-1	4	See Note	B3			5	2A7, 58, 2A6, 2A5, 80	465	5-4
41AW, 41 Skip Band	Vol.	18	N				4-4	4	See Note	B3			5	6A7, 6D6, 75, 42, 80	465	6-2
383	Vol.	18	MR48				4-4	23	See Note	B3			5	6A7, 6D6, 6Q7G, 41, 80	465	
384 (Revised)	Vol.	106	N				8, 8	23	RS213				5	6A7, 6D6, 75, 41, 80	465	
	Tone	106	M													
386AW	Vol.	106	N				8, 8	23	RS213				5	6K8, 6D6, 75, 41, 80	465	
	Tone	106	M													
387	Vol.	6	F12				16-16	23	CM164				4	6A7, 6F7, 25L6, 25Z5, L55B	465	
388	Vol.	106	MR48				8, 8	23	RS213				6	6A7, 6D6, 75, 76, 41, 80	465	
	Tone	106	MR44													
389AW	Vol.	106	N				12	25	RS215				8	6K8, 6K7G, ‡76, 6F5, 41, 80, 6T5	465	
	Tone	106	M				30	25	WE3050							
390, 391	Vol.	18	MR48				8, 8	23	RS213				5	6A7, 6D6, 6Q7G, 41, 41, 80	465	
392	Vol.	6	F12				20-20	4	UR192				4	78, 76, 25L6G, 25Z5, L55B		
638A	Vol.	46	UM154		See Note	A96	8-8	40	See Note	B3	294	C3	6	6A7, 6K7, 6H6, 75, 41, 84	267.5	
							.006		Buffer	B14						
3817A	Vol.	46	UM154		See Note	A96	8-8	40	See Note	B3	294	C3	6	6A7, 6K7, 6H6, 75, 41, 84	267.5	
							.006		Buffer	B14						
3882	Vol.	6	F12				20-20	4	UR192				4	78, 76, 25L6G, 25Z5, L55B		
MONARCH																
L5	Vol.	18	N				P474	32	WE450				7	5Z4, 6F5, 6F6, 6H6, 6K7, 6L7, 6C5	456	
	Tone	34	L				P160	32	2N517							
							P304	15	BB12							
L6	Vol.	18	N	6			P474	32	WE450				8	5Z4, 6C5, ‡6F6, 6K7, 6L7, ‡6Q7	456	
	Tone	44	L				P160	32	2N517							
							P304	15	BB12							
L7	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, 19, ‡30, ‡34	456	
	Tone	‡	L				.01-.01		Buffer	B14						
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19, ‡30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P958	1	2N516		245C	C3	6	1C6, 19, ‡30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
A31	Vol.	18	N				8-4	23	2S567	B3			5	6A7, 6D6, 75, 42, 80	456	§5-13
54	Vol.	18	UM154		See Note	A96	6-10	4	See Note	B3	294	C3	5	6A7, 6D6, 75, 42, 84	456	
							.02		Buffer	B14						
64	Vol.	18	UM154		See Note	A96	6-10	4	See Note	B3	294	C3	6	‡6D6, 6A7, 75, 42, 84	456	
							.02		Buffer	B14						
161	Vol.	7	MR22	M26			3229	27	2D544				4	6D6, 6C6, 43, 25Z5		
MONTGOMERY WARD & CO. (Airline)																
Note: The prefix "62-" or form of "62-" indicates				Radio	Division in		Montgomery-Ward		Catalog							
Auto Radio	Vol.	45	N				4	15	BB12		205		6	36, 37, ‡39, 38	262	3-11,12
Troubadour (32W)	Vol.	6	G7		3		8, 8, 8	31	RS213				7	‡24, 27, ‡45, 80		2-1
AE10 (Two Types)	Vol.	60	E12		(Early)		1-1-2	3	See Note	B1			9	24, ‡26, ‡45, 80		2-18,19
	Vol.	60/15	DRP243		(Late)											
AE11	Vol.	8	A400P				1-1.5-1-1	3, 13	See Note	B1			8	‡27, ‡71, 80		
AE51, 52, 53, 54	Vol.	8	A400P				1-1.5-1-1	3, 13	See Note	B1			8	‡27, ‡71, 80		
062	Vol.	45	N				4	15	BB12		205		6	36, 37, 38, ‡39	262	
7GM	Vol.	7/56	DRP314	6			44X10	23	RS216				6	‡6K7, 6B7, 76, 6F6, 80	456	
	Tone	34	UC502				41X11	23	RS216							
13, 15, 16, 16X, 17, 18, 18X	Vol.	6	G12				4-8	1	2N518				5	‡24, 35, 47, 80	262	4-1
17 (31) "Turret Cond."	Vol.	59	SRP273				927	4	See Note	B1			9	‡24, ‡35, ‡47, 27, 80	175	3-13
							928	4	See Note	B1						
							972	14	See Note	B1						
20W	Vol.	6	G7				8-8	25	See Note	B3			4	‡24, 71A, 80		
22	Vol.	6	G7				8	3	RS213				8	‡24, ‡27, ‡45, 80	‡	2-11
	Tone	22	‡		See Note	A5	8-6	3	2N518							
26P, 26PX	Vol.	6	G7		3		2678	1	RS213				5	‡24, 45, 80		
	Tone	22	UC502													
26W	Vol.	6	G7		3		8, 8	1	RS213				5	‡24, 45, 80		2-7
27W, 27WX (1500, 15000, Collegian)	Vol.	6	G7		3		8-8	1	2N518				5	‡24, 27, 45, 80		2-17
	Tone	22	K12													
49	Vol.	6	G7										5	‡24, 26, 01A, 71A		1-1,2-3
62	Vol.	45	N				4	15	BB12		205		6	36, 37, 38, ‡39	262	
77	Vol.	97	TRP602				4	12	BB31				5	30, 32, ‡34, 19	175	4-18
87	Vol.	17	N				P80956	25/19	RM262/BB15	B126	292	C12	6	75, 77, ‡78, 41, 84	262	4-19,25
							P80937	14/15	2N516	B127						
95	Vol.	97	TRP602				4	12	BB31				5	30, 32, ‡34, 19	175	4-18
102	Vol.	17	UM154	M26		A96	P103-2	4	RM262		299	C3	6	6D6, 6C6, 78, 75, 42, 84	175	
							20	15	BB15							
							.02		Buffer	B14						
123 (Series 7D)	Vol.	56	N	6			P80916	23	RS213				7	‡6D6, 6B7, 76, 42, 80	456	
	Tone	34	UC502				P81043	23	RS216	B10						
							P81032	23	RS213							
							P81042	23	RS216	B10						
131 (7D), 133 (7D), 142 (7D), 144 (7D)	Vol.	56	N	6			P80916	23	RS213				7	‡6D6, 6B7, 76, 42, 80	456	
	Tone	22	UC502				P81043	23	RS216	B10						
							P81032	23	RS213							
							P81042	23	RS216	B10						
181	Vol.	7	D				1-1-1	3	See Note	B1			7	‡24A, ‡27, ‡45, 80		
	Tone	41	O													
187	Vol.	7	D	(1st	Type)		1-2-3	26	See Note	B1			8	‡24A, ‡27, ‡45, 80		
	Vol.	6	D7	(2nd	Type)	A4	.53		See Note	B9						
500 Dictator	Vol.	8	A400P				1-1.5-1-2	3	See Note	B1			7	‡24, ‡27, ‡45, 80		2-8,9
							.1		See Note	B9						
811 Solo (62-1711)	Vol.	7	F		1		8, 8	23	RS213				7	‡24, 27, ‡35, 47, 80	175	2-12,13
	Tone	95	O	6												
839, 921, 923, 924	Vol.	12	K12	13									5	‡22, ‡12A, 71A		2-10,11
1111 Fantasy (62-1611)	Vol.	7	F		1		8-8	23	RS213				7	‡24, 27, ‡35, 47, 80	175	2-12,13
	Tone	95	O	6												
1238, 1238X	Vol.	15	O				2803	1	2N518				7	‡27, ‡35, 47, 80	262	2-14
	Tone	34	UC502				2852	19	BB31							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MONTGOMERY WARD & CO.—Continued Note: The prefix "62-" or "62-" indicates m of "Division in Montgomery-Ward Catalog.																
1355 Minstrel (62-1955)	Vol.	15	O				2803	1	2N518				9	§27,§35,§47, 80	262	2-15,16
	Tone	44	UC502				2719	13	CS133							
							2852	15	BB31							
1522 (12A or 01A Det.)	Vol.	6	G12		See Note A32								5	§24,§12A-01A, 71A		1-1
1522 ('26 Det.)	Vol.	6	G12		See Note A32								5	§24, 26, 01A, 71A		1-1
1562 (12A or 01A Det.)	Vol.	6	G12										6	§01A,§24, 12A, 71A		1-1
	Tone	21	O													
1562 ('26 Det.)	Vol.	6	G12		See Note A32								6	§24, 26,§01A, 71A		1-1
	Tone	21	O													
1922	Vol.	6	G12										5	§36, 01A, 12A		1-1
	Tone	21	O													
2655	Vol.	1/15	DRP243				‡	‡	See Note	B4			10	24,§26, 27,§45, 80		2-18,19
2822, 2827 (Balboa), 2895, 2897 (DeSoto)	Vol.	8	A400P				1-1.5-1-2	3	See Note	B1			7	§24,§27,§45, 80		2-20
	Tone	41	N				.1		See Note	B9						
2955, 2955X, 2957, 2957X	Vol.	24	GG				2.5-4-2	28	See Note	B1			8	§24,§27,§45, 80		3-16
	Tone	41	O													
3035, 3037, 3065, 3067	Vol.	6	G7				8, 8, 8	28	RS213				8	§24§27,§45, 80		
	Tone	41	N													
10,000 Serenader	Vol.	8	A400P				1-1.5-1-2	3	See Note	B1			7	§24,§27,§45, 80		2-8,9
							.1		See Note	B9						
11,000 Challenger (2 Types)	Vol.	6	G7		3		1-1	1	See Note	B1			7	§24, 27,§45, 80		2-21
	Tone	41	O													
14,000 Commander, 62,000 Cavalier	Vol.	6	F7		3		8, 8, 8	28	RS213				8	§24,§27,§45, 80		2-22
	Tone	41	N													
62-010	Vol.	8	Y25MP				1.5-1.5-.5	3	See Note	B1			6	§24,§45, 80		3-8
							.6		See Note	B9						
62,020 (51)	Vol.	8	Y25MP				1.5-1.5-1.5	3	See Note	B3			8	§24,§27,§45, 80		3-7
62-030	Vol.	6	G7		3		8, 8, 8	28	RS213	B3			7	§24, 27,§45, 80		2-1
62-040 Commodore	Vol.	7	D				1-1-1	26	See Note	B7			8	§24,§27,§45, 80		2-2
62-055	Vol.	6	G7	6	2								5	§24, 26, 01A, 71A, or §36,§01A, 12A		1-1,2-3
	Tone	21	O													
62-060 Challenger, Jr., 62-070 Princess (1800)	Vol.	6	G7	6	3		8, 8	1	RS213				5	§24, 45, 80		2-7
62-078	Vol.	6	H7	6	3		8-8	4	See Note	B3			5	§57, 35, 47, 80		
62-080	Vol.	6	G7				8	3	RS213				7	§24,§45, 27, 80	‡	
	Tone	22	‡		See Note A5		8-6	3	2N518							
62-090	Vol.	6	G7				8	3	RS213				7	§24, 27,§45, 80	‡	
	Tone	22	‡		See Note A5		8-6	3	2N518							
62-1, 62-2	Vol.	15	L	6			8, 8	25	RS213				8	§27,§35,§47, 80	175	3-14
	Tone	44	L													
62-7, 62-8	Vol.	7	H	6			8, 8	4	RS213	B3			6	24,§27, 47, 80,§35	175	3-15
	Tone	22	Y													
62-9	Vol.	7	H	6			8, 8	4	RS213	B3			8	24,§27,§35,§47, 80	175	3-15
	Tone	22	L													
62-11, 62-12, 62-14 (1st Type)	Vol.	8	A5MP				4-2-6	30	See Note	B3			8	§24, 27,§35, 47, 80	175	2-4,5
	Tone	34	UC502				4	19	BB20							
62-11, 62-14 (2nd Type)	Vol.	14	N				4-2-4	30	See Note	B3			8	§24, 27,§35, 47, 80	175	2-6
	Tone	34	UC502				4	19	BB20							
62-16	Vol.	13	O	6			62-A12	4	RS213	B3			10	24,§27,§35,§47, 80	175	6-8
	Tone	22	L													
62-19 (1st Type)	Vol.	8	Y5MP				4-2-6	30	See Note	B3			8	§24, 27,§35, 47, 80	175	2-4,5
	Tone	34	UC502				4	19	BB20							
62-19 (2nd Type)	Vol.	14	N				4-2-6	30	See Note	B3			8	§24, 27,§35, 47, 80	175	2-6
	Tone	34	UC502				4	19	BB20							
62-20, 62-20X	Vol.	59	SRP272				8, 8	43	RS213				8	§24, 27,§35, 47, 80	175	2-23,24
	Tone	34	UC502				4	13	BB20							
62-21, 62-22	Vol.	15	N				4-2-4	28	See Note	B3			6	24, 27,§35, 47, 80	262	3-1,2
	Tone	22	UC502													
	Sen.	42	Y200MP													
62-23	Vol.	2/10	DRP241				4	12	BB31				5	§32, 33	175	
62-25	Vol.	59	SRP272				8, 8	43	RS213				7	§24,§35, 47, 80	175	2-23,24
	Tone	34	UC502				4	13	BB31							
62-26	Vol.	15	O				8-8	1	2N518				8	§27,§35, 47, 80	262	
	Tone	34	UC502				8	19	BB31							
62-27 (1st Type)	Vol.	8	A5MP				4-2-4	30	See Note	B3			8	§24, 27,§35, 47, 80	175	2-4,5
	Tone	34	UC502				4	19	BB20							
62-27 (2nd Type)	Vol.	14	N				4-2-6	30	See Note	B3			8	§24, 27,§35, 47, 80	175	2-6
	Tone	34	UC502				4	19	BB20							
62-29 (1st Type) (Models 11, 12, 16 and 33)	Vol.	7	H				928	1	RS213	B3			6	§24,§35, 47, 80	175	3-4,5
	Tone	22	Y200MP				929	1	RS213	B3						
62-29 (11, 12 2nd Type)	Vol.	15	N				928	1	RS213	B3			7	§24, 27,§35, 47, 80	175	3-6
	Tone	22	Y200MP				929	1	RS213	B3						
62-30	Vol.	15	N				4-2-4	28	See Note	B3			8	§24, 27,§35, 47, 80	262	3-1,2
	Tone	22	UC502													
	Sen.	7	Y200MP													
62-34 (Washington)	Vol.	15	O				8-8	1	2N518				8	§35,§27, 47, 80	262	9-1
	Tone	22	UC502				8	19	BB21							
62-35	Vol.	15	N				928	1	RS213	B3			7	§24, 27,§35, 47, 80	175	3-6
	Tone	22	Y200MP				929	1	RS213	B3						
62-36	Vol.	15	O				8-8	1	2N518				7	§35,§27, 47, 80	262	3-9
	Tone	22	UC502				8	19	BB21							
62-38, 62-40, 62-38X, 62-40X	Vol.	15	O				8-8	1	See Note	B3			9	§27,§35,§47, 80	262	3-9,10
	Tone	41	M				8	19	BB21							
							8	14	BB31							
62-41	Vol.	45	N				4	12	BB31				9	§30,§34	175	
	Tone	22	UC502													
62-42	Vol.	15	N				4-2-4	28	See Note	B3			7	§24, 27,§35, 47, 80	262	3-1
	Tone	22	UC502													
	Sen.	42	Y200MP													
62-43, 62-43X	Vol.	6	H7	6	3		8-8	4	See Note	B3			5	35,§57, 47, 80	262	
62-PC43	Vol.	6	E12	6	EX200		SW1319	4	CM170				5	56, 57, 58, 47, 80	‡	6-18
62-44	Vol.	15	O				8-8	1	See Note	B3			6	§27,§35, 47, 80	262	3-9,10
	Tone	41	M				8	19	BB21							
							8	14	BB31							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MONTGOMERY WARD & CO.—Continued																
Note: The prefix "62-" or form of "62-" indicates Division in Montgomery-Ward Catalog.																
62-45	Vol.	6	G7				8-8	1	See Note	B3			7	‡56, 57,‡58, 47, 80	455	
	Tone	34	Y200MP				8	19	BB13							
62-46	Vol.	15	O				8-8	1	2N518				7	‡35,‡27, 47, 80	262	
	Tone	34	UC502				8	19	BB21							
62-47	Vol.	6	G7				8-8	1	See Note	B3			7	‡56, 57,‡58, 47, 80	455	
	Tone	34	Y200MP				8	19	BB13							
62-49	Vol.	15	M				8-8-8	28	RS213	B3			9	56,‡57,‡58,‡46, 80	262	
	Tone	22	L				4	19	BB11							
	Supp.	7	F													
62-50, 62-50X	Vol.	15	O				8-8	1	2N518				9	‡27,‡35,‡47, 80	262	3-9,10
	Tone	41	Y200MP				8	13	BB31							
							8	14	BB31							
62-51	Vol.	45	Z12				8	30	HD682				12	‡56,‡57,‡58,‡46, 82	175	
	Tone	41	UC502				8	30	RS213							
	Supp.	8	E				4	30	RS213							
							4	19	BB31							
62-52	Vol.	15	N				4-2-6	30	See Note	B3			10	‡24,‡27,‡35,‡47, 80	175	
	Tone	21	O				4	14	BB31							
62-53	Vol.	59	SRP271				8-8	23	CM172				7	‡57,‡58, 47, 80	175	
	Tone	34	UC502				4	14	BB31							
62-PC55	Vol.	56	O	6			8-4	4	CM172				6	55, 56,‡58, 47, 80	465	6-22
	Tone	22	L													
62-57	Vol.	6	H7	6	3		8-8	4	See Note	B3			5	‡57, 35, 47, 80	262	
62-58	Vol.	15	O				8-8	1	See Note	B3			9	‡27,‡35,‡47, 80	262	3-9,10
	Tone	41	M				8	19	BB21							
							8	14	BB31							
62-64, 62-64X	Vol.	45	Z12				8	30	HD682				12	‡56,‡57,‡58,‡46, 82	175	
	Tone	41	UC502				8	30	RS213							
	Supp.	8	E				4	30	RS213							
							4	19	BB20							
62-PC64	Vol.	45	N				PC642	7	2S567				12	‡56,‡58,‡57,‡46, 82	175	6-38
	Tone	22	L				PC643	7	2S567							
	Supp.	8	Y100MP				PC6442	15	BB12							
62-67	Vol.	17	N				8-8	1	2N518				7	55, 56, 57,‡58, 47, 80	175	
	Tone	22	K12													
62-68, 62-68X	Vol.	15	M				8-8	28	2N518				9	56,‡57,‡58,‡46, 80	262	
	Tone	22	L				8	28	ST595							
	Supp.	7	F				4	19	BB11							
62-PC68	Vol.	15	L	6			8, 8, 8	3	RS213				9	55, 56, 57,‡58,‡46, 82	175	6-30
	Tone	22	L													
	Sen.	7	H													
62-69	Vol.	15	M				8-8	28	2N518				10	‡56,‡46,‡58, 80	262	
	Tone	22	K12				8	28	ST595							
							8-8	13/19	UR180							
62-70, 62-70X	Vol.	6	G7				8-8	1	2N518				7	‡56, 57,‡58, 47, 80	455	7-1
	Tone	34	M	6			8	19	BB13							
62-71	Vol.	59	SRP271				8-8	23	CM172				7	‡57,‡58, 47, 80	175	
	Tone	34	UC502				4	14	BB31							
62-72, 62-72X	Vol.	6	G7				8-8	1	2N518				7	‡56, 57,‡58, 47, 80	455	7-1
	Tone	34	M				8	19	BB13							
62-74, 62-74X	Vol.	59	SRP271				8-8	23	CM172				7	‡57,‡58, 47, 80	175	
	Tone	34	UC502				4	14	BB31							
62-75	Vol.	45	N				4	12	BB31				9	‡30,‡34	175	
	Tone	22	UC502													
62-76	Vol.	15	N				12-4-4	30	See Note	B3			10	‡56,‡57,‡58,‡47, 80	175	
	Tone	21	O				4	13	BB31							
62-79	Vol.	15	M				8-8	28	2N518				10	‡56,‡58,‡46, 80	262	
	Tone	22	K12				8	28	ST595							
							8	13/19	UR180							
62-80	Vol.	17	N				8-8	1	2N518				7	55, 56, 57,‡58, 47, 80	175	
	Tone	22	K12													
62-81	Vol.	40	Y				8-8	1	2N518				4	‡57, 47, 80	455	
							4	19	BB11							
62-82	Vol.	17	N				8-8	1	2N518				5	55, 57, 58, 47, 80	175	
62-83	Vol.	15	N				4	13	BB31				7	‡36,‡39,‡41	175	
	Tone	22	K12													
62-84, 62-84X	Vol.	15	M				8-8	28	2N518				10	‡56,‡58,‡46, 80	262	
	Tone	22	K12				8	28	ST595							
							8-8	13/19	UR180							
62-86, 62-86X	Vol.	15	‡		See Note	A19	4-8-8	3	See Note	B3			12	‡58,‡56,‡57,‡46, 82	262	
	Tone	22	N				8	18	BB13							
	Supp.	‡	DRP316													
62-88	Vol.	15	M				8-8-8	28	See Note	B3			8	57,‡58, 56,‡46, 80	262	
	Tone	22	L				4	19	BB11							
	Supp.	7	F													
62-89	Vol.	17	P	6			P80984	2/13/14	UR191/BB21	B164			12	55,‡56,‡58,‡45, 82	175	4-2,3
	Tone	41	UC504													
62-90	Vol.	6	G7				8-8	1	See Note	B3			7	‡56, 57,‡58, 47, 80	455	
	Tone	34	M				8	19	BB13							
62-91	Vol.	17	O				P80988	12	BB31				9	‡30,‡34	175	4-4
	Tone	44	UC502													
62-92	Vol.	6	H7	6	3		8-8	4	See Note	B3			5	‡57, 35, 47, 80	262	
62-93	Vol.	15	O				P80989	12	BB31				7	‡6D6, 6C6, 37,‡41	175	4-5,6
	Tone	34	K12													
62-94, 62-94X	Vol.	15	M				8-8	28	2N518				10	‡56,‡58,‡46, 80	262	
	Tone	22	K12				8	28	ST595							
							8	13/19	UR180							
62-96	Vol.	6	G7	6	3		P80944	11	UR182	B31			5	‡77, 78, 43, 25Z5	262	4-7
							P80788C	20	BB20							
							P80936C	15	BB11							
62-97, 62-97X	Vol.	17	N				8-8	1	2N518				7	55, 56,‡58, 2A5, 80	262	4-10,11
	Tone	22	K12				8	15	BB12							
62-98	Vol.	6	G7	6	3		P80944	11	UR182	B31			5	‡77, 78, 43, 25Z5	262	4-8,9
							P80878C	12	BB20							
							P80936C	15	BB11							
62-99, 62-99X	Vol.	17	N				8-8	1	2N518				7	55, 56,‡58, 2A5, 80	262	4-10,11
	Tone	22	K12				8	15	BB12							
62-100	Vol.	6	G7				8	3	RS213				7	‡24, 27,‡45, 80	‡	
	Tone	22	‡		See Note	A5	8-6	3	CM172							
62-101, 62-101X	Vol.	15	N	6			8-8-4	28	CM175	B3			10	‡58,‡56,‡45, 80	262	4-12,13
	Tone	41	N													
62-103	Vol.	15	O	6			P80916	25	RS213				7	‡6D6, 6C6,‡37, 42, 80	175	4-14
	Tone	22	UC502				P80990	25	RS216							
							8	15	BB12	B10						
62-104	Vol.	6	H7	6	3		P80944E	11	UR182	B31			5	6C6,‡6D6, 43, 25Z5	262	4-16
62-105	Vol.	15	O	6			P80916	25	RS213				7	‡6D6, 6C6,‡37, 42, 80	175	4-14
	Tone	22	UC502				P80990	25	RS216							
							8	15	BB12	B10						
62-106, 62-107	Vol.	15	P	6			16	2	CS136				10	‡56,‡58,‡45, 80	175	4-17
	Tone	41	P				8	2	CS133							

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MONTGOMERY WARD & CO. — Continued																
Note: The prefix "62-" or for m of "62-" indicates Radio Division in							Montgomery-Ward Catalog.									
62-114, 62-116	Vol.	64	O				P81014	40	CM164				7	[3]34,[3]30, 19	175	6-1,2
62-118	Vol.	18	UC511	6			81028	1	SR601		253	C3	6	75, 77,[3]78, 41, 84	262.5	5-1,2
	Tone	22	UC502				81021	15	TN111							
							.01		Buffer	B14						
62-120	Vol.	97	TRP602				P80968	12	BB31				5	30, 32,[3]34, 19	175	5-3,4
62-121	Vol.	15	P	6			16	2	CS136				10	[3]56,[3]58,[3]45, 80	175	4-17
	Tone	41	P				8	2	CS133							
62-122	Vol.	97	TRP602				80968	12	BB31				5	30, 32,[3]34, 19	175	5-3,4
62-124	Vol.	15	P				P82001	12/13	2N516				9	[3]30,[3]34, 19	456	5-5,6-7
	Tone	44	K12													
62-126, 62-128	Vol.	97	TRP602				80968	12	BB31				5	30, 32,[3]34, 19	175	5-3,4
62-129	Vol.	15	P				P82001	12/13	2N516				9	[3]30,[3]34, 19	456	5-5,6-7
	Tone	44	K12													
62-130	Vol.	17	N	6			C550	4	CM172		220B	C3	6	[3]6D6, 6A7, 75, 89, 6Z4	175	8-14
62-132	Vol.	15	P	6			P81039	2	RS216				10	[3]6D6,[3]76,[3]45, 80	456	5-8
	Tone	41	UC504				81018	2/13	CM173							
62-134, 62-134X	Vol.	15	P	6			P81058	48	WE1650				12	[3]6D6,[3]76,[3]42,[3]80	456	6-5,6
	Tone	21	UC502				P81039	48	RS216							
							P81056	48	2N516							
							P82000	48	BB19							
62-135, 62-135X	Vol.	18	N	6			P103-4	4	RS216				6	57, 27, 58, 2A6, 2A5, 80	370	6-9,10
							P103-3	4	RS216							
62-136	Vol.	56	N				P81016	23	CM172		F251	C3	6	6F7, 6D6, 6B7, 12A5, [3]12Z3	175	6-11
	Tone	34	UC502				.015		Buffer	B14						
62-137	Vol.	15	P	6			P81039	2	RS216				10	[3]6D6,[3]76,[3]45, 80	456	5-8,10
	Tone	41	UC504				81018	2/13	CM173							
62-138	Vol.	56	N				P81016	23	CM172		F251	C3	6	6F7, 6D6, 6B7, 12A5, [3]12Z3	175	6-11,12
	Tone	34	UC502				.015		Buffer	B14						
62-139, 62-139X	Vol.	15	P	6			P81058	48	RS216				12	[3]6D6,[3]76,[3]42,[3]80	456	6-5,7
	Tone	21	UC502				P81039	48	RS216							
							P81056	48	2N516							
							P82000	48	BB19							
62-140, 62-140X	Vol.	6	Z12	6	EX100		BE119-6	4	2S567				5	[3]57, 58, 2A5, 80	175	5-11,12
62-147 Series "A"	Vol.	18	N	6			P119-11	1/15	CM173				5	6F7, 6D6, 75, 42, 80	370	6-13,14
62-147, 62-147X Series "B" & "C"	Vol.	18	N	6			P103-6	4	RS213				5	6F7, 6D6, 75, 42, 80	370/465	6-15,16
							P103-7	4	RS213							
62-148, 62-148X	Vol.	6	Z12	6	EX100		BE119-6	4	2S567				5	[3]57, 58, 2A5, 80	175	5-11,12
62-150, 62-154, 62-150X, 62-154X	Vol.	18	N	6			P103-4	4	RS216				5	27, 58, 2A6, 2A5, 80	370	6-9,10
							P103-3	4	RS216							
62-156, 62-164, 62-156X, 62-164X Series "A"	Vol.	18	N	6			P119-11	1/15	CM173				5	6F7, 6D6, 75, 42, 80	370	6-13,14
62-156, 62-156X, 62-164, 62-164X Series "B" & "C"	Vol.	18	N	6			P103-6	4	RS213				5	6F7, 6D6, 75, 42, 80	465	6-15,16
							P103-7	4	RS213							
62-166	Vol.	17	P	6			P45X204	1	2N518		253	C3	6	[3]6D6, 6C6, 75, 41, 84	175	6-19,20
	Tone	22	M				P45X203	15	TN111							
							.01		Buffer	B14						
62-167	Vol.	15	P	6			P81058	48	WE1650				12	[3]6D6,[3]76,[3]42,[3]80	456	6-5,7
	Tone	21	UC502				P81039	48	RS216							
							P81056	48	2N516							
							P82000	48	BB19							
62-169	Vol.	97	TRP601										4	1A6,[3]32, 33	465	7-12
	Batt.	29	C6P													
62-171	Vol.	97	TRP601										4	1A6,[3]32, 33	465	7-12
	Batt.	29	C6P													
62-173, 62-175, 62-176, 62-177	Vol.	56	N	6			44X10	23	RS216				7	[3]6D6, 6B7, 76, 42, 80	456	6-24,26
	Tone	34	UC502				44X11	23	RS216							
62-178	Vol.	97	TRP617	14			4	12	BB31				5	30, 32,[3]34, 19	175	6-27,29
62-179	Vol.	7/15	DRP315	6T			44X10	4	RS216				10	[3]76,[3]6K7,[3]45, 80	456	6-31,34
	Tone	65	UC504				44X11	4	RS216							
							44X18	13	RS203							
62-181 (Battery Super)	Vol.	6	TRP617	14			4	12	BB31				5	30, 32,[3]34, 19	175	6-27,29
62-181 "Sovereign"	Vol.	7	D				1-1-1	26	See Note	B1			8	[3]24,[3]27,[3]45, 80		2-2
	Tone	41	O													
62-185, 62-187	Vol.	7 56	DRP314	6T			44X10	23	RS216				7	76,[3]6K7, 6B7, 6F6, 80	456	6-35,37
	Tone	34	UC502				44X11	23	RS216							
62-188	Vol.	56	N	6			44X10	23	RS216				6	[3]6D6, 6B7, 76, 42, 80	456	6-23,26
	Tone	34	UC502				44X11	23	RS216							
62-189	Vol.	97	TRP617	14			4	12	BB31				6	30, 32,[3]34, 19	175	6-27,29
62-190	Vol.	7 56	DRP314	6T			44X10	23	RS216				7	76,[3]6K7, 6B7, 6F6, 80	456	6-35,37
	Tone	34	UC502				44X11	23	RS216							
62-192	Vol.	7/15	DRP315	6			44X21	25	WE1830				12	[3]6K7, [3]76, [3]6F6, [3]80	456	7-3,6
	Tone	21	UC504				44X11	25	RS216							
							44X20	19	Order from	Mfr.						
62-193	Vol.	56	N	6			44X10	23	RS216				7	[3]6D6, 76, 6B7, 42, 80	456	6-23,26
	Tone	34	UC502				44X11	23	RS216							
62-194	Vol.	7 15	DRP315	6T			44X10	4	RS216				9	[3]76,[3]6K7,[3]45, 80	456	6-31,34
	Tone	65	UC504				44X11	4	RS216							
							44X18	13	RS203							
62-195	Vol.	7/15	DRP315	6T			44X21	25	WE1830				12	[3]6K7, [3]76, [3]6F6, [3]80	456	7-3,6
	Tone	21	UC504				44X11	25	RS216							
							44X20	19	Order from	Mfr.						
62-196	Vol.	7/56	DRP314				44X10	23	RS216				7	76,[3]6K7, 6B7, 6F6, 80	456	6-35,37
	Tone	34	UC502				44X11	23	RS216							
62-197	Vol.	‡	Order from	Mfr.			30	3	WE3050				16	[3]6K7, [3]76, 6F7, 6B7, 45,[3]2A3,[3]5Z3	456	7-7,11
	Tone	21	O				60	19	RS208							
							4-16-4	13/19	UR193							
62-199	Vol.	17	UM163	M26	See Note	A96	P82002	1/15	CM173		286S	C3	5	[3]6D6, 6C6, 75, 41	175	6-39,40
							.007		Buffer	B14						
62-202	Vol.	17	UM163	M26		A96	4-5-8	25	3S579		294	C3	6	[3]6D6, 6C6, 75, 41, 84	175	7-13,14
	Tone	34	UM144			A96	.0075		Buffer	B14						
62-203, 62-205	Vol.	45	O	13			44X17	12	RS207				7	1C6,[3]34,[3]30, 19	456	6-41,44
	Tone	44	UC502													
62-206	Vol.	7/15	DRP315	6T			44X10	4	RS216				10	[3]76,[3]6K7,[3]45, 80	456	6-31,34
	Tone	65	UC504				44X11	4	RS216							
							44X18	13	RS203							
62-207	Vol.	15	P	14			45X46	12	2N516				9	[3]34,[3]30, 19	456	7-15,18
	Tone	44	UC502													
62-208	Vol.	45	O	13			44X17	12	RS207				7	1C6,[3]34,[3]30, 19	456	6-41,44
	Tone	44	UC502													
62-209	Vol.	15	P	14			45X46	12	2N516				9	[3]34,[3]30, 19	456	7-15,18
	Tone	44	UC502													
62-211	Vol.	6	TRP617	14			P45X28	12	BB31				5	30, 32,[3]34, 19	175	6-27,29
62-212	Vol.	45	O	13			44X17	12	RS207				7	1C6,[3]30,[3]34, 19	456	6-41,44
	Tone	44	UC502													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MONTGOMERY WARD & CO.—Continued Note: The prefix "62-" or form of "62-" indicates																
62-215	Vol.	15	O	7			44X17	13	RS207				7	‡34, 1C6, ‡30, 19	456	7-19,22
	Tone	44	UC502													
62-216	Vol.	7/15	DRP315	6T			44X10	4	RS216				10	‡76, ‡6K7, ‡45, 80	456	6-31,34
	Tone	65	UC504				44X11	4	RS216							
							44X18	13	RS203							
62-217	Vol.	45	O	14			44X17	12	RS207				7	1C6, ‡34, ‡30, 19	456	6-41,44
	Tone	44	UC502													
62-218	Vol.	7/15	DRP315	6T			44X10	4	RS216				10	‡76, ‡6K7, ‡45, 80	456	6-31,34
	Tone	65	UC504				44X11	4	RS216							
							44X18	13	RS203							
62-219	Vol.	45	O	14			44X17	12	RS207				7	1C6, ‡34, ‡30, 19	456	6-41,44
	Tone	44	UC502													
62-221	Vol.	15	P	14			45X46	12	2N516				9	‡34, ‡30, 19	456	7-15,18
	Tone	44	UC502													
62-226, 62-228	Vol.	17	TRP613	6			44X10	23	RS216				8	‡6K7, 6C5, 6Q7, 6F6, 5Z4MG, 6G5	456	8-5,7
	Tone	34	Order from	Mfr.			44X11	23	RS216							
							44X209	15	BB12							
62-229 (32 Volt DC)	Vol.	18	N	6			P44X25	1	WE3050				6	‡6D6, 6A7, 85, 48, 6A6	175	7-23,25
	Tone	44	Z12				P45X207	15	BB12							
62-230 (2 Volt Wet Battery)	Vol.	56	O	6			BE119-22	19	BB12				5	1A6, 34, 30, 32, 950	465	9-2
62-232	Vol.	6	G7		3		8, 8, 8	28	RS213				7	‡24, 27, ‡45, 80		2-1
62-233	Vol.	56	O				103-6	4	RS213				5	6A7, 6D6, 6B7, 42, 80	465	7-26
							103-7	4	RS213							
62-235	Vol.	18	N	6			P103-6	4	RS213				5	6F7, 6K7, 75, 6F6, 80	465	7-27,28
							P103-7	4	RS213							
62-236	Vol.	18	UM154-SS14	M26			5-8	4	CM172		294	C3	6	‡6D6, 6C6, 75, 41, 84	175	8-8,10
	Tone	22	UM144			A96	.0075		Buffer	B14						
62-240 (2 Volt Dry Battery)	Vol.	56	O	6			BE119-22	19	BB12				5	1A6, 34, 30, 32, 19	465	9-2
62-242	Vol.	17	UM163	M26		A96	5-8-4	4/15	3S579		294	C3	6	‡6D6, 6C6, 75, 41, 84	175	8-11 13
	Tone	22	UC502				.0075		Buffer	B14						
62-248	Vol.	18	N	6			P103-6	4	RS213				5	6F7, 6K7, 75, 6F6, 80	465	7-27,28
							P103-7	4	RS213							
62-249	Vol.	18	O	6			BE103-6	23	RS213				7	6L7, 6C5, 6K7, 6Q7, 6F6, 5W4, 6G5	465	
	Tone	22	K12				BE103-7	23	RS213							
62-251	Vol.	62	M	7			BE103-11	12	RS203				7	1A6, 1A4, ‡30, ‡34, 19	465	9-3
	Tone	21	M													
62-254	Vol.	18	O				45X212	12	BB31				4	1A6, 34, 1B5, 1F4	456	8-15,16
62-255	Vol.	62	M	7			BE103-11	12	RS203				7	1A6, 1A4, ‡30, ‡34, 19	465	9-3
	Tone	21	M													
62-258	Vol.	18	200M No. 1		See Note	A19	45X219	1/15	3S579		243	C3	6	‡6K7, 6J7, 6B7, 41, 6A6	175	
	Tone	22	UM161		See Note	A96	.0055		Buffer	B14						
62-259	Vol.	17	TRP613	6			44X10	23	RS216				8	‡6K7, 6C5, 6Q7, 6F6, 6G5, 5Z4MG	456	8-5,7
	Tone	34	Order from	Mfr.			44X11	23	RS216							
							44X209	15	BB12							
62-261	Vol.	62	TRP613	6			44X10	25	RS216				11	‡6K7, ‡6C5, 6G5, ‡6F6, 5Z4MG	456	9-5,8
	Tone	65	Order from	Mfr.			44X11	25	RS216							
							44X213	13/15	2N504							
62-263	Vol.	18	UM147	M26		A96	45X210	4	CM172		294	C3	6	‡6D6, 6C6, 75, 41, 84	175	
	Tone	22	UM144		See Note	A96	.0075		Buffer	B14						
62-264	Vol.	56	MR53	M27			119-31	1	2N516		246	C3	5	1A6, 1A4, 1F6, 1F4, 6N5	465	9-4
							.005		Buffer	B14						
62-267	Vol.	18	MR48	M26			12	23	RS215				7	6J7, 6K7, 6Q7, 6C5, 6F6, 5W4, 6C5	456	8-17,21
	Tone	22	Order from	Mfr.			16	23	RS216							
62-274	Vol.	18	MR53	M26			119-47B	23	CM172				6	6A8G, 6K7, 6Q7G, 6U5, 6K6G, 5Y3G	465	9-9
62-276	Vol.	18	MR53	M26			119-38	4	SR633				6	6A8, 6K7, 6Q7, 6K6, 6G5, 5Y3	465	9-13
62-277	Vol.	18	MR48	M26			12	23	RS215				7	6J7, 6K7, 6Q7, 6C5, 6G5, 6F6, 5W4	456	8-17,21
	Tone	22	Order from	Mfr.			16	23	RS216							
62-280	Vol.	18	MR53	M27			119-46	24	2N516		246	C3	5	6D8G, 6S7G, 6T7G, 6K6G, 6AB5	465	9-12
							.005		Buffer	B14						
62-280, 62-282, 62-284 (Series B)	Vol.	18	MR53	M27			119-59B	24	BB33/BB26		954	C3	5	6D8, 6S7G, 6T7G, 6K6G, 6N5	465	
							119-76	20	BB12							
							.003		Buffer	B14						
62-288, 62-290	Vol.	18	MR53	M26			119-47B	23	CM172				6	6A8G, 6K7, 6Q7G, 6U5, 6K6G, 5Y3G	465	9-9,11
62-292	Vol.	18	MR53				45X225	13	2N516		246	C3	7	1C7G, 1D5G, ‡1H4G, 1E5G	456	
	Tone	44	MR39				45X234	1	2N514							
							45X233	‡	Order from	Mfr.						
							.02		Buffer	B14						
62-294	Vol.	18	MR53				45X225	13	2N516		246	C3	7	1C7G, 1D5G, ‡1H4G, 1E5G	456	
	Tone	44	MR39				45X234	1	2N514							
							45X233	‡	Order from	Mfr.						
							.02		Buffer	B14						
62-297	Vol.	18	MR48	M26			12	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	9-15
	Tone	34	L				30	23	WE3050							
62-301, 62-301X	Vol.	18			See Note	A19	30	25	WE3050				11	‡6K7, 6J7, 6H6, 6F5, 6G5, 6C5, ‡6F6, 5Z3	465	9-21
	Tone	22			See Note	A5	14	25	RS216							
62-302	Vol.	18	N	6			45X227	12/15	BB19/BB12				7	6A8G, ‡6U7G, 6V7G, 6C5G, 25A6G, 6N7G	456	9-23
	Tone	44	Z12													
62-303	Vol.	20	TRP620	6			44X21	25	WE3050				13	‡6K7, 6J7, 6H6, ‡6C5, 6G5, ‡6L6, ‡5Y3G	456	
	Tone	41	MR55				44X36	25	WE4030							
							45X224	19	BB15							
62-304	Vol.	18	MR53	M27			4	12	BB31				4	1D7G, 1D5G, 1H6G, 1F5G	456	9-25
	Fil.	27	C6R													
62-305	Vol.	56	MR44	M26			119-22	19	BB12				5	1D7G, ‡1D5G, 1F7G, 1G5G	465	9-26
	Fil.	29	C6R													
62-306	Vol.	18	MR53	M26			119-38	23	SR633				6	6A8G, 6K7G, 6Q7G, 6F6G, 6G5, 5Y3G	465	
62-307	Vol.	18	O	6			P103-6	23	RS213				7	6L7, 6C5, 6K7, 6Q7, 6F6, 5W4, 6G5	465	9-27,28
	Tone	22	K12				P103-7	23	RS213							
62-308	Vol.	17	TRP613	6			44X10	23	RS216				8	‡6K7, 6C5, 6Q7, 6F6, 5Z4MG, 6G5	456	8-5,7
	Tone	34	Order from	Mfr.			44X11	23	RS216							
							44X209	15	BB12							
62-309	Vol.	45	TM228-SS1	M26			44X10	23	RS216				9	‡6K7, 6J7, 6C5, 6H6, 6G5, 6F5, 6F6, 5Y3G	456	
	Tone	34	MR39				44X11	23	WE1830							
62-310	Vol.	64	TM248-SS1	M23			4	12	BB31				10	‡30, 32, ‡34	456	8-23,25
	Tone	44	Order from	Mfr.												
62-311	Vol.	62	TRP613	6			44X10	25	RS216				11	‡6K7, ‡6C5, 6G5, ‡6F6, 5Z4MG	456	9-5,8
	Tone	65	Order from	Mfr.			44X11	25	RS216							
							44X213	13/15	2N504							
62-312	Vol.	18	N	6			30-12	12/15	BB26/BB12				7	6A8G, ‡6U7G, 6V7G, 6C5G, 25A6G, 6N7G	456	9-23
	Tone	44	Z12													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MONTGOMERY WARD & CO.—Continued																
Note: The prefix "62-" or "62-" indicates Radio Division in																
62-313	Vol.	17	TM248-SS1	M26			P44X21	30	WE3050				13	[4]6K7,[3]6C5, 6G5, 6H6, [3]6L6,[2]5Z4	456	8-26,28
	Tone	65	Order from	Mfr.			P44X11	30	RS216							
							P45X216	13	BB31							
							P45X209	19	BB12							
62-315	Vol.	18	O	6			BE103-6	23	RS213				5	6A7, 78, 75, 41, 80	465	9-29
							BE103-7	23	RS213							
62-316	Vol.	18	O	6			BE103-6	23	RS213				6	6L7, 6C5, 6K7G, 6Q7G, 6F6G, 5Y3	465	9-30,31
							BE103-7	23	RS213							
62-317	Vol.	18	O	6			BE103-6	23	RS213				7	6L7, 6C5, 6K7, 6Q7, 6F6, 5W4, 6G5	465	
	Tone	22	K12				BE103-7	23	RS213							
62-318	Vol.	17	TRP613	6			44X10	23	RS216				8	[3]6K7, 6C5, 6Q7, 6F6, 5Z4, 6G5	456	8-5,7
	Tone	34	Order from	Mfr.			44X11	23	RS216							
							44X209	15	BB12							
62-319	Vol.	45	TRP610	6			103-12	25	RS213				8	[3]6K7, 6J7, 6H6, 6F5, 6C5, 6F6, 5Y3G	465	
	Tone	21	SRP284	8			103-13	25	ST595							
62-320	Vol.	6	MR18	M26			45X237	1/15	3N528				4	[3]6J7, 25L6G, 25Z6G, L55B	456	9-32
							45X242	1/15	Order from	Mfr.						
62-321	Vol.	18	TM228-SS1	M26			44X11	25	WE1830				11	[3]6K7, [3]6J7, 6H6,[3]6C5, 6G5,[3]6F6, 5Y3G	456	
	Tone	34	MR53				45X30	25	RS216							
							45X222	19	BB15							
							45X223	13	BB31							
62-322	Vol.	17	MR57	M26			30-20	12/15	BB14/BB15				7	6A8G, [3]6U7G, 6V7G, 25A6G, 6J5G, 6N7G	456	9-33
	Tone	41	MR42													
62-323	Vol.	18	MR53	M26			119-63B	4	2S568				7	6K8G, 6K7, 6Q7G, 6P5G, 6AC5G, 5Y3G, 6U5	465	
62-324	Vol.	18	MR53				103-6	4	RS213				7	6A8, 6K7, 6Q7, 6J5, [3]6F6, 5Y3	465	
	Tone	21	MR44	M26			103-14	4	RS216							
62-325	Vol.	6	MR18	M26			15-20-30	1/15	3N528				4	[3]6J7, 25L6G, 25Z6G, L55B	456	9-32
62-326	Vol.	18	O	13			4	12	BB31				6	1B5, 1C6, [3]30, 34	456	8-31,35
62-327	Vol.	45	O	6			4-18-18	1/13	RM259		Order from	Mfr.	7	[3]34, 1C6,[3]30, 19	456	8-36,38
	Tone	44	UC502				20	1	RS207							
							.01		Buffer	B14						
62-328	Vol.	62	M	7			BE103-11	12	RS203				7	1A6, 1A4,[3]30,[3]34, 19	465	9-3
	Tone	21	M													
62-329	Vol.	45	TRP610	6			103-13	25	RS213				9	[3]6K7, 6J7, 6H6, 6F5, 6C5, 6F6, 6G5, 5Y3G	465	
	Tone	21	SRP284	8			103-12	25	RS213							
62-331	Vol.	45	TM248-SS1	M26			45X214	13	TN120		Order from	Mfr.	11	[3]34, 32, 6N5,[3]30	456	9-36
	Tone	44	Order from	Mfr.			45X226	23	2P549							
							45X228	‡	Order from	Mfr.						
62-332 (32 volt DC)	Vol.	18	N	6			.01		Buffer	B14						
	Tone	14	Z12				12	15	BB12				7	[3]6K7, 6A8, 85, 43, 6A6	456	
62-334	Vol.	45	UM163	M26		A96	45X236	24/15	3S572		952W	C3	5	6A8G, 6U7G, 6H6, 6K6G, 6F5G	456	9-37
							45X239	15	BB12							
							.018		Buffer	B14						
62-336	Vol.	18	O	14			4	12	BB31				6	1B5, 1C6,[3]30, 34	456	8-31,35
62-337	Vol.	45	O	6			4-18-18	1/13	RM259		Order from	Mfr.	6	[3]34, 1C6,[3]30, 19	456	8-36,38
	Tone	44	UC502				20	1	RS207							
							.01		Buffer	B14						
62-338	Vol.	62	M	7			BE103-11	12	RS203				7	1A6, 1A4,[3]30,[3]34, 19	465	9-3
	Tone	21	M													
62-345	Vol.	18	MR53	M27			119-40	1	2N516		246	C3	5	6D8G, 6S7G, 6T7G, 1F5G, 6N5	465	9-39
62-346	Vol.	18	MR53	M26			.005		Buffer	B14						
							119-38	23	SR633				5	6A8G, 6K7G, 6Q7G, 6F6G, 6G5, 5Y3G	465	9-39
62-347	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	
	Tone	34	MR39				44X35	23	WE4030							
62-350, 62-351, 62-352	Vol.	18	MR53	M26			119-47C	23	2S560				5	6A8G, 6K7, 6Q7G, 6K6G, 5W4 or 5Y3G	465	9-41
62-353	Vol.	18	MR53	M26			119-63B	4	2S568				7	6K8G, 6K7, 6Q7G, 6P5G, 6AC5G, 5Y3G, 6U5	465	
62-356	Vol.	18	MR48	M26			119-41	1	2N516		246	C3	6	6D8G or 6A8G, 6S7G, 6T7G, 6L5G, 1J6G, 6N5	465	
	Tone	22	MR39				.005		Buffer	B14						
62-357	Vol.	18	MR48	M26			12	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	
	Tone	34	L				30	23	WE3050							
62-358	Vol.	18	MR48	M26			44X37	23	WE2050				8	6J7, 6K7, 6J5, 6H6, 6G5, 6F5, 6F6, 5Y3G	456	9-15
	Tone	34	MR39				44X38	23	WE4030							
62-360	Vol.	6	TRP600				6, 8	25	RS213				6	[2]24, 45, 80	456	
62-361 Issue A and Issue B	Vol.	18	MR53	M26			119-48	4	2S567				6	6A8G, 6K7, 6Q7G, 6K6G, 6U5, 5Y3G	465	9-42
	Tone	21	MR53													
62-362	Vol.	18	MR53	M26			119-48	4	2S567				6	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G, 6U5	465	9-45
	Tone	21	MR53													
62-363	Vol.	17	MR57	M26			45X243	1/15	3S572		246	C3	6	6D8G,[3]6S7G, 6T7G, 6A8, 6G6G	456	9-48
	Tone	34	MR42				45X239	15	BB12							
							.015		Buffer	B14						
62-364	Vol.	17	UM163	M26		A96	45X235	1	2N518		952W	C3	6	[3]6U7G, 6J7G, 6B8G, 6K6G, 6N7G	175	
							45X210	13	BB40							
							45X239	15	BB12							
							.008		Buffer	B14						
62-367	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	
	Tone	22	L				44X35	23	WE4030							
62-368	Vol.	18	MR48	M26			44X37	23	WE2050				8	6J7, 6K7, 6J5, 6H6, 6G5, 6F5, 6F6, 5Y3G	456	9-15
	Tone	34	MR39				44X38	23	WE4030							
62-369	Vol.	56	TM219		See Note	A96	45X219	1/15	3S579		248	C3	6	[3]6K7, 6J7, 6B8G, 6K6G, 6N7G	456	
	Tone	22	Order from	Mfr.			.0055		Buffer	B14						
62-370	Vol.	17	MR57	M26			44X37	23	WE2050				7	6A8G, 6U7G, 6J5G, 6U5, 6Q7G, 6K6G, 5Y3G	175	
	Tone	34	MR42				44X38	23	WE4030							
62-372	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	
	Tone	34	MR42				44X35	23	WE4030							
62-373, 62-374	Vol.	18	MR53				45X225	13	2N516		246	C3	7	1C7G, 1D5G, 1H1G, 1E5G	456	9-49
	Tone	44	MR39				45X234	1	2N514							
							45X233	‡	Order from	Mfr.						
							.02		Buffer	B14						
62-377	Vol.	45	MR53	M26			45X225	13	2N502				7	1C7G, 1D5G, 1H1G, 1E5G	456	9-51
	Tone	44	MR39													
62-380	Vol.	18	MR53	M26			119-38	4	SR633				5	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G	465	
62-385	Vol.	56	MR44	M26			119-22	19	BB12				5	1D7G, [3]1D5G, 1F7G, 1G5G	465	9-26
	Fil.	29	C&R													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MONTGOMERY WARD & CO.—Continued																
Note: The prefix "62-" or "6		m of "	62-" indicates	Radio	Division in		Montgomery-	Ward	Catalog.							
62-387	Vol.	45	MR53	M26			45X225	13	2N502				7	1C7G, 1D5G, 1H4G, 1F5G	456	9-51
	Tone	44	MR39													
62-390	Vol.	45	MR48	M26			119-60	1/19	2S563/BB17				9	[2]6K7, 6K8, [2]6J5G, 6U5, 6Q7G, 6K6G, 5Y3G	465	9-53
	Tone	22	MR44				119-61	13	BB42							
62-401	Vol.	20	‡		See No	te A19	44X30	25	RS216				11	[2]6U7G, [2]6J7G, 6H6, [2]6J5G,[2]6F6G, 5Y3G, 6U5	456	9-55
	Tone	34	MR53				44X36	25	WE4030							
							45X238	19	BB17							
62-402	Vol.	45	MR55	M26			44X39	4	WE2050				11	[2]6D6, 6C6, [2]76, 6U5, [2]41, 80	465	9-56
	Tone	‡	MR53			A100	44X40	4	WE4030							
							45X239	15	BB12							
62-403	Vol.	20	TM248-SS1				119-44	12	BB31				13	[2]6U7G, 6J7G, 6H6, 6J5G, 6F8G, 6U5, [2]6F6G, 5U4G	456	9-59,60
	Tone	21	Order from	Mfr.												
62-404	Vol.	18	MR53	M27			4	12	BB20				4	1D7G, 1D5G, 1H6G, 1F5G	456	9-25
	Fil.	27	C6R													
62-405	Vol.	56	MR44	M26			119-22	19 •	BB12				5	1D7G,[2]1D5G, 1F7G, 1G5G	465	9-26
	Fil.	29	C6R													
62-406	Vol.	18	MR53	M26			119-38	23	SR633				6	6A8G, 6K7G, 6Q7G, 6F6G, 6G5, 5Y3G	465	
62-407	Vol.	18	O	6			P103-6	23	RS213				7	6L7, 6C5, 6K7, 6Q7, 6F6, 5W4, 6G5	465	9-27,28
	Tone	22	K12				P103-7	23	RS213							
62-408	Vol.	17	TRP613	6			44X10	23	RS216				8	[2]6K7, 6C5, 6Q7, 6F6, 5Z4, 6G5	456	8-6,7
	Tone	34	Order from	Mfr.			44X11	23	RS216							
							44X209	15	BB12							
62-409	Vol.	45	TRP610	6			103-12	25	RS213				8	[2]6K7, 6J7, 6H6, 6F5, 6G5, 6F6, 5Y3G	465	
	Tone	21	SRP284	8			103-13	25	ST595							
62-410	Vol.	64	TM248-SS1	M24			4	12	BB31				10	[3]30, 32,[3]34	456	8-22,25
	Tone	44	Order from	Mfr.												
62-411	Vol.	62	TRP613	6			44X10	25	RS216				11	[2]6K7,[2]6C5, 6G5,[2]6F6, 5Z4MG	456	9-5,8
	Tone	65	Order from	Mfr.			44X11	25	RS216							
							44X213	13/15	2N504							
62-413	Vol.	17	TM248-SS1	M26			P44X21	30	WE3050				13	[2]6K7, [2]6C5, 6G5, 6H6, [2]6L6,[2]5Z4	456	8-27
	Tone	65	Order from	Mfr.			P44X11	30	RS216							
							P45X216	13	BB41							
							P45X209	19	BB12							
62-414	Vol.	56	MR44	M26			119-22	19	BB12				5	1D7G,[2]1D5G, 1F7G, 1G5G	465	9-26
	Fil.	29	C6R													
62-415	Vol.	18	O	6			BE103-6	23	RS213				5	6A7, 78, 75, 41, 80	465	9-29
							BE103-7	23	RS213							
62-416	Vol.	18	O	6			BE103-6	23	RS213				6	6L7, 6C5, 6K7G, 6Q7G, 6F6G, 5Y3	465	9-30,31
							BE103-7	23	RS213							
62-417	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	
	Tone	34	MR39				44X35	23	WE4030							
62-418	Vol.	17	TRP613	6			44X10	23	RS216				8	[2]6K7, 6C5, 6Q7, 6F6, 5Z4, 6G5	456	8-5,7
	Tone	34	Order from	Mfr.			44X11	23	RS216							
							44X209	15	BB12							
62-419	Vol.	45	TRP610	6			103-13	25	RS213				9	[2]6K7, 6J7, 6H6, 6F5, 6C5, 6F6, 6G5, 5Y3G	465	
	Tone	21	SRP284	8			103-12	25	RS213							
62-422	Vol.	17	MR57	M26			30-20	12/15	2N514				7	6A8G,[2]6U7G, 6V7G, 25A6G, 6J5G, 6N7G	456	9-33
	Tone	41	MR42			A100										
62-425	Vol.	18	O	6			119-24	23	SR633				5	6A7, 78, 75, 41, 5Z4	465	9-57
62-426	Vol.	18	O	14			4	12	BB31				6	1B5,[2]1C6, 30, 34	456	8-31,35
62-427	Vol.	45	O	6			4-18-18	1/13	RM259		Order fro	m Mfr.	7	[3]34, 1C6,[3]30, 19	456	8-37,38
	Tone	44	UC502				20	1	RS207							
							.01		Buffer	B14						
62-428	Vol.	62	M	7			BE103-11	12	RS203				7	1A6, 1A4,[3]30,[3]34, 19	465	9-3
	Tone	21	M													
62-432 (32 volt DC)	Vol.	18	N	6			12	15	BB12				7	[2]6K7, 6A8, 85, 43, 6A6	456	
	Tone	44	Z12													
62-433	Vol.	20	TRP620	6			44X21	25	WE3050				13	[2]6K7, 6J7, 6H6, [2]6C5, 6G5,[2]6L6,[2]5Y3G	456	
	Tone	41	MR55				44X36	25	WE4030							
							45X224	19	BB15							
62-434, 62-435	Vol.	56	Order from	Mfr.			119-52	19	BB15				5	1C7G, [2]1D5G, 1F7G, 1G5G	465	9-58
	Fil.	29	M4R													
62-436	Vol.	18	O	14			4	12	BB31				6	1B5, 1C6,[3]30, 34	456	8-31,35
62-437	Vol.	45	O	6			4-18-18	1/13	RM259		Order fro	m Mfr.	7	[3]34, 1C6,[3]30, 19	456	8-37,38
	Tone	44	UC502				20	1	RS207							
							.01		Buffer	B14						
62-441	Vol.	45	TM248-SS1	M26			45X214	13	TN120		Order fro	m Mfr.	11	[3]34, 32, 6N5,[3]30	456	9-36
	Tone	44	Order from	Mfr.			45X226	23	2P549							
							45X228	‡	Order from	Mfr.						
							.01		Buffer	B14						
62-442	Vol.	18	N	6			30-12	12/15	2N512				7	6A8G,[2]6U7G, 6V7G, 6C5G, 25A6G, 6N7G	456	9-23
	Tone	44	Z12													
62-445	Vol.	18	MR53	M26			119-38	22	SR633				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	9-63
62-446	Vol.	18	MR48	M26			119-41	1	2N516		246	C3	6	6D8G or 6A8G, [2]6S7G, 6T7G, 6L5G, 1J6G, 6N5	465	
	Tone	22	MR39				.005		Buffer	B14						
62-447	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	
	Tone	34	MR39				44X35	23	WE4030							
62-448	Vol.	18	MR48	M26			44X37	23	WE2050				8	6J7, 6K7, 6J5, 6H6, 6G5, 6F5, 6F6, 5Y3G	456	
	Tone	34	MR39				44X38	23	WE4030							
62-449	Vol.	45	TM228-SS1	M26			44X10	23	RS216				9	[2]6K7, 6J7, 6C5, 6H6, 6G5, 6F5, 6F6, 5Y3G	456	
	Tone	34	MR39				44X11	23	WE1830							
62-451	Vol.	18	TM228-SS1	M26			44X11	25	WE1830				11	[2]6K7,[2]6J7, 6H6,[2]6C5, 6G5,[2]6F6, 5Y3G	456	
	Tone	34	MR53				44X30	25	RS216							
							45X222	19	BB15							
							45X223	13	BB31							
62-452	Vol.	18	N	6			30-12	12/15	2N512				7	6A8G,[2]6U7G, 6V7G, 6C5G, 25A6G, 6N7G	456	9-23
	Tone	44	Z12													
62-453	Vol.	18	MR53	M27			119-52	19	BB15				4	1D7G, 1D5G-P, 1F7G, 1G5G	465	
	Fil.	29	M4R													
62-454	Vol.	18	MR53	M27			119-35	19	BB15				4	1A7G, 1N5G, 1H5G, 1C5G	465	
62-455	Vol.	18	MR53	M26			119-38	23	SR633				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	9-63
62-457	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	9-15
	Tone	34	L				44X35	23	WE4030							
62-458	Vol.	18	MR48	M26			44X37	23	WE2050				8	6J7, 6K7, 6J5, 6H6, 6G5, 6F5, 6F6, 5Y3G	456	
	Tone	34	MR39				44X38	23	WE4030							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MONTGOMERY WARD & CO.—Continued																
Note: The prefix "62-" or for m of "62-" indicates Radio Division in							Montgomery-	Ward	Catalog.							
62-463	Vol.	17	MR57	M26			45X243	1/15	3S572		246	C3	6	6D8G, [2]6S7G, 6T7G,		
	Tone	34	MR42				45X239	15	BB12					6AB5, 6G6G	456	9-48
							.015		Buffer	B14						
62-465	Vol.	18	MR53	M27			119-40	1	2N516		246	C3	5	6D8G, 6S7G, 6T7G, 1F5G, 6N5	465	9-64
							.005		Buffer	B14						
62-466	Vol.	18	MR48	M26			119-41	1	2N516		246	C3	6	6D8G or 6A8G,		
	Tone	22	MR39				.005		Buffer	B14				[2]6S7G, 6T7G, 6L5G, 1J6G, 6N5	465	
62-467	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6,		
	Tone	34	L				44X35	23	WE4030					6C5, 6G5, 5Y3G	456	9-15
62-470	Vol.	17	MR57	M26			44X37	23	WE2050				7	6A8G, 6U7G, 6J5G,		
	Tone	34	MR42				44X38	23	WE4030					6U5, 6Q7G, 6K6G, 5Y3G	456	
62-471, 62-472	Vol.	18	MR48	M26			44X37	23	WE2050				7	6A8G, 6U7G, 6Q7G,		
	Tone	34	MR39				44X38	23	WE4030					6K6G, 6J5G, 6U5, 5Y3G	456	
62-473	Vol.	18	MR53				119-69	23	2S569				7	6K8G, 6K7, 6Q7G,		
	Tone	22	MR44	M26										6P5G, 6U5, 6AC5G, 5Y3G	465	9-65,66
62-475	Vol.	18	MR53	M26			119-38	23	SR633				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	9-63
62-476	Vol.	18	MR53	M26			119-38	23	SR633				6	6A8G, 6K7G, 6Q7G, 6F6G, 6G5, 5Y3G	465	9-68
62-477	Vol.	45	MR53	M26			45X225	13	2N502				7	1C7G, 1D5G, [4]1H4G, 1E5G	456	9-51
	Tone	44	MR39													
62-479	Vol.	17	MR57	M26			44X37	23	WE2050				7	6A8, 6U7G, 6Q7G, 6J5G, 6K6G, 6U5, 5Y3G	456	9-69
	Tone	34	MR42				44X38	23	WE4030							
62-487	Vol.	45	MR53	M26			45X225	13	2N502				7	1C7G, 1D5G, [4]1H4G, 1E5G	456	9-51
	Tone	44	MR39													
62-490	Vol.	45	MR48	M26			119-60	1/19	2S563/BB17				9	[2]6K7, 6K8, [2]6J5G, 6U5, 6Q7G, 6K6G, 5Y3G	465	9-53
	Tone	22	MR44				119-61	13	BB42							
62-495	Vol.	56	MR44	M26			119-22	19	BB12				5	1D7G, [2]1D5G, 1F7G, 1G5G	465	9-26
	Fil.	29	C6R													
62-497	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	9-15
	Tone	34	L				44X35	23	WE4030							
62-500	Vol.	18	MR53	M26			119-38	4	SR633				7	6L7G, 6K7, 6Q7G, 6K6G, 6J5G, 6G5, 5Y3G	465	9-71
	Tone	21	MR53													
62-504A	Vol.	18	MR53	M26			119-82	24	TN127	B8			5	12SA7, 12SK7, 12SQ7, 35L6GT, 35Z5GT	465	
62-505A	Vol.	18	MR53	M26			119-82	24	TN127	B8			5	12SA7, 12SK7, 12SQ7, 35L6GT, 35Z5GT	465	
62-506	Vol.	18	MR53	M24			119-44	12	BB31				6	1C7G, 1D5G, 1H6G, [3]1H4G	465	9-62
	Fil.	29	M4R													
62-516	Vol.	18	MR53	M24			119-44	12	BB31				6	1C7G, 1D5G, 1H6G, [3]1H4G	465	9-62
	Fil.	29	M4R													
62-520	Vol.	6	G7		3		8-8	25	RS213	B3			4	[3]24, 71A, 80		
62-550	Vol.	18	MR53	M27			119-35	19	BB15				5	1D7G, [2]1D5G, 1H4G, 1G5G	465	
	Fil.	29	C6R													
62-551	Vol.	18	MR53	M27			119-35	19	BB15				5	1A7G, 1N5G, 1H5G, [2]1A5G	465	
62-552	Vol.	45	MR53	M26			119-59C	24	2N512				5	6D8G, 6S7G, 6L5G, 6T7G, 6G6G	465	
62-553	Vol.	18	MR53	M26			119-79	22/15	3S572				5	6D8G, 6K7, 6T7G, 6G6G, 6ZY5G	465	
62-555	Vol.	17	MR48	M27			45X250	12	BB31				5	1A7G, [2]1N5G, 1H5G, 1C5G	456	
62-557	Vol.	17	MR48	M27			45X250	12	BB31				5	1A7G, [2]1N5G, 1H5G, 1C5G	456	
62-558	Vol.	18	MR44	M27			119-52	19	BB15				5	1A7B, [2]1N5G, 1H5G, 1C5G	465	
62-601	Vol.	18	MR53	M26			119-47	23	2S567				6	6A8G, 6K7, 6Q7G, 6K6G, 5W4, 6U5	465	
62-606	Vol.	18	MR53	M26			119-38	23	SR633				6	6A8G, 6K7G, 6Q7G, 6F6G, 6G5, 5Y3G	465	9-68
62-607	Vol.	45	MR53	M26			8-4	13	2N502				7	1C7G, 1D5G, [4]1H4G, 1E5G	456	9-51
	Tone	44	MR39													
62-616	Vol.	18	MR53	M26			119-38	23	SR633				6	6A8G, 6K7G, 6Q7G, 6F6G, 6G5, 5Y3G	465	9-68
62-617	Vol.	45	MR53	M26			8-4	13	2N502				7	1C7G, 1D5G, [4]1H4G, 1E5G	456	9-51
	Tone	44	MR39													
62-650	Vol.	17	MR57	M26			45X243	1/15	3S572		246	C3	6	6D8G, [2]6S7G, 6T7G,		
	Tone	34	MR42				45X239	15	BB12					6AB5, 6G6G	456	9-48
							.015		Buffer	B14						
62-651, 62-652	Vol.	18	MR53	M26			119-59C	24	2N512		246	C3	6	6K8G, 6K7, 6T7G, 6G6G, 6AE6G, 6AF6G	465	
	Tone	22	Order from	Mfr.			.003		Buffer	B14						
62-654, 62-655	Vol.	45	MR44	M27			119-52	19	BB15				6	1C7G, [3]1D5G-P, 1H4G, 1G5G	465	
	Fil.	29	M4R													
	Tone	22	Order from	Mfr.												
62-656	Vol.	45	MR44	M27			119-52	19	BB15				6	1A7G, [2]1N5G, 1G3G, 1G5G, 1H5G	465	
	Tone	22	Order from	Mfr.												
62-700	Vol.	17	MR57	M26			44X37	23	WE2050				7	6A8G, 6U7G, 6J5G, 6U5, 6Q7G, 6K6G, 5Y3G	456	
	Tone	34	MR42				44X38	23	WE4030							
62-701	Vol.	18	MR53				119-69	23	2S569				7	6K8G, 6K7, 6Q7G, 6P5G, 6U5, 6AC5G, 5Y3G	465	9-65,66
	Tone	22	MR44	M26										6P5G, 6AC5G	465	
62-702, 62-703	Vol.	18	MR53				119-69	23	2S569				5	6K8G, 6K7, 6Q7G,		
	Tone	22	MR44	M26												
62-704, 62-705, 62-706, 62-707, 62-708, 62-709, 62-710, 62-711, 62-712	Vol.	76	MR48	M26			44X42	23	WE4030				7	6A7, 6D6, 75, 76, 6U5, 41, 80	456	
	Tone	76	MR57				44X41	23	WE2050							
62-713	Vol.	18	UM161		See Note A96		119-84	1/13	FPT374				7	6SA7, 6SK7, 6SQ7, 6P5G, 6AC5G, 5Y3G, 6AD6G	465	
	Tone	22			See Note A3											
62-750, 62-751	Vol.	18	UM161-SS16	M26			119-79B	22/15	3S572		850	C3	7	6K8G, 6K7, 6T7G, 6G6G, 6AE6G, 6AF6G, 6ZY5G	465	
	Tone	22	Order from	Mfr.			.008		Buffer	B14						
62-752, 62-753	Vol.	17	MR57	M26			45X241	12/15	2N514				7	6A8G, [2]6U7G, 6V7G, 6J5G, 25A6G, 6N7G	456	
	Tone	41	MR42													
62-900	Vol.	45	MR48	M26			119-60	1/19	2S563/BB17				9	[2]6K7, 6K8, [2]6J5G, 6U5, 6Q7G, 6K6G, 5Y3G	465	9-53
	Tone	22	MR44				119-61	13	BB42							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
MONTGOMERY WARD & CO.—Continued Note: The prefix "62-" or form of "62-" indicates				Radio Division in			Montgomery-Ward Catalog									
62-901	Vol.	17	2 Meg. No. 1		See Note	A19	44X41	23	WE2050				9	6A7, 6D6, [276], 75, 6U5, [241], 80	456	
	Tone	22	MR57				44X42	23	WE4030							
							45X247	13	BB40							
							45X239	15	BB12							
62-905	Vol.	17	2 Meg. No. 1		See Note	A19	44X41	23	WE2050				9	6A7, 6D6, 75, [276], 6U5, [241], 80	456	
	Tone	22	MR57				44X42	23	WE4030							
							45X247	13	BB40							
							45X239	15	BB12							
62-1040	Vol.	8	G				4-4-4	3	CM173				8	[324A, 227, 245, 80]	‡	
	Tone	41	N													
62-1100	Vol.	20	‡		See Note	A19	44X30	25	RS216				11	[26U7G, 26J7G, 6H6, 26J5G, 26F6G, 5Y3G, 6U5]	456	9-55
	Tone	34	MR53				44X36	25	WE4030							
							45X238	19	BB17							
62-1101	Vol.	45	MR55	M26			44X39	4	WE2050				11	[26D6, 6C6, 476, 6U5, 241, 80]	465	9-56
	Tone	‡	MR53	See Note		A100	44X10	4	WE4030							
							45X239	15	BB12							
62-1455	Vol.	18	MR53	M27			119-35	19	BB15				4	1A7G, 1N5G, 1H5G, 1C5G	465	
62-1550	Vol.	18	MR53	M27			119-35	19	BB15				5	1D7G, [21]D5G, 1H4G, 1G5G	465	
	Fil.	29	C6R													
62-1551	Vol.	18	MR53	M27			119-35	19	BB15				5	1A7G, 1N5G, 1H5G, [21]A5G	465	
62-1558	Vol.	18	MR44	M27			119-52	19	BB15				5	1A7G, [21]N5G, 1H5G, 1C5G	465	
62-1654, 62-1655	Vol.	45	MR44	M27			119-52	19	BB15				6	1C7G, [31]D5G-P, 1H4G, 1G5G	465	
	Tone	22	Order from Mfr.	Mfr.												
	Fil.	29	M4R													
62-1656	Vol.	45	MR44	M27			119-52	19	BB15				6	1A7G, [21]N5G, 1G4G, 1G5G, 1H5G	465	
	Tone	22	Order from	Mfr.												
62-1838	Vol.	15	O				8-8	1	2N518				8	[227, 335, 47, 80]	262	2-14
	Tone	34	UC502				8	14	BB31							
62-2550	Vol.	18	MR53	M27			119-35	19	BB15				5	1D7G, [21]D5G, 1H4G, 1G5G	465	
	Fil.	29	C6R													
62-2551	Vol.	18	MR53	M27			119-35	19	BB15				5	1A7G, 1N5G, 1H5G, [21]A5G	465	
62-2555	Vol.	17	MR48	M27			45X250	12	BB31				5	1A7G, [21]N5G, 1H5G, 1C5G	456	
62-2557	Vol.	17	MR48	M27			45X250	12	BB31				5	1A7G, [21]N5G, 1H5G, 1C5G	456	
62-2558	Vol.	18	MR44	M27			119-52	19	BB15				5	1A7G, [21]N5G, 1H5G, 1C5G	465	
62-2654, 62-2655	Vol.	45	MR44	M27			119-52	19	BB15				6	1C7G, [31]D5G-P, 1H4G, 1G5G	465	
	Tone	22	Order from	Mfr.												
	Fil.	29	M4R													
62-2656	Vol.	45	MR44	M27			119-52	19	BB15				6	1A7G, [21]N5G, 1G4G, 1G5G, 1H5G	465	
	Tone	22	Order from	Mfr.												
93BR-454A	Vol.	18	MR53	M27			119-35	19	BB15				4	1A7G, 1N5G, 1H5G, 1C5G	465	
93BR-460A	Vol.	18	UC506	7			119-75	19	BB12				4	1A7G, 1P5G, 1H5G, 1C5G	465	
93BR-508A, 93BR-509A	Vol.	18	UM161	M26		A96	119-87	24	TN127	B8			5	12SA7, 12SK7, 12Q7GT, 35L6GT, 35Z5GT	465	
93BR-560A	Vol.	18	UM161		See Note	A96	119-86	12	BB31				5	1A7G, [21]N5G, 1H5G, 1Q5G	465	
	Tone	22	MR53	M27												
93BR-564A	Vol.	18	MR53	M26			119-79 .008	22/15	3S572 Buffer	B14	850	C3	5	6D8G, 6K7, 6T7G, 6G6G, 6ZY5G	465	
93BR-657A	Vol.	18	UM161		See Note	A96	119-85	24/15	FPT319				5	6D8G, 6SK7, 6T7G, 6G6G, 5Y3G	465	
93BR-713A	Vol.	18	UM161		See Note	A96	119-84	1/13	FPT374				7	6SA7, 6SK7, 6SQ7, 6P5G, 6AC5G, 5Y3G, 6AD6G	456	
	Tone	22	‡		See Note	A3										
93BR-1455A	Vol.	18	MR53	M27			119-35	19	BB15				4	1A7G, 1N5G, 1H5G, 1C5G	465	
93BR-1460A	Vol.	18	UC506	7			119-75	19	BB12				4	1A7G, 1P5G, 1H5G, 1C5G	465	
MOTO-METER GAUGE & EQUIPMENT CO.																
Moto-vox 10A (Above 500)	Vol.	17	N				76458	15	BB12				5	[336, 85, 41]	175	4-1,3
Moto-vox 10E	Vol.	15	N										5	[436, 41]	175	4-4,9
	Sen.	‡	Y1000MP													
MOTOROLA—See Galvin.																
WILLIAM J. MURDOCK CO.																
8-Tube AC	Vol.	40	‡		See Note	A5	4-4-2	2/14	See Note	B1			8	‡		§6-22
MUSETTE																
52, 53	Vol.	6	F12	6	2		A203	4	RS213				6	[324A, 27, 45, 80]		3-1
	Tone	22	‡		See Note	A5										
310	Vol.	6	See Note	‡	‡	A5	8	25	ST595				7	[324A, 27, 245, 80]		3-2
	Tone	22	K12													
NASSAU RADIO																
DLPS	Vol.	16	N				2-4-4	3	See Note	B2			7	[599, 10, 81]		3-1
	Sen.	26	Y200MP													
NATIONAL CARBON CO (Everready)																
1, 2, 3	Vol.	13	SRP179				2-4	1	See Note	B1			8	[426, 27, 271A, 80]		1-1
31, 32, 33, 34	Vol.	8	A550P				4-2-1-1	3/14	See Note	B1			8	[527, 271A, 80]		1-2
42, 43, 44	Vol.	8	A550P				4-2-1-1	3/14	See Note	B1			8	[527, 245, 80]		1-3
52, 53, 54 (Three Types)	Vol.	13/12	DRP117	Type	1, 2	A50	‡	3/15	See Note	B1			8	[324, 227, 245, 80]		1-4
	Vol.	13/7	DRP242	Type	3	A50										
THE NATIONAL CO.																
AC-SW 3	Vol.	7	D										3	[258, 27]		
	Regen.	12	K12													
AC-SW 58	Vol.	40	D12										5	[258, 56, 215]		8-2
	Regen.	12	K12													
AC "Thrill Box"	Vol.	‡	E12										5	[224A, 227]		1-2
AGS with GRDPU (Power Supply)	Vol.	7	A550P				8-8-8	3	See Note	B3			11	[736, 37, 89, 280]		3-1
AGSX	Vol.	7	A550P				8-8-8	3	See Note	B3			11	[77, 378, 37, 336, 89, 280]		
Auto-Box	Vol.	12	K12										5	[224, 212A]		1-1,2
DC-SW-3	Vol.	7	D										3	[236, 37]		
	Regen.	12	K12	7												
DC-SW-34 (Batt.)	Vol.	40	D12										5	[234, 30, 231]		8-2
	Regen.	12	K12													

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
THE NATIONAL CO.—Continued																
FBX & FBXA	Vol.	7	G				5	13	CS133				7	‡24, 57, 56, ‡58, 59	500	8-2
							10	15	BB12							
HRO	Vol.	17	N				10	15	BB12				9	‡6D6, ‡6C6, 6B7, 42, or ‡58, ‡57, 2B7, 2A5	456	8-1
	Sen.	7	G													
MB-29	Vol.	12	G12				8-8-8	3	MN275				9	‡24, ‡27, ‡45, 80		1-2
MB-30	Vol.	12	K12										5	‡24A, 27		1-2
NC100	Vol.	‡	Y50MP				8, 8, 8	3	RS213				12	‡6K7, ‡6J7, 6C5, 6E5, ‡6F6, 80	456	8-3,4
	Tone	‡	Y500MP													
	Sen.	7	G													
Screen Grid SW (71)	Vol.	12	K12										4	‡24A, 27, 71A		1-1
NATIONAL TRANSFORMER CO.																
Midget 6	Vol.	6	H12				8-8	1	See Note	B3			6	‡27, 45, 80		3-1
	Tone	22	F12													
Screen Grid 8	Vol.	6	H12				8-8-8	3	See Note	B3			8	‡24, ‡27, ‡45, 80		3-1
	Tone	22	F12													
NOBLITT-SPARKS (Arvin)																
5	Vol.	18	UM162		See Note	A96	17-13419	23	2S567		294	C3	5	6A8, 6K7, 6Q7G, 6K6G, 6X5G	455	9-1,2
							.01		Buffer	B14						
6	Vol.	18	UM161		See Note	A96	17-13419	23	2S567		294	C3	5	6A8, 6K7, 6Q7G, 6K6G, 6X5G	455	9-4
							.005		Buffer	B14						
7	Vol.	15	UM154-SS3	M26			17-4787	1	RM262		294	C3	5	6F7, 6A7, 6B7, 41, 84	170	6-1,3
							17-4786	15	BB12							
							.02-.02		Buffer	B14						
9A	Vol.	15	UM157-SS12				17-14132	23	RM255		850	C3	6	‡78, 6A7, 75, 41, 84	170	8-9,9-9
							.01		Buffer	B14						
10A (Two Types)	Vol.	15	SRP251	6			8-16	1	2S563		292	C3	5	6A7, 6B7, 78, 41, 84	175	4-1,5-1
							12-12-1	‡	TN111/TP443							
							.02-.02		Buffer	B14						
15	Vol.	15	UC511	6			17-4184	1	RM265		296	C13	5	78, 6A7, 6B7, 41, 84	175	5-3,6
							17-2082	15	BB12		292	C14				
							.02-.02		Buffer	B14						
16	Vol.	17	SRP251	6			17-4201	1	2S563		292	C3	6	‡6D6, 6A7, 75, 41, 84	175	5-19
							17-2082	15	BB12							
							.02-.02		Buffer	B14						
17	Vol.	17	UM154-SS3	M26			17-4703	1	RM265		294	C3	6	‡78, 6A7, 75, 41, 84	175	6-7,8
							17-4707	15	TN111							
							.02-.02		Buffer	B14						
18	Vol.	17	UM157-SS12				17-14614	1	RM265		294	C3	6	75, ‡78, 6A7, 41, 84	170	7-1,2
							17-14606	15	TN111							
							.01		Buffer	B14						
19	Vol.	17	UM157-SS12				17-14614	1	RM265		850	C3	6	‡78, 6A7, 75, 41, 84	170	8-1,2
							17-14606	15	TN111							
							.005		Buffer	B14						
20A (Two Types)	Vol.	15	SRP251		See Note	A4	8-8	1	2N518		292	C3	6	75, 77, ‡78 41, 84	181.5	4-4,5
	Vol.	17	SRP251		See Note	A27	5	15	BB12							
							.02-.02		Buffer	B14						
20B	Vol.	17	SRP251	‡			16-8	1	2S563		292	C3	6	75, 77, 78, 6A7, 41, 84	175	4-16,5-5
							17	15	BB15							
							12-12-12	‡	See Note	B3						
							.02-.02		Buffer	B14						
22A	Vol.	18	UM157-SS12				17-14132	23	RM265		294	C3	6	‡6K7, 6A8, 6Q7G, 6K6G, 6X5G	170	9-5
							.01		Buffer	B14						
25	Vol.	17	UC511	6			17-4201	1	2S563		296	C13	6	‡78, 6A7, 6B7, 41, 84	175	5-6,8
							17-2082	15	BB12		292	C14				
							17-2253	‡	TN111/TP443							
27	Vol.	56	UM154-SS3	M26			17-4703	1	RM265		294	C3	7	75, ‡78, 6A7, ‡41, 84	175	6-11,12
							17-4707	15	TN111							
							.02-.02		Buffer	B14						
28	Vol.	17	UM157-SS12				17-14611	1	RM265		294	C3	6	6A7, ‡78, 75, 42, 84	170	7-2,3
	Tone	34	UM143-SS12				.005		Buffer	B14						
							17-4707	15	TN111							
29	Vol.	15	UM157-SS12				17-14092	1	RM265		294	C3	6	‡6K7G, 6A8G, 6Q7G, 6V6G, 6X5G	170	8-3,4
	Tone	34	UM143-SS12				17-4707	15	TN111							
							.004		Buffer	B14						
30A (Three Types)	Vol.	15	SRP251	6	See Note	A27	16-8-5	1/15	CM175/BB12		292	C3	6	‡77, 78, 79, 41, 84	181.5	4-6,9,
	Vol.	17	SRP251	6	See Note	A4	.02-.02		Buffer	B14					175	5-9,14
	Tone	22	L													
32	Vol.	17	UM157-SS12				17-14090	1	2S568		294	C3	6	‡6K7, 6A8, 6Q7G, 6V6G, 6X5G	170	9-7
	Tone	34	UM143-SS12				17-4709	15	TN111							
							17-14221	1/15	4S718	B10						
							.004		Buffer	B14						
33	Vol.	15	UM157-SS12				17-14611	1	RM265		294	C3	6	‡6K7, 6A8, 6Q7, 6F6, 6X5	170	7-2,6
	Tone	34	UM143-SS12				17-4707	1	TN111							
							.005		Buffer	B14						
35 (Two Types)	Vol.	15	UC511	6			17-4184	1	RM265		296	C13	7	77, 78, 79, 6B7, ‡41, 84	175	5-11, 6-10
							.02-.02		Buffer	B14	292	C14				
37	Vol.	15	UM154-SS3	M26			17-4716	1	RM265		294	C3	8	‡76, 78, 6A7, 6B7, ‡41, 84	175	6-13,15
							17-4710	13	RS213							
							17-4707	15	TN111							
							.02-.02		Buffer	B14						
38	Vol.	17	UM157-SS12				17-14090	1	RM265		294	C3	7	‡78, 6A7, 75, 76, 6A6, 0Z4 or 6X5	170	
	Tone	34	UM143-SS12				17-4710	13	RS213							
							17-4707	15	TN111							
							.005		Buffer	B14						
39	Vol.	15	UM157-SS12				17-14090	1	RM265		294	C3	7	‡6K7G, 6A8G, 6Q7G, 6C5G, 6N7G, 0Z4 or 6X5	170	8-5,6
	Tone	34	UM143-SS12				17-4710	13	RS213							
							17-4707	15	TN111							
							.004		Buffer	B14						
41	Vol.	6	G12	6			17-14001	1	RS213				4	6A7, 6F7, 41, 80	456	6-16, 7-7
							17-14002	1	RS216							
							17-14005	15	BB12							
42	Vol.	17	UM157-SS12				17-14222	1/15	2S568/TN111		294	C3	7	‡6K7, 6A8, 6Q7G, 6C5G, 6N7G, 6X5G or 0Z4	170	9-9
	Tone	44	UC502				.004		Buffer	B14						
45 (Two Types)	Vol.	17	UC511	6			17-4184	1	RM265		296	C13	9	37, ‡75, 77, ‡78, ‡41, 84	175	5-15, 6-17
							.02-.02		Buffer	B14	292	C14				
51	Vol.	17	MR48	M26		A58	17-14000	1	RS215				5	6A7, 6D6, 75, 41, 80	456	6-18, 7-7
							17-14002	1	RS216							
							17-14707	15	TN111							
51B	Vol.	17	MR48	M26		A58	17-14053	‡	2-BB12				4	1C6, 34, 1B5, 33, 1A1	456	7-8
							17-11004	‡	BB12							
58, 58A	Vol.	18	MR48	M26			17-14239	1	FPD208				5	6A8, 6K7, 6Q7G, 25Z6G, M49B, 25L6G	455	9-11
61, 62	Vol.	17	N				17-14002	1	RS216				6	6A7, ‡6D6, 75, 42, 80	456	6-19, 7-9
	Tone	34	L	6			17-14003	1	WE3050							
							17-14004	15	BB12							
61B, 62B	Vol.	17	N				17-4703	1	RM265		245	C3	5	‡78, 6A7, 6B7, 41	175	7-11,12
							17-4707	15	TN111							
							.005		Buffer	B14						

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
NOBLITT-SPARKS	—Continued															
61M, 62M	Vol.	17	N				17-14002	1	RS216				7	[2]6K7, 6A8, 6H6, 6F5, 6F6, 5Z4	456	6-20, 7-9
	Tone	34	L	6			17-14003	1	WE3050							
							17-14004	15	BB12							
68	Vol.	18	MR48	M26			17-14233	1/19	FPT339				5	6A8, 6K7, 6Q7G, 5Y3G, 6K6G	455	9-13
78	Vol.	18	MR48				17-14233	1/19	FPT339				5	6K8, 6K7, 6Q7G, 6K6G, 5Y3G	455	9-15
	Tone	34	‡		See Note A3											
81	Vol.	15	N				17-14002	3	RS216				8	[2]6D6, 6A7, 6B7, 76, [2]6B5, 80	456	6-21, 7-9
	Tone	44	L	6			17-14003	3	WE3050							
							17-14000	3	RS215							
							17-14004	15	BB12							
81M	Vol.	15	N				17-14002	3	RS216				9	[2]6K7, 6A8, 6C5, 6H6, [2]6B5, 5Z4	456	6-22, 7-9
	Tone	44	L	6			17-14003	3	WE3050							
							17-14000	3	RS215							
							17-14004	15	BB12							
88	Vol.	18	MR48	M26			17-14239	1	FPD208				5	6A8, 6K7, 6Q7G, 25L6G, 25Z6G, M49B	455	9-11
417, 467	Vol.	6	MR18	M26			17-14069	1/15	3S579				4	6A7, 6F7, 41, 80	456	7-17,18
508	Vol.	7	H	6			17-14160	23	2P544				4	6D6, 6C6, 25B6G, 25Z5, BK55B		7-8,8
517, 527	Vol.	17	MR18	M26			17-14002	1	RS216				5	6A7, 78, 75, 42, 80	456	7-19,20
							17-14000	1	RS215							
							17-4707	15	TN111							
517B, 527B	Vol.	17	MR48	M26			17-14082	1	2S563		245	C3	5	6A7, 15, 75, 76, 19	456	7-21,22
							17-14005	15	BB12							
							.01		Buffer	B14						
518, 518A, 518DW	Vol.	6	G12	6			17-14001	25	RS213				5	6A7, 78, 76, 41, 80	455	8-10,13
							17-14111	25	WE1835							
518B	Vol.	18	UM161		See Note A96		17-14203	25	RS213				5	6D8G, 6S7G, 6T7G, [2]1F5G	156	8-11
	Tone	39	UM137	M26		A96	17-14202	25	RS207							
568, 568A, 568DW	Vol.	6	G12	6			17-14001	1	RS213				5	6A7, 78, 76, 41, 80	455	8-10,13
							17-14111	1	WE1835							
578B	Vol.	56	N	7			17-14005B	19	BB12				4	1C7G, 1D5G, 1H6G, 1G5G	456	8-10
608	Vol.	18	MR48	M26			17-14153	23	RS216				5	6A7, 6D6, 6Q7G, 25B6G, 25Z5, BK49D	456	8-14, 9-17
							17-14154	23	RS207							
617, 627	Vol.	17	MR48				17-14003	1	WE3050				6	[2]6K7G, 6A8G, 6Q7G, 6F6G, 5Y3	456	7-23,24
	Tone	34	L				17-14002	1	RS216							
							17-14001	13	RS213							
							17-14075	15	TN111							
617B, 627B	Vol.	17	MR48				17-14082	1	2S563		245	C3	6	[2]15, 6A7, 75, 76, 19	456	7-25,26
	Tone	44	L				17-14084	13	RS203							
							17-14075	15	TN111							
							.01		Buffer	B14						
618, 618A	Vol.	15	MR53				17-14001	23	RS213				6	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G, 6E5	455	8-10,16
	Tone	22	MR39	M26			17-14111	23	WE1835							
							17-14130	23	RM262	B10						
618B	Vol.	62	MR48	M27			17-14005	19	BB12				6	1C6, [2]1A4, 30, [2]950	456	8-17,18
628, 628CS	Vol.	15	MR53				17-14001	23	RS213				6	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G, 6E5	455	8-10,16
	Tone	22	MR39	M26			17-14111	23	WE1835							
							17-14130	23	RM262	B10						
628B	Vol.	‡	MR48	M27			17-14005	19	BB12				6	1C6, [2]1A4, 30, [2]950	456	8-17,18
638, 638CS	Vol.	15	MR53				17-14001	23	RS213				6	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G, 6E5	455	8-10
	Tone	22	L	6			17-14111	23	WE1835							
							17-14130	23	RM262	B10						
818	Vol.	20	TM230-SS1				17-14001	1	RS213				8	6A8G, [2]6K7G, 6H6G, 6F5G, 6V6G, 5Y3G, 6E5	455	8-19,20
	Tone	22	MR39	M26			17-14126	1	RS216							
							17-14124	14	RS213							
							17-14123	15	BB17							
828	Vol.	20	TM230-SS1				17-14001	1	RS213				8	6A8G, [2]6K7G, 6H6G, 6F5, 6F5G, 6V6G, 5Y3G	455	8-19,20
	Tone	22	MR39	M26			17-14126	1	RS216							
							17-14124	14	RS213							
							17-14123	15	BB17							
927	Vol.	17	TM230-SS1				17-14003	3	WE3050				9	[2]6K7G, 6A8G, 6R7G, 6C5G, [2]6N6G, 5Y3, 6G5	456	7-27,28
	Tone	44	L	6			17-14002	3	RS216							
							17-14000	3	RS215							
							17-14075	15	TN111							
1127	Vol.	17	TM230-SS1				17-14003	3	WE3050				11	[2]6K7G, 6A8G, 6C5G, 6N6G, 5Z3, 6E5, 6R7G	456	7-29,32
	Tone	21	MR48				17-14001	3	RS213							
	Supp.	7	E	6			17-14000	3	RS215							
							17-14086	14	RS207							
							17-14087	14	RS207							
							17-14075	15	TN111							
1237, 1247, 1247A	Vol.	17	TM230-SS1				17-14002	25	RS216				12	[2]6K7G, [2]6A8G, 6Q7G, 6J7G, 6H6G, 6E5, [2]6V6G, 5U4G	455/100	8-22
	Tone	44	L				17-14138	25	RS216							
							17-14005B	20	BB12							
828A, 828CS	Vol.	20	TM230-SS1				17-14001	1	RS213				8	6A8G, [2]6K7G, 6H6G, 6F5G, 6V6G, 6E5, 5Y3G	455	8-19
	Tone	22	L	6			17-14126	1	RS216							
							17-14124	14	RS213							
							17-14123	15	BB17							
828AT, 838AT	Vol.	17	TM230-SS1				17-14001	1	RS213				8	6A8G, [2]6K7G, 6H6G, 6F5G, 6V6G, 6E5, 5Y3G	455	
	Tone	34	L	6			17-14124	14	RS213							
							17-14126	1	RS216							
							17-14123	15	BB17							
848CS	Vol.	45	TM230-SS1				17-14195	1/14	2S563/BB62				8	6A8G, [2]6K7G, 6H6G, 6F5G, 6V6G, 6E5, 5Y3G	455	8-21
	Tone	22	L				17-14123	15	BB17							
1237D	Vol.	18	TM230-SS1				17-14002	1/13	RS216				12	[2]6K7G, [2]6A8G, 6Q7G, 6J7G, 6H6G, 6AB5, [2]6V6G, 5U4G	455	9-21,24
	Tone	44	L				17-14005	‡	BB12							
1427, 1427D	Vol.	18	TM230-SS1				17-14002	1/13	RS216				14	[2]6K7G, [2]6A8G, 6J7G, [2]6H6G, 6AB5, [2]6C5G, [2]6L6G, 5U4G	455	
	Tone	44	L				17-14005	‡	BB12							
NORCO MFG. CO.																
4 Super	Vol.	14	N	6			8-4	4	See Note	B3			4	[2]57, 47, 80	250	3-2
4 Combination (Dual Wave)	Vol.	6	H12	6			8-4	4	See Note	B3			4	58, 24A, 47, 80		3-1
NORDEN-HAUCK, INC.																
Super DX-5A	Vol.	35	M										5	[2]24, [2]27		1-1
"Admiralty" Super 12	Vol.	23	MM				2-2-2-2	3/14	See Note	B4			13	[2]24, [2]27, [2]50, [2]81		1-2
	Supp.	8	C													
Super 15	Vol.	23	MM				2-2-2-2	3/14	See Note	B4			16	[2]56, [2]58, [2]50, [2]81		3-1,2
	Sen.	7	K													
	Supp.	8	C													
	Osc. Adj.	7	G													

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
OLDSMOBILE																
393884 (Below 1748809)	Vol.	15	UM154-SS3				1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	
393884 (Above 1748809)	Vol.	15	UM154-SS3				1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	
393885	Vol.	45	UM154-SS3		EB247		1209144	1/15	2S569/TN111		273C		6	78, 6A7, 6F7, 85, [2]41	262	
	Tone	41	MR48													
405046	Vol.	15	UM154-SS3		EB247		1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	
405057, 405062 (Early and Late)	Vol.	15	UC512				1209588	1	CM172		273C		5	6F7, 6A7, 6B7, [2]41	172	
	Tone	128	N													
405063	Vol.	15	UC512				1209531	1/15	CM172/BB15		273C		4	6F7, 6A7, 6B7, 42	‡	
982006	Vol.	17	UM154-SS3				1210514	1/15	SR622		273C		6	[2]6D6, 75, 76, 42	262	
	Tone	22	N													
982007, 982008	Vol.	17	UM162-SS3				1210515	1/15	CM172/TN111		273C		7	[2]6D6, 85, [2]76, 6E6	262	
	Tone	22	N													
982043	Vol.	20	TM241-SS4				7230264	1	2N518		294C	C3	6	[2]6K7G, 6A8G, 6Q7G, 6N6G, 6X5G	262	9-1
							.005		Buffer	B14						
982044	Vol.	20	TM229-SS3				1211580	1/15	3S579		852	C3	6	[2]6U7G, 6A8G, 6Q7G, 6F6G, 6X5G	262	9-5,6
							.005		Buffer	B14						
982045	Vol.	17	TM229-SS3				8-8	1	2N518		294C	C3	8	[2]6U7G, [2]6J5G, 6V7G, 6N7G, 6X5G	262	9-7,8
							5-5	15	TN111							
							.005		Buffer	B14						
982083	Vol.	17	TM229-SS3				8-8	1	2N518		852	C3	6	[2]6U7G, 6A8G, 6B8G, 6V6G, 0Z4G	262	
							10	15	BB12							
							.005		Buffer	B14						
982084	Vol.	20	TM229-SS3				8-8-2-5-5	1/13/15	4S718/BB40		294C	C3	8	[2]6U7G, 6A8G, [2]6J5G, 6Q7G, 6N7G, 0Z4G	262	
							.005		Buffer	B14						
982085	Vol.	20	TM229-SS3				8-8	1	2N518		852	C3	6	[2]6K7G, 6A8G, 6B8G, 6V6G, 0Z4G	262	9-9,12
							12	15	BB12							
							.005		Buffer	B14						
OPERADIO MFG. CO.																
484, 484A, 484B	Vol.	15	N										3	[3]864		
478A, 478A11, 2478A	Vol.	15	N				8	2/25	WE850				5	56, 53, [2]A3, 5Z3		6-1
							8-8	2/25	2N518							
							10	15	BB12							
							20	19	BB25							
							75	14	SR608	B3						
677A	Vol.	15	MR48				30	1	WE3050				6	[3]57, [2]6B5, 83		7-2
	Phono.	50	MR48				8-8	1/13	2N518							
							10	15	BB12							
							25	15	BB15							
678A	Vol.	15	MR48				30	1	WE3050				6	[3]57, [2]6B5, 83		7-3
	Phono.	50	MR48				8-8	1/13	2N518							
							10	15	BB12							
							25	15	BB15							
683A							16	1	RS216				5	[2]6B5, 83		7-1
							8	1	RS213							
							25	15	BB15							
823A							16	1	RS216				5	[2]6B5, 83		7-4
							8	1	RS213							
							25	15	BB15							
2667A	Vol.	15	MR48				30	1	WE3050				6	[3]57, [2]6B5, 83		7-2
	Phono.	50	MR48				8-8	1/13	2N518							
							10	15	BB12							
							25	15	BB15							
ORGATRON (Everett Piano)																
LS-2	Quality		Order from Mfr.				Main and Pre-Amp							‡		
	Pedal		N				8, 8, 8	3	RS213							
	S. Flute		NN				10	15	BB12							
	U. Flute		NN				Echo Field Supply									
	String		NN				8, 8	1	RS213							
	Horn		N													
	Bril.		Order from Mfr.													
MD-1							Pre-Amplifier							‡		
							8-8	13	2N518							
							25	15	BB15							
							10	15	BB12							
							Main Amplifier									
							30	13	WE3050							
							25	15	BB15							
							Power Supply									
							30	2	WE3050							
							50	19	BB27							
							Echo Field Supply									
							8, 8	1	RS213							
OZARKA, INC. (Viking)																
V-16	Vol.	‡	J				‡	4/25	See Note	B2			16	[3]35, [2]27, [3]45, [2]80	‡	3-1
89AC	Vol.	4	G12				1-1-.5-2	1/14	See Note	B1			9	[2]26, 27, [2]12A, 80		2-2
90	Vol.	10	F12				4-3-2	1/14	See Note	B1			9	24, [2]26, [2]27, [3]45, 80		1-2
91-Battery	Vol.	12	Y										7	‡		1-1
91AC	Vol.	24	‡		See Note	A5	2-2-2	3	See Note	B1			8	[2]24, 27, [3]45, 80		3-1
"Viking" 91AC	Vol.	12	A5MP				8, 8	1	BB61	B129			6	[2]24, 27, 45, 80		2-4
92AC	Vol.	12	G12				8, 8	1	RS213				7	[2]24A, 27, 45, 80		2-5
93-Battery	Vol.	12	‡		See Note	A5							6	[2]30, [3]32, 33	175	2-6
	Tone	22	‡		See Note	A5										
93A, 93B	Vol.	58	G	6			8, 8	4	RS213				7	[2]27, [3]35, 47, 80	175	2-7,8
	Tone	22	Y													
94-AVC	Vol.	‡	‡		See Note	A5	‡	4	See Note	B3			8	[2]27, [3]35, 47, 80	175	2-9
	Tone	22	‡		See Note	A5										
95-WD1	Vol.	24	‡		See Note	A5	2-2-2	3	See Note	B1			8	[2]24A, 27, [3]45, 80		
PACIFIC RADIO (Aetna, Knight, Manchester, etc.)																
Midget Super	Vol.	18	MR48				20	6	BB25				5	6A8, 6K7, 6Q7, 25L6, 25Z6	456	9-4
							12	6/13	BB22							
1, 2	Vol.	6	‡		See Note	A5	16-12	4	2P546				4	6D6, 6C6, 25L6, 25Z5, L49C		
3-(38)	Vol.	18	MR48				16-12	4	2P546				6	6A7, 6D6, 75, 25L6, 25Z5, 6G5, L49C	465	9-1
4-(38)	Vol.	18	MR48				16-12	4	2P546				7	6A8, 6D6, 76, 6K5, 6G5, 25L6, 25Z5, L49C	‡	
	Tone	22	‡		See Note	A5	10	15	BB12							
5SW	Vol.	18	MR48				16-12	4	2P546				5	6A7, 6D6, 6B7, 43, 25Z5	456	9-2
H6-37	Vol.	17	MR55				8-6	4	2S567		294	C3	6	[2]6D6, 6A7, 6Q7, 41, 0Z4	262	8-1
	Tone	22	‡		See Note	A5	10	15	BB12							
							.008		Buffer	B14						
6V	Vol.	18	MR48				12-6	1	2S565		294	C3	5	6A7, 6D6, 75, 41, 84	465	7-1
							110	15	BB12							
							.02		Buffer	B14						

‡ Data not substantiated.

*** IMPORTANT: Read Notes in Note Section if specified in Note Column.**

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PACIFIC RADIO—Continued																
117-1937	Vol.	17	UM163		See Note	A96	8-6	4	2S567		294	C3	7	[2]6K7, 6L7, 6Q7, 6F6, 6C5, 0Z4	262	8-1
	Tone	34	UM133		See Note	A96	.008		Buffer	B14						
M7-(38)	Vol.	18	UM154	M26		A96	6-6	4	2S567		294	C24	5	6A7, 6K7, 6Q7, 41, 84	456	9-3
							.006		Buffer	B14						
8T-6V	Vol.	18	MR48				15-15	1	2S562		See Note	C8	8	6D8, 6S7, 6J7, 6AB5, 6L5, [3]33, 1H4	465	9-3
	Tone	22	‡		See Note	A5	10	15	BB12							
							.02		Buffer	B14						
11	Vol.	18	MR48				8-4	23	2S567				5	6A7, 6D6, 75, 41, 80	456	9-1
12-(38)	Vol.	18	MR48				1703	23	2S567				6	6A8, 6D6, 6G5, 6Q7, 41, 80	465	
	Tone	34	‡		See Note	A5										
14-(38)	Vol.	18	MR48				8-4	23	2S567				7	6A8, 6D6, 76, 6K5, 6G5, 42, 80	465	
	Tone	34	‡		See Note	A5	10	15	BB12							
15, 16-37 Series	Vol.	6	MR18				16-12	23	2P546				4	6D6, 6C6, 43, 25Z5, L49C		
15-(38)	Vol.	20	‡		See Note	A19	12	1	RS215				9	[2]6K7, 6A8, 6Q7, 6G5, 6C5, [2]6F6, 5Y3	465	
	Tone	44	‡		See Note	A5	18	1	RS216							
							10	15	BB12							
20-37 Series	Vol.	6	MR21				16-12	23	2P546				4	6D6, 6C6, 25L6, 25Z5, L49C		
21, 22	Vol.	18	MR48	M27			8-8	1	2N518		245	C3	4	1C7, 1D5, 1H6, 1G5	456	9-5
							.01-.01		Buffer	B14						
23	Vol.	45	MR48	M26			1720	1	2N516		245	C3	6	6D8, 6S7, [3]6L5, 1J6	465	9-5
	Tone	34	‡		See Note	A5	.01		Buffer	B14						
25	Vol.	6	H12	6	EX300		16-12	23	2P546				4	6D6, 6C6, 43, 25Z5		
30-37 Series	Vol.	18	MR48				16-12	27	2P546				6	6A7, 6D6, 75, 25L6, 6G5, 25Z5, L49C	456	
35-(38)	Vol.	18	MR48	M26			16-12	27	2P546				6	6A7, 6D6, 6Q7, 25A6, 25Z5, 6U5, L49B	465	9-6
43-(38)	Vol.	46	MR18				1729	1	2N506				11	6A7, 6D6, [3]76, 6U5, [3]43, 25Z5	465	9-7
	Tone	44	‡		See Note	A5	10	15	BB12							
50-37 Series	Vol.	18	MR18				8-4	23	2S567				6	6A7, 6D6, 75, 6G5, 42, 80	465	8-3
	Tone	34	‡		See Note	A5										
60	Vol.	18	MR18				8-4	23	2S567				7	[2]6K7, 6A8, 6Q7, 6G5, 6F6, 5Y3	465	8-4
	Tone	34	‡		See Note	A5										
80-37 Series	Vol.	45	MR18				8-8	1	2N516		245	C3	6	6D6, 6S7, [3]6L5, 19	465	8-5
	Tone	34	‡		See Note	A5	.01		Buffer	B14						
81A	Vol.	45	MR48										5	1C6, 34, 1B5, 30, 19	465	7-3
37-61	Vol.	18	MR48				16-12	27	2P546				6	6A7, 6D6, 75, 43, 6G5, 25Z5	456	7-2
37-321	Vol.	18	N				8-4	23	2S567				5	6A7, 6D6, 75, 42, 80, or 6A7, 6K7, 75, 6F6, 80	465	8-10
	Tone	22	‡		See Note	A5										
37-6320	Vol.	45	N				8-4	23	2S567				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	465	7-6
	Tone	34	‡		See Note	A5										
37-6322	Vol.	45	N		See Note	A5	16-12	27	2P546				7	6A7, 6D6, 76, 6F5, 43, 6G5, 25Z5	465	7-7
	Tone	34	‡		See Note	A5										
37-7370	Vol.	20	‡		See Note	A19	12-14	23	2S568				8	[2]6K7, 6A8, 6H6, 6F5, 6F6, 6G5, 5Y3	465	7-9
	Tone	34	‡		See Note	A5	10	15	BB12							
37-14370	Vol.	45	2 Meg. No. 1		See Note	A19	12	25	RS215				11	[3]6K7, 6A8, [2]6H6, [3]6C5, 6G5, [2]6F6, [3]5Z4	465	7-10
	Tone	34	‡		See Note	A5	18	25	RS216							
							8	13	BB61							
							10	19	BB13							
101	Vol.	18	UM154	M26	See Note	A96	6-12	1	2S563	B3	292	C3	5	6A7, 6D6, 6B7, 41, 84	456	8-6
							10	15	BB12							
							.02-.02		Buffer	B14						
101B, 101C	Vol.	18	SRP281	6	See Note	A3	8-8	4	CM172	B3	294	C3	5	6A7, 6D6, 75, 41, 0Z4	456	
							.01-.01		Buffer	B14						
102 (Knight 6 tube)	Vol.	18	SRP281	6			6-12	1	2S563	B3	292	C3	6	[2]6D6, 6A7, 75, 41, 84	175	8-6
							10	15	BB12							
							.02-.02		Buffer	B14						
102B	Vol.	18	SRP281	6	See Note	A3	8-8	4	CM172	B3	294	C3	6	[2]6K7, 6A8, 6Q7, 6F6, 0Z4	262	8-6
	Tone	22	‡		See Note	A5	.01		Buffer	B14						
110-37 Series	Vol.	20	2 Meg. No. 1		See Note	A19	12	1	RS215				12	[2]6K7, 6A8, [2]6H6, 6G5, [2]6C5, [2]6F6, [2]5Y3	465	8-7
							18	1	RS216							
150-37 Series	Vol.	20	2 Meg. No. 1		See Note	A19	12	1	RS215				15	[3]6K7, 6A8, [2]6H6, [3]6C5, 6G5, [2]6F6, [2]5Y3	465	8-8
							18	1	RS216							
	Chan.	‡	MR55													
302	Vol.	45	MR48	M26			1732	1/15	FPT339		See Note	C8	7	6A8, 6S7, [3]6L5, 6AB5, 1J6	465	9-8
	Tone	22	‡		See Note	A5	.02		Buffer	B14						
321-36	Vol.	18	MR48				8-4	23	2S567				5	6A7, 6D6, 75, 42, 80	465	8-9
601	Vol.	18	MR48	M26			1732	1/15	FPT339				5	6A7, 6D6, 6Q7, 41, 80	465	9-8
682	Vol.	18	N				8-4	1	2N516		285XS	C3	6	1C6, 34, [3]30, 19	465	7-4
	Tone	22	K12				.01-.01		Buffer	B14						
3280	Vol.	45	MR48				8-4	23	2S567				6	6A7, 6D6, 76, 75, [2]48	465	7-5
6370	Vol.	45	MR48				8-4	23	2S567				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Y3	465	7-8
	Tone	22	‡		See Note	A5										
PACIFIC RADIO EXCHANGE.																
27	Vol.	6	MR18				16-8	4	2P544				4	78, 6C6, 43, 25Z5, 55A		
37-37A	Vol.	18	MR48				4-4	23	2S567				5	6A7, 78, 75, 41, 80	456	
57	Vol.	18	500M No. 1		See Note	A19	16	25	ST597				6	6A7, 6D6, 6G5, 75, 41, 80	456	
							12	25	ST596							
556	Vol.	18	MR48				8-8	25	2S567				5	6A8, 6K7, 6Q7, 6F6, 5W4	456	
5 Tube TRF	Vol.	7	J	6			8, 8	1	RS213				5	[3]58, 57, 2A5, 83		
	Tone	22	SRP263				5	15	BB12							
"Round the World Five"	Vol.	7	UC501				8, 8	4	RS213				5	[3]58, 57, 2A5, 5Z3		
	Reg.	12	K12				5	15	BB12							
"Round the World Six"	Vol.	12	K12	6			8, 8	4	RS213				6	58, 57, 56, [3]47, 82		
	Sen.	33	O													
Super Auto M dget.	Vol.	18	UM154	M26		A96	5-5	15	TN111				3	6A7, 6B7, 41, or 89	465	
Spero Autodyne	Vol.	15	UM154		See Note	A96	4-4	1	CM170		292	C3	6	[3]44, 36, 85, 89, 84	‡	
							5	15	BB12							
							.02		Buffer	B14						
Spero Four	Vol.	6	G12	6			4, 4	23	RS213				4	58, 57, PZ, 82		§6-24
	Tone	22	K12													
Spero Super	Vol.	18	N	6			8-8	1	RS213				10	[2]56, [3]58, [3]47, 82, Wunderlich	175	§6-25
	Tone	41	M				4	1	RS213							
Spero 7 Tube All-Wave	Vol.	15	N	6			8, 8	1	RS213				7	57, 56, [3]58, 55, 59, 83	‡	
	Tone	‡	L				10	15	BB12							
Spero 10 Tube All-Wave	Vol.	15	N	6			4	3	RS213				10	[3]58, 57, [2]56, 55, [2]59, 83	‡	
	Tone	‡	L				8	3	RS213							
PACKARD BELL CO.																
5 "Kompak"	Vol.	6	MR18	M26	EX300		4-4	23	CM170				5	6J7, 6K7, 6C5, 6F6, 5W4	460	8-1
5A	Vol.	17	MR48				4-4	23	CM170				5	6A8, 6K7, 6Q7, 6F6, 5W4	460	

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PACKARD BELL CO.—Continued																
5M	Vol.	17	MR48				8-1	23	2S567				5	6A7, 6D6, 75, 41, 80	460	9-1
5MP	Vol.	17	MR48				8-1	23	2S567				5	6A7, 6D6, 75, 41, 80	460	
5T	Vol.	17	MR48				4-1	23	CM170				5	6A7, 6D6, 75, 41, 80	460	
5TP	Vol.	17	MR48				8-1	23	2S567				5	6A7, 6D6, 75, 41, 80	460	9-1
25 (Two Types)	Vol.	18	UM154	M26	See Note A96		8-8	74	See Note	B3	294		5	6A7, 6D6, 85, 42, 84	460	6-1
34	Vol.	6	G12	6	EX300		5-5	23	See Note	B3			4	6D6, 76, 42, 80		6-4
35	Vol.	6	G12	6	EX300		5-5	23	See Note	B3			5	6C6, 6D6, 76, 42, 80	460	6-4
	Tone	22	K12													
35 Late	Vol.	18	MR18				4-4	23	CM170				5	6A7, 6D6, 75, 42, 80	460	7-1
35A	Vol.	6	G12	6	EX300		4-4	23	CM170	B3			5	57, 58, 56, 2A5, 80	460	6-2
35H	Vol.	18	500M No. 1		See Note A19		10	25	RS215				5	6A7, 6D6, 75, 41, 80	460	8-3
							12	25	RS215							
35J	Vol.	18	500M No. 1		See Note A19		10	25	RS215				5	6A7, 6D6, 75, 41, 80	460	
							12	25	RS215							
35LP	Vol.	17	MR48				8-1	23	2S567				5	6A7, 6D6, 75, 41, 80	460	
35M	Vol.	17	MR48				8-1	23	2S567				5	6A7, 6D6, 75, 41, 80	460	9-1
36	Vol.	15	N				1-1	23	CM170	B3			6	2A7, ‡58, 55, 2A5, 80	460	6-3
45M	Vol.	6	F12		EX175		8-8	23	CM172	B3			5	6A8, 6K7, 6F5, 6F6, 5Z4	460	6-4
	Tone	22	K12													
46	Vol.	18	MR48				8-4	23	2S567				5	6A7, 6D6, 75, 41, 80	460	7-2
	Tone	22	MR33													
46B	Vol.	17	500M No. 1		See Note A19		12, 12	25	RS215				5	6A7, 6D6, 75, 41, 80	460	8-3
46D	Vol.	17	500M No. 1		See Note A19		12	25	RS215				5	6A7, 6D6, 75, 41, 80	460	9-1
46DP	Vol.	18	500M No. 1		See Note A19		12	25	RS215				5	6A7, 6D6, 75, 42, 80	460	9-2
46E	Vol.	17	500M No. 1		See Note A19		12	25	RS215				6	6A7, 6SK7, 75, 6AF6G, 41, 80	460	
46EP	Vol.	17	500M No. 1		See Note A19		12	25	RS215				6	6A7, 6SK7, 75, 42, 80, 6AF6G	460	
47M	Vol.	45	MR48				8-8	25	CM172				7	‡6K7, 6A8, 6H6, 6F5, 6F6, 5Z4	458	7-1
	Tone	22	K12				8	13	CS133							
48	Vol.	45	MR48				8-8	25	CM172				7	6A8, ‡6K7, 6H6, 6E5, 6F6, 5Z4	458	7-3
	Tone	22	K12				8	13	CS133							
48B, 48BC	Vol.	18	500M No. 1		See Note A19		8, 8	25	RS213				7	6A8, 6K7, 6G5, 6H6, 6K7, 6F6, 5Z4	460	9-2
48BP	Vol.	17	500M No. 1		See Note A19		8	13	BB61							
							8	25	RS213				7	6A8, ‡6K7, 6U5, 6H6, 6F6, 5Z4, 610-10	460	
							16	25	RS216							
							8	13	BB61							
48D, 48DC, 48DK	Vol.	20	500M No. 1		See Note A19		8	25	ST595				8	6K8, ‡6SK7, 6AF6G, 76, 41, 80, 6AE6G	460	
50 High Fidelity	Vol.	18	N				8-16	25/13	2S563							
							16, 16	3	RS216				10	‡6K7, 6A8, 6R7, 6G5, ‡6L6, ‡5W4	460	
65	Vol.	6	G12	6	EX300		8-8	3/13	2S567							
	Tone	21	M				4-4	23	CM170	B3			5	56, 57, 58, 2A5, 80	465	8-1,2
65 (Auto)	Vol.	18	UM154			A96	8-8	74	CM172		294	C3	5	6A7, 6D6, 75, 42, 84	460	6-2
66	Vol.	45	MR48				12, 12	25	RS215				6	6A7, ‡6D6, 76, 41, 80	460	7-4
67 (Auto)	Vol.	45	UM154			A96	8-8	4	CM172		294	C3	7	‡6K7, 6A8, 6H6, 6F6, 84	460	9-3
	Tone	22	K12													7-4
75	Vol.	18	500M No. 1		See Note A19		8-8	74	CM172		294	C3	5	6A8G, 6K7G, 6Q7G, 6K6G, 6X5G	460	
							.005		Buffer	B14						
76	Vol.	15	M				4-4	23	CM170	B3			6	2A7, 2B7, ‡57, 2A5, 80	465	6-5
	Tone	21	M													
	Supp.	12	Y250MP													
76 (Auto)	Vol.	18	TRP606				8-8	74	CM172		850	C3	6	‡6K7G, 6A8G, 6Q7G, 6K6G, 6X5G	460	8-4
							.005		Buffer	B14						
78	Vol.	18	UM154			A96	8-8	1	2N518		294	C3	8	‡6K7, 6A8, 6Q7G, 6C5, ‡6K6G, 6X5G	460	9-4
							.005		Buffer	B14						
86	Vol.	45	N				4-4	23	CM170	B3			6	2A7, 2B7, ‡57, 2A5, 80	465	6-6
	Tone	21	M													
	Supp.	...‡..	Y50MP													
120	Vol.	45	TRP606				16-16	1	ST569				11	‡6K7, 6A8, 6H6, 6F5, ‡6C5, ‡6F6, ‡5W4	460	8-1,2
120AB	Vol.	45	500M No. 1		See Note A19		16, 16	1	RS216				11	‡6K7, 6K8, 6H6, 6F5, ‡6C5, ‡6F6, ‡5W4	460	9-3
160	Vol.	20	500M No. 1		See Note A19		16, 16	1	RS216				16	‡6K7, 6A8, 6U5, 6J7, 6B8, 6H6, 6F5, ‡6J5, ‡6F6, ‡5W4	460	
							10	15	BB12							
PACKARD RADIO CO.																
4 tube Superhet	Vol.	...‡..	G12				1-1	23	See Note	B3			4	‡57, 47, 80	...‡..	3-1
	Tone	22	...‡...		See Note A5											
4	Vol.	...‡..	G12	6			4-4	23	CM170	B3			4	‡57, 47, 80	235	4-1
	Tone	22	M													
5 Auto Set	Vol.	11	UM147		See Note A96		5	19	BB11				4	55, 57, 58, 47	465	3-1
6 tube Auto	Vol.	18	N	...‡...			4-4	1	2N517		294	C3	6	‡6D6, 6A7, 75, 41, 84	470	4-2
							.05-.05		Buffer	B14						
11, 13	Vol.	6	G7	6	3		4-4	23	CM170	B3			4	58, 57, 2A5, 80		4-1
24, 24C	Vol.	...‡..	G12	6			4-4	23	CM170	B3			3	57, 47, 80	235	4-1
	Tone	22	M													
85	Vol.	6	G7	6	3		4-4	23	CM170	B3			5	55, 57, 58, 47 or 2A5, 80	470	4-2
	Tone	22	M													
PARAMOUNT RADIO CO.																
Laurel Tone	Vol.	6	G7	...‡..	2		7-7	1	2N518				4	57, 58, 47, 80		§5-14
5M-17	Vol.	6	K12	6			10	19	BB12							
							B16973	27	RS207				4	6D6, 6C6, 43, 25Z5		
6M-27	Vol.	17	O				B17042	27	RS207							
	Tone	...‡..	M	6			B17041-3	4	RS208				5	6A8G, 6K7G, 6Q7G, 25B6G, 25Z6G	456	
6U-107, 6L-137, 6C-607	Vol.	18	N	6			B17197	4	RS208							
	Tone	34	UC502				B16466	4	RS216				6	6A8G, 6K7G, 6Q7G, 6G5, 6K6G, 5Y3	456	
7U-117, 7L-147, 7C-707							B16467-2	4	WE850							
	Vol.	18	N	6			B16466	4	RS216				7	6L7G, 6C5G, 6K7G, 6Q7G, 6G5, 6F6G, 5Y3	456	
	Tone	34	UC502				B16467-2	4	WE850							
8C-807	Vol.	18	N	6			A15236-3	25	WE3050				8	6A8G, 6K7G, 6Q7G, 6G5, 6C5G, ‡6F6G, 5Y3	456	
	Tone	44	UC502				A15237-3	25	RS213							
8U-127	Vol.	18	N	6			A15236-3	25	WE3050				8	6A8G, 6K7G, 6Q7G, 6G5, 6C5G, ‡6F6G, 5Y3	456	
	Tone	44	SRP284	8			A15237-2	25	RS213							
10C-1007	Vol.	17	TRP618	6			B16554-2	1	WE3050				10	‡6K7G, 6L7G, 6C5G, 6Q7G, 6G5, ‡6F6G, 5Z3	456	
	Tone	22	UC502				B15427	1	WE1650							
							B16551	15	TN111							
PATTERSON RADIO CO.																
Pre-Selector	Vol.	6	D12										2	‡58		5-1
PR10	Vol.	15	N	6			8, 8	35	RS213				10	55, 56, ‡57, ‡58, 59, 5Z3	467.5	5-2
	M. Vol.	7	D12	6			10	15	BB12							
	Sen.	7	CIMP													
	Meter	...‡..	CIMP													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PATTERSON RADIO CO.—Continued																
PR15	Vol.	17	MR48				16, 16	1	RS216				15	²⁶K7, 6A8, 6K6G, 6L7, 6Q7, 6H6, 6N7, 6J7, 6C5, ²⁶V6G, 5X4G	465	
	Tone	76	MR48	M26			8	13	RS213							
	Sen.	...‡..	UC500				25	15	BB15							
	Meter	...‡..	C200P													
	Man.															
	Vol.	7	J													
PR16	Vol.	15	N	6			16, 16, 16	4	RS216				16	²76, 6A6, ²6A3, 6F7, 6C6, ²6D6, 5Z3	458	6-1
	Tone	21	K12				8	13	RS213							
	M. Vol.	15	N	6			10	15	BB12							
	Sil.	7	UC500													
	Meter	...‡..	CIMP													
PR16 Series C	Vol.	15	MR48	M26			16, 16, 16	1	RS216				16	²6D6, ²6C6, 76, 75, 6A6, ²42, 5Z3	458	7-1,4
	Tone	149	L				8	13	RS213							
	Sen.	8	J				4	14	RS213							
	I.F.															
	Gain	...‡..	J													
	Meter	7	CIMP													
50AW	Vol.	83	N	6			8-8	1	See Note	B3			8	55, 56, 57, ²58, ²59, 5Z3	262.5	4-2
	Tone	22	UC502													
	Sen.	8	UC500													
60 Series	Vol.	15	N	6			8-8	1	See Note	B3			6	2A7, ²58, 55, 2A5, 80	465	5-1
	Tone	22	UC502				10	15	BB12							
70AW (without rear fuse and cover)	Vol.	15	N	6			8-8	1	See Note	B3			7	56, 57, ²58, 55, 59, 82	262	3-1
	Tone	34	UC502				10	15	BB12							
70AW, 74AW (with rear fuse and cover)	Vol.	15	N	6			8-8	35	See Note	B3			7	56, 57, ²58, 55, 89, 82	262	4-1
	Tone	22	UC502				10	15	BB12							
75AW	Vol.	15	MR53				16	1	RS216				7	6A7, 6D6, 6B7, 6A6, ²42, 80	458	8-1
	Tone	147	M				8	1	RS213							
	Sen.	7	...‡...		See Note	A5	10	15	BB12							
75AWA	Vol.	114	MR48	M26			16	1	RS216				7	6A7, 6D6, 6B7, 6A6, ²42, 80	458	8-3,4
	Tone	114	MR33				8	1	RS213							
78B, 79B (Chassis 77B, 77BA)	Vol.	76	MR48				8-8	1	2N518		245	C3	7	²6S7, 6A8, 6B8, 6G5, 6K6	465	9-1
	Tone	76	MR48	M26			.0075		Buffer	B14						
	Sen.	7	CIMP													
80AW, 84AW	Vol.	83	N	6			8-8	1	See Note	B3			8	55, 56, 57, ²58, ²59, 5Z3	262	4-2
	Tone	22	UC502													
	Sen.	8	UC500													
80B (Chassis 77B, 77BA)	Vol.	76	MR48				8-8	1	2N518		245	C3	7	²6S7, 6A8, 6B8, 6G5, 6K6	465	9-1
	Tone	76	MR48	M26			.0075		Buffer	B14						
	Sen.	7	CIMP													
85AW	Vol.	18	MR48	M26			8-8	1	2N518				8	²6D6, 6A7, 75, or 85, ²42, 5Z3	432	8-5,6
	Tone	149	K12				8	14	RS216							
85AWA	Vol.	15	MR48	M26			16	1	RS216				8	6A7, ²6D6, 85, 6A6, ²42, 80	458	8-3,4
	Tone	22	MR33				8	1	RS213							
							10	15	BB12							
86AW	Vol.	15	...‡...		See Note	A19	16	4	RS216				8	6A7, 6B7, 6A6, ²6D6, ²42, 5Z3	458	6-3
	Tone	21	K12				10	15	BB12							
	Sil.	7	UC500													
87, 87A	Vol.	124	MR48				16, 16	1	RS216				8	²6K7, 6A8, 6Q7, 6G5, 6F6, 5X3	465	8-7,8
	Tone	...‡..	MR48	M26			10	15	BB12							
88, 89 (Chassis 87)	Vol.	124	MR48				16, 16	1	RS216				8	²6K7, 6A8, 6Q7, 6G5, 6F6, 5X3	465	8-7
	Tone	...‡..	MR48	M26			10	15	BB12							
	Sen.	7	CIMP													
90 (Chassis 87A)	Vol.	124	MR48				16, 16	1	RS216				8	²6K7, 6A8, 6Q7, 6G5, 6F6, 5X3	465	8-7
	Tone	...‡..	MR48	M26			10	15	BB12							
	Sen.	7	CIMP													
104AW (46 power tubes)	Vol.	15	N	6			4-8-4	3	See Note	B3			10	55, ²56, 57, ²58, ²46, 83	262	4-3
104AW (59 power tubes)	Vol.	15	N	6			8-8	35	See Note	B3			10	55, ²56, ²57, ²58, ²59, 82	262	4-4
	Tone	22	UC502				4	19	BB20							
	Supp.	...‡..	UC502		See Note	A5										
105AW	Vol.	45	TM230-SS1	M26			8	7	RS213				10	²6D6, 6A7, ²85, 76, ²42, 5Z3	432	8-2
	Tone	22	MR33				8-8	7	2N518							
	Sil.	48	CIMP				5	15	BB12							
106AW	Vol.	15	N	6			16	4	RS216				10	6A6, 6A7, ²6D6, 76, 6C6, ²42, 5Z3	458	6-3
	Tone	21	K12				10	15	BB12							
	Sil.	7	UC500													
107, 107A	Vol.	124	MR48				16, 16	1	RS216				10	²6K7, 6L7, 6Q7, 6G5, ²6F6, 5X3	465	8-7,8
	Tone	...‡..	MR48	M26												
107AW (without rear fuse and cover)	Vol.	15	N	6			8-4	1	See Note	B3			7	57, ²58, 56, 55-Wunderlich, 59, 82	262	3-1
	Tone	22	UC502				10	15	BB12							
108, 109 (Chassis 107)	Vol.	124	MR48				16, 16	1	RS216				10	²6K7, 6L7, 6Q7, 6G5, ²6F6, 5X3	465	8-7
	Tone	...‡..	MR48	M26												
110 (Chassis 107A)	Vol	124	MR48				16, 16	1	RS216				10	²6K7, 6L7, 6Q7, 6G5, ²6F6, 5X3	465	8-7
	Tone	...‡..	MR48	M26												
111	Vol.	124	MR48				16, 16	1	RS216				8	²6K7, 6A8, 6Q7, 6G5, 6F6, 5X3	465	8-7
	Tone	...‡..	MR48	M26												
126AW	Vol.	15	N	6			16	4	RS216				12	²6D6, 6A7, 6C6, ²76, 6A6, ²6A3, 5Z3	458	6-3
	Tone	21	K12				10	19	BB13							
	Sil.	7	UC500													
127, 127A	Vol.	124	MR48				16, 16	1	RS216				12	²6K7, 6L7, 6Q7, 6C5, 6G5, ²6F6, 5X4	465	8-7,8
	Tone	...‡..	Y1000MP													
	Sen.	7	UC500													
128 (Chassis 127)	Vol.	124	MR48				16, 16	1	RS216				12	²6K7, 6L7, 6Q7, 6C5, 6G5, ²6F6, 5X4	465	8-7
	Tone	...‡..	Y1000MP													
	Sen.	7	UC500													
128 (Chassis 228, 428)	Vol.	76	MR48				16	1	RS216				12	6A8, ²6K7, 6H6, 6U5, ²6C5, ²6F6, 6K6G, 5Y3	465	9-2
	Tone	76	MR48	M26			8	1	RS213							
129 (Chassis 127A)	Vol.	124	MR48				16-16	1	RS216				12	²6K7, 6L7, 6Q7, 6C5, 6G5, ²6F6, 5X4	465	8-7
	Tone	...‡..	Y1000MP													
	Sen.	7	UC500													
130	Vol.	124	MR48				16, 16	1	RS216				8	²6K7, 6A8, 6Q7, 6G5, 6F6, 5X3	465	8-7
	Tone	...‡..	MR48	M26			10	15	BB12							
168	Vol.	76	MR48	M26			8-8	1	2N518		245	C3	6	²6K7, 6A8, 6B8, 6G5, 6V6G	465	9-3
	Tone	76	MR48				.0075		Buffer	B14						
175AW	Vol.	15	MR53				16	1	RS216				7	6A7, 6D6, 6B7, 6A6, ²42, 80	458	8-1
	Tone	147	M				8	1	RS213							
							10	15	BB12							
175AWA	Vol.	114	MR48	M26			16	1	RS216				7	6A7, 6D6, 6B7, 6A6, ²42, 80	458	8-3
	Tone	114	MR33				8	1	RS213							
185AW	Vol.	18	MR48	M26			8-8	1	2N518				8	²6D6, 6A7, 75, ²42, 5Z3	432	8-5
	Tone	149	K12				8	14	RS213							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PATTERSON RADIO CO.—Continued																
185AWA	Vol.	15	MR48	M26			16	1	RS216				8	6A7, [2]6D6, 85, 6A6, [2]42, 80	458	8-3
	Tone	22	MR33				8	1	RS213							
							10	15	BB12							
186AW	Vol.	15	TRP606	6			16	4	RS216				8	6A7, 6B7, 6A6, [2]6D6,		
	Tone	21	K12				10	19	BB13					[2]42, 5Z3	458	6-2,4
	Sil.	7	UC500													
198	Vol.	76	MR48	M26			8-8	1	2N518				9	[2]6K7, 6A8, 6G5, [2]6V6G, 6H6, 6N7, 5Y3	465	9-3
	Tone	76	MR48													
207AW, 210AW (without rear fuse and cover)	Vol.	15	N	6			8-4	1	See Note	B3			7	55, 56, 57, [2]58, 59, 82	262	3-1
	Tone	22	UC502				10	15	BB12							
208	Vol.	76	MR48				16, 16	1	RS216				8	[2]6K7, 6A8, 6B8, 6E5, 6V6, 5Y3	465	9-4
	Tone	76	MR48	M26												
212	Vol.	76	MR48				16, 16	1	RS216				12	[2]6K7, 6A8, 6K6, 6E5, 6Q7, 6C5, 6J7, [2]6V6, 5Y3	465	9-4
	Tone	76	MR48	M26			25	15	BB15							
Chassis 228	Vol.	76	MR48				16	1	RS216				12	6A8, [2]6K7, 6H6, 6U5, [2]6C5, [2]6F6, 5Y3, 6K6G	465	9-2
	Tone	76	MR48	M26			8	1	RS213							
268	Vol.	76	MR48	M26			8-8	1	2N518		245	C3	6	[2]6K7, 6A8, 6B8, 6G5, 6V6G	465	9-3
	Tone	76	MR48				.0075		Buffer	B14						
275AW	Vol.	15	MR53				16	1	RS216				7	6A7, 6D6, 6B7, 6A6, [2]42, 80	458	8-1
	Tone	147	M				8	1	RS213							
							10	15	BB12							
275AWA	Vol.	114	MR48	M26			16	1	RS216				7	6A7, 6D6, 6B7, 6A6, [2]42, 80	458	8-3
	Tone	114	MR33				8	1	RS213							
285AW	Vol.	18	MR48	M26			8-8	1	2N518				8	[2]6D6, 6A7, 75, [2]42, 5Z3	432	8-5
	Tone	149	K12				8	14	RS213							
285AWA	Vol.	15	MR48	M26			16	1	RS216				8	6A7, [2]6D6, 85, 6A6, [2]42, 80	458	8-3
	Tone	22	MR33				8	1	RS213							
							10	15	BB12							
286AW	Vol.	15	TRP606	6			16	4	RS216				8	6A7, 6A6, 6B7, [2]6D6,		
	Tone	21	K12				10	19	BB13					[2]42, 5Z3	458	6-2,4
	Sil.	7	UC500													
298	Vol.	76	MR48	M26			8-8	1	2N518				9	[2]6K7, 6A8, 6G5, [2]6V6G, 6H6, 6N7, 5Y3	465	9-3
	Tone	76	MR48													
308	Vol.	76	MR48				16, 16	1	RS216				8	[2]6K7, 6A8, 6B8, 6E5, 6V6, 5Y3	465	9-4
	Tone	76	MR48	M26												
312	Vol.	76	MR48				16, 16	1	RS216				12	[2]6K7, 6A8, 6K6, 6E5, 6Q7, 6C5, 6J7, [2]6V6, 5Y3	465	9-4
	Tone	76	MR48	M26			25	15	BB15							
375AW	Vol.	15	MR53				16	1	RS216				7	6A7, 6D6, 6B7, 6A6, [2]42, 80	458	8-1
	Tone	147	M				8	1	RS213							
							10	15	BB12							
375AWA	Vol.	114	MR48	M26			16	1	RS216				7	6A7, 6D6, 6B7, 6A6, [2]42, 80	458	8-3
	Tone	114	MR33				8	1	RS213							
385AW	Vol.	18	MR48	M26			8-8	1	2N518				8	[2]6D6, 6A7, 75, [2]42, 5Z3	432	8-5
	Tone	149	K12				8	14	RS213							
385AWA	Vol.	15	MR48	M26			16	1	RS216				8	6A7, [2]6D6, 85, 6A6, [2]42, 80	458	8-3
	Tone	22	MR33				8	1	RS213							
							10	15	BB12							
386AW	Vol.	15	TRP606	6			16	4	RS216				6	6A6, 6A7, 6B7, 6D6, 42, 5Z3	458	6-3
	Tone	21	K12				10	19	BB13							
	Sil.	7	UC500													
408	Vol.	76	MR48				16, 16	1	RS216				8	[2]6K7, 6A8, 6B8, 6E5, 6V6, 5Y3	465	9-4
	Tone	76	MR48	M26												
412	Vol.	76	MR48				16, 16	1	RS216				12	[2]6K7, 6A8, 6K6, 6E5, 6Q7, 6C5, 6J7, [2]6V6, 5Y3	465	9-4
	Tone	76	MR48	M26			25	15	BB15							
428	Vol.	76	MR48				16	1	RS216				12	6A8, [2]6K7, 6H6, 6U5, [2]6C5, [2]6F6, 5Y3, 6K6G	465	9-2
	Tone	76	MR48	M26			8	1	RS213							
507AW (with rear fuse and cover)	Vol.	15	N	6			8-8	35	See Note	B3			7	55, 56, 57, [2]58, 59, 82	262	4-1
	Tone	22	UC502				10	15	BB12							
508AW	Vol.	83	N	6			8-8	1	See Note	B3			8	55, 56, 57, [2]58, [2]59, 5Z3	262	4-2
	Tone	22	UC502													
	Sen.	8	UC500													
510AW (46 power tube)	Vol.	15	N	6			4-8-4	3	See Note	B3			10	55, [2]56, 57, [2]58, [2]46, 82	262	4-3
510AW (59 power tubes)	Vol.	15	N	6			8-8	35	See Note	B3			10	55, [2]56, [2]57, [2]58, [2]59, 82	262	4-4
	Tone	22	UC502				4	19	BB20							
	Supp.	‡	UC502		See Note A5											
1105AW	Vol.	45	TM230-SS1	M26			8	7	RS213				10	[2]6D6, 6A7, [2]85, 76, [2]42, 5Z3	432	8-2
	Tone	22	MR33				8-8	7	2N518							
	Sil.	48	C1MP				5	15	BB12							
1106AW	Vol.	15	N	6			16	4	RS216				10	6A6, 6A7, [2]6D6, 76, 6C6, [2]42, 5Z3	458	6-2,4
	Tone	21	K12				10	19	BB13							
	Sil.	7	UC500													
1126AW	Vol.	15	N	6			16	4	RS216				12	6A6, 6A7, 6C6, [2]6D6, [2]6A3, 5Z3, [2]76	458	6-2,4
	Tone	21	K12				10	19	BB13							
	Sil.	7	UC500													
2105AW	Vol.	45	TM230-SS1	M26			8	7	RS213				10	[2]6D6, 6A7, [2]85, 76, [2]42, 5Z3	432	8-2
	Tone	22	MR33				8-8	7	2N518							
	Sil.	48	C1MP				5	15	BB12							
2106AW	Vol.	15	N	6			16	4	RS216				10	6A6, 6A7, 6C6, [2]6D6, 76, [2]42, 5Z3	458	6-2,4
	Tone	21	K12				10	19	BB13							
	Sil.	7	UC500													
2126AW	Vol.	15	N	6			16	4	RS216				12	[2]6D6, 6A7, 6C6, 6A6, [2]76, [2]6A3, 5Z3	458	6-2,4
	Tone	21	K12				10	19	BB13							
	Sil.	7	UC500													
3105AW	Vol.	45	TM230-SS1	M26			8	7	RS213				10	[2]6D6, 6A7, [2]85, 76, [2]42, 5Z3	432	8-2
	Tone	22	MR33				8-8	7	2N518							
	Sil.	48	C1MP				5	15	BB12							
3106AW	Vol.	15	N	6			16	4	RS216				10	6A6, 6A7, [2]6D6, 6C6, 76, [2]42, 5Z3	458	6-2,4
	Tone	21	K12				10	19	BB13							
	Sil.	7	UC500													
3126AW	Vol.	15	N	6			16	4	RS216				12	[2]6D6, 6A7, 6C6, 6A6, [2]76, [2]6A3, 5Z3	458	6-2,4
	Tone	21	K12				10	19	BB13							
	Sil.	7	UC500													
9507AW (with rear fuse and cover)	Vol.	15	N	6			8-8	35	See Note	B3			7	55, 56, 57, [2]58, 59, 82	262	4-1
	Tone	22	UC502				10	15	BB12							
PEERLESS—See United Reproducers																
PERFECTONE, INC. 4 tube receiver	Vol.	15	N				10	15	BB12				4	[2]36, 41		§5-15

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PETER PAN																
B	Vol.	6	MR18	M26			4, 4	23	BB61				4	²57, 47, 80	465	7-2
	Tone	22	MR44													
4, 4S	Vol.	6	MR18				4, 4	23	BB61				4	6D6, 6C6, 42, 80		7-1
4 (With Tone Control)	Vol.	6	MR18	M26			4, 4	23	BB61				4	²57, 47, 80		7-2
	Tone	22	‡		See Note A5											
25AV-25AU	Vol.	56	MR48	M26			4, 4	23	BB61				5	38, 57, 55, 47, 80	255	7-2
	Tone	22	MR44													
34	Vol.	6	MR18				4, 4	23	BB61				4	6D6, 76, 42, 80		7-1
45	Vol.	18	MR48				4, 4	23	BB61				5	6A7, 78, 75, 42, 80	465	7-1
56	Vol.	18	MR48				8-8	23	2S567				5	6J7, 6K7, 6Q7, 6F6,		
	Tone	21	MR48											5Z4	465	7-1
PHILCO																
A (Packard)	Vol.	16	O	7	EB247								6	²36, 85, 37, 79	260	6-87,88
AC206 (Studebaker)	Vol.	18	N	6			30-2072	1/15	CM172/BB12		500P	C3	6	²44, 77, 75, 42, 84	260	6-79
							.01		Buffer	B14						
AC206 code 122 (Studebaker)	Vol.	18	TRP605	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²44, 6A7, 75, 42, 84	260	5-6
							30-4065	15	BB15							
							.01		Buffer	B14						
AC236 (Studebaker Jr.)	Vol.	18	N	6	FS251	A51	30-2072	1	CM172/BB12		500P	C3	6	²44, 77, 75, 42, 84	260	6-84
							7440	15	BB12							
							.01		Buffer	B14						
AC266 (ST3) (Studebaker DeLuxe)	Vol.	17	TRP605	6	FS251	A51	30-2105	1	CM172		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-99
							30-2106	15	TN111							
							.01		Buffer	B14						
AC989 (Nash)	Vol.	19	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²44, 6A7, 75, 41, 84	260	6-79, 8-3
							30-4065	15	BB15							
							.006		Buffer	B14						
AC989 (Code 122) (Nash)	Vol.	18	TRP605	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²44, 6A7, 75, 41, 84	260	6-78, 8-3
							30-4065	15	BB15							
							.006		Buffer	B14						
AC1089 (Nash)	Vol.	18	N	6			30-2072	1/15	CM172/BB12		500P	C3	6	²44, 77, 75, 42, 84	260	6-85, 8-4
							.01		Buffer	B14						
AC1289 (Nash Jr.)	Vol.	18	O	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²44, 77, 75, 42, 84	260	6-84, 8-4
							7440	15	BB12							
							.01		Buffer	B14						
B	Vol.	16	N	7			30-2030	1	SR638		500P	C3	6	²36, 85, 41, 84	260	6-89,90
							04354	14/15	See Note	B133						
							.006		Buffer	B14						
B6	Vol.	16	O	7	EB247		04354	14/15	See Note	B133			5	²36, 85, 41	260	3-55
C	Vol.	18	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²39, 6A7, 75, 42, 84	260	4-56,57
							30-2027	15	BB15							
							.01		Buffer	B14						
C (Nash) (AC989)	Vol.	19	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²44, 6A7, 75, 42, 84	260	6-79,80
							30-4065	15	BB15							
							.006		Buffer	B14						
C (122)	Vol.	18	TRP603	6	FS251	A51	30-2015	1	CM172		500P	C3	6	²39, 6A7, 75, 42, 84	260	5-5,6
							30-4065	15	BB15							
							.01		Buffer	B14						
C6 (Chrysler) (CT2, CT5)	Vol.	17	TRP614	6			30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-67,68
							30-2076	15	TN111							
							.01		Buffer	B14						
C1423 (Chrysler)	Vol.	18	SRP282			A67	30-2179	1	SR645		505P	C3	6	²78, 6A7, 75, ²41, 84	260	9-45
							.008		Buffer	B14						
C1450	Vol.	18	SRP282				30-2179	1	SR645		505P	C3	6	²78, 6A7, 75, 41, 84	260	8-146
							.008		Buffer	B14						
C1452	Vol.	18	SRP282				30-2179	1	SR645		505P	C3	6	²78, 6A7, 75, 41, 84	260	8-147
							.008		Buffer	B14						
C1550 (Chrysler)	Vol.	17	SRP290				30-2179	1	SR645		505P	C3	6	²78, 6A7, 75, 42, 84	260	9-53,54
							.0075		Buffer	B14						
CDS	Vol.	19	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²44, 6A7, 75, 41, 84	260	6-79,80
							30-4065	15	BB15							
							.006		Buffer	B14						
CT2 (Chrysler DeLuxe)	Vol.	17	TRP614	6			30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-67,68
							30-2076	15	TN111							
							.01		Buffer	B14						
CT5 (Chrysler Airflow DeLuxe)	Vol.	17	TRP614	6			30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-95
							30-2076	15	TN111							
							.01		Buffer	B14						
CT11 (Chrysler)	Vol.	17	SRP282				30-2134	4	CM172		500P	C3	6	²78, 6A7, 75, 41, 84	260	7-3,4
	Tone	22	SRP282			A67	.01		Buffer	B14						
CU & CV (Chrysler) (Code 122)	Vol.	17	TRP614	6			30-2030	1	SR638		500P	C3	6	²44, 77, 75, 42, 84	260	6-62,64
							30-2076	15	TN111							
							.01		Buffer	B14						
CZ (Chrysler) (CT2, CT5)	Vol.	17	TRP614	6			30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-67,68
							30-2076	15	TN111							
							.01		Buffer	B14						
D (Nash) (AC989)	Vol.	19	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²44, 6A7, 75, 41, 84	260	
							30-4065	15	BB15							6-79,80
							.006		Buffer	B14						
D (Code 122) (AC989 Code 122)	Vol.	18	TRP605	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²44, 6A7, 75, 41, 84	260	6-78,80
							30-4065	15	BB15							
							.006		Buffer	B14						
DP (Code DP121, DP122) Police	Vol.	18	N	6			30-2072	1/15	CM172/BB12		500P	C3	6	²44, 77, 75, 41, 84	260	8-136
							.006		Buffer	B14						
DPV	Vol.	17	N	6	FS251	A51	30-2072	1/15	CM172/BB12		500P	C3	6	²44, 6A7, 75, 42, 84	260	8-136
							.01		Buffer	B14						
DU (Dodge) (CT2, CT5)	Vol.	17	TRP614	6			30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-67,68
							30-2076	15	TN111							
							.01		Buffer	B14						
E	Vol.	18	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	²39, 6A7, 75, 42, 84	260	4-56,57
							30-2027	15	BB15							
							.01		Buffer	B14						
E-(10) (Pierce-Arrow)	Vol.	19	TRP603	6	FS251	A51	30-2015	1	CM172		500P	C3	6	²44, 6A7, 75, 42, 84	260	6-79
							30-4065	15	BB15							
							.01		Buffer	B14						

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PHILCO—Continued																
E (122)	Vol.	18	TRP605	6	FS251	A51	30-2015	1	CM172		500P	C3	6	†39, 6A7, 75, 42, 84	260	5-5,6
							30-1065	15	BB15							
							.01		Buffer	B14						
EA Dynamotor							8	12	CS123							3-5,7
EF Eliminator							30-2008	1	CM162		500P	C3		84		3-9
							.006		Buffer	B14						
F1440	Vol.	18	SRP282			A67	30-2168	4	SR645		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-144
							.008		Buffer	B14						
F1442	Vol.	18	SRP282			A67	30-2168	4	SR645		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-145
							.0075		Buffer	B14						
F1540 (Ford)	Vol.	18	SM300				30-2295	4	SR645		505P	C3	6	†78, 6A7, 75, 42, 84	260	9-49
	Sen.	7	Order from	Mfr.			.0075		Buffer	B14						
F1640	Vol.	17	‡		See No	te A19	10-10-20	1/15	FPT332		508P		6	†78, 6A7, 75, 42, 84	470	
FT6	Vol.	17	TRP614	6			30-2030	1	SR638		500P	C3	6	†44, 77, 75, 42, 84	260	6-59,60
							30-2076	15	TN111							
							.01		Buffer	B14						
FT9 (Ford)	Vol.	18	SRP282		See No	te A67	30-2134	4	CM172		500P	C3	6	†78, 6A7, 75, 41, 84	260	6-61
							.01		Buffer	B14						
FT9X	Vol.	18	SRP282			A67	30-2134	4	CM172		500P	C3	6	†78, 6A7, 75, 41, 84	260	6-61
							.01		Buffer	B14						
G (121)	Vol.	18	UC512	6			30-2030	1	SR638		500P	C3	6	†44, 6A7, 75, 41, 84	260	5-1,4
							30-2063	15	BB15							
							.006		Buffer	B14						
G (Code 122)	Vol.	17	TRP614	6			30-2030	1	SR638		500P	C3	6	†44, 77, 75, 42, 84	260	6-62
							30-2076	15	TN111							
							.01		Buffer	B14						
G1418	Vol.	18	SRP282		See No	te A67	30-2150	4	SR639		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-131
							.0075		Buffer	B14						
G1436	Vol.	18	SRP282		See No	te A67	30-2168	4	SR645		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-142
							.008		Buffer	B14						
G1528 (Graham)	Vol.	17	SRP290			A67	30-2258	4	SR645		505P	C3	7	†78, 6A7, 75, †41, 84	260	9-43,44
							.0075		Buffer	B14						
H	Vol.	18	N	6	FS251	A51	30-2015	1	CM172		500P	C3	7	†44, 6A7, 75, 37, 79, 84	260	6-75
							30-4135	14/15	CM172/TP420	B135						
							.01		Buffer	B14						
H (Code 122)	Vol.	18	TRP605	6	FS251	A51	30-2015	1	CM172		500P	C3	7	†44, 6A7, 75, 37, 79, 84	260	6-74
							30-4135	14/15	CM172/TP420	B135						
							.01		Buffer	B14						
HT11X	Vol.	18	SRP282			A67	30-2134	4	CM172		507P	C3	6	†78, 6A7, 75, 41, 84	260	7-8,9
							.01		Buffer	B14						
J (Nash)	Vol.	18	O	6	FS252	A25	30-2015	1	CM172		500P	C3	6	†44, 77, 75, 42, 84	260	6-83,84
							7440	15	BB12							
							.01		Buffer	B14						
J (Code 122)	Vol.	18	N	6	FS251	A51	30-2072	1/15	CM172/BB12		500P	C3	6	†44, 77, 75, 42, 84	260	6-43,44
							.01		Buffer	B14						
L1420, L1424, L1425	Vol.	18	SRP282			A67	30-2167	1	SR638	B175	505P	C3	6	†78, 6A7, 75, 79, 84	260	8-132, 133
							.008		Buffer	B14						
L1427, L1429, L1460	Vol.	18	SRP282			A67	30-2167	1	SR638	B175	505P	C3	7	†78, 6A7, 75, 37, 79, 84	260	8-135
	Tone	44	L						Buffer	B14						
L1560 (Lincoln Zephyr)	Vol.	18	SRP282			A67	30-2167	1	SR638	B175	505P	C3	6	†78, 6A7, 75, 6Y7G, 84	260	9-51
							.0075		Buffer	B14						
LT14X3, LT14X4	Vol.	18	SRP282				38-7693	1	CM172		500P	C3	6	†78, 6A7, 75, 41, 84	260	7-9,10
							.01		Buffer	B14						
ME (Pierce-Arrow)	Vol.	19	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	†44, 6A7, 75, 42, 84	260	
							30-2027	15	BB15							
							.01		Buffer	B14						
MED	Vol.	19	TRP603	6	FS251	A51	30-2015	1	CM172		500P	C3	6	†44, 6A7, 75, 42, 84	260	6-79
							30-4065	15	BB15							
							.01		Buffer	B14						
MED (122)	Vol.	18	TRP605	6	FS251	A51	30-2015	1	CM172		500P	C3	6	†39, 6A7, 75, 42, 84	260	5-5,6
							30-4065	15	BB15							
							.01		Buffer	B14						
MT3 (Pierce-Arrow DeLuxe)	Vol.	17	TRP605	6	FS251	A51	30-2105	1	CM172		500P	C3	6	†36, 77, 44, 75, 42, 84	260	6-99
							30-2106	15	TN111							
							.01		Buffer	B14						
MT14X4 (Pierce-Arrow)	Vol.	18	SRP282				30-2134	4	CM172		500P	C3	6	†78, 6A7, 75, 41, 84	260	6-97,98
							.01		Buffer	B14						
N (Ford Center-Control)	Vol.	17	TRP614	6			30-2030	1	SR638		500P	C3	6	†44, 77, 75, 42, 84	260	
							30-2076	15	TN111							
							.01		Buffer	B14						
N1418	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-131
							.0075		Buffer	B14						
N1433H	Vol.	18	SRP282			A67	30-2168	4	SR645		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-140
							.008		Buffer	B14						
N1434H	Vol.	18	SRP282			A67	30-2179	4	SR645		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-141
							.008		Buffer	B14						
N1514	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	†78, 6A7, 75, 41, 84	260	9-34
							.0075		Buffer	B14						
N1524 (Nash)	Vol.	17	SRP290				30-2258	4	SR645		505P	C3	7	†78, 6A7, 75, †41, 84	260	9-39,40
							.0075		Buffer	B14						
N-FND	Vol.	17	TRP614	6			30-2030	1	SR638		507P	C3	6	†44, 77, 75, 42, 84	260	8-4,5
							30-2076	15	TN111							
							.01		Buffer	B14						
NQD (Nash)	Vol.	18	N	6			30-2072	1/15	CM172/BB12		500P	C3	6	†44, 77, 75, 42, 84	260	6-85,86
							.01		Buffer	B14						
NT7, NT8	Vol.	18	TRP605		FS251	A51	8-4	4	CM172		500P	C3	6	†78, 6A7, 75, 41, 84	260	6-48,49
	Tone	22	L				.01		Buffer	B14						
NT12X, NT12X2	Vol.	18	SRP282		See No	te A67	30-2134	4	CM172		500P	C3	6	†78, 6A7, 75, 41, 84	260	7-5,6
							.01		Buffer	B14						
NT15 (Nash)	Vol.	18	SRP282		See No	te A67	30-2145	4	CM170		500P	C3	6	†78, 6A7, 75, 41, 84	260	7-11,12
							.01		Buffer	B14						
P1417	Vol.	18	SRP282		See No	te A67	30-2150	4	SR639		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-127
							.0075		Buffer	B14						
P1426 (Packard)	Vol.	18	Order from	Mfr.			30-2167	1	SR638	B175	505P	C3	7	†78, 6A7, 75, 37, 79, 84	260	8-134
							.008		Buffer	B14						
P1430, P1432H	Vol.	18	SRP282				30-2168	4	SR645		505P	C3	6	†78, 6A7, 75, 41, 84	260	8-138 8-139
							.008		Buffer	B14						
P1517 (Packard)	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	†78, 6A7, 75, 41, 84	260	9-37
							.0075		Buffer	B14						
P1530 (Packard)	Vol.	17	SRP290			A67	30-2257	4	SR645		505P	C3	7	†78, 6A7, 75, †41, 84	260	9-46
							.0075		Buffer	B14						
P1535 (Packard)	Vol.	17	SRP282			A67	30-2167	1	SR638	B175	505P	C3	7	†78, 6A7, 75, 6G6, 6Y7G, 84	260	9-47
							.0075		Buffer	B14						
PA (Packard DeLuxe)	Vol.	16	O	7	EB247								7	†36, 85, 37, 79, 81	260	

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PHILCO—Continued																
PAD, PAL	Vol.	16	O	7	EB247								6	[3]36, 37, 85, 79	260	6-87,88
PB (Packard)	Vol.	16	O	7	EB247		30-2030	1	SR638		500P	C3	6	[3]36, 85, 41, 84	260	
							04354	14/15	See Note	B133						
							.006		Buffer	B14						
PBD	Vol.	16	O	7	EB247		30-2030	1	SR638		500P	C3	6	[3]36, 85, 41, 84	260	6-89,90
							.25-.5-8	14/15	See Note	B133						
							.006		Buffer	B14						
PHD, PHXD (Packard)	Vol.	18	TRP605	6	FS251	A51	30-2015	1	CM172		500P	C3	7	[3]44, 6A7, 75, 37, 79, 84	260	6-91,93
							30-4135	14/15	CM172/TP420	B135						
							.01		Buffer	B14						
PJ (Plymouth) (CT2, CT5), PT5 (120) (Packard DeLuxe)	Vol.	17	TRP614	6			30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-67,68
							30-2076	15	TN111							6-95
							.01		Buffer	B14						
PT14 (Packard)	Vol.	18	SRP282				30-2134	4	CM172		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	6-97,98
							.01		Buffer	B14						
Q	Vol.	18	N	6	FS251	A51	30-2072	1/15	CM172/BB12		500P	C3	6	[3]44, 77, 75, 42, 84	260	5-47,48
							.01		Buffer	B14						
Q (Nash)	Vol.	18	N	6			30-2072	1/15	CM172/BB12		500P	C3	6	[3]44, 77, 75, 42, 84	260	6-85
							.01		Buffer	B14						
R	Vol.	18	O	6	FS252	A52	30-2015	1	CM172		500P	C3	6	[3]44, 77, 75, 42, 84	260	6-103
							7440	15	BB12							
							.01		Buffer	B14						
R (Code 122)	Vol.	18	N	6	FS251	A51	30-2072	1/15	CM172/BB12		500P	C3	6	[3]44, 77, 75, 42, 84	260	6-43,44
							.01		Buffer	B14						
R1415, W1419	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	[3]78, 6A7, 75, 41, 84	260	8-125, 8-126
							.0075		Buffer	B14						
RT3 (Reo DeLuxe)	Vol.	17	TRP605	6	FS251	A51	30-2105	1	CM172		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-99
							30-2106	15	TN111							
							.01		Buffer	B14						
RT14X (Reo DeLuxe)	Vol.	18	SRP282		See Note	A67	30-2134	4	CM172		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	6-97,98
							.01		Buffer	B14						
S1416	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	[3]78, 6A7, 75, 41, 84	260	8-115
							.0075		Buffer	B14						
S1431	Vol.	18	SRP282		See Note	A67	30-2168	4	SR645		505P	C3	6	[3]78, 6A7, 75, 41, 84	260	7-145, 7-146
							.008		Buffer	B14						
S1437	Vol.	18	SRP282			A67	30-2179	4	SR645		505P	C3	6	[3]78, 6A7, 75, 41, 84	260	8-143
							.008		Buffer	B14						
S1516 (Studebaker)	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	[3]78, 6A7, 75, 41, 84	260	9-35
							.0075		Buffer	B14						
S1526 (Studebaker)	Vol.	17	SRP291				30-2258	4	SR645		505P	C3	7	[3]78, 6A7, 75, [3]41, 84	260	9-41
							.0075		Buffer	B14						
SCD	Vol.	19	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	[3]44, 6A7, 75, 42, 84	260	6-78,79
							30-4065	15	BB15							
							.006		Buffer	B14						
SCD (122)	Vol.	18	TRP605	6	FS251	A51	30-2015	1	CM172		500P	C3	6	[3]39, 6A7, 75, 42, 84	260	5-5,6
							30-4065	15	BB15							
							.01		Buffer	B14						
SDD	Vol.	19	TRP603	6	FS251	A51	30-2015	1	CM172		500P	C3	6	[3]44, 6A7, 75, 41, 84	260	6-79,80
							30-4065	15	BB15							
							.006		Buffer	B14						
SE (DeSoto)	Vol.	17	TRP614	6			30-2030	1	SR638		500P	C3	6	[3]44, 77, 75, 42, 84	260	6-62,65
							30-2076	15	TN111							
							.01		Buffer	B14						
SF, SG (DeSoto) (CT2, CT5)	Vol.	17	TRP614	6			30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-67,68
							30-2076	15	TN111							
							.01		Buffer	B14						
SJD (122)	Vol.	18	N	6	FS251	A51	30-2072	1/15	CM172/BB12		500P	C3	6	[3]44, 77, 75, 42, 84	260	6-43,44
							.01		Buffer	B14						
SQD (Nash)	Vol.	18	N	6			30-2072	1/15	CM172/BB12		500P	C3	6	[3]44, 77, 75, 42, 84	260	6-85,86
							.01		Buffer	B14						
ST7	Vol.	18	TRP605		FS251	A51	30-2109	4	CM172		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	6-48,52
	Tone	22	L				.01		Buffer	B14						
ST12 (Studebaker)	Vol.	18	SRP282		See Note	A67	30-2134	4	CM172		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	7-,78
							.01		Buffer	B14						
ST15 (Studebaker)	Vol.	18	SRP282		See Note	A67	38-7684	4	2S567		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	7-13,14
							.01		Buffer	B14						
T2	Vol.	17	TRP614				30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-67,68
							30-2076	15	TN111							
							.01		Buffer	B14						
T3	Vol.	17	TRP605	6	FS251	A51	30-2105	1	CM172		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-99, 102
							30-2106	15	TN111							
							.01		Buffer	B14						
T5	Vol.	17	TRP614	6	FS251	A51	30-2107	1	SR642		500P	C3	6	36, 77, 44, 75, 42, 84	260	6-68
							30-2076	15	TN111							
							.01		Buffer	B14						
T6	Vol.	17	TRP614	6			30-2030	1	SR638		500P	C3	6	[3]44, 77, 75, 42, 84	260	6-59
							30-2076	15	TN111							
							.01		Buffer	B14						
T7, T8 (Nash)	Vol.	18	TRP605		FS251	A51	30-2109	4	CM172	B3	500P	C3	6	[3]78, 6A7, 75, 41, 84	260	6-49
	Tone	22	L				.01		Buffer	B14						
T9	Vol.	18	SRP282			A67	30-2134	4	CM172		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	6-61
							.01		Buffer	B14						
T10, CT10	Vol.	18	SRP282				38-7693	4	CM172		507P	C3	6	[3]78, 6A7, 75, 41, 84	260	8-7,8
							.01		Buffer	B14						
T11	Vol.	17	SRP282				30-2134	4	CM172		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	7-3
							.01		Buffer	B14						
T12	Vol.	18	SRP282			A67	30-2134	4	CM172		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	7-5
							.01		Buffer	B14						
T14	Vol.	18	SRP282			A67	30-2134	4	CM172		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	6-97,98
							.01		Buffer	B14						
T15	Vol.	18	SRP282			A67	38-7684	4	2S567		500P	C3	6	[3]78, 6A7, 75, 41, 84	260	7-13
							.01		Buffer	B14						
3 Transitone	Vol.	15	O										7	[3]24A, [3]71A, [3]01A		3-1,2
4 Converter							4916	1	HD684				3	27, 24A, 80	1000	2-1,2
5 Transitone	Vol.	16	N	6	EC240	A72	30-2008	1	CM162		500P	C3	5	6A7, 78, 75, 41, 84	460	3-8,9
							30-4017	‡	See Note	B136						
							.006		Buffer	B14						
5 (AC Home Receiver)	Vol.	2	‡		See Note	A5	‡	34	See Note	B3			4	26, 27, 71A, 80		4-53,55
6, 6F	Vol.	16	O	7	EB247		04354	14/15	See Note	B133			5	[3]36, 85, 41	260	3-55
7 Transitone	Vol.	15	L	7	EB247		04354	14/15	See Note	B133			4	[3]36, 38	175	3-3,4
8	Vol.	16	N	7	EB247								6	[3]36, 38, [3]41	175	3-5,7
9 Transitone	Vol.	16	O	7	EB247								6	[3]36, 85, 37, 79	260	3-56, 4-52

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PHILCO—Continued																
10 Transitone	Vol.	18	TRP603	6	FS252	A52	30-2015	1	CM172		500P	C3	6	[2]39, 6A7, 75, 42, 84	260	4-56,57
							30-2027	15	BB15							
							.01		Buffer	B14						
10 (Code 122) C-(Studebaker) E-(Pierce-Arrow)	Vol.	18	TRP605	6	FS251	A51	30-2015	1	CM172		500P	C3	6	[2]39, 6A7, 75, 42, 84	260	5-5,6
							30-4065	15	BB15							
							.01		Buffer	B14						
11 Transitone	Vol.	18	O	6	FS252	A52	30-2015	1	CM172		500P	C3	6	[2]44, 77, 75, 42, 84	260	5-7,8
							7440	15	BB12							
							.01		Buffer	B14						
11 (Code 122)	Vol.	18	N	6	FS251	A51	30-2072	1/15	CM172/BB12		500P	C3	6	[2]44, 77, 75, 42, 84	260	6-43,44
							.01		Buffer	B14						
12	Vol.	15	N	7	EB247								5	[2]36, 38, [3]41	175	3-5,7
12 (122)	Vol.	15	O	7	EB247								6	[2]36, 85, 37, 79	260	3-56, 4-52
14 (Code 121 & 122) (Runs 1-4)	Vol.	64	TRP605	6		A58	30-2022	1	HD683				9	[2]78, 6A7, 37, 77, [3]42, 80	175	4-1,2
							30-2003	19	BB13							
							30-2029	13/14	UR181	B137						
14 (Codes 121, 122) (Runs 5 & after)	Vol.	64	TRP605	6			30-2025	1	SR643				9	[2]78, 6A7, 37, 77, [3]42, 80	175	4-1,2
							30-2045	1/19	2N518							
							30-2029	13/14	UR181	B137						
14 (123)	Vol.	64	TRP605	6			7464	1	SR643				9	[2]78, 6A7, 37, 77, [3]42, 80	175	4-1,2
							30-2003	19	BB13							
							30-2029	13/14	UR181	B137						
14 (126-226)	Vol.	64	TRP605	6			4916	1	SR644				9	[2]44, 36, [3]37, [3]42, 80	260	2-21,22
							7464	1	SR643							3-29,30
15 (Early 221)	Vol.	64	N				6706	1	SR643				11	[4]37, [4]44, [3]42, 80	175	3-10,12
							30-2025	1	SR643							
15 (Early 223) 15 Late	Vol.	64	TRP605		See Note	A53	4916	1	SR644				11	[4]37, [4]44, [3]42, 80	175	3-10,12
16	Vol.	64	TRP618	6	See Note	A58	30-2069	1	HD683				11	37, [2]77, [2]78, [3]42, 80, 76	460	4-3,11
	Supp.	12	G12				30-2003	19	BB13							
16 (Codes 121, 122, 123)	Vol.	64	TRP618	6	See Note	A58	30-2069	1	HD683				11	37, [2]77, [2]78, [3]42, 80, 76	460	4-3,10
	Supp.	12	G12				30-2045	1/19	2N518							
16 (Codes 125, 126, 127)	Vol.	64	TRP618	6	See Note	A58	30-2069	1	HD683				11	[2]78, [2]77, 37, 76, [3]42, 80		
							30-2045	1/19	2N518					or 5Z3	460	6-1,3
							30-2078	13/14	UR181	B149						
17	Vol.	64	TRP604	6	See Note	A58	30-2022	1	HD683				11	6A7, [2]37, 77, [2]78, [3]42,		
	Vol.	64	TRP618		See Note	A4	30-2003	19	BB13					5Z3	175	4-9,14
	Supp.	‡	Order from	Mfr.												
17 (Code 121)	Vol.	64	TRP604	6	See Note	A58	30-2011	1	HD683				11	[2]78, 6A7, [2]37, 42, 5Z3,		
	Vol.	64	TRP618	6	See Note	A4	30-2045	1/19	2N518					77	175	4-9,14
	Supp.	‡	Order from	Mfr.												
17, 17A (Codes 122 & 123)	Vol.	64	TRP604	6	See Note	A58	30-2011	1	HD683				11	[2]78, 6A7, [2]37, [3]42, 5Z3		
	Vol.	64	TRP618	6	See Note	A4	30-2046	1/19	2N518					or 80	175	4-9,14
	Supp.	‡	Order from	Mfr.												
18	Vol.	18	TRP605	6		A58	6706	1	SR643				8	6A7, [2]78, 75, [3]42, 80	260	4-15,17
							30-2003	19	BB13							
							30-2029	13/14	UR181	B137						
18 (Codes 121 & 122)	Vol.	18	TRP605	6			6706	1	SR643				8	6A7, [2]78, 75, [3]42, 80	260	4-15,17
							30-2045	1/19	2N518							
							30-2029	13/14	UR181	B137						
18 (Code 124)	Vol.	18	TRP605				30-2025	1	SR643				8	6A7, 75, [2]78, [3]42, 80	260	5-9,10
							30-2045	1/19	2N518							
							30-2029	13/14	UR181	B137						
19	Vol.	18	N	6			8166	1	SR643				6	44, 36, 75, [3]42, 80	260	3-33,34
19 (Codes 122, 126, 126B)	Vol.	18	N				30-2020	1	SR643				6	[2]44, 36, 75, 42, 80	260	3-33,34
19 (Code 128)	Vol.	18	TRP604				30-2026	1	SR644				6	36, [2]44, 75, 42, 80	260	
							30-2062	1/13/19	2S567/BB13							
20, 20A, 21	Vol.	2/8	DRP114		See Note	A56	‡	1/19	See Note	B1			7	[3]24A, 27, [2]71A, 80		1-6,2-3
22	Vol.	45	O				6453	1	SR643				7	36, 37, [3]44, 42, 80	260	3-23,24
							6706	1	SR643							
							6707	1	SR643							
22L	Vol.	64	O				6707	1	SR643				7	[3]44, 36, 37, 42, 80	260	3-43
23X	Vol.	64	O				6707	1	SR643				9	36, [2]37, [2]42, 80, [3]44	260	3-45
24	Vol.	6	E7				4916	4	HD684				5	[3]24A, 35, 47, 80	175	2-11,14
							5142	4	HD684							
25	Vol.	45	O	6			4916	1	HD684				8	[4]44, [2]37, 42, 80	450	3-13,14
							7556	13	SR643							
28	Vol.	18	TRP605	6	EB247	A58	30-2083	49	2N504				6	6A7, [2]39, 75, 43, 25Z5	460	5-11,12
29, 29 (Code 123TX)	Vol.	18	TRP605	6	EB247	A58	30-2073	1/19	3S579				6	6A7, [3]44, 75, 42, 80	460	5-11,15
							30-2026	13	HD684							
30	Vol.	15	N										8	[3]32, [3]30, [3]31		1-7,2-5
32	Vol.	18	N		See Note	A27	30-2014	25	HD683		F502P		6	[2]39, 36, 75, 42, 84	260	5-17,20
	Vol.	18	N	6	See Note	A4										
34, 34A	Vol.	45	N	13									7	[2]30, 32, [3]34, 1C6, 19	460	5-21,24
35, 35B, 36	Vol.	43	CE		See Note	A54							7	[3]30, [3]32, 33	260	1-8,8-10
37	Vol.	43	CE		See Note	A54							5	15, 30, [3]32, 19	175	3-19,20
37-9	Vol.	17	TM251-SS5				20-10	1/19	3S581				9	[6]K7G, 6A8G, 6N7G,		
							8	1	HD684					6H6G, 6Q7G,		
							16	13	RS216					[6]F6G, 5Y4G	470	8-11,12
37-10, 37-11 (Codes 121-125)	Vol.	124	TM251-SS5				30-2183	1/19	3S581				11	[6]K7G, 6A8G, 6N7G,		
							30-2024	1	HD684					6H6G, 6J5G,		
							30-2118	12	RS216					6K5G, 6G7G,		
														[6]F6G, 5Y4G	470	8-13,16
37-33	Vol.	18	MR48	M24			30-2158	13	BB360				5	1D7G, 1D5G, 1H4G,		
														1E7G, 1H6G	470	7-15,16
37-34	Vol.	18	UM154-SS5				30-2160	1	2N518		951P	C3	5	1D7G, 1D5G, 1H6G,		
							.01		Buffer	B14				1H4G, 1E7G	470	8-17,18
37-38	Vol.	45	UM154-SS5				30-2162	13	UR181	B142			6	1C7G, 1D5G, [3]1H4G,		
														1E5G, 1J6G	470	7-17,18
37-60	Vol.	18	UM154-SS5				30-2117	25	SR644				5	6A8G, 6K7G, 6Q7G,		
							30-2024	25	HD684					6F6G, 5Y4G	470	7-19,22
							30-2118	14	RS216							
37-61	Vol.	18	UM154-SS5				30-2117	25	SR644				6	6A8G, 6K7G, 6Q7G,		
							30-2024	25	HD684					6F6G, 5Y4G	470	7-23,25
							30-2118	14	RS216							
37-62	Vol.	18	MR48	M26			30-2192	1/19	3S579				5	6A8G, 6K7G, 6Q7G,		
														6F6G, 5Y4G	470	8-19,20
37-84, Code 122	Vol.	2	Y	6			30-2013	1	SR638				4	[2]6J7G, 6F6G, 5Y4G,	470	7-27,28
37-89	Vol.	18	UM154-SS5				30-2117	25	SR644				6	[2]6K7G, 6A8G, 6Q7G,		
							30-2024	25	SR644					6F6G, 5Y4G	470	7-29,30

‡ Data not substantiated.

*IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PHILCO—Continued																
37-93	Vol.	56	N	6			30-2073	1/19	3S579				5	6K7G, 6A8G, 6R7G, 6F6G, 5Y4G	470	8-21,22
37-116 (Codes 121, 122)	Vol.	17	TM251-SS5				30-2026	1	SR644				15	[4]6K7G, [2]6J5G, 6L7G, 6N7G, 6A8G,		
	Exp.	15	UM154-SS5				30-2123	1/19	SR642					6H6G,[2]6B4G,		
	Hum.	37	Order from	Mfr.			30-2169	13/14	3S584					6F6G, 5U4G	470	7-31,36
37-600	Vol.	6	UM121-SS12	M26			30-2149	1	CM172				4	6A8G, 6J7G, 6K6G, 5Y4G	470	7-37,38
37-602	Vol.	18	UM154-SS12	M26			30-2148	1/15	3N526				5	6A8G, 6K7G, 6Q7G, 25A6G, 25Z6G	470	7-39,40
37-604	Vol.	18	Order from	Mfr.			30-2154	11/15	3N526/BB21				5	6A8G, 6K7G, 6Q7G, 25A6G, 25Z6G	470	7-41,43
37-610 (Codes 121, 122)	Vol.	17	TM251-SS5		See Note	A58	30-2117	25	SR644				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y4G	470	7-45,48
							30-2024	25	HD684							
							30-2118	12	RS216							
37-610 (Codes 125, 126)	Vol.	124	TM251-SS5			A58	30-2117	25	SR644				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y4G	470	7-45,48
							30-2024	25	HD684							
							30-2118	12	RS216							
37-611	Vol.	124	TM251-SS5				30-2124	25	RS216				5	6A8G, 6K7G, 6Q7G, 25A6G, 25Z6G	470	7-49,50
							30-2166	25/15	RS207/BB12							
							30-2157	13/12	2N502							
37-620	Vol.	18	TM251-SS5		See Note	A58	30-2117	25	SR644				6	[2]6K7G, 6A8G, 6Q7G, 6F6G, 5Y4G	470	7-51,54
							30-2024	25	HD684							
							30-2119	14	RS216							
37-623	Vol.	18	TM251-SS5		See Note	A58	30-2161	12/13	3S582				6	[2]1D5G, 1C7G, 1F7G, 1H4G, 1J6G	470	7-55,56
37-624	Vol.	124	TM251-SS5				30-2160	1	2N518		951P	C3	6	[2]1D5G, 1C7G, 1F7G, 1H4G, 1J6G	470	8-23,24
							30-2171	13/12	2N516							
							.01		Buffer	B14						
37-630	Vol.	18	TM251-SS5		See Note	A58	30-2117	25	SR644				6	[2]6K7G, 6A8G, 6Q7G, 6F6G, 5Y4G	470	7-57,60
							30-2024	25	HD684							
							30-2118	14	RS216							
37-640	Vol.	18	TM251-SS5		See Note	A58	30-2117	1	SR644				7	[2]6K7G, 6A8G, 6Q7G, [2]6F6G, 5Y4G	470	7-61,64
							30-2045	1/19	2N518							
37-641	Vol.	124	TM251-SS5				30-2124	25	RS216				7	[2]6K7G, 6A8G, 6Q7G, [2]25A6G, 25Z6G	470	8-25,26
							30-2125	12/15	2N506							
37-643	Vol.	20	TM251-SS5				30-2161	12	3S582				7	[2]1D5G, 1C7G,[2]1H4G, 1E5G, 1J6G	470	8-27,29
37-650	Vol.	45	TM251-SS5		See Note	A58	30-2163	1/19	3S581				8	[2]6K7G, 6A8G, 6J5G, 6K5G,[2]6F6G, 5Y4G	470	7-65,68
							30-2024	1	HD684							
							30-2118	14	RS216							
37-660	Vol.	18	TM251-SS5		See Note	A58	30-2026	1	HD684				9	[2]6K7G, 6A8G, [2]6J5G, 6K5G,[2]6F6G, 5Y4G	470	7-69,72
							30-2122	13/14	UR181	B146						
37-665	Vol.	124	TM251-SS5				30-2163	1/19	3S581				9	[2]6K7G, 6A8G,[2]6J5G, 6K5G, [2]6F6G, 5Y4G	470	8-30,33
							30-2024	1	HD684							
							30-2118	12	RS216							
37-670	Vol.	45	TM251-SS5		See Note	A58	30-2025	1	SR643				11	[2]6K7G, 6A8G, [2]6J5G, [2]6F6G, 5X4G	470	7-73,76
							30-2045	1/19	2N518							
							30-2122	13/14	UR181	B146						
37-675 (Codes 121, 122)	Vol.	20	TM251-SS5			A53	30-2025	1	SR643				12	[2]6K7G, [2]6F6G, 6L7G, 6N7G, 6A8G,		
	Tone	121	MR48				30-2046	1/19	2N518					6Q7G, 6H6G,		
							30-2170	13	2N518					5X4G	470	7-137, 142
37-690	Vol.	15	UM154-SS5				30-2025	30	SR643				20	[5]6K7G, 6L7G, 6A8G, [6]6J5G, 6N7G, 6H6G,		
	Bass	...‡..	UM154-SS1	M26			30-2024	30	HD684					6H7G, 6B8G, 6F6G,		
	Exp.	...‡..	Order from	Mfr.			30-2176	30/19	RS213/BB13					[2]6B4G,[2]5X4G	470	8-34,41
							30-2159	13/14	UR181							
							30-2177	13/14	UR181							
37-2620	Vol.	17	TM251-SS5		See Note	A53	30-2117	25	SR644				6	[2]6K7EG, 6A8EG, 6Q7EG, 6F6EG, 5Y4G	470	8-42,45
							30-2024	25	HD684							
							30-2118	14	RS216							
37-2650	Vol.	45	TM251-SS5		See Note	A58	30-2024	1	HD684				8	[2]6K7EG,[2]6F6EG, 6A8EG, 6K5G, 6J5G, 5Y4G	470	8-44,47
							30-2163	1/19	3S581							
							30-2118	14	RS216							
37-2670	Vol.	124	TM251-SS5		See Note	A58	30-2025	1	SR643				11	[2]6K7EG, 6A8EG, [5]6J5EG,[2]6F6EG, 5X4G	470	8-48,51
							30-2045	1/19	2N518							
							30-2122	13/14	UR181	B146						
38, 38A (Codes 122, 123)	Vol.	2	Y										5	15, 30,[2]32, 19	460	4-21,22
38-1 (Code 121)	Vol.	18	TM251-SS1				30-2201	30/19	RS213/BB12				12	6U7G, 6A8G, 6N7G, 6K7G, 6H6G,		
							30-2200	30	WE2050					6B7G,[6]6J5G,[2]6F6G, 5X4G	470	8-52,54
							30-2243	20/13	2N518							
38-2 (Code 121)	Vol.	18	TM251-SS1				30-2211	30	SR643				11	6U7G, 6A8G, 6N7G, 6K7G,[2]6J5G,[2]6F6G 5X4G, 6H6G	470	8-55,57
							30-2243	30/12	2N518							
38-3 (Code 121)	Vol.	18	TM251-SS5			A58	30-2200	1	WE2050				9	6U7G, 6A8G, 6N7G, 6H6G, 6Q7G, 6K7G,[2]6F6G, 5Y4G	470	8-58,60
							30-2201	1/19	RS213/BB12							
							30-2194	12	RS216							
38-4, 38-5 (Code 121)	Vol.	127	TM251-SS1				30-2200	1	WE2050				8	6U7G, 6A8G, 6K7G, 6J5G,6K5G,[2]6F6G, 5Y4G	470	8-61,63
							30-2201	1/15	RS213/BB12							
							30-2212	12	RS216							
38-7, 38-8, 38-9 (Code 121)	Vol.	127	TM251-SS1				30-2219	25	WE3050				6	6A8G, 6K7G, 6J5G, 6K5G, 6F6G, 5Y4G	470	8-64,66
							30-2217	25/12	2N518							
38-10 (Code 121)	Vol.	18	MR48				30-2210	25	SR644				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y4G	470	8-67,68
							30-2217	25/12	2N518							
38-12 (Code 121)	Vol.	18	MR48	M26			30-2235	25	SR644				5	6A7, 78, 75, 41, 84	470	8-69,70
							30-2236	25	HD684							
38-14 (Codes 121, 124)	Vol.	18	MR48	M26			30-2246	25	RS216				5	6A7, 78, 75, 42, 25Z5	470	8-71,72
							30-2275	25	RS207							
38-15 (Codes 121, 124)	Vol.	18	MR48	M26			30-2263	25/19	RS215/BB12				5	6A7, 78, 75, 41, 84	470	9-1,2
							30-2265	25/19	2N518							
38-22, 38-23 (121)	Vol.	124	TM251-SS1				30-2237	25	RS208				6	6A8G, 6K7G, 6B7G, [2]25L6G, 25Z6G	470	9-23,25
							30-2256	25	RS208							
							30-2239	1/13/15	3N526							
38-33 (Code 121)	Vol.	18	Order from	Mfr.			30-2158	13	BB60				5	1D7G, 1D5GT, 1H6G, 1H4G, 1E7G	470	9-3,4
38-34 (125)	Vol.	18	MR48	M27			30-2160	1	2N518		951P	C3	5	1D7G, 1D5GT, 1H6G, 1H4G, 1E7G	470	9-5,6
							.01		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PHILCO—Continued																
38-35 (121)	Vol.	18	MR48	M27			30-2270	23	2S562		510P	C3	5	6A8G, 6K7G, 6Q7G,		
							.015		Buffer	B14				6K6G, 6X5G	470	9-7,8
38-38 (121)	Vol.	45	MR48				30-2241	12/13	UR181				6	1C7G, 1D6G, ‡1H4G, 1E5GP, 1J6G	470	8-73,74
38-39 (121)	Vol.	45	MR48				30-2226	1/13	3S582/BB60		951P	C3	6	1C7G, 1D5G,‡1H4G,		
							.01		Buffer	B14				1E5GP, 1J6G	470	8-75,76
38-40 (121)	Vol.	45	MR48				30-2219	25	WE3050		510P	C3	6	6A8G, 6K7G, 6J5G,		
							30-2291	25/13	2N518					6K5G, 6K6G,		
							.015		Buffer	B14				6X5G	470	9-9,10
38-60 (Codes 125)	Vol.	18	UM154-SS5				30-2210	50	SR644				5	6A8G, 6K7G, 6Q7G,		
							30-2211	25	SR643					6F6G, 5Y4G	470	8-77,78
							30-2212	12	RS216							
38-62	Vol.	18	MR48	M26			30-2192	1/19	3S579				5	6A8G, 6K7G, 6Q7G,		
38-89 (Code 125)	Vol.	18	UM154-SS5				30-2210	25	SR644					6F6G, 5Y4G	470	8-19,20
38-93	Vol.	56	N	6			30-2211	25	SR643				6	6U7G, 6A8G, 6K7G,		
							30-2073	1/19	3S579					6Q7G, 6F6G, 5Y4G	470	8-79,80
38-116 (Code 121)	Vol.	18	TM251-SS5			A58	30-2026	1	HD684				5	6K7G, 6A8G, 6R7G,		
	Exp.	...‡..	UM160-SS5				30-2201	1/19	RS213/BB12					6F6G, 5Y4G	470	8-21,22
							30-2232	12	3S584				15	‡6K7G, 6L7G, 6N7G,		
38-116 (Code 125)	Vol.	18	TM251-SS5			A58	30-2026	1	HD684					6A8G,‡6J5G, 6R7G,		
	Exp.	22	UM160-SS5				30-2201	1/19	RS213/BB12					‡6L6G, 5X4G	470	8-81,86
							30-2232	12	3S584				15	6U7G,‡6A8G, 6N7G,		
38-610 (125, 126)	Vol.	124	TM251-SS5		See Note	A58	30-2117	25	SR644					‡6K7G,‡6J5G, 6R7G		
							30-2024	25	HD684				5	6A8G, 6K7G, 6Q7G,		
							30-2118	12	RS216					6F6G, 5Y4G	470	9-11,16
38-620 (121, 125)	Vol.	124	TM251-SS5		See Note	A58	30-2210	25	SR644				6	6U7G, 6A8G, 6K7G,		
							30-2211	25	SR643					6Q7G, 6F6G,		
							30-2212	13	RS216					5Y4G	470	7-45,48
38-623	Vol.	18	TM251-SS5		See Note	A58	30-2161	13	3S582				6	‡1D5G, 1C7G, 1F7G,		
														1H4G, 1J6G	470	9-17,18
38-624	Vol.	124	TM251-SS5				30-2160	1	2N518		951P	C3	6	‡1D5G, 1C7G, 1F7G,		
							30-2171	13	2N516					1H4G, 1J6G	470	8-23,24
							.01		Buffer	B14						
38-630	Vol.	18	TM251-SS5		See Note	A58	30-2117	25	SR644				6	‡6K7G, 6A8G, 6Q7G,		
							30-2024	25	HD684					6F6G, 5Y4G	470	7-57,60
							30-2118	14	RS216							
38-640	Vol.	18	TM251-SS5		See Note	A58	30-2117	1	SR644				7	‡6K7G, 6A8G, 6Q7G,		
							30-2045	1/19	2N518					‡6F6G, 5Y4G	470	7-61,64
38-643	Vol.	20	TM251-SS5				30-2161	13	3S582				7	‡1D5G, 1C7G,‡1H4G,		
														1E5G, 1J6G	470	8-27,29
38-665	Vol.	124	TM251-SS5				30-2163	1/19	3S581				9	‡6K7G, 6A8G, ‡6J5G,		
							30-2024	1	HD684					6K5G, ‡6F6G,		
							30-2118	12	RS216					5Y4G	470	8-30,33
38-690 (125)	Vol.	15	Order from	Mfr.			30-2025	3	SR643				20	6U7G,‡6A8G, ‡6N7G,		
	Tone	22	N	6			30-2200	3	WE2050					‡6K7G, 6I8G,		
	Exp.	...‡..	Order from	Mfr.			30-2249	3	3S584					‡6J5G, 6I16G,		
							30-2201	3/19	RS213/BB12					6R7G, 6F6G,		
														‡6L6G,‡5X4G	470	9-18,22
39, 39A	Vol.	45	N	13												
39-6, 39-7 (121)	Vol.	18	MR48	M26			30-2328	25	SR644				6	1C6, 34,‡30, 32, 19	460	6-4,6
							30-2327	25	HD684				5	6A7, 78, 75, 41, 84	470	
39-17 (121, 122)	Vol.	18	UM154	M26		A96	30-2319	25	SR644							
							30-2236	25	HD684				5	6A7, 78, 75, 41, 84	470	
39-18 (121, 122)	Vol.	18	UM154	M26		A96	30-2332	74	RS208							
							30-2245	74	RS207				5	6A7, 78, 75, 43, 25Z5,		
39-19 (121, 122)	Vol.	18	UM154	M26		A96	30-2319	25	SR644					BKV51DJ	470	
							30-2323	25/13	2N518				5	6A7, 78, 75, 41, 84	470	
39-25 (121)	Vol.	18	TM231-SS1				30-2330	25	HD684				5	6A8G, 78, 75, 41, 84	470	
39-30, 39-35 (121)	Vol.	124	TM251-SS1				30-2331	25/13	RS216							
							30-2330	25	HD684				6	6A8G, 78, 37, 75, 41,		
39-36 (121)	Vol.	124	TM251-SS1				30-2331	25/13	RS216					84	470	
							30-2371	25	HD684				6	6A7, 78, 37, 75, 41, 84	470	
							30-2370	25	RS216							
							30-2331	13	RS216							
39-40 (121)	Vol.	80	TM251-SS1				30-2335	25	WE2050				8	‡78, 6A7, 6Q7, 6J5G,		
	Tone	80	MR57				30-2333	25	WE3050					‡42, 5Y4G	470	
							30-2334	13	HD684							
39-45 (121)	Vol.	80	TM251-SS1				30-2335	25	WE2050				9	‡78, 6A7,‡6J5G, 6K5G,		
	Tone	80	MR57				30-2333	25	WE3050					‡42, 5Y4G	470	
							30-2334	13	HD684							
39-55 (121)	Vol.	80	Order from	Mfr.			30-2200	25	WE2050				10	6J8G, ‡78, 6J7G,		
	Tone	80	MR57				30-2360	25	WE3050					6Q7G, 2A4G,		
	Sen.	7	K				30-2334	13	HD684					6ZY5G,‡42, 80	470	9-55,62
							30-2356	...‡..	RS216							
39-70, 39-75 (121, 122)	Vol.	18	MR48	M27			30-2346	12	ST585				4	1A7G, 1N5G, 1H5G,		
														1C5G	470	
39-71 (121)	Vol.	18	MR48	M27			30-2359	12	ST585				4	1A7G, 1N5G, 1H5G,		
														1C5G	470	
39-80 (121)	Vol.	18	TM251-SS1	M27			30-2346	12	ST585				4	1A7G, 1N5G, 1H5G,		
														1A5G	470	
39-85 (121)	Vol.	17	TM251-SS1	M27			30-2348	12/13	2N502				4	1A7G, 1N5G, 1H5G,		
														1A5G	470	
39-116 (121)	Vol.	80	Order from	Mfr.			30-2200	25	WE2050				10	6J8G, ‡78, 6J7G,		
	Tone	80	MR57				30-2360	25	WE3050					6Q7G, 2A4G,		
							30-2356	...‡..	RS216					6ZY5G,‡42, 80	470	9-56,62
							30-2334	13	HD684							
39-117 (121, 122)	Vol.	18	MR48	M26			30-2319	25	SR644				5	6A7, 78, 75, 41, 84	470	
39-118 (121, 122)	Vol.	18	MR48	M26			30-2323	25/13	2N518							
							30-2332	74	RS208				5	6A7, 78, 75, 43, 25Z5,		
39-119 (121, 122)	Vol.	18	MR48	M26			30-2245	74	RS207					BKV51DJ	470	
							30-2319	25	SR644				5	6A7, 78, 75, 41, 84	470	
							30-2323	25	2N518							
40 DC	Vol.	8	A2MP										6	‡24A, 27,‡71A		1-10
40-120, 40-125	Vol.	18	MR48	M26			30-2403	1	2N509				6	7C7, 7A8, 7B7, 7C6,		
														35A5, 35Z3	455	
40-150	Vol.	80	TM251-SS1				30-2405	25	SR644				7	1232, 7J7, 7B7, 7C6,		
	Tone	80	SM303				30-2406	25	WE1625					‡41, 84	455	
40-155	Vol.	80	TM251-SS1				30-2405	25	SR644				8	1232, 7J7, 7B7, 7A6,		
	Tone	80	SM303				30-2406	25	WE1625					7C6,‡41, 84	455	
40-180	Vol.	80	TM251-SS1				30-2405	25	SR644				7	1232, 7J7, 7B7, 7C6,		
	Tone	80	SM303				30-2406	25	WE1625					‡41, 84	455	
40-185	Vol.	80	TM251-SS1				30-2405	25	SR644				8	1232, 7J7, 7B7, 7A6,		
	Tone	80	SM303				20-2406	25	WE1625					7C6,‡41, 84	455	
40-190	Vol.	80	TM251-SS1				30-2405	25	SR644				8	1232, 7J7, 7B7, 7A6,		
	Tone	80	SM303				30-2406	25	WE1625					7C6,‡41, 84	455	
40-195	Vol.	80	TM251-SS1				30-2335	25	WE2050				10	1232, 7B7, 7C6, ‡37,		
	Tone	80	...‡...		See Note	A5	30-2333	25	WE3050					‡42, 80, 7J7	455	
40-200	Vol.	80	TM251-SS1				30-2335	25	WE2050				11	1232, 7J7, 7B7, 7A6,		
	Tone	80	...‡...		See Note	A5	30-2333	25	WE3050					7C6,‡37,‡42, 80	455	

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PHILCO—Continued																
41 DC, 42 DC	Vol.	2/8	DRP114		See Note	A56	‡	‡	See Note	B11			6	§24A, 27,§71A		1-11,2-8
43	Vol.	45	O	6			4916	1	HD684				8	§37,§44, 42, 80	450	3-13,16
							7556	13	SR643							
43 (Code 121)	Vol.	45	O	6			7556	1	SR643				8	§37,§44, 42, 80	450	4-24,26
							6453	13	SR643							
44	Vol.	18	N	6			30-2028	1	SR642				6	6A7,§78, 75, 42, 80	460	4-23,26
							30-2020	13	HD684							
45, 45C	Vol.	18	TRP605	6	EB247	A58	30-2028	1	SR642				6	6A7,§39/44, 75, 42, 80	460	5-24,26
							30-2020	13	HD684							
46, 46E (DC)	Vol.	24	CE		See Note	A51							6	§14, 17,§71A		1-12,13
47 (DC) (Code 121-221)	Vol.	45	O										8	36,§44,§37,§43		3-47,48
48 (DC)	Vol.	6	E12		(Early)	A27							4	§36, 44, 43	175	3-21,22
	Vol.	6	E12	6	(Late)	A4										
49 (DC)	Vol.	18	TRP605	6									7	6A7,§78, 85, 76,§43	260	5-27,28
50, 50A	Vol.	2/8	CE				4916	4	HD684				5	§24A, 47, 80		1-14,15
							5142	4	SR644	B12						
51, 51A, 52	Vol.	6	E7				4916	4	HD684				5	§24A, 35, 47, 80	175	2-11,13
							5142	4	SR644	B12						
53 (AC-DC)	Vol.	2	Y	6			30-2000	4	SR635				4	§77, 43, 12Z3	450	3-17,18
							7410	15	BB12							
54	Vol.	18	N	6	See Note	A57	30-2001	50	SR635				5	6A7, 78, 75, 43, 25Z5	460	3-57,58
							30-2002	50	SR636							
57	Vol.	2	Y	6			30-2004	1	CM172				4	§77, 42, 80	460	4-27,29
							30-2013	1	SR638	B20						
58, 59	Vol.	2	Y	6			30-2013	1	SR638				4	§77, 42, 80	460	5-29,30
60	Vol.	18	N	6			7558	1	SR643				5	6A7, 78, 75, 42, 80	460	4-35,32
65	Vol.	12	A2MP					3	See Note	B1			6	§24A, 27,§45, 80		1-16, 8-2
66	Vol.	18	N	6			30-2028	1	SR642				5	6A7, 78, 75, 42, 80	460	5-31,32
							30-2021	13	SR643							
70, 70A (Below No. B-22,000)	Vol.	3/8	DRP114				4916	1	HD684				7	§24A, 27, 47, 80	260	1-17,18
							5142	1	SR644	B12						
70, 70A (Above No. B-22,000)	Vol.	45	O				4916	4	HD684				7	§35, 24, 27, 47, 80	260	3-31
							5725	4	WE1650	B12						
							5142	4	SR644	B12						
71 Series	Vol.	45	O				6453	1	SR643				7	36, 37,§44, 42, 80	260	3-23,24
							6707	1	SR643	B12						
76	Vol.	8	X				2-2-2	‡	See Note	B1			7	§24A, 27,§45, 80		2-19
							.15	‡	See Note	B9						
77, 77A	Vol.	2/8	DRP114		See Note	A56	2-2-2	30	See Note	B1			7	§24, 27,§45, 80		1-20
							.15	‡	See Note	B9						
80	Vol.	2	Y	6			6707	1	SR643				4	§36, 42, 80	450	3-25,26
							7467	1	SR643							
							7440	19	BB12							
81	Vol.	2	Y		See Note	A27	7558	1	SR643				4	§77, 42, 80	460	3-27,28
	Vol.	2	Y	6	See Note	A4	7467	1	SR643							
82	Vol.	2	G12				‡	3	See Note	B1			8	§26, 27,§71A, 80		1-21
84	Vol.	2	Y	6			30-2013	1	SR638				4	§77, 42, 80	460	4-33,34
86	Vol.	2	G12				‡	3	See Note	B1			7	§26, 27, 71A, 80		1-21
87	Vol.	2	G12				2-2-2-1-1	3/13	See Note	B1			8	§26, 27,§45, 80		1-22
89	Vol.	18	N	6	See Note	A27	8165	1	SR643				6	§44, 36, 75, 42, 80	260	3-33,34
	Vol.	18	N		See Note	A4										
89 (Code 123)	Vol.	18	N		See Note	A27	7558	1	SR643				6	§44, 77, 75, 42, 80	260	7-77,79
	Vol.	18	N	6	See Note	A4										
89 (Codes 126 & 126B)	Vol.	18	N		See Note	A27	30-2021	1	SR643				6	§44, 77, 75, 42, 80	260	4-43
	Vol.	18	N	6	See Note	A4										
90, 90A (with 2-45's)	Vol.	2/8	DRP114				4916	1	HD684				9	§24A,§27,§45, 80	175	2-22,24
							5142	1	SR644	B12						
90, 90A (with 1-47, Above 237,001)	Vol.	15	N				4916	25	HD684				9	§24,§27, 47, 80	175	2-26,29
							5142	25	SR644	B12						
90, 90A (with 2-47's) Serial No. B-32001 to B-35000, and above B-53100)	Vol.	45	O				4916	1	HD684				9	24A,§35,§27,§47, 80	260	3-35,37
91 (Code 121-221)	Vol.	45	O				4916	1	HD684				9	§44, 36,§37,§42, 80	260	3-39,42
							5725	1	WE1650	B12						
91 (126-226)	Vol.	45	TRP605			A58	7464	1	SR643				9	§44, 36,§37,§42, 80	260	3-29,30
95	Vol.	15	N				‡	‡	See Note	B1			9	§24A,§27,§45, 80		1-23
							.15		See Note	B9						
96, 96A, 96E	Vol.	15	N				‡	‡	See Note	B1			9	§24A,§27,§45, 80		1-24, 2-31
97, 98	Vol.	18	N	6			30-2117	1	SR644				7	§78, 6A7, 85,§42, 80	460	6-7,8-91
							30-2025	1	SR643							
111, 111A	Vol.	15	N				30-2114	13/14	UR181	B147			11	§24A,§27,§45, 80	175	2-32,34
							‡	‡	See Note	B1						
							.15		See Note	B9						
112, 112A (Below 174,001)	Vol.	15	N				‡	‡	See Note	B1			11	§24A,§27,§45, 80	175	1-25,26
							.15		See Note	B9						
112, 112A, 112E (Above 174,001)	Vol.	15	N				4916	1	HD684				10	§24A,§27,§47, 80	175	2-38,39
116B (Code 121)	Vol.	18	TRP618	6		A58	30-2025	1	SR643				11	76,§77,§78, 37,§42, 80	460	6-10,12
							30-2045	1/19	2N518							
							30-2121	13/14	UR181	B148						
116X (Code 122)	Vol.	45	TRP613	6		A58	30-2011	1	HD683				11	76,§77,37,§78, 42,§6A3, 5Z3	460	6-13,14
							30-2123	1/19	SR642							
							30-2121	13/14	UR181	B148						
118, 118-(Code 123RX)	Vol.	18	TRP605	6		A58	30-2025	1	SR643				8	§78, 6A7, 75,§42, 80	260	5-34,38
							30-2045	1/19	2N518							
							30-2078	13/14	UR181	B149						
144	Vol.	18	TRP605	6		A58	30-2073	1/19	3S579				6	6A7, 75,§78, 42, 80	460	5-40,41
							30-2020	13	HD684							
200X	Vol.	18	TRP619	6	See Note	A58	30-2011	1	HD683				10	6A7,§78, 75, 37, §42, 5Z3	175	5-45,46
	Band		Order from	Mfr.			30-2123	1/19	SR642							
							30-2080	13/14	UR181	B150						
201 (Code 121)	Vol.	18	TRP619	6	See Note	A58	30-2011	1	HD683				10	§78, 6A7, 37, 75, §42, 5Z3	260	6-15,17
	Band		Order from	Mfr.			30-2046	1/19	2N518							
							30-2080	13/14	UR181	B150						
							30-2104	13	UR181	B151						
211, 211A	Vol.	15	N				‡	‡	See Note	B1			11	§24A,§27,§45, 80	175	1-27, 2-32
212, 212A (Radio-Phonograph)	Vol.	15	N				‡	‡	See Note	B1			11	§24A,§27,§45, 80	175	1-26

‡ Data not substantiated.

*IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PHILCO—Continued																
212, 212A, 212E (Above 174,001)	Vol.	15	N				4916	1	HD684				11	§24A, §27, §47, 80	175	2-37,41
220, 220A	Vol.	2/8	DRP114		See Note	A56	‡	1/19	See Note	B1			7	§24A, 27, §71A, 80		3-51
233G, 233AG	Vol.	2	Y	6									3	§32E, 2101, 1D1		8-93,94
	Reg.	‡	SRP263													
245	Vol.	18	TRP605	6	EB247	A58	30-2079	41	SR642				6	6A7, §78E, 75, 42E, 80	460	8-95,96
							30-2108	41	RS213							
261	Vol.	18	N	6			7558	1	SR643				5	6A7, 78, 75, 42, 80	125	8-97,98
							7557	1	HD681							
263E	Vol.	18	N	6			30-2028	1	SR642				1	6A7, 78E, 75, 18E, 25RE	125	8-99,100
							30-2030	‡	SR638							
264, 265	Vol.	18	N	6			30-2029	1	SR642				5	6A7, 78E, 75, 42E, 80	125	8-94,101
267E	Vol.	2	Y	6			30-2013	1	SR638				4	§77E, 42E, 80		8-103, 104
	Reg.	‡	SRP263													
270, 270A	Vol.	2/8	DRP114				4916	1	HD684				7	§24A, 27, 47, 80	260	1-28
							5142	1	SR644	B12						
296, 296A, 296E	Vol.	15	N				‡	‡	See Note	B1			9	§24A, §27, §45, 80		1-30
470, 470A	Vol.	2/8	DRP114				4916	1	HD684				9	§24A, §27, 47, 80	260	2-40,42
							5142	1	SR644	B12						
490	Vol.	15	N				4916	25	HD684				11	§24A, §27, 47, 80	BC175	2-43,45
							5142	25	SR644	B12					SW1000	
							5725	25	WE1650	B12						
500, 501	Vol.	64	TRP618	6	See Note	A58	30-2069	1	HD683				11	76, §77, §78, 37, §42, 5Z3	460	
	Supp.	12	G12				30-2003	19	BB13							
503	Vol.	18	TRP605	6		A58	30-2025	1	SR643				8	6A7, §78, 75, §42, 80	260	4-37,38
							30-2003	19	BB13							
							30-2029	13/14	UR181	B137						
504	Vol.	18	N	6			30-2028	1	SR642				6	6A7, §78, 75, 42, 80	460	4-39,40
							30-2026	13	HD684							
505	Vol.	18	N	6			7558	1	SR643				5	6A7, 78, 75, 42, 80	460	4-41,42
506 (Radio-Phonograph)	Vol.	18	TRP605	6		A58	30-2073	1/19	3S579				6	6A7, §78, 75, 42, 80	460	8-105, 106
							30-2026	13	HD684							
507	Vol.	18	TRP605	6		A58	30-2025	1	SR643				8	§78, 6A7, 75, §42, 80	260	5-39,40
							30-2045	1/19	2N518							
							30-2078	13/14	UR181	B149						
509X	Vol.	18	TRP619	6		A58	30-2011	1	HD683				10	§78, 6A7, 37, 75, §42, 80	260	6-18, 8-102
	Band		Order from	Mfr.			30-2046	1/19	2N518							
							30-2080	13/14	UR181	B150						
							30-2104	13	UR181	B151						
511, 512, 513, 514, 515, 531, 551	Vol.	2	G12				‡	‡	See Note	B1			7	§26, 27, 71A, 80		8-107, 9-4
570 Grandfather's Clock (Below B-22,000)	Vol.	2/8	DRP114				4916	1	HD684				7	§24A, 27, 47, 80	260	1-17,18
							5142	1	SR644	B12						
570 Grandfather's Clock (Above B-22,000)	Vol.	45	O				4916	4	HD684				7	§35, 24A, 47, 27, 80	260	3-31,32
							5725	4	WE1650	B12						
							5142	4	SR644	B12						
571	Vol.	2	G12				‡	‡	See Note	B1			7	§26, 27, 71A, 80		
600	Vol.	6	UM121-SS12	M26			30-2149	1	CM172				4	6A7, 77, 41, 80	460	7-80,81
602	Vol.	18	UM154-SS12	M26			30-2148	1/15	3N526				5	6A7, 78, 75, 43, 25Z5	470	7-82,83
604	Vol.	18	Order from	Mfr.			30-2154	41/15	3N526/BB21				5	6A7, 78, 75, 43, 25Z5	470	7-84,86
610, 610B, 610F, 610PF	Vol.	18	N	6			30-2025	1	SR643				5	6A7, 78, 75, 42, 80	460	6-19,21
							30-2118	13	RS216							
611, 611 (121)	Vol.	18	N	6			30-2124	51	RS216				5	6A7, 78, 75, 43, 25Z5	460	6-23,24
							30-2125	51/15	2N506							
620, 620 (Code 121)	Vol.	18	TRP608	6		A58	30-2079	1	SR642				6	§78, 6A7, 75, 42, 80	460	6-25,27
							30-2118	14	RS216							
623	Vol.	45	N	13			30-2127	12/13	3S582				6	1C6, 34, §30, 32, 19	460	6-28,30
624	Vol.	45	N	13			30-2138	1	2N516		P285Y	C3	6	1C6, 1A4, §30, 32, 19	460	7-91,93
							30-2143	12/15	2N516							
							.01		Buffer	B14						
625	Vol.	18	TRP608	6		A58	30-2079	1	SR642				6	§78, 6A7, 75, 42, 80	460	7-94,96
							30-2118	14	RS216							
630, 630 (121), 635, 635 (Code 124)	Vol.	18	TRP608	6		A58	30-2073	1/19	3S579				6	§78, 6A7, 75, 42, 80	460	6-31,33 & 7-97, 101
							30-2118	14	RS216							
640 (Code 121), 640X (Code 122)	Vol.	17	TRP608	6		A58	30-2117	1	SR644				7	§78, 6A7, 85, §42, 80	460	6-34,36
							30-2025	1	SR643							
							30-2114	13/14	UR181	B147						
641	Vol.	18	TRP608	6												
642	Vol.	20	TRP611	6			30-2132	39	TN113	B11			7	§78, 6A7, 85, 76, §43, §48	460	7-102
643	Vol.	45	TRP613	13			30-2127	12/13	3S582				8	1C6, 1C1, §30, 32, §34, 19	460	8-108
645	Vol.	18	TRP608	6		A58	30-2117	1	SR644				7	6A7, §78, 85, §42, 80	460	7-105
							30-2025	1	SR643							7-108
							30-2080	13/14	UR181	B150						
650	Vol.	18	TRP613	6		A58	30-2025	1	SR643				8	§78, 6A7, 75, §42, 80	460	6-37,39
							30-2045	1/19	2N518							
							30-2122	13/14	UR181	B146						
651	Vol.	18	TRP608	6			30-2124	51	RS216				8	§78, 6A7, 85, 76, §43, 25Z5	460	7-111, 113
							30-2147	51/15	3N525							
655	Vol.	18	TRP613	6		A58	30-2025	1	SR643				8	6A7, §78, 75, §42, 80	460	7-114, 116
							30-2045	1/19	2N518							
							30-2122	13/14	UR181	B146						
660, 665, 665 (Code 122)	Vol.	18	TRP613	6		A58	30-2025	1	SR643				10	§78, 77, 76, 75, §42, 80	460	6-40,42 and 7-117, 119
							30-2045	1/19	2N518							
							30-2122	13/14	UR181	B146						
680	Vol.	18	N				30-2028	1	SR642				15	6B7, 76, §78, §85, 6F7, 42, §6A3, 5Z3, 80	460	7-120, 122
	Tone	15	O				30-2129	14	SR642							
	Sel.		Order from	Mfr.			30-2130	13/14	UR181	B153						
							30-2128	19	RS208							
700	Vol.	18	N	6	FS251	A51	30-2072	1/15	CM172/BB12		500P	C3	6	§41, 77, 75, 42, 84	260	5-47,48
							.01		Buffer	B14						
800	Vol.	18	N	6	FS251	A51	30-2015	1	CM172		500P	C3	7	§41, 6A7, 75, 37, 79, 84	260	4-61,62
							30-4135	14/15	See Note	B135						
							.01		Buffer	B14						
800 (Code 122), 802	Vol.	18	TRP605	6	FS251	A51	30-2015	1	CM172		500P	C3	7	§41, 6A7, 75, 37, 79, 84	260	5-49,50 & 6-45
							30-4135	14/15	See Note	B135						
							.01		Buffer	B14						
805	Vol.	18	N		FS251	A51	30-2115	4	CM170		500P	C3	5	6A7, 78, 75, 41, 84	260	6-46,47
							.01		Buffer	B14						

‡ Data not substantiated.

*** IMPORTANT: Read Notes in Note Section if specified in Note Column.**

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PHILCO—Continued																
806	Vol.	18	TRP605		FS251	A51	30-2109	4	CM172		500P	C3	6	§78, 6A7, 75, 41, 84	260	6-48,52
	Tone	22	L				.01		Buffer	B14						
808	Vol.	18	TRP611		FS251	A51	30-2112	1	CM172		500P	C3	7	77, 6A7, 78, 75, 76, 6A6, 84	260	6-50,54
	Tone	44	UM140-SS12				30-2110	14	CS133							
							30-2111	15	TN113	B3						
							.01		Buffer	B14						
809	Vol.	18	N		FS251	A51	30-2109	4	CM172		500P	C3	6	§78, 6A7, 75, 41, 84	260	6-52,54
	Tone	22	UM140-SS12				.01		Buffer	B14						
810PA, 810PB, 810PV	Vol.	18	N		FS251	A51	30-2109	4	CM172		500P	C3	6	§78, 6A7, 75, 41, 84	260	6-55,57
							.01		Buffer	B14						
811PA, 811PB, 811PV	Vol.	18	SRP282			A67	30-2145	4	CM170		507P	C3	6	§78, 6A7, §75, 41	VAR	7-124, 126
							.01		Buffer	B14						
816, 816B	Vol.	18	SRP282			A67	30-2145	4	CM170		500P	C3	6	§78, 6A7, 75, 41, 84	260	7-127, 136
							.01		Buffer	B14						
817	Vol.	18	SRP282			A67	30-2150	4	SR639		501P	C3	6	§78, 6A7, 75, 41, 84	260	7-128, 136
							.0075		Buffer	B14						
818, 818K	Vol.	18	N				30-2150	4	SR639		501P	C3	6	§78, 6A7, 75, 41, 84	260	7-130, 136
	Tone	22	M				.0075		Buffer	B14						
819, 819H	Vol.	18	N				30-2152	23	SR639		501P	C3	7	§78, 6A7, §75, §41, 84	260	7-133, 136
	Tone	22	M				30-2151	14	ST585							
							.0075		Buffer	B14						
821P	Vol.	18	SRP282			A67	30-2150	4	SR639		506P	C3	7	§78, 6A7, §75, 41, 84	274	8-111, 114
							.006		Buffer	B14						
821PV	Vol.	18	SRP282			A67	30-2150	4	SR639		506P	C3	7	§78, 6A7, §75, 41, 84	260	8-113, 114
							.006		Buffer	B14						
826	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	§78, 6A7, 75, 41, 84	260	8-115, 118
							.0075		Buffer	B14						
827	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	§78, 6A7, 75, 41, 84	260	8-116, 119
							.0075		Buffer	B14						
827K	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	6	§78, 6A7, 75, 41, 84	260	8-121, 122
							.0075		Buffer	B14						
828	Vol.	18	SRP282			A67	30-2150	4	SR639		505P	C3	7	§78, 6A7, 75, §41, 84	260	8-120, 124
							.006		Buffer	B14						
828K	Vol.	18	SRP282			A67	30-2213	1/19	3S579		505P	C3	7	§78, 6A7, 85, §41, 84	260	8-123, 124
							.006		Buffer	B14						
901, 902	Vol.	16	MR33				30-2203	1	2N506				4	§6K5G, 25A6G, 25Z6G		
							30-2198	15	TN111							
920	Vol.	18	MR44				30-2311S	23	2S567		508P	C3	5	6A7, 78, 75, 41, 84	260	9-26,27
							.0075		Buffer	B14						
921, 922 (Run No. 2)	Vol.	18	UM154	M26		A96	30-2329	4	2S567		508P	C3	5	6A7, 78, 75, 41, 84	470	9-27,28
							.0075		Buffer	B14						
926	Vol.	17	UM161	M26		A96	30-2135	23	SR645		505P	C3	6	§78, 6A7, 75, 41, 84	260	9-29,30
							.0075		Buffer	B14						
927	Vol.	17	UM162	M26		A96	30-2316	4	SR645		505P	C3	7	§78, 6A7, 75, §41, 84	260	9-31,32
							.0075		Buffer	B14						
928K	Vol.	17	UM162	M26		A96	30-2316	4	SR645		505P	C3	7	§78, 6A7, 75, §41, 84	260	9-30,33
							.0075		Buffer	B14						
1421P	Vol.	18	TRP605		FS251	A51	30-2167	1	SR638	B175	505P	C3	7	§78, 6A7, 75, 37, 79, 84	260	7-143, 144
	Sen.	7	UC500				.008		Buffer	B14						
2620	Vol.	124	TRP608	6			30-2079	1	SR642				6	§78E, 6A7, 75, 42E, 80	460	8-149, 150
							30-2118	14	RS216							
PIERCE-AIRO—(Also see De Wald).																
506R	Vol.	6	SRP263		See Note A14		2279	27/15	UR189	B94			4	6D6, 6C6, 43, 25Z5		
515	Vol.	6	SRP263	6	See Note A14		10-10-4-4	6/15	UR189	B36			4	6D6, 6C6, 43, 25Z5		
517 Auto	Vol.	17	N	6	See Note A1		2310	1	CM172		294	C3	5	6A7, 6D6, 75, 41, 84	456	
	Tone	22	Z12		See Note A1		2312	15	BB12							
							.01		Buffer	B14						
518	Vol.	6	SRP263	6	See Note A14		10-10-4-4	6/15	UR189	B36			4	6D6, 6C6, 43, 25Z5		
520	Vol.	6	E12	6			2292	4	CM172				5	6A7, 6D6, 76, 42, 80	456	
522	Vol.	18	N	6									5	1A6, 1A4, 1B5, 30, 33	456	
523	Vol.	18	N	6			5-5	23	2S567				5	6A7, 6D6, 75, 41, 84	456	
525	Vol.	6	C12	6			2354	27/15	UR182	B95			5	6A7, 6D6, 76, 43, 25Z5	456	
609	Vol.	6	‡	6	See Note A5		2294	27/15	UR182	B95			5	6A7, 6K7, 6J7, 43, 25Z5	456	
610, 610LW	Vol.	17	N	6	See Note A5		2292	4	CM172				6	6A8, 6K7, 6H6, 6F5, 6F6, 80	456	
611, 611LW	Vol.	6	‡	6	See Note A5		2296	27/15	UR182	B95			5	6A8, 6K7, 6F5, 43, 25Z5	456	
	Tone	21	‡		See Note A5											
612, 612LW	Vol.	6	‡		See Note A5		2201	27/15	UR182	B95			5	6A8, 6K7, 75, 43, 25Z5	456	
615, 615LW	Vol.	6	‡	6	See Note A5		2201	27/15	UR182	B95			5	6A8, 6K7, 75, 43, 25Z5	456	
617	Vol.	17	UM154	M26	See Note A96		2269	1	CM172		294	C3	6	§6D6, 6A7, 75, 41, 84	175	
	Tone	22	UM137		See Note A96		2270	15	TN111							
							.025-.025		Buffer	B14						
618	Vol.	18	N	6			16-16	27	CM164				5	6A7, 6D6, 75, 43, 25Z5	456	
	Tone	21	‡		See Note A5											
619	Vol.	6	C12	6			20-12-5	27/15	UR182	B95			5	6A7, 6D6, 76, 43, 25Z5	456	
620, 620LW	Vol.	18	N	6	See Note A5		8-8	4	CM172				6	6A7, 6D6, 75, 42, 80, 6G5	456	
	Tone	76	‡		See Note A5											
621, 621LW	Vol.	18	‡	6	See Note A5		20-12	27	UR182	B155			5	6A7, 6D6, 75, 43, 25Z5	456	
	Tone	76	‡		See Note A5											
622	Vol.	6	C12	6			20-12-5	27/15	UR182	B95			5	6A7, 6D6, 76, 43, 25Z5	456	
804, 805	Vol.	76	N	6			2282	26	CS133				8	§58, 2A7, 2A6, §45, 2A5, 80	456	
	Tone	76	N				2286	26	RM262							
							2259	15	TN111							
901, 902	Vol.	18	P	6			8	4	CS133				9	§6K7, §6F6, 6H6, 6F5, 6A8G, 80, 6G5	456	
	Tone	76	P				16	4	RS216							
1100	Vol.	15	N	6			20-12-5	27/15	UR182	B95			9	6A8, 6K7, 6H6, 6C5, §43, §25Z5	456	
	Tone	21	O				8	12	CS133							
1102, 1103	Vol.	18	N	6			8	12	RS203				9	§6K7, 6A8G, 75, §25B6, §25Z5, 6G5	456	
	Tone	‡	‡				25-40	4	BB26/BB27							
PIERSON-DELANE PR15C, PR15M, PR15R, PR15UH, PR15X																
	Man.															
	Vol.	7	J				16, 16	1	RS216				15	§6K7, 6A8, 6K6G, 6H6, 6N7, 6L7, 6Q7, 6C5, 6J7, §6V6G, 5X4G		
	Vol.	76	MR48				8	13	RS213							
	Tone	76	MR48	M26			25	15	BB15						465	9-1,4
	Noise	7	C1MP													
	Meter	7	C200P													
	Sen.	‡	C1MP													

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PILGRIM																
DA, DAE	Vol.	17	MR48				5	19	BB11				4	1C6, 1A4, 1B5, 30	456	9-1
	Tone	22	MR39													
DB, DF	Vol.	17	N				4-8	1	2N518		245C	C3	4	6D8G, 6S7G, 6Q6G, 38	456	9-1
	Tone	22	L	6			5-5	15	TN111							
							.01		Buffer	B14						
210	Vol.	6	MR24				8-8	24	2N502				4	6D6, 6C6, 38, 76		9-1
							5	15	BB12							
313, 314	Vol.	6	MR24			A14	16-16-8	8	2N506/BB21				4	6D6, 6C6, 43, 25Z5		9-2
713, 714, 753, 754	Vol.	18	MR41	M26			25	1	BB26				5	6A7, 6D6, 75, 43, 25Z5	465	9-2
							20	1	BB25							
							5	15	BB11							
PILOT																
Dual Wave TRF Midget	Vol.	7	E				12-8	4	See Note	B3			5	‡51, 24A, 47, 80		2-1
	Tone	34	L													
Pilotone (Electric)	Vol.	5	D12										6	‡26, 27		1-3
2	Vol.	6	Y	6			4-12-8	8	TN122				5	‡77, 78, 43, 25Z5	‡	4-1
							6	15	BB12							
							5	15	BB12							
B2 Standard	Vol.	6	Y	6			4-8-12	6	TN122				5	‡77, 78, 43, 25Z5	456	3-8
							5-5	15	TN111							
D3	Vol.	6	G12	6			70871	8/15	UR189	B134			5	‡77, 78, 43, 25Z5	456	4-1,3-9
4 Tube DC Super	Vol.	5	G12		EX150		2	4	See Note	B3			4	‡36, 37, 48	‡	4-3
							4	‡	TN111							
PE6SG	Vol.	72	K12				3-3-3	3	See Note	B1			7	‡24, ‡27, ‡71A, 80		1-5
7, 8 (Dragon AW)	Vol.	17	UC503				8-8	4	See Note	B3			8	‡58, ‡57, 56, 2A6, 2A5, 5Z3	115	5-2,4
	Tone	34	L	6			2-2	13/15	See Note	B3						
	Supp.	12	Y				5-5	15	TN111							
L8 (8 Tube Dragon)	Vol.	18	UC503				8-8	23	See Note	B3			8	‡58, ‡56, 57, 55, 2A5, 5Z3	115	5-1
	Tone	34	L	6			2	13	See Note	B3						
	Sen.	6	H7		5		5-5	15	TN111							
10AC Dragon Super	Vol.	25	GG				8-8	4	See Note	B3			7	‡58, ‡57, 56, 47, 80	115	4-2
11 Dragon DC	Vol.	6	G7										7	‡36, 39, 37, ‡38	115	3-7
H11	Vol.	18	MR53	M27			4	12	BB31				4	1A7G, 1N5G, 1H5G, 1C5G	455	
12	Vol.	18	N				8-8	23	See Note	B3			6	57, 58, 55, 56, 59, 82	115	4-4
	Tone	34	Y				P22483	14	CS130							
	Sen.	5	G12				5	15	BB11							
F14 DC	Vol.	18	UC503				4-4	13	2N516				6	77, 78, 85, 37, ‡48	456	4-3
	Tone	22	G12													
	Sen.	5	G12													
20	Vol.	17	UC503				8-8	4	CM172	B3			6	57, ‡58, 55, 2A5, 25Z5	115	4-4
	Tone	21	UC503				5	15	BB11							
	Sen.	7	H													
23, 25 (20 Series)	Vol.	15	UC503				85007	4	2-BB27				7	‡6K7, 6A8, 6Q7, 25L6, 25Z6, 6G5	456	8-1,3
	Tone	34	G12	6			85008	13	2N502							
							22481	15	BB12							
28DC	Vol.	18	UC503				2	1	2N516	B11			8	‡39, 36, 85, ‡37, ‡48	115	4-5
	Tone	22	G12	6												
	Sen.	7	H7		5	A27										
31-81 (Rainbow Super)	Vol.	2	G12				8-8	4	CM172	B3			4	‡57, 2A5, 82	115	4-6
33, 35 (30 Series)	Vol.	15	UC503	6			5	15	BB12							
	Tone	34	L				71045	1	RM262				5	6A8, 6K7, 6Q7, 6F6, 5Y3G	456	
							72353	14	CS133							
							22481	15	BB12							
39 Series	Vol.	25	GG				8-8	4	See Note	B3			7	‡21A, 27, ‡35, 47, 80	115	3-2
	Tone	34	K12													
41 AC	Vol.	7	E	6	2		71647	1	RM262				4	6A7, 6F7, 42, 80	456	6-1
41 Series DC Dragon	Vol.	6	G12										7	‡36, 37, 39, ‡38	115	3-1
	Tone	34	K12													
X41	Vol.	7	E	6	2		71647	1	RM262				4	6A7, 6F7, 42, 80	456	7-1
43 (with 47 output)	Vol.	6	D12		2		P22455	4	CS133				5	‡58, 57, 47, 80		4-8
	Tone	34	L				4	4	CS133							
43, 45 (with 42 output)	Vol.	7	E	6	2											
Y43, Y45	Vol.	7	E	6	2		8-4	1	See Note	B3			4	6A7, 6F7, 42, 80	456	6-2
G44, G45 (G40 Series)							8-4	1	RM262				4	6A7, 6F7, 42, 80	456	6-2,7-11
45 (Long Wave)	Vol.	17	O				71203	12	RS203				5	1C7G, 1D5G, 1H6G, ‡1F5G	456	8-2,3
X48, X49	Tone	22	L				22481	20	BB12							
	Vol.	7	E	6	2		8-4	1	RM262				4	6A7, 6F7, 42, 80	456	
	Vol.	7	D	6	2		71600	‡	3-BB20				4	6A7, 6F7, ‡43	456	8-4
	Tone	22	G12													
53	Vol.	17	UC503				8-8	1	CM172				5	6A7, 6D6, 75, 42, 80	115	5-6,7
	Tone	34	L	6			5-5	15	TN111							
55 Captain Kidd Chest	Vol.	6	D12			A14	8-8	4	See Note	B3			5	‡58, 57, 47, 80		3-10
	Tone	34	L													
55 (with 42 output)	Vol.	17	UC503				8-8	1	CM172				5	6A7, 6D6, 75, 42, 80	115	5-7,8
	Tone	34	L	6			5-5	15	TN111							
G56, G57 (G50 Series)	Vol.	17	UC503	6			85020	1/13	2S563/BB40		245A	C3	5	‡6D6, 6A7, 75, 41	456	8-5,6
	Tone	34	L				22481	15	BB12							
							.006		Buffer	B14						
63	Vol.	17	UC503				71106	1/13	CM172/CM170	B3			6	‡6D6, 6A7, 75, 42, 80	456	6-3,4
	Tone	34	L	6			70991	15	TN111							
X63, X65	Vol.	17	UC503				71916	1/15	3S579				6	‡6D6, 6A7, 75, 42, 80	456	6-5,6
	Tone	34	L	6			71915	13/15	CM170/BB12	B3						
68 DC	Vol.	17	UC503				4-4-4	26	Order from	Mfr.			6	‡6D6, 6A7, 75, ‡43	456	5-9
	Tone	34	G12				5	15	BB12							
X68, X69 (DC)	Vol.	17	UC503				4-4-4	26	Order from	Mfr.			6	‡6D6, 6A7, 75, ‡43	456	6-7,8
	Tone	22	G12	6			22481	15	BB12							
73, 75	Vol.	15	NN				71203	12	RS203				7	‡34, 1C6, 1A6, 30, 19	456	6-9
	Tone	44	L	7												
X73, X75	Vol.	15	UC503				71203	12	RS203				7	‡34, 1C6, 1B5, 30, 19	456	6-11,12
	Tone	44	L	7												
81 (Dragon AW)	Vol.	18	UC503				8-8	4	See Note	B3			8	‡58, ‡57, 56, 2A6, 2A5, 5Z3	115	5-2,4
	Tone	34	L	6			2-2	13	See Note	B3						
	Supp.	12	Y				5-5	15	TN111							
81 Rainbow	Vol.	2	G12		EX200		8-8	4	See Note	B3			4	‡57, 2A5 or 47, 80 or 82	482	3-9
							5	15	BB12							
84 (Dragon AW)	Vol.	17	UC503				8-8	4	See Note	B3			8	‡58, ‡57, 56, 2A6, 2A5, 5Z3	115	5-2,4
	Tone	34	L	6			2-2	13	See Note	B3						
	Supp.	12	Y				5-5	15	TN111							
93 (AC-DC)	Vol.	17	UC503				70871	8/15	UR189	B134			5	6A7, 6D6, 75, 43, 25Z5	456	5-10,7-2
103, 105	Vol.	17	UC503	6			71045-B	1	RM262				5	6A7, 6D6, 75, 42, 80	456	6-13,14
							71215	13	CS133							
SG105	Vol.	12	M				‡	‡	See Note	B1			6	24, ‡27, ‡71, 80		
X105	Vol.	17	MR51	M26			71045	1	RM262				5	6A7, 6D6, 75, 42, 80	456	8-7,8
	Tone	22	MR39				72353	13	BB60							

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Repuacement	*Note				
PILOT—Continued																
K106	Vol.	12	M				‡	‡	See Note	B1			7	§24,§27, 71A, 80		
108, 109 (DC)	Vol.	17	UC503	6			71600	26	Order from	Mfr.			5	6A7, 6D6, 75,§43	456	6-10,7-2
	Tone	34	G12				22181	15	BB12							
K108	Vol.	4	E12				‡	‡	See Note	B1			7	§26,§27,§71, 80		
114, 115	Vol.	15	UC503	6			71589	11/13	3S579				11	§6D6, 6A7, §76, 85,		
	Sen.	7	E				71588	11/14	2N518					6C6,§42, 5Z3	456	6-15,16
							71590	15	TN113							
K117 "Twin Screen Grid 8"	Vol.	2	D12				2-3-3	3	See Note	B1			8	§24, 27,§45, 80		1-4
K121, K121X (Battery) Country Special	Vol.	12	K12										6	§24,§01A,§12A		1-5
K122, K123,K124	Vol.	12	K12				3-3-3	3	See Note	B1			7	§24A,§27,§71A, 80		1-5
123	Vol.	17	UC503	6			71676	1/24	1 R182				6	§6D6, 6A7, 75, 43,		
	Tone	34	L				71675	15	TN111					25Z5	456	6-17,18
125	Vol.	17	MR51				71676	6/13	UR182				6	§6D6, 6A7, 75, 43,		
	Tone	34	L	6			71675	15	TN111					25Z5	456	7-3,4
K126, K128	Vol.	12	K12				3-3-3	3	See Note	B1			7	§24, 27,§45, 80		1-5
K130 AC Universal Wasp	Vol.	12	K12				4-2-2-1-1	‡	See Note	B1			6	§24, 27,§45, 80		2-2
140 Auto Set	Vol.	12	L										6	§24A, 27, 45		1-6
S141 Universal	Vol.	12	K12				2-2-4	3	See Note	B1			6	§24, 27,§45, 80		2-1
W145 Public Address System	Vol.	15	N				‡	3	See Note	B4			7	§27,§50,§81		1-1
S148	Vol.	7	D				12-8	4	See Note	B3			7	§51, 24,§27, 47, 80	175	3-5
	Tone	34	L													
C151	Vol.	7	D				12-8	4	See Note	B3			7	§51, 24,§27, 47, 80	175	
	Tone	34	L													
C153, C154 (with 2-45s)	Vol.	23	MM				8-8-4	1/14	See Note	B3			9	§51,§27,§45, 80	175	2-3
	Tone	41	L													
C153, C154 (with 47s)	Vol.	23	MM				8-8-8-4	3/14	See Note	B3			9	§51,§27,§47, 80	175	2-4
	Tone	41	L													
153, 155, X153, X155	Vol.	15	UC503	7			71203	12	RS203				5	1C6,§34, 1B5, 33	456	7-5
Model AC Midget S155, S155A, S155B, S155F	Vol.	6	E12			A4	2-3-4-1	3	See Note	B1			6	§24, 27, 45, 80		3-3
	Vol.	12	K12			A27										
	Tone	21	N			A4										
S156, S158 DC Midget	Vol.	11	K12				6	‡	See Note	B11			6	§01A,§71A		3-4
AC Midget C157, C157A, C157B, C157F	Vol.	21	K12				2-3-4-1	3	See Note	B1			6	§24A, 27, 45, 80		3-3
	Tone	21	N			A4										
C162	Vol.	7	D				12-8	4	See Note	B3			7	§51, 24,§27, 47, 80	175	3-5
	Tone	34	L													
G162, TG162, G163 (G160 Series)	Vol.	18	M	6			30-20	4	2P553				5	6A7, 6D6, 75, 25L6,		
														25Z5	456	8-9,12
G162A, G162B, G163A, G163B	Vol.	18	MR44	M26			85027	1	2N506				5	6A7, 6D6, 75, 43,		
														25Z5, Ballast Tube	456	8-10
S164	Vol.	7	D				12-8	4	See Note	B3			7	§51, 24,§27, 47, 80	175	3-5
	Tone	34	L													
C165	Vol.	7	D				12-8	4	See Note	B3			7	§51, 24,§27, 47, 80	175	3-5
	Tone	34	L													
171 Amplifier and Power Supply	Mic.		A400P				2-2-2	3	See Note	B1			4	§27,§71A, 80		1-1
G174, G175 (G170 Series)	Vol.	17	UC503				40-40	4	2-BB27				7	§6K7, 6A8, 6Q7, 25L6,		
	Tone	34	G12	6			85008	13	2N502					25Z6G, 6G5	456	
							22481	15	BB12							
183	Vol.	15	UC503	6			71045	28	RM262				6	6A8, 6K7, 6H6, 6J7,		
	Tone	34	L				72168	28	CS133					6F6, 5Z4	456	6-19,20
							22481	15	BB12							
G184, PG184, TG184, G185 (G180 Series)	Vol.	17	UC503				40-40	4	2-BB27				7	§6K7, 6A8, 6Q7, 25L6,		
	Tone	34	G12	6			85008	13	2N502	B3				25Z6G, 6G5	456	8-11,12
							22481	15	BB12							
185	Vol.	15	UC503	6			71045	28	RM262				6	6A8, 6K7, 6H6, 6J7,		
	Tone	34	L				72168	28	CS133					6F6, 5Z4	456	6-19,20
							22481	15	BB12							
V191, S.W. Conv.							4-4	1	See Note	B3			4	§24A, 27, 80		2-4
193, C193, 195 (190 Series)	Vol.	17	UC503	6			71045	1	RM262				5	6A8, 6K7, 6Q7, 6F6,		
	Tone	34	L				72353	13	CS133					5W4 or 5Y3G	456	7-7,8
							22481	15	BB12	B10						8-13
VX201, WX201, X201	Vol.	17	UC503	6			85014	4	RS208				5	6A7, 6D6, 75, 25L6,		
	Tone	22	L				85021	4/13	2N507					25Z5	456	9-1,2
							22481	15/19	BB12							
203, 205	Vol.	17	P	6			72382	1	2N506				5	6A8, 6D6, 75, 43,		
							78704	13	RS203					25Z5	456	7-6
							22481	15	BB12							
X203, BX203, UX203, WX203, X205	Vol.	17	UC503	6			85014	4	RS208				5	6A7, 6D6, 75, 25L6,		
							85021	4/13	2N507					25Z5	456	
							22481	15/19	BB12							
213	Vol.	15	UC503				71045	1	RM262				7	§6K7, 6A8, 6H6, 6J7,		
	Tone	22	L	6			72252	24	2N518					6F6, 5Z4	456	6-21
							70971	15	TN111							
215	Vol.	15	UC503				71045	1	RM262				7	§6K7, 6A8, 6H6, 6J7,		
	Tone	22	L	6			72252	24	2N518					6F6, 5Z4	456	6-12,7-2
							70971	15	TN111							
223	Vol.	17	MR51				16-12	1	2S562				6	§6D6, 6A7, 75, 43,		
	Tone	22	L	6			4	13	BB40					25Z6	456	8-14
							10	15	BB12							
253, 255	Vol.	17	UC503	6			78623	1/13	3S582		28SXS	C17	5	§6D6, 6A7, 75, 41	456	7-8,9
	Tone	34	L				22481	15	BB12		24S	C18				
							.01		Buffer	B14	24SA	C19				
G274	Vol.	17	UC503				78594	1/13	RM257				7	§6K7, 6A8, 6Q7, 25A6,		
	Tone	34	L	6			85013	13	3S582					25Z6G, 6G5	456	
							22481	15	BB12							
G274J	Vol.	17	UC503				12-12-4	1/13	RM257	B3			7	§6K7, 6A8, 6Q7, 25A6,		
	Tone	34	L	6			34-4	1/13	RM259	B3				25Z6G, 6G5	456	
							22481	15	BB12							

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PILOT—Continued																
G284	Vol.	17	UC503				40-40	4	2-BB27				7	6K7, 6A8, 6Q7, 25L6,		
	Tone	34	G12	6			85023	13	TN120	B3				25Z6G, 6G5	456	9-3,4
							22481	15	BB12							
293, 295, S295	Vol.	17	O				85004	1	RS215				6	6K7, 6A8, 6Q7, 6F6,		
	Tone	34	L	6			85005	1	RS216					5W4	456	7-11,12
							22481	15	BB12							
							72252	13	2N518							
304, 305 (300 Series)	Vol.	17	MR55	M26			78689	1	2N514				11	6K7, 6A8, 6R7, 25A6,		
	Tone	44	MR39				78688	13	RM259					25Z6, 6E5	456	7-13,14
							85002	15	BB13							
X304, X305 (X300 Series)	Vol.	17	MR57	M26			85011	1	RS208				11	6K7, 6A8, 6R7, 25A6,		
	Tone	44	MR18				78688	13	RM259					6E5, 25Z6	456	8-16,17
							85002	15	BB13							
G352, VG352, WG352, G353	Vol.	17	MR51	M26			85014	4	RS208				5	6A7, 6D6, 75, 25L6,		
							85021	4/13	RM257					25Z5	456	9-2,5
							22481	15/19	BB12							
364, 365 (360 Series)	Vol.	‡	Order from	Mfr.			8-8-8	1/20	RM265				12	6K7, 6C5, 6L7, 6J7,		
	Tone	44	L				4-4-2-2	13/14	3S584/BB60					6E5, 6F6, 5Z4	456	7-15,16
	Clr'ty	‡	20M		See Note A3											
393, 395, S393	Vol.	17	MR53				71015	1	RM262				7	6K7, 6A8, 6Q7, 6G5,		
	Tone	34	L	6			22481	15	BB12					6F6, 5W4	456	7-10,14
403, 405 (400 Series)	Vol.	17	MR51	M26			71045-A	1	RM262				5	6A8, 6K7, 6Q7, 6F6,		
	Tone	34	L				72353	13	CS133					5W4	456	9-6,8
423, 425 (420 Series)	Vol.	17	MR51				71676	1/13	UR182				6	6K7, 6A8, 6Q7, 25L6,		
	Tone	34	L	6			71675	15	TN111					25Z6	456	9-7,8
TP423, TP425 (TP420 Series)	Vol.	17	MR51				85014-B	25	RS208				6	6K7, 6A8, 6Q7, 25L6,		
	Tone	34	Y	6			78688	25/13	TN125					25Z6G	456	
							22481	15	BB12							
G462	Vol.	18	MR44	M26			85026	4	2P553				5	6A7, 6D6, 75, 25L6,		
							85032	13	CM170					25Z5	456	
G462A, G462B	Vol.	18	MR44	M26			85207	1	RM257				5	6A7, 6D6, 75, 43,		
							85035	13	CM170					25Z5	456	
							22481	15	BB12							
G463A, G463B	Vol.	18	MR44	M26			85027	1	RM257				5	6A7, 6D6, 75, 43,		
							22481	15	BB12					25Z5	456	
G508, G509	Vol.	17	MR51				85030	‡	WE2050				10	6K7, 6L7, 6J7, 6B8,		
	Tone	41	MR51	M26			85028	13/14	3S584/BB60					6E5, 6Q7, 6V6G,		
							22481	15	BB12					5U4G	456	
G528, TG528, G529, TG529	Vol.	17	MR51	M26			85016	1	WE3035				12	6K7, 6L7, 6J7, 6H6,		
	Tone	41	MR51				85019	13/14	3S584/BB60					6E5, 6Q7, 6L6,		
	Sen.	7	H				85018	1/13	3S584					25Z3	456	8-19,20
							22481	15	BB12							
H554, H555	Vol.	17	1 Meg. No. 1		See Note A19		85024	1	2S563				5	6K8, 6K7, 6Q7, 6F6G,		
	Tone	34	MR39				20481	15	BB12					5Y3G	455	9-11,12
BG562, BG563	Vol.	17	MR51	M26			71045A	1	RM262				6	6A8G, 6K7G, 6H6G,		
	Tone	34	MR39				72353	14	CS133					6J7G, 6F6G, 5Y3G	456	9-9,10
G562, G563	Vol.	17	MR51	M26			71045-A	1	RM262				6	6A8G, 6K7G, 6H6G,		
	Tone	34	L				72353	14	CS133					6J7G, 6F6G, 5Y3G	456	9-9,10
							22481	15	BB12							
G576, G577 (G570 Series)	Vol.	17	MR53				85004	1	RS215				7	6K7, 6A8, 6Q7, 6G5,		
	Tone	34	L	6			85005	1	RS216					6F6, 5Y3G	456	8-23,30
							72252	13	2N518							
							22481	15	BB12							
G584, G585 (G580 Series)	Vol.	17	MR51	M26			85024	1	3S584				8	6A8G, 6K7G, 6Q7G,		
	Tone	44	MR33				85025	13	3S584/BB60					6H6, 6E5, 6V6G,		
							22481	15	BB12					5Y3G	456	8-21,22
H594, H597	Vol.	124	1 Meg. No. 1		See Note A19		71045	3	RM262				9	6K8, 6K7, 6J7, 6H6,		
	Tone	34	MR39	M26			85018	3/13	3S584					6U5, 6Q7G, 6F6G,		
	Sen.	7	MR22				22481	15	BB12					5Y3G	455	9-15,16
623, 625	Vol.	17	MR51	M26			78595	13	RS203				7	6K7, 6A8, 6Q7, 25A6,		
	Tone	22	MR39				78591	1/13	RM257					6G5, 25Z6	456	8-24
							71675	15	TN111							
S623, S623J	Vol.	17	MR51				85012	1/13	2S565/BB10				7	6K7, 6A8, 6Q7, 25A6,		
	Tone	22	MR39	M26			85013	13	3S582					6G5, 25Z6	456	8-25
							78594	1/13	RM257							
							85010	1/13	RM259							
							22481	15	BB12							
H664, H665	Vol.	20	1 Meg. No. 1		See Note A19		85024	1	2S563				6	6K8, 6K7, 6Q7G,		
	Tone	34	MR39				22481	15	BB12					6F6G, 5Y3G, 6U5	455	9-13,17
G674, G675	Vol.	17	MR53				71045	1	RM262				7	6K7, 6A8, 6Q7, 6G5,		
	Tone	34	L	6			72252	13	2N518					6F6, 5Y3G	456	
							22481	15	BB12							
G752, TG752, G753 (G750 Series)	Vol.	18	MR48				85022	1	CM172				5	6A7, 6D6, 75, 41, 80	456	8-26,27
							22481	19	BB12							
G774	Vol.	17	MR53				71045-B	1	RM262				7	6K7, 6A8, 6Q7, 6G5,		
	Tone	34	L	6			72252	13	2N518					6F6, 5Y3G	456	
							22481	15	BB12							
G852	Vol.	18	MR48	M26			85022	1	CM172				5	6A7, 6D6, 75, 41, 80	456	
							85031	13	CM170							
1010 All Wave Dragon	Vol.	6	G12				8-8	4	See Note	B3			6	24A, 27, 35, 47, 80	115	3-6
M2203, M2205	Vol.	17	MR51	M26			78594	1/13	RM257				5	6A8, 6K7, 6Q7, 25A6,		
							22481	15	BB12					25Z6	456	8-28
X2253, X2255	Vol.	17	MR51	M26			85006	‡	Order from	Mfr.	F245	C3	5	6D6, 6A7, 75, 41	456	8-29
	Tone	22	D				22481	15	BB12							
G5206, CG5206, TG5206, G5207 (G5200 Series)	Vol.	18	UC503	6			85033	1/13	3S584		F215	C3	5	6D6, 6A7, 75, 41	456	
	Tone	34	L				22481	‡	BB12							
							.006		Buffer	B14						
PLAZA MUSIC CO.																
6 Tube Long Wave	Vol.	6	‡		See Note A5		8-8	4	See Note	B3			6	58, 57, 47, 80	175	3-2
	Tone	34	Z12													
6 Tube T. R. F.	Vol.	6	‡		See Note A5		8-8	4	See Note	B3			6	35, 24A, 47, 80		3-3
	Tone	22	Z12													
7 Tube Super	Vol.	6	‡		See Note A5		8-8	4	See Note	B3			7	56, 57, 58, 47, 80	175	3-3
	Tone	22	L													
24 Standard	Vol.	6	H12				8-8	4	See Note	B3			6	‡		3-4
	Tone	22	Z12													
49A	Vol.	7	Y100MP		EX400		8-4	6	2N502				5	39, 36, 37, 43, 25Z5		3-1
							442A	15	TN113							
549 (5 tube Super)	Vol.	3	K12				380	6	2N502				5	78, 77, 43, 25Z5	456	3-1
							442A	15	TN113							
711 (5 Tube Super)	Vol.	6	H7		2		8-8	4	See Note	B3			5	57, 58, 47, 80	175	3-2
711 Junior	Vol.	6	‡	6	See Note A5		8-8	4	See Note	B3			5	58, 57, 47, 80		3-2

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
PRECISION																
6 Tube A-W Super.	Vol.	18	N	6			8-8	23	CM172				6	6A7,‡6D6, 75, 42, 80	465	6-1
	Tone	22	Y													
8 Tube A-W	Vol.	83	N				8-8	1	CM172				8	57,‡58, 55, ‡2A5, 5Z3, 56	465	6-2
	Tone	44	Y													
511	Vol.	18	N	6			4-4	23	CM170				5	6A7, 6D6, 75, 42, 80	465	6-3
PREMIER—See Airking																
RADIETTE (Also see 54, 64)	Keller-Fuller).															
	Vol.	18	UM154	‡	See Note A96		6-10	4	CM172	B3	294	C3	6	6A7,‡6D6, 75, 42, 81	456	
							.02		Buffer	B14						
RADIOBAR																
106 (6 tube)	Vol.	15	N	6			8-8	4	See Note	B3			6	2A7,‡58, 55, 2A5, 80.	262.5	
	Tone	22	K12													
210 (10 tube with 46's)	Vol.	15	N	6			4-8-4	3	See Note	B3			10	55,‡56, 57,‡58,‡46, 82	262	4-2
210B (8 tube with 59's)	Vol.	83	N	6			8-8	1	See Note	B3			8	55, 56, 57,‡58,‡59, 5Z3	262	4-1
	Tone	22	UC502													
	Sen.	8	UC500													
210B (10 tube with 59's)	Vol.	15	N	6			8-8	35	See Note	B3			10	‡57,‡56,‡58, 55,‡59, 82	262	
	Tone	22	UC502				4	19	BB31							
	Sil.	‡	‡		See Note A5											
210C (10 tube with 59's)	Vol.	15	N	6			8-8	35	See Note	B3			10	55,‡56,‡57,‡58,‡59, 82.	262	
	Tone	22	UC502				4	19	BB31							
	Sil.	‡	‡		See Note A5											
505 (5 tube)	Vol.	56	N	6			4-8	23	See Note	B3			5	57, 58, 55, 2A5, 80.	175	4-1
	Tone	22	G12													
506 (6 tube)	Vol.	15	N	6			8-8	4	See Note	B3			6	2A7,‡58, 55, 2A5, 80.	262	4-1
	Tone	22	K12													
508 (8 tube with 59's)	Vol.	83	N	6			8-8	1	See Note	B3			8	55, 56, 57,‡58,‡59, 5Z3	262	4-1
	Tone	22	UC502													
	Sen.	8	UC500													
510 (10 tube with 46's)	Vol.	15	N	6			4-8-4	3	See Note	B3			9	‡58, 57, 55, 56,‡46, 82	262	4-2
510 (10 tube with 59's)	Vol.	15	N	6			8-8	35	See Note	B3			10	55,‡56,‡57,‡58,‡59, 82	262	4-2
	Tone	22	UC502				4	19	BB31							
	Sil.	‡	‡		See Note A5											
526 (6 tube)	Vol.	83	N	6			8-8	4	See Note	B3			6	2A7,‡58, 55, 2A5, 80	262.5	
	Tone	22	UC502													
528 (8 tube with 59's)	Vol.	15	N	6			8-8	1	See Note	B3			8	55, 56, 57,‡58,‡59, 5Z3	262	4-1
	Tone	22	K12													
	Sen.	‡	UC500													
RADIO CHASSIS, INC. (Marquette).																
Auto Receiver	Vol.	18	UM154		See Note A96		5	15	BB12				5	‡78, 6A7, 75, 41	175	4-1
A5D	Vol.	6	G7		3		16-8	6	2N504				5	‡78, 77, 43, 25Z5	175	4-2
							5-5	15	TN111							
A6D	Vol.	18	N				16-8	6	2N504				6	‡78, 6A7, 75, 43, 25Z5	175	4-3
							5-5	15	TN111							
AC25	Vol.	6	G7		3		8-8	4	See Note	B3			5	58, 57, 56, 47, 80		3-2
AC35	Vol.	8	G		3		8-8	4	See Note	B3			5	58, 57, 47, 80	175	3-4
AC36	Vol.	8	G		3		8-8	4	See Note	B3			6	‡58, 57, 56, 47, 80	175	3-4
HOAR48	Vol.	8	G		3		8-8	4	See Note	B3			8	58,‡35, 24, 27,‡47, 80		3-1
L5D	Vol.	6	D		3		16-8	6	2N504				5	6A7, 78, 77, 43, 25Z5	456	4-4
	Tone	22	L				5-5	15	TN111							
L6D	Vol.	17	N				16-8	6	2N504				6	‡78, 6A7, 75, 43, 25Z5	115	4-5
							5-5	15	TN111							
L6W	Vol.	17	N				8-8	4	See Note	B3			6	‡58, 2A7, 2A6, 47, 80	125	4-6
							5	15	BB12							
LSA36	Vol.	8	G		3		8-8	4	See Note	B3			6	‡58, 57, 47, 80, 56	175	3-4
LSA37	Vol.	8	G		3		8-8	4	See Note	B3			7	‡58,‡56, 47, 80	175	3-2
QAC35	Vol.	8	G		3		8-8	4	See Note	B3			5	‡58, 57, 47, 80		3-4
QAC36	Vol.	8	G		3		8-8	4	See Note	B3			6	‡58, 57, 56, 47, 80	175	3-4
SDC36	Vol.	8	G		2								6	‡39, 36, 37,‡48		3-3
SMA24	Vol.	6	G7		3		8-8	4	See Note	B3			4	58, 57, 47, 80		3-1
SMA25	Vol.	6	D7		3		8-8	4	See Note	B3			5	58, 57, 56, 47, 80		3-2
RADIO CIRCULAR																
5 Tube A. W. (AC)	Vol.	17	N				8-8-4	4/13	RM265	B58			5	6A7, 6D6, 75, 42, 80.	456	6-1
	Tone	22	L				5	15	BB11							
ACE 5 Tube Dual (Battery)	Vol.	15	N	‡			2	12	BB31				5	1C6, 34,‡30, 33	456	6-1
	Tone	22	L													
ACE 5 Tube AC-DC Dual All-Wave	Vol.	17	N	‡			5-20-8-4	11/13	See Note	B154			5	6A7, 6D6, 75, 43, 25Z5	456	6-2
							5	15	BB11							
ACE 817	Vol.	17	N				4-8-8-8-8	‡	See Note	B3			8	‡6D6, 6A7, 75,‡42, 80.	456	6-2
	Tone	22	L				5	15	BB11							
RADIOCHRON—See Clugo.																
R. C. A.																
9 Tube General Purpose A.W. (AVR-5A)	Vol.	19	TRP603				6889	6	RS216				8	‡58, 2A7, 2B7,‡56, 53, 80	445	5-165, 170
	Tone	21	UC505	6			6609	6	WE1830							
	Sen.	6	J				6626	14/15	CS123/TN111							
RCA Short Wave Adapter	Vol.	26	J										3	24A,‡27	1000	1-53,54
Premax P1 AC/DC	Vol.	7	UC509	6			3538	1	2N516				4	36, 37, 38, 39		4-1,2
							3536	15	TN111							
AVR-1	Vol.	19	TRP603				6571	1	RS215				8	‡58, 2A7, 2B7, 56, 53, 80	445	4-70,76
	Tone	21	O	6			6609	1	WE1830							
							6626	14/15	CS123/TN111							
HF1	Vol.	20	TM249-SS1				14531	1	WE3050				9	6A8, 6K7, 6R7, ‡6J5, ‡6F6, 6U5, 5T4	455	9-1,4
							5212	1	WE1830							
							30105	14	RS216							
HF2	Vol.	20	TM249-SS1	M26			31495	25	WE2050				12	‡6K7, 6A8, 6J7, 6R7, 6U5, ‡6J5,‡6F6, 5T4	455	9-4,10
	Tone	22	Order from	Mfr.			31553	25/14	2S566							
R-3-B (Battery)	Vol.	9	Y100MP										6	‡34, 32,‡30, 33	456	
R-3-C (200/230 V. D. C.)	Vol.	7	E				4-4	13/15	See Note	B156			6	‡39,‡37, 89	460	
4T	Vol.	6	F7	6T	3		11240	25	SR644				4	6A7, 6B7, 41, 1V	460	7-1,3
							5212	25	WE1830							
4X, 4X3, 4X4	Vol.	7	G	6	3		12841	50	RM257	B157			4	6A7, 6F7, 43, 25Z5	460	7-7,8

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R. C. A.—Continued																
HF4	Vol.	20	TM249-SS1	M26			31495	25	WE2050				12	[3]6K7, 6A8, 6J7, 6R7, 6U5,[2]6J5,[2]6F6, 5T4	155	9-1,10
	Tone	22	Order from	Mfr.			31553	25/14	2S566							
R-4	Vol.	7	SRP131				8839	4/14	CM175	B158			7	21A,[2]35, 47, 80,[2]27	175	2-1,3
	Tone	21	K12	6												
T4-8	Vol.	98	E	6			6661	1/15	SR625				4	6A7, 6F7, 41, 1V	460	6-73,75
							6832	13	BB31							
T4-8A	Vol.	6	F7	6T	3		11240	25	SR644				4	6A7, 6B7, 41, 1V	460	7-4,5
							11497	25	RS213							
T4-9	Vol.	98	E	6			6661	1/15	SR625				4	6A7, 6F7, 41, 1V	460	6-73,75
							6832	13	BB31							
T4-9A	Vol.	6	F7	6T	3		11240	25	SR641				4	6A7, 6B7, 41, 1V	460	7-4,5
							11497	25	RS213							
T4-10	Vol.	7	UC509	6			11268	1	2N516				4	6D6, 6C6, 38, 76		6-76,78
							7956	15	TN111							
5BT	Vol.	18	MR44	M27			13295	12/13	2N502				5	1A6, 1A4, 1F6, 30, 19	460	8-1,3
5M Automobile	Vol.	56	TM222-SS1	M26			12234	1	RS213		249	C3	5	6D6, 6A8, 6K7, 6B7, 42	460	7-9,13
	Tone	22	MR39		See Note	A60	12238	1/15	CS133/TN111						260	
							.01-.01		Buffer	B14						
5Q5, 5Q55, 5Q56	Vol.	18	MR48	M26			32240	1/15	FPT332				5	6SA7, 6K7, 6SQ7, 6F6G, 5Y3G	455	
5T	Vol.	17	TRP613				11240	1	SR641				5	6A7, 6D6, 75, 42, 80	460	7-15,17
							5212	1	WE1830							
5T1, 5T4, 5T5	Vol.	17	TRP613				11240	1	SR644				5	6A7, 6D6, 75, 42, 80	460	8-5,14
							5212	1/13	WE1830							
5T6, 5T7, 5T8	Vol.	17	TRP613				11240	1	SR640				5	6A8, 6K7, 6Q7, 6F6, 5W4	460	8-15,18
							5212	1	WE1830							
5U	Vol.	18	TM249-SS1				11240	25	SR644				5	6A7, 6D6, 75, 42, 80	460	9-11,16
							5212	25	WE1830							
5X2	Vol.	18	M	6			12677	4	2P546				5	6A7, 78, 75, 43, 12Z3	460	7-21,23
							12682	15	BB12							
5X, 5X3, 5X4	Vol.	18	M	6			12398	6/15	3N526				5	6A7, 78, 75, 43, 25Z5	460	7-18,20
5X5 (RC406)	Vol.	45	MR41	M26			33321	1	2N514				5	12SA7, 12C8, 12SC7, 35L6GT, 35Z5GT	455	
AVR-5A 9 Tube Gen. Purpose AW	Vol.	19	TRP603				6889	6	RS216				9	[3]58, 2A7, 2B7,[2]56, 53, 80	445	5-165, 170
	Tone	21	UC505	6			6609	6	WE1830							
	Sen.	6	J				6626	14/15	CS133/TN111							
R-5-AC Radiolette	Vol.	2	Y				2957	4	SR644				4	[2]24A, 47, 80		1-10,11
R-5 DC	Vol.	2	Y										4	[2]36,[2]38		3-79
R-5-X AC Radiolette	Vol.	2	Y				2957	4	SR644				4	[2]24A, 47, 80		2-4,6
	Reg.	7	J													
T-5 End Table Electrola	Vol.	63	SRP152											No tubes used		
T-5-2	Vol.	19	TRP603	6			7790	1	SR644				5	6A7, 6D6, 6B7, 41, 80	460	6-79,82
							4428	1	RS213							
							7589	13/14	SR627							
							3796	15	BB11							
6BK	Vol.	18	M				12804	12/13	CM172				6	1C6, 1A4, 1F6, 30,[3]49	460	7-29,32
6BK6	Vol.	18	M				12804	12/13	CM172		W245A	C3	6	1C6, 1A4, 1F6, 30,[3]49	460	7-29,32
							11387	12	SR644							
							.02-.02		Buffer	B14						
6BT	Vol.	18	M				12804	12/13	CM172				6	1C6, 1A4, 1F6, 30,[3]49	460	7-29,32
6BT6	Vol.	18	M				12804	12/13	CM172		W245A	C3	6	1C6, 1A4, 1F6, 30,[3]49	460	7-29,32
							11387	12	SR644							
							.02-.02		Buffer	B14						
6K	Vol.	15	TRP613				11240	1	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	460	7-37,40
	Tone	150	SRP288	6T			5212	1	WE1830							
6K2	Vol.	15	TRP613				11240	1	SR641				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	460	7-41,43
	Tone	150	SRP288	6T			5212	1	WE1830							
6K3	Vol.	20	TRP613				11387	14	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	460	8-21,24
							11240	1	SR644							
							5212	1	WE1830							
							11387	13	SR644							
6M and 6M2	Vol.	17	TM241-SS4				12234	1	RS213		249	C3	6	6D6, 6A8, 6K7, 85, 6G5, 6A6	260	7-24,28
	Tone	22	MR39		See Note	A60	12238	1/15	CS133/TN111							
							.01-.01		Buffer	B14						
6Q7	Vol. & Tone	18/21	Order from	Mfr.			32240	1/15	FPT332				6	6SA7, 6K7, 6SQ7, 6F6G, 5Y3G, 6U5	455	
6T	Vol.	15	TRP613				11240	1	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	460	7-37,40
	Tone	22	SRP288	6T			5212	1	WE1830							
6T2	Vol.	15	TRP613				11240	1	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	460	7-41,43
	Tone	22	SRP288	6T			5212	1	WE1830							
6T5	Vol.	15	TRP613				11387	14	SR644				6	6A7, 6D6, 75, 42, 6G5, 80	460	8-25,27
							5212	25	WE1830							
BC6-4	Vol.	18	M				11240	25	SR644				6	1C6, 34, 1B5, 30,[3]49	460	6-87,90
BC6-6	Vol.	18	M				11595	12	CS123				6	1C6, 34, 75, 30,[3]49	460	7-44,47
							11387	1	SR644		245A	C3				
							6832	13	BB31							
							11645	15	BB12							
							.01-.01		Buffer	B14						
BT6-3	Vol.	18	M				11595	12	CS123				6	1C6, 34, 1B5, 30,[3]49	460	6-87,90
BT6-5	Vol.	18	M				11387	1	SR644		245A	C3	6	1C6, 34, 75, 30,[3]49	460	7-44,47
							6832	13	BB31							
							11645	15	BB12							
							.01-.01		Buffer	B14						
BT6-10	Vol.	18	M				11595	12	CS123				6	1C6, 34, 1B5, 30,[3]49	460	6-87,90
C6-2	Vol.	20	TRP613				11240	1	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 80	460	6-83,86
							5212	1	WE1830							
							11387	14	SR644							
C6-8	Vol.	20	TRP613				11821	27/19	RM259/BB12	B170			6	6A8, 6K7, 6H6, 6J7, 25A6, 25Z6	460	7-48,52
							5212	13	WE1830							
C6-12	Vol.	18	M	6T			11240	25	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	460	7-53,55
							5212	25	WE1830							
(Hudson) H-6	Vol.	17	UM147-SS6	M26			4961	1	RS213		294	C3	6	[2]6D6, 6A7, 6B7, 41, 84	260	7-33,36
							4958	1/15	3S579							
							.02-.02		Buffer	B14						
HF6	Vol.	20	TRP621				14531	25	WE3050				14	[3]6K7, 6L7, [2]6J7, 6R7, 6H6, 6U5, [2]6J5, 6F6, 5T4	455	9-18,29
							5212	25	WE1830							
							14377	14	RS216							
R-6	Vol.	7	SRP134				8839	4/14	CM175	B158			7	[3]35, 24A,[2]27, 47, 80	175	2-1,3
	Tone	21	K12	6												
T6-1	Vol.	20	TRP613				11240	1	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 80	460	6-83,86
							5212	1	WE1830							
							11387	14	SR644							
T6-7	Vol.	20	TRP613				11821	27/19	RM259/BB12	B170			6	6A8, 6K7, 6H6, 6J7, 25A6, 25Z6	460	7-48,52
							5212	13	WE1830							
T6-9	Vol.	15	P				11240	1	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 80	460	6-91,94
							5212	1	WE1830							
							11387	13	SR644							
T6-11	Vol.	18	M	6T			11240	25	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	460	7-53,55
							5212	25	WE1830							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R. C. A.—Continued																
7K, 7T	Vol.	20	TRP613				11240	1	SR644				7	6L7, 6J7, 6K7, 6H6,		
	Tone	150	SRP288	6T			5212	1	WE1830					6F5, 6F6, 5Z4	460	7-56,60
7K1, 7T1	Vol.	20	TRP613				11240	1	SR644				7	6A8, 6K7, 6H6, 6F5,		
							5212	1	WE1830					6F6, 6G5, 5W4	460	8-21,24
							11387	13	SR644							
7U	Vol.	20	TRP613				11240	1	SR644				7	6A8, 6K7, 6H6, 6F5,		
	Tone	150	SRP288	6T			5212	1	WE1830					6F6, 5Z4, 6E5	460	7-61,65
							11387	13	SR644							
7U2	Vol.	20	TRP613				11240	1	SR644				7	6A8, 6K7, 6H6, 6G5,		
	Tone	150	SRP288	6T			5212	1	WE1830					6F5, 6F6, 5Z4	460	8-28,31
							11387	13	SR644							
7X	Vol.	20	TRP613				12998	52	RM259/BB12	B186			7	6L7, [2]6J7, 6K7, 6H6,		
	Tone	150	SRP288	6T			5212	52	WE1830					25A6, 25Z6	460	8-32,34
BC7-9	Vol.	45	M				11344	12	CS123				7	1C6,[2]34,[2]30, 32, 19	460	6-95,98
BT7-8	Vol.	45	M				11344	12	CS123				7	1C6,[2]34,[2]30, 32, 19	460	6-95,98
C7-6	Vol.	20	TRP613				11240	1	SR644				7	[2]6K7, 6A8, 6H6, 6F5,		
							5212	1	WE1830					6F6, 80	460	7-67,70
							11387	14	SR644							
C7-14	Vol.	20	TRP613				11240	1	SR644				7	6A8, 6K7, 6H6, 6F5,		
							5212	1	WE1830					6F6, 5Z4, 6E5	460	7-75,76
							11387	14	SR644							
D7-7	Vol.	20	TRP613				11240	1	SR644				7	[2]6K7, 6A8, 6H6, 6F5,		
	Phono.	63	Order from	Mfr.			5212	1	WE1830					6F6, 80	460	7-71,74
							11387	14	SR640							
R7 Superette	Vol.	7	SRP134				2957	4	SR644				8	[2]35, 24A,[2]27,[2]45, 80	175	1-12,13
	Tone	41	N				3057	4	HD684							
R-7A (AC) Superette	Vol.	7	SRP134				2957	4	SR644				8	[2]35,[2]27,[2]47, 80, 24	175	2-11,12
	Tone	41	Y200MP	6												
R-7 Superette (DC)	Vol.	7	SRP134										7	24A,[2]35,[2]45,[2]27	175	2-8,10
	Tone	41	N													
R7-LW	Vol.	7	A5MP				2957	4	SR644				8	[2]35, 24A,[2]27,[2]45, 80	110	4-15,18
							3057	4	HD684							
T7-5	Vol.	20	TRP613				11240	1	SR644				7	[2]6K7, 6A8, 6H6, 6F5,		
							5212	1	WE1830					6F6, 80	460	7-67,70
							11387	14	SR644							
T7-12	Vol.	20	TRP613				11240	1	SR644				7	6A8, 6K7, 6H6, 6F5,		
							5212	1	WE1830					6F6, 5Z4, 6E5	460	7-75,76
							11387	14	SR644							
Victor 7-11 (Radiola 18)	Vol.	1	SRP144				1-1-.5	3	See Note	B1			7	[2]26, 27, 71A, 80		1-59
Victor 7-25 (Radiola 17)	Vol.	1	SRP145				‡	3	See Note	B1			7	[2]26, 27, 71A, 80		1-59
Victor 7-26 Electrola Radiola	Vol.	1	SRP144				1-1-.5	3	See Note	B1			7	[2]26, 27, 71A, 80		1-62
	Phono.	63	‡		See Note A61											
8BK	Vol.	18	M				12804	13	CM172				8	1A6,[2]1A4, 1F6, 1B4,		
	Tone	41	N											30,[2]49	460	8-35,39
8BK6	Vol.	18	M				12804	13	CM172		W245A	C3	8	1A6, [2]1A4, 1B4, 1F6,		
	Tone	41	N				11387	12	SR644					30,[2]49	460	8-35,39
							.02-.02		Buffer	B14						
8BT	Vol.	18	M				12804	13	CM172				8	1A6, [2]1A4, 1F6, 30,		
	Tone	41	N											[2]49, 1B4	460	8-35,39
8BT6	Vol.	18	M				12804	13	CM172		W245A	C3	8	1A6, [2]1A4, 1B4, 1F6,		
	Tone	41	N				11387	12	SR644					30,[2]49	460	8-35,39
							.02-.02		Buffer	B14						
8K, 8T	Vol.	20	TRP613				11240	1	SR644				8	6L7, 6J7, 6K7, 6H6,		
	Tone	22	SRP288	6T			5212	1	WE1830					6F5, 6F6, 5Z4, 6E5	460	7-56,60
8K11	Vol.	20	TM248 SS1				11240	1	SR644				8	[2]6K7, 6A8, 6H6, 6F5,		
							5212	1	WE1830					6E5, 6F6, 5Z4	460	8-40,44
8M	Vol.	18	MR48	M26			30634	24/19	3S584		850	C3	5	6A8G, 6K7G, 6Q7G,		
							.0075		Buffer	B14				6K6G, 6X5G	460	9-31,32
8M1	Vol.	18	UM157-SS4				30797	1	CM172		850	C3	6	6K7G, 6A8, 6K7,		
							.0075		Buffer	B14				6Q7G, 6K6G,		
														6X5G	260	9-33,36
8M2	Vol.	18	TM222-SS1				30797	24	CM172		850	C3	6	6K7G, 6A8, 6K7,		
	Tone	22	MR39				.0075		Buffer	B14				6Q7G, 6K6G,		
														6X5G	260	9-34,36
8M3	Vol.	17	TM242-SS11				30828	1	SR638		249	C3	6	6K7G, 6A8, 6K7,		
	Tone	22	MR39				14902	15	TN111					6R7G, 6J5, 6N7G	260	9-32,40
							.01-.01		Buffer	B14						
8M4	Vol.	17	TM242-SS11				30828	1	SR638		249	C3	6	6K7G, 6A8, 6K7,		
	Tone	22	Order from	Mfr.			30829	15	TN111/BB12					6R7G, 6J5, 6N7G	260	9-37,40
							.01-.01		Buffer	B14						
8T2, 8T11	Vol.	20	TM248-SS1				11240	1	SR644				8	[2]6K7, 6A8, 6H6, 6F5,		
							5212	1	WE1830					6E5, 6F6, 5Z4	460	8-40,44
8U	Vol.	20	TRP613				11240	1	SR644				8	[2]6K7, 6A8, 6H6, 6F5,		
	Phono.	‡	Order from	Mfr.			5212	1	WE1830					6F6, 5Z4, 6E5	460	8-45,51
							11387	14	SR644							
8U2	Vol.	20	TRP613				11240	1	SR644				8	[2]6K7, 6A8, 6H6, 6E5,		
	Phono.	63	Order from	Mfr.			5212	1	WE1830					6F5, 6F6, 5Z4	460	8-53,58
							11387	13	SR644							
C8-15, C8-17	Vol.	20	TRP613				11240	1	SR644				8	[2]6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	1	WE1830					6F5, 6F6, 5Z3	460	7-77,86
							11248	14	RS213							
C8-19, C8-20	Vol.	20	TRP613				11240	1	SR644				8	[2]6K7, 6A8, 6H6, 6F5,		
							5212	1	WE1830					6F6, 5Z4, 6E5	460	7-87,88
							11387	1	SR644							
CV8 Pak-O-Power							13046	12	RS203		W245A	C3				8-52
							.01-.01		Buffer	B14						
D8-28	Vol.	20	TRP613				11240	1	SR644				8	[2]6K7, 6A8, 6H6, 6F5,		
	Phono.	‡	Order from	Mfr.			5212	1	WE1830					6F6, 6E5, 5Z4	460	7-89,92
							11387	14	SR644							
HF8	Vol.	20	TRP621				11203	25	SR644				16	[2]6K7, 6L7, [2]6J7, [2]6H6,		
							5212	25	WE1830					[2]6J5, 6U5, [2]6L6,		
							14377	14	RS216					[2]5T4	455	9-21,29
R8 (AC)	Vol.	99	SRP153				7342	4/13	See Note	B158			8	[2]35, 24A,[2]27, 47, 80	175	2-13,15
	Tone	21	K12	6												
R8 (DC) (230V.)	Vol.	7	SRP134										7	37,[2]39, 36,[2]71A	175	
	Tone	41	N													
T8-14, T8-16	Vol.	20	TRP613				11240	1	SR644				8	[2]6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	1	WE1830					6F5, 6F6, 5Z3	460	7-77,86
							11248	14	RS213							
T8-18	Vol.	20	TRP613				11240	1	SR644				8	[2]6K7, 6A8, 6H6, 6F5,		
							5212	1	WE1830					6F6, 5Z4, 6E5	460	7-87,88
							11387	14	SR644							
U8 (RC404A)	Vol.	18	MR44	M26			32576	1	2N509				5	12SA7, 12SK7, 12SQ7,		
														35L6GT, 35Z5GT	455	
9K	Vol.	20	TRP621				12467	25	WE3050				9	[2]6K7, 6L7, 6H6, 6F5,		
	Tone	34	L				5212	25	WE1830					6F6, 6J7, 5Z4, 6E5	460	7-93,98
9K1	Vol.	20	TRP624	6T			12467	25	WE3050				9	[2]6K7, 6L7, 6J7, 6H6,		
	Tone	150	SRP288				5212	25	WE1830					6G5, 6F5, 6F6, 5Z4	460	8-59,66

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R. C. A.—Continued																
9K2	Vol.	20	TRP621				12467	30	WE3050				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	30	WE1830					6F5, 6L6, 6E5, 5Z4	460	7-99,
							12872	15	BB15							106
9K3	Vol.	20	TRP621				12467	‡	WE3050				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	‡	WE1830					6G5, 6F5, 6L6, 5Z4	460	8-60,62
9M1	Vol.	18	MR48	M26			31598	24/15	3S579		850	C3	5	6A8, 6K7, 6Q7, 6F6,		
							.0075		Buffer	B14				6X5	455	9-41,42
9M2	Vol.	18	MR44	M26			31599	24	2S567		850	C3	6	6K7, 6A8, 6Q7, 6F6,		
							.0075		Buffer	B14				6X5	455	9-43,44
9SX1, 2, 3, 4, 5, 6, 7, 8	Vol.	18	MR48	M26			32386	4	2P459				5	6A8, 6K7, 6Q7, 25L6,		
														25Z6	456	
9T	Vol.	20	TRP621				12467	30	WE3050				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	30	WE1830					6F5, 6L6, 6E5, 5Z4	460	7-99,
							12872	15	BB15							106
9TX1, 2, 3, 4, 5	Vol.	18	MR44	M26			32576	1	2N509				5	6A8, 6SK7, 6SQ7,		
														25L6, 25Z6	455	
9TX21, 22, 23	Vol.	18	MR44	M26			32576	1	2N509				5	6A8, 6SK7, 6SQ7,		
														25L6, 25Z6	455	
9TX31, 32, 33	Vol.	18	MR44	M26			32576	1	2N509				5	12SA7, 12SK7, 12SQ7,		
														35L6GT, 35Z4GT	455	
9TX50 (RC435)	Vol.	18	MR44	M26			32576	1	2N509				5	12SA7, 12SK7, 12SQ7,		
														35L6GT, 35Z5GT	455	
9U, 9U2	Vol.	20	TRP621				12467	30	WE3050				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	SRP284	8			5212	30	WE1830					6F5, 6E5, 6L6, 5Z4	460	8-67,78
	Phono.	63	Order from	Mfr.			12872	15	BB15							
9X	Vol.	6	K12	6T	EX200		31323	1	BB24				4	6K7, 6J7, 25L6, 25Z6		9-30
C9-4	Vol.	20	TRP613				11240	1	SR644				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	1	WE1830					6F5, 6F6, 6E5, 5Z3	460	6-99,103
C9-6	Vol.	20	TRP613				11240	1	SR644				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	1	WE1830					6F5, 6F6, 5Z3, 6E5	460	7-110,
							11248	14	RS213							114
CRD9 (AC) Counter Demonstrator	Phono.	16	TRP603				10-4-10	4/17	See Note	B158			4	30,247, 80		5-217
CRD9 (DC) Counter Demonstrator	Vol.	16	TRP603				6383	12/15	See Note	B160			3	37,289		
D9-19	Vol.	20	TRP613				11240	1	SR644				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	1	WE1830					6F5, 6F6, 5Z3, 6E5	460	7-123,
	Phono.	‡	Order from	Mfr.			11248	14	RS213							129
R9 (AC) Superette	Vol.	7	SRP134				2957	4	SR644				8	235,227, 24,245, 80	175	1-12,13
	Tone	41	N				3057	4	HD684							
R9 (DC) Superette	Vol.	7	SRP134										7	24A,235,227,245	175	2-8,10
	Tone	41	N													
T9-7, T9-8	Vol.	20	TRP613				12055	25/13	2N506				9	6K7, 6A8, 6H6, 6F5,		
							12056	25/15	3S570					25A6, 6E5, 25Z6	460	7-115,
																122
T9-9	Vol.	20	TRP613				11240	1	SR644				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	1	WE1830					6F5, 6F6, 5Z3, 6E5	460	7-110,
							11248	14	RS213							114
T9-10	Vol.	20	TRP613				11240	1	SR644				9	6K7, 6L7, 6J7, 6H6,		
	Tone	34	L				5212	1	WE1830					6F5, 6F6, 6E5, 5Z4	460	7-107,
																109
Victor 9-18	Vol.	59	SRP141				‡	‡	See Note	B2			11	227, 50,281	180	1-64
	Sen.	1	D12													
	Phono.	63	‡		See Note A61											
Victor 9-54	Vol.	59	SRP141				‡	‡	See Note	B2			11	227, 50,281	180	1-66
	Sen.	1	D12													
	Phono.	63	‡		See Note A61											
Victor 9-56 (Radiola 64)	Vol.	59	SRP141				‡	‡	See Note	B2			11	227,281, 50	180	
	Sen.	1	D12													
	Phono.	63	‡		See Note A61											
10K, 10T	Vol.	20	TRP621				12467	30	WE3050				10	6K7, 6L7, 6J7, 6H6,		
	Tone	34	SRP284	8			5212	30	WE1830					6F5, 6L6, 5Z4, 6E5	460	7-130,
							12872	15	BB15							136
							12873	15/13	BB15/BB31	B12						
10K1, 10T (2nd Prod.)	Vol.	20	TRP621				12467	30	WE3050				10	6K7, 6L7, 6J7, 6H6,		
	Tone	34	SRP284	8			5212	30	WE1830					6E5, 6F5, 6L6, 5Z4	460	8-79,82
R10 (AC)	Vol.	99	SRP153				10-4-4	4/13	See Note	B158			8	235, 24A, 47,227, 80	175	2-16,17
	Tone	21	K12	6												
R10 (DC)	Vol.	7	SRP134										7	24,235,245,227	175	7-15
	Tone	41	N													
T10-1	Vol.	20	TRP621				11203	25	SR644				10	6K7, 6L7, 6H6,26C5,		
	Tone	41	N				5212	25	WE1830					26F6, 6J7, 5Z3	460	6-104,
							11215	‡	See Note	B161						108
T10-3	Vol.	20	TRP621				11203	25	SR644				10	6K7, 6L7, 6J7, 6H6,		
	Tone	41	N				5212	25	WE1830					26C5,26F6, 5Z3	460	6-109,
							11215	‡	See Note	B161						114
Victor SW10 Short Wave Adapter	Vol.	26	J										3	24,227	1000	1-53,54
C11-1, D11-2	Vol.	20	TRP621				11203	25	SR644				11	6K7, 6L7, 6J7, 6H6,		
	Tone	41	N				5212	25	WE1830					26C5,26F6, 6E5, 5Z3	460	6-115,
							11215	‡	See Note	B161						120
																7-137,
																143
R11 (AC)	Vol.	99	SRP153				‡	26	See Note	B1			9	24,227,235,247, 80	175	2-18,20
	Tone	41	Y200MP	6												
T11-8	Vol.	20	TRP621				11203	25	SR644				11	6K7, 6L7, 6J7, 6H6,		
	Tone	41	N				5212	25	WE1830					26C5,26F6, 5Z3, 6E5	460	7-144,
							11215	‡	See Note	B161						148
R12 (AC)	Vol.	99	SRP153				10-4-4	4/13	See Note	B158			8	24A,235,227, 47, 80	175	2-13,15
	Tone	21	K12	6												
13K	Vol.	20	Order from	Mfr.			11203	25	SR644				13	6K7, 6L7, 6J7, 6H6,		
	Tone	41	Order from	Mfr.			5212	25	WE1830					26C5, 6E5,26L6,25Z4	460	8-83,90
							12470	15	BB15							
C13-2	Vol.	20	TRP621				11203	25	SR644				13	6K7, 6L7, 6J7, 6H6,		
	Tone	41	UC505				5212	25	WE1830					26C5,26F6, 6E5, 5Z3	460	6-121,
							11204	‡	See Note	B162						127
Victor R14	Vol.	2/12	DRP116				.1-2-1.5	26	See Note	B1			7	224,245, 80		3-19
	Tone	44	Y													
15K	Vol.	20	Order from	Mfr.			11203	25	SR644				15	6K7, 6L7,26H6,26C5,		
	Fidelity	41	Order from	Mfr.			5212	25	WE1830					26L6,25Z4, 6E5	460	7-149,
	Tunlgt.	‡	UC514				5212	13	WE1830							155
							12470	15	BB15							
							13025	15	TN111							
15U	Vol.	20	TRP621				12467	28	WE3050				15	6K7, 26L7, 6J7, 26H6,		
	Fid.	41	Order from	Mfr.			11240	28	SR644					26C5, 6E5, 22A3,		
	Exp.	15	P				11496	28	RS216					5Z3	460	8-91,
	Exp. bias	‡	Order from	Mfr.			5212	13	WE1830							140
							12740	15	BB15							
							12472	15	BB12							
							13610	14	BB41							
							13611	15	BB15							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R. C. A.—Continued																
C15-3	Vol.	100	TRP622				11203	1	SR644				15	§6K7, 6L7, 6J7, §6H6, §6C5, 6E5, §6F6, 5Z3	460	6-129, 134
	Tone	41	UC505				5212	1	WE1830							
							5213	13/14/19	3S584							
R15 Victor	Vol.	2/12	DRP116				‡	Order	from Mfr.				7	§24A, §45, 80		1-14
PT16-A1, PT16-A2	Vol.	63	SRP152													5-219
RE16	Vol.	7	SRP134				2957	4	SR644				7	§35, §27, §45, 80	175	
	Tone	41	N				3057	4	HD684							
	Phono.	63	SRP152													
RE16A	Vol.	7	SRP134				2957	4	SR644				8	§35, 24A, §27, §47, 80	175	4-19,20
	Tone	41	Y200MP	6												
	Phono.	63	SRP152													
PT17-A1, PT17-A2	Vol.	63	SRP152													5-222
PT17-B1, PT17-B2	Vol.	‡	‡		See Note A65											5-223
Radiola 17	Vol.	1	SRP145				3.5-3.5	‡	See Note	B4			7	§26, 27, 71A, 80		1-15
R17M	Vol.	7	UC509	6			3538	1	2N516				4	36, 37, 38, 39		4-21,22
							3536	15	TN111							
Victor RE17	Vol.	2/12	DRP116				‡	Order	from Mfr.				7	§24A, §45, 80		
	Phono.	63	SRP152													
RE18	Vol.	99	SRP153				2-4	4	See Note	B1			9	24A, §27, §35, §47, 80	175	2-23,25
	Tone	41	Y200MP	6												
	Phono.	63	SRP152													
RE18A	Vol.	99	SRP153				10-4	4	CM172	B169			9	24A, §27, §35, §47, 80	175	2-23,27
	Tone	41	Y200MP	6												
	Phono.	63	SRP152													
Radiola 18 (AC)	Vol.	1	SRP144				1-1-5	3	See Note	B1			7	§26, 27, 71A, 80		1-16
Radiola 18 (DC)	Vol.	1	SRP144				4-2	‡	See Note	B11			6	§12A, 71A		1-16
R18W	Vol.	7	UC509	6			3338	9/14	2N516				4	78, 77, 38, 25Z5		4-23,24
							6535	9	2S560							
							3536	15	TN113							
RE19 (AC) (AVC)	Vol.	99	SRP153				10-4-4	4/13	See Note	B158			8	24A, §27, §35, 47, 80	175	2-28,29
	Tone	21	K12	6												
	Phono.	63	SRP152													
RE20 Electrola	Vol.	13	K12				2-3	4	CM170	B169			10	§35, 24A, §27, §47, 80	175	2-30,33
	Tone	101	N													
	Phono.	63	SRP152													
VA20	Vol.	63	MR48	M26			32152	24	FPD208				2	6A8, 25Z6G		
R21	Vol.	99	SRP153				2-3	4	CM170	B169			9	24A, §27, §35, §47, 80	175	2-34,36
	Tone	41	Y200MP													
Radiola 21, 22	Vol.	12	K12				‡	‡	See Note	B1			5	§22, §12A, 71A		1-18
D22-1			Radio Section				Radio Section									
	Vol.	100	TRP622				11203	1	SR644				22	§6K7, §6L7, §6H6, §6C5, 6J7, 6E5, §2A3, §5Z3	460	6-135 to 6-149
	Tone	41	UC505				5212	1	WE1830							
			Phono Section				5213	13/14	3S584							
	Vol.	‡	Order from	Mfr.			Dynamic Amp. Section									
	LF. Tone	‡	M				11608	13/14	3S582							
	HF. Tone	‡	L				Power Amp. Section									
	Exp.	‡	O	8			11497	43	RS213							
	Exp. Bias	‡	Y5MP				11496	43	RS216							
							11498	15/19	CM162	B165						
R22	Vol.	9	A5MP	6	2		6518	9	CM162				5	78, 6A7, 77, 43, 25Z5	175	4-25,26
							6510	9	BB31							
							6511	13/15	CM162/BB12							
RO23	Vol.	99	SRP153				4-4-10	4/13	See Note	B158			10	§24A, §27, §35, 47, 80	175/1075	2-37,42
	Tone	22	K12	6												
25 (DC) (220 V)	Vol.	7	SRP134										6	§37, §39, 89	175	5-56
RAE26	Vol.	99	SRP153				2-4	4	See Note	B1			9	§35, 24, §27, §47, 80	175	2-43,45
	Tone	41	Y200MP													
	Phono.	63	SRP152													
R27, R27 (REV.)	Vol.	7	UC509	6	EX300		3538	1	2N516				4	36, 37, 38, 39		4-27,28
							6844	15	TN113							
R28, R28BW, R28BWC, R28P	Vol.	7	D	6	1		7590	1	SR644				5	58, 2A7, 57, 2A5, 80	175	3-4,5-3
							7589	1/14	SR627							4-29
CE29	Phono.	63	SRP152		See Note A3		10-10-4	26	See Note	B158			4	§30, §47, 80		3-55,58
M30 Auto Radio	Vol.	8	Y50MP		EX300								9	§36, §37, §12	175	2-46,58
U30 (RC335KR)	Vol.	18	TM249-SS1			A59	31495	25	2S568	B8			10	6A8, 6J7, 6K7, 6H6, §6F5, §6F6G, 5U4G, 6U5	455	
	Tone	22	O	6			31496	25	RS216							
P31 Portable	Vol.	15	O				4	12	See Note	B1			8	§34, 32, §30		2-59,60
M32 Auto Radio	Vol.	16	P										6	37, §39, 85, 89		2-61,69
Victor R32	Vol.	102	DRP115				3-2.5-3	3	See Note	B1			10	§26, 27, §45, 80		1-26
	Phono.	63	A													
PT33 Portable Turn-Table	Phono.	63	SRP152													
Radiola 33 (AC)	Vol.	1	SRP144				1-1	2	See Note	B166			7	§26, 27, 71A, 80		1-28
Radiola 33 (DC)	Vol.	1	SRP133										6	§12A, 71A		1-28
M34	Vol.	‡	SRP251	6			7600	‡	See Note	B167	271	C15	4	78, 6A7, 6B7, 89	175	3-9,14
							6492	13	Order from	Mfr.						
							6513	15	TN113							
Victor R35	Vol.	2/8	DRP250				2-2-2	3	See Note	B1			8	§24, 27, §45, 80		1-29,30
	Tone	22	P													
	Phono.	63	SRP152													
R37, R37P, R38, R38P	Vol.	19	TRP607				7590	1	SR644				6	§58, 2A7, 2B7, 2A5, 80	175	3-15, 4-31
	Tone	103	N	6			6487	1/14/15	SR624							
R39	Vol.	2/8	DRP250				2-2-2	3	See Note	B1			8	§24A, 27, §45, 80		1-29,30
	Tone	22	P													
	Phono.	63	SRP152													
BT40	Vol.	18	MR48	M27			32187	12	BB31				4	1A7G, 1N5G, 1H5G, 1C5G	455	
RE40, RE40P	Vol.	7	A3MP	6	1		7590	1	SR644				5	58, 2A7, 57, 2A5, 80	175	3-17, 4-33
	Phono.	87	E12	8	See Note A66		7589	1/14	SR627							
Radiola 41 (AC)	Vol.	1	SRP145				2-2	1	See Note	B1			7	§26, 27, 10, 80		1-32
Radiola 41 (DC)	Vol.	1	SRP145										10	§12A, §71A		1-31
Radiola 42	Vol.	2/12	DRP116				2-1	26	See Note	B1			7	§24A, §45, 80		3-19
	Tone	44	Y													
R43	Vol.	54	K12				2957	12	SR644				7	§32, §30	175	1-33
	Tone	41	K12													
Radiola 44 (AC)	Vol.	12	SRP142		See Note A67		2-2-2	3	See Note	B1			5	§24, 45, 80		1-35,36
Victor RE45	Vol.	102	DRP115				3-2.5-3	3	See Note	B1			10	§26, 27, §45, 80		1-26
	Phono.	63	A													
Radiola 46 (AC)	Vol.	12	SRP142		See Note A67		2-2-2	3	See Note	B1			5	§24A, 45, 80		1-36
Radiola 46 (DC)	Vol.	12	SRP150										6	§22, §12A, §71A		1-35
Radiola 47	Vol.	12	SRP142				2-2-2	3	See Note	B1			5	§24A, 45, 80		1-37
	Phono.	63	SRP152													
48 Radiola	Vol.	2/12	DRP116				1-2	4	See Note	B1			7	§24A, §45, 80		1-38, 2-70
R50	Vol.	13	K12				4-4	4	See Note	B1			10	§35, §24A, 27, §47, 80	175	2-71,72
	Tone	101	N													
Radiola 50	Vol.	1	SRP145				3.5-3.5	‡	See Note	B4			7	§26, 27, 71, 80		1-15

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R.C.A.—Continued																
U50 (RC414C)	Vol.	18/22	Order from	Mfr.			32240	1/15	FPT332				5	6SA7, 6K7, 6SQ7, 6F6G, 5Y3G	455	
Radiola 51 (AC)	Vol.	1	SRP144				1-1-.5	3	See Note	B1			7	[4]26, 27, 71, 80		1-16
Radiola 51 (DC)	Vol.	1	SRP144										6	[3]12, 71		1-16
R51B	Vol.	20	Order from	Mfr.			6548	12	BB31				10	[3]34,[3]30	175	4-37,38
	Tone	41	UC505													
Victor R52	Vol.	102	DRP115				3-2.5-3	3	See Note	B1			10	[4]26, 27,[2]45, 80		1-26
	Phono.	63	A													
R53B	Vol.	20	Order from	Mfr.			6548	12	BB31				10	[3]30,[3]34	175	4-37,38
	Tone	41	UC505													
R55	Vol.	13	K12				4-4	4	See Note	B1			10	[3]35, 24A,[3]27,[2]47, 80	175	2-71,72
	Tone	101	N													
RE57	Vol.	2/8	DRP250				2-2-2	3	See Note	B1			8	[4]24A, 27,[2]45, 80		1-29,30
	Tone	22	P													
	Phono.	63	SRP152													
RAE59	Vol.	13	K12				2-3	4	See Note	B1			10	[3]35, 24A,[3]27,[2]47, 80	175	2-73,74
	Tone	101	N													
	Phono.	63	SRP152	6												
Radiola 60	Vol.	8	SRP138				2-2	2	See Note	B1			9	[3]27, 71A, 80	180	1-39
Radiola 62	Vol.	8	SRP138				3.5-3.5	2	See Note	B1			9	[3]27, 71A, 80	180	1-40
Radiola 64	Vol.	54	SRP141				4-4-4	26	See Note	B2			11	[3]27, 50,[3]81	180	1-41
	Sen.	1	D12													
Radiola 66	Vol.	8	SRP139				2-2-1	3	See Note	B1			8	[3]27, 45, 80	175	1-42
Radiola 67	Vol.	8	SRP141				2-4-4	26	See Note	B1			10	[3]27, 50,[3]81	175	1-43
	Tone	21	N													
	Phono.	63	SRP152													
67M	Vol.	56	UM157-SS11				13687	1	CM172		850	C3	6	6D6, 6A8, 6K7, 6B7, 42, 84	260	9-47,52
							.01-.01		Buffer	B14						
67M1	Vol.	17	TM242-SS11				12234	1	RS213		249	C3	6	6D6, 6A8, 6K7, 85, 6C5, 6A6	260	9-49,52
	Tone	22	MR39				12238	1/15	CS133/TN111							
							.01-.01		Buffer	B14						
67M2, 67M3	Vol.	17	TM241-SS11				12234	1	RS213		249	C3	6	6D6, 6A8, 6K7, 85, 6C5, 6A6	260	9-49,52
							12238	1/15	CS133/TN111							
							.01-.01		Buffer	B14						
RAE68	Vol.	8	Y5MP				3-3-3	26	See Note	B1			9	[4]24,[3]27,[2]45, 80	175	
	Tone	34	K12													
	Phono.	63	SRP152													
R70	Vol.	8	F				10-8-4	4	See Note	B158			7	[3]58,[3]56, 47, 80	175	4-39,40
	Tone	21	N	6												
R71	Vol.	8	Y50MP				10-8-4	4	See Note	B158			8	[3]58,[3]56, 47, 80	175	3-25,28
	Tone	21	K12	6												
R71B	Vol.	20	TRP611				8	12	BB31	B169			8	[3]34, 32,[3]30	175	3-29,32
	Tone	41	UC502													
R72	Vol.	8	Y50MP				10-8-4	4	See Note	B158			8	[3]58,[3]56, 47, 80	175	3-25,28
	Tone	21	K12	6												
R73 (with 47's)	Vol.	8	A10MP				10-10-8-8	4	See Note	B169			8	[3]58, 56, 55,[2]47, 80	175	5-7,8
	Tone	41	P	6												
Victor RE73	Vol.	2/8	DRP250				2-2-2	3	See Note	B1			8	[4]24A, 27,[2]45, 80		2-75,82
	Tone	22	P													
	Phono.	63	SRP152													
R73A (2A5 Output)	Vol.	18	P				10-10-8-8	4	See Note	B169			8	[3]58, 56, 55,[2]A5, 80	175	4-41,42
	Tone	41	P	6												
	Supp.	7	F		5											
R74	Vol.	105	K				10-10-7	2/14	CM175	B169			10	[3]58,[3]56,[2]46, 82	175	3-33,34
	Tone	21	L	6			10-10	15/19	CM162	B169						
R75 (47 Output)	Vol.	104	G				10-8-10	4/15	CM175	B169			8	[3]58, 55, 56,[2]47, 80	175	5-10,12
	Sen.	104	G													
	Tone	41	P	6												
R75 (2A5 Output)	Vol.	17	P				10-8-10	4/15	CM175	B169			8	[3]58, 56, 55,[2]A5, 80	175	5-10,14
	Tone	21	P	6												
	Sen.	7	F		5											
Victor RE75	Vol.	102	DRP115				3-2.5-3	3	See Note	B1			10	[4]26, 27,[2]45, 80		1-26
	Phono.	63	A													
R76, R77	Vol.	105	Y50MP				10-10-7	2/14	CM175	B169			10	[3]58,[3]56,[2]46, 82	175	3-33,36
	Tone	21	L	6			10-10	15/19	CM162	B169						
R78 (Less Noise Suppressor)	Vol.	7/20	Order from	Mfr.			8910	4	CM172	B169			12	[4]58,[3]56,[2]46, 82	175	3-37,41
	Tone	...‡	N													
R78 (With Noise Suppressor)	Vol.	20	TRP601				8910	4	CM172	B169			12	§5,[4]58,[3]56,[2]46, 82	175	3-42, 7-166
	Supp.	7	Order from	Mfr.												
	Tone	...‡	N													
RAE79	Vol.	13	K12		See Note A61		4-4	4	CM170	B169			13	[3]35, 24A,[3]27,[2]47,[3]80	175	2-83,88
	Tone	101	N													
	Phono.	87	‡		See Note A5											
Radiola 80	Vol.	7	A5MP		See Note A76		2-3-3	26	CM173	B169			9	[4]24,[3]27,[2]45, 80	175	1-44, 2-89
RE80	Vol.	8	A10MP				3	26	CS131	B12						
	Tone	41	P	6			10-8-10	4	See Note	B158			8	[3]58, 56, 55,[2]47, 80	175	4-44,48
	Sil.	9	G													
	Phono.		Order from	Mfr.												
RE81	Vol.	8	Y50MP				10-10-10	2/14	CM175	B169			10	[3]58,[3]56,[2]46, 82	175	3-43,46
	Tone	21	N	6			10-10	15/19	CM162	B169						
	Phono.	16	TRP603													
Radiola 82, 82 (with Remote Control)	Vol.	8	Y5MP				2-3-3	26	See Note	B1			9	[4]24A,[3]27,[2]45, 80	175	1-45, 2-92
	Tone	101	K12													
RAE84	Vol.	100	TRP601				10-10	4	See Note	B2			12	[3]58,[3]56,[2]46, 55, 82	175	3-47,52
	Tone	21	N													
	Supp.	7	A5MP	6												
84BT	Vol.	17	MR55	M27			14287	13	2N516				4	1C6, 1A4, 1F6, 1F4	460	9-53,56
84BT6	Vol.	18	MR44	M26			13046	46	RS203		722A	C3	4	6A7, 6D6, 75, 42	460	9-54,56
							14310	46/15	3S570							
							.01-.01		Buffer	B14						
85BK, 85BT	Vol.	17	MR55				14403	12	2N516				5	1C6, 1A4, 1F6, 30, 19	460	8-105, 108
85BT6	Vol.	18	MR44	M26			11203	1	SR644		728A	C3	5	6A8G, 6K7G, 6Q7G 6K6G, 5Y3G	460	9-57,60
							30657	1/13/15	3S579							
							.01-.01		Buffer	B14						
85E	Vol.	18	MR44	M26			14814	25	SR644				5	6A7, 6D6, 75, 42, 80	460	9-61,63
85T	Vol.	18	MR44	M26			14813	25/13	2S569							
							14669	1/19	3S579				5	6A7, 6D6, 75, 41, 80	460	8-109, 111
85T1	Vol.	18	MR44	M26			11203	25	SR644				5	6A7, 6D6, 75, 42, 80	460	8-112, 114
							5212	25	WE1830							
							14377	13	RS216							
85T5	Vol.	17	TM249-SS1				11240	25	SR644				5	6D6, 6A7, 75, 42, 80	460	8-115, 117
							5212	25	WE1830							
							14377	13	RS216							
Radiola 86	Vol.	8	Y5MP				2-3-3	26	See Note	B1			9	[4]24A,[3]27,[2]45, 80	175	1-51,52
	Tone	101	K12													
	Phono.	63	SRP152													

‡ Data not substantiated,

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R.C.A.—Continued																
86BK, 86BT	Vol.	17	TM249-SS1				14403	12	2N516				6	[2]1A4, 1C6, 1F6, 30, 19	460	8-118, 121
86E	Vol.	20	TM249-SS1				11240	25	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	460	8-123, 128
							5212	25	WE1830							
							30105	13	RS216							
86K, 86K7	Vol.	20	TM249-SS1				11240	25	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	460	8-123, 128
							5212	25	WE1830							
							14377	13	RS216							
86T, 86T1	Vol.	20	TM249-SS1				11240	25	SR644				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	460	8-123, 128
							5212	25	WE1830							
							14377	13	RS216							
86T3	Vol.	45	TM220-SS1				30577	1/19	RM252				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	460	9-64,66
	Tone	22	MR53	M26			5212	1	WE1830							
86T4, 86T44	Vol.	17	TM249-SS1				11203	13	SR644				5	6A7, 6D6, 75, 42, 80	460	9-67,70
							11203	25	SR644							
							5212	25	WE1830							
							14377	13	RS216							
86T6	Vol.	45	TM220-SS1				11203	1	SR644				6	6A8G, 6K7, 6H6, 6F5, 6F6, 5W4	455	9-71,74
	Tone	22	MR53	M26T			5212	1	WE1830							
86X	Vol.	18	MR44	M26			30577	13/19	RM252				5	6A7, 6D6, 75, 43, 25Z5, 135K1	460	8-129, 131
							14643	6	RS207							
							14644	6/13	UR194							
							14767	6/13	UR194							
86X4	Vol.	18	MR44	M26			30297	1	BB27				5	6A7, 6D6, 6Q7G, 25L6, 25Z5	460	9-75,78
							30298	1/14	2N506							
87EY	Vol.	20	TM249-SS1				14621	1	2N506	.B8			6	6A8, 6K7, 6H6, 6J7, 25L6, 25Z5	460	9-79,82
							14622	1/13	2N506							
							14624	19	BB12							
87K, 87T	Vol.	20	TM249-SS1				11240	25	SR644				7	6A8, 6K7, 6H6, 6F5, 6F6, 6G5, 5W4	460	8-122, 128
							5212	25	WE1830							
							14377	13	RS216							
87K1, 87K2, 87T2	Vol. & Tone	20/22	SMD501				11203	1	SR644				7	6A8, 6K7, 6H6, 6F5, 6F6, 5W4, 6U5	460	9-83,86
							5212	1	WE1830							
							30577	19	RM252							
87T1	Vol.	45	TM220-SS1				30577	1/19	RM252				7	6A8, 6K7, 6H6, 6U5, 6F5, 6F6, 5W4	460	9-64,66
	Tone	22	MR53	M26T			5212	1	WE1830							
							11203	13	SR644							
87X, 87Y	Vol.	20	TM249-SS1				14621	1	2N506	.B8			6	6A8, 6K7, 6H6, 6J7, 25L6, 25Z5	460	9-79,82
							14622	1/13	2N506							
							14624	19	BB12							
88K	Vol.	17	TM249-SS1				11203	25	SR644				8	[2]6K7, 6L7, 6J7, 6Q7, 6F6, 6G5, 5W4	460	8-132, 135
							5212	25	WE1830							
R89	Vol.	63	MR55	M26			31323	1	BB24				3	6F5, 25L6G, 25Z6G		9-87,88
R90, R90P	Vol.	100	TRP622	6			6443	4	SR644				10	[4]58, [4]56, [2]2A5, 80	175	3-53, 4-49
	B. Tone	...‡..	Y200MP				6430	4/13	CM170	.B169						
	T. Tone	41	UC505													
	Supp.	7	E													
R91	Vol.	63	MR53				31584	24	BB27				3	6F5, 25L6, 25Z6, BK61B		
91B	Vol.	7	Y200MP		EX350		6832	12	BB31				3	78, 77, 38		5-15,16
							6844	15	TN113							
R92 Recorder	Vol.	16	N				7590	1	SR644				4	[2]56, 53, 80		5-17,20
							4498	1	CS133							
							3536	15	TN113							
R93 Phonograph	Vol.	63	Y													5-23,24
R93B, R93C	Vol.	63	MR44	M26T												
94BK, 94BT	Vol.	18	MR44	M27			13610	12	BB44				4	1C7G, 1D5G, 1F7G, 1G5G	455	9-89,90
94BK1, 94BT1	Vol.	18	MR44	M27			32187	12	BB21				4	1A7G, 1N5G, 1H5G, 1C5G	455	
94BK2, 94BT2	Vol.	18	MR53	M27			31323	12	BB24				4	1A7G, 1N5G, 1H5G, 1A5G	455	
94BP1 (Portable)	Vol.	18	MR48	M27			33303	12	BB31				4	1A7G, 1N5G, 1H5G, 1C5G	455	
94BP4	Vol.	18	MR53	M27			32187	12	BB31				4	1A7G, 1N5G, 1H5G, 1C5G	455	
94BT6	Vol.	18	MR44	M26T			30961	24	2S562		722A	C3	4	6A8G, 6K7G, 6Q7G, 6K6G	455	9-90,91
							.01		Buffer	.B14						
94BT61	Vol.	18	MR44	M26T			32152	24	FPD217		722A	C3	4	6D8G, 6S7G, 6T7G, 6G6G	455	
							.01		Buffer	.B14						
94X	Vol.	6	MR33	M26T	EX200		30873	1	2N506				4	6K7, 6J7, 25L6G, 25Z6G		9-92
94X1, 94X2	Vol.	6	MR33	M26T	EX200		30873	1	2N506				4	6K7, 6J7, 25L6G, 25Z6G		9-100
R94B	Vol.	63	TM220-SS1			A59										
95T	Vol.	18	MR44	M26T			30898	1	2N518				5	6A8, 6K7, 6Q7G, 6K6G, 5Y3G	455	9-104
95T5	Vol.	18	MR44	M26T			31423	1	2N518				5	6A8G, 6K7, 6Q7G, 6K6G, 5Y3G	455	9-93,95
95X1	Vol.	6	K12	6	EX200		30873	1	2N506				4	6K7, 6J7, 25L6, 25Z6, BK55B		9-112
95X, 95XL	Vol.	6	K12	6	EX200		30873	1	2N506				4	6K7, 6J7, 25L6, 25Z6, BK55B		9-108
R95 Electrolin	Vol.	63	Y				11867	9/15	UR190/CM161	.B171			3	77, 43, 25Z5		
96BK6, 96BT6	Vol.	18	Order from	Mfr.			32152	24	FPD225				6	6D8G, 6S7G, 6T7G, 6W8G, [2]6L5G	455	
							32222	24	FPD234							
							32223	13	FPS127							
96E	Vol. & Tone	18/21	SMD504			A67	31424	1	2N518				6	6A8G, 6K7, 6H6, 6F5, 6K6G, 5Y3G	455	9-94,95
96E2 (RC351L)	Vol. & Tone	18/22	SMD501				32485	1/14/15	FPQ124				6	6K8, 6K7, 6H6, 6F5, 6F6G, 5Y3G	455	
96K	Vol. & Tone	18/22	SMD501				31371	1/14/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6F6, 5W4	455	9-97,99
96K2, 96T3	Vol. & Tone	18/22	SMD501				31371	1/14/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6F6, 5W4	455	9-102, 103
96K5, 96K6 (RC351L)	Vol. & Tone	18/22	SMD501				32485	1/14/15	FPQ424				6	6K8, 6K7, 6H6, 6F5, 6F6G, 5Y3G	455	
96T	Vol. & Tone	18/22	SMD504			A67	31424	1	2N518				6	6A8G, 6K7, 6H6, 6F5, 6K6G, 5Y3G	455	9-94,95
96T1	Vol. & Tone	18/22	SMD504			A67	31424	1	2N518				6	6A8G, 6K7, 6H6, 6F5, 6K6G, 5Y3G	455	9-94,95

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R. C. A.—Continued																
96T2	Vol. & Tone	18/22	SMD501				31371	1/15/14	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6F6, 5W4	455	9-97,99
96T4, 96T5 (RC399)	Vol. & Tone	18/21	SMD504			A67	32708	1	FPT311				5	6SA7, 6K7, 6SQ7, 25L6, 25Z6G, BK49B	455	
96T6 (RC399A)	Vol. & Tone	18/21	SMD504			A67	32708	1	FPT311				5	6SA7, 6K7, 6SQ7, 25L6, 25Z6G, BK49B	455	
96T7 (RC351L)	Vol. & Tone	18/22	SMD501				32485	1/14/15	FPQ424				6	6K8, 6K7, 6H6, 6F5, 6F6G, 5Y3G	455	
96X1, 96X2, 96X3, 96X4 (RC400)	Vol.	18	MR44	M26			32548	1	2N507				5	6K8, 6SK7, 6SQ7, 25L6, 25Z6G	455	
96X11, 96X12, 96X13, 96X14 (RC400A)	Vol.	18	MR44	M26			32548	1	2N507				5	6K8, 6SK7, 6SQ7, 25L6, 25Z6G	455	
R96, R97	Vol.	...‡..	Order from	Mfr.			11203	1	SR644				3	6C6, 42, 80		8-142, 146
97E, 97KG, 97T	Tone	34	L	6			5212	1	WE1830							
	Vol. & Tone	18/22	SMD501				31371	1/14/15	Order from	Mfr.			7	6K8, 6K7, 6H6, 6F5, 6F6, 5W4, 6U5	455	9-101, 103
97K	Vol. & Tone	18/22	SMD501				31371	1/14/15	Order from	Mfr.			7	6K8, 6K7, 6H6, 6F5, 6F6, 5Y3G, 6U5	455	
							32485	1/14/15	FPQ424							
97K2, 97T2 (RC351K)	Vol. & Tone	18/22	SMD501				32485	1/14/15	FPQ424				7	6K8, 6K7, 6H6, 6F5, 6F6G, 5Y3G, 6U5	455	
97X	Vol. & Tone	18/22	SMD504			A67	31479	1	2N506				6	6A8G, 6K7, 6H6, 6F5, 25L6G, 25Z6G	455	
97Y (RC352A)	Vol. & Tone	18/22	SMD501				31576	46	TN129				6	6K8, 6K7, 6H6, 6J7, 25L6, 25Z6	455	9-109, 111
							31323	15	BB24							
98EY (RC352)	Vol. & Tone	20/22	SMD501				31576	46	TN129				7	6K8, 6K7, 6H6, 6J7, 25L6, 25Z6, 6U5, BK63B	455	9-109
							31323	15	BB24							
98K	Vol.	15	TM249-SS1				11203	25	SR644				8	6A8, 6J7, 6K7, 6H6, 6F5, 6F6, 6G5, 6U5, 5W4	455	9-113, 116
	Tone	22	MR53	M26			5212	25	WE1830							
98K2, 98T	Vol. & Tone	18/22	SMD501				32142	1/19	3S579				8	6A8G, 6K7, 6Q7G, 6J5, ²6K6G, 6U5, 5Y3G	455	
							32145	14	BB60							
98X (RC352)	Vol. & Tone	20/22	SMD501				31576	46	TN129				7	6K8, 6K7, 6H6, 6J7, 25L6, 25Z6, 6U5, BK63B	455	9-109, 111
							31323	15	BB24							
98YG (RC352)	Vol. & Tone	20/22	SMD501				31576	56	TN129				7	6K8, 6K7, 6J7, 6H6, 25L6, 25Z6, 6U5, BK63B	455	9-109, 111
							31323	15	BB24							
R98 (RS77)	Vol.	63	Order from	Mfr.			14531	28	WE3050				5	²6J5, ²2A3, 5U4G		
							11203	28	SR644							
							11496	28	RS216							
							14273	15	BB15/BB12							
R99 High Fidelity Electrola	Vol.	16	Order from	Mfr.			12467	28	WE3050				7	6L7, ²6C5, 6H6, ²2A3, 5Z3		7-161, 165
	Tone	41	UC505	6			11240	28	SR644							
	Exp.	15	P				11496	28	RS216							
	Exp. Bias	7	Order from	Mfr.			5212	13	WE1830							
							12470	15	BB15							
							12472	15	BB12							
99K, 99T	Vol.	20	TM249-SS1				14531	25	WE3050				9	6A8, 6K7, 6J7, 6Q7, 6F5, ²6F6, 6G5 or 6U5, 5T4	455	9-117, 120
	Tone	22	MR53	M26			5212	25	WE1830							
100, 101	Vol.	7	E	6	2		6661	1/15	SR625				4	6A7, 6F7, 38, 1V	460	4-53,54
R100	Vol.	63	MR42	M26												
M101	Vol.	17	M	6			4961	1	RS213		286S	C3	5	²6D6, 6A7, 6B7, 41	175	6-1,4
							4958	24/15	3S579		G286S	C16				
							.02-.02		Buffer	B14						
102 Victor	Vol.	7	UC509	6			6823	1	2N500				4	37, 77, 78, 38		5-25,26
							6824	15	TN113							
U102E	Vol.	18	TM220-SS1	M26			14814	25	SR644				5	6A7, 6D6, 75, 42, 80	460	9-61,63
	Phono.	63	Order from	Mfr.			14813	25/13	2S569							
103	Vol.	7	E	6	2		6661	1/15	SR625				4	6A7, 6F7, 41, 1V	460	6-5,7
U101, U103	Vol.	18	TM220-SS1	M26			14814	25	SR644				5	6A7, 6D6, 75, 42, 80	460	8-147, 151
	Phono.		Order from	Mfr.			5212	25	WE1830							
							14377	13	RS216							
M104	Vol.	17	M	6			4961	1	RS213		286S	C3	5	²6D6, 6A7, 6B7, 41	175	6-8,12
							4958	24/15	3S579		G286S	C16				
							.02-.02		Buffer	B14						
U104	Vol.	6	MR33	M26			31323	1	BB24				4	6K7, 6J7, 25L6G, 25Z6G, BK55B		
	Phono.	63	MR33													
M105	Vol.	17	SRP251	6			4-4	1	2N518	B169	271	G15	4	78, 6A7, 6B7, 41	175	5-27,32
							6492	13	Order from	Mfr.						
							3536	15	TN113							
U105, U107	Vol.	15	Order from	Mfr.			14531	25	WE3050				10	²6K7, 6L7, 6H6, 6N7, 6J7, ²6F6, 6G5, 5T4	460	9-121, 128
	P.U. Vol.	...‡..	MR48				5212	25	WE1830							
U106	Vol. & Tone	17/22	SMD501				14531	25	WE3050				9	6A8, 6K7, 6H6, ²6F5, ²6F6, 6U5, 5T4	460	9-129, 133
							5212	25	WE1830							
M107	Vol.	19	TRP603	6	See Note	A68	7776	1	RM262		253	C3	6	²6D6, 6A7, 75, 41, 84	175	5-33,38
							6963	15	TN111		G253	C16				
							.02-.02		Buffer	B14						
M108	Vol.	17	M	6			4961	1	RS213		286S	C3	5	²6D6, 6A7, 6B7, 41	175	6-8,12
							4958	24/15	3S579		G286S	C16				

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R. C. A.—Continued																
M109	Vol.	17	M	6			5069	1	2N518		294	C3	7	[2]6D6, 6A7, 6B7, 76, 6A6, 84	175	6-13,17
							5054	15	BB12							
U109	Vol.	20	TRP624	6			14531	28	WE3050				16	[3]6K7, [2]6L7, [2]6J7, [2]6H6, [2]6C5, 6F5, [2]2A3, 6G5, 5Z3	460	9-134, 148
	Fid.	41	UC505	7			11203	28	SR644							
	P.U. Adj.	...‡..	MR44				11496	28	RS216							
	Exp. bias	7	Order from	Mfr.			5212	13	WE1830							
							14273	15	BB15/BB12							
							14773	14	RS216							
							12682	15	BB12							
110, 111	Vol.	8	D	6	1		7590	1	SR644				5	58, 2A7, 57, 2A5, 80	175	4-55,56
	Tone	34	L				7589	1/14	SR627							
ACR111	Vol.	15	MR55				13036	1	2S568				16	[4]6K7, [4]6J7, 6H6, [2]6C5, [2]6F6, 6R7, 6E5, 5Z3	460	9-149, 160
	Fid.	41	M	6			13046	...‡..	RS203							
	Noise	7	MR14				13041	14	CS133							
	Sen.	7	MR14				13040	15/19	BB13							
U111	Vol.	18	MR44	M26T			31099	1	2S568				5	6A8, 6K7, 6Q7G, 6K6G, 5Y3G	455	7-169, 170
112, 112A (DC-220V)	Vol.	8	A5MP				6728	25/15	UR189	B172			5	78, 6A7, 77, 43, 12Z3	175	4-57,59
114	Vol.	8	E	6	2		6783	9/15	UR190/CM161	B171			5	78, 6A7, 77, 43, 25Z5	175	4-60,62
115	Vol.	7	A3MP	6	1		7590	1	SR644				5	58, 2A7, 57, 2A5, 80	175	4-55,56
	Tone	34	L				7589	1/14	SR625							
U115	Vol. & Tone	45/21	SMD504				31424	1	2N518				6	6A8G, 6K7, 6H6, 6F5, 6K6G, 5Y3G	455	
							32342	1	FPD231							
M116	Vol.	...‡..	M				6738	1	RS213		271	C15	5	78, 6A7, 6B7, 41, 1V	175	5-39,42
	Tone	34	O				6782	1	CS133							
							6781	13	Order from	Mfr.						
							3536	15	TN113							
117, 118, 119	Vol.	19	TRP603	6			7790	1	SR644				5	6A7, 6D6, 6B7, 41, 80	460	6-18, 5-43 & 6-25
							4428	1	RS213							
							7589	13	SR627							
							3796	15	BB11							
U119	Vol. & Tone	17/22	SMD501				31371	1/14/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6F6, 5W4	455	9-171, 174
120	Vol.	19	TRP607				7590	1	SR644				6	2A7, 2B7, [2]58, 2A5, 80	175	4-63,65
	Tone	34	L	6			6487	13/14	SR624							
121, 122	Vol.	19	TRP603				6571	1	SR644				6	[2]58, 2A7, 2B7, 2A5, 80	370	4-66,69
	Tone	34	L	6			6703	1/13	CM175							
							3796	15	BB11							
U121 (RC348J)	Vol. & Tone	18/21	SMD504				32342	1	FPD231				6	6A8G, 6K7, 6H6, 6F5, 6K6G, 5Y3G	455	
U122E	Vol. & Tone	17/22	SMD501				31371	1/14/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6F6, 5W4	455	9-171, 174
M123	Vol.	18	M	6	See Note A68		7758	1	See Note	B173	224		6	[2]6D6, 6A7, 75, 41, 79	175	5-47,52
	Tone	41	K12				6963	15	TN111							
	Supp.	7	A2MP													
U123 (RC348H 1 Band) (RC421 2 Band)	Vol. & Tone	45/21	SMD504				32342	1	FPD231				6	6A8G, 6H6, 6F5, 6K6G, 5Y3G or 6SA7, 6K7, 6H6, 6SF5, 6F6G, 5Y3G	455	
124	Vol.	19	TRP607				7590	1	SR644				6	[2]58, 2A7, 2B7, 2A5, 80	175	5-53,55
	Tone	34	L	6			6487	1/13	SR624							
U124	Vol. & Tone	17/22	SMD501				31371	1/14/15	Order from	Mfr.			6	6K8, 6K7, 6H6, 6F5, 6F6, 5W4	455	9-171, 174
125	Vol.	19	TRP603	6			7790	1	SR644				6	6A7, [2]6D6, 6B7, 41, 80	460	6-29,32
							5101	1/14	3S584							
U125	Vol. & Tone	17/22	SMD501				32142	1/19	3S579				8	6A8G, 6K7, 6Q7G, 6J5, [2]6K6G, 6U5, 5Y3G	455	
							32145	14	BB60							
126B	Vol.	9	Y50MP				4349	12	See Note	B174			6	1A6, 34, 32, [2]30	460	5-57,60
U126	Vol.	18	TM249-SS1			A59	31495	25	2S568	B8			10	6A8, 6J7, 6K7, 6H6, [2]6F5, [2]6F6, 6U5, 5T4	455	9-201, 210
	Tone	22	O	6			31496	25	RS216							
127	Vol.	19	TRP603				6986	12	RM257	B11			6	[2]6D6, 6A7, 75, [2]41	370	5-61,64
	Tone	44	L	6			6985	13	2N500							
							3796	15	BB11							
U127E (RC348L)	Vol. & Tone	18/21	SMD504				32342	1	FPD231				6	6A8G, 6K7, 6H6, 6F5, 6K6G, 5Y3G	455	
128, 128E	Vol.	19	TRP603				7790	1	SR644				6	[2]6D6, 6A7, 6B7, 41, 80	460	5-65,70
	Tone	34	L				4428	1	RS213							6-35,39
							7589	13	SR627							
							4525	15	BB12							
U128	Vol.	18	TM249-SS1			A59	31495	25	2S568	B8			10	6A8, 6J7, 6K7, 6H6, [2]6F5, [2]6F6, 6U5, 5T4	455	9-201, 210
	Tone	22	O	6			31496	25	RS216							
U129 (RC335K)	Vol.	18	TM249-SS1			A59	31496	25	RS216				10	6A8, 6J7, 6K7, 6H6, [2]6F5, [2]6F6, 5U4G, 6U5	455	
	Tone	22	O	6			31495	25	2S568	B8						
U130	Vol.	17	TM249-SS1	M26			31495	25	2S568	B8			12	[2]6K7, 6A8, 6J7, 6R7, 6U5, [2]6F6, [2]6F5, 5T4	455	9-4,10
	Tone	...‡..	Order from	Mfr.			31553	25/14	2S566							
U132	Vol.	20	TRP621				31753	25	WE3050				14	[3]6K7, 6L7, [2]6J7, 6R7, 6H6, 6U5, [2]6J5, [2]6F6, 5T4	455	9-18,29
							31751	25	RS216							
							14377	14	RS216							
U134	Vol.	20	TRP621				11203	25	SR644				16	[3]6K7, 6L7, 6U5, [2]6J7, [2]6H6, [3]6J5, [2]6L6, [2]5T4	455	9-21,29
							31751	25	RS216							
							14377	14	RS216							
135B	Vol.	45	M				4498	12	CS133				7	1C6, [2]34, [2]30, 32, 19	460	5-71,74
	Tone	41	N													
ACR136	Vol.	18	TRP603				7790	1	SR644				7	[2]6D6, 6A7, 6B7, 41, 80	460	6-40,46
	Tone	34	L				4498	1	CS133							
	Sen.	7	SRP134				7589	14	SR627							
							4525	15	BB12							
140, 141, 141E	Vol.	19	TRP603				6571	1	SR644				8	[2]58, 2A7, 2B7, 56, 53, 80	445	4-70,76
	Tone	21	O	6			6609	1	WE1830							
							6626	14/15	CS123/TN111							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R. C. A.—Continued																
140, 141, 141E (Revised)	Vol.	19	TRP603				6889/6609	1	WE1830				8	‡58, 2A7, 2B7, 56, 53, 80	445	5-75,80
	Tone	21	UC505	6			6626	13/15	CS123/TN111							
142B	Vol.	9	Y50MP				6548	12	BB31				8	‡34,‡30, 32	175	4-77,80
143	Vol.	19	TRP603				7790	1	SR644				8	‡6D6, 6A7, 75, 76,‡42, 5Z3	460	5-80,89
	Tone	41	O	6			4626	13/15	3S579	B177						
	Sen.	7	UC500				4619	15	BB12/TP441							6-45,47
ACR175	Vol.	17	P				11203	1	SR644				11	‡6J7,‡6K7, 6L7, 6H6, 6F5, 6F6, 5Z4, 6E5	460	9-162, 168
	Sen.	7	G				5212	1	WE1830							
							11248	14	RS213							
210	Vol.	8	D	6	1		7590	1	SR644				5	58, 2A7, 57, 2A5, 80	175	4-81,83
	Tone	34	L				7589	1/14	SR627							
211, 214	Vol.	19	TRP603	6			7790	1	SR644				5	6A7, 6D6, 6B7, 41, 80	460	5-43,46
							4428	1	RS213							6-18,24
							7589	13	SR627							
							3796	15	BB11							
220	Vol.	19	TRP603				6571	1	SR644				6	‡58, 2A7, 2B7, 2A5, 80	175	4-84,86
	Tone	34	L	6			6691	13/15	SR626							
221	Vol.	19	TRP603				6571	1	SR644				6	‡58, 2A7, 2B7, 2A5, 80	370	5-91,94
	Tone	34	L	6			6703	1/13	CM175							
							3796	15	BB11							
222	Vol.	19	TRP603				6571	1	SR644				6	‡58, 2A7, 2B7, 2A5, 80	175	4-84,86
	Tone	34	L	6			6691	13/15	SR626							
223	Vol.	19	TRP607				6859	13/15	CM173/BB42	B176	Order from Mfr.		6	‡6D6, 6A7, 6B7, 38, 84	175	5-95, 100
	Tone	34	L													
224, 224E	Vol.	19	TRP603				7790	1	SR644				6	‡6D6, 6A7, 6B7, 41, 80	460	6-33,39
	Tone	34	L				4428	1	RS213							6-65,70
							7589	13	SR627							
							4525	15	BB12							
225	Vol.	19	TRP603	6			7790	1	SR644				6	6A7,‡6D6, 6B7, 41, 80	460	6-29,32
							5101	1/14	3S584							
226	Vol.	19	TRP603				7790	1	SR644				6	‡6D6, 6A7, 6B7, 42, 80	460	6-33,36
	Tone	44	L				4428	1	RS213							
							7589	13/14	SR627							
							4525	15	BB12							
235B	Vol.	45	M				4498	12	CS133				7	1C6,‡34,‡30, 32, 19	460	5-71,74
	Tone	41	N													
236B	Vol.	45	M				4498	12	CS133				7	1C6,‡34,‡30, 32, 19	460	6-48,50
240	Vol.	19	TRP603				6571	1	SR644				8	‡58, 2A7, 2B7, 56, 53, 80	445	4-70,76
	Tone	21	O	6			6609	1	WE1830							
							6626	14/15	CS123/TN111							
240 (Revised)	Vol.	19	TRP603				6889/6609	1	WE1830				8	‡58, 2A7, 2B7, 56, 53, 80	445	5-75,80
	Tone	21	UC505	6			6626	14/15	CS123/TN111							
241B	Vol.	9	Y50MP				6548	12	BB31				8	‡34,‡30, 32	175	4-77,80
242, 243	Vol.	19	TRP603				7790	1	SR644				8	‡6D6, 6A7, 75, 76,‡42, 5Z3	460	5-81,89
	Tone	41	O	6			4626	13/15	3S579	B177						
	Sen.	7	UC500				4619	15/13	BB12/TP441							6-45,47
260, 261	Vol.	100	TRP622				6443	4	SR644				10	‡58,‡56,‡2A5, 80	175	4-87,94
	B. Tone	‡	Y200MP				6430	4/13	CM170	B169						
	T. Tone	41	UC505													
	Supp.	7	A5MP													
262 (Two Types)	Vol.	45	TM221-SS16				7790	1	SR644				10	‡6D6, 6A7,‡76,‡42, 5Z3	460	5-101, 110
	B. Tone	‡	Y200MP				7788	1	RS216							
	T. Tone	34	O				7833	15/14/19								6-51,52
	Sen.	7	UC500						3S570	B178						
262, 263 (1935 Production)	Vol.	19	TM221-SS16				7790	1	SR644				10	‡6D6, 6A7, 85,‡76,‡42, ‡80	460	6-53,59
	B. Tone	‡	UC509				7788	1	RS216							
	T. Tone	34	O				4831	14/19	CM172							
	Sen.	7	UC500													
280	Vol.	100	TRP622				6571	2	SR644				12	‡58,‡56, 55,‡59, 5Z3	175	4-95,98
	B. Tone	‡	Y200MP				6574	13/14	CM172							
	T. Tone	41	UC505													
	Supp.	7	A5MP													
281	Vol.	100	TRP622				7790	1	SR644				12	‡6D6, 6A7, 85,‡76,‡42, 5Z3	460	5-111, 118
	B. Tone	‡	Y200MP				7788	1	RS216							
	T. Tone	41	UM165-SS16				7789	13/14/19	2S567/BB13	B179						
	Supp.	7	UC500													
300	Vol.	6	K	6	EX150		6587	9/15	See Note	B180			4	78, 77, 38, 25Z5		4-99, 102
	Phono.	64	E12													
301	Vol.	7	E	6			6661	1/15	SR625				4	6A7, 6F7, 41, 1V	460	5-119, 122
	Phono.	16	O				6832	13	BB31							
310	Vol.	7	D	6	1		7590	1	SR644				5	58, 2A7, 57, 2A5, 80	175	4-103, 106
	Tone	34	L				7589	1/14	SR627							
	Phono.	63	E12	8	See Note A66											
Duo 320, Duo 321	Vol.	19	TRP603				6571	1	SR644				6	‡58, 2A7, 2B7, 2A5, 80	370	5-123, 134
	Tone	34	L	6			6703	1/13	CM175							
	Phono.	‡	Order from	Mfr.			3796	15	BB11							
322, Duo 322, 322E, Duo 322E	Vol.	19	TRP603				7790	1	SR644				6	‡6D6, 6A7, 6B7, 41, 80	460	6-60,71
	Tone	34	L				4428	1	RS213							
	Phono.	‡	Order from	Mfr.			7589	13	SR627							
							4525	15	BB12							
327	Vol.	19	TRP603				6986	24	RM257	B11			6	‡6D6, 6A7, 75,‡41	370	5-135, 140
	Tone	44	L	6			6985	13	2N500							
	Phono.	‡	Order from	Mfr.			3796	15	BB11							
330, 331	Vol.	19	TRP607				7590	25	SR644				7	‡58, 2A7, 55, 56, 80, 53	175	4-107, 118
	Tone	21	N	6			6555	25/13	CM172							
	Phono.	63	TRP609	6			3536	15	TN113							
340, 340E	Vol.	19	TRP603				6571	1	SR644				8	‡58, 2A7, 2B7, 56, 53, 80	445	5-149, 156
	Tone	21	O				6609	1	WE1830							
	Phono.	‡	Order from	Mfr.			6626	13/15	CS123/TN111							
340, 340E "All Wave Duo"	Vol.	19	TRP603				6609/6889	1	WE1830				8	‡58, 2A7, 2B7, 56, 53, 80	445	5-141, 148
	Tone	21	UC505				6626	13/15	CS123/TN111							
	Phono.	‡	Order from	Mfr.												
341, 342	Vol.	19	TRP603				7790	1	SR644				8	‡6D6, 6A7, 75, 76,‡42, 5Z3	460	5-157, 164
	Tone	41	O	6			4626	13/15	3S579	B177						
	Sen.	7	UC500				4619	15	BB12/TP441							
	Phono.	‡	Order from	Mfr.												
Duo380, Duo380 HR	Vol.	100	TRP622	6			6571	2	SR644				12	‡58,‡56, 55,‡59, 5Z3	175	5-171, 188
	T. Tone	41	UC505				6574	13/14	CM172							
	B. Tone	‡	Y200MP				6797	15	BB12							
	Supp.	7	A5MP													
	Phono.	‡	Order from	Mfr.												
Duo 381	Vol.	100	TRP622				7790	1	SR644				12	‡6D6, 6A7,‡76, 85,‡42, 5Z3	460	5-189, 202
	T. Tone	41	UM165-SS16				7788	1	RS216							
	B. Tone	‡	Y200MP				7789	13/19	2S567/BB13	B179						
	Supp.	7	UC500													
810K, 810K1, 810T	Vol.	20	TM249-SS1				14531	25	WE3050				10	‡6K7, 6L7, 6J7, 6H6, 6N7,‡6F6, 6G5, 5T4	460	9-175, 179
							5212	25	WE1830							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
R. C. A.—Continued																
810T4	Vol.	20	TM249-SS1				14531	25	WE3050				10	[2]6K7, 6L7, 6J7, 6H6, 6N7, [2]F6, 6G5, 5U4G	460	9-181, 184
							5212	25	WE1830							
811K	Vol.	20	TRP613				14531	25	WE3050				11	[2]6K7, 6L7, [2]6J7, 6H6, 6N7, [2]6F6, 6G5, 5T4	460	8-153, 159
	Fid.	22	N	7			5212	25	WE1830							
							14829	13/14	3S579							
812K	Vol.	20	TRP621				14531	25	WE3050				12	[2]6K7, 6L7, [2]6J7, 6H6, 6N7, 6G5, [2]6F6, 5T4	460	8-161, 166
	Fid.	22	SRP285	8			5212	25	WE1830							
							14829	13/14	3S579							
813K	Vol.	20	TRP621				14531	30	WE3050				13	[2]6K7, 6L7, [2]6J7, 6H6, 6C5, [2]6F6, 6G5, 5T4	460	9-185, 193
	Fid.	22	SRP285	8			5212	30	WE1830							
							14377	14	RS216							
							13611	19	BB15							
							14902	15	TN111							
816K	Vol.	20	TRP621				14531	30	WE3050				16	[4]6K7, 6L7, [2]6J7, [2]6H6, 6C5, 6F6, [2]6L6, 6G5, [2]5T4	460	9-192, 200
	Fid.	22	SRP285	8			5212	30	WE1830							
							14377	14	RS216							
							14902	15	TN111							
							13611	19	BB15							
910KG	Vol.	20	TM249-SS1			A59	14531	25	WE3050				10	6A8, 6K7, 6J7, 6U5, 6H6, [2]6F5, [2]6F6, 5T4	455	9-201, 206
	Tone	22	MR53	M26			5212	25	WE1830							
911K	Vol.	18	TM249-SS1			A59	14531	25	WE3050				11	[2]6K7, 6A8, 6J7, 6H6, 6U5, [2]6F5, [2]6F6, 5T4	455	9-207, 210
	Tone	22	O	6			5212	25	WE1830							
ER-1240-A2	Vol.	7	SRP134				10	4	SR644				12	[3]35, [3]27, 24A, [3]45, 80, [3]81, [3]50	175	3-63, 67
	Tone	41	N				4	4	HD684							
	Mike	...‡..	V													
AC3789 (Nash)	Vol.	...‡..	MR48				10-10-20	24/15	FPT332		850	C3	5	6A8, 6K7, 6Q7, 6F6G, 5X5G	...‡...	
							.0075		Buffer	B14						
AR-4229	Vol.	18	SRP251	6			4-4	1	CM170	B169	271	C15	4	78, 6A7, 6B7, 41	175	5-203, 206
							6492	13	Order from	Mfr.						
							3536	15	TN113							
23590-2	Vol.	[*] 9	A5MP	6			6728	25/15	UR189	B172			5	78, 6A7, 77, 43, 12Z3	175	5-207, 209
RADIO CIRCULAR																
V	Vol.	7	MR39				20-4	1	2N507				4	44, 77, 43, 25Z5		7-1
							5-5	15	TN111							
W	Vol.	15	MR48				8-8	1	2N518				8	[2]6D6, 6A7, 75, 76, [2]42, 80	456	6-2
	Tone	22	MR39	M26			8	14	BB61							
							5	20	BB11							
RADIO ELECTRIC SERVICE (Resco)																
Resco 3	Vol.	12	K12										3	34, [3]30		§4-7
Resco SW5 (AC)	Vol.	16	N				8-8	2	See Note	B3			5	[3]58, [3]56, 80		§4-7
	Regen.	12	K12													
RADIO MFG. ENGINEERS, INC.																
RME 69A AC	Vol.	83	MR44	M27			8, 8	3	ST595				9	[5]6D6, 6C6, 6B7, 42, 80	465	8-1
	Tone	21	MR53	M26			12	3	ST596							
	Sen.	7	MR38				20	15	BB15							
	Meter	...‡..	C200P													
RME 69B Battery	Vol.	83	MR44	M27			20	15	BB15				8	[6]6D6, 6C6, 6B7, 42	465	8-1
	Tone	21	MR53													
	Sen.	7	MR28													
	Meter	...‡..	C200P													
R. P. C. (Radio Products Corp.)																
A1	Vol.	18	N	6			P950	1	2S567				5	6A8, 6K7, 6Q7, 6F6, 5W4	456	7-1,2
	Tone	34	N													
B2	Vol.	19	MR48	M26			P337	6	2N507				5	6A7, 6D6, 75, 43, 25Z5, L49B	456	7-3,4
							P304	15	BB11							
L2	Vol.	45	MR48				4	32	WE450				6	6A7, 6K7, 6H6, 6F5, 6F6, 80	456	7-5
	Tone	34	N				8-4	32	2N518							
L4	Vol.	45	MR48				4	32	WE450				7	6A8, 6K7, 6H6, 6A6, [2]6F6, 80	456	7-6
	Tone	44	L				8-4	32	2N518							
L5	Vol.	18	N	6			P474	32	WE450				7	6F5, 6F6, 6H6, 6K7, 6L7, 5Z4, 6C5	456	9-6
	Tone	34	L				P160	32	2N518							
							P304	15	BB12							
L6	Vol	18	N	6			P474	32	WE450				8	6C5, [2]6F6, 6K7, 6L7, [2]6Q7, 5Z4	456	8-1
	Tone	44	L				P160	32	2N518							
							P304	15	BB12							
L7	Vol	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, 19, [3]30, [3]34	456	8-2
	Tone		L				.01-.01		Buffer	B14						
Chassis M1	Vol.	18	MR53	M26			8-4	1	2N518				6	6A8, 6Q7, [2]6K7, 6F6, 5Y3	456	8-3
	Tone	34	MR39													
U6	Vol.	17	UC514	6			P795	4	CM172		294	C3	6	6D6, 6A7, 75, 6F6, 84, 6K7	175	
	Tone	22	MR39				5	15	BB11							
							.0075		Buffer	B14						
Chassis Z2	Vol.	45	MR48	M26			8-4	1	2N518				6	6A7, 6D6, 6H6, 6F5 42, 80	456	8-4
	Tone	34	MR39													
Z3	Vol.	45	MR48	M26			P950	1	2S567				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	456	7-7,8
	Tone	34	...‡...		See Note	A5										
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19, [3]30, 32, 34	456	9-2
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P958	1	2N516		245C	C3	6	1C6, 19, [3]30, 32, 34	456	7-9,10
	Tone	44	L				.01-.01		Buffer	B14						
4A	Vol.	18	MR48	M27			20	19	BB15				4	1A7G, 1N5G, 1H5G, 1C5G	456	9-1
5A	Vol	18	MR53	M26			8-8	23	2S567				5	6A7, 6D6, 75, 41, 5Y3G	456	9-3
5C, 5CPH	Vol.	6	MR36	M26			16-16	1	2N506				4	6D6, 6C6, 25L6G, 25Z5, L55B		9-4
5E	Vol.	18	MR48	M26			30	25	BB26				5	6A8, 6K7, 6Q7, 25L6, 25Z6	456	9-5
							10	25	BB22							
6D	Vol.	18	MR48				8-8	1	2N518		850	C3	6	6A8G, 6U7G, 6Q7G, 6G6G, 6J5G, 6ZY5G	456	9-7
							.015		Buffer	B14						
7A	Vol.	18	MR48				8-8-5	1/15	3S570		850	C3	7	6D8G, 6S7G, 6T7G, 6G6G, 6L5G, 6AB5, 6ZY5G	456	9-8
	Tone	34	MR39	M27			.015		Buffer	B14						
7G	Vol.	80	MR48	M26			10, 10	25	ST596				7	6A7, 6D6, 75, 41, 6G5, 80, 76	456	9-9
	Tone	80	MR48													
55 (Auto)	Vol.	18	UM154	M26		A96	8-8	23	2S567		850	C3	5	6A8, 6K7, 6Q7G, 6K6G, 6X5G	456	9-10
							.006		Buffer	B14						

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
RADIO PRODUCT SALES CO.																
140, 170	Vol.	6	MR18				4-4	23	2S567				4	6D6, 76, 42, 80		§8-7
178 (No. 78143 and up)	Vol.	6	MR18				4-4	23	2S567				5	6A7, 6K7, 76, 42	450	§8-7
RADIO RECEPTOR CO.																
AR3	Vol.	7	SRP134										6	‡24A,‡27	175	
"C" Announcer	Vol.	16	N				8-8	4	RS213	B3			3	27, 47, 80		
Ser. 70 Power Amp.	Vol.	16	L				8-8-8-8	3	See Note	B3			5	‡56,‡2A5, 80		
Ser. 150 Power Amp.	Vol.	16	L				8-8-8-8	3	See Note	B3			6	‡56,‡2A3,‡82		
RADIO TRADING CO.																
S307 Doerle Band-Spread	Vol.	12	K12										2	57, 2A5		
308 "19" Twinplex	Reg.	11	K12											19		
	Fil.	29	T													
2115 "53" Twinplex	Vol.	16	M											53		
	Regen.	11	Y25MP													
2177 Doerle 3 Tube (AC)	Vol.	7	J										3	78 or 58, 77 or 57, 37 or 57		
RADIOTROPE (Also see U. S. Radio and Television)																
G Console	Vol.	6	F7	6			8, 8, 8	28	RS213				8	‡24A,‡27,‡45, 80		3-2
	Tone	41	N													
R Console	Vol.	7	UC501				8, 8, 8	28	RS213				8	‡24A,‡27,‡45, 80		3-2
	Tone	41	N													
S2 (Two Types)	Vol.	8	A400P				1-3-1	3	See Note	B1			8	‡24A,‡27,‡45, 80		3-1
	Tone	41	N													
27R (Early & Late)	Vol.	8	UC500		See Note	A27	8, 8	1	RS213				5	‡24A, 27, 45, 80		1-2
	Vol.	6	F7		See Note	A4										
62, 64	Vol.	6	F7				8, 8, 8	28	RS213				7	‡24A, 27,‡45, 80		3-3
	Tone	41	N													
70R	Vol.	15	O				2803	1	CS133				9	‡35,‡27,‡47, 80	262	
	Tone	44	UC502				2719	13	CS123							
							2852	14	CS123							
71R, 72R, 73R	Vol.	15	O				2803	1	CS133				7	‡35,‡27, 47, 80	262	
	Tone	34	UC502				2852	17	CS123							
74R (First Type)	Vol.	6	F7				8, 8	1	RS213				5	‡24A, 45, 80		3-4
74R (Second Type)	Vol.	6	F7				8, 8	1	RS213				5	‡24A, 47, 80		1-1
RADIO VISION CORP.																
AX	Vol.	45	MR48	M26			317	4	RS213				6	6A7, 6D6, 76, 6F5G, 42, 80	456	§8-10
	Tone	22			See Note	A5										
RADOLEK																
Marvelo & Monroe "6-7"	Vol.	10	D12				2-1-1-2-1	3	See Note	B1			7	‡26, 27, 71A, 80		4-1
Marvelo 8-9	Vol.	10	D12				1-2-1-1-2	3	See Note	B1			9	‡26,‡27,‡71A, 80		3-1
Marvelo 30, SR222, Monroe	Vol.	8	A5MP				4-4-2	3	See Note	B1			7	‡35,‡56,‡47, 80		2-1
SR223 Marvelo & Monroe (Trio Tone Dynamic)	Vol.	12	A5MP				2-3-2-2	3	See Note	B1			9	‡35,‡56,‡47,‡80		3-1
SR224 Little Leader	Vol.	6	E7		4		4-4	1	2N518				4	‡24A, 47, 80		3-4
SR225 Marvelo "6" Midget	Vol.	12	A5MP				4-4-4	3	CM173				6	‡35,‡56, 47, 80		2-1
	Tone	22	G12													
SR227 Batt. Super	Vol.	62	N										9	‡34,‡30	456	3-2
	Tone	22	UC502													
SR228 Marvelo	Vol.	8	F			A14	8-8	1	See Note	B3			7	‡35,‡24A, 47, 80, 27	175	3-2
	Tone	22	K12													
SR229 10 Tube Super	Vol.	6	G12				10-10	1	See Note	B3			10	‡56,‡57,‡58, 47,‡80	175	3-1
	Tone	22	K12													
SR230 (1933—12 Tube Super)	Vol.	45	Z12				8-8-4	3	See Note	B3			12	‡58,‡56,‡57,‡46, 82	175	4-1
	Tone	41	UC502				8	19	BB13							
	Supp.	12	E12													
SR231 "1933" Compact 5 Tube	Vol.	6	G7		2		8-4	25	CM172				5	57, 58, 55, 47, 80	‡	3-3
SR232 "Little Master"	Vol.	7	G		2		8-4	4	CM172				4	58, 57, 47, 80		3-4
SR233 (1933—12 Tube Super)	Vol.	16	N				8-8-8	3	CM175	B3			12	‡56,‡57,‡58,‡47,‡80	‡	4-2
	Tone	22	K12				4	15	BB11							
SR234 (1933—10 Tube Super)	Vol.	15	N				8-8-8	3	CM175	B3			10	‡56,‡58, 55,‡47, 80, 57	‡	4-2
	Tone	44	K12													
	Supp.	12	G12													
SR235 (1933—5 Tube Super)	Vol.	17	N				8-8	1	CM172				5	57, 58, 55, 47, 80	‡	2-1
SR236 Marvelo (1932 9 Tube)	Vol.	62	N				12-8	34	See Note	B3			9	‡35,‡24A,‡27,‡47, 80	‡	4-2
	Tone	22	K12													
SR237 DeLuxe 5 Tube	Vol.	6	G7		2		8-4	4	2S567				5	‡57, 58, 47, 80	‡	3-3
	Tone	22	K12													
SR241	Vol.	16	MR48				8, 8	1	ST595				4	58,‡47, 80		
SR243 "1933" 7 Tube Super	Vol.	56	N				8-8	1	2N518				7	56, 57,‡58, 55, 47, 80	‡	3-
	Tone	22	K12													
SR247							8, 8	2	ST595				5	24,‡46, 83		8-2
SR248 Monroe	Vol.	10	D12				1-2-1-1-2	3	See Note	B1			9	‡26,‡27,‡71A, 80		3-1
SR249 Marvelo	Vol.	1	D12				‡	‡	See Note	B4			10	‡26,‡27,‡50,‡80		3-2
	Tone	22	G12													
SR270 (1934) 15 Watt Amp. (AC)	Vol.	16	M				8, 8, 8	30	RS213				5	57, 56,‡2A3, 5Z3		6-1
	Tone	41	M				10	15	BB12							
SR271 (1934—30 Watt Amp.)	Vol.	16	M				8-8-8	30	See Note	B3			7	57, 56,‡2A3, 5Z3		6-2
	Tone	41	M				10	15	BB12							
SR274 (1934) 15 Watt Amp. (DC)	Vol.	16	M				8, 8	24	RS213				4	39, 37,‡2A3		6-1
							10	15	BB12							
SR280 (3 Watt Amp.)	Vol.	16	M				8-8	1	RS213				3	57, 2A5, 80		6-2
	Phono.	16	K12				10	15	BB12							
SR287 Octomatic	Vol.	17	M				8, 8	1	See Note	B3			6	‡58, 2A7, 2A6, 2A5, 80	‡	6-1
	Tone	22	K12				10	20	BB12							
							25	15	BB15							
951	Vol.	6	H7	6	2		9442	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	265	5-1

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
RADOLEK—Continued																
956, 958	Vol.	17	M	6			9659	1	RM262				6	²57, 58, 2A6, 2A5, 80	465	5-3,6
	Tone	22	K12				8876	15	BB12							
10926	Vol.	18	MR48	M26			16-12-8	11	UR182	B3			5	6A7, 6D6, 75, 43, 25Z5	456	7-1
10927	Vol.	45	MR48	M26			8-8	23	CM172	B3			6	6A8, 6K7, 6H6, 6F5, 6F6, 80	456	7-2
10928	Vol.	18	MR48				6-10	23	CM172	B3			5	6A7, 6D6, 75, 42, 80	456	7-3
10931	Vol.	6	MR21	M26	EX200		16-12	23	2P546				4	6D6, 6C6, 43, 25Z5		7-4
10943, 10944, 10946	Vol.	45	MR48				4	32	WE450				6	6A7, 6K7, 6H6, 6F5, 6F6, 80	456	7-5
	Tone	34	N				8-4	32	2N518							
10951	Vol.	6	H7	6	2		9442	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	262	5-7,8
10953	Vol.	7	K		EX150		7-4	1	2N518				4	58, 57, 2A5, 80		5-9
							5	15	BB12							
10956	Vol.	17	M	6			9659	1	RM262				6	²57, 58, 2A6, 2A5, 80	465	5-9,10
	Tone	22	K12				8876	15	BB12							
10962	Vol.	6	G7		2		4-4	4	See Note	B3			4	78, 77, 42, 80		5-12
	Tone	22	L													
10963, 10964	Vol.	15	M				4-4	4	See Note	B3			5	6A7, 78, 75, 42, 80	465	5-13
	Tone	22	L				5	19	BB11							
							5	15	BB12							
10966	Vol.	6	G7		2		4-4	4	See Note	B3			5	²6D6, 6C6, 42, 80		5-14
							5	19	BB11							
							5	15	BB12							
10967	Vol.	6	L		EX400		20-4-5-5	6/15	UR189	B98			4	78, 44, 43, 25Z5	456	5-12
10968 (32 Volt)	Vol.	15	M				6-10	1	2N518		F221	C3	5	6A7, 78, 75, 42, 84	456	5-13
	Tone	22	L				5-5	15	TN111							
							.05-.05		Buffer	B14						
10969	Vol.	54	M				5	19	BB11				5	1A6, 34, 32, 30, 19	456	5-11
	Tone	22	L													
10970	Vol.	17	N				4-8-4	26	CM175	B3			8	²78, 37, 85, ²42, 80	456	5-14
	Tone	41	L													
11908	Vol.	6	MR18		EX250		2027	11/15	2N502/2N504	B120			5	6A8, 6K7, 6J7, 43, 25Z5	456	7-6
11910	Vol.	6	MR21		EX200		16-12	23	2P546				4	6D6, 6C6, 43, 25Z5	456	7-7
11911	Vol.	6	MR21		EX250		8, 8	23	ST595				5	6A7, 6D6, 76, 42, 80	456	7-8
	Tone	22	SRP263													
11935	Vol.	18	MR48										5	1C6, 34, 1B5, 30, 19	465	7-9
11947	Vol.	56	MR48				8, 8	‡	ST595				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	456	7-10
	Tone	22	MR39													
K16700	Vol.	6	H12	6			20-12	27	UR192				3	6D6, 6C6, 25A7		
K16701	Vol.	18	N	6			20-12	27	2P549				4	6A7, 6D6, 75, 25A7	456	
K16702	Vol.	18	N	7			8-8	1	See Note	B3	See Note	C8	5	1C6, 1A4, 75, 30, 19	456	
							.005		Buffer	B14						
K16703	Vol.	18	N	7			8-8	1	See Note	B3	See Note	C8	7	1C6, ²34, ²30, 19	456	
							.005		Buffer	B14						
K16705	Vol.	17	N	6			31	27	ST589				6	6A7, 6D6, 75, 43, 25Z5, 6E5	456	
							312	27	BB22							
K16706	Vol.	18	N	‡			10-10-4	1/15	3S579				7	6A7, 6D6, 76, 42, 80, 75, 6E5	456	
	Tone	22	L													
K16722	Vol.	17	N				8-8	4	CM172				6	6A7, 6K7, 76, 6F5, 42, 80	456	
	Tone	34	L				5	15	BB11							
K16725	Vol.	45	N				4-8	1	2N518				6	6K7, 6A8, 6D6, 76, 6B5, 80	456	
	Tone	22	N				5	15	BB11							
K16728	Vol.	17	N				20-4-5-5	6/15	UR189	B98			5	6A7, 6K7, 75, 43, 25Z5	456	
	Tone	22	L													
K16740	Vol.	17	N	6			P337	6	2N507				5	6A7, 6D6, 75, 43, 25Z5	456	
							P304	15	BB11							
K16743	Vol.	45	SRP275	7			P958	1	2N516		245C	C3	6	1C6, 34, ²30, 32, 19	456	
	Tone	44	L				.01-.01		Buffer	B14						
K16746	Vol.	18	N	7			P958	1	2N516		245C	C3	7	1C6, ²34, ²30, 19	456	
	Tone	22	O				.01-.01		Buffer	B14						
K16747	Vol.	18	N	6			P950	1	2N518				5	6A8, 6K7, 6Q7, 6F6, 5W4	456	
	Tone	34	N													
K16748	Vol.	18	N	6			P160	1	2N518				5	6A7, 6D6, 75, 42, 80	456	
K16749	Vol.	18	N	7			P958	1	2N516		245	C3	4	1C6, 34, 1B5, 1F4	456	
K16751	Vol.	17	N	6			8	3	RS213				10	²6K7, 6A8, 6Q7, ²6L6, 6G5, ²5W4G	456	
	Tone	22	O				4-8	3	2N518							
							4	13	CS133							
							5	15	BB12							
K16753	Vol.	15	O	6			Tuner Section						19	²6K7, 6A8, 6H6, 6C5, 6G5, ²5W4, 85, 6D6, 42, ²45, 80, 83V	456	
	Tone	22	L				P1156	3	WE3050							
							P1158	14	WE3050							
							P1155	3	BB63							
							P1043	13	BB60							
							P304	15	BB12							
							Amplifier Section									
							P1156	2	WE3050							
							P950	13	2N518							
							P1208	‡	TN129	B8						
							P304	15	BB12							
K16756	Vol.	18	N	6			P950	1	2N518				6	6A8, 6K7, 6H6, 6F5, 6F6, 5W4	456	
	Tone	34	‡		See Note	A5										
K16759	Vol.	17	N	6			8	3	RS213				8	²6K7, 6A8, 6Q7, 6L6, ²5W4, 6G5	456	
	Tone	22	O				4-8	3	2N518							
							5	15	BB11							
K16772	Vol.	18	N				1477	25	RS215				8	6A7, 6K7, 75, 6C5, ²6F6, 80, 6G5	465	
	Tone	44	K12	6			1476	25	RS216						465	
K16773	Vol.	18	N										6	6A7, 6D6, 75, 76, ²48		
	Tone	22	L	6												
K16777	Vol.	20	500M No. 1		See Note	A19	3167	25	WE3050				10	²6K7, 6L7, 6J7, 6H6, 6C5, ²6F6, 5Z3, 6E5	465	
	Tone	22	K12	6			1476	25	RS216							
							3170	19	BB13							
							1110	13	BB60							
							8876	15	BB11							
K16780	Vol.	45	750M No. 1		See Note	A19	3060	1	2N518		215A	C3	8	²15, 6A7, ²76, 19, 6E5	465	
	Tone	44	K12	6			3159	13	BB40							
							8876	15	BB11							
K16790	Vol.	18	N	6			8-8	23	2S567				7	6C6, 6D6, 75, 42, 76, 6G5, 80	465	
K16825	Vol.	17	UC514	6			P795	4	CM172		294	C3	6	6D6, 6A7, 6K7, 75, 6F6, 84	465	
	Tone	22	MR39				G864	15	BB12						175	
							.0075		Buffer	B14						
N16700	Vol.	6	H12	6	EX500	A4	4801A	74	UR192				4	6D6, 6C6, 25A7, 25A6		
	Vol.	6	H12		EX500	A27										
N16702	Vol.	18	N	7			8-8	1	2N518		See Note	C8	5	1C6, 1A4, 75, 30, 19	456	
							.005		Buffer	B14						
N16704	Vol.	45	N	7			8-8	1	2N518		245C	C3	7	1C6, ²34, ²30, 19	‡	
							.005		Buffer	B14						
N16729	Vol.	6	H12	6			20-12	4	UR192				4	6A7, 6C6, 43, 25Z5	456	
N16730	Vol.	6	MR21	M26			A-7-1	4/13	2P546				4	6D6, 6C6, 43, 25Z5		
N16731	Vol.	17	MR48	M26			20-12-5	4/15	UR182	B259			6	6A7, 6D6, 75, 25B6G, 25Z5, 6G5	456	

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
RADIOLEK—Continued																
N16762, N16763	Vol.	140	1 Meg. No. 1		See No	te A19	P1825	1/13	3S584				8	6A7, 6D6, 75, [2]76, [2]42, 80	456	
	Tone	140	MR48				P1783	15	BB12							
N16765	Vol.	18	MR53	M26			P1511	23	RM262				5	6A7, 6D6, 75, 41, 80	456	
N16782	Vol.	20	TM251-SS16				3167	25	WE3050				11	[2]6K7, 6A8, 6J7, 6H6, [2]6C5, [2]6F6, 80	465	
							3041	25/13	2N518							
							1110	13	BB60							
							1693	20	BB12							
RELIANCE																
L5	Vol.	18	N	6			P474	32	WE450				6	6F5, 6F6, 6H6, 6K7, 6L7, 5Z4	456	
	Tone	34	L				P160	32	2N518							
L6	Vol.	18	N	6			P304	15	BB12				8	6C5, [2]6F6, 6K7, 6L7, [2]6Q7, 5Z4	456	
	Tone	34	L				P474	32	WE450							
L7	Vol.	45	N	7			P160	32	2N518				6	1C6, 19, [2]30, [2]34	456	
	Tone		L				P304	15	BB12							
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19, [2]30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, [2]30, 19, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
REMLER																
M50	Vol.	15	MR48				4, 4	4	BB60				3	6N7, 6F6, 5Z4		8-3
10	Vol.	58	H	6			8-8	4	See Note	B3			6	35, [2]24A, 27, 47, 80	180	3-2
10-3 "Cameo"	Vol.	6	H12	6	EX300		8-8	4	See Note	B3			6	27, [2]58, 57, 47, 80	250	4-1
	Tone	22	H12													
10-3 "Cameo" (With 2A5 Output)	Vol.	6	H12	6		A14	8-8	4	See Note	B3			6	27, [2]58, 57, 2A5, 80	250	
	Tone	22	Y													
10-4	Vol.	76	N	6			8-8	4	CM172	B3			6	6A7, [2]78, 6B7, 42, 80	450	5-1
	Tone	76	N													
11	Vol.	6	Y		EX400		8-4-2	3	MN275				5	[2]24A, 47, 80		3-4
	Tone	34	H12													
14	Vol.	6	Y		EX400		8-4-2	3	MN275				6	[2]24A, 27, 45, 80		1-1
	Tone	34	H12													
15	Vol.	58	H		3		8, 8	4	See Note	B3			7	[2]51, [2]24A, 27, 47, 80	180	3-3
15-3	Vol.	13	N				8, 8	4	RS213				9	[2]56, [2]58, [2]57, 47, 82	180	2-2
	Tone	22	H12	6			4	13	BB60							
	Supp.	12	N													
17	Vol.	6	Y				8-4-2	1/17	MN275				8	[2]24A, [2]27, 45, 80	180	3-5
	Tone	34	H12													
19	Vol.	15	N				8-6-8	3	MN275				10	[2]35, [2]24A, [2]27, [2]47, 80	180	3-2
	Tone	44	Y													
	Sen.	7	H													
21 Minuette	Vol.	6	H7	6	3		8-8	4	CM172	B3			4	35, 24A, 47, 80		3-3
21-3	Vol.	14	N	6			8-4	4	CM172	B3			4	[2]57, 47, 82	250	3-6
	Tone	22	Y													
21-4	Vol.	18	N	6			8-8	4	CM172	B3			5	2A7, 58, 2B7, 2A5, 80	450	5-2
	Tone	76	‡		See No	te A5										
26 (First Type) "Scotty"	Vol.	6	H12	6		A14	8-8	1	2N502				4	77, 78, 43, 25Z5	450	3-6
							10	15	BB12							
26 (Above 54760) "Scotty"	Vol.	6	H12	6		A14	8-8	6	2N502				5	6A7, 78, 77, 43, 25Z5	450	6-1
							10	15	BB12							
27 "Scotty"	Vol.	17	N	6			8-8	1	2N517		292		6	6A7, 78, 6B7, 89, 1V, 84	465	4-2
							10	15	BB12							
28	Vol.	6	G12	6	See No	te A14	10-10	4	2P544				5	6A8, 6K7, 6J7, 25A6, 25Z6, K49B	450	9-1
29	Vol.	12	N										8	[2]22, [2]01A, 12	‡	1-2
	Bias	9	X													
	Fil.	29	R	6												
30	Vol.	6	H12	6			4-4	1	2N518				4	6A7, 6F7, 41, 84	450	4-3
35 Auto	Vol.	18	UM154		See No	te A96	8-4	1	2N518		292		6	6A7, [2]78, 75, 41, 84	450	5-3
	Tone	22	‡		See No	te A5	10-10	15	TN111							
36 Auto Radio	Vol.	18	N	6			4-4	1	CM170				6	[2]6D6, 6A7, 75, 76, 41	250	6-2
							8	14	CS123							
37 Police	Vol.	18	UM154-SS17	M26			4-4	4	CM170				6	[2]6K7, 6A8, 6Q7, 6C5, 6F6	250	7-1
	Tone	22	Y				8	13	CS123							
39	Vol.	18	MR48	M26			16-4	4	See Note	B3			5	6A7, 6K7, 75, 42, 80	450	
	Tone	21	MR48													
40	Vol.	6	H12	6			4-4	1	2N516				4	6A7, 6F7, 41, 84	450	4-3,6-3
41	Vol.	6	G12	6			4-4	1	2N518				5	6A8, 6K7, 6J7, 6F6, 5Z4	450	7-2
42	Vol.	18	N	6			8-8	4	CM172	B3			6	[2]6D6, 6A7, 75, 42, 80	450	6-4
43	Vol.	17	MR48				8-8-10	1/19	3S579				7	[2]6K7, 6A8, 6H6, 6J7, 6F6, 5Z4	450	7-3
	Tone	22	Y													
44	Vol.	18	MR39				8-8	25	2S567				7	[2]6K7, 6L7, 6C5, 6Q7, 6F6, 5Z4	450	7-4
	Tone	22	H7				10	19	BB13	B10						
45	Vol.	15	MR48	M26			10-10	25	CM172	B3			7	6L7, 6C5, 6K7, 6H6, 6F5, 6F6, 5Z4	450	7-5
	Tone	22	MR33				10	15	BB12							
46	Vol.	6	G12	6	EX200		4-4	23	CM170				5	6A8, 6K7, 6J7, 6F6, 5Z4	450	8-1
46 (Above 107767)	Vol.	18	MR48	M26			16-4	4	See Note	B3			5	6A8, 6K7, 6Q7, 6F6, 5W4	450	9-1
	Tone	34	MR24													
47	Vol.	17	MR48	M26			4-4	25	CM170				5	6A8, 6K7, 6Q7, 6F6, 5Z4	450	9-2
49	Vol.	6	MR18	M26	EX200		8-4	4	2S567				4	6D6, 6C6, 41, 80		9-3
51	Vol.	6	G12	6			4-4	23	CM170				4	78, 77, 42, 80		7-5
53 (Above 54862)	Vol.	6	H12	6			8-4	1	2N518				5	6A7, 6D6, 53, 42, 80	450	6-5
53C (Above 56208)	Vol.	6	H12	6			8-4	1	2N518				5	6A7, 6D6, 76, 42, 80	450	6-6
55	Vol.	18	MR48	M26			16-4	4	See Note	B3			5	6A7, 6K7, 75, 42, 80	450	
60	Vol.	17	MR48	M26			4-4	23	CM170				5	6A7, 6D6, 75, 42, 80	450	7-6
61	Vol.	18	MR48	M26			8-4	23	2S567				6	6A7, 6K7, 76, 6D6, 42, 80	450	9-4
	Tone	21	MR48				10	19	BB12							
62	Vol.	6	MR18	M26	EX200		10, 10	1	ST596				5	6A8, 6K7, 6J7, 6F6, 5Z4		7-6
	Tone	22	MR33													
63	Vol.	17	MR48				10, 10	1	ST596				6	6A8, 6K7, 6H6, 6F6, 6F5, 5Z4	450	7-7
	Tone	22	MR33				10	15	BB12							
64	Vol.	15	MR48	M26			10, 10	25	ST596				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	450	7-7
							10	15	BB12							
65	Vol.	18	MR48	M26			8-4	1	2N518				7	6D6, 6K7, 76, 75, 42, 80, 6G5	450	9-4
	Tone	34	MR24				10	19	BB12							
71	Vol.	15	MR48	M26			10, 10	25	ST596				7	[2]6K7, 6L7, 6C5, 6F6, 5Z4	450	7-2
	Tone	22	Y													
72	Vol.	18	500M No. 1		See No	te A19	10, 10	25	ST596				9	[2]6K7, 6L7, 6C5, 6G5, 6H6, 6N7, [2]6F6	450	9-5
	Tone	34	MR33				10	15	BB12							
88	Vol.	17	MR18				8	25	ST595				10	[2]6K7, 6A8, 6H6, 6J7, [2]6A6, [2]2A3, 5Z4	450	7-8
	Tone	44	N				4	13	BB60							
							10	15	BB12							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
REMLER—Continued																
89	Vol.	18	MR48				10, 10, 10	30	ST596				11	[26]K7, 6L7, 6C5, 6H6, 6E5, [26]F5, [26]V6G, 5Z4G	450	9-6
	Tone		‡		See Note	A5	20	13	BB34							
91	Vol.	18	MR48				10	20	BB12				4	1C6, 1A4, 1F6, 33, 1A1	450	7-8
140, 170	Vol.	6	MR18	M26			4-4	23	2S567				4	6D6, 76, 42, 80		8-8
171	Vol.	6	MR18	M26	EX200		8-4	23	2S567				4	6D6, 6C6, 41, 80		
178 (Above No. 78142)	Vol.	6	MR18				4-4	23	2S567				5	6A7, 6K6, 76, 42, 80	450	8-8
179	Vol.	56	UM154		See Note	A96	8-4	23	2S567				6	6A7, 6K7, 76, 6D6, 42, 80		
							10	15	BB12							
180	Vol.	56	UM154		See Note	A96	16-16	29	CM164				8	6D6, 6K7, [26], [41], 25Z5, L90B		
							8	29	BB31							
REPUBLIC INDUSTRIES																
Sky Hawk Patrician	Vol.	6	G12	6			965	8	UR182	B3			5	78,[27]7, 43, 25Z5	175	§6-12
							928	15	BB15							
MS & Jr	Vol.	6	G12				4-4	4	See Note	B3			5	[25]7, 58, 47, 80	175	§3-7
RC5, RC6 "Skyhawk"	Vol.	18	N				4-4-4-8-8-4	‡	See Note	B3			7	[27]8, 6A7, 75, 42,[25]Z5	175	4-1
	Tone	76	M													
SL5D "Skyhawk"	Vol.	76	N	6			496	4	2S567				5	6A7, 78, 75, 42, 80	175	4-2
	Tone	76	M				928	19	BB15							
SL6 "Skyhawk"	Vol.	6	G12	6			1085	8	UR182	B3			5	[27]7, 78, 43, 25Z5	115	4-3
	Tone	22	M				928	15	BB15							
SL6D "Skyhawk"	Vol.	18	N	6			1085	8	UR182	B3			6	[27]8, 6A7, 75, 43, 25Z5	175	4-4
	Tone	21	M				928	15	BB15							
BP5E	Vol.	6	G12	6			4-10-4	8	UR182	B182			5	[27]7, 78, 43, 25Z5	115	5-1
							25	15	BB15							
CS6	Vol.	17	N	6			4-4	4	2S567				6	77, 78, 76, 75, 42, 80	115	5-2
	Tone	21	M				25	19	BB15							
TL6C	Vol.	17	N				4-4	4	2S567				6	[27]8, 6A7, 75, 42, 80	175	5-3
	Tone	21	M				25	19	BB15							
TR5B	Vol.	17	N	6			8-4	25	2S567				5	6A7, 78, 75, 42, 80	175	5-4
							25	19	BB15							
42	Vol.	17	MR48	M26			18-2003	8	UR183				5	6A7, 78, 75, 43, 25Z5	175	7-1
							18-928	15	BB15							
51	Vol.	17	MR48	M26			18-2003	8	UR193				5	6A7, 78, 75, 43, 25Z5	175	7-2
							18-928	15	BB15							
56C, 56T	Vol.	15	MR48	M26			12-6	1	2S563		245C	C3	5	34, 6A7, 32, 30, 38	465	
							10	15	BB12							
							.01-.01		Buffer	B14						
76C, 76T	Vol.	15	MR48				12-6	1	2S563		245C	C3	7	[24], 36, 6A7, 32, 76, 19	465	
							10	15	BB12							
							.01-.01		Buffer	B14						
632C, 632T	Vol.	18	N	6									6	6C6, 6A7, 6D6, 85,[48]		
732C, 732T	Vol.	15	N	6			12-6	1	2S563		F294	C3	7	[26]D6, 6A7, 6C6, 76, 42, 84	465	
							10	15	BB12							
							.01-.01		Buffer	B14						
REX—See Airking																
RK RADIO LABORATORIES																
4 Tube B'cast & Long Wave	Vol.	6	SRP263	6	EX500		12-8-5	6/15	3N525				4	6D6, 6C6, 43, 25Z5		5-1
RKP4 (AC-DC)	Vol.	6	SRP263		EX500		12-8-5	6/15	3N525				4	6D6, 6C6, 43, 25Z5		5-4
RKS5 Radio Keg	Vol.	6	G7	6	3		12-8-5	6/15	3N525				5	6C6, 6D6, 85, 43, 25Z5	175	§4-9
RK60G	Vol.	15	N				8-8	1	CM172				6	2A7, 58, 55, 56, 2B6, 80	175	5-2
RK60L	Vol.	17	N	6			8-8	1	CM172				6	2A7, 58, 55, 56, 2B6, 80	115	5-3
421, 422, 423, 424	Vol.	6	SRP263		EX500		25-10	27	2P552				4	6D6, 6C6, 43, 25Z5		6-1
425, 426, 427, 428	Vol.	6	SRP263		EX500		4-4	1	CM170				4	6D6, 6C6, 42, 80		6-1
521, 522	Vol.	18	N				25-10-5	27/15	UR182	B95			5	6A7, 6D6, 75, 43, 25Z5	465	6-1
	Tone	34	L													
534	Vol.	18	N				8-8	4	CM172	B3			5	6A7, 6D6, 75, 42, 80	465	6-2
	Tone	22	G12													
631, 633	Vol.	18	N				8-8	4	CM172	B3			6	6A7,[26]D6, 75, 42, 80	465	6-2
	Tone	22	G12													
ROCKE INTERNATIONAL																
Arlab 51	Vol.	56	N				8-8	1	2N518				7	56,[25]8, 55, 2A5, 80	‡	§4-8
							25	15	BB15							
ROOTS AUTO RADIO																
55	Vol.	18	UM147		See Note	A96	10-10	15	TN111				6	[27]8, 6A7, 85, 41, 79	‡	§5-16
ROYAL																
9A	Vol.	7	J				4-4	6	2N500				4	78, 77, 43, 25Z5		§5-17
							5	15	BB12							
SARGENT																
20	Vol.	15	N	6			8, 8, 8	7	RS213				9	[26]D6,[26]C6, 85, 76, 42, 80	525	
	Sen.	12	K12													
SAVIL RADIO ENGINEERING																
557	Vol.	6	G7		2		4-4	4	CM170				5	[25]8, 57, 47, 80		4-1
	Tone	34	M													
589	Vol.	7	G7		2								5	[23]9, 36,[38]9		4-1
	Tone	34	M													
715	Vol.	6	G7		2		4-8	4	CM172				7	[25]7, 56,[25]8, 47, 80	‡	4-2
E. H. SCOTT RADIO LAB.																
"All Wave Super" 145 Pwr	Vol.	12	L				8, 8, 8	3	RS213				12	[24]A,[27],[45], 80	470	2-4
"Worlds Record" SG-AC 10	Vol.	7	Z										10	[27],[22],[45], 80	‡	3-1
1933 DeLuxe AVC Super	Vol.	20	500M No. 1		See Note	A19	8, 8, 8	3	RS213				12	[58], 57, Wunderlich, [25]6,[45], 80	‡	3-2
	Tone	22	‡		See Note	A5										
SEARS-ROEBUCK CO. "Silvertone" (Also see Colonial).																
FF	Vol.	4	G12				‡	‡	See Note	B1			6	[26], 27, 12A, 80		3-15
H	Vol.	2	G12				1-1-2	46	See Note	B1			7	[26], 27, 71A, 80		
J	Vol.	4	G12				3-2	1	See Note	B1			8	[26], 27,[27]1A, 80		3-16
9 Tube Super AVC	Vol.	45	N	6			7051	34	RS213				9	[35],[24],[27],[47], 80	175	
	Tone	44	K12				7078	34	RS216							
36	Hum.	66	SRP266				8	1	HD684				6	[24],[45], 80		
36P	Hum.	66	SRP266				D4758P	1	HD684				6	[35], 24A,[45], 80		
37							5734A	4	RS216				7	[35], 24A,[45], 80		

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—	Continued															
37P							16	4	RS216				7	[3]35, 24A, [2]45, 80		
39-125							4758P	4	HD684				5	[3]35, 24A, 45, 80		
41, 41P, 42							5734A	4	RS216				6	[3]24A, [2]45, 80		
44, 45	Vol.	29	R										5	[3]01A, 12A		7-3
44 (Late)	Vol.	6	H7		1		4758	4	HD684				6	[2]35, 24A, 27, 47, 80	175	
47, 48	Vol.	6	H7		2		4758	4	HD684				8	[3]35, 24A, [2]47, 27, 80	175	
49, 50	Vol.	‡	G12				1-2-1-1	3/13	See Note	B1			7	[2]26, [2]27, 71A, 80		5-1
50 AVC	Vol.	6	H				4758P	4	HD684				10	[3]35, 24A, 27, [3]47, 80	175	
51	Vol.	6	G12				1-2-2-2	3/14	See Note	B1			8	[2]27, [2]26, [2]71A, 80		7-3
52	Vol.	6	G7				1-2-1-2	3/14	See Note	B1			9	[2]27, [2]45, 80		6-1
53, 54 (Factory Model 94)	Vol.	6	G7				1-2-1-2	3/14	See Note	B1			9	[2]27, [2]45, 80		6-1
56	Vol.	6	G12				1-2-1-2	3/14	See Note	B1			7	[2]24A, [2]27, [2]45, 80		6-2
62	Vol.	6	H7	6			8	25	RS213				6	57, [3]58, 24A, 47, 80	175	
	Tone	57	N				4	13	BB60							
65, 69	Tone	34	N				8	12	BB31				7	[3]30, [3]32, 33, Ballast No. 31	175	
90	Vol.	29	R				20	19	BB15				5	[3]01A, 12A		
91	Vol.	29	R										6	[3]01A, 12A or 71A		
92	Vol.	6	G12				1-2-1-1	3/13	See Note	B1			7	[2]26, [2]27, 71A, 80		
93, 93T	Vol.	6	G12				1-2-2-2	3/14	See Note	B1			7	[2]27, [2]26, 71A, 80		
94, 95, 99	Vol.	6	G7				1-2-1-2	3/14	See Note	B1			9	[2]27, [2]45, 80		6-1
100	Vol.	6	G12				1-2-1-2	3/14	See Note	B1			7	[2]24A, [2]27, [2]45, 80		6-2
107HA62	Vol.	18	UC512				8-8	1	2N518	B3	249	C3	6	[2]6D6, 6L7, 76, 75, 6B5	465	6-3
	Tone	22	L				.005		Buffer	B14						
108	Vol.	6	G12				2-2-2-2-2	3/14	See Note	B1			8	[2]27, [2]26, [2]71A, 80		6-2
109	Vol.	6	H12				8-8-8	46	MN275				7	[2]24A, 27, [2]45, 80		2-17
110	Vol.	71	H7		See Note	A5	8-8-8	46	MN275				9	[2]27, [2]45, 80		6-3
111, 112	Vol.	6	H12				8-8-8	46	MN275				9	[2]24A, [2]27, [2]45, 80		6-4
112	Vol.	6	H12	6			8-8-8	46	MN275				8	[2]24A, [2]27, [2]45, 80		6-4
114, 116	Hum.	66	SRP266				4758P	1	HD684				6	[2]24A, [2]45, 80		
218	Vol.	6	‡		See Note	A5	8-8-8	46	MN275				7	[2]24A, 27, [2]45, 80		2-17
550	Vol.	6	‡		See Note	A5	9327	1	2N502				5	[3]36, 39, 38, 80	265	9-3
566	Vol.	18	UC512	6			9328	15	TN111							
							119-20	4	CM172		294	C3	5	6A8, 6K7, 75, 41, 84-6Z4	465	
666	Vol.	18	UC512				.01		Buffer	B14						
							119-21	1	2N517		294	C3	6	[2]6K7, 6A8, 6Q7, 6N6, 84-6X5	465	
802, 812	Vol.	46	‡		See Note	A19	.01		Buffer	B14						
	Tone	22	MR48				40, 40	1	WE4050				12	[3]6K7G, 6H6, 6L7, 6J7G, 6C5, 6G5, 6F6G, [2]6L6, 5Z3	465	
1130, 1132	Vol.	6	G12				15-5	2	MN273				7	[2]24A, 27, [2]45, 80		9-5
1134	Vol.	6	H12				2-1-1-1-1	3/13	See Note	B1			8	[2]24, 27, [2]45, 80		
1150	Hum.	66	SRP266				D4758P	1	HD684				6	[2]24A, [2]45, 80		
1152, 1154							R5734A	4	RS216				6	[2]24A, [2]45, 80		2-1,2
1170	Hum.	66	SRP266				D4758P	1	HD684				6	[2]24A, [2]45, 80		2-3,4
1174							R5734A	4	RS216				6	[2]24A, [2]45, 80		2-1,2
1250							R4758P	4	HD684				6	[2]45, [2]24A, 80		2-3
1252							4758A	4	HD684				5	[2]24A, 45, 80		2-3
							4758P	4	HD684				5	24A, [2]35, 47, 80		2-5,6
1260	Hum.	66	SRP266				D4758P	1	HD684							
1280, 1282	Vol.	6	G12				8-16	31	See Note	B3			6	[2]24A, [2]45, 80		2-1
	Tone	22	K12										7	[2]24A, 27, 45, 80	175	
1310, 1312							R5734A	4	RS216				7	[3]35, 24A, [2]45, 80		2-9,10
1320, 1322, 1324 (101)	Vol.	6	H7		1		4758A	4	HD684				8	[3]35, 24A, [2]47, 27, 80	175	2-11,12
							4758P	4	HD684							
1320 (106)	Vol.	26	F	6			7078	4	RS216				8	[3]35, [2]24, 27, [2]47, 80	175	
	Tone	22	K12				7051	4	RS213							
1324 (106)	Vol.	26	F	6			7078	4	RS216				8	[3]35, [2]24, 27, [2]47, 80	175	
	Tone	22	K12				7051	4	RS213							
1326 (101)	Vol.	6	H7		1		4758	4	HD684				8	[3]35, 24A, [2]47, 27, 80	175	2-11
1326X (106)	Vol.	26	F	6			7078	4	RS216				8	[3]35, [2]24, 27, [2]47, 80	175	
	Tone	22	K12				7051	4	RS213							
1330							R5734A	4	RS216				7	[3]35, 24A, [2]45, 80		2-9
1340	Vol.	12	K				22-84	1	BB60				6	[2]24, [2]45, 80	175	
	Tone	34	K12	6			22-87	1	RS213							
1360	Vol.	6	G12				16-8	31	See Note	B3			7	[2]24A, 27, 45, 80	175	
	Tone	22	K12													
1370 (101)	Vol.	7	H				R6122	4	RS213				4	35, 24A, 47, 80		2-13
1370, 1371 /W/ Tap Field (106)	Vol.	7	F				7617	4	2S567				4	24A, 35, 47, 80		
1380 (106)	Vol.	8	F	6			7-51	34	RS213				7	[3]51, [2]24, 27, 47, 80	175	
	Tone	22	K12													
1382 (106)	Vol.	8	F	6			7051	34	RS213				7	[3]51, [2]24, 27, 47, 80	175	
	Tone	22	K12													
1386 (106)	Vol.	26	F	6			7078	4	RS216				8	[3]35, [2]24, 27, [2]47, 80	175	
	Tone	22	K12				7051	4	RS213							
1390, 1400, 1402, 1404, 1406 (101)	Vol.	6	H7		1		4758	4	HD684				6	[2]24A, 35, 47, 27, 80	175	2-14
1404 (106)	Vol.	8	F	6			7051	34	RS213				7	[3]51, [2]24, 27, 47, 80	175	
	Tone	22	K12													
1406 (106)	Vol.	8	F	6			7051	34	RS213				7	[3]51, [2]24, 27, 47, 80	175	
	Tone	22	K12													
1408 (106)	Vol.	8	F	6			7051	34	RS213				7	[3]51, [2]24, 27, 47, 80	175	
	Tone	22	K12													
1408 (106) (247 Output)	Vol.	45	N	6			7078	34	RS216				10	[3]35, [2]24, [2]27, [2]47, 80	175	
	Tone	22	K12				7051	34	RS213							
1420							5734A	1	RS216				6	[2]24A or [3]35, [2]45, 80		2-3,4
1430	Vol.	7	H				4758	4	HD684				10	24A, 27, [3]35, [2]47, 80	175	2-15,16
1430 (106) (9 Tubes)	Vol.	109	N	6			7078	34	RS216				9	[3]35, [2]24, [2]27, [2]47, 80	175	
	Tone	22	K12				7051	34	RS213							
1430 (106) (10 Tubes)	Vol.	45	N	6			7078	34	RS216				10	[3]35, [2]24, [2]27, [2]47, 80	175	
	Tone	22	K12				7051	34	RS213							
1442 (106)	Vol.	8	F	6			7051	34	RS213				7	[3]51, [2]24, 27, 47, 80	175	
	Tone	22	K12													
1446 (106)	Vol.	8	F	6			7051	34	RS213				7	[3]51, [2]24, 27, 47, 80	175	
	Tone	22	K12													
1450	Vol.	6	H7		1		4758	4	HD684				8	[3]35, 24A, [2]47, 27, 80	175	2-11,12
1454 (106)	Vol.	26	F	6			7078	34	RS216				8	[3]35, [2]24, 27, [2]47, 80	175	
	Tone	22	K12				7051	34	RS213							
1456 (106)	Vol.	26	F	6			7078	34	RS216				8	[3]35, [2]24, 27, [2]47, 80	175	
	Tone	22	K12				7051	34	RS213							
1462	Tone	21	N				4758	25	HD684				8	[3]35, 24A, 47, [2]27, 80	175	2-18,19
1470 (101)	Vol.	6	H7		1		4758	4	HD684				6	[2]24A, 35, 47, 27, 80	175	2-14
1480, 1482, 1484	Vol.	7	H				4758	23	HD684				7	[3]35, 24A, 27, 47, 80	175	2-19,20
	Tone	57	N													
1482 (106)	Vol.	8	F	6			7051	34	RS213				7	[2]51, [2]24, 27, 47, 80	175	
	Tone	22	K12													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK— (Continued)																
1490 (45 Output)	Vol.	6	G12				16-8	31	See Note	B3			7	[24]A, 27, 45, 80	175	
	Tone	22	K12													
1490 (47 Output)	Vol.	8	F	6			7051	34	RS213				7	[51],[24], 27, 47, 80	175	
	Tone	22	K12													
1500, 1502	Vol.	6	F7	6	2		7077	4	RS213				5	[24], 35, 47, 80	175	
	Tone	22	K12													
1506	Vol.	8	E		2		1-1-1	26	See Note	B1			6	[51],[24]A, 47, 80	175	6-5,6
1506A (106)	Vol.	15	N				9110	1	2S567				6	[58], 57, 55, 47, 80	175	
1510 (101)	Vol.	7	H				4758	4	HD684				10	27,[35], 24A,[47], 80	175	2-15,16
1510 (106)	Vol.	45	N	6			7078	34	RS216				10	[35],[24],[27],[47], 80	175	
	Tone	22	K12				7051	34	RS213							
1512X, 1520, 1522, 1522X	Vol.	109	N				7078	4	RS216				10	[27],[35],[24]A,[47], 80	175	
	Tone	22	K12				7051	4	RS213							
1531 (106)	Vol.	26	F	6			7078	34	RS216				8	[35],[24], 27,[47], 80	175	
	Tone	22	K12				7051	34	RS213							
1560, 1562, 1564	Vol.	15	N				8	12	BB31				7	[30],[32], 33	175	
	Tone	57	N				5	17	BB12							
1570, 1572, 1574, 1575, 1576	Tone	22	N				8	12	BB31				7	[30],[32], 33	175	3-6 7
							R7069	19	BB15							
1580, 1582, 1584, 1585, 1586, 1588, 1589	Vol.	6	H12				8, 8	25	RS213				7	57,[58], 24A, 47, 56, 80	175	3-2,3
	Tone	57	N				4	13	BB60							
1590, 1592 (101)	Vol.	6	H12				4758P	23	HD684				6	57, 58,[24]A, 47, 80	175	3-8
	Tone	57	N													
1590 (106)	Vol.	15	N				9110	1	2S567				6	[58], 57, 55, 47, 80	175	
							8876	17	BB12							
1590A (106)	Vol.	15	N				9110	1	2S567				6	[58], 57, 55, 47, 80	175	
							8876	17	BB12							
1592 (106)	Vol.	15	N				9110	1	2S567				6	[58], 57, 55, 47, 80	175	
							8876	17	BB12							
1592A, 1592B	Vol.	15	N				9110	1	2S567				6	[58], 57, 55, 47, 80	175	
							8876	17	BB12							
1594 (101)	Vol.	6	H12				4758P	23	HD684				6	57, 58,[24]A, 47, 80	175	3-8
	Tone	57	N													
1596 (101)	Vol.	6	H12				4758P	23	HD684				6	57, 58,[24]A, 47, 80	175	3-8
	Tone	22	N													
1597, 1598	Vol.	6	H12				8; 8	23	HD684				6	39,[36],[89], 80	175	7-1,2
	Tone	57	MR48													
1600							4-4	1	See Note	B3			4	24A,[27], 80	1000	3-1
1620, 1622	Vol.	29	U	6									5	30,[32] or 34, 33		3-4,5
1626	Vol.	15	N				8876	15	BB12				5	[39], 36, 85, 41	175	3-2
1630	Vol.	6	H12				7236	23	RS216				9	[57], 58,[46], 56,[80]	175	3-9,11
	Tone	57	N				4958	23	HD684							
1640, 1641	Tone	22	N				R7325	34	WE850				12	[57],[58],[46], 83, 56	175	3-12,13
	Phantom	7	W				4758P	34	HD684							
1650	Vol.	15	O				4758	23	HD684				10	[58],[56], 27,[47], 80	175	6-7,9
	Tone	57	N													
1652, 1654	Vol.	15	O				7236	‡	RS216				12	[58],[56], 27,[46],[80]	175	6-10,12
	Tone	57	N				4758	‡	HD684							
1660	Vol.	6	H12				4758	23	HD684				5	39,[36], 89, 80	175	6-13,15
1670 (Early)	Vol.	15	O				4758	23	HD684				11	[58],[56], 27,[47],[80]	175	6-16,19
	Tone	57	N													
1670 (Late) "B"	Vol.	15	O				4758	23	HD684				11	[58],[56], 27,[47], 24A,[80]	175	6-16,19
	Tone	57	N													
1675	Vol.	15	O				4758	23	HD684				11	[58],[56], 27,[47], 24A,[80]	175	6-18
	Tone	57	N													
1700	Vol.	68	D12	6			8053	29	CM165				5	6A7, 6B7, 77, 43, 25Z5	175	4-1,2
							8058	15	BB12							
1702	Vol.	7	D	6			405	6	3N525				4	78, 77, 43, 25Z5		
1703	Vol.	6	UC509	6	EX300		R8313	23	2P541				4	78, 77, 43, 1V		4-3
1704	Vol.	56	N	6			R8431	4	2P542				5	6A7, 78, 6B7, 43, 1V	480	4-4,5
1705	Vol.	19	Order from	Mfr.			R8624	23	RS213				6	6A7,[78], 41, 85, 84	175	4-6,7
	Tone	57	O													
	Sen.	7	A550P		‡											
1706, 1707	Vol.	18	N	6			R8488	23	HD684				5	41, 75, 78, 6A7, 84	480	4-8,9
1708, 1709	Vol.	7/18	DRP317				R7236	23	RS216				8	[78], 6A7, 75,[45], 37, 80	175	4-10,13
	Tone	57	N				R8488	23	HD684							
	Sen.	7	UC500													
1708A	Vol.	62	N				R8488	23	HD684				8	6A7,[78],[37], 42, 83V	175	5-61,62
	Tone	147	N													
1710	Vol.	29	U				R8389	13/19	CS123/BB15				5	30, 950,[951], Ballast No. 52	175	4-15,16
1711	Vol.	29	U				R8357	13/19	CS123/BB15				5	950, [951], 30, Ballast No. 52	175	4-17
1711A	Vol.	29	U				R8357	13/19	CS123/BB15				5	[951], 30, 950, Ballast No. 52	480	5-5,6
1711X	Vol.	6	H7										5	[32], 34, 30, 33, 5E1	465	
1712, 1713	Tone	22	N				R8449	12/13/19	2N516/BB17	B183			7	[951], [30], 33, Ballast No. 31	175	4-18,19
1714	Vol.	15	O				R8707	12/13/19	2N516/BB17	B184			8	[951], [30], [950], Ballast No. 31	175	4-20,21
	Tone	34	N													
1715	Vol.	7/18	DRP317										6	[78], 6A7, 75,[41]	175	5-7,8
	Tone	57	N	6												
1716	Vol.	9	MR39				A117	1/15	3S579				5	[36], 39, 38, 37	175	
	Tone	22	MR39	M26												
1720	Vol.	7/18	DRP317				R7236	23	RS216				10	[78], 6A7, 75, [45], 37, 83V	175	4-22,23
	Tone	57	N				D4758P	23	HD684							
							R1114	‡	BB60							
1721	Vol.	7/15	DRP317				R7236	4	RS216				11	[78],[37],[2A3, 56, 83V	175	4-24,25
	Tone	34	N				R8780	13/14	2N517							
1722	Vol.	7/15	DRP317				R7236	4	RS216				12	[78], [37], [2A3-H], [6B7, 56, 83V	175	4-26,28
	Tone	34	N				R8780	13	2N517							
	Hum.	...‡..	SRP266													
1722 (Revised)	Vol.	7/17	DRP317				R7236	4	RS216				12	[78, 85, 56, 37, [2A3, [6B7, 5Z3	175	5-9,10
	Tone	34	N				R8780	13/14	2N517							
	Hum.	...‡..	SRP266													
1722X	Vol.	7/17	DRP317				R7236	4	RS216				12	[78, 85, 56, 37, [2A3, [6B7, 83V		4-29,30
	Tone	34	N				R8780	13/14	2N517							
	Hum.	...‡..	SRP266													
1724	Vol.	6	H12				R9150	29	CM165				4	78, 77, 43, 25Z5		5-11,19
	Tone	57	N	6												
1725	Vol.	7/18	DRP317				R7236	23	RS216				10	[78], 75, 37, [45], 6A7, 83V	175	4-22,23
	Tone	57	N				D4758P	23	HD684							
							R1114	‡	BB60							
1726	Vol.	7/15	DRP317				R7236	4	RS216				11	[78], [37], [2A3, 56, 83V	175	4-24,25
	Tone	34	N				R8780	13/15	2N517							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—Continued																
1726X	Vol.	7/17	DRP317				R7236	4	RS216				11	[1]78, 56, 85, [2]37, [2]2A3, 5Z3	175	5-15,16
	Tone	34	N				R8780	13/14	2N517							
	Hum.	‡	SRP266			A67										
1727	Vol.	1	G12				560	4	2S567				5	[2]58, 57, 47, 80		
1728	Vol.	6	UC509	6	EX300		R8313	23	2P541				4	78, 77, 43, 1V		4-3
1728A	Vol.	58	UC509				5-12-5	8	TN122				4	78, 77, 43, 25Z5		5-17
1729	Vol.	64	TRP609				10	15	BB12	B6						
	Tone	22	N	6			D4758P	23	HD684				7	[2]78, 6A7,[2]37, 41, 80	175	5-19,20
1730	Vol.	56	UM154	6	See Note	A96	R10086	‡	BB60				5	[2]78, 6A7, 85, 41	175	5-21,22
	Tone	22	N													
1731	Vol.	18	N				156	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	5-18
1732	Vol.	7/15	DRP317				R7236	4	RS216				12	[2]78, [2]37, [2]2A3-11, [2]6B7, 56, 83V	175	4-26,28
	Tone	34	N				R8780	13	2N517							
	Hum.	‡	SRP266													
1732 (Revised)	Vol.	7/17	DRP317				R7236	4	RS216				12	[1]78, 56, 85, 37, [2]2A3, [2]6B7, 5Z3	175	5-9,10
	Tone	34	N				R8780	13	2N517							
	Hum.	‡	SRP266													
1732X	Vol.	7/17	DRP317				R7236	4	RS216				12	[1]78, 56, 85, 37, [2]2A3, [2]6B7, 83V	175	4-29,30
	Tone	34	N				R8780	13	2N517							
	Hum.	‡	SRP266													
1733	Vol.	56	N	6			R8488	40	HD684		Order from Mfr.		5	6A7, 78, 6B7, 38, 1V	480	5-23,24
	Tone	107	N													
1743	Vol.	18	N	6			9659	1	2N518				5	2A7, 58, 2A6, 2A5, 80	465	
1743A	Vol.	18	MR48	M26			1108	13	BB60							
							156	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	7-64
1744, 1745	Vol.	29	U				307	15	BB12							
							R8357	13/19	CS123/BB15				5	[3]951, 30, 950, Ballast No. 52	480	5-5,6
1750	Vol.	56	N	6			R9070	29	RS207				7	6A7, 78, 6B7, 37,[3]43, 25Z5	175	4-31,32
	Tone	22	N				R9071	29	RS205							
							R9072	29	RS205							
1760	Vol.	62	N	6			R4758P	23	HD684				8	6A7, [2]78, [2]37, 42, 83V	480	5-26,28
1800	Vol.	6	SRP263	6	EX300		156	1	2N518	B3			4	58, 57, 2A5, 80		5-29
1801, 1801A	Vol.	18	N	6			307	15	BB12							
1802, 1802A, 1803, 1803A	Vol.	18	N	6			5-16-5	11	RM257	B185			5	6A7, 78, 75, 43, 25Z5	456	5-30
							R10836	1	RM262				5	2A7, 58, 2A5, 2A6, 80	445	5-3,5-31
1804, 1805	Vol.	106	N	6			R10837	13	BB60							
	Tone	106	N				D4758P	23	HD684				7	[2]78, 75, 47, 41, 80	480	5-33,34
1805A	Vol.	106	N				R8488	23	HD684							
	Tone	106	N	6			R7236	23	RS216				7	[2]58, 2A6, 47,[2]56, 80	175	6-20,21
1806	Vol.	18	N				R8488	23	HD684							
	Tone	107	O				R7236	23	RS216				8	[2]78, 6A7, 75, 37,[2]47, 80	445	5-35,36
							R8488	23	HD684							
1807	Vol.	18	N	6			R9237	13	BB60							
							R10836	1	RM262				5	2A7, 58, 2A6, 2A5, 80	445	5-31,32
1808	Vol.	106	N	6			R10837	13	BB60							
	Tone	106	N				D4758P	23	HD684				7	[2]78, 75, 41, 47, 80	480	5-33,34
1808A	Vol.	106	N				R8488	23	HD684							
	Tone	106	N	6			R7236	23	RS216				7	[2]58, 2A6, 47,[2]56, 80	175	6-20,21
1809, 1811	Vol.	106	N				R8488	23	HD684							
	Tone	106	N	6			R7236	23	RS216				7	[2]58, 2A6, 47,[2]56, 80	175	6-22,23
1810 (104)	Vol.	18	N	6			R8488	23	HD684							
1820	Vol.	106	N	6			106	11	UR193				5	6A7, 78, 75, 43, 25Z5	456	5-30
	Tone	106	N				D4758P	23	HD684				7	[2]78, 75, 47, 41, 80	480	5-33,34
1821	Vol.	106	N	6			R8488	23	HD684							
	Tone	106	N				R7236	23	RS216				11	[2]78, 85,[2]37,[2]47, 41, 80	480	5-37,38
1822	Vol.	106	O				R8488	23	HD684							
	Tone	106	O				4758P	28	HD684				14	[2]78, 75,[3]45,[2]37, 41, 5Z3	445	6-24,25
1823	Vol.	18	N				R9237	13	BB60							
	Tone	107	O				R7236	23	RS216				8	6A7,[2]78, 75,[2]47, 37, 80	445	5-35
							R8488	23	HD684							
1824	Vol.	106	O				R9237	13	BB60							
	Tone	106	O				D4758P	28	HD684				11	[2]78, 75,[3]45, 37, 41, 80	445	6-27,29
1825	Vol.	106	N	6			R9237	13	BB60							
	Tone	106	N				R7236	23	RS216				14	41,[2]78, 75,[3]45,[2]37, 5Z3	480	5-39,40
							R8488	23	HD684							
1825A	Vol.	106	N	6			R8217	17	BB60							
	Tone	106	N				R7236	23	RS216				11	[2]78, 75,[3]45,[2]76, 5Z3	175	6-30,31
1826	Vol.	106	N	6			R8488	23	HD684							
	Tone	106	N				D4758P	23	HD684				7	[2]78, 75, 41, 47, 80	480	5-33,34
1826A	Vol.	106	N				R8488	23	HD684							
	Tone	106	N	6			R7236	23	RS216				7	[2]58, 2A6, 47,[2]56, 80	175	6-20,21
1827	Vol.	106	N	6			R8488	23	HD684							
	Tone	106	N				R7236	23	RS216				11	[2]78, 85,[2]37,[2]47, 41, 80	480	5-37,38
1828	Vol.	106	N	6			R8488	23	HD684							
	Tone	106	N				R7236	23	RS216				14	[2]78, 75,[3]45,[2]37, 41, 5Z3	480	5-39,40
							R8488	23	HD684							
1829	Vol.	18	N				R8217	13	BB60							
	Tone	107	O				R7236	23	RS216				8	[2]78, 75,[2]47, 37, 6A7, 80	445	5-35,36
							R8488	23	HD684							
1830	Vol.	106	O				R9237	13	BB60							
	Tone	106	O				D4758P	28	HD684				11	[2]78, 75,[3]45, 37, 41, 80	445	6-27,29
1831	Vol.	106	O				R9237	13	BB60							
	Tone	106	O				4758P	28	HD684				14	[2]78, 75,[3]45,[2]37, 41, 5Z3	445	6-24,26
1832	Vol.	106	N	6			R9237	13	BB60							
	Tone	106	N				R7236	23	RS216				11	[2]78,[2]37,[2]47, 85, 41, 80	480	6-32,34
1832A	Vol.	106	N	6			R8488	23	HD684							
	Tone	106	N				R7236	23	RS216				11	[2]78, 85,[2]37,[2]47, 41, 80	445	6-35,36
1833	Vol.	106	N				R8488	23	HD684							
	Tone	106	N	6			R7236	23	RS216				6	[2]58, 2A6, 47, 56, 80	175	6-22,23
1835	Vol.	45	MR48				R8488	23	HD684							
	Tone	147	MR48				R7236	23	RS216				9	[2]58, [2]56, 57, 2A5, 80	456	7-5,6
1840	Vol.	106	N	6			R11153	23	WE1830							
	Tone	106	N				R7236	23	RS216				9	[2]58,[2]56, 57, 2A5, 80	480	6-37,39
1841	Vol.	106	N				R8488	23	HD684							
	Tone	106	N	6			R7236	23	RS216				7	[2]58, 2A6, 47,[2]56, 80	175	6-20,21
1842	Vol.	106	N	6			R8488	23	HD684							
	Tone	106	N				R7236	23	RS216				8	[2]58,[2]56, 57, 2A5, 80	480	6-37
1845	Vol.	106	N				R11153	23	WE1830							
	Tone	106	N	6			R7236	23	RS216				7	[2]58,[2]56, 2A6, 47, 80	175	6-22,23
1850	Vol.	29	U				R8488	23	HD684							
	Tone	34	N				R10673	13/19	2N516/BB17				5	[3]951, 32, 33, 30, Ballast No. 30	175	5-41,42
1850A	Vol.	29	U													
	Tone	34	N	6			R12117	13/19	2N516/BB17				5	[3]951, 32, 33, 30, Ballast No. 30	175	5-41
1851	Vol.	29	U													
	Tone	34	N				R10673	13/19	2N516/BB17				5	[3]951, 32, 33, 30, Ballast No. 30	175	5-41
1852, 1853	Vol.	29	U													
							R8357	13/19	CS123/BB15					951, 30, 950, Ballast No. 52	480	5-5,6

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—Continued																
1854	Vol.	64	N				R10555	13/19	2N516/BB12				9	[3]951, [2]950, [4]30, Ballast No. 31	175	5-43,44
	Tone	44	N	7												
1854A	Vol.	45	N				R11300	13/19	2N516/BB15				9	[3]951, [4]30, [2]950, Ballast No. 31	175	7-7
	Tone	44	N	6												
1855, 1856 ('38 Output)	Vol.	56	N				R8488	40	HD684		F294	C13	5	6A7, 78, 6B7, 38, 84	480	5-45,46
	Tone	107	N	6			.03-.03		Buffer	B14	F297	C14				
1856 (33 Output)	Tone	22	N				R8449	12/13/19	2N516/BB17				7	[4]951, [2]30, 33, Ballast No. 31	175	4-18,19
1857	Tone	34	N	7			R10546	13/19	2N516/BB12				7	[4]951, [2]30, 33, Ballast No. 31	175	5-47,48
1857A	Vol.	68	D12				R11178	13/19	2N516/BB15				7	[3]951, 32, 33, [2]30, Ballast No. 31	175	6-40,41
1858	Vol.	56	UM154	M26	See Note A96		R10086	12	BB60				5	[2]78, 6A7, 85, 41	175	5-49,50
	Tone	22	N													
1859	Vol.	17	UM154	M26		A96	1138	1	2N518		271		4	6A7, 6D6, 6B7, 41	370	
							9328	15	TN111							
1859A	Vol.	17	UM154	M26	See Note A96		1138	1	2N518		271		4	6A7, 6D6, 6B7, 41	370	5-59,60
							9328	15	TN111							
1860	Vol.	18	MR48				1258	1	RS213		F251	C3	5	6A7, 6D6, 78, 38, 84	465	
	Tone	22	SRP263	6			9328	15	TN111							
							.01-.01		Buffer	B14						
1862	Vol.	29	U				R10673	13/19	2N516/BB17				5	[3]951, 32, 33, 30, Ballast No. 30	175	5-41,42
	Tone	34	N													
1863	Vol.	17	MR48	M26									6	[2]6D6, 6A7, 85, [2]48	175	7-9,10
	Tone	149	K12													
1864	Vol.	17	UM163		See Note A96		R11909	12/15	BB60/BB12				5	[2]78, 6A7, 85, 41	175	6-42,43
	Tone	22	N													
1865	Vol.	17	MR48	M26									6	[2]6D6, 6A7, 85, [2]48	175	7-10
	Tone	149	K12													
1866	Vol.	64	N				R10555	13/19	2N516/BB12				9	[3]951, [2]950, [4]30, Ballast No. 31	175	5-43
	Tone	44	N	7												
1867	Vol.	68	D12				R11178	13/19	2N516/BB15				7	[3]951, 32, 33, [2]30, Ballast No. 31	175	6-41
	Tone	34	N	6												
1868	Vol.	29	U				R10673	13/19	2N516/BB17				5	[3]951, 32, 30, 33, Ballast No. 30	175	5-41,42
	Tone	34	N													
1868A	Vol.	29	U				R12117	13/19	2N516/BB17				5	[3]951, 32, 30, 33, Ballast No. 30	175	5-42
	Tone	34	N	6												
1869	Vol.	18	UM154		See Note A96		P34	1/15	3S579		294	C3	5	77, 78, 75, 41, 84	456	
							.02		Buffer	B14						
1869X	Vol.	18	UM154		See Note A96		8-4	1	2N518		294	C3	5	77, 78, 75, 41, 84	456	7-4
1870	Vol.	29	U				R10673	13/19	2N516/BB17				5	[3]951, 32, 30, 33, Ballast No. 30	175	5-41,42
	Tone	34	N													
1871	Vol.	18	UM154		See Note A96		P34	1/15	3S579		294	C3	6	[2]78, 77, 75, 41, 84 or 6Z4	262	
							.02		Buffer	B14						
1900	Vol.	18	MR48	M26			656	1	2N518				6	6A7, 6D6, 75, 42, 80	456	
	Tone	22	‡		See Note A5		56A	15	BB12							
1903	Vol.	18	MR48				16-16-8	8	UR182				5	6A7, 6D6, 75, 43, 25Z5	456	7-11
1903X	Vol.	18	MR48	M26			16-16	27	2P546				5	6A7, 6D6, 75, 43, 25Z5	456	
1904, 1904A	Tone	21	N	6		A4	8, 8	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-44,45
1905	Vol.	18	MR48				R7236	23	RS216				8	6D6, 41, 6K7MG, 75, 6C5MG, [2]6F6MG, 80	175	7-12,14
							R12840	23	WE1830							
1906	Tone	21	N	6		A4	8, 8	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-44,45
1907	Vol.	18	MR48				P160	1	2N518				5	6A7, 6D6, 75, 42, 80	456	
1908	Tone	21	N	6		A4	R12478	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-44,45
							R12451	23	RS213							
1909	Vol.	18	MR48				R12656	23	RS216				7	6A8MG, 6K7MG, 6Q7MG, 6C5MG, [2]6F6MG, 5Z4MG	175	7-15,16
							R12840	23	WE1830							
1910	Vol.	18	MR48	M26			656	1	2N518				6	6A7, 6D6, 75, [2]42, 80	456	
	Tone	22	‡		See Note A5		56A	15	BB12							
1911	Tone	21	N	6		A4	R12478	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-45,44
							R12451	23	RS213							
1912	Vol.	18	MR48				R12656	23	RS216				7	6A8MG, 6K7MG, 6Q7MG, 6C5MG, [2]6F6MG, 5Z4MG	175	7-15,16
							R12840	23	WE1830							
1914	Tone	21	N	6		A4	8, 8	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-44,45
1915	Vol.	18	MR48				R7236	23	RS216				8	6D6, 41, 6K7MG, 75, 6C5MG, [2]6F6MG, 80	175	7-13,14
							R12840	23	WE1830							
1917	Vol.	124	MR53				R7236	23	RS216				10	[2]78, [2]6K7G, 76, 75, 6C5G, [2]6F6G, 5Z3	385	7-17,19
							R11153	23	WE1830							
1918	Vol.	108	MR53				R12656	30	RS216				12	6D6, 6A7, [2]6K7G, 75, [2]6C5G, [4]45, 5Z3	385	7-20,22
	Tone	108	MR53	M26												
1918A	Vol.	108	O				R12656	30	RS216				12	[2]6K7MG, 6A8MG, 75, [4]45, [2]6C5MG, 5Z3	385	7-23,25
	Tone	108	O	6												
1919	Vol.	56	UM154		See Note A96		R12117	19	2N516/BB15				5	1C6, 1A4, 1B5, 230, 950, 1G1	175	8-5
	Tone	21	MR53	M27												
1920	Vol.	9	H12										4	1C6, 1A4, 32, 950, 1B1 Ballast	480	6-46,47
1921	Vol.	29	U				R10673	13/19	2N516/BB17				5	[3]951, 32, 30, 33, Ballast No. 30	175	5-42
	Tone	34	N													
1922	Vol.	29	U										5	[3]951, 232, 233, 230, 1A2	175	
	Tone	34	N	6												
1922A	Vol.	68	Order from	Mfr.			R12117	13/19	2N516/BB15				5	1C6, 1A4, 32, 950, 30, 1G1 Ballast	175	6-48,49
	Tone	34	N	7												
1923	Vol.	68	Order from	Mfr.			R12117	13/19	2N516/BB15				6	1C6, [2]1A4, 32, 30, 950, 1E1	175	7-26,27
	Tone	34	MR48													
1924	Vol.	45	MR48				2272	1	CM164		245A	C3	6	1C6, [3]34, [2]30, 19	465	
	Tone	22	MR33	M27			.02		Buffer	B14						
1925	Vol.	18	MR48										6	6A7, 6D6, 75, 76, [2]48	456	7-28,29
	Tone	44	N	6												
1926	Vol.	9	H12										4	1C6, 1A4, 32, 950, 1B1 Ballast	480	6-46
1927, 1927X	Vol.	45	MR48				2289	12	6B21				6	1C6, [3]34, [2]30, 19	456	7-31
	Tone	22	MR33	M24												
1928	Vol.	‡	MR29										4	1C6, 1A4, 951 or 32, 950, 1B1	480	7-30
1929	Vol.	56	UM154		See Note A96		R12117	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 230, 950, 1G1	175	8-5
	Tone	21	MR53	M27												
1930	Vol.	18	MR48				CC21	23	RS213				7	6A7, 6K7, 76, 6C5, 75, 6F6, 80	175	7-32
	Tone	34	K12				10	19	BB12							
1931	Vol.	29	U				R10673	13/19	2N516/BB17				5	[3]951, 32, 30, 33, Ballast No. 30	175	5-42
	Tone	34	N													
1932	Vol.	29	U										5	[3]951, 232, 233, 230, 1A2	175	
	Tone	34	N	6												

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—	Continued															
1932A	Vol.	68	Order from Mfr.				R12117	13/19	2N516/BB15				5	1C6, 1A4, 32, 950, 30, 1G1 Ballast	175	6-48,49
	Tone	34	N													
1933	Vol.	68	Order from Mfr.				R12117	13/19	2N516/BB15				6	1C6, ‡1A4, 32, 30, 950, 1E1	175	7-26,27
	Tone	34	MR48													
1933A	Vol.	15	Order from Mfr.				R12117	13/19	2N516/BB15				6	1C6, 1A4, 1B5, ‡30, 950, 1E1	175	7-33,34
	Tone	57	MR53													
1934	Vol.	45	MR48				2272	1	CM164		245A	C3	6	1C6,‡34,‡30, 19	465	
	Tone	22	MR33	M27			.02		Buffer	B14						
1935	Vol.	18	MR48										6	6A7, 6D6, 75, 76,‡48	456	7-28,29
	Tone	44	N	6												
1936	Vol.	68	Order from Mfr.				R12488	13/19	2N516/BB12				9	1C6, ‡1A4, ‡30, 32 or 951,‡950	175	7-35,36
	Tone	44	N			A27										
1937, 1937X	Vol.	45	MR48				2289	12	BB21				6	1C6,‡34,‡30, 19	456	7-31
	Tone	22	MR33	M24												
1938	Tone	21	N	6		A4	R12478	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-44,45
							R12451	23	RS213							
1939	Vol.	18	MR48				P160	1	2N518				5	6A7, 6D6, 75, 42, 80	456	
1940	Vol.	18	MR48				8, 8	23	RS213				7	6A7, 6K7, 76, 6C5, 75, 6F6, 80	175	7-32
	Tone	34	K12				10	19	BB12							
1941	Vol.	15	MR53				R15236	25	WE3050				9	‡6K7, 6L7, 6H6, 6C5, ‡6F6, 5Y3	262.5	7-43,44
							R15237	25	SR644							
							A15258	14/15	2N518							
1942	Vol.	18	MR48				R12656	23	RS216				8	6A8MG, 6K7MG, 6Q7MG, 6E5, 6C5MG, ‡6F6MG, 5Z4MG	175	7-15,16
	Tone	22	MR48	M26			R12840	23	WE1830							
1943	Vol.	68	Order from Mfr.				R12117	13/19	2N516/BB15				6	1C6, ‡1A4, 32, 30, 950, 1E1	175	7-26
	Tone	34	MR48													
1944	Vol.	18	MR48				R12656	23	RS216				8	6A8MG, 6K7MG, 6Q7MG, 6E5, 6C5MG, ‡6F6MG, 5Z4MG	175	7-15,16
	Tone	22	MR48	M26			R12840	23	WE1830							
1945	Vol.	124	MR53				R13903	23	WE3050				10	‡6K7MG, 6L7MG, 6Q7MG, ‡6C5MG, 6E5, ‡6F6MG, 5Z4MG	385	7-37,38
	Tone	22	MR48	M26			R13901	23	RS216							
1946	Vol.	20	TM230-SS1				R12656	30	RS216				13	‡6K7MG, 6L7MG, ‡6C5MG, 6E5, 6F5MG,‡6F6MG, 5Z4MG	385	7-39,40
	Tone	22	MR42	M26		A4	R13860	15/19	TN111							
	Sen.	105	X													
1947, 1948	Vol.	56	UM154			A96	R12117	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 230, 950, 1G1	175	8-7
	Tone	21	MR53	M27												
1949	Vol.	18	UM154	M26		A96	130E	1/15	3S579		294	C3	5	6A7, 6D6, 75, 41, 84	‡	8-9
							.03		Buffer	B14						
1949A	Vol.	18	UM154	M26		A96	130E	1/15	3S579		294	C3	5	6A7, 6D6, 75, 41, 84	‡	8-10
							.015		Buffer	B14						
1953	Vol.	18	MR48				16-16-8	8	UR182				5	6A7, 6D6, 75, 43, 25Z5	456	7-11
1953X	Vol.	18	MR48	M26			16-16	27	2P546				5	6A7, 6D6, 75, 43, 25Z5	456	
1954	Tone	21	N	6		A4	8, 8	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-45
1954X	Vol.	45	MR48				P474	32	WE450				6	6A7, 6K7G, 6C5G, 75, 6F6G, 80	456	7-41,42
							P160	32	2N516							
1955	Vol.	18	MR48				R7236	23	RS216				8	6D6, 41, 6K7MG, 75, 6C5MG, ‡6F6MG, 80	175	7-13,14
							R12840	23	WE1830							
1956	Vol.	18	MR48				8, 8	23	RS213				7	6A7, 6K7, 76, 6C5, 75, 6F6, 80	175	7-32
	Tone	34	K12				10	19	BB12							
1956X	Vol.	18	MR48				P474	32	WE450				7	6A8, 6K7, 6H6, 6A6, ‡6F6, 80	456	
							P160	32	2N518							
1957	Vol.	18	MR48				P160	1	2N518				5	6A7, 6D6, 75, 42, 80	456	
1962	Vol.	18	MR48				R12656	23	RS216				7	6A8MG, 6K7MG, 6Q7MG, 6C5MG, ‡6F6MG, 5Z4MG	175	7-15,16
							R12840	23	WE1830							
1964, 1964A	Tone	21	N	6		A4	8, 8	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-44,45
1965	Vol.	18	MR48				R7236	23	RS216				8	6D6, 41, 6K7MG, 75, 6C5MG, ‡6F6MG, 80	175	7-13,14
							R12840	23	WE1830							
1967	Vol.	124	MR53				R7236	23	RS216				10	‡78, ‡6K7G, 76, 75, 6C5G, ‡6F6G, 5Z3	385	7-17,19
1967A, 1967C	Vol.	124	MR53				R11153	23	WE1830							
							R7236	23	RS216				10	6K7MG, 6L7MG, 6C5MG, ‡6K7G, 75, 6C5G, ‡6F6G, 5Z3	385	7-17,19
							R11153	23	WE1830							
1968	Vol.	108	MR53				R12656	30	RS216				12	6D6, 6A7, ‡6K7G, 75, ‡6C5G,‡45, 5Z3	385	7-20,22
	Tone	108	MR53													
1968A	Vol.	108	O				R12656	30	RS216				12	‡6K7MG, 6A8MG, 75, ‡6C5MG,‡45, 5Z3	385	7-23,25
	Tone	108	O	6												
1970	Vol.	18	MR48	M26			94A	23	RS213				7	6A7, 76, 6K7, 6C5, 75, 6F6, 80	456	8-11
	Tone	34	MR33													
1970A	Vol.	18	MR48				8, 8	23	RS213				7	6A7, 6K7, 76, 6C5, 75, 6F6, 80	175	7-32
	Tone	34	K12				10	19	BB12							
1971	Vol.	19	UM163		See Note	A96	R11909	12/15	BB60/BB12				5	‡78, 6A7, 85, 41	175	6-42
	Tone	22	N													
1972	Vol.	18	MR48				R12656	23	RS216				8	6A8MG, 6K7MG, 6Q7MG, 6E5, 6C5MG, ‡6F6MG, 5Z4MG	175	7-15,16
	Tone	22	MR48	M26			R12840	23	WE1830							
1978, 1980A	Vol.	‡	MR29										4	1C6, 1A4, 951 or 32, 950, 1B1	480	7-30
1980	Vol.	9	H12										4	1C6, 1A4, 32, 950, 1B1 Ballast	480	6-46,47
1981, 1981C, 1981CX	Vol.	15	MR53				A15236	25	WE3050				9	‡6K7, 6L7, 6H6, 6C5, ‡6F6, 5Y3	262.5	7-43,44
							A15237	25	SR644							
							A15258	14/15	2N518							
1982	Vol.	29	U										5	§951, 232, 233, 230, 1A2	175	
	Tone	34	N	6												
1982A (345)	Vol.	68	Order from Mfr.				R12117	13/19	2N516/BB15				5	1C6, 1A4, 32, 950, 30, 1G1 Ballast	175	6-48,49
	Tone	34	N													
1982A (345X)	Vol.	56	UM154	M27		A96	R12117	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 230, 950, 1G1	175	8-5
	Tone	21	MR53													
1983	Vol.	68	Order from Mfr.				R12117	13/19	2N516/BB15				6	1C6, ‡1A4, 32, 30, 950, 1E1	175	7-26,27
	Tone	34	MR48													
1983A	Vol.	15	Order from Mfr.				R12117	13/19	2N516/BB15				6	1C6, 1A4, 1B5, ‡30, 950, 1E1	175	7-33,34
	Tone	57	MR53													
1984	Tone	21	N	6		A4	R12478	23	RS213				6	6A7, 6K7G, 75, 6F6G, 6C5G, 84	175	6-44,45
							R12451	23	RS213							
1985	Vol.	18	MR48										6	6A7, 6D6, 75, 76, ‡48	456	7-28,29
	Tone	44	N	6												

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—Continued																
1986, 1987 (100)	Vol.	18	MR48	M26			88679	25	RS216				6	6A7, 6D6, 6H6G, 6F5G, 6B5, 80	262	8-13
	Tone	21	MR48				88680	25	RS213							
1986, 1987 (101)	Vol.	45	MR44	M26		A27	14573	23	RS216				6	6A7, 78, 6H6G, 6F5G, 6B5, 84	262	7-45,46
	Vol.	15	MR53	M26		A4	12451	23	RS213							
	Tone	57	MR48													
1988	Vol.	17	MR53				14213	1	CM172				5	6A7, 6D6, 75, 6B5, 1V	465	7-47,48
							14573	1	RS216	B12						
1989	Vol.	12	Y25MP	7			9144	19	BB12				4	1C6, 1A4, 951, 1F4	465	7-49,50
1992	Vol.	29	U				R12117	13/19	2N516/BB15				5	[3]951, 232, 233, 230, 1A2	175	
	Tone	34	N	6												
1992A	Vol.	68	Order from	Mfr.			R12117	13/19	2N516/BB15				5	1C6, 1A4, 32, 950, 30, 1G1	175	6-48,49
	Tone	34	N													
1992X	Vol.	18	MR48				2289	12	BB21				5	1C6, 34, 1B5, 30, 19	456	7-51
	Tone	22	MR33													
1993	Vol.	68	Order from	Mfr.			R12117	13/19	2N516/BB15				6	1C6, [3]1A4, 32, 30, 950, 1E1	175	7-26,27
	Tone	34	MR48													
1993X	Vol.	18	MR48				2289	13	BB21				6	1C6, [3]34, [3]30, 19	465	7-52
	Tone	22	MR33	M24												
1995	Vol.	18	MR48										6	6A7, 6D6, 75, 76, [3]48	456	7-28,29
	Tone	44	N	6												
1996	Vol.	68	Order from	Mfr.			R12488	13/19	2N516/BB12				9	1C6, [3]1A4, [3]30, 32, or 951, [3]950	175	7-35,36
	Tone	44	N			A27										
1998	Vol.	18	MR44				R12656	23	RS216				7	6A8MG, 6K7MG, 6Q7MG, 6C5MG, [3]6F6MG, 5Z4MG	262	7-53,54
							R12840	23	WE1830							
1999	Vol.	56	UM154		See No	te A96	R12117	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 230, 950, 1G1	175	8-5
	Tone	21	MR53	M27												
3972	Vol.	18	MR48	M26			97253	23	2S567				5	6A7, 6D6, 6Q7G, 41, 80	465	
4104	Vol.	12/2	DRP119	6			1-2	1	See Note	B1			5	[3]24, 45, 80		
4400	Vol.	18	UM154-SS3				8825	1	2S567		249	C3	6	[3]6D6, 6L7, 76, 75, 6B5	465	
	Tone	22	UM140		See No	te A96	.005		Buffer	B14						
4400A	Vol.	18	UM157-SS3				8826	1	2S567		249	C3	6	[3]6D6, 6L7, 76, 75, 6B5	465	
	Tone	22	Order from	Mfr.			.005		Buffer	B14						
4401, 4402	Vol.	17	MR53				14213	1	CM172				5	6A7, 6D6, 75, 6B5, 1V	465	7-47,48
							14573	1	RS216							
4403	Vol.	45	MR44	M26		A27	14573	23	RS216				6	6A7, 78, 6H6G, 6F5G, 6V5, 84	262	7-45,46
	Vol.	15	MR53	M26		A4	12451	23	RS213							
	Tone	57	MR48													
4404	Vol.	15	MR48	M27			15136	13	2N516				6	[3]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48				15137	19	BB15							
4405	Vol.	15	MR48				14289	1	CM172		294	C3	6	6A8G, 1D5G, [3]1H4G, 1F5G, 6X5G	465	7-57,58
	Tone	57	MR48	M26			.006		Buffer	B14						
4405A	Vol.	17	MR55				14874	1	BB63		246	C3	6	[3]6S7G, 6D8G, 6Q6G, 1H4G, 6K6G	465	9-7
	Tone	57	MR48	M26			14574	1	BB61							
							14478	13	BB41							
							.012-.012		Buffer	B14						
4406	Vol.	15	MR48	M26			15136	13	2N516				6	[3]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48				15137	19	BB15							
4407	Vol.	15	MR48				14289	1	CM172		294	C3	6	6A8G, 1D5G, [3]1H4G, 1F5G, 6X5G	465	7-57,58
	Tone	57	MR48	M26			.006		Buffer	B14						
4408	Vol.	12	Y25MP	7			9144	19	BB12				4	1C6, 1A4, 951, 1F4	465	7-49,50
4409	Vol.	15	MR48	M27			14142	13/19	2N516/BB12				5	1C6, 1A4, 1B5, 1F4, 30, 1P1	465	7-59,60
	Tone	57	MR48													
4410, 4411	Vol.	15	MR48	M27			14250	13/19	CM162/BB15				6	[3]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48													
4413	Vol.	15	MR48	M27			14142	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 1F4, 30, 1P1	465	7-59,60
	Tone	57	MR48													
4414, 4415	Vol.	6	MR21	M26			14036	1/15	3S579				5	[3]6D6, 6C6, 43, 1V		8-15
4416	Vol.	6	MR21	M26			15401	1/15	3S579				5	[3]6D6, 6C6, 43, 1V		9-9
4418	Vol.	18	MR48	M26			2011	1/15	3S579		246	C3	4	6D8G, 6S7G, 6Q6G, 6K6G	456	
							.01		Buffer	B14						
4419	Vol.	17	Order from	Mfr.			15971	1/13	3S582		246	C3	6	[3]1D5GP, 6D8G, 6T7G, 1H4G, 1J6G	465	8-17
	Tone	44	L	6			15882	1	BB42							
							.02-.02		Buffer	B14						
4420	Vol.	12	Y25MP	7			9144	19	BB12				4	1C6, 1A4, 951, 1F4	465	7-49,50
4421	Vol.	18	MR48				2011	1/15	3S579		246	C3	4	6K8G, 6S7G, 6Q6G, 6K6G or 6A8G, 6K7G, 6Q7G, 6K6G	456	8-19
							.01		Buffer	B14						
4422	Vol.	17	MR48	M27			14250	13/19	CM162/BB15				5	1C6, 1A4, 1B5, 230, 1F4	465	8-23
	Tone	57	MR48													
4423	Vol.	17	MR48	M27			14250	13/19	CM162/BB15				5	1C6, 1A4, 1B5, 1F4, 230	465	8-23
	Tone	57	MR48													
4424	Vol.	15	MR48	M26			15136	13	2N516				6	[3]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48				15137		BB15							
4425	Vol.	15	MR48	M27			14250	13/19	CM162/BB15				6	[3]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48													
4426, 4426A	Vol.	56	Order from	Mfr.			14578	12/13	2N516				8	[3]1A4, 1C6, 1B5, [3]230, 19	465	8-25
	Tone	41	MR48													
4427, 4427A	Vol.	56	Order from	Mfr.			14578	12/13	2N516				8	[3]1A4, 1C6, 1B5, [3]230, 19	465	8-25
	Tone	41	MR48													
4428	Vol.	15	MR48				14289	1	CM172		294	C3	6	6A8G, 1D5G, [3]1H4G, 1F5G, 6X5G	465	7-57,58
	Tone	57	MR48	M26			.006		Buffer	B14						
4428A	Vol.	17	MR55				14874	1	BB63		246	C3	6	[3]6S7G, 6D8G, 1H4G, 6Q6G, 6K6G	465	7-61,62
	Tone	57	MR48				14574	1	BB61							
							14478	13	BB41							
							.012-.012		Buffer	B14						
4429	Vol.	18	MR53	M26									6	6A7, 6D6, 75, 76, [3]48	465	9-11
	Tone	21	MR53													
4430	Vol.	18	MR48	M26			2011	1/15	3S579		246	C3	4	6D8G, 6S7G, 6Q6G, 6K6G	456	
							.01		Buffer	B14						
4431, 4432	Vol.	17	MR55	M27									4	1C7G, 1F7G, 1D5G, 1F5G	465	9-15
4433	Vol.	17	MR55				14874	1	BB63		246	C3	6	[3]6S7G, 6D8G, 6Q6G, 1H4G, 6K6G	465	9-7
	Tone	57	MR48	M26			14574	1	BB61							
							14478	13	BB41							
							.012-.012		Buffer	B14						
4434	Vol.	18	MR48				2011	1/15	3S579		246	C3	4	6K8G, 6S7G, 6Q6G, 6K6G or 6A8G, 6K7G, 6Q7G, 6K6G	456	8-19
							.01		Buffer	B14						
4435, 4436	Vol.	17	MR55	M27									4	1C7G, 1F7G, 1D5G, 1F5G	465	9-15
4437, 4438	Vol.	17	MR55				15576	12/13	2N507				6	1C7G, 1D5GP, [3]1H4G, 1H6G, 1E7G	465	9-19
4439, 4440	Vol.	17	Order from	Mfr.			15803	12/13	2N502				8	[3]1D5G, 1C7G, 1H6G, 1H4G, [3]1J6G	465	8-28
	Tone	44	MR39													
4441	Vol.	17	Order from	Mfr.			15882	1	BB42		246	C3	8	[3]1D5GP, 1C7G, 1H6G, 6N5, [3]1H4G, 1J6G	465	8-31
	Tone	21	MR48	M26			15726	1/13	ST589/BB31							
							.02-.02		Buffer	B14						
4442, 4443	Vol.	15	MR48	M27			14142	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 1F4, 30, 1P1	465	7-59,60
	Tone	57	MR48													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note	No.			
SEARS-ROEBUCK—Continued																
4444	Vol.	15	MR48	M26			15136	13	2N516				6	[2]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48				15137	19	BB15							
4445	Vol.	15	MR48	M27			15136	12/13	2N516				6	[2]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48				15137	19	BB15							
4446, 4446A	Vol.	56	Order from	Mfr.			14578	12/13	2N516				8	1C6, [2]1A4, 1B5, [3]230, 19	465	8-25
	Tone	41	MR48													
4447	Vol.	56	Order from	Mfr.			14578	12/13	2N516				8	[2]1A4, 1C6, 1B5, [3]230, 19	465	8-25
	Tone	41	MR48													
4448	Vol.	15	MR48				14289	1	CM172		294	C3	6	6A8G, 1D5G, [2]1H4G, 1F5G, 6X5G	465	7-57,58
	Tone	57	MR48	M26			.006		Buffer	B14						
4448A	Vol.	17	MR55				14874	1	BB63		246	C3	6	[6]S7G, 6D8G, 1H4G, 6Q6G, 6K6G	465	7-61,62
	Tone	57	MR48	M26			14574	1	BB61							
							14478	13	BB41							
							.012-.012		Buffer	B14						
4449	Vol.	18	MR53	M26									6	6A7, 6D6, 75, 76, [4]8.	465	9-11
	Tone	21	MR53													
4450	Vol.	17	Order from	Mfr.			14874	1	BB63		294	C3	9	[2]1D5G, 6A8G, 6G5, 1H6G, [3]1H4G, 1J6G	465	8-33
	Tone	41	MR48	M26			14734	‡	CM164/BB12							
							.006		Buffer	B14						
4451	Vol.	17	Order from	Mfr.			15726	1/13	ST589/BB31		246	C3	8	[2]1D5GP, 1C7G, 1H6G, 6N5, [3]1H4G, 1J6G	465	8-31
	Tone	21	MR48	M26			15882	1	BB42							
							.02-.02		Buffer	B14						
4453	Vol.	17	MR55				14874	1	BB63		246	C3	6	[6]S7G, 6D8G, 6Q6G, 1H4G, 6K6G	465	9-7
	Tone	57	MR48	M26			14574	1	BB61							
							14478	3	BB41							
							.012-.012		Buffer	B14						
4455, 4456	Vol.	17	Order from	Mfr.			15803	12/13	2N502				8	[3]1D5G, 1C7G, 1H6G, 1H4G, [2]1J6G	465	8-28
	Tone	44	MR39													
4459	Vol.	17	Order from	Mfr.			15971	1/13	3S582		246	C3	6	[2]1D5GP, 6K8G, 6T7G, 1J4G, 1J6G	465	8-17
	Tone	44	L	6			15882	1	BB42							
							.02-.02		Buffer	B14						
4461, 4462	Vol.	17	MR53				14213	1	CM172				5	6A7, 6D6, 75, 6B5, 1V	465	7-47,48
							14573	1	RS216							
4463, 4464	Vol.	45	MR44	M26		A27	14573	23	RS216				6	6A7, 78, 6H6G, 6F5G, 6B5, 84	262	7-45,46
	Vol.	15	MR53	M26		A4	12451	23	RS213							
	Tone	57	MR48													
4465 (100151)	Vol.	45	MR44	M26			88679	25	RS216				8	[6]K7G, 6C5G, 6L7G, 6Q7G, 6N6G, 6G5, 5Y3	456	9-21
	Tone	21	N				88680	25	RS213							
							88880	13	RS213							
4465 (101410)	Vol.	17	MR55	M26			13903	1	WE3050				8	[6]K7G, 6L7G, 6C5G, 6Q7G, 6G5, 6N6G, 5Y3	465	8-35,38
	Tone	57	MR48				14360	1	WE1830							
4466, 4467, 4469	Vol.	18	MR48	M26			2012	23	2S563				5	6A7, 6D6, 75, 42, 80.	456	9-24
4468	Vol.	18	MR55	M26			14573	1	RS216				6	6A8G, 6K7G, 6B6G, 6N6G, 6H5, 6X5G	262	8-39
	Tone	21	MR48				12451	1	RS213							
4470	Vol.	18	MR55	M26			14573	1	RS216				6	6A8G, 6K7G, 6B6G, 6N6G, 6H5, 6X5G	262	8-39
	Tone	21	MR48				12451	1	RS213							
4471	Vol.	18	MR48	M26			2020	4	2P546				5	6A7, 6D6, 75, 43, 25Z5	456	
4472, 4473	Vol.	17	MR55										4	1C7G, 1D5G, 1F7G, 1F5G	465	9-27
4477, 4478	Vol.	17	MR55				15576	12/13	2N507				6	1C7G, 1D5GP, [2]1H4G, 1H6G, 1E7G	465	9-19
	Tone	149	MR39													
4484	Vol.	45	MR44	M26		A27	14573	23	RS216				6	6A7, 78, 6H6G, 6F5G, 6B5, 84	262	7-45,46
	Vol.	15	MR53	M26		A4	12451	23	RS213							
	Tone	57	MR48													
4485 (100151)	Vol.	45	MR44	M26			88679	25	RS216				8	[6]K7G, 6C5G, 6L7G, 6Q7G, 6N6G, 6G5, 5Y3	456	9-21
	Tone	21	N				88680	25	RS213							
							88880	13	RS213							
4485 (101410)	Vol.	17	MR55	M26			13903	1	WE3050				8	[6]K7G, 6L7G, 6C5G, 6Q7G, 6G5, 6N6G, 5Y3	465	8-35,38
	Tone	57	MR48				14360	1	WE1830							
4486 (100)	Vol.	20	‡		See No	te A19	88679	25	RS216				10	[6]K7G, 6A8, 6H6G, 6F5G, 6C5G, [6]F6G, 5V4G, 6G5	456	
	Tone	22	MR48				89542	25	RS213							
							89186	13	BB40							
							89614	13	RS213							
4486 (101)	Vol.	18	‡		See No	te A19	13903	1	WE3050				10	[6]K7G, 6L7G, [6]C5G, 6G5, 6Q7G, [6]F6G, 5Y3	465	8-43
	Tone	41	MR53				14808	1	WE3050							
4487	Vol.	20	‡		See No	te A19	13903	‡	RS216				11	[6]K7G, 6L7G, [6]C5G, 6H6G, 6J7G, 6Q7G, 5Y3, [6]N6G	465	9-29
	Tone	21	MR53				14808	‡	WE3050							
							15117	13	BB41							
4488, 4488A, 4488B	Vol.	15	‡		See No	te A19	14903	‡	WE3050				13	[6]K7G, 6L7G, [6]C5G, 6J7G, 6R7G or 6Q7G, [6]N6G, 5X4G	465	8-45
	Tone	21	N				14904	‡	WE3050							
							14808	‡	WE3050							
							14996	‡	2N518							
4490	Vol.	18	MR55	M26			14573	1	RS216				6	6A8G, 6K7G, 6B6G, 6N6G, 6H5, 6X5G	262	8-39
	Tone	21	MR48				12451	1	RS213							
4493	Vol.	17	MR55	M27									4	1C7G, 1F7G, 1D5G, 1F5G	465	9-15
4498, 4499	Vol.	45	MR55	M27			15913	12/13	2N507				6	1C7G, 1D5GP, [2]1H4G, 1H6G, 1E7G	465	8-59
	Tone	22	MR39													
4500, 4500A	Vol.	6	MR21	M26			14036	1/15	3S579				5	[6]D6, 6C6, 43, 1V		8-15
4501, 4501A	Vol.	6	MR21	M26			15401	1/15	3S579				5	[6]D6, 6C6, 43, 1V		8-61
4502, 4502A	Vol.	6	MR21	M26	EX150		14415	9	BB21				5	[6]D6, 6C6, 43, 25Z5		8-58
							14036	9/15	3S579							
4503	Vol.	6	MR21	M26			15401	1/15	3S579				5	[6]D6, 6C6, 43, 1V		8-61
4504	Vol.	6	MR21	M26	EX150		14415	9	BB21				5	[6]D6, 6C6, 43, 25Z5		8-58
							14036	9/15	3S579							
4505, 4505A, 4506	Vol.	6	MR21	M26			8-8-8	1/15	3S579				5	[6]D6, 6C6, 43, 1V		8-15
4507	Vol.	6	MR21	M26			15401	1/15	3S579				5	[6]D6, 6C6, 43, 1V		8-61
4508	Vol.	6	MR21	M26	EX150		14415	9	BB21				5	[6]D6, 6C6, 43, 25Z5		8-58
							14036	9/15	3S579							
4509, 4510, 4511	Vol.	6	MR21	M26			14036	1/15	3S579				5	[6]D6, 6C6, 43, 1V		8-15
4512, 4513, 4514	Vol.	6	MR21	M26	EX150		14415	9	BB21				5	[6]D6, 6C6, 43, 25Z5		8-58
							14036	9/15	3S579							
4515, 4516, 4517	Vol.	6	MR21	M26			15401	1/15	3S579				5	[6]D6, 6C6, 43, 1V		8-61
4519	Vol.	17	Order from	Mfr.			15971	1/13	3S582		246	C3	6	[2]1D5GP, 6K8G, 6T7G, 1H4G, 1J6G	456	8-17
	Tone	44	L	6			15882	1	BB42							
							.02-.02		Buffer	B14						
4520	Vol.	12	Y25MP	7			9144	19	BB12				4	1C6, 1A4, 951, 1F4	465	7-49,50
4521	Vol.	18	MR48				2011	1/15	3S579		246	C3	4	6K8G, 6S7G, 6Q6G, 6K6G or 6A8G, 6K7G, 6Q7G, 6K6G	456	8-19
							.01		Buffer	B14						
4522, 4523	Vol.	15	MR48	M27			14142	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 1F4, 30, 1P1	465	7-59,60
	Tone	57	MR48													
4524	Vol.	15	MR48	M26			15136	13	2N516				6	[2]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48				15137	19	BB15							
4526, 4526A	Vol.	56	Order from	Mfr.			14578	12/13	2N516				8	[2]1A4, 1C6, 1B5, [3]230, 19	465	8-25
	Tone	41	MR48													
4528	Vol.	15	MR48				14289	1	CM172		294	C3	6	6A8G, 1D5G, [2]1H4G, 1F5G, 6X5G	465	7-57,58
	Tone	57	MR48	M26			.006		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—	Continued															
4528A	Vol.	17	MR55				14874	1	BB63		246	C3	6	[6]6S7G, 6D8G, 1H4G, 6Q6G, 6K6G	465	7-61,62
	Tone	57	MR48	M26			14574	1	BB61							
							14478	13	BB41							
							.012-.012		Buffer	B14						
4529	Vol.	18	MR53	M26									6	6A7, 6D6, 75, 76, [3]48	465	9-11
	Tone	21	MR53													
4531	Vol.	17	MR55	M27									4	1C7G, 1F7G, 1D5G, 1F5G	465	
4532	Vol.	17	MR48	M27			14250	13/19	CM162/BB15				5	1C6, 1A4, 1B5, 230, 1F4	465	8-23
	Tone	57	MR18													
4533	Vol.	17	MR55										4	1C7G, 1D5G, 1F7G, 1F5G	465	9-27
4537	Vol.	17	MR55				15576	12/13	2N507				6	1C7G, 1D5GP, [2]1H4G, 1H6G, 1E7G	465	
	Tone	149	MR39													
4539	Vol.	17	Order from Mfr.				15803	12/13	2N502				8	[2]1D5G, 1C8G, 1H6G, 1H4G, [2]1J6G	465	8-28
	Tone	44	MR39													
4542	Vol.	15	MR48	M27			14142	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 1F4, 30, 1P1	465	7-59,60
	Tone	57	MR18													
4542A	Vol.	17	MR48	M27			14250	13/19	CM162/BB15				5	1C6, 1A4, 1B5, 230, 1F4	465	8-23
	Tone	57	MR48													
4542, 4543	Vol.	15	MR48	M27			14142	13/19	2N516/BB15				5	1C6, 1A4, 1B5, 1F4, 30, 1P1	465	7-59,60
	Tone	57	MR18													
4544	Vol.	16	MR48	M26			15136	13	2N516				6	[2]1A4, 1C6, 1B5, 30, 1F4	465	7-55,56
	Tone	57	MR48				15137	19	BB15							
4546, 4546A	Vol.	56	Order from	Mfr.			14578	12/13	2N516				8	[2]1A4, 1C6, 1B5, [3]230, 1P1	465	8-25
	Tone	41	MR18													
4548	Vol.	15	MR18				14289	1	CM172		294	C3	6	6A8G, 1D5G, [2]1H4G, 1F5G, 6X5G	465	7-57,58
	Tone	57	MR48	M26			.006		Buffer	B14						
4548A	Vol.	17	MR55				14874	1	BB63		246	C3	6	[6]6S7G, 6D8G, 1H4G, 6Q6G, 6K6G	465	7-61,62
	Tone	57	MR18				14574	1	BB61							
							14478	13	BB41							
							.012-.012		Buffer	B14						
4549	Vol.	18	MR53	M26									6	6A7, 6D6, 76, 75, [3]48	465	9-11
	Tone	21	MR53													
4550	Vol.	17	Order from	Mfr.			14874	1	BB63		294	C3	9	[2]1D5G, 6A8G, 6G5, 1H6G, [2]1H4G, 1J6G	465	8-33
	Tone	41	MR18	M26			14734	‡	CM164/BB12							
							.006		Buffer	B14						
4559	Vol.	17	Order from	Mfr.			15971	1/13	3S382		246	C3	6	[2]1D5GP, 6K8G, 6T7G, 1H4G, 1J6G	465	8-17
	Tone	44	L	6			15882	1	BB42							
							.02-.02		Buffer	B14						
4563, 4564	Vol.	45	MR44	M26		A27	14573	23	RS216				6	6A7, 78, 6H6G, 6F5G, 6B5, 84	262	7-45,46
	Vol.	15	MR53	M26		A4	12451	23	RS213							
	Tone	57	MR48													
4565 (100151)	Vol.	45	MR44	M26			88679	25	RS213				8	[6]6K7G, 6C5G, 6L7G, 6Q7G, 6N6G, 6G5, 5Y3	456	9-21
	Tone	21	N				88680	25	RS213							
							88880	13	RS213							
4565 (101410)	Vol.	17	MR55	M26			143903	1	WE3050				8	[6]6K7G, 6L7G, 6C5G, 6Q7G, 6G5, 6N6G, 5Y3	465	8-35,38
	Tone	57	MR48				14360	1	WE1830							
4566	Vol.	17	MR53	M26			14573	23	RS216				7	6A7, 78, 6H6G, 6F5G, 6B5, 6X5G, 6G5	262	9-31
	Tone	21	MR48				12451	23	RS213							
4567	Vol.	18	MR48	M26			2012	23	2S563				5	6A7, 6D6, 75, 42, 80	456	9-24
4569	Vol.	45	MR53	M26			14573	23	RS216				7	6A7, 78, 6H6G, 6F5G, 6G5, 6B5, 6X5G	262	8-63
	Tone	22	MR48				12451	23	RS213							
4570, 4571, 4572	Vol.	45	MR44	M26		A27	14573	23	RS216				6	6A7, 78, 6H6G, 6F5G, 6B5, 84	262	7-45,46
	Vol.	15	MR53	M26		A4	12451	23	RS213							
	Tone	57	MR48													
4577	Vol.	17	MR55				15576	12/13	2N507				6	1C7G, 1D5GP, [2]1H4G, 1H6G, 1E7G	465	9-19
	Tone	149	MR39													
4584	Vol.	45	MR44	M26		A27	14573	23	RS216				6	6A7, 78, 6H6G, 6F5G, 6B5, 84	262	7-45,46
	Vol.	15	MR53	M26		A4	12451	23	RS213							
	Tone	57	MR48													
4585, 4585A (100151)	Vol.	45	MR44	M26			88679	25	RS216				8	[6]6K7G, 6C5G, 6L7G, 6Q7G, 6N7G, 6G5, 5Y3	456	9-21
	Tone	21	N				88680	25	RS213							
							88880	13	RS213							
4585, 4585A (101410)	Vol.	17	MR55	M26			13903	1	WE3050				8	[6]6K7G, 6L7G, 6C5G, 6Q7G, 6G5, 6N6G, 5Y3	465	8-35,38
	Tone	57	MR48				14360	1	WE1830							
4586, 4586A (100)	Vol.	20	‡		See No	te A19	88679	25	RS216				10	[6]6K7G, 6A8, 6H6G, 6F5G, 6C5G, [6]6F6G, 5V4G, 6G5	456	
	Tone	22	MR48				89542	25	RS213							
							89186	13	BB40							
							89614	13	RS213							
4586, 4586A (101)	Vol.	18	‡		See No	te A19	13903	1	WE3050				10	[6]6K7G, 6L7G, [6]6C5G, 6G5, 6Q7G, [6]6F6G, 5Y3	465	8-43
	Tone	41	MR53				14808	1	WE3050							
4587, 4587A	Vol.	124	‡		See No	te A19	13903	‡	RS216				11	[6]6K7G, 6L7G, [6]6C5G, 6J7G, 6Q7G, 6H6G, [6]6N6G, 5Y3	465	8-65
	Tone	21	MR53				14808	‡	WE3050							
							15117	13	BB41							
4588, 4588A, 4588B	Vol.	15	‡		See No	te A19	14903	‡	WE3050				13	[6]6K7G, 6L7G, [6]6C5G, 6J7G, 6R7G or 6Q7G, [6]6N6G, 5X4G	465	8-45
	Tone	21	N				14904	‡	WE3050							
							14808	‡	WE3050							
							14996	‡	2N518							
4589	Vol.	45	MR53	M26			14573	23	RS216				7	6A7, 78, 6H6G, 6F5G, 6G5, 6B5, 6X5G	262	8-63
	Tone	22	MR48				12451	23	RS213							
4590	Vol.	20	‡		See No	te A19	13903	‡	RS216				11	[7]6K6G, 6L7G, [6]6C5G, 6H6G, 6J7G, 6Q7G, [6]6N6G, 5Y3	465	9-29
	Tone	21	MR53				14808	‡	WE3050							
							15117	13	BB41							
4593	Vol.	17	MR55	M26			14573	1	RS216				6	6A8G, 6K7G, 6B6G, 6N6G, 6H5, 6X5G	262	9-33
	Tone	21	MR48				12451	1	RS213							
4598	Vol.	45	MR55	M27			15913	12/13	2N507				6	1C7G, 1D5GP, [2]1H4G, 1H6G, 1E7G	465	8-59
	Tone	22	MR39													
4600	Vol.	17	UM157		See No	te A96	16105	1	2N518		294G	C3	6	[6]6U7G, 6A8G, 6Q7G, 6N5G, 6X5G	262	9-35
	Tone	22	MR48				.005		Buffer	B14						
4601	Vol.	17	‡		See No	te A19	16105	1	2N518		294G	C3	7	[6]6U7G, 6A8G, 6V7G, 6J5G, 6N7G, 6X5G	262	8-75
	Tone	22	UM154		See No	te A96	16102	15	TN111							
							.005		Buffer	B14						
4602, 4603	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	8-77
4604, 4605	Vol.	45	MR55	M27			16259	12/13	2N502				6	1C7G, [2]1D5GP, [2]1H4G, 1J6G	465	8-78
4606, 4607	Vol.	45	Order from	Mfr.			16259	12/13	2N502				6	1C7G, [2]1D5GP, [2]1H4G, 1J6G	465	
4608, 4609	Vol.	56	Order from	Mfr.			15803	12/13	2N502				8	[2]1D5GP, 1C7G, 1H6G, 1H4G, [2]1J6G	465	
4610	Vol.	18	MR55	M26			13903	1	WE3050				8	[6]6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
							14360	1	WE1830							
4611	Vol.	17	MR55	M26			16355	1/13/15	RM257/BB12	B16			6	6A8G, 6K7G, 6B6G, 25L6G, 6X5G, 6U5	465	9-39
4612A	Vol.	18	MR48										6	6A7, 6D6, 75, 76, [3]48	465	

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK— Continued																
4613	Vol.	17	MR53	M27			110804	1	2N518		246	C3	6	1H4G, 6D8G, 1D5GP, 6T7G, 1F5G, 6AB5	465	
							110377	‡	BB12							
							.01		Buffer	B14						
4614	Vol.	17	Order from	Mfr.			17603	1/13/15	3N528/2N502		294	C3	8	[2]15, 6D8G, 6T7G or 6Q6G, 6L5G, 1J6G, 6AB5, 6ZY5G	465	
							.012		Buffer	B14						
4619	Vol.	18	MR53	M26									6	6A7, 6D6, 76, 75,[2]48	465	9-43
	Tone	21	MR53													
4620, 4621	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	8-77
4620A	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	
4620A (101.503-1)	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	455	
4621A	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	
4621A (101.503-1)	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	455	
4622	Vol.	17	MR53	M27			110804	1	2N518		246	C3	4	1C7G, 1D5GP, 6T7G, 1F5G	465	9-45
							110377	‡	BB12							
							.01		Buffer	B14						
4623	Vol.	17	MR55	M27			110804	1	2N518		246	C3	6	1H4G, 6D8G, 1D5GP, 6T7G, 1F5G, 6AB5	465	
							110377	‡	BB12							
							.01		Buffer	B14						
4624, 4625	Vol.	45	MR55	M27									6	1C7G,[2]1D5GP, [2]1H4G, 1J6G	465	8-78
4626, 4627	Vol.	45	Order from	Mfr.			16259	12/13	2N502				6	1C7G,[2]1D5GP, [2]1H4G, 1J6G	465	
4628, 4629	Vol.	56	Order from	Mfr.			15803	12/13	2N502				8	[2]1D5GP, 1C7G, 1H6G, 1H4G,[2]1J6G	465	
4630, 4631	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	8-77
4632A, 4633A	Vol.	17	Order from	Mfr.			16259	13	2N502				6	1C7G, 1F7GH, [2]1H4G, 4A6G	465 455	
4634, 4635	Vol.	45	MR55	M27									6	1C7G,[2]1D5GP, [2]1H4G, 1J6G	465	8-78
4636, 4637	Vol.	45	Order from	Mfr.			16259	12/13	2N502				6	1C7G,[2]1D5GP, [2]1H4G, 1J6G	465	
4638, 4639	Vol.	56	Order from	Mfr.			15803	12/13	2N502				8	[2]1D5GP, 1C7G, 1H6G,1H4G,[2]1J6G	465	
4640	Vol.	17	Order from	Mfr.			16473	1/13	3S582/BB33		246	C3	7	[2]1D5GP, 1C7G, 1F7G, 1H4G, 1J6G, 6AB5	465	
							.012		Buffer	B14						
4641A	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	
4641A (101.503-1)	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	455	
4642A	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	
4642 (101.503-1)	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	455	
4643	Vol.	17	MR55	M27			110804	1	2N518		246	C3	6	1H4G, 6D8G, 1D5GP, 6T7G, 1F5G, 6AB5	465	
							110377	‡	BB12							
							.01		Buffer	B14						
4644A	Vol.	45	MR55				16259	12/13	2N502				6	1C7G,[2]1H4G, 1F7GH, 1G5G	465 455	
4645A	Vol.	45	MR55				16259	12/13	2N502				6	1C7G,[2]1H4G, 1F7GH, 1G5G	465 455	
4646, 4647	Vol.	45	Order from	Mfr.			16259	12/13	2N502				6	1C7G,[2]1D5GP, [2]1H4G, 1J6G	465	
4648, 4649	Vol.	56	Order from	Mfr.			15803	12/13	2N502				8	[2]1D5GP, 1C7G, 1H6G, 1H4G,[2]1J6G	465	
4650	Vol.	17	Order from	Mfr.			16473	1/13	3S582/BB33		246	C3	7	[2]1D5GP, 1C7G, 1F7G,[2]1H4G, 1J6G, 6AB5	465	
							.012		Buffer	B14						
4651	Vol.	17	Order from	Mfr.			17603	1/13/15	3N528/2N502		294	C3	8	[2]15, 6D8G, 6T7G or 6Q6G, 6L5G, 1J6G, 6AB5, 6ZY5G	465	9-41
							.012		Buffer	B14						
4660	Vol.	17	MR55	M26			16355	1/13/15	RM257/BB12	B16			6	6A8G, 6K7G, 6H6G, 25L6G, 6X5G, 6U5	465	9-39
4663 (100.158)	Vol.	17	MR53	M26			89937	1	WE3050				6	6A8G, 6U7G, 6Q7G, 6K6G, 5W4G, 6U5	465	
							110974	1/13	2N518							
							110377	19/20	BB12							
4663 (101.471)	Vol.	18	MR55	M26			14573	25	RS216				6	6A8G, 6K7G, 6H6G, 6V6G, 6U5, 6X5G	465	
4664	Vol.	18	MR55	M26			16570	25/13	2N518							
							14573	1	RS216				7	[2]6K7G, 6A8G, 6H6G, 6V6G, 6U5, 6X5G	465	
4665	Vol.	18	MR55	M26			16570	1/13	2N518							
							13903	1	WE3050				8	[2]6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
							14360	1	WE1830							
4666	Vol.	17	TM246-SS1	M26			13903	1	WE3050				10	[2]6K7G, 6A8G, [2]6Q7G, 6U5, 6J5G, [2]6V6G, 5Y3G	465	
	Sil.	‡	A1MP				14808	1	WE3050							
							16703	‡	BB13							
4667	Vol.	18	MR55	M26			13903	1	WE3050				8	[2]6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
							14360	1	WE1830							
4668	Vol.	45	MR48	M26			2NC246	23	RS216				6	6A7, 6D6, [2]76, 41, 80.	456	
							2NC247	23	WE1650							
4669	Vol.	18	MR55	M26			13903	1	WE3050				8	[2]6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
							14360	1	WE1830							
4677	Vol.	18	MR55	M26			13903	1	WE3050				8	[2]6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
							14360	1	WE1830							
4680	Vol.	80	‡		See Note A19		13903	1	WE3050				10	[2]6K7G, 6A8G, [2]6Q7G, 6J5G, [2]6V6G, 6U5, 5Y3G	465	9-57
	Sen.	8	A1MP				14808	1	WE3050							
							16703	15	BB13							
4681	Vol.	18	TM246-SS1	M26			13903	1	WE3050				10	[2]6K7G, 6L7G, 6J5G, 6Q7G, 6J5G,[2]6V6G, 6U5, 5Y3G	465	
							14808	1	WE3050							
4684	Vol.	18	MR55	M26			14573	25	RS216				7	[2]6K7G, 6A8G, 6H6G, 6V6G, 6U5, 6X5G	465	9-59
							16570	25/13	2N518							
4685	Vol.	18	MR55	M26			13903	1	WE3050				8	[2]6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
							14360	1	WE1830							
4686	Vol.	17	TM246-SS1	M26			13903	1	WE3050				10	[2]6K7G, 6A8G, [2]6Q7G, 6U5, 6J5G, [2]6V6G, 5Y3G	465	
	Sil.	‡	A1MP				14808	1	WE3050							
							16703	‡	BB13							
4687	Vol.	20	TM246-SS1	M26			13903	3	WE3050				12	6B8G, 6L7G, 6J5G, 6J7G,[2]6K7G,6H6G, 6U5, 6C8G, [2]6V6G, 5X4G	465	
							14808	3	WE3050							
							15117	‡	BB41							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—	Continued															
4688	Vol.	20	TM240-SS16	M26			88679 89937 111689 110377	3 3 15 15	RS216 WE3050 BB15 BB12				14	²⁶K7G, 6L7G, ²⁶C5G, ²⁶H6G, 6J7G, 6U5, ²⁶V6G, 5U4G	465	9-61,74
4700	Vol.	18	UM157-SS3				2021 .01	1 Buffer	2N518 B14		294	C3	5	6A8G, 6K7G, 6Q7G, 6V6G, 6X5G	456	9-80
4720	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	8-77
4722	Vol.	17	MR53	M27			110804 110377 .01	1 ‡ Buffer	2N518 BB12 B14		246	C3	4	1C7G, 1D5GP, 6T7G, 1F5G	465	9-45
4723	Vol.	17	MR55	M27			110804 110377 .01	1 ‡ Buffer	2N518 BB12 B14		246	C3	6	1H4G, 6D8G, 1D5GP, 6T7G, 1F5G, 6AB5	465	
4724	Vol.	45	MR55	M27									6	1C7G, ²1D5GP, ²1H4G, 1J6G	465	8-78
4726	Vol.	45	Order from	Mfr.			16259	12/13	2N502				6	1C7G, ²1D5GP, ²1H4G, 1J6G	465	
4728	Vol.	56	Order from	Mfr.			15803	12/13	2N502				8	²1D5GP, 1C7G, 1H6G, 1H4G, ²1J6G	465	
4730	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	465	8-77
4740	Vol.	17	Order from	Mfr.			16473 .012	1/13 Buffer	3S582/BB33 B14		246	C3	7	²1D5GP, 1C7G, 1F7G, 1H4G, 1J6G, 6AB5	465	
4743	Vol.	17	MR55	M27			110804 110377 .01	1 ‡ Buffer	2N518 BB12 B14		246	C3	6	1H4G, 6D8G, 1D5GP, 6T7G, 1F5G, 6AB5	465	
4746	Vol.	45	Order from	Mfr.			16259	12/13	2N502				6	1C7G, ²1D5GP, ²1H4G, 1J6G	465	
4748	Vol.	56	Order from	Mfr.			15803	12/13	2N502				8	²1D5GP, 1C7G, 1H6G, 1H4G, ²1J6G	465	
4750	Vol.	17	Order from	Mfr.			16473 .012	1/13 Buffer	3S582/BB33 B14		246	C3	7	²1D5GP, 1C7G, 1F7G, 1H4G, 1J6G, 6AB5	465	
4760	Vol.	18	MR55	M26			16355	1/13/15	3S570/BB33				5	6A8G, 6K7G, 6B6G, 25L6G, 6X5G	465	
4761	Vol.	18	MR55	M26			16355	1/13/15	3S570/BB33				5	6A8G, 6K7G, 6B6G, 25L6G, 6X5G	465	9-75
4762	Vol.	18	MR55	M26			16892 17053	9/13/15 9	3S572/BB31 BB34				5	6A8G, 6K7G, 6B6G, 25L6G, 25Z6G	465	
4763 (101.471)	Vol.	18	MR55	M26			14573 16570	25 25/13	RS216 2N518				6	6A8G, 6K7G, 6B6G, 6V6G, 6U5, 6X5G	465	
4763 (100.158)	Vol.	17	MR53	M26			89937 110974 110377	1 1/13 19/20	WE3050 2N518 BB12				6	6A8G, 6U7G, 6Q7G, 6K6G, 6U5, 5W4G	465	
4764	Vol.	18	MR55	M26			14573 16570	1 1/13	RS216 2N518				7	²6K7G, 6A8G, 6B6G, 6V6G, 6U5, 6X5G	465	
4765	Vol.	18	MR55	M26			13903 14360	1 1	WE3050 WE1830				8	²6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
4766	Vol. Sil.	17 ‡	TM246-SS1 A1MP	M26			13903 14808 16703	1 1 ‡	WE3050 WE3050 BB13				10	²6K7G, 6A8G, ²6Q7G, 6U5, 6J5G, ²6V6G, 5Y3G	465	
4767	Vol.	18	MR55	M26			13903 14360	1 1	WE3050 WE1830				8	²6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
4769	Vol.	18	MR55	M26			13903 14360	1 1	WE3050 WE1830				8	²6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
4770	Vol.	18	MR55	M26			16355	1/13/15	3S570/BB33				5	6A8G, 6K7G, 6B6G, 25L6G, 6X5G	465	
4771	Vol.	18	MR55	M26			16355	1/13/15	3S570/BB33				5	6A8G, 6K7G, 6B6G, 25L6G, 6X5G	465	9-75
4772	Vol.	18	MR55	M26			16892 17053	9/13/15 9	3S572/BB31 BB34				5	6A8G, 6K7G, 6B6G, 25L6G, 25Z6G	465	
4776	Vol.	20	‡		See Note A19		11203 5212 14377	25 25 13	SR644 WE1830 RS216				6	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G, 6U5	460	9-77
4777	Vol.	18	MR55	M26			13903 14360	1 1	WE3050 WE1830				8	²6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
4781	Vol.	18	TM246-SS1	M26			13903 14808	1 1	WE3050 WE3050				10	²6K7G, 6L7G, ²6J5G, 6Q7G, ²6V6G, 6U5, 5Y3G	465	
4783	Vol.	18	MR55	M26			14573 16570	25 25/13	RS216 2N518				7	²6K7G, 6A8G, 6B6G, 6V6G, 6U5, 6X5G	465	9-59
4784	Vol.	18	MR55	M26			14573 16570	1 1/13	RS216 2N518				7	²6K7G, 6A8G, 6H6G, 6V6G, 6U5, 6X5G	465	
4785	Vol.	18	MR55	M26			13903 14360	1 1	WE3050 WE1830				8	²6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
4786 (100)	Vol. Sil.	20 8	TM249-SS1 A1MP	M26			111726 111727 111708	1 1 ‡	WE3050 WE3050 BB13				10	²6K7G, 6A8G, ²6Q7G, 6J5G, ²6V6G, 5Y3G, 6U5	465	
4786	Vol. Sil.	17 ‡	TM246-SS1 A1MP	M26			13903 14808 16703	1 1 ‡	WE3050 WE3050 BB13				10	²6K7G, 6A8G, ²6Q7G, 6U5, 6J5G, ²6V6G, 5Y3G	465	
4787	Vol.	20	TM246-SS1	M26			13903 14808 15117	3 3 ‡	WE3050 WE3050 BB31				12	6B8G, 6L7G, 6J5G, 6J7G, ²6K7G, 6H6G, 6U5, 6C8G, ²6V6G, 5X4G	465	
4788	Vol.	20	TM240-SS16	M26			16, 16 89937 111689 110377	3 3 15 15	RS216 WE3050 BB15 BB12				14	²6K7G, 6L7G, ²6C5G, ²6H6G, 6J7G, 6U5, ²6V6G, 5U4G	465	9-61,74
4789	Vol.	18	MR55	M26			13902 14360	1 1	WE3050 WE1830				8	²6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	
4790	Vol. Sen.	20 8	‡ A1MP		See Note A19		13903 14808 16703	1 1 15	WE3050 WE3050 BB13				10	²6K7G, 6A8G, ²6Q7G, 6J5G, ²6V6G, 5Y3G, 6U5	465	9-57
4791, 4792	Vol. Sil.	17 ‡	TM246-SS1 A1MP	M26			13903 14808 16703	1 1 ‡	WE3050 WE3050 BB13				10	²6K7G, 6A8G, ²6Q7G, 6U5, 6J5G, ²6V6G, 5Y3G	465	
4796	Vol.	17	‡		See Note A19		14814 14813	25 25/13	SR644 2S569				6	6A8G, 6K7G, 6Q7G, 6F6G, 6U5, 5Y3G	460	
4798	Vol.	18	MR55	M26			13903 14360	1 1	WE3050 WE1830				8	²6K7G, 6J5G, 6L7G, 6B6G, 6V6G, 6U5, 5Y3G	465	

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—	Continued															
4799	Vol.	20	TM240-SS16	M26			16, 16	3	RS216				14	[3]6K7G, 6L7G, [3]6C5G, [3]6H6G, 6J7G, 6U5, [3]6V6G, 5U4G	465	9-61,74
							89937	3	WE3050							
							111689	15	BB15							
							110377	15	BB12							
5280, 5281, 5282	Mic.	15	MR48				8-8	24	2N518				7	[3]6N7, [3]6J7, [3]6B6, 5V4		
	Phono.	63	MR39				12-12	24	2S568							
	Tone	22	L													
5689, 5690	Mic.	16	MR33				1250	1	HD684				3	77, 6B5, 80		
	Tone	21	MR53	M26			4238	1	HD684							
	Phono.	63	MR39													
5691, 5692	Mic.	50	MR53				4194	1	SR643				5	[3]6C6, [3]6B5, 80		
	Phono.	63	MR48				4165	15	BB15							
	Tone	21	MR53	M26			4194	1	SR643				7	[3]6J7, 6C5, [3]6L6, 5Z3		
5693, 5694	Mic.	15	L				4165	15	BB15							
	Phono.	63	N													
	Tone	21	O	6			4224	15	BB14/BB15							
5695	Vol.	63	N													
	Tone	‡	N	6												
5697, 5698	Mic.	15	MR53				4194	1	SR643				6	[3]6J7, [3]6N7, 5Z3		
	Tone	21	MR53	M26			4165	15	BB15							
	Phono.	63	MR48													
5710, 5710A, 5711, 5711A	Vol.	18	MR53				29-266	1/13	2S567				10	[3]6K7, 6L7, 6J5G, 6Q7G, 6V6G, 80, 6J7G, 6U5	465	
	Tone	21	MR48				17-266	1	RS213							
	BFO.	‡	MR48													
	Gain	7	E													
5727	Vol.	18	MR53				17-266	1	RS213				12	[3]6K7, 6L7, [3]6J5G, 6Q7G, [3]6V6G, [3]6J7G, 80	165	
	Tone	22	MR48				29-266	1/13	2S567							
	BFO.	‡	MR48													
	Gain	7	E	6												
	Meter	7	E													
5732	Mic.	15	O				4194	1	SR643				4	6C5, [3]6J7, 5U4		
	Phono.	63	N				4165	15	BB15							
	Tone	21	O				4224	15	BB14/BB15							
5737	Mic.	15	MR39				3056	24	2N518				6	6J7, [3]6N7, [3]6L6, 6W5		
	Tone	‡	N				3064	24	2S568							
	Phono.	63	MR33				3061	15	TN111							
							3059	15	BB12							
5752, 5753	Vol.	18	MR53				30-266	1	FPD231				9	[3]6K7, 6K8G, 6Q7G, 6V6G, [3]6J7G, 80	465	
	Tone	22	MR48				31-266	13	FPD231							
	Gain	7	E													
	Meter	7	MR14													
5789	Mic.	‡	G12	6			4194	‡	SR643				3	[3]6L6, 5Z3		
							1002	15	BB14							
5790	Mic.	15	L				4194	1	SR643				7	[3]6J7, 6C5, [3]6L6, 5Z3		
	Phono.	63	N				4165	15	BB15							
	Tone	21	O	6			4224	15	BB14/BB15							
5791, 5792	Mic.	50	MR53				4194	1	SR643				5	[3]6C6, [3]6B5, 80		
	Phono.	63	MR48				4165	15	BB15							
	Tone	21	MR53	M26												
5793	Mic.	15	L				4194	1	SR643				7	[3]6J7, 6C5, [3]6L6, 5Z3		
	Phono.	63	N				4165	15	BB15							
	Tone	21	O	6			4224	15	BB14/BB15							
5797	Mic.	15	MR53				4194	1	SR643				6	[3]6J7, [3]6N7, 5Z3		
	Tone	21	MR53	M26			4165	15	BB15							
	Phono.	63	MR48													
6000	Vol.	18	UM157		See Note A96		17567	24/13	3S584		852	C3	6	[3]6U7G, 6A8G, 6B8G, 6V6G, 0Z4G or 6X5G	262	
							.005		Buffer	B14						
6001	Vol.	18	‡		See Note A19		17576	24/13	3S584/TN111		852	C3	7	[3]6U7G, 6A8G, 6R7G, 6N7G, 0Z4G or 6X5G	262	
							.005		Buffer	B14						
6002	Vol.	18	MR48	M26			112883	60	3S584				6	6A8G, 6K7G, 6Q7G, 6K6G, 5W4G, 6U5	465	
6003, 6004	Vol.	45	MR55				13903	1	WE3050				8	6A8G, 6J5G, 6U7G, 6H6G, 6F5G, 6V6G, 6U5, 5Y3G	465	
							14808	1	WE3050						455	
6005	Vol.	17	MR55				18184	1/15	3S570		246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GV, 6G6G, 6AB5	465	
							18672	‡	BB15							
							.009-.009		Buffer	B14						
6008, 6009	Vol.	17	Order from Mfr.				18559	13	BB21				7	1C7G, 1D5GP, 1F7GH, [3]1H4G, 4A6G	465	
							18560	13	BB21							
6010	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7GH, 1G5G	465	
6012, 6013	Vol.	45	MR55				16259	12/13	2N502				6	1C7G, [3]1H4G, 1F7GH, 1G5G	465	
6014, 6015	Vol.	17	MR55	M27			16259	13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	455	
6016, 6017	Vol.	17	Order from Mfr.				16259	12/13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	465	
6018, 6019	Vol.	17	Order from Mfr.				18559	13	BB21				7	1C7G, 1D5GP, 1F7GH, [3]1H4G, 4A6G	455	
							18560	13	BB21						465	
6021	Vol.	18	MR48	M26			112883	60	3S584				6	6A8G, 6K7G, 6Q7G, 6K6G, 5W4G, 6U5	465	
6022	Vol.	45	MR55				18256	1/15	2S562/2N504	B181			7	6J8G, 6U7G, 6H6G, 6B6G, 25L6G, 6U5, 25Z6G	465	
6023	Vol.	17	MR55				18161	1/15	TN127				6	6J8G, 6U7G, 6B6G, 25L6G, 6U5, 25Z6G	465	
6024	Vol.	45	MR55				13903	1	WE3050				8	6A8G, 6J5G, 6U7G, 6H6G, 6F5G, 6V6G, 6U5, 5Y3G	465	
							14808	1	WE3050						455	
6025	Vol.	45	MR55				18869	1/15	2S562/2N504	B181			7	6J8G, 6U7G, 6J5G, 6F5G, 25L6G, 6U5, 25Z6G	455	
6028	Vol.	18	MR44	M26T			31099	1	2S568				5	6A8, 6K7, 6Q7G, 6K6G, 5Y3G	455	
6031	Vol.	18	MR48	M26			112883	60	3S584				6	6A8G, 6K7G, 6Q7G, 6K6G, 5W4G, 6U5	465	
6034	Vol.	45	MR55				13903	1	WE3050				8	6A8G, 6J6G, 6U7G, 6H6G, 6F5G, 6V6G, 6U5, 5Y3G	465	
							14808	1	WE3050						455	
6036	Vol.	20	‡		See Note A19		13903	1	WE3050				10	[3]6U7G, 6A8G, [3]6J5G, 6Q7G, [3]6V6G, 6G5, 5Y3G	465	
							14808	1	WE3050						455	
6038	Vol.	45	‡		See Note A19		13903	3	WE3050				13	[3]6B8G, [3]6J5G, 6A8G, [3]6U7G, 6H6G, [3]6V6G, 6AE6G, 6AD6G, 5X4G	465	
							14808	3	WE3050						455	

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—Continued																
6040	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7GH, 1G5G	465	
6042, 6043	Vol.	45	MR55				16259	12/13	2N502				6	1C7G, [3]1H4G, 1F7GH, 1G5G	465 455	
6044	Vol.	17	MR55	M27			16259	13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	465 455	
6045	Vol.	17	MR55	M27			16259	13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	465 455	
6046, 6047	Vol.	17	Order from	Mfr.			16259	12/13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	465	
6048, 6049	Vol.	17	Order from	Mfr.			18559 18560	13 13	BB21 BB21				7	1C7G, 1D5GP, 1F7GH, [3]1H4G, 4A6G	465	
6052, 6053	Vol.	45	MR55				16259	12/13	2N502				6	1C7G, 1F7GH, [3]1H4G, 1G5G	465 455	
6054, 6055	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7GH, 1G5G	465	
6056, 6057	Vol.	17	MR55				19891	‡	BB22				5	1C7G, 1F7GH, [3]1H4G, 1G5G	455	
6058, 6059	Vol.	17	MR55	M27			16259	13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	455	
6064	Vol.	17	MR55	M27			16259	13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	465 455	
6050, 6051 (101.503-1)	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1F7G, 1G5G	455	
6065	Vol.	17	MR55	M27			16259	13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	455	
6068, 6069	Vol.	17	Order from	Mfr.			18559 18560	13 13	BB21 BB21				7	1C7G, 1D5GP, 1F7GH, [3]1H4G, 4A6G	465	
6070	Vol.	18	MR44	M27			113422 110377 .01	1 ‡ —	2N516 BB12 Buffer	B14	246	C3	5	1C7G, 1D5GP, 6T7G, 1F5G, 6AB5	465	
6071	Vol.	17	MR55				18184 18672 .009-.009	1/15 ‡ —	3S570 BB15 Buffer	B14	246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GV, 6G6G, 6AB5	465	
6072	Vol.	17	MR55				18493 18672 .009-.009	1/15 ‡ —	3S570 BB15 Buffer	B14	246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GV, 6G6G, 6AB5	465	
6073	Vol.	18	Order from	Mfr.			18938 .012	1/15 —	3S572 Buffer	B14	294	C3	6	6D8G, 6S7G, 6T7G, 6AB5, 6G6G, 6ZY5G	465	
6074	Vol.	17	Order from	Mfr.			18714 .012	1/13/15 —	3S572/BB31 Buffer	B14	294	C3	6	6D8G, 15, 6T7G, 6L5G, 1J6G, 6AB5	465	
6076	Vol.	17	MR55				18184 18672 .009-.009	1/15 ‡ —	3S570 BB15 Buffer	B14	246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GV, 6G6, 6AB5	465	
6077	Vol.	18	MR55				18493 18672 .009-.009	1/15 ‡ —	3S570 BB15 Buffer	B14	246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GV, 6G6G, 6AB5	465	
6079	Vol.	17	Order from	Mfr.			18714 .012	1/13/15 —	3S572/BB31 Buffer	B14	294	C3	6	6D8G, 15, 6T7G, 6L5G, 1J6G, 6AB5	465	
6100	Vol.	18	UM157		See Note	A96	17567 .005	24/13 —	3S584 Buffer	B14	852	C3	6	[26]U7G, 6A8G, 6H8G, 6V6G, 0Z4G	262	
6101	Vol.	18	‡		See Note	A19	17576 .005	24/13/15 —	3S584/TN111 Buffer	B14	852	C3	7	[36]U7G, 6A8G, 6R7G, 6N7G, 0Z4G or 6X5G	262	
6102, 6102A, 6103, 6103A	Vol.	6	MR21	M26	EX150		17761	1/15	TN127				5	[26]D6, 6F5G, 25L6G, 12Z3		
6104	Vol.	18	MR48	M26			31598 .0075	24/15 —	3S579 Buffer	B14	850	C3	5	6A8, 6K7, 6Q7, 6F6, 6X5	455	
6105, 6105A	Vol.	6	MR21	M26	EX150		17761	1/15	TN127				5	[26]D6, 6F5G, 25L6G, 12Z3		
6106, 6107, 6108	Vol.	8	MR22	M26			5780 5779	25 25	BB25 BB21				4	12K7GT, 12F5GT, 35L6GT, 35Z4GT		
6109, 6110, 6111	Vol.	6	MR21	M26	EX150		18823	1/15	3S575				5	[26]K7, 6J7, 25A6G, 1V		
6112, 6113	Vol.	6	MR21	M26	EX150		18823	1/15	3S575				5	[26]K7, 6J7, 25A6G, 1V		
6114, 6115	Vol.	6	MR21	M26	EX150		18823 8	9 9	3S575 BB31				5	[26]K7, 6J7, 25A6G, 25Z6G		
6116	Vol.	8	MR22	M26			5780 5779	25 25	BB25 BB21				4	12K7GT, 12F5GT, 35Z7GT, 35Z4GT		
6118	Vol.	6	MR21	M26	EX150		18823	1/15	3S575				5	[26]K7, 6J7, 25Z6G, 1V		
6119, 6120	Vol.	18	MR48				19845 19913	9/15 9	TN127 BB24				6	6J8G, 6U7G, 6B6G, 25B6G, 6U5, BK42B, 25Z6G	455	
6121	Vol.	18	MR48	M26			112883	60	3S584				6	6A8G, 6K7G, 6Q7G, 6K6G, 6U5, 5W4G	465	
6122	Vol.	45	MR55				18256	1/15	2S562/2N504	B181			7	6J8G, 6U7G, 6H6G, 6B6G, 25L6G, 6U5, 25Z6G	465	
6123	Vol.	17	MR55				18161	1/15	TN127				6	6J8G, 6U7G, 6B6G, 25L6G, 6U5, 25Z6G		
6124	Vol.	45	MR55				13903 14808	1 1	WE3050 WE3050				8	6A8G, 6J5G, 6U7G, 6H6G, 6F5G, 6V6G, 6U5, 5Y3G	465 455	
6125	Vol.	17	MR55				18869	1/15	2S562/2N504	B181			6	6J8G, 6U7G, 6B6G, 25L6G, 6U5, 25Z6G	465	
6126, 6127	Vol.	18	MR48				19845 19913	9/15 9	TN127 BB24				6	6J8G, 6U7G, 6B6G, 25B6G, 6U5, 25Z6G, BK42B	455	
6128	Vol.	45	MR55				18869	1/15	2S562/2N504	B181			7	6J8G, 6U7, 6J5G, 6F5G, 25L6G, 6U5, 25Z6G	455	
6130	Vol.	18	MR48				19845 19913	9/15 9	3N534 BB24				6	6J8G, 6U7G, 6B6G, 25B6G, 6U5, 25Z6G, BK42B	455	
6131	Vol.	18	MR48	M26			112883	60	3S584				6	6A8G, 6K7G, 6Q7G, 6K6G, 5W4G, 6U5	465	
6132	Vol.	45	MR55				18256	1/15	2S562/2N504	B181			7	6K8G, 6U7G, 6H6G, 6B6G, 25L6G, 6U5, 25Z6G	465	
6133	Vol.	45	MR55				19192	1/15	Order from	Mfr.			8	6J8G, 6U7G, [26]J5G, 6F5G, 6Y5G, 6U5, 6W5G	455	
6134	Vol.	45	MR55				13903 14808	1 1	WE3050 WE3050				8	6A8G, 6J5G, 6U7G, 6H6G, 6F5G, 6V6G, 6U5, 5Y3G	465 455	

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—Continued																
6136	Vol.	20	‡		See No	te A19	13903 14808	1 1	WE3050 WE3050				10	[2]6U7G, 6A8G, [2]6H5G, 6Q7G, [2]6H6G, [2]6V6G, 6G5, 5Y3G	465 455	
6137	Vol.	45	MR55				19192	1/15	Order from	Mfr.			8	6J8G, 6U7G, [2]6J5G, 6F5G, 6Y5G, 6U5, 6W5G	455	
6138	Vol.	45	‡		See No	te A19	13903 14808	3 3	WE3050 WE3050				13	[2]6B8G, [2]6J5G, 6A8G, [2]6U7G, 6H6G, [2]6V6G, 6AE6G, 6AD6G, 5X4G	465 455	
6139	Vol.	45	MR55				19192	1/15	Order from	Mfr.			8	6K8G, 6U7G, [2]6J5G, 6F5G, 6Y5G, 6U5, 6W5G	455	
6140	Vol.	20	‡		See No	te A19	13903 19079	1 1	WE3050 WE1830				10	6A8G, [2]6J5G, 6U7G, 6H6G, 6Q7G, [2]6V6G, 6U5, 5Y3G	465	
6141	Vol.	45	MR55				19192	1/15	Order from	Mfr.			8	6J8G, 6U7G, [2]6J5G, 6F5G, 6Y5G, 6U5, 6W5G	455	
6142	Vol.	45	MR55				16259	12/13	2N502				6	1C7G, [3]1H4G, 1F7GH, 1G5G	465 455	
6144	Vol.	17	MR55	M27			16259	13	2N502				6	[1]C7G, 1F7GH, [3]1H4G, 4A6G	465 455	
6146	Vol.	17	Order from	Mfr.			16259	12/13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	465	
6148	Vol.	17	Order from	Mfr.			18559 18560	13 13	BB21 BB21				7	1C7G, 1D5GP, 1F7GH, [3]1H4G, 4A6G	465	
6150 (101.503-1)	Vol.	17	MR55	M27									4	1C7G, 1D5GP, 1C7G, 1G5G	455	
6151	Vol.	18	MR48				20721 20722	9 9/15	BB25 3N534				6	6J8G, 6U7G, 6B6G, 25B6G, 6U5, 25Z6G	455	
6152, 6153	Vol.	20	‡		See No	te A19	13903 19079	1 1	WE3050 WE1830				10	6A8G, [2]6J5G, 6U7G, 6H6G, 6Q7G, [2]6V6G, 6U5, 5Y3G	465	
6155, 6156	Vol.	20	‡		See No	te A19	13903 19079	1 1	WE3050 WE1830				11	6A8G, [2]6J5G, 6U7G, 6Q7G, [2]6V6G, 6U5, 5Y3G	455	
6157	Vol.	20	‡		See No	te A19	113261 89937 110377	25 25 15	WE3050 WE3050 BB12				11	6A8G, [2]6J5G, [2]6K7G, 6H6G, 6F5G, [2]6F6G, 5Y3G, 6U5	465	
6158, 6159	Vol.	20	2 Meg. No. 1		See No	te A19	13903 14808	1 1	WE3050 WE3050				11	[2]6U7G, 6A8G, [2]6J5G, 6Q7G, [2]6V6G, 6U5, 5Y3G	455	
6160, 6161	Vol.	18	MR48	M26			5780 5893	4 4	BB25 BB22				5	6A8, 6K7, 6Q7, 25L6, 25Z6	455	
6162	Vol.	18	MR48										6	6A7, 6D6, 75, 76, [2]48	465	
6163	Vol.	18	MR48	M26			5780 5893	4 4	BB25 BB22				5	6A8, 6K7, 6Q7, 25L6, 25Z6	455	
6164	Vol.	17	MR55	M27			16259	13	2N502				6	1C7G, 1F7GH, [3]1H4G, 4A6G	465 455	
6165, 6166, 6167	Vol.	8	MR21	M26			5780 5779	23 23	BB25 BB21				4	6K7, 6F5, 25L6, 25Z6		
6170	Vol.	18	MR44	M27			113422 110377 .01	1 ‡ 	2N516 BB12 Buffer	 B14	246	C3	5	1C7G, 1D5GP, 6T7G, 1F5G, 6AB5	465	
6171	Vol.	17	MR55				18184 18672 .009-.009	1/15 ‡ 	3S570 BB15 Buffer	 B14	246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GV, 6G6G, 6AB5	465	
6172	Vol.	17	MR55				18493 18672 .009-.009	1/15 ‡ 	3S570 BB15 Buffer	 B14	246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GV, 6G6G, 6AB5	465	
6173	Vol.	18	Order from	Mfr.			18938 .012	1/15 	3S572 Buffer	 B14	294	C3	6	6A8G, 6S7G, 6T7G, 6AB5, 6G6G, 6ZY5G	465	
6175	Vol.	18	MR48	M26			5780 5893	4 4	BB25 BB22				5	6A8, 6K7, 6Q7, 25L6, 25Z6	455	
6176	Vol.	17	MR55				18184 18672 .009-.009	1/15 ‡ 	3S570 BB15 BB15	 	246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GV, 6G6G, 6AB5	465	
6177, 6178, 6179	Vol.	18	MR48	M26			5780 5893	4 4	BB25 BB22				5	12A8GT, 12K7GT, 12Q7GT, 35L6GT, 35Z4GT	455	
6177A, 6178A, 6179A	Vol.	18	MR48	M26			5780 5893	4 4	BB25 BB22				5	12A8GT, 12K7GT, 12Q7GT, 35L6GT, 35Z4GT	455	
6185	Vol.	18	MR48	M26			5780 5893	4 4	BB25 BB22				5	12A8GT, 12K7GT, 12Q7GT, 35L6GT, 35Z4GT	455	
6185A	Vol.	18	MR48	M26			5780 5893	4 4	BB25 BB22				5	12A8GT, 12K7GT, 12Q7GT, 35L6GT, 35Z4GT	455	
6192	Vol.	20	2 Meg. No. 1		See No	te A19	16259	13	2N502				11	[2]6U7G, 6A8G, [2]6J5G, 6Q7G, [2]6V6G, 6U5, 5Y3G	455	
6193	Vol.	45	‡		See No	te A19	13903 14808	3 3	WE3050 WE3050				13	[2]6B8G, [2]6J5G, 6A8G, [2]6U7G, 6H6G, [2]6V6G, 6AE6G, 6AD6G, 5X4G	455	
6195, 6196, 6197	Vol.	8	MR22	M26			5295	23	2P549				4	6K7, 6J7, 25L6, 25Z6		
6199	Vol.	45	MR55				19192	1/15	Order from	Mfr.			8	6K8G, 6U7G, [2]6J5G, 6F5G, 6Y5G, 6U5, 6W5G	455	
6200	Vol.	18	MR48				19845 19913	9/15 9	TN127 BB24				6	6J8G, 6U7G, 6B6G, 25B6G, 6U5, 25Z6G, BK42B	455	
6201	Vol.	45	MR55				18869	1/15	2S562/2N504	B181			7	6J8G, 6U7G, 6J5G, 6F5G, 25L6G, 6U5, 25Z6G	455	
6202, 6203	Vol.	45	MR55				19192	1/15	Order from	Mfr.			8	6J8G, 6U7G, [2]6J5G, 6F5G, 6Y5G, 6U5, 6W5G	455	
6208, 6209	Vol.	18	Order from	Mfr.			16259	12/13	2N502				7	1D7G, [3]1H4G, 1F7GH, 1H6G, 4A6G	455	
6210	Vol.	18	MR44	M27			113422 110377 .01	1 ‡ 	2N516 BB12 Buffer	 B14	246	C3	5	1C7G, 1D5GP, 6T7G, 1F5G, 6AB5	465	
6214	Vol.	17	Order from	Mfr.			19788 18672 .009-.009	1/15 ‡ 	3S570 BB15 Buffer	 B14	246	C3	6	1C7G, 1H4G, 1D5GP, 1F7GH, 6G6G, 6AB5	455	

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—	Continued															
6218	Vol.	18	Order from	Mfr.			18938 .012	1/15	3S572 Buffer	 B14	294	C3	7	6D8G, 6S7G, 6T7G, 6L5G, 6AB5, 6G6G, 6ZY5G	455	
6225	Vol.	6	MR48	M26			01482	24	2N514				3	6K8, 6B8, 25Z6	1570	
6226	Vol.	50	‡		See Note	A5	16 8	24 24	BB24 BB21				2	6A7, 25Z5		
6250	Vol.	18	MR48				19815 19913	9/15 9	TN127 BB24				6	6J8, 6U7G, 6B6G, 25B6G, 6U5, 25Z6G, BK42B	455	
6251	Vol.	45	MR55				18869	1/15	2S562/2N504	B181			7	6J8G, 6U7G, 6J5G, 6F5G, 25L6G, 6U5, 25Z6G	455	
6252, 6253	Vol.	45	MR55				19192	1/15	Order from	Mfr.			8	6J8G, 6U7G, [6]J5G, 6F5G, 6Y5G, 6U5, 6W5G	455	
6254	Vol.	20	‡		See Note	A19	13903 19079	1 1	WE3050 WE1830				11	6A8G, [6]J5G, 6U7G, 6Q7G, [6]V6G, 6U5, 5Y3G	455 455	
6256	Vol.	18	MR48	M27									4	1A7, 1B5, 1H5, 1C5	455	
6260	Vol.	18	MR48	M27			18560	12	BB21				4	1A7G, 1N5G, 1H5G, 1A5G	455	
6261	Vol.	18	MR48				19891	12	BB22				5	1A7G, [3]1N5G, 1H5G, 1A5G	455	
6262	Vol.	18	MR48				19891	12	BB22				5	1A7G, [3]1N5G, 1H5G, 1A5G	455	
6263	Vol.	18	Order from	Mfr.			19891	24	BB22				6	1A8G, [3]1N5G, 1H5G, 1G4G, 1G6G	455	
6264, 6265	Vol.	18	Order from	Mfr.			19891	24	BB22				6	1A7G, 1H5G, [3]1N5G, 1G4G, 1G6G	455	
6266	Vol.	18	MR48	M27			19891	12	BB22				4	1A7G, 1N5G, 1H5G, 1C5G	455	
6270	Vol.	17	Order from	Mfr.			19788 18672 .009-.009 18938 .012	1/15 ‡ 1/15 	3S570 BB15 Buffer 3S572 Buffer	 B14 B14	246 294 	C3 C3 	6 7 	1C7G, 1H4G, 1D5GP, 1F7GH, 6G6G, 6AB5 6D8G, 6S7G, 6T7G, 6L5G, 6AB5, 6G6G, 6ZY5G	455 455	
6271, 6272	Vol.	18	Order from	Mfr.												
7000, 7001, 7002, 7012	Vol.	109	N	6			7078	4	RS216				10	[3]27, [3]35, [3]24A, [3]47, 80	175	
	Tone	22	K12				7051	4	RS213							
7003	Vol.	8	G	6	EX150		P1632	28	RS213	B3			10	[3]51, [3]27, [3]47, 80	‡	
	Tone	44	L	6												
7004 (106)	Vol.	26	F	6			7078	34	RS216				8	[3]35, [3]24, 27, [3]47, 80	175	
	Tone	22	K12				7051	34	RS213							
7006	Vol.	8	F	6			7051	34	RS213				7	[3]51, [3]24, 27, 47, 80	175	
	Tone	22	K12													
7009 (101)	Vol.	6	H7		1		4758P	4	HD684				6	[3]24, 35, 47, 27, 80	175	2-14
7010, 7012, 7016 (106)	Vol.	109	N	6			7078	34	RS216				10	[3]27, [3]35, [3]24, [3]47, 80	175	
	Tone	22	K12				7051	34	RS213							
7020	Vol.	6	F7	6	2		7077	4	RS213				5	[3]24, 35, 47, 80	175	
	Tone	22	K12													
7021, 7022, 7023, 7024, 7025, 7026	Vol.	8	F	6			7051	34	RS213				7	[3]51, [3]24, 27, 47, 80	175	
	Tone	22	K12													
7030 (106)	Vol.	109	N	6			7078	34	RS216				9	[3]35, [3]24, [3]27, [3]47, 80	175	
	Tone	22	K12				7051	34	RS213							
7031, 7032, 7033, 7034, 7035, 7036, 7037	Vol.	109	N	6			7078	34	RS216				10	[3]27, [3]35, [3]24A, [3]47, 80	175	
	Tone	22	K12				7051	34	RS213							
7042	Vol.	6	G7	6	2		9110-0	25	2S567				5	55, 57, 58, 47, 80	175	
7043, 7044, 7045, 7046, 7047	Vol.	15	UC503				1-2-8	26	See Note	B1			10	[3]51 or [3]35, 57, [3]27, 56, [3]47 or PZ, 80	175	5-51,52
	Tone	34	L	6									5	[3]57, 58, 47, 80	175	5-53
7048	Vol.	6	G12				P4443	23	2S567				6	[3]51, 24A, 57, 47, 80	175	5-55,56
7049	Vol.	8	E				‡	26	See Note	B1						
	Tone	22	L	6									6	39, [3]36, [3]89, 80	175	7-1,2
7050	Vol.	6	H12				4758P	23	HD684							
	Tone	57	MR48										5	[3]38, 39, 36, 25Z5	262	
7055, 7055A, 7055L	Vol.	6	H7	6			9327	8	2N502							
							9372	8	BB20							
							9328	15	TN111							
7056	Vol.	6	H12				4758P	23	HD684				5	39, [3]36, 89, 80	175	6-13
7057, 7058	Vol.	6	H7	6	2		9442	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	265 or 465	
7060, 7060A	Vol.	6	H7	6			9327	8	2N502				5	[3]38, 39, 36, 25Z5	262	
							9372	8	BB20							
							9328	15	TN111							
7061, 7062	Vol.	68	D12	6			8053	29	CM165	B51			5	6A7, 6B7, 77, 43, 25Z5	175	4-1,2
							5	15	BB12							
7063	Vol.	15	UM154	M26		A96	1028-2	1	2N518		220B	C3	5	6A8, 6E7, 6B7, 41, 84	456	
	Tone	22	UM133		See Note	A96	1067-4	15	BB12							
7064	Vol.	6	UC509	6	EX300		R8313	23	CM162				4	78, 77, 43, 1V		4-3
7065	Vol.	7/18	DRP313				R7236	23	RS216				10	[3]78, 75, 37, [3]45, 6A7, 83V	175	4-22,23
	Tone	57	N				D4758P	23	HD684							
							R1114	‡	BB60							
7066	Vol.	15	UC503				8-12	34	See Note	B3			10	[3]58, 57, [3]56, [3]46, 80	175	5-57
	Tone	21	L													
7068	Vol.	56	UM154	M26		A96	9532	1	2S563		292	C3	6	[3]78, 6A7, 75, 41, 84	265	
							9328	15	BB12							
							.02		Buffer	B14						
7070, 7071, 7072, 7073, 7074	Vol.	56	N	6			R8431	4	2P542				5	6A7, 78, 6B7, 43, 1V	480	4-4,5
7075, 7076, 7077, 7078	Vol.	56	N	6			R8952	29	CM165	B51			5	6A7, 78, 6B7, 43, 25Z5	480	4-33,34
7080, 7081	Vol.	20	‡		See Note	A19	6-8	34	See Note	B3			14	[3]58, [3]56, [3]46, 82	175	
	Tone	22	L	6												
7082	Vol.	15	UM158-SS1				P4514	23	2S563				10	[3]58, 57, [3]56, [3]46, 80	175	
	Tone	21	L	6												
7083, 7083A, B, C, D	Vol.	15	M				50-10-8	11	See Note	B3			12	[3]6D6, 85, [3]47, [3]43, [3]25Z5	175	
	Tone	44	K12				8	13	BB21							
	Sen.	7	J													
7084	Vol.	6	K12				651	‡	UR193				4	6D7, 6E7, 43, 25Z5		
7085	Vol.	6	K12				21-804	11	UR182				5	[3]6E7, 6D7, 43, 25Z5		
7088	Vol.	15	UM147	M27		A96	9337	4	CM162		220B		6	G57AS, G58AS, G75, G89, G6Z5	456	
7090	Vol.	29	U				R8357	13/19	CS123/BB15				5	[3]951, 30, 950, Ballast No. 52	175	4-17
7090A	Vol.	29	U				R8357	13/19	CS123/BB15				5	[3]951, 30, 950, Ballast No. 52	480	5-5

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—Continued																
7091, 7092, 7093, 7094	Vol.	56	N	6			R8952	29	CM165	B51			5	6B7, 43, 78, 6A7, 25Z5	480	4-33,34
7100	Vol.	6	H12				4758P	25	HD684				7	57,‡58, 24A, 47, 56, 80	175	3-2
	Tone	57	N													
7101	Vol.	15	M				50-10-8	11	See Note	B3			12	‡6D6, 85, ‡47, ‡43, ‡25Z5	175	
	Tone	44	K12				8	13	BB21							
	Sen.	7	J													
7102	Vol.	6	K12				8-4	1	2N518				5	‡58, 57, 47, 80	456	
	Tone	22	K12				10	17	BB12							
7103	Vol.	7/18	DRP317				R7236	23	RS216				10	‡78, 6A7, 75, ‡45, 37, 83V	175	4-22
	Tone	57	N				D4758P	23	HD684							
							R1114	‡	BR60							
7106	Vol.	6	H7										5	‡32, 34, 30, 33, 5E1		
7108	Vol.	6	H12				9925	12	CS133				5	‡78, 77, 38, 37	465	
							9328	15	TN111							
7109	Vol.	15	M				50-10-8	11	See Note	B3			12	‡6D6, 85, ‡47, ‡43, ‡25Z5	175	
	Tone	44	K12				8	13	BB21							
	Sen.	7	J													
7110	Vol.	7	UC509	6			12-8-10	24/15	UR189	B189			4	78, 77, 38, 12Z3		5-58
7111	Vol.	18	MR48				P5961	28	3S584				8	‡58, 55, ‡56, 53, 80	175	
	Tone	22	‡		See Note	A5										
7111X, 7112, 7114	Vol.	6	SRP263	6			106	11	UR182	B31			5	6A7, 75, 6D6, 78, 43, 25Z5	456	5-63
7115	Vol.	7/18	DRP317				R7236	23	RS216				10	‡78, 6A7, 75, ‡45, 37, 83V	175	4-22
	Tone	57	N				D4758P	23	HD684							
							R1114	‡	BB60							
7116	Vol.	18	MR48				569	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	
7117	Vol.	17	UM154		See Note	A96	1138	1	2N518		271		4	6A7, 6D6, 6B7, 41	370	5-59,60
							9328	15	TN111							
7118	Vol.	62	N				R8488	23	HD684				8	‡78, ‡37, 42, 6A7, 83V	175	5-61,62
	Tone	147	N													
7119, 7120	Vol.	17	MR44	M26			9659	1	2N518				6	2A7, ‡58, 2A6, 2A5, 80	465	
	Tone	22	K12				1110	13	BB60							
							8876	15	BB12							
7121, 7122	Vol.	6	SRP263	6	EX300		156	1	2N518				4	58, 57, 2A5, 80		5-64
7123	Vol.	18	N	6			106	11	UR193				5	6A7, 78, 75, 43, 25Z5	456	5-30
7124	Vol.	18	N				156	1	2N518				7	‡58, 57, 2A6, 56, 2A5, 80	456	5-65
	Tone	22	K12	6			307	15	BB12							
7125	Vol.	15	‡		See Note	A5	9739	31	RS215				10	‡58, 2B7, 57, ‡56, ‡2A3, 5Z3	465	
	Tone	22	SRP263				9738	31/15	4S718							
	Sen.	7	‡		See Note	A5										
7126	Vol.	7	UC509				12-8-10	24/15	UR189	B189			4	77, 78, 38, 12Z3		5-66
7127	Vol.	18	MR48				156	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	
	Tone	22	K12	6			307	15	BB12							
7127 (revised)	Vol.	18	MR48				461	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	
	Tone	‡	‡		See Note	A5	307	15	BB12							
7128	Vol.	56	UM157		See Note	A96	R10264	23	CM172		294	C20	6	‡78, 6A7, 85, 41, 84	175	5-67,68
							.01-.01		Buffer	B14	296	C20				
7129	Vol.	45	MR48				4758P	23	HD684				8	6A7, ‡78, ‡37, 42, 83	480	
7130	Vol.	7	UC509				70	24/15	UR189	B189			4	78, 77, 38, 12Z3		5-66
7132	Vol.	18	N				156	1	2N518				7	‡58, 57, 2A6, 56, 2A5, 80	456	
	Tone	22	K12	6			307	15	BB12							
7133	Vol.	18	MR48				461	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	
	Tone	‡	‡		See Note	A5	307	15	BB12							
7134	Vol.	6	SRP263	6	EX300		156	1	2N518				4	58, 57, 2A5, 80		
							307	15	BB12							
7135	Vol.	58	UC509				205	8	TN122/BB12				4	78, 77, 43, 25Z5		5-17
7136, 7137	Vol.	18	MR48	M26			E156	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	7-64
7138	Vol.	45	MR48				4758P	23	HD684				8	6A7, ‡78, ‡37, 42, 83	480	
7139	Vol.	18	MR48	M26			461	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	
	Tone	‡	‡		See Note	A5	307	15	BB12							
7140	Vol.	18	MR48	M26			156	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	7-64
							307	15	BB12							
7141, 7142	Vol.	18	N				5-12-5	8	TN122				6	43, 75, ‡6D6, 6A7, 25Z5	456	6-50
7143	Vol.	18	N	6			156	1	2N518				9	‡58, 57, ‡56, ‡2A5, 80	456	
	Tone	149	K12													
7143A	Vol.	18	MR48	M26			E156	1	2N518				5	2A7, 58, 2A6, 2A5, 80	456	7-64
							307	15	BB12							
7144	Vol.	18	MR48				656	1	2N518				6	6A7, 6D6, 75, ‡42, 80	456	7-65
7145	Vol.	18	MR48	M26			R9204	23	RS213				5	6A7, 78, 75, 41, 84	480	
							R9397	23	RS213							
7146	Vol.	18	MR48	M26			R10601	29	UR190				5	6A7, 78, 75, 43, 25Z5	480	
7147	Vol.	29	U				R10673	13/19	2N516/BB17				5	‡951, 32, 30, 33, Ballast No. 30	175	5-42
	Tone	34	N													
7148	Vol.	18	N				4758P	23	HD684				6	‡78, 75, 42, 41, 80	480	
	Tone	107	N													
7149	Vol.	18	UM157		See Note	A96	R9743	1	2N518		220B	C13	6	‡78, 6B7, 41, 6A7, 84	175	
	Tone	22	N				R9144	15	BB12		296	C14				
							.01-.01		Buffer	B14						
7150	Vol.	18	MR48	M26			12-4	1	2S563				5	6A7, 6D6, 75, 42, 80	456	7-66
							10	15	BB12							
7151	Vol.	18	MR53				1624A	1	2N518				6	6A7, ‡78, 75, 42, 80	370	
	Tone	34	M	6												
7152	Vol.	7	UC509				205	8/15	TN122/BB12				4	78, 77, 43, 25Z5		
7153	Vol.	6	Y	6			156	1	2N518				4	58, 57, 2A5, 80		7-9
							307	15	BB12							
7154	Vol.	18	N	6			504	1	2N518				6	6A7, 6D6, 75, ‡42, 80	456	7-66
							10	15	BB12							
7155	Vol.	18	MR48	M26			650	1	2N518				6	6A7, 6D6, 75, ‡42, 80	456	7-67
	Tone	22	K12				10	15	BB12							
7156	Vol.	18	N				1809	4	2S567		294	C3	6	‡6D6, 6A7, 75, 41, 84	175	
							.015		Buffer	B14						
7157	Vol.	18	UM154		See Note	A96	8-4	1	2N518		294	C3	5	77, 78, 75, 41, 84	456	7-4
							.02		Buffer	B14						
7158	Vol.	18	MR48	M26			12-4	1	2S563				6	6A7, 6D6, 75, ‡42, 80	456	7-68
							10	15	BB12							
7159	Vol.	18	MR53				1624A	1	2N518				6	6A7, ‡78, 75, 42, 80	370	
	Tone	34	M	6												
7160	Vol.	18	N	6			106	8	UR193				5	6A7, 78, 75, 43, 25Z5	456	5-30
7161, 7162	Vol.	18	MR48	M26			656	1	2S563				6	6A7, 6D6, 75, ‡42, 80	456	
	Tone	22	‡		See Note	A5	56A	15	BB12							
7163	Vol.	18	UM154	M26		A96	1188	1	2N518		294	C3	5	6A7, 6D6, 6B7, 41, 84	370	
							8876	15	BB12							
							.02		Buffer	B14						
7164	Vol.	106	O				4758P	28	HD684				14	‡78, 75, ‡45, ‡37, 41, 5Z3	445	6-25
	Tone	106	O				R9237	13	RS216							
7165, 7165X	Vol.	7	UC509	6	A14		CA23	24/15	4S715				4	6D6, 6C6, 38, 12Z3		7-65
7166, 7166X	Vol.	98	UC509	6			CB23	6/15	4S715				4	6K7 or 6D6, 6C6, 43, 25Z5		7-63

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SEARS-ROEBUCK—Continued																
7166A	Vol.	7	UC509	6			102	1/15	4S715				5	[26]D6, 6J7, 43, 25Z5		
7167	Vol.	18	UM154	M26	See No	te A96	79B	1/15	3S579		294	C3	5	6A7, 6D6, 75, 41, 84	456	7-70
							.03		Buffer	B14						
7168	Vol.	6	H12	6	EX300		8812	4	CM164				5	[26]D6, 6J7, 43, 25Z5		7-69
							3003	15	BB12							
7169	Vol.	45	MR48	M26			P160	1	2N518				6	6A7, 6D6, 6H6, 6F5, 42, 80	456	
7170, 7170A	Vol.	18	MR44				A15313	25	RS216				7	6K7, 6D6, 6L7, 75, 76, 42, 80	262.5	
	Tone	22	L				A15237	25	RS215							
7171	Vol.	18	MR48	M26			8817	1	2N518				6	6A7, 6D6, 6H6, 6F5G, 42, 80	465	
							3003	15	BB12							
7172	Vol.	18	N				12-4	23	CM175				5	6A7, 6D6, 75, 42, 80	456	8-80
	Tone	34	K12	6												
7172X	Vol.	18	N	6			108E	4	BB24				5	6A7, 6D6, 75, 43, 25Z5	456	
	Tone	34	K12													
7173	Vol.	7	UC509	6			106E	24/15	UR193				4	6D6, 6C6, 38, 12Z3		9-81
7175	Vol.	106	N	6			R7236	23	RS216				11	[3]78, [3]37, 85, [2]47, 41, 80	480	6-32
	Tone	106	N				R8488	23	HD684							
7175A	Vol.	106	N	6			R7236	23	RS216				11	[3]78, [3]37, 85, [2]47, 41, 80	445	6-35
	Tone	106	N				R8488	23	HD684							
7176	Vol.	6	M	6			16-8-5	40/15	UR193				5	6K7, [2]76, 43, 25Z5		
7177	Vol.	6	MR18				206	4/15	2P546/BB12				5	[2]6D6, 6J7, 43, 25Z5		
7178	Vol.	6	‡	6	See No	te A5	106	4	UR193				4	6D6, 6C6, 43, 25Z5, 50B2		
7179, 7180	Vol.	17	MR48				8	1	BB61				7	6A7, 6D6, 6H6, 6C5, 41, 6E5, 80	480	
							5	5	BB12							
7181, 7182	Vol.	17	MR53	M26			8819	1	RS216				7	[2]6K7, 6L7, 6Q7, 6F6, 6C5, 5Y3	465	9-82,81
	Tone	34	N				8822	1	ST595							
							8821	15	TN111							
							8820	13	RS213							
7183	Vol.	7	UC509	6			106E	24/15	UR193				4	6D6, 6C6, 38, 12Z3		9-81
7184	Vol.	18	N				110E	23	2S563				5	6A7, 6D6, 75, 42, 80	456	
	Tone	34	K12	6												
7185, 7185A	Vol.	6	SRP263				8-8-5	24/15	3N525				4	6D6, 6C6, 38, 76		
7186	Vol.	6	‡		See No	te A5	2013	24/15	3N525				4	6D6, 6C6, 38, 76		
7210	Vol.	56	Order from	Mfr.			15803	12/13	2N502				8	[3]1D5GP, 1C7G, 1H6G, 1H4G, [2]1J6G	465	
7211	Vol.	7	MR28	M26			10-10-5	24/15	3N525				4	6D6, 6C6, 38, 76		
7212, 7212A	Vol.	7	MR28	M26			24-12	1	2N509				4	6D6, 6C6, 25L6G, 25Z5		
7213	Vol.	7	MR28	M26			24-12	1	2N509				4	6D6, 6C6, 25L6G, 25Z5, M55HG		
7214	Vol.	18	MR48	M26			16-12	1	2S566				5	6A7, 6D6, 75, 25L6G, 1V	456	
7215	Vol.	15	MR48	M26			40-16	1	2N514				5	6A7, 6D6, 75, 25L6G, 25Z5, M49HG	456	
	Tone	21	MR48													
7216	Vol.	15	‡		See No	te A19	89937	51	WE3050				10	[3]6K7, 6L7, 6C5, 6H6, 6F5, 6L6, 6J7, 5U4G	465	
							111469	51	RS216							
							112113	15	BB13							
							110377	15	BB12							
							111298	13	BB60							
7217	Vol.	20	‡		See No	te A19	89937	3	WE3050				11	[3]6K7, 6L7, [2]6C5, 6H6, [2]6V6, 6J7, 5U4	465	
							88680	3	RS213							
							112467	13	BB60							
							110377	15	BB12							
							112113	15	BB13							
7218	Vol.	20	‡		See No	te A19	89937	3	WE3050				14	[3]6K7, 6L7, [3]6C5, [2]6H6, [2]6V6, 6J7, [3]5W4	465	
							111469	3	RS216							
							112476	‡	BB22							
							111689	15	BB15							
7219	Vol.	7	MR28	M26			30-16	1	2N514				4	6D6, 6C6, 25L6G, 25Z6, M55HG		
7220	Vol.	18	MR48	M26			40-16	1	2N514				5	6A7, 6D6, 75, 25L6G, 25Z5, M49HG	456	
7221	Vol.	20	TM249-SS1				14531	25	WE3050				10	[2]6K7G, 6A8G, 6H6G, [2]6F5G, [2]6F6G, 6U5, 5U4G	465	
							5212	25	WE1830							
7225	Vol.	17	MR48	M26			18-18	1	2N509				5	6A7, 6D6, 75, 25L6G, 25Z5, M49HG	456	
7226	Vol.	76	MR48				40	12	RS208				6	6A7, 6D6, 75, 25L6G, [2]25Z5, M22HG	456	
	Tone	76	MR48				40-20	1	2N514							
7227	Vol.	18	MR48	M26			38-18	1	2N514				5	6A8G, 6U7G, 6Q7G, 25L6G, 25Z6G, M49HG	455	
7228	Vol.	20	TM249-SS1		See No	te A59	32400	25	FPS144				10	[2]6K7G, 6A8G, 6J7G, 6Q7G, 6F5G, [2]6F6G, 6U5, 5U4G	455	
							32405	25	BB64							
7230	Vol. & Tone	45/22	SMD501				32485	1/15/14	FPQ424				6	6K8, 6K7G, 6H6G, 6F5G, 6F6G, 5Y3G	455	
7231	Vol.	18	MR48	M26			P1561	23	2P549				5	6A7, 6D6, [3]75, 25B6G, 25Z5, L49BJ	456	
7232	Vol.	18	MR48	M26			P1561	4	2P549				5	6A7, 6D6, 75, 25B6, 25Z5, L49BJ	456	
7233	Vol.	18	MR48	M26			P958	1	2S564		245C	C3	6	6D8G, 6S7G, 6T7G, [3]30, 19	456	
	Tone	44	MR39				.01-.01		Buffer	B14						
7234	Vol.	80	500M No. 1		See No	te A19	P1755	23	2S563				7	6A7, 6D6, 76, 75, 42, 6U5, 80	456	
	Tone	80	MR53				P304	19	BB12							
7235	Vol.	45	1 Meg. No. 1		See No	te A19	P1825	46	3S584				8	6A7, 6D6, [3]76, 75, [3]42, 80	456	
	Tone	22	MR53				P1783	15	BB12							
7236	Vol.	45	1 Meg. No. 1		See No	te A19	P1853	1	2N514				7	6A7, 6D6, 75, 76, [3]43, 25Z5, 17AJ	456	
	Tone	22	MR53				P1783	15	BB12							
7241, 7241A	Vol.	45	MR48				2733	1	RS213				7	6D8G, 6D6, 76, 6K5G, 6V6G, 80	455	
	Tone	22	‡		See No	te A5	5101	1	RS216							
7242, 7242A	Vol.	76	MR48	M26			3375	23	RS216				8	6A8G, 6D6, 75, 76, [3]42, 80, 6U5	455	
	Tone	76	MR55				3351	23	RS213							
7243	Vol.	18	MR48	M26			38-18	1	2N514				5	6A8G, 6U7G, 6Q7G, 25L6G, 25Z6G, M49HG	455	
7244	Vol.	7	MR28	M26			38-18	1	2N514				5	6D6, 6C6, 25L6G, 25Z5, M49HG, 76		
	Phono.	63	MR44	M26			50	15	BB17							
							10	15	BB12							
7250	Vol.	18	MR48	M26			38-18	1	2N514				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z6G, M49HG	455	
SENTINEL RADIO CORP. (Also see Erla)																
5-Tube Battery	Vol.	6	117										5	[2]32, 34, 33, 30	465	
	Fil.	29	R													
6A	Vol.	18	MR48	M26			1477	1	RS215				9	[3]6D6, [2]76, 75, [2]41, 80	465	8-1,2
	Tone	44	M				1476	1	RS216							
							1110	13	BB60							
							1693	15	BB12							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SENTINEL RADIO C O R P.—Continued																
8, 9	Vol.	6	H12				2-1-1	3	See Note	B1			8	[4]24A, 27, [2]45, 80		3-1
10M	Vol.	17	UM154	M26		A96	1188	1	2N518		294	C3	5	6A7, 6D6, 6B7, 41, 84	370	8-5
							8876	15	BB12							
							.02		Buffer	B14						
10MF	Vol.	17	UM154	M26		A96	1188	1	2N518		294	C3	5	6A7, 6D6, 6B7, 41, 84	370	8-3,4
							8876	15	BB12							
							.02		Buffer	B14						
11, 12, 15, 16	Vol.	6	G12				15-5	2	MN273				7	27, [2]45, [3]24A, 80		1-1
11M	Vol.	18	UM154	M26		A96	1973	4	CM172		294	C3	6	[2]6D6, 6A7, 75, 41, 84	465	8-6
	Tone	34	M				.026		Buffer	B14						
14A	Vol.	18/7	DRP314	6			1477	1	RS215				9	[3]6D6, [3]76, 75, [3]41, 80	465	9-1,2
	Tone	41	M				1476	1	RS216							
							1110	13	BB60							
							1693	15	BB12							
19A	Vol.	18	N	6			1477	24	RS215				6	6A7, 6D6, 75, [2]42, 80	465	8-7
	Tone	34	K12				1476	24	RS216							
							1110	13	BB60							
20A	Vol.	18	N	6			1477	25	RS215				5	6A7, 6D6, 75, 42, 80	465	7-1
	Tone	22	K12				1476	25	RS216							
30A	Vol.	6	Y	6			1258	25	RS213				4	6D6, 6C6, 42, 80		8-8
							1260	25	RS213							
							8876	15	BB12							
31, 33	Vol.	10	D12				.5-1-2	3	See Note	B1			7	[4]26, 27, 45, 80		2-8
31B	Vol.	45	N				2272	1	CM164		245A	C3	6	1C6, [2]34, [2]30, 19	465	6-1,2
	Tone	22	N	7			.02		Buffer	B14						
32B	Vol.	18	MR48										4	1C6, 34, 1B5, 33	465	8-9
33B	Vol.	18	N	14			2289	12	BB21				5	1C6, 34, 1B5, 30, 19	465	8-10
	Tone	22	K12													
34B	Vol.	45	N				2272	1	CM164		245A	C3	6	1C6, [2]34, [2]30, 19	465	6-1
	Tone	22	N	7			.02		Buffer	B14						
35B	Vol.	45	N				2289	12	BB21				6	1C6, [2]34, [2]30, 19	465	6-3,4
	Tone	22	K12	14												
36L	Vol.	18	N	6									6	6A7, 6D6, 75, 76, [3]48	465	8-12
	Tone	44	K12													
37B	Vol.	18	MR48										5	1C6, 34, 1B5, 33, 5E1	465	8-13
38B	Vol.	18	N	14			2289	13	BB21				5	1C6, 34, 1B5, 30, 19	465	8-14
	Tone	22	K12													
39B	Vol.	18	MR48				2289	13	BB21				6	1C6, [2]34, [2]30, 19	465	8-15
	Tone	22	MR33	M24												
40B	Vol.	18	MR48										6	6A7, 6D6, 6H6, 6F5,		
	Tone	34	K12	6			1477	25	RS215					42, 80	465	8-17
41A	Vol.	45	N				1476	25	RS216				6	6A7, 6D6, 6H6, 6G5,		
	Tone	22	K12	6			1477	25	RS215					42, 80	465	9-7,8
46A	Vol.	18	N				1476	25	RS216				8	6A7, 6K7, 75, 6C5,		
	Tone	44	K12	6			1110	14	BB60					[2]6E5, [2]6F6, 80	465	9-9,10
47A	Vol.	18	500M No. 1		See Note	A19	1477	25	RS215				11	[2]6K7, 6L7, 6J7, 6H6,		
	Tone	22	K12	6			1476	25	RS216					6G5, [2]6C5, [2]6F6,		
							3167	25	WE3050					5Z3	465	7-5,6
							1476	25	RS216							
							3170	19	BB13							
							8876	15	BB12							
							1110	13	BB60							
48A	Vol.	7	E		3		2627	1/15	3S579				5	6A7, 6D6, 76, 41, 80	465	8-17
	Tone	22	K12	6												
49B	Vol.	18	MR48				2272	1	CM164		245A	C3	5	1C6, 34, 6B7, 30, 19	465	8-18
	Tone	22	K12	7			.02		Buffer	B14						
50B	Vol.	45	N				2272	1	CM164		245A	C3	7	1C6, [2]34, [2]30, 19	465	8-19,20
	Tone	22	K12				.02		Buffer	B14						
52A	Vol.	18	MR48				2627	1/15	3S579				5	6A7, 6D6, 75, 41, 80	465	8-21
	Tone	22	MR33	M26												
53A	Vol.	18	MR48	6			1477	1	RS215				8	6A7, 6K7, 75, 6E5,		
	Tone	44	K12				1476	1	RS216					6C5, [2]6F6, 80	465	8-22
54A	Vol.	18	MR48				2627	1/15	3S579				5	6A7, 6D6, 75, 41, 80	465	8-23
	Tone	22	K12	6												
55U	Vol.	18	N	6			12-20	27	2P549				5	6A7, 6D6, 75, 43, 25Z5	465	8-24
60B	Vol.	18	MR48										4	1C6, 34, 1F6, 33, 5E1	465	8-25
63B	Vol.	18	MR48				3060	1	2N518		245A	C3	4	[3]15, 75, 41	465	8-26
	Tone	22	N				1693	15	BB12							
							.01		Buffer	B14						
65B	Vol.	18	N				3150	12	RS216				5	1C6, 34, 1F6, 30, 19,		
	Tone	22	Y	14										5H1	465	8-27
66B	Vol.	45	‡		See Note	A19	3060	1	2N518		245A	C3	8	[3]15, 6A7, [3]76, 6E5, 19	465	9-3,4
	Tone	44	K12	6			3159	13	BB60							
							8876	15	BB12							
							.02		Buffer	B14						
70A	Vol.	7	E	6	3		3041	1	2N518				5	6A7, 6D6, 76, 41, 80	465	8-28
71U	Vol.	17	N	6			20-12	27	2P549				5	6A7, 6D6, 75, 43, 25Z5	465	8-31
72A, 72AE	Vol.	17	N	6			3041	1	2N518				5	6A7, 6D6, 75, 41, 80	465	9-13
	Tone	22	MR33													
74A, 74AE	Vol.	17	MR48	M26			3718	1	2N518				6	6A7, 6D6, 75, 41, 6G5,		
	Tone	22	K12				1693	15	BB12					80	465	9-15
76A	Vol.	20	TM251-SS16				3167	25	WE3050				11	[2]6K7, 6A8, 6J7, 6H6,		
							3041	25/13	2N518					[2]6C5, [2]6F6, 80	465	9-17,19
							1110	13	BB60							
							1693	20	BB12							
82A, 82AE	Vol.	17	UM154-SS16				3718	1	2N518				7	6A7, 6D6, 75, 41, 6G5,		
	Tone	22	K12	6			1693	15	BB12					80, 76	465	9-21,22
84A, 84AE	Vol.	18	UM154-SS16				3718	1	2N518				6	6A7, 6D6, 75, 41, 6G5,		
	Tone	22	K12	6			1693	15	BB12					80	465	
85U, 85UE	Vol.	17	MR48	M26			3638	27	2P553				5	6A7, 6D6, 75, 43,		
	Tone	22	MR33											25Z5, M49B, or		
														6A7, 6D6, 75, 6G5,		
87AE	Vol.	20	‡		See Note	A19	4261	1	WE3050					43, 25Z5, M42B	465	9-20
							4262	1	RS216				9	[2]6K7, 6A8, 6Q7, 6C5,		
							1693	15	BB12					6G5, [2]6F6, 5Y3G	465	
88BE	Vol.	45	‡		See Note	A19	4188	1	2S562		245	C3	8	[2]6S7G, 6D8G, [2]6L5G,		
							1693	15	BB12					19, 6N5	465	
							.03		Buffer	B14						
90B	Vol.	17	MR48										5	1C6, 34, 1F6, 33, 5E1	465	9-23,24
92AE	Vol.	18	UM154-SS16				3718	1	2N518				6	6A7, 6D6, 75, 41, 6C5,		
	Tone	22	K12	6			1693	15	BB12					80	465	
93L	Vol.	17	UM154-SS16										6	6A7, 6D6, 75, 76, [3]48	465	9-25,26
	Tone	22	MR33	M26												
97L	Vol.	17	UM154-SS16										9	[2]6D6, 6A7, 75, 76, [3]48	465	9-27
	Tone	44	K12													
98AE	Vol.	45	MR48	M26			3718	1	2N518				7	6A7, 6D6, 76, 75, 6G5,		
	Tone	22	K12											41, 80	465	
100X	Vol.	17	MR48				4096	1	2N518		294	C3	5	6D8G, 6S7G, 6T7G,		
	Tone	22	K12				1693	15	BB12					41, 6ZY5G	465	9-29
							.02		Buffer	B14						
104	Vol.	6	G12				15-5	2	MN273				7	27, [2]45, [3]24A, 80		1-1

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SENTINEL RADIO CORP.—Continued																
106A	Vol.	18	MR48	M26			4140	23	2S567				5	6A8G, 6K7G, 6Q7G, 6K6G, 5Y4G	465	
106B	Vol.	6	G12				16-8	2	2S563				8	§24A,§27,§45, 80	175	1-2
	Tone	34	K12													
108	Vol.	6	L				8-16	31	2S563				7	§24A, 27, 45, 80	175	1-3
	Tone	22	K12													
108A	Vol.	7	F				8-8	34	See Note	B3			7	§35, 27,§24A, 47, 80	175	2-1,2
	Tone	22	K12													
109	Vol.	7	F				16	34	RS216				8	§24, 27,§35,§47, 80	175	2-3
	Tone	22	K12				8	34	RS213							
110	Vol.	7	F				8, 8	34	RS213				7	27,§35,§24A, 47, 80	175	2-1,2
	Tone	22	K12													
110A	Vol.	20	TM251-SS16				3167	25	WE3050				11	§6K7, 6A8, 6J7, 6H6, §6C5,§6F6, 80	465	
							3041	25/13	2N518							
							1110	13	BB60							
							1693	20	BB12							
111	Vol.	7	F				8, 8	4	RS213				4	47, 24A, 35, 80		2-4
114	Vol.	15	N	6			7078	34	RS215				9	§47,§24A,§35,§27, 80	175	2-5 & 5-1
	Tone	44	K12				7051	34	RS213							
116	Vol.	6	F12		EX200		8, 8	4	RS213	B3			5	§24, 35, 47, 80	465	7-22
118	Vol.	109	N	6			7078	34	RS215				10	§27,§35,§24A,§47, 80	175	5-3,4
	Tone	22	K12				7051	34	RS213							
118B	Vol.	18	MR48	M23			1693	19	BB12				4	1A7G, 1N5G, 1H5G, 1A5G	455	
119B	Vol.	18	MR48	M26			4841	24	2N509		245	C3	4	6D8G, 6S7, 6T7G,		
							1693	15	BB12					6G6G	465	
							.03		Buffer	B14						
124AE	Vol.	18	MR48	M26			4772	1	2N518				6	6A8G, 6K7, 6Q7G, 6U5, 6K6G, 5Y4G	455	
							1693	15	BB12							
125	Vol.	64	N				6-4-4	3	See Note	B3			8	§24A,§35, 27, 47, 80	175	5-5
	Tone	22	K12				20	16	BB15							
125AE	Vol.	18	N				3718	1	2N518				6	6K8, 6K7, 75, 41, 6U5, 80	455	
	Tone	22	K12				1693	15	BB12							
127B	Vol.	18	MR48	M23			1693	19	BB12				4	1A7G, 1N5G, 1H5G, 1A5G	455	
130B, 130BE	Vol.	18	MR48				4841	24	2N509		245	C3	5	6D8G, 6S7, 6L5G,		
	Tone	22	SRP263	6			1693	15	BB12					6T7G, 6G6G	455	
							.03		Buffer	B14						
140B, 140BE	Vol.	124	‡		See Note A19		10036	24	2S562		245	C3	7	§6S7, 6K8, 6T7G,		
	Tone	21	‡		See Note A19		1693	15	BB12					6G6G, 6Z7G, 6N5	455	
							.03		Buffer	B14						
143L	Vol.	18	MR48										5	6K8, 6K7, 6Q7G, 6C5G, 25L6G	455	
	Tone	22	SRP263	6												
148A	Vol.	18	MR48	M26			10245	25	BB61				5	6A7, 6K7, 6Q7G, 41, 80	455	
261, 262	Vol.	15	N				8876	15	BB12				5	§39, 36, 85, 41	175	5-6,8
264	Vol.	15	N	6			9110-0	1	2S567				6	§58, 57, 55, 47, 80	175	
							8876-0	17	BB12							
440, 444	Vol.	6	G12				‡	‡	See Note	B1			7	§24A,§27, 45, 80		1-5
501, 502	Vol.	70	H12										5	§32, 34, 33, 30	465	4-1
	Fil.	29	R													
513	Vol.	6	G7	6	2		9110-0	25	2S567				5	57, 58, 55, 47, 80	175	4-2,3
521	Vol.	15	N				8876	15	BB12				5	§39, 36, 85, 41	175	5-6,8
550, 560, 561	Vol.	6	H7	6	2		9355	8	TN120				5	§36, 39, 38, 25Z5	265	5-9 & 3-3
							9328	15	TN111							
560TV	Vol.	6	H7	6	2		9355	8	TN120				5	6A7, 78, 77, 38, 25Z5	265	9-12
							9328	15	TN111							
570	Vol.	6	H7	6	2		9442	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	265 or 465	4-4,5
590	Vol.	6	H7	6	2		9442	11	UR182	B31			5	6A7, 75, 78, 43, 25Z5	465	4-6,7
599	Vol.	6	H7	6	2		9442	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	265	4-6,7
600, 602	Vol.	17	UM154	M26	See Note A96		9532	1	2S563		292	C3	6	§78, 6A7, 75, 41, 84	265	5-14 & 4-8
							9328	15	TN111							
							.02		Buffer	B14						
603	Vol.	17	UM154	M26	See Note A96		1247	1	2N518		292	C3	6	§78, 6A7, 75, 41, 84	265	5-17,18
							9328	15	TN111							
							.02		Buffer	B14						
610	Vol.	7	F				8, 8	34	RS213				7	§51, 27,§24A, 47, 80	175	
	Tone	22	K12													
614	Vol.	15	N	6			9110-0	1	2S567				6	§58, 57, 55, 47, 80	175	2-9
							8876	17	BB12							
622, 623	Vol.	17	M	6			9659	1	RM262				6	§57, 58, 2A6, 2A5, 80	465	4-10,11
	Tone	22	K12				8876	15	BB12							
630	Vol.	17	M	6			9659	1	RM262				6	§57, 58, 2A5, 2A6, 80	456	4-12,14
	Tone	22	K12				8876	15	BB12							
634, 635	Vol.	17	M	6			9659	1	RM262				6	§57, 58, 2A6, 2A5, 80	465	4-12,14
	Tone	22	K12				8876	15	BB12							
660	Vol.	70	H12										5	§32, 34, 33, 30, 5B1	465	5-19
666C	Vol.	6	G7				‡	‡	See Note	B1			9	§24A,§27,§45, 80		1-6
810	Vol.	46	N	7									9	§32,§34,§30,§49	175	7-5,6
1020, 1030	Vol.	15	N	6			9193	3	3S584				10	§58,§57, 55,§59, 80	115	2-10 & 1-7
	Tone	22	K12				8876	15	BB12							
1020A, 1030A	Vol.	15	N	6			9739	3	RS215				10	§58, 57,§56,§2A3, 80	115	4-15,18
	Tone	22	K12				9736	3/15	CM172/TN111							
	Supp.	7	C	8												
1040	Vol.	15	N	6			9739	3	RS215				10	§58, 57, 2B7,§56,§2A3,		
	Tone	22	K12				9736	3/15	CM172/TN111					5Z3	465	5-21,23
	Supp.	7	G	8												
4100	Vol.	6	H7	6	2		1395	6	2N507				4	6D6, 6C6, 43, 25Z5		7-5,6
4100B	Vol.	6	H7	6	2		9982	11	UR182	B31			4	6D6, 6C6, 43, 25Z5		6-5
							1693	15	BB12							
4300	Vol.	7	H	6			9982	11	UR182	B31			4	6A7, 6F7, 38, 25Z5	465	5-24
4500	Vol.	6	SRP263	6	EX200		1258	25	RS213				4	42, 6C6, 6D6, 80		6-6
							1260	25	RS213							
4800	Vol.	110	H7	6	2		9982	11	UR182	B31			4	6D6, 6C6, 43, 25Z5		6-8
							8876	15	BB12							
5000, 5100	Vol.	6	H12				9925	12	CS133				5	§78, 77, 38, 37	465	4-19,20
							9328	15	TN111							
5200	Vol.	18	N	6			9982	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	465	
5500	Vol.	17	UM154	M26	See Note A96		1188	1	2N518		294	C3	5	6A7, 6D6, 6B7, 41, 84	370	5-25,27
							9328	15	TN111							
							.01-.01		Buffer	B14						
5600	Vol.	18	N				1258	1	RS213		F251	C3	5	6A7, 6D6, 75, 38, 84	465	6-7
	Tone	22	Y	6			1260	1	RS213							
							9328	15	TN111							
							.01-.01		Buffer	B14						
5700	Vol.	18	N	6			9659	1	RM262				5	58, 2A7, 2A6, 2A5, 80	465	5-27,28
							1100	13	CS130							
5700B	Vol.	18	N	6			9659	1	RM262				5	2A5, 2A6, 2A7, 58, 80	465	6-12
	Tone	21	N				1108	13	CS130							
5721	Vol.	18	N	6			9659	1	RM262				5	58, 2A7, 2A6, 2A5, 80	465	5-27,28
							1100	13	CS130							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SENTINEL RADIO CORP.—Continued																
5800	Vol.	18	MR48	M26			9659	1	RM262				5	2A7, 58, 2A6, 2A5, 80	465	7-11,12
6100, 6101, 6102	Vol.	6	H12				9925	12	CS133		F221	C3	7	77, ‡78, 38, 37, 25Z5, 84	465	5-29,31
							9328	15	TN111							
							.02-.02		Buffer	B14						
6200, 6234, 6241	Vol.	45	N										5	1A6, 34, 30, 33, 32, 5B1	465	5-34
6300	Vol.	18	N	6			9659	1	RM262				6	2A7, 2A6, 2A5, ‡58, 80	465	
	Tone	22	K12				8876	15	BB12							
6315, 6317, 6321	Vol.	17	M	6			9659	1	RM262				6	2A7, ‡58, 2A6, 2A5, 80	465	5-31,33
	Tone	22	K12				1110	13	BB60							
							8876	15	BB12							
6700	Vol.	45	MR48	M26			5	15	BB12				6	1C6, 34, ‡30, 15, 19	465	7-7
6800	Vol.	17	MR48	M26			20-8-8	8	See Note	B3			6	‡6D6, 6A7, 75, 43, 25Z5	465	7-8
							5	15	BB12							
6900	Vol.	18	N	6									6	6A7, 6D6, 75, 76, ‡48	465	8-29,30
7100	Vol.	17	MR48	M26			1477	1	RS215				7	‡6D6, 6A7, 75, 76, 41, 80	465	7-9,10
	Tone	22	K12				1476	1	RS216							
							5	15	BB12							
7100B	Vol.	17	MR48	M26			1477	1	RS215				7	‡6D6, 6A7, 75, 76, 41, 80	465	7-13,15
	Tone	21	MR44				1476	1	RS216							
							8876	15	BB12							
7200	Vol.	17	MR48	M26			1477	1	RS215				7	‡6D6, 6A7, 75, 76, 41, 80	465	8-32
	Tone	22	K12				1476	1	RS216							
7200B	Vol.	17	N	6			1477	1	RS215				7	‡6D6, 6A7, 75, 76, 41, 80	465	6-9,11
	Tone	21	K12				1476	1	RS216							
							1110	13	BB60							
							8876	15	BB12							
7700, 7732, 7741	Vol.	45	N	7			1291	12	ST585				6	1C6, 34, ‡30, 32, 19	465	5-35,36
8100B	Vol.	15	MR48	M26			1477	3	RS215				8	‡6D6, 6A7, 76, 75, ‡41, 5Z3	465	7-16,18
	Tone	21	MR44				9659	3	RM262							
							1110	14	BB60							
							8876	15	BB12							
8200B	Vol.	15	N	6			1477	3	RS215				8	‡6D6, 6A7, 76, 75, ‡41, 5Z3	465	6-13,15
	Tone	22	M				9659	3	RM262							
							1110	14	BB60							
							8876	15	BB12							
9100	Vol.	45	MR48										9	‡34, 1C6, ‡30, 6-1	465	7-19,21
	Tone	22	MR33													
5 Tube Superhet	Vol.	6	G7	6	2		9110-0	25	2S567				5	57, 58, 55, 47, 80	262	
7 Tube Super-Het. (with 45)	Vol.	6	G12				8	31	RS213				7	27, ‡24A, 45, 80	175	
	Tone	22	K12				16	31	RS216							
7 Tube Superhet. (with 47)	Vol.	7	F				8, 8	4	RS213	B3			7	‡51, 27, ‡24, 47, 80	175	
	Tone	22	K12													
8 Tube Superhet	Vol.	7	F				16	34	RS216				8	‡24, 27, ‡47, 80	175	
	Tone	22	K12				8	34	RS213							
SETCHELL CARLSON																
PA6	Vol.	15	MR48				8	3	WE860				8	‡6F5, ‡37, ‡6A6, ‡6X5		
	Tone	22	MR48				10	15	BB13							
PA13	Vol.	15	MR53				8	46	WE860				5	6F5, 6N7, ‡6V6, 80		8-1
	Tone	22	MR53				10	15	BB13							
PA15	Phono.	63	MR48				8	3/13	WE860				7	‡6F5, 42, ‡2A3, 5Z3		
	Tone	34	MR48				10	15	BB13							
	Vol.	15	MR48				60	15	BB17							
PA25	Vol.	15	MR53				25	46	WE3050				6	‡6F5, 6N7, ‡6L6, 5Z3		8-1
	Tone	22	MR53				8	46/24	WE850							
	Phono.	63	MR53				60	15	BB17							
							10	15	BB13							
PA115	Mic.	15	MR53				8	24	WE860				14	‡6F5, ‡6C5, ‡6L6, ‡83		8-2
	Phono.	63	MR53				10	15	BB13							
	Tone	22	MR53				75	15	BB17							
PA613	Mic.	15	MR53				8	46	WE860				6	‡6F5, 6C5, ‡6V6, 80		
	Phono.	63	MR53				10	15	BB13							
	Tone	22	MR53													
332	Vol.	15	MR48													
600	Vol.	17	UM154		See Note	A96							9	6A8, ‡6K7, ‡6J7, ‡25L6	465	9-1
													5	1C7, 1D5, 1F7, 1H4, 1J6	465	9-2
602	Vol.	17	UM154		See Note	A96							6	1C7, 1F7, ‡1D5, ‡1G5	465	9-2
	Tone	21	UM154		See Note	A96										
620	Vol.	17	UM154		See Note	A96	8-8-10	1/15	3S570		245		5	6D8, 6S7, 6T7, 6N5, 6K6	465	9-2
	Tone	57	UM154		See Note	A96										
622	Vol.	17	UM154		See Note	A96	8-8-10	1/15	3S570		245		7	6K8, 6S7, 6T7, 6N5, 6L5, 6Z7, 19	465	9-1
	Tone	21	UM154		See Note	A96										
SHAMROCK																
28-29	Vol.	26	‡		See Note	A73	‡	1	See Note	B1			7	‡27, ‡71A, 80		§4-10
SHELLY																
5 Kompak	Vol.	6	G7	6	3		4-4	23	2S567				5	6J7, 6K7, 6C5, 6F6, 5W4		7-1
25	Vol.	6	SRP263				20-20	4	2P549				4	6D6, 76, 25B6G, 25Z5		§9-3
35C	Vol.	18	MR48				4-4	23	2S567				5	6A7, 6D6, 75, 42, 80	465	8-1
35C-AW, 37C	Vol.	18	MR48				8-4	23	2S567				6	6A7, 6D6, 75, 42, 80, 6G5, Ballast	465	8-2
48	Vol.	45	MR48				8-8-8	25/13	See Note	B3			7	6A8, 6K7, 6H6, 6G5, 6K7, 6K6, 5Z4, CL610-10	458	7-1
	Tone	22	K12													
48A	Vol.	45	‡		See Note	A19	8-8-8	25/13	See Note	B3			7	6A8, ‡6K7, 6G5, 6H6, 6F6, 5Z4	460	8-1
65	Vol.	18	UM154		See Note	A96	8-8	74	2S567		294	C3	5	6A7, 6D6, 75, 42, 84	460	7-2
67 Auto	Vol.	45	UM154		See Note	A96	8-8	4	2S567		294	C3	7	‡6K7, 6A8, 6H6, 6F6, 84	460	7-2
	Tone	22	UM133		See Note	A96										
75 Auto	Vol.	18	‡		See Note	A19	8-8	74	2S567		294	C3	5	6A8G, 6K7G, 6Q7G, 6K6G, 6X5G	460	8-2
							.005		Buffer	B14						
SILVER KING (See Appel & Henderson)																
SILVER-MARSHALL																
A	Vol.	8	A5MP	6			13177	46	CS131				8	24A, ‡35, 47, 80, ‡27	175	1-30
	Tone	22	N				13181	46	CS133							
B	Vol.	8	Y10MP				13181	46	CS133				6	‡24A, 27, 35, 47, 80	175	2-6
	Tone	57	N				13177	46	CS131							
							13203	17	BB12							
C	Vol.	8	A5MP				13181	3	CS133				12	24A, ‡27, ‡35, ‡47, 80	175	2-7,8
	Tone	‡	Y				13177	3	CS131							
C w/AVC	Vol.	‡	Y				13177	34	CS131				12	‡35, 24A, ‡27, ‡47, 80	175	4-3
	Tone	‡	N				13181	34	CS133							
D, E	Vol.	8	A5MP				4-4-4	3	CM173				9	24A, ‡27, ‡35, ‡47, 80	175	1-31
	Tone	34	N													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SILVER-MARSHALL—Continued																
F	Vol.	8	A5MP				4-4-4	3	CM173				7	24A,[3]35, 47, 80,[2]27	175	1-30
	Tone	22	N													
G	Vol.	8	A5MP	6			13120	3	CM173				10	24A,[3]27,[3]35,[2]47, 80	175	2-9
	Tone	...‡	O				13177	13	CS131							
J, JT	Vol.	8	A5MP	6			13181	3	CS133				10	24A,[3]27,[3]35,[2]47, 80	175	2-10
	Tone	22	N				13177	3	CS131							
KB (21)	Vol.	9	L										8	[5]30, 32,[2]34	175	§9-5
	Tone	57	N													
Q with push-pull 47's	Vol.	100	L	6			13181	7	CS133				10	24A,[4]27,[3]35,[2]47, 80	465	4-4
	Tone	22	N				13177	7	CS131							
Q with parallel 47's	Vol.	15	M	6			3162	28	CS135				10	24A,[4]27,[3]35,[2]47, 80	465	4-5
	Tone	...‡	L				13181	28	CS133							
							13177	28	CS131							
Q DeLuxe	Vol.	15	M	6			3162	34	CS135				11	[4]56,[3]58,[3]45, 82	465	2-11,12
	Tone	95	L				13177	34	CS131							
	Sen.	7	D				13326	19	CS123							
R, RT	Vol.	15	M	6			3162	4	CS135				10	24A,[4]27,[3]35,[2]47, 80	465	2-13,14
	Tone	95	L				13181	4	CS133							
							13177	14	CS131							
V	Vol.	15	M	6			3162	34	CS135				10	[3]56,[3]58,[3]45, 82	465	3-4,5
	Tone	95	L				13177	34	CS131							
	Sen.	7	D				13326	19	CS123							
X	Vol.	15	M	6			3162	34	CS135				10	[3]58,[3]56,[3]45, 82	465	
	Tone	95	L				13177	34	CS131							
							13326	19	CS123							
Y	Vol.	56	M	6			13181	4	CS133				8	[3]51, 56, 55,[2]47, 80	465	§6-29
	Tone	57	N				13177	4	CS131							
Z10	Vol.	15	N				8-8	2	2N518				7	2A7, 58, 2B7, 56,[2]2A5,		
	Tone	57	M	6			8	14	CS123					5Z3	465	4-7
							4	15	BB11							
Z13	Vol.	45	N	6			8	34	CS133				13	[3]58,[6]56,[3]59, 5Z3, 57	472.5	4-8
	Tone	85	E12				12	34	CS135							
Z DeLuxe	Vol.	45	N				12	34	CS135				13	[6]56,[3]58,[2]2A5, 5Z3, 57	472.5	4-6
	Tone	85	E12				8	34	CS133							
Bearcat Midget	Vol.	8	G				8, 8	1	RS213				8	[3]24A,[2]27,[3]45, 80	175	1-8
	Tone	22	O													
30	Vol.	12	A10MP				2-2-4-1	3	See Note	B1			8	[4]24A, 27,[3]45, 80		1-1
30B	Vol.	12	A10MP				2-1-2-4	3	See Note	B1			7	[3]24A, 27,[3]45, 80		1-2
34A (with 33A Pwr. Unit)	Vol.	9	A3MP				4-4-4	34/40	CM173				7	[3]24A,[3]45, 80, 27		1-5,6
	Tone	34	G12				12-8-4	2/19	CM175	B12						
35A (with 33A Pwr. Supply)	Vol.	...‡	...‡			See Note A74	4-4-4	34/40	CM173				9	[4]24A,[2]27,[3]45, 80		1-5,6
							12-8-4	2/19	CM175	B12						
36A	Vol.	58	D				4-4-4	3	2S567				9	[5]24A, 27,[3]45, 80	175	1-7
37, 38, 39 Midget	Vol.	8	A10MP				8, 8	1	RS213				8	[3]24A,[2]27,[3]45, 80	175	1-8
	Tone	22	O													
684 P.E. Amplifier	Vol.	15	O				13181	3	CS133				5	24A, 27,[2]47, 80		2-1
							13203	19	BB12							
685 P.A. Amplifier	Vol.	16	N				2-6-4	2/19	See Note	B1			5	27, 26, 50,[2]81		1-15
686 Portable P.A. Amplifier	Vol.	15	O				13181	3	CS133				5	24A, 27,[2]47, 80		
							13203	19	BB12							
690 Amplifier	Vol.	16	L				...‡	3	See Note	B1			7	27,[2]26,[2]50,[2]81		1-15
692 Amplifier	Vol.	15	N				...‡	...‡	See Note	B1			6	24A, 45,[2]50,[2]81		1-15
710 Sargent-Rayment	Vol.	12	A3MP										7	[4]22,[2]01A, 12A or 71A		1-16
712 Tuner	Vol.	12	A10MP										4	[3]24A, 27		1-17
714 Tuner	Vol.	58	D										6	[4]24A,[2]27	175	1-18
716 Tuner with 683 Amplifier	Vol.	12	A5MP				13181	3	CS133				10	24A,[3]27,[3]35,[2]47, 80	175	2-2
	Tone	...‡	G12				13177	3	CS131							
							13023	15	BB12							
720 AC	Vol.	12	A3MP										6	[3]24A,[2]27, 45		1-19
720 Battery	Vol.	12	A3MP										6	[3]22,[2]01A, 12A		1-19
722	Vol.	12	A10MP				...‡	3	See Note	B1			7	[3]24A, 27,[3]45, 80		1-20
722 DC (Battery)	Vol.	12	A10MP										6	[3]22, 01A,[2]12A		1-21
724 AC	Vol.	58	A3MP				4-4-4	3	CM173				9	[3]24A, 27,[3]45, 80	175	1-22
724 DC	Vol.	9	Y50MP				2-2	12	See Note	B3			8	[3]32,[2]30,[2]31	175	1-23
726 (S.W. & Broadcast)	Vol.	8	A5MP	6			13120	3	CM173				11	[2]24A,[3]35,[2]27,[2]47, 80	175	1-24
727 DC	Vol.	9	L										8	[5]30, 32,[2]34	175	
	Tone	57	N													
727 SW	Vol.	15	M	6			3162	4	CS135				10	24A,[3]35,[4]27,[2]47, 80	465	2-3,4
	Tone	...‡	L				13181	4	CS133							
728 SW	Vol.	15	N... 6				3162	34	CS135				12	[3]58,[3]56,[3]45, 82	465	3-1
	Tone	95	L				13177	34	CS131							
	Sen.	7	D				13326	19	CS123							
729 SW	Vol.	45	N	6			8	34	CS133				13	[3]58, 56,[2]2A5, 5Z3, 57	465	4-2
	Tone	22	E12				12	34	CS135							
738 Converter							8-8	1	CM172				3	24A, 27, 26	1000	1-26
739 Converter							4-4	1	CM172				3	24A, 27, 80	650	1-27
Sheridan 750, 750BS	Vol.	4	D12				2-2-.5	3	See Note	B1			8	[3]26,[2]27,[3]45, 80		
760	Vol.	4	D12				1-1-1-.5	...‡	See Note	B1			7	[3]26,[2]27, 45, 80		
770 Auto Set	Vol.	7	J										5	[3]24A, 12A, 71A		1-29
773 B'cast/Long Wave	Vol.	8	A5MP	6			13120	3	CM173				8	24A,[3]35,[2]27,[3]45, 80	115	2-5
	Tone	22	N													
782 Midget	Vol.	8	A10MP				8, 8	1	RS213				8	[3]24A,[2]27,[3]45, 80	175	1-8
	Tone	22	O													
1022 (724 AC)	Vol.	58	A3MP				4-4-4	3	CM173				9	[4]24A, 27,[3]45, 80	175	
4801, 4802	Vol.	15	UC503				12-8	34	CM175				10	[3]58,[3]56,[3]59, 5Z3	Early	5-1
	Tone	21	L	6			5-5	15	TN111						465	
	Sen.	12	Y												Late	
															175	
McMURDO SILVER																
5D	Vol.	15	N				16	3	RS216				10	6B7, 6C6, [4]6D6, [2]76,		
	Tone	21	O				18	3	RS216					12, 5Z3	465	
	Sen.	7	G				12	3	RS215							
World Wide Nine	Vol.	18	O				8	2	See Note	B3			9	2A7,[3]58, 55,[2]2A5, 5Z3	465	§5-12
	Tone	57	Z12				12	2	See Note	B3						
							4	14	See Note	B3						
SILVERTONE (See Sears-Roebuck Co.)																
SIMPLEX RADIO CO.																
AA	Vol.	...‡	UC513				2	12	BB40				4	1A6,[2]1B4, 1F4	456	7-2
							5	19	BB12							
D*	Vol.	4	...‡			See Note A5	...‡	...‡	See Note	B2			8	[2]10, 27,[2]26, 80		1-1
	Sen.	...‡	...‡			See Note A5										

‡ Data not substantiated.

*IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SIMPLEX—Continued																
D (420,001 and up)	Vol.	17	MR48				20-4-5	6/15	TN125	B3			5	6A7, 6K7, 75, 43, 25Z5	456	7-1
	Tone	22	L													
D (428,001 and up)	Vol.	17	MR48				20-20	6	CM164				6	6A7, 6K7, 75, 6G5, 43, 25Z5	456	
	Tone	22	L				5	15	BB12							
DB, DF (500,001 and up)	Vol.	17	N				4-8	1	2N518		245C	C3	5	6D8G, 6S7G, 6Q6G, 6G5, 38	456	
	Tone	22	L	6			.01		Buffer	B14						
DB, DF (775,001 and up)	Vol.	17	N				10-20	1	2S562		245C	C3	4	1C6, 34; 1B5, 38	456	
	Tone	22	L	6			.01		Buffer	B14						1-1
G	Vol.	‡	Order from	Mfr.			‡	3	See Note	B3			4	45, 27, 24A, 80		
	Tone	44	‡		See Note	A5										
G (703,001 and up)	Vol.	15	MR48				8-8	4	CM172	B3			6	6A7, 6K7, 76, 6F5, 42, 80	456	7-2
	Tone	34	L				5	15	BB12							
G (707,001 and up)	Vol.	15	MR48				16-16-8-5	9/13	See Note	B3			7	6L7, 6D6, 6H6, 6G5, 75, 25B5, 25Z5	456	
	Tone	34	L				5	15	BB12							
GB (779,001 and up)	Vol.	17	MR48				8-8	1	CM172		245C	C3	5	1C6, 1A4, 1B5, 30, 19	456	7-2
	Tone	22	MR48				.01		Buffer	B14						
GH (691,001 and up)	Vol.	15	MR48				24-8	‡	2N512				6	6A7, 6K7, 76, 6F5, 43, 25Z5	456	7-2
	Tone	34	L				5	15	BB12							
H	Vol.	12	A20MP	6			8-8	1	See Note	B3			5	§24A, 45, 80		
	Tone	22	N													
H (AC)	Vol.	7	D	6			8-8	1	See Note	B3			5	§24A, 45, 80		3-1
	Tone	‡	N													
J	Vol.	6	D12	6			8-8	1	See Note	B3			6	§35, §24A, 47, 80		3-2
	Tone	22	L													
K	Vol.	6	G12				8-4	4	See Note	B3			5	§24A, 35, 47, 80	175	3-1
L	Vol.	‡	Y50MP				4-4-4	26	CM173				7	§35, §24A, 47, 80	175	3-2
	Tone	22	L													
N	Vol.	6	G12				8-4	4	See Note	B3			5	§24A, 35, 47, 80	175	8-1
	Tone	22	L													
N (DC)	Vol.	6	G12										5	§39, 36, §38	175	2-1
	Tone	22	L													
NT (902,001 and up)	Vol.	20	TM231-SS1				8, 8	2	CS133				10	6K7, 6L7, 6D6, §76, 75, §6B5, 80, 6G5	456	
	Tone	34	MR48				5	15	BB12							
OP (550,001 and up)	Vol.	16	MR48				8-8	1	2N518				3	6C6, 6B5, 80		7-1
							50	‡	BB17							
P AC	Vol.	15	N				4-4-10	4/19	See Note	B3			5	57, 58, 55, 47, 80	175	2-2
	Tone	22	L	‡												
P AC (Above serial No. 162500)	Vol.	15	N				4-4	4	CM170				5	57, 58, 55, 47, 80	175	8-1
	Tone	22	L	‡			10	19	BB12							
P AC (Above serial No. 330001)	Vol.	15	M				4-4	4	CM170				5	6A7, 78, 75, 42, 80	456	4-2
	Tone	22	L	7	See Note	A75	5	19	BB11							
P Battery	Vol.	9	Y10MP				8	12	BB31				5	§34, §32, 33	175	4-1, 2-2
	Tone	22	L				10	19	BB12							
PB, PF (Serial No. 352001 and up)	Vol.	‡	N				20-10-4	1/13	RM259	B191	245C	C3	4	‡	‡	
	Tone	‡	L	6			.01		Buffer	B14						
PH (690,001 and up)	Vol.	17	MR48				15-8-8	11	RM257	B3			5	6A7, 6D6, 75, 43, 25Z5	‡	
	Tone	22	L				5	15	BB12							
P 32V (No. 350001 and up)	Vol.	15	M				6-10	1	See Note	B3	F221	C3	5	6A7, 78, 75, 42, 84	456	4-2
	Tone	22	L	7	See Note	A75	5	15	BB12							
							.05-.05		Buffer	B14						
P Dual Band (Above serial No. 600001)	Vol.	17	N				8-8-4	4/13	3S584				5	6A7, 6D6, 75, 42, 80	456	6-1
	Tone	22	L	6			5	15	BB11							
P Battery (Above serial No. 173501)	Vol.	9	Y250MP				5	19	BB11				5	1A6, 34, 32, 19, 30	456	4-4
	Tone	22	L													
P 1931	Vol.	6	G12				8-4	4	See Note	B3			5	§24A, 35, 47, 80	175	4-3
	Tone	22	L	8												
Q 1931	Vol.	6	G12		EX350		8-4	4	See Note	B3			5	§24A, 35, 47, 80	175	4-3
	Tone	22	L													
Q (378,001 and up)	Vol.	17	UM154		See Note	A96	10-6	1	CM172	B3	294	C3	6	6K7, 6A8, 78, 75, 6N6, 0Z4	175	7-2
							5	15	BB12							
							.01-.01		Buffer	B14						
R	Vol.	6	G12		EX350		8-4	4	See Note	B3			4	58, 57, 47, 80		4-1
	Tone	22	L	7	See Note	A75										
R AC (Above No. 320001)	Vol.	6	G12				AB108	4	CM170				4	78, 77, 42, 80		4-4
	Tone	22	L	7	See Note	A75										
R DC	Vol.	6	G12	‡		A14							4	39, 36, §38		8-2
	Tone	22	L	7	See Note	A75										
RJH (300,001 and up)	Vol.	17	MR48				20-20	1	2N509				5	6A7, 6K7, 6Q7, 25B5, 25Z5MG	456	
							5	15	BB12							
RK, RKE, RKS (760,001 and up)	Vol.	6	L		EX300		15-8	6	2N504				4	6D6, 6C6, 43, 25Z5MG		7-1
							5	15	BB12							
T	Vol.	17	UM154		See Note	A96	6-10	1	SR601		292	C3	6	§78, 6A7, 75, 41, 84	‡	4-5
							5	15	BB12		245C	C14				
							.05-.05		Buffer	B14						
TA	Vol.	17	UM154	M26	See Note	A96	8-8	1	See Note	B3	248	C3	4	6A7, 78, 6B7, 41	456	
							5	15	BB12							
							.0125-.0125		Buffer	B14						
U AC-DC Receiver	Vol.	6	UC502		‡	A14	20-4	6	2N507				5	78, 44, 77, 43, 25Z5	456	4-6
							5	15	BB12							
U AC-DC (Late)	Vol.	17	N				5-20-8	11	UR182	B3			5	75, 6A7, 6D6, 43, 25Z5	456	6-2
							5	15	BB12							
UE, AC-DC Serial 215001	Vol.	17	N				5-20-8	11	UR182	B3			5	6A7, 6D6, 75, 43, 25Z5	456	6-2
							5	15	BB12							
UX52	Vol.	17	MR48				4-8	30	CM172				8	§6D6, 6A7, 75, §42, 80	‡	
	Tone	22	L				8-8	30	CM172							
							5	15	BB12							
V AC-DC Receiver	Vol.	7	UC510				20-4	6	2N507				4	44, 77, 43, 25Z5		4-6
							5	15	BB12							
V All-Wave	Vol.	12	N				40-8	6	2N514				4	6F7, 77, 43, 25Z5		
							5	15	BB12							
W All-Wave	Vol.	17	N				4-8-4	26	See Note	B3			8	§78, 85, 37, §42, 80	456	5-1
	Tone	41	L													
X	Vol.	6	G12		EX200		4-4	4	CM170				5	§6D6, 6C6, 42, 80		5-1
							5	15	BB11							
							5	19	BB11							
Z, ZS, ZE (321,001 and up)	Vol.	6	L		EX300		15-8-5-5	24/15	UR189	B5			3	6D6, 6C6, 12A7		7-1
5DE (780,001 and up)	Vol.	17	MR48				20-4-5-5	6/15	UR189	B5			5	6A7, 6D6, 75, 43, 25Z5	456	
	Tone	22	L	6												

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SIMPLEX—Continued																
6A	Vol.	12	‡	6	See Note	A5	‡	3	See Note	B1			6	45, 27, [3]24A, 80		1-2
6GII (691,000 and up)	Vol.	‡	N				8-8-21	‡	See Note	B3			5	6A7, 6D6, 85, 76, 43, 25Z5	456	
	Tone	‡	L	6			5	15	BB12							
8J (765,001 and up)	Vol.	17	MR48				4-8	30	2N518				8	[2]6D6, 6A7, 75, [3]42, 80	‡	
	Tone	22	L				8	30	CS133							
							5	15	BB12							
8J (765,361 and up)	Vol.	17	MR48				4-8	1	2N518				8	[2]6D6, 6A7, 75, 76, [2]B5, 80	456	
	Tone	22	MR39				8	13	CS133							
							5	15	BB12							
8JM	Vol.	‡	L			A17	4-8	1	2N518				8	[2]6K7, [2]6A8, [2]6F6, 5Z4	‡	
	Tone	22	L				8	13	CS133							
							5	15	BB12							
SKY HAWK—See Airking																
SKY KING—See Airking																
SKY ROVER	Vol.	6	G12				4-8	4	CM172				4	35, 24, 47, 80		§4-11
SOLAR																
062	Vol.	45	N				4	15	BB11		205		6	[3]39, 36, 37, 38	262	§5-18
062A, 3622A	Vol.	45	N				4	15	BB11		205		6	[3]39, 36, 37, 41	262	
	Tone	34	UC502													
SONGBIRD—See Airking																
SONORA																
All	Vol.	6	MR24	M26			235	8	Order from	Mfr.			4	6D6, 6C6, 25L6G, 25Z5, K55B		
A30, A32	Vol.	10	SRP283				2-1-1-3	3/13	See Note	B1				‡		1-4,5
	Sen.	7	2M		See Note	A3										
A36	Vol.	10	SRP283				2-2-1-3	37	See Note	B1				‡		1-7
	Sen.	7	2M		See Note	A3										
A40	Vol.	10	SRP283				2-1-1-3	3/13	See Note	B1				‡		1-8,9
	Sen.	7	2M		See Note	A3										
	Phono.	63	‡		See Note	A5										
A46	Vol.	10	SRP283				2-3-1-3	37	See Note	B1				‡		1-7
	Sen.	7	2M		See Note	A3										
B31 (25 cycle)	Vol.	12	A2MP				8-8	1	See Note	B3			8	[2]24, 27, [2]45, 80		1-6
E AC	Vol.	14	N				2-2-7	3	See Note	B1			7	[2]6, 27, 71A, 80		
P101	Vol.	‡	N				16-8	1	2S563				3	6C6, 6A3, 83		8-2
	Tone	57	L				10	15	BB22							
P300	Vol.	50	N				60	1	RS208				5	6C5, [2]25L6, [2]25Z5		8-2
	Tone	21	L				16	1	BB24							
							8	13	BB21							
PR101, PR202 (AC)	Vol.	18	MR48				5-5	23	CM172	B3			5	6A7, 6D6, 75, 41, 84	456	8-1
PR101, PR300, PR400 (AC-DC)	Vol.	17	MR48				8-16	1	2S563				5	6A7, 6D6, 75, 25L6, 25Z5	456	8-1
	Tone	147	MR53				5	15	BB12							
2RP (25 cycle)	Vol.	10	SRP283				2-1-1-3	3/13	See Note	B1				‡		1-12
	Sen.	7	2M		See Note	A3										
	Phono.	63	‡		See Note	A5										
3RP	Vol.	10	SRP283				3-2-1-3	37	See Note	B1				‡		
	Sen.	7	2M		See Note	A3										
	Phono.	63	‡		See Note	A5										
3R, 4R	Vol.	10	SRP283				2-1-1-3	3/13	See Note	B1				‡		1-1
	Sen.	7	2M		See Note	A3										
5R (Arcturus Tubes)	Vol.	10	SRP283				2-3-1-3	37	See Note	B1				‡		1-2
	Sen.	7	2M		See Note	A3										
7P Elec. Phonograph	Phono.	63	‡		See Note	A5	2-3-1-3	37	See Note	B1				‡		1-3
DeLuxe 44	Vol.	10	SRP283				2-3-1-3	37	See Note	B1			10	[4]RA1, [2]DE1, [2]SO2, [2]RE2		1-10
	Sen.	7	2M		See Note	A3										
	Phono.	63	‡		See Note	A5										
64	Vol.	6	F12		EX350		8-8-8	28	RM265				7	[3]24A, 27, [2]45, 80		3-1
	Tone	41	N													
70	Vol.	15	O				8-8	1	2N518				8	[3]35, [3]27, 47, 80	262	3-3,4
	Tone	34	UC502													
71, 72, 73	Vol.	15	O				8-8	1	2N518				10	[4]27, [3]35, [3]47, 80	262	2-1
	Tone	44	UC502				8	15	CS123							
							8	13	CS123							
74	Vol.	6	F12		EX350		8, 8	1	RS213				5	[3]24, 47, 80		3-2
84, 85	Vol.	6	F12		EX350		4-8	1	CM172				5	[3]24A, 35, 47, 80	262	2-2,3
86, 87	Vol.	15	N				4-2-4	28	CM173				7	[3]35, [3]24A, 27, 47, 80	262	2-4,5
	Loc'lzr.	‡	Y200MP													
	Tone	34	UC502													
SPARKS-WITHINGTON—See Sparton																
SPARTA—See Simplex																
SPARTON																
AC7	Vol.	7	SRP154				2-2-2	3	See Note	B1			8	[4]C401, [2]71A or C181, BH		1-5
AR19	Vol.	11	Order from	Mfr.									5	[3]24A, 12A		1-1
AR50, AR50A	Vol.	11	Order from	Mfr.									5	[3]24A, 27, 12A		1-1
AC62, AC63	Vol.	7	SRP154				2-2-2	3	See Note	B1			8	[4]C401 or C373, [2]71A or C181, BH		1-5
5, 9	Vol.	8	H	6	RS244		A6610	1	CS131				5	[3]35, 27, 45, 80		2-1
							A6611	11	CS133							
9-30	Vol.	7	SRP154				‡	46	See Note	B1			9	‡		
9A	Vol.	24	DRP246	6			B2327	1	MN273				6	[3]24A, 27, [3]83, 80		2-2
9X	Vol.	109	M		RS244		A8123-1	4	HD682				8	[3]58, 24A, [3]56, 47, 80	172.5	2-6,7
	Tone	34	K12	6	RS244		A9019A	4	CS133							
	Supp.	7	D			A77										
10	Vol.	7	A2MP		RS244	A24	B2748A	1	MN275				7	[3]35, [3]27, 47, 80	172.5	2-3,4
	Tone	22	K12		RS244	A24										
12	Vol.	4	DRP169		RS244		4	4	CS131				5	[3]24A, 35, 47, 80	172.5	2-5,6
	Tone	22	K12		RS244		7	4	CS133							
13, 14, 14A	Vol.	109	M		RS244		A8123-1	4	HD682				8	[3]58, 24A, [3]56, 47, 80	172.5	2-6,7
	Tone	22	K12	6	RS244		A9019A	4	CS133							
	Supp.	7	D			A77										
15	Vol.	7	UC500		RS244		B2748A	1	MN275				8	[3]35, [3]27, 47, 80	172.5	2-8,9
	Tone	22	K12		RS244		A6611	‡	CS133							
15X	Vol.	109	M		RS244		A8123-1	4	HD682				8	[3]58, 24A, [3]56, 47, 80	172.5	2-6,7
	Tone	34	K12	6	RS244		A9019A	4	CS133							
	Supp.	7	D			A77										
16, 16AW	Vol.	111	G				A8123-1	26	HD682				9	[3]27, [3]35, [3]47, 80	172.5	2-10,11
	Tone	44	K12				A6611A	26	CS133							
17, 18	Vol.	111	A10MP	6	RS244		A8123-1	26	HD682				10	[3]58, 24A, [3]56, [3]47, 80	172.5	4-1,3
	Tone	22	L		RS244		A6611A	26	CS133							
	Supp.	‡	UC508			A94										

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SPARTON — Continued																
19A	Vol.	11	Order from	Mfr.									5	[4]24A, 12A		1-1
25, 26, 26AW	Vol.	32	A5MP	6	RS244		8-8-8	28	RM265				10	[4]35,[3]27,[3]45, 80	172.5	2-14,15
	Tone	44	K12		RS244											
27	Vol.	111	C		RS244		A8123-1	26	HD682				13	[2]58, 24A,[4]56,[4]47,[2]80	172.5	3-1,2
	Tone	22	L		RS244		A6611A	26	CS133							
	Supp.	32	UC508			A94										
27A	Vol.	111	A10MP	6	RS244		A8123-1	26	HD682				13	[2]58, 24A,[4]56,[4]47,[2]80	172.5	4-1,5
	Tone	22	L		RS244		A6611A	26	CS133							
	Supp.	32	UC508			A94										
28	Vol.	111	A10MP	6	RS244		A8123-1	26	HD682				13	[2]58, 24A,[4]56,[4]47,[2]80	172.5	4-6,
	Tone	22	L		RS244		A6611A	26	CS133							
	Supp.	32	UC508			A94										
28X	Vol.	111	A10MP	6	RS244	A24	A8123-1	26	HD682				10	[2]58, 24A,[4]56,[4]47, 80	172.5	4-2,3
	Tone	22	L		RS244	A24	A6611A	26	CS133							
	Supp.	‡	UC508		See Note	A94										
30, 30A, 30B	Vol.	111	A5MP	6	RS244		A6384	28	RM265	B65			10	[4]35,[3]27,[3]45, 80	172.5	2-17,22
	Tone	44	K12		RS244											
	Phono.	63	SRP259													
31, 32	Vol.	12	UC507										6	[4]32, 30, 31		1-4
33	Vol.	83	MR44				A8907	1	CS133		292	C3	6	[2]39, 36, 85, 41, 84	172.5	4-7,8
							A9308	15	BB15							
							.02		Buffer	B14						
33A, 33B	Vol.	15	M	6			A10277	1	CM172		292	C3	6	[2]78, 36, 75, 41, 84	172.5	7-1,2
							A9308	15	BB15							
							.02		Buffer	B14						
34	Vol.	15	MR44										7	[2]39, 36, 70,[2]38, 37	172.5	3-3,4
35	Vol.	111	Y5MP		RS244		2-4-1	3	See Note	B2			13	[4]35,[3]27,[3]50,[2]81	172.5	3-5,6
	Tone	44	K12			A77										
	Phono.	63	K12			A77										
36	Vol.	83	M	6			A10001	16	CM175		222		7	[2]78, 36, 85, 37, 89, 79	172.5	4-9
							A10308	15	TN111							
40 Auto	Vol.	15	M										6	[4]36, 37, 38		2-30
41 Police Auto	Vol.	7	Order from	Mfr.									5	[3]36, 37, 38		2-31
41A	Vol.	7	Order from	Mfr.									5	[3]39, 36, 12		4-1
42	Vol.	15	M										6	[3]39, 36, 38, 37		8-8
43 Police Auto	Vol.	15	M										8	[3]39, 36, 37, 38		4-10
43S, 43S-1600, 43S-2400	Vol.	15	M										6	37,[3]39, 36, 41 or 42		
45	Vol.	111	A5MP	6	RS244		8-8-8	28	RM265	B65			10	[4]35,[3]27,[3]45, 80	172.5	2-32,33
	Tone	44	K12		RS244											
	Phono.	63	W													
46P	Vol.	17	M	6			A9308	15	BB15				5	[2]78, 36, 75, 42	172.5	9-1
49	Vol.	26	SRP154										9	[6]C486,[2]01A, 71A		1-5
AR50, AR50A	Vol.	11	P		See Note	A77							5	[3]24, 27, 12A		1-1
51, 52	Vol.	12	UC507										6	[4]32, 30, 31		2-34,35
	Tone	22	K12		See Note	A4										
53 AC-DC	Vol.	17	N	6			A11093-1	11	UR193	B31			5	[2]78, 75, 43, 25Z5	456	5-1,3
54	Vol.	56	M		RS244	A24	A8907	12	CS123				8	[3]34, 25S,[4]30, 32	172.5	3-7,8
	Tone	44	K12	7	RS244	A24										
55 Police Desk	Vol.	26	UC513				B2948	1	MN275				6	[3]24A, 27, C183, 80		2-36,
	Relay	‡	‡		See Note	A5										1-6
56	Vol.	7	C	6		A77	B2748A	1	MN275				7	[3]35,[2]27, 47, 80	172.5	2-37,38
	Tone	22	K12		RS244											
57, 57A, 57B (AC-DC)	Vol.	17	N	6			A11093	11	UR193	B31			5	[2]78, 75, 43, 25Z5	456	5-3,5
58	Vol.	40	Y		RS244		A10318	12	BB60				5	1A6,[2]32, 30, 33	456	6-1,2
60 S.W. Converter							5, 5	1	BB61				4	[3]24A, 27, 80		2-39
61, 61A, 61B, 62	Vol.	15	M	6			A9550	11	UR182	B31			5	[2]78, 75, 43, 25Z5	456	4-11
65, 66, 65T, 66T	Vol.	17	M	6			A11093	11	UR193	B31			6	[2]78, 75, 43, 25Z5	456	5-7,9
67, 68, 68XS	Vol.	17	M	6			A11223-1	1	RM262				6	[2]78, 6A7, 75, 42, 80	345	5-10,12
							A11224-1	13	BB60							
							A10377	15	BB12							
69	Vol.	7	SRP154				‡	‡	See Note	B1			8	[6]C484, 585, 80		1-7
70	Vol.	15	UM147-SS2	M27			A11623	12	BB31				7	[3]34, 1C6, 1A6, 30, 19	345	6-3,4
							A10377	19	BB12							
71, 71B	Vol.	18	UM147-SS2	M26			A9754	4	RM262	B73			6	[2]6D6, 6C6, 75, 42, 80	456	4-12
72	Vol.	56	M	6		A77	A9754	4	RM262	B73			7	[2]6D6, 85, 42, 37, 80	172.5	4-13
	Supp.	58	E			A77										
72PQ (Police)	Vol.	56	M	6		A77	A9754	4	RM262				8	[2]6D6, 37, 85, 6C6, 42, 80	172.5	
	QAVC	12	K12			A77	A10377	‡	BB12							
73	Vol.	17	M	6	RS244	A24	A9754	4	RM262				6	[2]6D6, 37, 75, 42, 80	456	7-4,6
73AX, 73BX	Vol.	17	M	6	RS244		A9754	4	RM262				6	[2]78, 75, 42, 80	456	7-5,6
74	Vol.	109	M		RS244		A10018	35	CS133				9	[2]58, 24A,[2]56,[2]2A5, 80	172.5	4-14
	Tone	22	K12	6	RS244		A10118	35	CM172							
	Supp.	7	E		RS244											
75A	Vol.	83	M		RS244		A8123	4	CS131				8	[2]58, 56, 57, 55, 47, 80	456	5-13,14
	Tone	22	K12	6	RS244		A9019A	4	CS133							
	Supp.	7	UC510		RS244											
75AX	Vol.	83	M		RS244		A8123	4	HD682				8	[2]58, 57, 56, 55, 47, 80	456	8-1,2
	Tone	22	K12	6	RS244		A9019A	4	CS133							
76	Vol.	15	M	6		A77	A8123-1	26	HD682				13	[2]58, 57,[4]56,[2]2A5, 5Z3	456	7-7,8
	Tone	22	L			A77	A6611A	26	CM173							
	Supp	7	UC510			A77	A10609-1	13	CS130							
77	Vol.	15	UM147-SS2	M27			A11623	12	BB31				6	[3]34, 1C6, 1A6, 19	345	6-3,4
							A10377	19	BB12							
78	Vol.	62	M	6		A77	A9754	4	RM262	B73			8	[2]6D6,[2]37, 42, 80	172.5	4-15
	Sen.	7	E			A77										
79, 79A	Vol.	7	SRP154				‡	‡	See Note	B1			8	[6]C484, 585, 80		1-7
80	Vol.	56	M	6		A77	11223	1	RM262				8	[3]78, 6A7, 76, 85, 42, 80	456	5-15,18
	Tone	22	L			A77	A10377	15	BB12							
	Voltage	26	A5MP			A77										
	Supp.	58	UC510			A77										
81, 81A	Vol.	40	Y		RS244	A24	A10318	12	BB60				5	1A6,[2]32, 30, 33	456	4-16, 7-18
	Fil.	29	Q													
82	Vol.	40	Y		RS244	A24	A10318	12	BB60				5	1A6,[2]32, 30, 19	456	4-17
	Fil.	29	Q													
83, 84, 85X, 86X	Vol.	56	M	6		A77	11223	1	RM262				8	[3]78, 6A7, 76, 85, 42, 80	456	5-15,18
	Tone	22	L			A77	A10377	15	BB12							
	Voltage	26	A5MP			A77										
	Supp.	58	UC510			A77										
89, 89A	Vol.	7	SRP154				‡	‡	See Note	B1			8	[6]C484, 585, 80		1-7
99	Vol.	7	SRP154				‡	‡	See Note	B1			11	[6]484, 26,[2]50,[2]81		1-10,11
101	Vol.	7	SRP154				1-4-1	26	See Note	B1			13	[6]484, 27,[2]26,[2]585,[2]81		4-18,19
	Phono.	63	SRP259													
103	Vol.	98	SRP258				1-4-1	26	See Note	B1			13	[7]484,[2]485,[2]C586,[2]81		2-40,41
104, 105X, 105XS	Vol.	56	M	6		A77	A11223-1	1	RM262				10	[3]78, 6A7, [2]76, 85, [2]42, 5Z3	456	5-19,20
	Tone	22	L			A77	A10377	15	BB12							
	Voltage	26	UC510			A77										
	Supp.	98	Y200MP			A77										
109 DeLuxe	Vol.	7	SRP154				‡	‡	See Note	B1			10	484, or 485, [2]585, or 586, [2]81		1-12

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SPARTON—Continued																
110, 111 (DeLuxe) (Two Types)	Vol.	7	SRP154				1-4-1	3	See Note	B1			12	6484,226,250,281		1-13
111A	Vol.	7	SRP259				1-4-1	3	See Note	B1			13	7484,226,2C586,281		2-43
111X	Vol.	111	A10MP		RS244		A8123-1	26	HD682				10	258, 24A,456,247, 80	172.5	4-2,3
	Tone	22	L		RS244		A6611A	26	CS133							
	Supp.	‡	UC508			A91										
134, 136	Vol.	15	M	6	RS244		A8123-1	37	HD682				13	358, 2A7,456,2A5, 5Z3	456	6-5,6
	Tone	22	L		RS244		A6611A	37	CS133							
	Sen.	7	UC510		RS244		A10609-1	13	BB60							
	Voltage	26	E			A77	A6316-1	19	CS125							
							A10377	15	BB12							
							A11582	15	BB12							
135	Vol.	56	M	6		A77	A112234	1	RM262				10	78, 6A7, 76, 85, 42, 5Z3	456	5-19,20
	Tone	22	L			A77	A10377	15	BB12							
	Volt.	26	A5MP			A77										
	Supp.	98	UC510			A77										
235	Vol.	58	SRP258				15-5	1	MN273				10	7484,2C183, 80		2-44
	Phono.	63	SRP259													
301 AC	Vol.	7	SRP154				2-2	1	See Note	B1			10	6484,250,281		1-14
301 DC	Vol.	7	SRP154				3	‡	See Note	B11			8	6484,2182		2-45
333	Vol.	17	UC511	6			A10277	1	Order from	Mfr.	292	C3	5	6F7, 78, 75, 41, 84	456	4-20
							A9308	15	BB15							
							.02		Buffer	B14						
400	Vol.	24	DRP246				15-5	1	MN273				6	24A, 27,2C183, 80		
410 AC (Junior)	Vol.	24	DRP246				B2327	1	MN273				6	24A, 27,2C183, 80		2-46, 1-15
410 DC (Junior)	Vol.	24	DRP246										5	24A, 27,2C183		2-48, 1-17
417X	Vol.	6	F7	6			A12706	1/15	3S579				4	6A7, 6F7, 41, 80	456	9-9
420 AC (Jewell)	Vol.	24	DRP246				B2327	1	MN273				6	24A, 27,2C183, 80		2-46, 1-15
420 DC (Jewell)	Vol.	24	DRP246										5	24A, 27,2C183		2-48, 1-17
427X	Vol.	7	UC501	6			A14101	1/15	3S579				4	6A7, 6F7, 42, 80	456	8-3,4
437X	Vol.	7	UC501	6			A14101	1/15	3S579				4	6A7, 6F7, 42, 80	456	8-3,4
457X	Vol.	7	UC501	6			A14101	1/15	3S579				4	6A7, 6F7, 42, 80	456	8-3,4
475A	Vol.	83	M		RS244		A8123	4	HD682				8	58, 57, 55, 56, 47, 80	456	5-13,14
	Tone	22	K12	6	RS244		A9019A	4	CS133							
	Sen.	58	UC510		See Note	A77										
475AX, 478AX	Vol.	83	M		RS244		A8123	4	HD682				8	58, 57, 56, 55, 47, 80	456	8-1,2
	Tone	22	K12	6	RS244		A9019A	4	CS133							
478	Vol.	62	M	6	See Note	A77	A9754	4	RM262	B73			8	6D6,37, 42, 80	172.5	4-15
	Supp.	58	E		RS244											
478A	Vol.	83	M		RS244		A8123	4	HD682				8	58, 57, 56, 55, 47, 80	456	5-13,14
	Tone	22	K12	6	RS244		A9019A	4	CS133							
	Sen.	58	UC510			A94										
506	Vol.	17	N	6			A11093-1	11	UR193	B31			5	78, 75, 43, 25Z5	456	6-7,8
516, 516X	Vol.	76	N	6			A12307	4	CM170				5	6A7, 78, 75, 42, 80	456	7-11,12
	Tone	76	M													
517	Vol.	15	O	6			A14102	1/15	3S579				5	6A7, 78, 75, 42, 80	456	8-5,6
518, 518X	Vol.	18	N				A14428	1/15	3S579				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	9-2,3
	Tone	22	O	6												
528-2	Vol.	18	N	6			A14273	12	BB31				5	1C7G, 1D5G, 1H6G, 33	456	9-3,4
	Tone	22	L													
536, 536X	Vol.	17	O	6			A12048	1/15	3S581				5	6A7, 6K7, 75, 6F6, 80	345	7-13,14
537	Vol.	15	O	6			A14102	1/15	3S579				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	8-6,7
	Tone	22	O													
538, 538X	Vol.	18	N				A14073	25	RS216				6	6A8G, 6K7G, 6Q7G, 6E5, 6F6G, 5Y3G	456	9-5,6
	Tone	22	O				A14072	25	WE3050							
546X	Vol.	17	N	6			A12307	4	CM170				5	6A7, 78, 75, 42, 80	456	7-11,12
	Tone	147	M				A12306	20	BB15							
547X	Vol.	15	O	6			A14102	1/15	3S579				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	8-11,14
	Tone	22	O													
548X	Vol.	18	MR48	M26			A14073	25	RS216				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	345	9-7
	Tone	22	O				A14072	25	WE3050							
557	Vol.	15	O	6			A14102	1/15	3S579				5	6A7, 78, 75, 42, 80	456	8-5,6
558B, 558BX, 558C, 558CX	Vol.	18	N				A14428	1/15	3S579				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	9-2,3
	Tone	22	O	6												
564	Vol.	7	SRP154				2-2-2	3	See Note	B1			10	6484,2C586,281		2-50
564 DC	Vol.	7	SRP258				3	‡	See Note	B11			9	7484A,2182A		2-53
566	Vol.	17	N	6			A11093-1	11	UR193	B3			5	78, 75, 43, 25Z5	456	6-7,8
567	Vol.	15	O	6			A14102	1/15	3S579				5	6A7, 78, 75, 42, 80	456	8-5,6
568, 568X	Vol.	18	N				A14228	1/15	3S579				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	9-2,3
	Tone	22	O	6												
570	Vol.	7	SRP258				2-2-2	3	See Note	B1			11	7C484,2C586,281		2-50
570 DC	Vol.	7	SRP258				3	‡	See Note	B11			9	7484A,2182A		2-53
574	Vol.	7	SRP259				1-4-1	3	See Note	B1			13	7484,226,2C586,281		2-43
577	Vol.	17	O	6			A14102	1/15	3S579				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	8-6,7
	Tone	22	O													
578	Vol.	98	SRP258				1-4-1	26	See Note	B1			12	7484,2485,2C586, 81		2-41
578X	Vol.	124	MR48				A14428	1/15	3S579				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y3G	456	9-2
	Tone	22	O	6												
588-2	Vol.	18	N	6			A14273	12	BB31				5	1C7G, 1D5G, 1H6G, 33	456	9-3,4
	Tone	22	L													
589	Vol.	7	SRP258				15-5	1	MN273				10	7484,2182, 80		1-19
591, 593	Vol.	7	SRP154				15-5	1	MN273				9	6484,2C182B, 80		2-52
594	Vol.	17	N	6			A11093-1	11	UR193	B31			5	78, 75, 43, 25Z5	456	6-7,8
600	Vol.	7	SRP258				15-5	1	MN273				10	7484,2183, 80		1-20
600A	Vol.	24	DRP246	6			B2327	1	MN273				6	24A, 27,2483, 80		2-2
600 DC	Vol.	7	SRP258				3	‡	See Note	B11			9	7484A,2182A		2-53
606	Vol.	‡	A10MP		RS244		4	26	HD682				13	258, 24,456,247,280	172.5	
	Tone	22	L		RS244		5	26	CS133							
	Supp.	‡	UC509		See Note	A91										
608, 608B	Vol.	18	MR48	M26			A14500	1	2N514				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z6G, BK49B	456	9-10
608, 608B, G, K, R, V, W	Vol.	18	MR48	M26			A14500	1	2N514				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z6G, BK49B	456	9-10,11
610	Vol.	7	SRP258				15-5	1	MN273				10	7484,2183, 80		1-20
610A	Vol.	24	DRP246	6			B2327	1	MN273				6	24A, 27,2483, 80		2-2
610 DC	Vol.	7	SRP258				3	‡	See Note	B11			9	7484A,2182A		2-53
616, 616X, 616M,'616MX	Vol.	17	O	6			A12048	1/15	3S581				4	78-6K7, 6A7, 42-6F6, 80	345	6-9,10
617, 617X	Vol.	77	N				A14073	25	RS216				6	6K7G, 6A8G, 6Q7G, 6F6G, 5Y3	345	8-9,10
	Tone	22	O	6			A14072	25	WE3050							
620	Vol.	7	SRP258				15-5	1	MN273				10	7484,2183, 80		1-20
620 DC	Vol.	7	SRP258				3	‡	See Note	B11			9	7484A,2182A		2-53

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SPARTON—Continued																
620X	Vol.	109	M		RS244		A8123-1	4	HD682				8	²58, 24A, ²56, 47, 80	172.5	2-6,7
	Tone	34	K12	6	RS244		A9019A	4	CS133							
	Supp.	7	D			A94										
628, 628X	Vol.	18	N	6			A14073	25	RS216				6	6A8G, 6K7G, 6Q7G,		
	Tone	22	O				A17072	25	WE3050					6E5, 6F6G, 5Y3G	456	9-5,6
636MX	Vol.	15	O	6			A12048	1/15	3S581				6	78, 6A7, 6K7, 75, 6F6, 5Y3	345	7-19,20
638-6	Vol.	18	MR48	M27			A14326	1	2N518		245	C3	6	1C7G, ³1D5G, 1H6G,		
	Tone	149	MR53				A14273	12	CS123					1H4G, 1E7G	456	9-11,12
							.009		Buffer	B14						
655	Vol.	17	M	6			A11093	11	UR193	B31			6	²78, 75, 43, 25Z5	456	6-11,12
666, 666X	Vol.	17	O	6			A12048	1/15	3S581				6	²78-6K7, 6A7, 75, 42-6F6, 80	345	7-15,17
666M, 666MX	Vol.	17	O	6			A12048	1/15	3S581				5	78 or 6K7, 6A7, 75, 42 or 6F6, 80	345	6-9,10
667, 667X	Vol.	77	N				A14073	25	RS216				6	²6K7G, 6A8G, 6Q7G,		
	Tone	22	O	6			A14072	25	WE3050					6F6, 5Y3	345	8-9,10
668	Vol.	18	N				A14073	25	RS216				6	6A8G, 6K7G, 6Q7G,		
	Tone	22	O	6			A14072	25	WE3050					6E5, 6F6G, 5Y3G	456	9-5,6
668X	Vol.	18	N				A14073	25	RS216				6	6A8G, 6K7G, 6Q7G,		
	Tone	22	O	6			A14072	25	WE3050					6F6G, 6E5, 5Y3G	456	9-6
676 (Late)	Vol.	17	UM150		See Note	A96	A12674	1/15	3S579		294	C3	6	²6K7, 6A8, 6Q6, 6F6, 84	172.5	9-30
	Tone	22	UM133		See Note	A96	.009		Buffer	B14						
678	Vol.	18	N				A14073	25	RS216				6	6A8G, 6K7G, 6Q7G,		
	Tone	22	O	6			A14072	25	WE3050					6E5, 6F6G, 5Y3G	456	9-5,6
678A, 678X	Vol.	18	N				A14073	25	RS216				6	6A8G, 6K7G, 6Q7G,		
	Tone	22	O	6			A14072	25	WE3050					6E5, 6F6G, 5Y3G	456	9-5
685	Vol.	17	M	6			A11223-1	1	RM262				6	²78, 6A7, 75, 42, 80	345	5-11,12
							A11224	13	BB60							
							A13077	15	BB12							
686, D686, H686	Vol.	17	UM150		See Note	A96	A12674	1/15	3S579		294	C3	6	²6K7, 6A8, 6Q7, 6F6, 84	172.5	9-30
	Tone	22	UM133		See Note	A96	.009		Buffer	B14						
688-6	Vol.	18	MR48	M27			A14326	1	2N518	B3	245	C3	6	1C7G, ³1D5G, 1H6G,		
	Tone	149	MR53				A14273	12	CS123					1H4G, 1E7G	456	9-11,12
							.009		Buffer	B14						
691	Vol.	17	M	6			A11223-1	1	RM262				6	²78, 6A7, 75, 42, 80	345	5-10,12
							A11224	13	BB60							
							A10377	15	BB12							
707	Vol.	‡	A10MP		RS244		A8123-1	26	HD682				13	²58, 24, ²56, ²47, ²80	172.5	
	Tone	22	L		RS244		A6611-A	26	CS133							
	Supp.	‡	UC508		See Note	A94										
716, 716X	Vol.	17	M	6		A77	A12048	1/15	3S581				7	²78, 6A7, 75, 42, 80	456	6-13,14
							A10377	15	BB12							
727X, 727XD	Vol.	15	M				A14073	25	RS216				7	²6K7, 6A8, 6Q7G,		
	Tone	107	N				A14072	25	WE3050					²6F6G, 5Y3	456	8-12,14
737	Vol.	7	SRP258				B2948	1	MN273				10	²484, ²182, 80		2-55, 1-20
737DC	Vol.	7	SRP258				3	‡	See Note	B11			9	²484A, ²182A		2-53
738	Vol.	45	M				A17073	25	RS216				8	6A8G, 6K7G, 6H6G,		
	Tone	22	N				A14072	25	WE3050					6J7G, 6E5, 6Q7G, 6V6G, 5Y3G	456	9-13
740	Vol.	7	SRP258				2-2-2	3	See Note	B1			10	²484, ²C586, 81		2-50
740 DC	Vol.	7	SRP258				3	‡	See Note	B11			9	²484A, ²182A		2-53
748X	Vol.	17	MR44				A14073	25	RS216				7	²6K7G, 6A8G, 6Q7G,		
	Tone	22	O	6			A14072	25	WE3050					6F6G, 6E5, 5Y3G	345	9-15,16
750 AC	Vol.	7	SRP258				2-2-2	3	See Note	B1			11	²484, ²C586, ²81		2-50
750 DC	Vol.	7	SRP258				3	‡	See Note	B1			9	²484A, ²182A		2-53
750A, 750X	Vol.	111	A10MP		RS244		A8123-1	26	HD682				10	²58, 24A, 456, ²47, 80	172.5	4-2,3
	Tone	22	L		RS244		A6611A	26	CS133							
	Supp.	‡	UC508			A94										
766, 766X, 766XP, 766XS	Vol.	17	M	6		A77	A12048	1/15	3S581				7	²78, 6A7, 75, 42, 80	456	6-13,14
							A10377	15	BB12							
768, 768X	Vol.	18	M				A14073	25	RS216				7	²6K7G, 6A8G, 6Q7G,		
	Tone	22	O				A14072	25	WE3050					6E5, 6F6G, 5Y3	456	9-16,17
							A14403	13	WE3050							
775	Vol.	15	UM147-SS2	M27			A11623	12	BB31				7	²34, 1C6, 1A6, 30, 19	345	6-3,4
							A10377	19	BB12							
778, 778X	Vol.	18	M				A14073	25	RS216				7	²6K7G, 6A8G, 6Q7G,		
	Tone	22	O				A14072	25	WE3050					6E5, 6F6G, 5Y3	456	9-16,17
							A14403	13	WE3050							
827X, 827XD	Vol.	83	500M		See Note	A19	A14122	25	RS216				9	²6K7, 6A8, 6Q7G,		
	Tone	22	N	6			A14113	25	WE3050					6J7G, 6N6G, 6E5, 5Y3	456	8-17
835	Vol.	56	M	6		A77	11223	1	RM262				8	²78, 6A7, 76, 85, 42, 80	456	5-15,18
	Tone	22	L			A77	A10377	15	BB12							
	Voltage	26	A5MP			A77										
	Supp.	58	UC510			A77										
867	Vol.	77	M				A14073	25	RS216				8	6K7, 6A8, 6K7G,		
	Tone	107	N				A14072	25	WE3050					6Q7G, ²6F6G, 5Y3, 6E5	456	8-13,14
870	Vol.	7	SRP258				1-4-1	3	See Note	B1			13	²484, ²26, ²C586, ²81		2-43
870A, 870X	Vol.	111	A10MP		RS244		A8123-1	26	HD682				10	²58, 24, 456, ²47, 80	172.5	4-2,3
	Tone	22	L		RS244		A6611A	26	CS133							
	Supp.	‡	UC508			A94										
877X	Vol.	15	M				A14073	25	RS216				8	²6K7, 6A8, 6Q7G, 6E5,		
	Tone	107	N				A14072	25	WE3050					²6F6G, 5Y3	456	8-12,14
928X	Vol.	17	M				A14122	25	RS216				9	²6K7G, 6A8G, ²6Q7G,		
	Tone	22	N	6			A14113	25	WE3050					6G7G, 6C5G, 6E5, 5Y3G	456	9-21
930 AC	Vol.	7	SRP154				A14516	13	WE3050				9	²C484, ²182, 80		1-21
931 AC	Vol.	7	SRP154				‡	‡	See Note	B1			9	²C484, ²C182B, 80		1-22
931 DC	Vol.	7	SRP154				B2327	1	MN273				8	²C484A, ²C182A		1-22
966, 966X	Vol.	15	M	6		A77	3	‡	See Note	B11			10	²6K7, 6A7, 6H6, 6E5,		
							A12215	1	2S563					6C5, ²42, 5Z3	456	7-21,22
968, 968X	Vol.	18	M				A14122	25	RS216				9	²6K7G, 6A8G, ²6Q7G,		
	Tone	22	N	6			A14113	25	WE3050					6E5, 6C5G, 6V6G, 5Y3G	456	9-18,19
							A14516	13	WE3050							
977	Vol.	15	M	6		A77	A12048	1/15	3S581				10	²76, 6A7, ²6K7, 6H6, 6F5, 6E5, 42, 80	456	9-23
987	Vol.	77	500M No. 1		See Note	A19	A14122	25	RS216				9	²6K7, 6A8, 6K7G,		
	Tone	22	N	6			A14113	25	WE3050					6Q7G, 6J7G, 6N6G, 5Y3G, 6E5G	456	8-18
997X	Vol.	83	500M		See Note	A19	A14122	25	RS216				9	²6K7, 6A8, 6Q7G,		
	Tone	22	N	6			A14113	25	WE3050					6J7G, 6N6G, 6E5, 5Y3G	456	8-17
1068, 1068X, 1078, 1078X	Vol.	18	MR44				A14122	25	RS216				9	²6K7G, 6A8G, 6H6G,		
	Tone	22	N	6			A14113	25	WE3050					6J7G, 6Q7G,		
							A14516	13	WE3050					6V6G, 5Y3G	456	9-19,20

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SPARTON—Continued																
1116X	Vol.	15	N	6		A77	A12330	1	2S563				12	[3]6K7, 6L7, [3]6C5, 6H6, [3]6F6, 5Z3, 6E5	456	7-23,24
	Tone	22	L			A77	A11223-1	24	RM262							
	Supp.	7	UC510			A77	A10377	15	BB12							
1166, 1166XP, 1166XS	Vol.	15	N	6			A12330	1	2S563				12	[3]6K7, 6L7, [3]6C5, 6H6, [3]6F6, 5Z3, 6E5	456	7-23,25
	Tone	22	L				A11223-1	24	RM262							
	Supp.	7	UC510				A10377	15	BB12							
1167	Vol.	83	500M		See Note	A19	A14073	54	RS216				10	[3]6K7, 6A8, 6Q7G, 6C5G, 6J7G, [3]45, 5Y3	456	8-14,16
	Tone	...‡..	.....‡		See Note	A5	A14138	...‡..	RS216	B184						
							A14139	54	RS216							
							A14184	54	2S568	B8						
1176, 1176XP, 1176XS, 1186, 1196	Vol.	15	N	6		A77	A12330	1	2S563				12	[3]6K7, 6L7, [3]6C5, 6H6, [3]6F6, 6E5, 5Z3	456	7-23,25
	Tone	22	L			A77	A11223-1	24	RM262							
	Supp.	7	UC510			A77	A10377	15	BB12							
1268	Vol.	18	TRP608				A14073	...‡..	RS216				12	[3]6K7G, 6A8G, 6H6G, 6E5, 6J7G, 6R7G, 6J5G, [3]45, 5Y3G	456	9-25,26
	Tone	...‡..	O	6			A14139	...‡..	RS216							
							A14138	...‡..	RS216							
							A14184	...‡..	2S568	B8						
1288, 1288P	Vol.	18	TRP608				A14073	...‡..	RS216				12	[3]6K7G, 6A8G, 6H6G, 6E5, 6J7G, 6R7G, 6J5G, [3]45, 5Y3G	456	9-25,26
	Tone	...‡..	O	6			A14139	...‡..	RS216							
							A14138	...‡..	RS216							
							A14184	...‡..	2S568	B8						
1466	Vol.	15	N	6		A77	A12330	1	2S563				15	[3]6K7, 6L7, [3]6C5, 6E5, 6H6, [3]6F6, [3]5Z3, [3]6A6	456	7-26
	Tone	22	L			A77	A11223	13	RM262							
	Sen.	7	UC510			A77										
1476	Vol.	15	N	6		A77	A12330	1	2S563				15	[3]6K7, 6L7, [3]6C5, 6E5, 6H6, [3]6F6, [3]6A6, [3]5Z3	456	7-26
	Tone	22	L			A77	A11223	13	RM262							
	Sen.	7	UC510			A77										
1567	Vol.	18	.....‡		See Note	A19	A12674	1/15	3S579				12	[4]6K7G, 6A8, 6Q7G, 6E5, 6J7G, 6C5G, [3]45, 5Y3	456	9-27,28
	Tone	22	.....‡		See Note	A5										
1568, 1588P	Vol.	18	Order from	Mfr.			A14548	1	RS216				15	[4]6K7G, 6A8G, 6H6G, 6Q7G, 6E5, 6R7G, 6C5G, 6J5G, 5Y3G, [2]2A3, 5X4G	456	
	Tone	...‡..	.....‡		See Note	A5	A14260	1	RS216							
							A14387-1	1	RS216							
							A14545-1	1	RS216							
							A14184	1	WE3050							
							A14259	17	RS207	B3						
SPENCER (See Truevalue)																
SPIEGEL																
100	Vol.	18	MR48	M26			P160	1	2N518				5	6A7, 6D6, 75, 42, 80	456	9-1
120	Vol.	45	MR48	M26			P474	32	WE450				7	6L7, 6K7, 6H6, 6F5, 6F6, 6C5, 5Z4	456	9-3
	Tone	34	L				P160	32	2N518							
							P304	15	BB12							
130	Vol.	18	MR48	M26			P474	32	WE450				8	6L7, 6K7, [3]6Q7, 6C5, [3]6F6, 5Z4	456	9-5
	Tone	44	L				P160	32	2N518							
							P304	15	BB12							
132	Vol.	18	MR48	M26			8812	27	2P546				5	6A7, 6D6, 75, 43, 25Z5	465	9-6,8
134	Vol.	18	MR48	M26			P474	32	WE450				8	6L7, 6K7, [3]6Q7, 6C5, [3]6F6, 5Z4	456	9-5
	Tone	44	L				P160	32	2N518							
							P304	15	BB12							
140	Vol.	45	MR48	M26			P474	32	WE450				7	6L7, 6K7, 6H6, 6F5, 6F6, 6C5, 5Z4	456	9-3
	Tone	34	L				P160	32	2N518							
							P304	15	BB12							
144	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, [3]34, [3]30, 19	456	9-6
	Tone	...‡..	L				.01-.01		Buffer	B14						
146	Vol.	18	MR48	M26			P474	32	WE450				8	6L7, 6K7, [3]6Q7, 6C5, [3]6F6, 5Z4	456	9-5
	Tone	44	L				P160	32	2N518							
							P304	15	BB12							
150	Vol.	18	MR48										4	1C6, 34, 1B5, 33	465	9-11
152	Vol.	45	MR48	M26			P391	1	2N516		245C	C3	7	1C6, [3]34, [3]30, 19	456	9-6
							.01-.01		Buffer	B14						
167	Vol.	45	SRP275	7			P958	1	2N517		245C	C3	6	1C6, 34, [3]30, 32, 19	456	9-9
	Tone	44	L				.01-.01		Buffer	B14						
178	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, [3]34, [3]30, 19	456	9-6
							.01-.01		Buffer	B14						
182, 183	Vol.	45	SRP275	7			P958	1	2N517		245C	C3	6	1C6, 34, [3]30, 32, 19	456	9-9
	Tone	44	L				.01-.01		Buffer	B14						
186	Vol.	17	UC514	6			P795	4	CM172		294	C3	6	6D6, 6A7, 6K7, 75, 6F6, 84	175	9-10
	Tone	22	MR39				G864	15	BB12							
							.0075		Buffer	B14						
188	Vol.	18	MR48										4	1C6, 34, 1B5, 33	465	9-11
190	Vol.	18	MR48	M26			P474	32	WE450				8	6L7, 6K7, [3]6Q7, 6C5, [3]6F6, 5Z4	456	9-5
	Tone	44	L				P160	32	2N518							
							P304	15	BB12							
1910	Vol.	18	MR48										4	1C6, 34, 1B5, 33	465	9-11
2000, 2001	Vol.	18	N	6			P1591	23	2S567				6	6A7, 6D6, 75, 6H5, 41, 80	456	9-12
	Tone	22	L													
2050, 2051	Vol.	18	N	6			P1591	23	2S567				6	6A7, 6D6, 75, 6H5, 41, 80	456	9-12
	Tone	22	L													
2058, 2059 (1938)	Vol.	140	1 Meg. No. 1		See Note	A19	P1937	1	WE3050				11	6A8, [3]6K7, 6J7, [4]6F5, [3]6F6, 5Z3	456	9-13
	Tone	140	MR53				P1939	1/13	2N518							
2080, 2081	Vol.	76	MR48	M26			3375	23	RS216				8	6A7, 6D6, 75, 76, [2]42, 80, 6G5	456	9-16
	Tone	76	MR55				3351	23	WE825							
2154, 2155 (1938)	Vol.	62	O				10	19	BB12				5	1A6, [1]1A4, 30, 1G5G, 1B1	...‡..	9-17
	Tone	22	L													
2212, 2213, 2214, 2215, 2254, 2255, 2256, 2257, 2280, 2281	Vol.	18	N	7			3575	1	CS133		245	C3	5	6D8G, 6S7G, 6T7G, 33, 1H4G	456	9-18
	Tone	147	P				3574	13	2S563							
							.01		Buffer	B14						
4054 (1937)	Vol.	140	1 Meg. No. 1		See Note	A19	P1937	1	WE3050				11	6A8, [3]6K7, 6J7, [4]6J5, [3]6F6, 5Z3	456	9-13
	Tone	140	MR53				P1939	1/13	2N518							
4400	Vol.	18	MR48	M26			.....‡	1	See Note	B3	245C	C3	7	6K8G, 6S7G, 6AB5, 6T7G, [3]30, 19	456	9-19
	Tone	34	MR39				.01-.01		Buffer	B14						
4404	Vol.	18	N	7			P958	1	2N518		245C	C3	6	6D8G, 6S7G, 6T7G, [3]30, 19	456	9-21
	Tone	44	L				.01-.01		Buffer	B14						
4420	Vol.	18	MR48	M26			.....‡	1	See Note	B3	245C	C3	7	6K8G, 6S7G, 6AB5, 6T7G, [3]30, 19	456	9-19
	Tone	34	MR39				.01-.01		Buffer	B14						
4452	Vol.	18	N	7			P958	1	2N518		245C	C3	6	6D8G, 6S7G, 6T7G, [3]30, 19	456	9-21
	Tone	44	L				.01-.01		Buffer	B14						
4500 (4536)	Vol.	6	SRP263	6	EX200		1258	25	RS213				4	78, 77, 42, 80 or 6D6, 6C6, 42, 80		9-20
							1260	25	RS213							
4500, 4502, 4504 (6Q)	Vol.	62	O				10	19	BB12				5	1A6, [1]1A4, 30, 1G5G, 1B1	...‡..	8-4
	Tone	22	L													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
SPIEGEL—Continued																
4508	Vol.	15	MR55	M26			P81039	2	RS216				10	[4]6D6,[3]76,[3]45, 80	456	9-23
	Tone	41	UC504				P81018	2/13	CM173							
4509	Vol.	15	MR55	M26			P81058	48	RS216				12	[4]6D6,[3]76,[3]42,[3]80	456	9-25
	Tone	21	L				P81056	48	2N516							
							P82000	48	BB19							
							P81039A	48	RS216							
4510	Vol.	45	N										5	1A6, 34, 30, 32, 33, 5E1	465	9-32
4512 (6Q)	Vol.	62	O				10	19	BB12				5	1A6, [2]1A4, 30, 1G5G, 1B1	‡	9-18
	Tone	22	L													
4512 (7700)	Vol.	45	N	7			1291	12	ST585				6	1C6, 34, [3]30, 32, 19	465	9-27
4514 (6Q)	Vol.	62	O				10	19	BB12				5	1A6, [2]1A4, 30, 1G5G, 1B1	‡	9-17
	Tone	22	L													
4514 (9148)	Vol.	45	MR48										9	[3]34, 1C6,[3]30	465	9-29,30
	Tone	22	SRP263													
4516	Vol.	45	N										5	1A6, 34, 30, 32, 33, 5E1	465	9-32
4533 (6246)	Vol.	45	N										5	1A6, 34, 30, 32, 33, 5E1	465	9-32
4550	Vol.	62	O				10	19	BB12				5	1A6, [2]1A4, 30, 1G5G, 1B1	‡	9-17
	Tone	22	L													
5006	Vol.	76	MR48	M26			3375	23	RS216				8	6A7, 6D6, 75, 76, [3]42, 80, 6G5	456	9-16
	Tone	76	MR55				3351	23	WE825							
5052	Vol.	76	MR48	M26			3375	23	RS216				8	6A7, 6D6, 75, 76, [3]42, 80, 6G5	456	9-16
	Tone	76	MR55				3351	23	WE825							
5058, 5060	Vol.	18	N				18-102	1/15	3S579				6	6A7, 6D6, 75, 6G5, 41, 80	456	9-35
	Tone	21	N	6												
5102	Vol.	17	MR48										4	1C6, 34, 1F6, 33, 5E1	465	9-33
5200, 5210, 5214, 5216	Vol.	18	N				1845	1	ST585				6	30, 1A6, 1A4, 6T7G, 6L5G, 19	456	9-36
	Tone	21	‡		See No	te A5	16-100	15	BB12							
5218	Vol.	18	N	7			3575	1	CS133		245	C3	5	6D8G, 6S7G, 6T7G, 33, 1H4G	456	9-18
	Tone	147	P				3574	13	2S563							
							.01		Buffer	B14						
5300	Vol.	17	UC514	6			P795	4	CM172		294	C3	6	6D6, 6A7, 6K7, 75, 6F6, 84	175	9-10
	Tone	22	MR39				G864	15	BB12							
							.0075		Buffer	B14						
6504	Vol.	18	N				18-202	25	RS215				6	76, 6A7, 6D6, 75, 42, 80	456	9-35
	Tone	21	N	6			18-201	25	RS215							
6510, 6514, 6520	Vol.	18	MR48				8-4	1	2N518				5	6A7, 6D6, 75, 42, 80	456	9-37
6525	Vol.	18	MR48				16	25	RS216				6	6A7, 6D6, 75, 6G5, 41, 1V	456	9-1
							8	25	WE825							
6532	Vol.	18	MR48				16	25	RS216				6	6A7, 6D6, 75, 6G5, 41, 1V	456	9-41
							8	25	WE825							
6540	Vol.	18	MR48				16	25	RS216				6	6A7, 6D6, 75, 6G5, 41, 1V	456	9-41
							8	25	WE825							
6544	Vol.	66	MR48	M26			3375	23	RS216				8	6A7, 6D6, 75, 76, [3]42, 80, 6G5	456	9-16
	Tone	22	MR55				3351	23	WE825							
6560	Vol.	18	MR48				16	25	RS216				6	6A7, 6D6, 75, 6G5, 41, 1V	456	9-41
							8	25	WE825							
6568	Vol.	76	MR48	M26			3375	23	RS216				8	6A7, 6D6, 75, 76, [3]42, 80, 6G5	456	9-16
	Tone	76	MR55				3351	23	WE825							
6590	Vol.	18	N				18-102	1/15	3S579				6	6A7, 6D6, 75, 6G5, 41, 80	456	9-36
	Tone	21	N	6												
6600	Vol.	18	MR48										4	1C6, 34, 1F6, 33, 5E1	465	9-38
6712, 6716, 6766, 6772	Vol.	18	N	7			3575	1	CS133		245	C3	5	6D8G, 6S7G, 6T7G, 33, 1H4G	456	9-18
	Tone	147	P				3574	13	2S567							
							.01		Buffer	B14						
6800	Vol.	17	UC514	6			P795	4	CM172		294	C3	6	6D6, 6A7, 6K7, 75, 6F6, 84	175	9-10
	Tone	22	MR39				G864	15	BB12							
							.0075		Buffer	B14						
9902	Vol.	18	N	6			9659	1	RM262				5	2A5, 2A6, 2A7, 58, 80	465	9-42
	Tone	22	N				1108	13	CS130							
9904	Vol.	17	MR48	M26			P80916	23	RS213				7	[3]6D6, 6B7, 76, 42, 80	456	9-43
	Tone	34	L				P81043	23	RS216	B20						
							P81032	23	RS213							
							P81042	23	RS216	B20						
9905	Vol.	15	MR55	M26			P81039	2	RS216				10	[4]6D6,[3]76,[3]45, 80	456	9-23
	Tone	41	UC504				P81018	2/13	CM173							
9908	Vol.	18	N	6			9659	1	RM262				5	2A5, 2A6, 2A7, 58, 80	465	9-42
	Tone	22	N				1108	13	CS130							
9910	Vol.	17	MR48	M26			P80916	23	RS213				7	[3]6D6, 6B8, 76, 42, 80	456	9-43
	Tone	34	L				P81043	23	RS216	B20						
							P81032	23	RS213							
							P81042	23	RS216	B20						
9911	Vol.	15	MR55	M26			P81039	2	RS216				10	[4]6D6,[3]76,[3]45, 80	456	9-23
	Tone	41	UC504				P81018	2/13	CM173							
9912	Vol.	15	MR55	M26			P81058	48	RS216				12	[4]6D6,[3]76,[3]42, [3]80	456	9-25
	Tone	21	L				P81056	48	2N516							
							P82000	48	BB19							
							P81039A	48	RS216							
9914, 9915 (7700)	Vol.	45	N	7			1291	12	ST585				6	1C6, 34,[3]30, 32, 19	465	9-27
9916, 9917	Vol.	15	MR55				P82001	12/13	2N516				9	[3]34,[3]30, 19	456	9-45
	Tone	44	K12													
9923	Vol.	45	N										5	1A6, 34, 30, 32, 33, 5E1	465	9-32
9926, 9928	Vol.	17	MR48	M26			P80916	23	RS213				7	[3]6D6, 6B7, 76, 42, 80	456	9-43
	Tone	34	L				P81043	23	RS216	B20						
							P81032	23	RS213							
							P81042	23	RS216	B20						
9930	Vol.	17	UM163	M26		A96	P82002	1/15	3S570		286S	C3	5	[3]6D6, 6C6, 75, 41	175	9-47
							.007		Buffer	B14						
9932, 9933	Vol.	45	N	7			1291	12	ST585				6	1C6, 34,[3]30, 32, 19	465	9-27
SPLITDORF (See Thomas A. Edison Inc.)																
STANDARD RADIO CORP. Standardyne 29 AC	Vol.	14	H12				2-1-5	3	See Note	B1			8	[5]26, 27, 71A, 80		§1-19
STAR																
All Star Junior	Vol.	8	J	6			4-4-4	3	CM173				5	6F7, 6A7, 77, 42, 80	‡	
All Star Senior	Vol.	8	G				8-8-8	3	RS213				7	2A7,[3]58, 56, 2A5, 80	‡	
	Tone	21	L													
062, 062A	Vol.	45	N	6			4	15	BB12		205		6	[3]39, 36, 37, 38	262	5-1
6U	Vol.	18	M				10-10	1	CM172		253	C3	6	[3]78, 77, 75, 41, 84	262.5	5-2
	Tone	22	UC502				12-12	15	TN111							
							.01		Buffer	B14						
STAR RAIDER (See Continental Radio Corp.)																

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS: Use	Circuit	Correct Replacement	Switch	Bias	*Note	CONDENSERS: Original Part	Circuit	Correct Replacement	*Note	VIBRATORS: Replacement	*Note	No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
STEINITE RADIO CO.																
10	Vol.	7	Z		EX450		2-2-1-3	37	See Note	B1			7	‡24A, 27,‡45, 80		1-3
10 Chassis No. 15	Vol.	7	Z		EX450		8-8	1	See Note	B3			6	‡24A, 27, 71, 80		2-3
20 (Chassis No. 22)	Vol.	6	G7		EX450		‡	3	See Note	B1			8	‡24A,‡27,‡45, 80	175	2-1
	Tone	22	‡		See Note	A5										
Chassis No. 21	Vol.	6	Z	6			8-8-8	3	CM175				6	‡24A,‡45, 80		2-5
Chassis No. 23	Vol.	6	Z				8-8	1	CM172				5	‡24A, 47, 80		2-6
25 (8 tube Pentode)	Vol.	6	G7				8-2-1	3	See Note	B3			8	‡		§6-32
26	Vol.	7	E				8-2-1	3	See Note	B3			8	‡51, 24A,‡27,‡47, 80	175	2-7
	Tone	149	D12													
28	Vol.	6	E7				8-8	4	See Note	B3			5	‡51, 24A, 47, 80		2-9
40, 40A	Vol.	7	Z			A14	2-3-2	3	See Note	B1			8	‡27,‡71A, 80		1-1
40C	Vol.	7	Z				2-3-3	3	See Note	B1			8	‡45,‡27, 80		1-2
50, 50A	Vol.	7	Z			A14	1-2-4	3	See Note	B1			9	‡27,‡50,‡81		1-1,2
	Phono.	63	K12													
60C	Vol.	7	Z				2-3-3	3	See Note	B1			8	‡45,‡27, 80		1-2
70, 80, 95 (Chassis No. 10)	Vol.	7	Z		EX450		2-2-1-3	37	See Note	B1			7	‡24A, 27,‡45, 80		1-3
102, 102A	Vol.	7	Z				1-2-4	3	See Note	B1			9	‡27,‡50,‡81		1-1
	Phono.	63	K12													
102C	Vol.	7	Z				2-3-3	3	See Note	B1			8	‡27,‡45, 80		1-2
203 (Chassis No. 22)	Vol.	6	G12		EX450		‡	3	See Note	B1			8	‡24A,‡27,‡45, 80	175	2-1
	Tone	22	‡		See Note	A5										
261, 262, 263, 264, 265	Vol.	10	G12				1-1-1-1	3/13	See Note	B1			7	‡26, 27, 71A, 80		1-4
420 (Chassis No. 15)	Vol.	7	Z		EX450		8-8	1	See Note	B3			6	‡24A, 27, 71, 80		2-3
420 (Chassis No. 17)	Vol.	7	Z		EX450		2-2-3	3	See Note	B1			7	‡24A, 27,‡45, 80		2-2
421, 425 (Chassis No. 21)	Vol.	6	Z	6			8-8-8	3	CM175				6	‡24A,‡45, 80		2-4,5
423 (Chassis No. 23)	Vol.	6	Z				8-8	1	CM172				5	‡24A, 45-47, 80		2-6
450 (Chassis No. 15)	Vol.	7	Z		EX450		8-8	1	See Note	B3			6	‡24, 27, 71, 80		2-3
450 (Chassis No. 17)	Vol.	7	Z		EX450		2-2-3	3	See Note	B1			7	‡24A,‡45, 27, 80		2-2
600, 605, 630, 635, 642, 643, (Chassis No. 22)	Vol.	6	G12		EX450		‡	3	See Note	B1			8	‡27,‡24A,‡45, 80	175	2-1
	Tone	22	‡		See Note	A5										
642B, 700 (Chassis No. 26)	Vol.	7	E				8-2-4	3	See Note	B3			8	‡27,‡51, 24,‡47, 80	175	2-7
	Tone	149	D12													
700, 701 (Chassis No. 28)	Vol.	6	E7				8-8	4	See Note	B3			5	‡51, 24A, 47, 80		2-9
705, 706, 725, (Chassis No. 26)	Vol.	7	E				8-2-4	3	See Note	B3			8	‡51, 24A,‡27,‡47, 80	175	2-7
	Tone	149	D12													
STERLING MFG. CO.																
A (DC)	Vol.	25	DRP119	6			4	‡	See Note	B11			6	‡32, 30,‡31		3-1
3A	Vol.	12	G12				7350	3	RS213				8	‡51,‡27,‡45, 80		1-1
B3	Vol.	12	G12										7	‡24,‡27,‡45		3-3
B	Vol.	12	G12										7	‡24,‡27,‡45		
4	Vol.	12	G12				8-8	1	See Note	B3			8	‡35,‡27,‡45, 80		1-2
B4	Vol.	12	G12										7	‡24,‡27,‡45		3-3
C	Vol.	40/12	DRP119	6			1-2	1	See Note	B1			6	‡24, 45, 80		3-3
F	Vol.	24	DRP119	6			1-2	1	See Note	B1			5	‡24, 45, 80		1-5
Miniature	Vol.	25	DRP119	6			1-2	1	See Note	B1			5	‡24, 45, 80		1-3
M, N, P, Q	Vol.	24	DRP119	6			8237	1	RS213				5	‡24, 45, 80		3-2
							8238	1	RS213							
8 Tube Receiver	Vol.	25	DRP119	6			8-8-8	3	See Note	B3			8	‡24, 27,‡45, 80		1-5
	Tone	41	O													
VA	Vol.	6	H12				8573	4	CS133				5	‡24, 51, 47, 80	175	3-1
STEWART RADIO CORP.																
50, 60	Vol.	17	UM154		See Note	A96	6-10	1	CM172		292	C3	6	‡6D6 or 78, 6A7, 75, 41, 6Z5	262	1-1
							5-5	15	TN111							
STEWART-WARNER CORP																
R100A, B, E (AC)	Vol.	113	SRP245				66170	3	CM172				8	‡24,‡27,‡45, 80		1-10
	Tone	22	Z12													
R100C, R100CF (DC)	Vol.	‡	Order from	Mfr.									7	12A, 01A,‡22,‡71A		1-12
	Tone	22	Z12													
R101A, R101B	Vol.	6	E12				67265	4	RS213				4	51 or 35, 24, 47, 80		2-1
							67264	4	RS213							
R102A, B and E	Vol.	6	F12				67328	5	RS213				6	‡24A, 51 or 35, 47, 27, 80		2-4,5
	Tone	22	Z12				67588	26	RS213	B12					177.5	
R-102-C (DC)	Vol.	5/12	‡		See Note	A5							7	‡36,‡37,‡33		
	Tone	34	Z12													
R-102-D7	Vol.	5/12	Order from	Mfr.									7	‡32,‡30, 33		
	Tone	22	Z12													
R-102-D8	Vol.	5/12	Order from	Mfr.									8	‡32,‡30		
	Tone	31	Z12													
R104A, B and E	Vol.	15	N				67328	5	RS213				6	57, 58, 47, 56, 80, Wunderlich	177.5	3-1,4
	Tone	114	Z12				67588	26	RS213	B12						
105 Series (50 to 59)	Vol.	100	Z12				81347	26	RS213				11	‡57,‡58,‡56, 27,‡47, 80	177.5	3-3,5
	Tone	22	L	6			81367	26	RS215	B12						
							67328	26	RS213							
R106	Vol.	56	N				67328	2	RS213				7	‡58, 55, 59, 56, 80	177.5	4-1,2
	Sen.	7	A10MP	6												
108, 108X, (10 to 20 incl.)	Vol.	6	UC509	6	EX100		81678	1	CM160				4	39, 36, 38, 12Z3		3-6
							81698	15	TN111							
109 (1090-1099)	Vol.	56	N	6			81347	1	RS213				6	‡58, 55, 56, 2A5, 80	177.5	3-7,8
	Vol.	56	SRP285	7		A1										
R110, R110B, R110C	Vol.	56	N	6			81347	1	RS213				10	‡58, 51, 55,‡27,‡2A5, 80	177.5	4-3,4
							81901	14	CS123							
R111	Vol.	17	N	6			81959	11	UR193	B31			6	‡78, 6B7, 43, 37, 25Z5	456	4-5,6
							83394	11	BB22							
R112 (1121, 1122, 1123)	Vol.	18	UM154	M26	See Note	A96	83111	1/15	CN152/TN111		292	C3	5	6A7, 78, 75, 41, 84	456	4-7,8
							83118	‡	Order from	Mfr.						
							.02-.02		Buffer	B14						
R115	Vol.	17	N	6			81959	11	UR193	B31			6	‡78, 37, 6B7, 43, 25Z5	456	4-5,6
							83394	11	BB22							
R116, R116X, R116XH, R116AL, R116XL	Vol.	17	N	6			83613	1	ST595				5	6A7, 78, 75, 42, 80	456	4-10,11
R117 (1171, 1172)	Vol.	17	UC512	6			83734	4	CM172		294	C3	6	‡78, 6A7, 75, 42, 84	177.5	5-1,2
	Tone	22	K12				83803	15	BB12							
							.015-.015		Buffer	B14						
R118 (1181, 1182, 1183)	Vol.	17	UC512	6			83734	4	CM172		294	C3	6	‡78, 6A7, 41, 75, 84	177.5	6-11
	Tone	22	K12				83803	15	BB12							
							.015-.015		Buffer	B14						

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
STEWART-WARNER CORP.—Continued																
R119, R119A, R119EF	Vol.	56	N	6			81347	1	RS213				6	[2]78, 6A7, 85, 42, 80	177.5	4-12,13
							67328	1	RS213							
							80537	15	BB12							
R120 (1201-1209)	Vol.	56	N				81347	4	RS213				12	[2]57,[3]58, 55,[2]A5,[3]56, 80	177.5	4-14,16
	Tone	39	Y	6			67328	4	RS213							
R123 (1231-1239)	Vol.	6	F7	6	3		83960	1	WE850				4	6A7, 6F7, 41, 80	456	6-1,5-3
							83962	1/15	2N517							
R125, R125A and R125X (1251-1259)	Vol.	56	N	6			84193	25	RS216				5	6A7, 6D6, 75, 41, 80	456	5-5,6-3
R126, Series R126A, R126P, R126X (1261-1269)	Vol.	19	TRP606				84288	25	SR644				7	6C6,[2]6D6, 75, 42, 76, 80	456	5-9,6-5
	Tone	107	M	6			84286	25/13	RM261							
R127, R127X (1271-1279)	Vol.	18	N	6			84192	25	RS216				5	6A7, 6D6, 75, 41, 80	456	6-8, 5-15
	Tone	107	M				84193	25	RS216							
R128D (Batt. 1281D-1289D)	Vol.	18	N	13									5	1C6, 34, 25S, 30, 33	456	7-1,2
	Tone	57	M													
R130 (1301-1309)	Vol.	18	N	6			84193	25	RS216				5	6A7, 6D6, 75, 42, 80	456	6-12
	Tone	107	M		See No	te A4	85112	25	RS216							
R131 (1311-1319)	Vol.	17	UC512	6			84829	4	CM171		294	C3	6	[2]78, 77, 75, 41, 84	177.5	6-13,14
							83803	15	BB12							
							.03-.03		Buffer	B14						
R132 (Firestone R1322)	Vol.	1	UC511	6			85237	1	CM172		289Y	C3	7	[2]78, 77, 85,[2]41, 76	177.5	6-15
	Tone	44	Z12				83803	15	BB12							
							85216	15	BB13							
							.005		Buffer	B14						
R133 (Firestone 1332)	Vol.	17	UC512	6			84961	4	CM171		294	C3	5	6A7, 6D6, 75, 41, 84	456	6-16
							83803	15	BB12							
							.03-.03		Buffer	B14						
R134 (1341-1349)	Vol.	18	M	6			85792	25	RS216				6	[2]6D6, 6A7, 75, 42, 80	456	6-17, 7-3
	Tone	107	N				85793	25	RS216							
R136 (1361-1369)	Vol.	46	M	6			85431	25	RS216				7	[2]6K7, 6A8, 6H6, 6J7, 6F6, 5Z4	456	6-18, 7-4
	Tone	107	N				85430	25	RS216							
R137 (1371-1379)	Vol.	15	M	6			85583	31	RS216				9	[2]6K7, 6A8, 6H6,[2]6C5, [2]2A3, 83V	456	6-19, 7-5
	Tone	57	N				85584	31	RS216							
							85588	31	WE1830							
							85565	18	BB27							
							83803	15	BB12							
R138 (1381-1389)	Vol.	15	M	6			85583	31	RS216				11	[2]6K7, 6A8,[2]6H6, 6C5, [2]2A3, 6J7, 83V	456	6-20, 7-6
	B. Tone	‡	N				85584	31	RS216							
	T. Tone	57	O				85588	31	WE1830							
							85565	18	BB27							
							85692	14	BB20							
							83803	15	BB12							
R139D	Vol.	18	N	7									6	1A6, 34, 1B5, [3]30, Ballast—1G1	456	7-7
R140 (1401-1409)	Vol.	18	MR48	M26			84193	25	RS216				5	6A7, 6D6, 75, 42, 80	456	7-9,10
							85112	25	WE1830							
R142A, R142AS, (1421-1429)	Vol.	6	SRP263	6			88033	25	RS213				5	[2]6K7, 6J7, 6F6, 6X5	456	7-11,12
							88007	25	RS213							
R143 (R1431)	Vol.	17	UM154-SS11	M26			88256	4	CM171		294SW	C3	6	[2]6D6, 77, 75, 41, 84	456	8-15,16
							88170	15	BB12							
							.01		Buffer	B14						
R144AS (1441-1449)	Vol.	6	Y	6			88007	25	RS213				5	[2]6D6, 6C6, 41, 84	456	7-13,14
							88033	25	RS213							
R145 (1451-1459)	Vol.	18	TRP623	6			88512	25	RS216				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	456	7-15,16
	Tone	57	N				88511	25	WE1830							
R146 (1461-1469)	Vol.	18	TRP623	6			85431	25	RS216				7	[2]6K7, 6A8, 6H6, 6F5, 6F6, 5Z4	456	7-17,18
	Tone	57	N				88033	25	RS213							
							88576	13	RS203							
R147 (1471-1479)	Vol.	18	TRP623	6			85431	25	RS216				8	[2]6K7, 6A8, 6H6, 6F5, 6L6, 5Z4, 6G5	456	8-1,2
	Note	57	N				88033	25	RS213							
							88576	13	RS203							
R148 (1481-1489)	Vol.	45	TRP623	6			85583	25	RS216				10	[2]6K7, 6A8, 6H6, [2]6C5, [2]6L6, 6G5, 5Y4G	456	8-3,4
	Tone	41	N				88511	25	WE1830							
							88007	13	RS213							
							89053	19	BB12							
R149 (1491-1499)	Vol.	20	TRP608	6			85583	54	RS216				12	[2]6K7, 6A8,[2]6H6,[2]6C5, 6J7, 6G5, [2]6L6, 5V4G	456	7-19,22
							88511	54	WE1830							
							89186	54	ST585							
							88007	13	RS213							
							83803	15	BB12							
R160 (1601-1609)	Vol.	17	UM154-SS11	M26			88256	4	CM171		294SW	C3	6	[2]6D6, 77, 75, 41, 84	456	7-8
							88170	15	BB12							
							.01		Buffer	B14						
R161D (1611D-1619D)	Vol.	18	N	7									6	1C7G, 1D5G, 1H6G, [3]1H4G, 1R1G—Ballast	456	8-7,8
R162D (1621D-1629D)	Vol.	18	N	7									6	1C7G, 1D5G, 1H6G, [3]1H4G, 1R1G—Ballast	456	8-9,10
	Tone	57	N													
R163D (1631D-1639D)	Vol.	18	N	6			89147	25	ST585		Order fro	m Mfr.	6	1C7G, 1D5G, 1H6G, [3]1H4G	456	9-1,2
							89145	‡	Order from	Mfr.						
							88170	19	BB12							
							.005		Buffer	B14						
R164D (1641D-16490)	Vol.	18	N	6			89147	25	ST585		Order fro	m Mfr.	6	1C7G, 1D5G, 1H6G, [3]1H4G	456	9-1,2
	Tone	57	N				89145	‡	Order from	Mfr.						
							88170	19	BB12							
							.005		Buffer	B14						
R166	Vol.	45	TRP623	6			88512	25	RS216				7	6A8, 6K7, 6H6, 6F5, 6F6, 6G5, 5Z4	456	
	Tone	57	N				88511	25	WE1830							
							89755	13	BB31							
R167S, R168 (1671-1689)	Vol.	6	Y	6			88033	25	RS213				5	[2]6K7G, 6J7G, 6K6G, 6X5G	456	9-3,4
							88007	25	RS213							
R169 (1691 to 1695)	Vol.	18	MR44	M26			88512	25	RS216				5	6A8G, 6K7G, 6Q7G, 6K6G, 5Y4G	262	8-11,12
	Tone	57	MR48				88511	25	WE1830							
R171 (1711 to 1719)	Vol.	17	MR48	M26			89954	27	2P546				5	6A7, 6D6, 75, 43, 25Z5	465	9-5,6
R172 (1721 to 1729)	Vol.	18	MR44	M26			88512	25	RS216				6	6A8G, 6K7G, 6Q7G, 6G5, 6K6G, 5V4G	262	8-11,12
	Tone	57	MR48				88511	25	WE1830							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
STEWART-WARNER CORP.—Continued																
R173 (1731-1739)	Vol.	18	TRP623	6			88512	25	RS216				7	6A8, 6K7, 6H6, 6F5,		
	Tone	57	N				88511	25	WE1830					6F6, 6G5, 5Z4	456	8-13,14
							89755	13	BB31							
R178 (R1781)	Vol.	17	TM229-SS3				110376	4	2S567		294SW	C3	6	[2]6K7, 6J7, 6Q7, 6F6,		
	Tone	21	Order from	Mfr.			.01		Buffer	B14				6X5	262	
							110377	15	BB12							
R180 (1801 to 1809)	Vol.	18	MR53	M26			110497	4	2S567				5	6A8G, 6U7G, 6Q7G,		
	Tone	57	MR48				112359	4	2S567					6K6G, 5W4G	456	9-7,8
R181 (1811 to 1819)	Vol.	18	MR53	M26			89937	25	WE3050				6	6L7G, 6C5G, 6U7G,		
	Tone	57	MR48				110768	25	RS213					6Q7G, 6K6G,		
							110377	19	BB12					5W4G	456	9-9,10
							112113	19	BB13							
							112108	25	RS213							
R182 (1821 to 1829)	Vol.	45	TRP608	6			89927	25	WE3050				7	6L7G, 6U7G, 6C5G,		
	Tone	57	N				110768	25	RS213					6H6G, 6K5G,		
							110377	19	BB12					6V6G, 5W4G	465	9-11,12
R183 (1831 to 1839)	Vol.	20	TRP623	6			89937	25	WE3050				8	[2]6K7, 6L7, 6C5, 6H6,		
							111098	25/19	2S567					6F5, 6L6, 5Y3G	465	9-13,14
							110377	15	BB12							
R184 (1841 to 1849)	Vol.	20	TM240-SS16	M26			89937	25	WE3050				10	[3]6K7, 6L7, 6C5, 6J7,		
							111469	25	RS216					6H6, 6F5, 6L6,		
							110377	15	BB12					5U4G	465	9-15,17
							112113	19	BB13							
R185 (1851 to 1859)	Vol.	20	TM240-SS16	M26			89937	1	WE3050				11	[3]6K7, 6L7, [3]6C5, 6J7,		
							88680	1/13	RS213					6H6, [3]6V6G, 5U4G	465	
							111468	15	TN111							
							110377	15	BB12							
							112113	15	BB13							
							112298	13	BB31							
							112467	13	BB31							
R186 (1861 to 1869)	Vol.	20	TM240-SS16	M26			111469	1	RS216				14	[3]6K7, [3]6C5, 6L7, 6J7,		
							89937	1/13	WE3050					[3]6H6, [3]6V6, [3]5W4	465	9-19,22
							111652	13	BB22							
							110377	15	BB12							
							112476	13	BB22							
							112480	15	BB12							
R188 (1881 to 1889)	Vol.	17	MR48	M26			112270	27	2P553				5	6A7, 6D6, 75, 43,		
	Tone	22	MR33											25Z5, M49B	465	9-23,24
R189	Vol.	18	N	6			56110	22/13	ST585		285XS	C3	5	[2]1C6, [3]34, 33	370	
	Tone	57	N				.01		Buffer	B14						
R190D (1901 to 1909)	Vol.	17	MR48										4	1C6, 34, 1F6, 33, 5E1	465	
R191D (1911 to 1919)	Vol.	15	MR48				110804	1	2N516		245	C3	5	6A8G, [3]6S7G, 6L5G,		
	Tone	22	MR33				89053	15	BB12					41	465	
							.03		Buffer	B14						
R192D (1921 to 1929)	Vol.	15	MR48				112244	1	2N516		245	C3	6	6A8G, [3]6S7G, [3]6L5G,		
	Tone	22	MR33	M26			110377	15	BB12					19	465	
							.03		Buffer	B14						
O7-511 to O7-519 (Chassis O7-51)	Vol.	18	MR53	M26			16-16	1	2N506				5	6A8GT, 6K7GT, 6Q7GT, 25L6GT, 25Z6GT	465	
202A, B, E	Vol.	6	F12				67328	5	RS213				6	[2]24A, 35, PZ or 47, 27,		
	Tone	22	Z12				67588	26	RS213	B12				80	177.5	
304 (3041 to 3049)	Vol.	18	MR48	M26			112604	23	2S564				5	6A8G, 6K7G, 6Q7G,		
														6K6G, 5Y4G	465	
715, 720	Vol.	3	F12										6	[2]26, 27, 71A		1-3
750	Vol.	112	Y10MP				‡	3	See Note	B1			8	[2]26, 27, [3]12A, 80		1-3
801, 802	Vol.	84	UC501				‡	3	See Note	B1			7	[2]26, 27, 71A, 80		1-4
801, 801A, 811, 811A	Vol.	116	Y10MP				‡	3	See Note	B1			8	[2]26, 27, [3]12A, 80		1-4
900, 901, 902, 903, 911, 912, 913	Vol.	7	Z		See Note A10		61303	3	CM172				8	[2]27, [3]45, 80		1-7
950 Series (AC)	Vol.	113	SRP245		See Note A80		66170	3	CM172				8	[2]24A, [2]27, [3]45, 80		1-5,6
971, 972, 973 (DC)	Vol.	...‡	Order from	Mfr.			61303	...‡	CN142	B11			7	12A, 01A, [2]22, [2]71A		1-9
STORY & CLARK																
36	Vol.	6	G1[c]				‡	3	See Note	B1			7	[2]24, 45, [2]27, 80		1-1
43, 51	Vol.	6	G12				‡	3	See Note	B1			8	[2]24, [3]45, [2]27, 80		1-2
	Supp.	...‡	A5MP													
C108 Clock Model	Vol.	6	‡		See Note A5		8	53	RS213				7	[2]24, 27, [3]45, 80		§5-19
STRATFIELD—See Electrical Specialties Export Co.																
STROMBERG-CARLSON																
10, 11	Vol.	9	SRP260				2-2-2	3	See Note	B1			7	[2]24, [3]45, 80		1-14,15
	Hum.	30	SRP253													
12, 14	Vol.	115	SRP213				2-2-2	3	See Note	B1			10	[2]45, [2]27, [2]24A, [2]80		1-16,17
	Hum.	30	SRP253													
	Phono.	63	‡		See Note A5											
16, 17 (DC)	Vol.	9	SRP260				1-6	4	See Note	B11			7	[2]45, [2]27, [2]24A		3-12
19, 20 (AC)	Vol.	...‡	SRP260				2-2-3-3	3	See Note	B1			9	[2]27, [3]35, [2]45, 80	175	1-18,21
	Hum.	30	SRP253													
22, 22A	Vol.	15	SRP216				2-3-4	3	See Note	B1			10	[2]45, [2]27, [3]35, 80	175	2-4,7
	Hum.	30	SRP253													
25, 26 (AC)	Vol.	9	SRP260				2-2-2	3	See Note	B1			8	[2]24, [2]45, 80, 27	175	2-8,11
	Hum.	30	SRP253													
27 (AC)	Vol.	...‡	SRP213				2-2-2	3	See Note	B1			10	[2]24, [2]27, [2]45, [2]80	175	2-12,14
	Hum.	30	SRP253													
29	Vol.	15	N	8			6-2-1	3	See Note	B1			9	[2]45, [3]35, [2]27, 80	175	2-15,17
	Tone	44	N	6												
	Hum.	30	SRP253													
33	Vol.	15	UC514	6			P23538	1	CM175		210		6	78, 6A7, 6B7, 37, [2]41	175	4-3,6
	Tone	44	O													
33A	Vol.	15	UC514				P23538	1	CM175		210		6	78, 6A7, 6B7, 37, [2]41	175	6-14
37	Vol.	15/15	MM				22701	22	CM175				9	[3]58, [3]45, [2]56, 80	175	3-3,4
	Tone	34	UC503	6												
	Hum.	30	SRP253													
38, 39, 40, 41 (1st type)	Vol.	15/15	MM	8			4-7-3-3	22	See Note	B1			9	[3]58, [2]56, [3]45, 80	175	2-18,20
	Tone	34	UC503	6												
	Hum.	30	SRP253													
38, 39, 40, 41 (2nd type)	Vol.	15/15	MM	8			4-7-6-1	22	See Note	B1			10	[3]58, [2]55, [3]45, 56, 57, 80	175	3-5,7
	Tone	34	UC503	6												
	Supp.	...‡	SRP266													
	Hum.	30	SRP253													
48, 49, 50, 51	Vol.	...‡	DRP245				4-5-6-4	...‡	See Note	B1			11	[3]58, 55, [3]56, [2]2A3, 57,		
	B. Tone	...‡	Order from	Mfr.										5Z3	175	3-8,11
	T. Tone	44	M	6												
	Hum.	30	SRP253													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
STROMBERG-CARLSON—Continued																
52, 54	Vol.	...‡..	DRP245				4-5-6	3	See Note	B1			12	[3]35, 2B7, 55, [2]56, [2]2A3, 57, 27, 5Z3	175	4-7,9
	B. Tone	...‡..	Order from	Mfr.												
	T. Tone	44	UC509	6												
	Hum.	30	SRP253													
55, 56	Vol.	8	G				8-8-4	22	CM175	B3			8	58, 78, [2]2A5, 55, 2B7, 6A7, 5Z3	175	4-10,15
	Tone	34	M													
	Hum.	30	SRP265													
58L, 58LB, 58T, 58TB, 58W, 58WB	Vol.	17	O				P25479	1	SR638				6	[2]6D6, 6A7, 75, 42, 80	465	6-1,2
	Tone	21	UC513	6			P25480	13	RS213							
							P25510	15	TN111							
60	Vol.	15	P				P24190	3	RM265				7	6D6, 6A7, 6B7, 37, [3]41, 80	370	5-1,4
	Tone	34	H12	6			P24207	15	BB13							
61 Series (AC)	Vol.	15	O				8-8	1	2N518				7	[2]6K7, 6A8, 6H6, 6F5, 6F6, 80	465	7-1,2
	Tone	57	UC513	6			10	15	BB12							
61, 61Y, 61Z (AC-DC)	Vol.	18	O				P25907	1	RS207				7	[2]6K7, 6A8, 6Q7, 43, [2]25Z5	465	7-3,4
	Tone	57	N	6			P25934	6	2N504							
							P25459	13	BB31							
							P25498	15	TN111							
62, 63, 62B, 63B	Vol.	15	P				P22757	3	RS213				8	[2]6K7, 6A8, 6H6, [2]6F6, 5Z3	465	6-3,6
	Tone	22	P	6			P25757	3/13	RM265							
							P25458	3	RS216							
							P25788	13	CS130							
							P25459	13	BB31							
							P24207	15	BB12							
64	Vol.	15	P				16-8-8-4-4	3/13	See Note	B195			8	78, 6A7, 6B7, 37, [3]42, 5Z3	175	4-16,20
	Tone	34	UC509	6												
65, 66, 67	Vol.	8	UC501				16-8-8-8						9	[2]78, 6A7, 6B7, 85, [3]42, 80	465	7-5,6
	Tone	34	UC509			A90	4-4-4	3/13/15	See Note	B247						
68	Vol.	8	G				16-8-8-4-4	3/13	See Note	B195			10	[2]6D6, 6A7, 76, 6B7, 85, [3]42, 5Z3	370	5-5,7
	Tone	22	UC509	6												
69 All Wave Selector							24567	1	RM262				4	6D6, 6A7, 76, 84	515	5-11,14
70, 70B, 72, 72B, 72D	Vol.	...‡..	Order from	Mfr.			P24835	..‡..	See Note	B195			13	[4]6D6, 76, 6A7, 6B7, [2]6C6, 42, [2]2A3, 5Z3	370	6-7,13
	Tone	22	P	6												
74, 74B, 74D	Vol.	...‡..	Order from	Mfr.			P24835	..‡..	See Note	B195			16	[4]6D6, 6A7, 76, 6B7, [2]6C6, 42, [2]2A3, [2]5Z3	370	6-7,13
	Tone	22	P	6												
80	Vol.	15	P				8	3	RS213				8	[2]6K7, 6A8, 6J7, 6H6, [2]6F6, 5Z3	465	7-7,9
	Tone	22	P	6			16	3	RS216							
							8-4-4	3/13	RM265							
82, 82B	Vol.	20	1.5 Meg. No. 1		See Note A19		P22757	3	RS213				10	[3]6D6, 6A7, [2]76, [3]42, 5Z3	465	6-15,18
	Tone	22	P	6			P22789	3	RS213							
							P22758	3	RS216							
							P22759	13	RM265							
							P22760	14	BB19							
							P24207	15	BB12							
83, 83B	Vol.	20	1.5 Meg. No. 1		See Note A19		P22757	3	RS213				10	[3]6K7, 6A8, 6C5, 6H6, [3]6F6, 5Z3	465	6-19,22
	Tone	22	P	6			P22789	3	RS213							
							P22758	3	RS216							
							P22759	13	RM265							
							P22760	14	BB19							
							P24207	15	BB12							
84, 84B	Vol.	20	2 Meg. No. 1		See Note A19		P22757	3	RS213				12	[3]6K7, 6A8, 6C5, 6H6, 6J7, [4]6F6, 5Z3	465	7-11,13
	Tone	22	P	6			P22789	3	RS213							
							P22758	3	RS216							
							P22759	13	RM265							
							P22760	14	BB19							
							P24207	15	BB12							
115	Vol.	17	O				P26049	1	RM262		245	C3	7	[2]34, 1C6, 1B5, 30, [2]49	465	7-14,15
							P25480	13	RS203							
							.005		Buffer	B14						
125 (AC-DC)	Vol.	18	N				26162	6	RS207				5	6A8, 6K7, 6Q7, 43, 25Z5	465	7-16,18
							26163	6	RS208							
126 (AC-DC)	Vol.	124	O				26164	13/15	3S582				7	[2]6K7, 6A8, 6Q7, [3]43, 25Z5	465	8-1,3
	Sen.	...‡..	——...‡..		See Note A5		26163	1	RS208							
							26164	13/15	3N520							
							26872	13	2N500							
127 (AC-DC)	Vol.	124	O				27014	3	RS208				8	[2]6K7, 6A8, 6Q7, [3]48, [2]25Z5	465	8-4,6
	Sen.	...‡..	.....‡..		See Note A5		26162	3	RS207							
							26164	13/15	3N520							
130 Series	Vol.	15	N				26403	1	WE3050				7	[2]6K7, 6A8, 6H6, 6F6, 6F5, 80	465	8-19,22
	Sen.	...‡..	G12				25458	1	RS216							
							24207	15	BB12							
140 Series	Vol.	17	N				22757	3	RS213				9	[3]6K7, 6A8, 6Q7, 6E5, [2]6F6, 5Z3	465	8-15,17
	Sen.	...‡..	G12				22789	3	RS213							
							25458	3	RS216							
							26048	15	TN111							
							25788	13	CS130							
145 Series	Vol.	17	N				22757	3	RS213				10	[3]6K7, 6J7, 6A8, 6Q7, 6E5, [2]6L6, 5Z3	465	7-23,26
	Tone	39	.....‡....		See Note A5		22789	3	RS213							
							25458	3	RS216							
							26693	13	CS131							
							25788	13	CS130							
							24207	19	BB12							
							26048	15	TN111							
150	Vol.	20	TRP611				22757	3	WE850				12	[4]6K7, 6J7, 6A8, [2]6H6, [2]6L6, 6E5, 5Z3	465	8-7,10
	Fid.	...‡..	Order from	Mfr.			26773	3	RS216							9-2,5
							24580	13	BB60							
							26693	13	BB60							
							24207	15	BB12							
							25498	15	TN111							
160	Vol.	20	TM240-SS1				22757	3	RS213				11	[4]6K7, [2]6J7, 6A8, [2]6H6, 6E5, 6F6, [2]6L6, 5Z3	465	8-10,14
	Tone	21	Order from	Mfr.			26510	3	RS216	B12						
							26773	3	RS216							
							24580	13	BB60							
							26693	13	BB60							
							26772	15	BB12							
							25498	15	TN111							
							25788	13	CS130							
180	Vol.	17	TRP608				22757	3	RS213				17	[3]6K7, [3]6J7, 6A8, [2]6H6, 6E5, [2]6F6, [2]6L6, 5Z3	465	8-18,21
	T. Tone	21	P				26510	3	RS216	B12						9-7,9
	B. Tone	15	O				26773	3	RS216							
							22759	13	RM265							
							26693	13	BB60							
							26797	15/19	2-TN111/BB14							
							25788	13	CS130							
225 (AC-DC)	Vol.	18	MR48				27014	6	RS208				5	6A8, 6K7, 6Q7, 25A6G, 25Z6G	465	8-22,24
	Tone	57	MR48	M26			26162	6	RS207							
							26164	13/15	3N520							

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
STROMBERG-CARLSON—Continued																
228	Vol.	17	TM1240-SS1				27552	1	RM262				6	6A8, 6K7, 6Q7, 6G5,		
	Tone	...‡..	MR50	M26			27553	13	RS216					6F6G, 5Y4G	455	8-25,26
							27554	13	BB34							
							27619	15	TN111							
229P	Vol.	20	TRP610				26403	1	WE3050				7	[26]K7, 6A8, 6H6, 6F5,		
	Tone	...‡..	MR50	M26			25458	1	RS216					6F6, 80	465	8-27,30
	Sen.	...‡..	...‡...		See Note	A5	26880	13	RS216							
							27554	13	BB34							
							24207	15	BB12							
230 Series	Vol.	20	1 Meg. No. 1		See Note	A19	27122	1	WE3050				7	6A8, 6K7, 6H6, 6G5,		
	Tone	...‡..	Y1000MP	6			27123	1	RS216					6F5, 6F6, 5Y4G	465	8-31,36
							27124	13/15	BB60/BB12							
							27595	13	RS216							
							27685	15	BB12							
231 Series	Vol.	20	1 Meg. No. 1		See Note	A19	27399	1/15	RM265/BB12				7	6A8, 6K7, 6H6, 6G5,		
	Tone	...‡..	Y1000MP	6			27611	1	RS216					6F5, 6F6, 5Y4G	465	8-34
							27398	13	RM265							
							27685	15	BB12							
235H, HB, L, LB	Vol.	20	...‡...		See Note	A19	27122	1	WE3050				8	6A8, 6J5, 6K7, 6H6,		
	Tone	22	O	6			27123	1	RS216					6B8, 6F6, 6U5,		
							27595	14	RS216					5Y4G	465	9-13,16
							27124	14/15	BB60/BB12							
							27685	15	BB12							
							25459	13	BB10							
240	Vol.	20	TRP621				27622	30	RS216				11	[26]K7, 6A8, 6H6, [26]C5,		
							27336	30	RS216					6G5, 6F5, [26]F6,		
							27537	30/13	RM265					5U4G	465	9-19,24
							27123	13	RS216							
							25498	15	TN111							
245L, LB, M, MB, R, RB, P, PB	Vol.	20	...‡...		See Note	A19	27622	3	WE1660				11	6K7, 6A8, 6J5, 6B8,		
							27336	3	WE1650					6H6, 6F5, 6C5,		
							27537	3/13	3S584					[26]F6, 6U5, 5U4G	465	9-26,30
							27123	14	RS216							
							25498	15	TN111							
250	Vol.	20	...‡...			A19	27753	30	RS213				13	[26]K7, 6A8, [26]J7, 6B8,		
							27754	30	RS216					6G5, 6H6, 6F5,		
							27755	30	RS216					6C5, [26]L6, 5U4G	465	8-37,40
							27756	13	RS216							
							27757	13	2N516							
							25498	15	TN111							
							27759	15	BB12							
255	Vol.	20	...‡...		See Note	A19	27753	30	WE850				13	[26]K7, 6A8, [26]J7, 6B8,		
							27754	30	WE1650					6H6, 6F5, 6C5,		
							27755	30	RS216					[26]L6, 6G5, 5U4G	465	.....
							27757	24	2N516							
							25498	15	TN111							
							27759	15	BB12							
260	Vol.	124	TRP621				28256	30	WE850				16	[26]K7, 6A8, [26]J7, [26]H6,		
	Tone	22	...‡...		See Note	A5	28257	30	RS216					6G5, 6Q7, 6C5,		
							28258	30	WE1650					[26]L6, 5U4G	465	9-31,38
							28259	13	RS216							
							28260	13/15/19	3S570/BB13							
337	Vol.	124	MR53				28730	25	RS216				7	6K8, 6K7, 6H6, 6F5,		
	Tone	...‡..	O	6			28731	25	WE1830					6F6G, 6U5, 80	455	.....
340	Vol.	124	...‡...		See Note	A19	28914	1	WE3050				9	6A8, 6K7, 6H6, 6F5,		
	Tone	...‡..	O	6			28915	1	RS216					6C5, [26]V6G, 6U5,		
							28916	13	RS216					80	455	.....
							28917	13/15	CS130/BB12							
341	Vol.	124	...‡...		See Note	A19	29002	1	WE3050				9	6A8, 6K7, 6H6, 6F5,		
	Tone	...‡..	O	6			29003	1	RS216					6C5, [26]V6G, 6U5,		
							28917	13/15	CS130/BB12					80	455	.....
345	Vol.	124	...‡...		See Note	A19	28914	1	WE3050				10	6K8, [26]K7, 6H6, 6F5,		
	Tone	57	O	6			28915	1	RS216					6C5, [26]V6G, 6U5,		
							29009	13	RS216					80	455	.....
635 (DC)	Vol.	3	SRP961		Front		4-1	1	See Note	B11			9	...‡...		
	Vol.	10	SRP901		Rear											
635, 636	Vol.	3	SRP961		Front		3-10	4	See Note	B1			7	71A, [27], 80		1-5
	Vol.	10	SRP901		Rear											
638 (AC)	Vol.	3	SRP961		Front		5-9	4	See Note	B1			8	[27]1A, [27], 80		1-6,7
	Vol.	10	SRP269		Rear											
638 (DC)	Vol.	3	SRP961		Front		4-1	1	See Note	B11			9	[30]1A, [27]1A		1-7
	Vol.	10	SRP269		Rear											
641	Vol.	8	SRP960		Front		2-1-2-1	3	See Note	B1			6	45, [32]4A, 27, 80		1-8, 2-21
	Vol.	3	SRP900		Rear											
642	Vol.	8	SRP960		Front		2-2-2-2	3	See Note	B1			6	45, [32]4A, 27, 80		1-8,9
	Vol.	3	SRP900		Rear											
652, 654	Vol.	8	SRP960		Front		2-1-2-1	3	See Note	B1			6	45, [32]4A, 27, 80		1-8,10
	Vol.	3	SRP900		Rear											
734, 734B, 744	Vol.	12	Y50MP										7	[30]1A, 10, 00A		1-11
744B	Vol.	12	Y50MP										7	[30]1A, 10, 00A		1-11
	Phono.	63	1112													
846, 848	Vol.	115	SRP962		Front		...‡...	3	See Note	B1			9	[45], [27], [32]4A, 80		1-12,13
	Vol.	3	SRP900		Rear											
STUDEBAKER LABORATORIES																
31	Vol.	6	D12				8-8	1	CM172				5	51, [32]4A, 47, 80		§3-8
42	Vol.	6	Y				8-8	1	CM172				7	[51], 27, 24A, 47, 80		
SUNGLOW																
Melody-Chest	Vol.	40/12	GE				...‡...	...‡..	See Note	B1				...‡...		
SUPERTONE PRODUCTS CO., INC.																
Superba	Vol.	17	N				8-16	4	See Note	B3			7	57, [58], 2A5, 56, 2A6, 80	465	§5-21
L5	Vol.	18	N	6			P474	32	WE450				7	5Z4, 6F5, 6F6, 6H6,		
	Tone	34	L				P160	32	2N518					6K7, 6L7, 6C5	456	.....
							P304	15	BB12							
L6	Vol.	18	N	6			P474	32	WE450				8	5Z4, 6C5, [26]F6, 6K7,		
	Tone	41	L				P160	32	2N518					6L7, [26]Q7	456	.....
							P304	15	BB12							
L7	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	7	1C6, 19, [30], [34]	456	.....
	Tone	...‡	L				.01-.01		Buffer	B14						
Z4	Vol.	15	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19, [30], 32, 34	456	.....
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P958	1	2N517		245C	C3	6	1C6, 19, [30], 32, 34	456	.....
	Tone	44	L				.01-.01		Buffer	B14						
A31	Vol.	18	N				8-4	23	2S567	B33			5	6A7, 6D6, 75, 42, 80	456	§5-20
SYNCHROPHASE (See A. H. Grebe & Co.)																

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column,

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
L. TATRO PRODUCTS CORP.																
AK54 (Mayor)	Vol.	17	N				10	15	BB12				5	6A7, 78, 75, §38	175	5-1
AM54 (Senator)	Tone	41	N													
A525, B525	Vol.	17	N				4L-5	15	BB12				5	77, 78, 75, §38	456	6-2
	Tone	22	N	6			4L11	15	BB12							
C625, D625	Vol.	17	N	6			4L3	1	RS213		F251	C3	6	§78, 6A7, 75, 38, 84	177.5	6-4
	Tone	22	N				4L5	15	BB12							
							4L11	15	BB12							
							.005		Buffer	B14						
CQ69, DQ69	Vol.	17	MR48				8	1	BB61		245	C3	7	6A8G, 6S7G, 6T7G, 6L5G, 6Z7G, 6ZY5G, 6E5	456	9-1,2
	Tone	22	‡		See Note A5		16	1	BB64							
							5	15	BB12							
							.005		Buffer	B14						
E83	Vol.	117	E12								F204		8	§44, 37, §38, 85		
	Tone	41	N													
EN64	Vol.	56	MR48				6N-2	1	2N518		246	C3	4	1C6, 1A4, 1B5/25S, 1F4	457	7-1
	Tone	57	MR48	M26			6N-1	19	BB12							
							.005		Buffer	B14						
F725	Vol.	17	N	6			4L3	1	RS213		F251	C3	7	§78, 6A7, 75, §41, 84	177.5	6-6
	Tone	34	N				4L4	1	RS216							
							4L14	‡	2-BB19	B196						
							4L5	15	BB12							
							4L11	15	BB12							
							.005		Buffer	B14						
F913	Vol.	117	E12								F204		8	§44, 85, §41, 37		4-4
	Tone	41	N													
H465, I465	Vol.	17	N	6			4L1	1	RS203		271		4	§15, 75, 38	456	6-1
	Tone	22	N				4L5	15	BB12							
							4L11	15	BB12							
1N25	Vol.	18	MR48				6N-1	1	2N518		F251	C3	5	6A7, 78, 75, 38, 84	457	7-2
	Tone	57	MR48				6N-5	15	BB12							
							6N-1	15	BB12							
							.02-.02		Buffer	B14						
J665	Vol.	17	N	6			4L1	1	RS203		271		6	§15, 6A7, 75, 30, 19	177.5	6-5
	Tone	22	N				4L5	15	BB12							
							4L6	19	BB15							
K54	Vol.	17	N				10	15	BB12				4	77, 78, 75, 38	175	4-2
K665	Vol.	17	N	6			4L1	1	RS203		271		6	§15, 6A7, 30, 75, 19	177.5	6-5
	Tone	22	N				4L5	15	BB12							
							4L6	19	BB15							
L54	Vol.	17	N				8	1	BB31		F211		4	78, 6A7, 75, 41	177	4-3
	Tone	41	N				16	1	BB34							
							20	‡	2-BB19	B196						
L74 (Lt. Governor)	Vol.	17	N				8	1	BB31		F251	C3	7	6A7, §78, 75, §41, 84	175	5-2
	Tone	41	N				16	1	BB34							
							20	‡	2-BB19	B196						
							10	‡	2-BB15	B196						
							‡		Buffer	B14						
L525	Vol.	15	O										5	6A7, 78, 12A7, §48	456	6-3
	Tone	22	L	6												
M54	Vol.	17	N				10	15	BB12				5	77, 78, 75, §38	‡	4-2
M4616	Vol.	18	N				4L1	1	RS203		285XS	C22	4	6A7, 15, 75, 33	456	8-1
	Tone	57	N	6			.005		Buffer	B14						
N54	Vol.	17	N				8	1	BB31		F211		5	6A7, 78, 75, §41	177	4-3
	Tone	41	N				16	1	BB34							
							20	‡	2-BB19	B196						
N74 (Governor)	Vol.	17	N				8	1	BB31		F251	C3	7	§78, 6A7, 75, §41, 84	175	5-2
	Tone	41	N				16	1	BB34							
							20	‡	2-BB19	B196						
							10	‡	2-BB15	B196						
							‡		Buffer	B14						
NH44	Vol.	17	N				10	15	BB12				5	77, 78, 75, §38	‡	4-2
O84	Vol.	17	N				8	1	BB31		F211		8	§78, 6A7, 75, §41, 37	177	4-3
	Tone	41	N				16	1	BB34							
	Supp.	7	J		EX800		10	15	BB12							
							20	‡	2-BB19	B196						
O94 (President)	Vol.	17	N				8	1	BB31		F251	C3	9	§78, 6A7, 37, 75, §41, 84	175	5-3
	Tone	41	N				16	1	BB34							
	Supp.	7	J		EX800		10	15	BB12							
							20	‡	2-BB19	B196						
							‡		Buffer	B14						
O4626	Vol.	18	N				4L1	1/13	RS203		285XS	C22	4	6A7, 15, 75, 33	456	7-3
	Tone	57	N	6			.01		Buffer	B14						
P54	Vol.	17	N				8-8	1	See Note	B3	F251	C3	5	6A7, 75, 78, 38, 84	177.5	5-4
							10	15	BB12							
							10	‡	2-BB14	B196						
							‡		Buffer	B14						
P4626	Vol.	18	N				4L1	1/13	RS203		285XS	C22	4	6A7, 15, 75, 33	456	7-3
	Tone	57	N	6			.01		Buffer	B14						
Q5636, R5636, S5636	Vol.	17	O				4L1	1/13	RS203		285XS	C22	5	§15, 6A7, 75, 33	456	7-4
	Tone	57	N	6			4L6	15	BB15							
							‡		Buffer	B14						
T6216	Vol.	17	N				4L3	1	RS213		F251	C3	6	§78, 6A7, 75, 38, 84	177.5	8-2
	Tone	22	N	6			4L5	15	BB12							
							4L11	15	BB12							
							4L14	‡	2-BB19	B196						
							.005		Buffer	B14						
U5226, V5226	Vol.	18	N				4L3	56	RS213		F251	C3	5	6A7, 78, 75, 38, 84	456	8-2
	Tone	57	N	6			4L1	13	RS203							
							4L14	‡	2-BB19	B196						
							.005		Buffer	B14						
W6236, X6236, Y6236	Vol.	17	O				4L3	1	RS213		F251	C3	6	§78, 6A7, 12A5, 25Y5, 75	456	7-5,6
	Tone	57	N	6			4L1	13	RS203							
							4L6	15	BB15							
							4L11	15	BB12							
							4L15	‡	2-BB19	B196						
							.005		Buffer	B14						
TELETONE																
5 Tube TRF	Vol.	6	E12	6			4-6	4	RM262	B3			5	§24, 47, 80		
	Tone	22	K12													
TEMPLE CORP.																
8-60, 8-80, 8-90	Vol.	4	E12				1-4-2	3	See Note	B1			9	§27, §45, 80		1-1
	Hum.	37	HU20				.15		See Note	B9						
8-61, 8-81, 8-91	Vol.	6/16	DRP240				2-4-2	3	See Note	B1			9	§45, §27, §24A, 80		1-2
	Hum.	37	HU20				.15		See Note	B9						
TIFFANY TONE—(See Herbert H. Horn)																
TOBE DEUTSCHMANN																
Browning 35	Vol.	45	N				8, 8	1	RS213				8	§6K7, 6A8, 6F5, 6C5, 6H6, 6F6, 5Z4	456	
	Sen.	7	G				.10	15	BB12							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
TOM THUMB—See Automatic Radio																
TONE MASTER—See Airking																
TRANSFORMER CORP. of America (TCA) (Clarion)																
TC1, TC2	Vol.	17	O				10140	28	RS262				7	§78, 37, 75, 42, 80	262	9-1,2
	Tone	22	M	6			10850	28	RS213							
TC6	Vol.	18	MR48				8-4	23	2S567				5	6A7, 6D6, 75, 42, 80	465	8-1,3
C10	Vol.	...‡..	TRP609				8	3	RS213	B3			4	§6C6, 6B5, 83V		7-1
	Vol.	...‡..	N			A4	8-8	3	2N518							
C16	Vol.	...‡..	TRP609				8, 8	1	RS213	B3			6	6C6, 76, 6A6, §6B5,		
	Vol.	...‡..	N			A4	1	13	CS130					83V		7-2
							5	15	BB12							
C17	Vol.	...‡..	TRP609				8, 8	1	RS213	B3			6	6C6, 76, 6A6, §6B5,		
	Vol.	...‡..	N			A4	1	13	CS130					83V		7-2
							5	15	BB12							
TC20, TC21	Vol.	56	N	6			9659	1	2N518				5	58, 2A7, 2A6, 2A5, 80	465	5-7,8
							1108	13	CS130							
C21	Vol.	...‡..	TRP609				8, 8, 8	‡	RS213	B3			8	§6J7, §6C5, §6L6, 83		7-3
	Tone	57	N				20	15	BB14							
							5	15	BB12							
TC22, TC23	Vol.	45	MR48	M26			12, 12	4	RS215				7	§6D6, 6A7, 76, 42, 80	456	9-3
	Tone	34	L				5	15	BB12							
C27	Vol.	...‡..	TRP609				8, 8	2	WE850				8	§2A6, §53, 59, §46, 83		7-3
	Tone	57	N				10	15	BB12							
							5	15	BB12							
TC28, TC29	Vol.	18	MR48				24, 24	8	BB26				6	6A8, 6K7, 75, 43,		
	Tone	22	L				8	8	BB21					25Z5, 12Z3	465	8-2,3
							5	15	BB12							
TC30	Vol.	6	‡		See Note	A5	12-16	4	2P546				4	6D6, 6C6, 43, 12Z3		5-6
C33	Vol.	...‡..	TRP609				8-4	1	CM172				7	§75, 6A6, 76, 6E6, §79		7-4
	Tone	57	N				1	13	CS130							
							12	15	BB12							
							5	15	BB12							
TC36A, TC36LW	Vol.	18	MR48	M26			29-12	6	2N509				5	6A7, 6D6, 75, 43, 25Z5	456	9-4
	Tone	22	L				5	15	BB12							
TC37	Vol.	7	D				20-12-8	8	TN125				8	6A7, §6D6, 85, §43,		
	Tone	22	MR39				4	13	BB20					25Z5	456	9-5
							5	15	BB12							
TC38	Vol.	18	MR48				12-20	6	2N509				6	6A7, §6D6, 75, 43,		
	Tone	22	L				4	13	BB20					25Z5	456	9-6
							10-10	15	TN111							
TC39	Vol.	45	MR48				12, 12	4	ST596				7	§6D6, 6A7, 76, 42, 80	456	8-7,8
	Tone	34	L													
TC39A, TC39W	Vol.	45	MR48				12, 12	4	RS215				7	§6D6, 6A7, 76, 42, 80	456	9-7
	Tone	34	L													
40	Vol.	8	A5MP	6	1		1-4	25	See Note	B1			5	§51, 24A, 47, 80		1-1,2
TC40	Vol.	6	G12				4-4	4	CM170				5	§6D6, 6C6, 42, 80		5-9
							5	19	BB11							
							5	15	BB12							
TC42, TC43, TC44	Vol.	45	MR48	M26			12, 12	1	ST596				10	§6K7, 6A8, 6H6, §6C5,		
	Tone	44	L				5	15	BB12					§45, 6F5, 80	456	8-4,5
TC50	Vol.	18	UM154	M26	See Note	A96	6-6	1	2N518		294	C20	6	§78, 77, 75, 41, 84	175	5-10
							928	15	BB15		296	C20				
							.015		Buffer	B14						
AC51, 53, 55	Vol.	12	Y	8			1-1.5-1-1.5	37	See Note	B1			8	§24A, §27, §45, 80		1-3,4
TC52	Vol.	6	G12	6			1295	8	TN120				5	§77, 78, 43, 25Z5	115	5-9
	Tone	...‡..	G12				928	15	BB15							
TC53A	Vol.	45	MR48	M27			12	3	RS215				10	§6D6, 6A7, §76, §45,		
	Tone	44	L				12	13	BB63					5Z3	456	9-8
	Sen.	7	A3MP				5	15	BB12							
AC60 (25-60)	Vol.	12	Y	6			1.5-1.5-.5	3	See Note	B1			6	§24A, §45, 80		1-5,6
TC60	Vol.	7	G				TCG1018	6	UR182	B3			6	6A7, §6D6, 75, 43,		
	Tone	22	L				TCG1019	13	BB31					25Z5	456	5-11,12
							TCG1020	15	TN111							
AC61 (25-61)	Vol.	6	H12				1.5-1.5-1	3	See Note	B1			6	§24, §45, 80		1-7,8
TC65	Vol.	18	MR48	M27			25-12	6	2N512				10	§6K7, 6A7, 85, §43,		
	Tone	44	L				20	12	BB25					§25Z5	456	8-4,6
AC70	Vol.	6	H12				1.5-1.5-1	3	See Note	B1			7	§24, 27, §45, 80		1-7,9
AC80, 81	Vol.	8	G				8	25	RS213				7	§51, 24A, 47, 27, 80	175	1-10,12
AC84, 85	Vol.	8	G				2-2-2.5	28	See Note	B1			7	§51, 24, 27, 47, 80	175	2-1,4
	Tone	34	H12	6												
88	Vol.	8	G				2-2-2.5	28	See Note	B1			7	§51, 27, 24A, 47, 80	175	
	Tone	34	H12	6												
AC90, 90A, 91, 91A, (25-90, 25-91)	Vol.	8	A400P				8, 8	28	RS213				8	§35, §24A, 27, 47, 80	175	1-10,12
	Tone	34	H12	6												
92, AC94 (25-94)	Vol.	8	A400P				8, 8	28	RS213				8	27, §51, §24A, 47, 80	175	2-2,6
	Tone	34	H12	6												
AC100 Series	Vol.	8	A5MP	6			1-1-1	26	See Note	B1			6	§35, §24A, 47, 80	175	2-7,10
100AR	Vol.	15	L				P4767	4	CM172		294		5	6A7, 78, 6B7, 89, 6Z4	465	5-1
120-139	Vol.	8	G				2-2-2.5	28	See Note	B1			7	§51, 24A, 47, 27, 80	175	2-11
	Tone	34	L	6												
AC160 (25-160), 160AVC	Vol.	8	A1MP	6			8, 8	28	RS213				10	§51, §27, §47, 80	175	3-1,2
	Tone	44	L	6												
AC220 (25-220)	Vol.	8	A5MP				1-1-1	26	See Note	B1			6	§35, 57, 47, 24A, 80	175	3-5,7
	Tone	22	L	6												
AC240	Vol.	15	UC503				2-2-2.5	28	See Note	B1			8	24A, §51, 56, 58, 27,	490	2-12,
	Tone	22	L	6										47, 80		4-1
241	Vol.	15	UC503				2-2-2.5	28	See Note	B1			8	§51, §56, 27, 47, 80, 57	175	5-2
	Tone	22	L	6												
AC260	Vol.	15	UC503				8	26	See Note	B3			10	§51, 57, §27, 56, §47, 80	175	4-2,3
	Tone	22	L	6												
AC280 (25-280)	Vol.	15	UC503				8	26	See Note	B3			12	§51, §27, 57, 56, §46, 80	175	3-8,9
	Tone	22	L	6												
AC300	Vol.	6	500M No. 1		See Note	A19	6-8	34	See Note	B3			14	§58, §56, §46, 82	175	4-4
	Tone	22	L	6												
	Supp.	20	G12													
AC320	Vol.	6	G12				8-4	23	CM172				5	§57, 58, 47, 80	175	4-5
AC340	Vol.	15	UC503				P4514	23	CM175				8	§58, 57, §56, §47, 80	175	4-6
	Tone	22	L	6												
360	Vol.	15	UC503				P4514	23	CM175				10	§58, 57, §56, §46, 82	175	5-3
	Tone	21	L	6												
400 AC-DC	Vol.	7	H				8-8	6	2N518				5	39, 36, §38, 25Z5		
							5-5	15	TN111							
AC420	Vol.	17	N				2-16-8	11	UR182	B31			5	6A7, 78, 75, 43, 25Z5	...‡..	3-10
							10	15	BB12							
422, 423, 425	Vol.	98	J				P4633	11	CS123				5	6A7, 78, 77, 43, 25Z5	465	4-7,8
							P4717	11	CS126							
							P4632	11	CS123							
440	Vol.	98	J				P4709	11	UR182	B31			4	6A7, 77, 43, 25Z5	465	4-9
450	Vol.	56	N				P4737	29	UR190	B72			6	§78, 6A7, 85, 43, 25Z5	465	4-10

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
TRANSFORMER CORP.—Continued																
470, 472	Vol.	17	UC503				P4413	23	CM172				6	[2]58, 2A6, 47, 56, 80	465	4-11
	Tone	22	L				P4724	15	BB12							
480	Vol.	15	UC503				P4511	34	CM175				10	[3]58,[3]56,[3]59, 5Z3	465	4-12
	Tone	21	L	6			P4585	15	TN113							
	Sen.	12	Y													
490	Vol.	56	UC503				P4961	28	CM173				8	[3]58, 55, 53,[3]56, 80	175	5-4
	Tone	22	L													
500	Vol.	15	UC503										7	[2]34, 1A6,[3]30, 19	175	5-5
	Tone	22	L													
TRANSITONE—See Philco Radio & Television Corp.																
TRAV-LER RADIO & TELEVISION CORP.																
AC-SG-DX	Vol.	6	G12				2-1-1	30	See Note	B1,			6	[4]24A, 45, 80		1-2
	Screen	12	A5MP													
C	Vol.	12	A5MP				2-1-1	3	See Note	B1			6	[4]24A, 45, 80		1-2
K	Vol.	6	E12				8-8	1	See Note	B3			5	24,[2]51, 47, 80		1-2
SG-AC-Super	Vol.	100	L				4-2	4	See Note	B1			9	[2]35,[2]27,[2]47, 24, 80	‡	3-2
	Tone	41	N													
SG-DC	Vol.	8	Y50MP				8-8	3	See Note	B11			7	‡		3-2
SG-DX	Vol.	6	G12				2-1-1	3	See Note	B1			6	[4]24A, 45, 80		1-2
Trav-Lette	Vol.	6	L				4-4	1	CM170				4	51, 24A, 47, 80		1-2
5-Tube Battery Receiver	Vol.	18	MR48				8-8	1	2N516		246	C3	5	1C6, 1A4, 75, 30, 19	456	8-2
							.005		Buffer	B14						
6 Tube TRF	Vol.	6	E12				2-1-1	30	See Note	B1			6	[2]26, 24, 45, 80		3-1
	Tone	31	K12													
	Screen	12	A5MP													
8 Super	Vol.	6	G				8-8-2	30	See Note	B3			8	[2]51, 24A,[2]27,[2]47, 80	‡	
	Tone	41	K12													
S8	Vol.	8	G				8-8-2	30	See Note	B3			8	[2]51, 24A,[2]27,[2]47, 80	175	3-1
	Tone	41	K12													
S9	Vol.	100	L				4-2	4	See Note	B1			9	[2]35,[2]27,[2]47, 80, 24	175	3-2
	Tone	41	N													
41	Vol.	6	H12		EX200		12-16	27	2P546				4	6D6, 6C6, 43, 25Z5		6-1
42F Air Chief	Vol.	6	H7	6			16-10	23	2P546				4	6D6, 6C6, 43, 25Z5		9-2
46R	Vol.	6	H12		EX200		12-16	27	2P546				4	6D6, 6C6, 43, 25Z5		6-1
50A	Vol.	6	H12		EX200		16-12	27	2P546				4	6D6, 6C6, 43, 25Z5		6-1
51	Vol.	18	N				4-8	23	CM172				5	6A7, 6D6, 75, 42, 80	‡	6-1
53	Vol.	18	N				6-10	23	CM172				5	6A7, 6D6, 75, 42, 80	‡	6-2
54	Vol.	18	UM154	M26	See Note A96		6-10	4	RM262		294	C3	5	6A7, 6D6, 75, 42, 84	456	6-2
							.02		Buffer	B14						
56	Vol.	116	K12				4	12	BB31				4	[2]34, 32, 33, 1E1		6-3
60A	Vol.	18	N				8-16-12	11	UR182	B31			5	6A7, 6D6, 75, 43, 25Z5	456	6-3
63A	Vol.	18	N				8, 8	23	RS213				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4, or 6A7, 6D6, 75, 42, 80		6-4
64	Vol.	18	UM154	M26	See Note A96		6-10	4	See Note	B3	294	C3	6	6A7,[2]6D6, 75, 42, 84	456	
							.02		Buffer	B14						
76	Vol.	18	N				8-8	1	2N516	B3	246	C3	6	31, 1B5, 1E1, 1C6,[3]30	‡	6-4
							.02		Buffer	B14						
112	Vol.	15	MR53	M26			8	46	RS213				12	[3]6K7G, 6L7G,[2]6C5G, 6H6G, 6G5,[2]6V6G, [2]5Y3G	465	
							25	46	WE3050							
							8-16	46/13	2S563							
115	Vol.	15	MR53	M26			8	46	RS213				15	[3]6K7G, 6L7G, [3]6C5G, 6H6G, 6G5,[3]6V6G, [2]5Y3G	465	
							25	46	WE3050							
							8-16	46/13	2S563							
131	Vol.	45	MR48	M26			4	13	BB60				11	[2]6K7, 6A8, 6C5, 6H6, 6F5,[2]6F6,[3]80, 6G5, [2]5Y3G	456	9-1
136	Vol.	18	MR18				12	1	RS215				6	6A7, 76, 6D6, 75, 41, 80	456	
							10	15	BB12							
137	Vol.	18	MR48				7-32	1	2N518				6	6A7, 6D6, 75, 76, 25L6G, 25Z5	456	
							5	15	BB12							
138	Vol.	18	MR48	M26			30-20	27	2P553				8	6A7, [2]76, 6D6, 85, [2]6V6G, 80	456	
							5	20	BB12							
							8	1	RS213							
							12	1	RS215							
							4	13	BB60							
173	Vol.	45	MR48				8-8	1	2N518	B3	246	C3	7	1C6,[2]34,[3]30, 19	456	7-2
							.005		Buffer	B14						
179	Vol.	18	MR48				8-8	1	2N518		294	C3	7	6D8G, 6S7G, 6T7G, [2]6L5G, 6Z7G, 6ZY5G	456	
							5	15	BB12							
							.01-.01		Buffer	B14						
180	Vol.	18	MR48				8-8	1	2N518		294	C3	8	6D8G, 6S7G, 6T7G, [2]6L5G, 6Z7G, 6ZY5G, 6N5	456	
							5	15	BB12							
							.01-.01		Buffer	B14						
250	Vol.	45	MR48										5	1A6, 1A4, 30, 1B4, 1F4	456	
431, 431SW	Vol.	6	H7				20-12	74	UR192				4	6D6, 6C6,[2]5A7		9-2
440, 445	Vol.	6	MR33	M26			20-12	4	2P549				3	6D6, 6C6, 25A7		
442	Vol.	6	H12		2		16-12	27	2P546				4	6D6, 6C6, 43, 25Z5		6-1
450, 452	Vol.	6	MR33	M26			20-20-8	‡	See Note	B3			4	6D6, 6C6, 43, 25Z5		
							5	15	BB12							
470, 471, 472, 473	Vol.	6	MR33	M26			20-20-8	‡	See Note	B3			4	6D6, 6C6, 43, 25Z5		
							5	15	BB12							
500	Vol.	18	MR48	M26			8-8	25	CM172				5	6A7, 6D6, 75, 41, 1V	456	
							10	19	BB12							
511	Vol.	18	N				4-8	23	CM172				5	6A7, 6D6, 75, 42, 80	‡	6-1
512	Vol.	18	MR48				16-12-8	11	See Note	B3			5	6A8, 6K7, 6B6, 25A6, 25Z6	456	7-1
521	Vol.	6	MR21	M26			16-12	23	2P546				4	6D6, 6C6, 43, 25Z5, K55B		8-1
522	Vol.	18	MR48	M26			20-12	27	2P549				5	6A7, 6D6, 75, [2]5A7, K74B	456	8-1
525	Vol.	18	MR48				8-8	1	2N518		246	C3	5	1C6, 1A4, 75, 30, 19	456	7-1
							.005		Buffer	B14						
526, 527	Vol.	18	MR48				8-8-8	‡	CM175				5	6A7, 6D6, 75, 41, 80	456	
							5	19	BB12							
542	Vol.	18	UM154		See Note A96		8-4	4	CM172		294	C3	5	6A7, 6D6, 75, 6B5, 84	456	7-2
							.01		Buffer	B14						
600	Vol.	45	MR48				8-8	1	CM172		246	C3	6	1A6, 1A4, 30, 6N5, 1B4, 1F4	456	
							.005		Buffer	B14						
622, 623	Vol.	18	MR48				16-12-8	11	See Note	B3			5	6A7, 6D6, 75, 43, 25Z5	456	7-3
626, 627	Vol.	18	MR48				30-20	27	2P553				5	6A7, 6D6, 75, 43, 25Z5	456	
							5	20	BB12							
630	Vol.	18	MR48	M26			7-32	1	CM172				6	6A7, 76, 6D6, 75, 41, 80	456	
							5	15	BB12							
633, 634	Vol.	45	MR48				8-8	23	CM172				6	6A7, 6D6, 76, 75, 42, 80	456	7-3
635M	Vol.	45	MR48	M26			12, 12	23	RS215				6	6A8, 6K7, 6H6, 6F5, 6F6, 80	456	8-2

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
TRAV-LER—Continued																
642	Vol.	18	UM154		See Note	A96	8-8	4	CM172	B3	294	C3	6	[2]6D6, 6A7, 75, 6B5, 0Z4	‡	7-4
							.01		Buffer	B14						
650	Vol.	45	MR48				8-8	1	CM172		246	C3	5	1A6, 1A4, 30, 1B4, 1F4	456	
							.005		Buffer	B14						
679	Vol.	18	MR48				8-8	1	CM172		294	C3	7	6D8G, 6S7G, 6T7G, [2]6L5G, 6Z7G, 6ZY5G	456	
							5	15	BB12							
							.01-.01		Buffer	B14						
680	Vol.	18	MR48				8-8	1	CM172		294	C3	8	6D8G, 6S7G, 6T7G, [2]6L5G, 6Z7G, 6ZY5G, 6N5	456	
							5	15	BB12							
							.01-.01		Buffer	B14						
730	Vol.	18	MR48	M26			30-20	27	2P553				6	6A7, 6D6, 75, 76, 25L6G, 25Z5	456	
							5	20	BB12							
733	Vol.	45	MR48				8-8	1	CM172	B3	246	C3	7	1C6,[2]34,[2]30, 19	456	7-2
							.005		Buffer	B14						
6300	Vol.	18	MR48	M26			7-32	1	CM172				6	6A7, 76, 6D6, 75, 41, 80	456	
							5	15	BB12							
TRIANGLE ELECTRIC CO.																
5M17	Vol.	6	K12	6			B16973	27	RS207				4	6D6, 6C6, 43, 25Z5		
							B17042	27	RS207							
6M27	Vol.	17	O				B17041-3	4	RS208				5	6A8G, 6K7G, 6Q7G, 25B6G, 25Z6G	456	
	Tone	‡	M	6			B17197	4	RS208							
6P	Vol.	18	UM154-SS11				8-8	1	CM172		249	C3	6	[2]6D6, 6L7, 76, 75, 42	465	7-1,2
	Tone	22	L				.005		Buffer	B14						
6U107, 6L137, 6C607	Vol.	18	N	6			B16466	4	RS216				6	6A8G, 6K7G, 6Q7G, 6G5, 6K6G, 5Y3	456	
	Tone	34	UC502				B16467-2	4	WE825							
7U117, 7L147, 7C707	Vol.	18	N	6			B16466	4	RS216				7	6L7G, 6C5G, 6K7G, 6Q7G, 6G5, 6F6G, 5Y3	456	
	Tone	34	UC502				B16467-2	4	WE825							
8C807	Vol.	18	N	6			A15236-3	25	WE3050				8	6A8G, 6K7G, 6Q7G, 6G5, 6C5G, [2]6F6G, 5Y3	456	
	Tone	44	UC502				A15237-2	25	RS213							
8U127	Vol.	18	N	6			A15236-3	25	WE3050				8	6A8G, 6K7G, 6Q7G, 6G5, 6C5G, [2]6F6G, 5Y3	456	
	Tone	44	SRP284	8			A15237-2	25	RS213							
10C1007	Vol.	17	TRP618	6			B16554-3	1	WE3050				10	[2]6K7G, 6L7G, 6C5G, 6Q7G, 6G5, [2]6F6G, 5Z3	456	
	Tone	22	UC502				B15427	1	RS216							
							B16551-4	15	TN111							
TROPIC-AIRE																
06W	Vol.	56	N				8-16	1	2S563		210	C5	6	[2]78, 77, 85,[2]41	262	§5-22
	Tone	44	UC502				1	13	BB31							
							4	15	BB12							
TROY RADIO MFG.																
2A3	Vol.	‡	MR44				8, 8, 8	3	RS213				5	2A6, 53,[2]2A3, 5Z3		7-1
							12	17	BB22							
2A5	Vol.	‡	MR44				8, 8, 8	3	RS213				5	56, 53,[2]2A5, 80		7-1
							10	15	BB13							
							5	15	BB12							
4	Vol.	6	G12				4-4	23	CM170	B3			4	6D6, 6C6, 42, 80		6-1
4 Tube TRF	Vol.	6	H12		EX250		4-4	23	CM170	B3			4	58, 57, 2A5, 80		5-4
5L5, 5U5	Vol.	17	N	6			4-4	23	CM170	B3			5	6A7, 6D6, 85, 80, 42	465	6-1
14	Vol.	6	G12				4-4	23	CM170	B3			4	58, 57, 2A5, 80		6-1
15, 15-5	Vol.	17	N	6			4-4	23	CM170	B3			5	2A7, 58, 55, 2A5, 80	465	6-1
40	Vol.	6	G12				4-4	23	CM170	B3			4	58, 57, 2A5, 80		6-1
42	Vol.	6	G12		EX300		4-4	23	CM170	B3			4	6A7, 6F7, 42, 80	465	5-1
	Tone	22	L													
46	Vol.	17	UM154		See Note	A96	4-4	4	CM170	B3			4	6A7, 6D6, 75, 42	465	5-2
							5-5	15	TN111							
51B5	Vol.	17	MR48										5	1A6, 34, 2S8, 30, 19	465	7-3
	Tone	22	MR33													
52	Vol.	17	N	6			4-4	23	CM170	B3			5	2A5, 2A6, 2A7, 58, 80	465	5-1
	Tone	22	K12				10	15	BB12							
53	Vol.	17	N	6			4-4	23	CM170				5	6A8, 6K7, 6Q7, 6F6, 5Y3	465	7-4
	Tone	22	K12				10	15	BB12							
54	Vol.	17	N				8-8	23	CM172	B3			5	2A5, 2A6, 2A7, 58, 80	465	5-3
	Tone	22	K12													
55	Vol.	6	UC501				4-4	23	CM170				5	6A7, 6D6, 76, 41, 80	465	8-1
56	Vol.	17	UM154		See Note	A96	1-4	1	2N518				5	[2]6D6, 6A7, 75, 42	175	5-2
							5-5	15	TN111							
57	Vol.	18	MR48	M26			4-4	23	2S567				5	6A7, 6D6, 75, 42, 80	465	8-1
	Tone	22	MR34													
62BC, 62BU	Vol.	17	N										6	[2]34, 1C6, 2S8, 30, 19	465	6-2
	Tone	22	K12													
62C, 62PC, 62L, 62U	Vol.	17	N				8-8	23	CM172	B3			6	[2]6D6, 6A7, 75, 42, 80	465	6-2
	Tone	21	K12				10	15	BB12							
67	Vol.	18	MR48				4-4	23	CM170				6	6A7, 6D6, 75, 6G5, 42, 80	465	8-2
67SW	Vol.	18	MR48				4-4	23	CM170				6	6A7, 6D6, 75, 6G5, 42, 80	465	8-3
68	Vol.	17	UM154			A96	8-8	1	CM172		294	C3	5	6A8, 6K7, 6Q7, 6F6, 84	465	7-2
	Tone	22	K12				10	15	BB12							
							.01		Buffer	B14						
75 (AC)	Vol.	18	MR48				4-4	23	CM170				5	6A7, 6D6, 75, 42, 80	465	7-4
75B	Vol.	18	MR48										4	1A6, 1A4, 1B5, 33	465	7-3
	Tone	22	MR33													
77	Vol.	‡	MR48				8-8	23	CM172				7	[2]6K7, 6A8, 6Q7, 6E5, 6F6, 5Y3	465	7-3
	Tone	22	K12													
79	Vol.	18	MR48				8-4	23	CM172				6	6A7, 6D6, 75, 6G5, 42, 80	465	8-3
	Tone	22	K12													
84	Vol.	17	N				8-8	1	CM172				8	2A7,[2]58, 55, 53,[2]45, 80	465	5-3,4
	Tone	22	L				10	15	BB12							
84C, 84PC, 84U	Vol.	118	N				16-16	4	See Note	B3			8	[2]6D6, 6A7, 85,[2]42, 76, 80	465	6-3
	Tone	22	K12				4	13	BB60							
							10	15	BB12							
TR86	Vol.	17	UM154		See Note	A96	8-8	1	CM172		296	C3	6	[2]6D6, 6A7, 75, 41, 84	465	6-3
	Tone	22	K12				10-10	15	TN111							
							.01		Buffer	B14						
95	Vol.	15	MR48				8-8	23	CM172	B3			8	6A8,[2]6K7, 6H6, 6G5, 6F5, 6F6, 5Y3	465	8-2
	Tone	22	MR44				10	15	BB12							
100	Vol.	18	MR48				8-4	23	CM172				5	6A7, 6D6, 75, 42, 80	465	8-4
151-5	Vol.	17	N				16-8-10-10	6/15	UR189	B98			5	6A7, 6D6, 75, 43, 25Z5	465	6-4
	Tone	22	K12													
153, 153C	Vol.	17	MR48				4-12-16	8	UR193	B3			5	6A8, 6K7, 6Q7, 25A6, 25Z6	465	7-4
	Tone	22	K12				10	15	BB12							
162C, 162U	Vol.	17	N				16-12	6	CM164	B3			6	[2]6D6, 6A7, 75, 43, 25Z5	465	6-4
	Tone	22	K12				10-10	15	TN111							
170	Vol.	17	UM154		See Note	A96	8, 8, 8, 8	26	RS213	B3			7	6A7, 6D6, 6R7G, [2]6V6G, 6U5, 80	465	9-2
							10	15	BB12							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
TROY RADIO MFG.—Continued																
175	Vol.	18	MR48				16-12-4	8	TN125				5	6A7, 6D6, 75, 43, 25Z5	465	7-2
	Tone	22	K12				10	15	BB12							
179	Vol.	17	MR53				16-12	6	2N506				6	6A7, 6D6, 75, 6G5, 25L6, 25Z5	465	8-4
	Tone	22	MR33				10	15	BB12							
825	Vol.	18	MR48				4, 4	23	2S567				5	6A7, 6D6, 75, 41, 80	465	9-1
	Tone	22	K12													
TRUETONE—See Western Auto Supply Co.																
TRUEVALUE																
6U	Vol.	18	UC511				P81028	1	CM172		253	C3	6	‡78, 77, 75, 41, 84	262.5	§5-23
	Tone	22	UC502				P81021	15	TN111							
							.01		Buffer	B14						
TURNER CO.																
M8	Vol.	15	M				8-8	1	CM172				3	57, 2A5, 5Z3		§6-34
	Tone	21	M				8	13	CS123							
							25	15	BB15							
M16	Vol.	15	M				8-8	1	CM172				5	‡56,‡2A5, 80		§6-34
	Tone	21	M				8	13	CS123							
							25	15	BB15							
MC16	Vol.	15	M				8-8	1	CM172				6	57,‡56,‡2A5, 80		5-1
							8	13	CS123							
							25	15	BB15							
5780	Vol.	15	M				8-8	1	CM172				3	‡57, 80		5-2
							8	13	CS123							
							25	15	BB15							
TWINPLEX—See Radio Trading.																
TYRMAN ELECTRIC CORP.																
Imperial 80	Vol.	29	Z				‡	3	See Note	B3			10	‡27,‡22, 50,‡81		§1-20
ULTRAMAR																
306	Vol.	18	MR48	M26			20	1	RS207				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z5	465	
							40	1	RS208							
307	Vol.	17	MR53				14	25	RS216				8	‡6K7G, 6J7G, 6Q7G, 6C5G, 6G5, 6F6G, 5Y3G	465	9-1
	Tone	22	N	6			16	25	RS216							
309	Vol.	18	MR44				40	11	RS208				8	‡6K7G, 6A8G, 6R7G, 6G5, 25B6G,‡25Z5	465	9-2
	Tone	22	K12	6			30-30	11/13	2N514							
316	Vol.	18	MR48				20	1	RS207				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z5	465	
							40	1	RS208							
317	Vol.	17	MR53				14	25	RS216				8	‡6K7G, 6J7G, 6Q7G, 6C5G, 6G5, 6F6G, 5Y3G	465	9-1
	Tone	22	N	6			16	25	RS216							
319	Vol.	18	MR44				40	11	RS208				8	‡6K7G, 6A8G, 6R7G, 6G5, 25B6G,‡25Z5	465	9-2
	Tone	22	K12	6			30-30	11/13	2N514							
325, 335	Vol.	18	MR48				8, 8	25	RS213				5	6A8G, 6K7G, 6Q7G, 6F6G, 80	456	
345, 355	Vol.	17	MR53				8-8	1	CM172	B3	246	C3	6	6D8G, 6S7G, 6T7G, 6AB5, 6L5G, 19	465	
	Tone	57	MR48	M27			.005		Buffer	B14						
366, 376	Vol.	17	MR53				8, 8	25	RS213				7	6A8G, 6K7G, 76, 6Q7G, 6E5, 6F6G, 80	465	
	Tone	22	N	6												
801, 802	Vol.	18	‡		See Note A19		8	25	RS213				8	‡6K7, 6L7, 6H6, 6C5, 6F5, 6F6, 5Y3	465	8-1
	Tone	57	N	8			25	25	WE3035							
	Sen.	59	A5MP													
UNITED AIR CLEANER—See Sentinel.																
UNITED AMERICAN BOSCH																
Model T	Vol.	6	G12				3-3	25	See Note	B1			5	‡36, 37, 33		
04	Vol.	7	J	6			CE9520	6/15	UR189	B98			4	6D6, 6C6, 43, 25Z5, 185R8—Ballast		6-8
05	Vol.	17	N	6			CE9519	6/15	4N708				5	6A7, 6D6, 75, 43, 25Z5	465	6-20
4 (Essex)	Vol.	6			See Note A5		4-8	25	CM171	B198			4	‡224, 47, 80		3-5
5A	Vol.	7	G	6			SA102553	25	CM171	B199			5	‡51, 24, 47, 80		2-12,13
5 (AC)	Vol.	6	G12				4-8	25	CM171	B198			5	‡24, 47, 80		1-2,3
7, 7C (DC)	Vol.	6	G12				3-3	25	See Note	B11			5	‡36, 37, 33		3-4
10 (Essex)	Vol.	15	N				8-8-4	30	See Note	B3			10	51,‡58,‡27,‡45, 80	175	3-6
	Tone	22	N													
20, 20J, 20K, 20L	Vol.	6	A10MP	6			2-3.5-2	26	See Note	B1			8	‡51,‡27,‡47, 80	175	2-1,2
	Tone	22	‡		See Note A5											
28 (AC)	Vol.	13	SRP179				2-4	1	See Note	B1			8	‡26, 27,‡71, 80		1-5,6
29 (AC)	Vol.	13	SRP179				2-4	1	See Note	B2			8	‡26, 27,‡10, 81		1-7
31, 32 (AC)	Vol.	6	G12	6			3.5-3.5	25	See Note	B1			6	‡51, 24, 47, 27, 80	175	2-3,4
							.08		See Note	B9						
36, 36A & B, 37	Vol.	6	G12	6			8-4	25	CM171	B199			6	‡51, 24, 47, 80, 27	175	3-7,8
							8	14	BB31							
38	Vol.	13	SRP179				2-4	1	See Note	B1			8	‡26, 27,‡71, 80		1-5
40, 41 (AC)	Vol.	15	N	6			8-8-4	56	CM175	B205			8	‡51,‡27, 47, 80	175	4-1,2
	Tone	22	N													
45A, 45C	Vol.	18	N	6			SA-106878	1	CM172		271		5	‡77, 78, 75, 41	175	5-1,5
							SA105741	15	BB12							
46 (AC)	Vol.	14	N										7	71A,‡26, 27, 80		1-8
48, 49 (AC)	Vol.	40/12	GK		Early	A79	4-2-1	3	See Note	B1			7	‡45, 27,‡24, 80		1-9,10
	Vol.	40/12	GE		Late	A79										
54 (DC)	Vol.	40/8	CE			A54	4-4	1	See Note	B11			7	‡27,‡24,‡71		1-11,12
56 (Battery)	Vol.	40/12	GK										7	‡22,‡201A,‡112A		1-13,14
58 (AC)	Vol.	8	D				2-2-4	3	See Note	B1			8	‡24, 27,‡45, 80		1-17
	Tone	41	N													
60, 60D, 60E, 61	Vol.	15	N				2-2-4-2	3	See Note	B1			9	‡24, 27,‡45, 80		1-16
	Tone	41	N													
62 (DC)	Vol.	8	D				4-4	1	See Note	B11			7	‡24, 27,‡45		1-18,19
	Tone	41	N													
63 (DC)	Vol.	15	N				4-4	1	See Note	B11			8	‡24, 27,‡45		1-20,21
	Tone	41	N													
66 (AC)	Vol.	14	N										6	‡26, 27, 71		1-15
73, 74	Vol.	6	G12	6			2-2-4	26	See Note	B1			7	‡24, 27,‡45, 80		1-22,23
	Tone	‡	K12													
79C	Vol.	18	N	6			SA106536	4	CM172		253	C3	6	‡77, 78, 75, 42, 84	175	5-6,10
	Tone	22	N				.008		Buffer	B14						
80, 84	Vol.	7	A20MP										5	‡24, 12A		1-24,25
91, 92	Vol.	15	N	6			16	25	CS136	B39			7	‡51,‡24, 47, 27, 80	175	2-6,7
	Tone	22	N				4	25	CS131	B39						
							SA103037	14	CS123							
96 (AC)	Vol.	14	N										7	‡26, 27, 71, 80		1-15
96 (DC)	Vol.	14	N										7	‡26		1-8
100 (Adv. 9-20 Auto)	Vol.	‡	‡		See Note A5		4-6	24	CM172				7	‡36, 37,‡38	175	2-8,9
107 (AC)	Vol.	14	N										7	‡26, 27, 71		1-15

‡ Data not substantiated.

*** IMPORTANT: Read Notes in Note Section if specified in Note Column.**

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
UNITED AMERICAN BOSCH—Continued																
113	Vol.	15	N										7	[3]39, 85, 89, [3]52		
	Sen.	7	J													
113X	Vol.	18	N										7	[3]39, 75, 89, [3]52		
114	Vol.	15	N										7	[3]39, 85, 89, [3]52		
	Sen.	7	J													
116 (AC)	Vol.	14	N										6	[4]26, 27, 71		1-15
119 (Police Motorcycle Radio)	Vol.	18	UM154		See Note A[9]6		4-4	1	See Note	B3			5	[2]78, 6A7, 75, 41	456	5-11,13
							5	15	BB12							
123	Vol.	15	N										7	[3]39, 85, 89, [3]52		
	Sen.	7	J													
123X	Vol.	18	N										7	[3]39, 75, 89, [3]52		
126 (AC)	Vol.	14	N										6	71, [4]26, 27		1-8
129 (Police Motorcycle Radio)	Vol.	18	UM154		See Note A[9]6		4-4	1	See Note	B3			5	[2]78, 6A7, 75, 41	456	5-11,13
							5	15	BB12							
133, 135	Vol.	6	G12	6			2-2-4	26	See Note	B1			7	[3]24, 27, [3]45, 80		1-22,23
	Tone	‡	K12													
136 (AC)	Vol.	14	N										6	[4]26, 27, 71		1-15
139 (Types H, L, HT, LT, HC, LC, HTC, LTC)	Vol.	18	UM154-SS23	M26			CE9510	1	CM172				5	78, 6A7, 75, 41, 77	456	5-14,20
							SA105910	15	TN111							
139 (Types V, VC, VT, VTC)	Vol.	18	UM154-SS23	M26			CE951	4	CM172		253Y	C3	6	78, 6A7, 75, 41, 84, 77	456	5-14,20
							SA-105910	15	TN111							
							.008		Buffer	B14						
140A	Vol.	18	‡		See Note A5		8-8	1	See Note	B3	271		5	[2]78, 6A7, 75, 41	456	4-3
							10	15	BB12							
146	Vol.	14	N										6	71, 27, [4]26		1-8
149 (Types H, L, HT, LT, HC, LC, HTC, LTC)	Vol.	18	UM154-SS23	M26			CE9510	1	CM172				5	[2]78, 6A7, 75, 41	456	5-14,20
							SA105910	15	TN111							
149 (Types V, VC, VT, VTC)	Vol.	18	UM154-SS23	M26			CE951	4	CM172		253Y	C3	6	78, 6A7, 75, 41, 77, 84	456	5-14,20
							SA105910	15	TN111							
							.008		Buffer	B14						
150 (Type 1)	Vol.	18	N				SA105456	1	CM172		210		6	[4]36, 39, 85, [3]41	175	4-4
							SA101614	1	CS123							
150 (Type 2)	Vol.	18	N				SA105456	1	CM172		271		6	[2]77, 78, 85, [3]41	175	4-5
156 (DC)	Vol.	14	N										7	[4]26		1-8
160	Vol.	18	UM154		See Note A[9]6		8-8	1	CM172		271		6	[2]77, 78, 85, [3]41	175	4-6
166, 176 (AC)	Vol.	14	N										6	71, 27, [4]26		1-8
169 (H, L, HT, LT, HC, LC, HTC, LTC)	Vol.	18	UM154-SS23	M26			CE9510	1	CM172				5	77, 78, 6A7, 75, 41	456	
							SA105910	15	TN111							
169 (V, VC, VT, VTC)	Vol.	18	UM154-SS23	M26			CE951	4	CM172		253Y	C3	6	77, 78, 6A7, 75, 41, 84	456	5-15,19
							SA105910	15	TN111							
							.008		Buffer	B14						
200, 201 (AC)	Vol.	7	G	6			SA101881	25	CM171	B199			5	[3]51, 24, 47, 80		3-9,10
205, 205A, 206 (5A)	Vol.	7	G	6			SA102553	25	CM171	B199			5	[3]51, 24, 47, 80		2-12,13
224	Vol.	6	G7	6			3-3	25	See Note	B11			8	[3]39, 71A, [3]52, 37	175	2-14
	Tone	21	N				.01		See Note	B9						
226	Vol.	16	N										8	[2]32, [2]34, [2]30, [2]49	175	2-15
	Tone	114	‡		See Note A5											
236, 237 (AC)	Vol.	6	G12				8-4	25	CM171	B199			6	[3]51, 57, 47, 27, 80	175	3-11
							8	14	CS133							
239AA	Vol.	6	G12				8-4	25	CM171	B199			6	[3]51, 24, 27, 47, 80	175	3-11
	Tone	22	N				8	14	CS123							
239 AC	Vol.	6	G12				8-4	25	CM171	B199			6	[3]51, 57, 47, 27, 80	175	3-11
							8	14	CS133							
242, 243 (AC)	Vol.	15	N	6			SA103595	30/14	UR191	B200			8	[3]56, [3]58, 47, 80	175	3-12
	Tone	22	N													
250, 251	Vol.	15	N	6			SA103950	3/13	UR191	B201			10	[3]58, [3]56, [3]45, 80	175	4-7
	Tone	120	L				SA103740	1	CM172	B12						
260, 261	Vol.	20	500M No. 1		See Note A19		SA103950	3/13	UR191	B201			10	[3]58, [3]56, [3]45, 80	517.5	4-8, 5-21
	Tone	120	L													
305A	Vol.	6	G7	6			SA102768	25	CM171	B199			5	[3]57, 58, 47, 80	456	3-13,14
305 Ed. 2	Vol.	18	N	6			SA105237	25/19	CM172/BB15	B202			5	57, 58, 2A6, 47, 80	456	7-3,4
306	Vol.	45	MR53				CE9516	59	WE850				10	[3]6K7, 6A8, 6C5, 6H6,		
							CE9517	59	WE1830					6F5, [3]6F6, 5Z3	465	8-1,4
							SA107913	15	TN111							
307	Vol.	56	N	6			SA105165	25/19	CM172/BB15	B202			7	57, [3]58, 55, 24, 80	175	5-23, 7-7
	Tone	22	N													
310, 310A	Vol.	15	N	6			SA104422	30	CM175	B206			10	[3]58, [3]27, [3]45, 56, 80	175	5-25,26
	Tone	22	N				SA103037	15	CS123							
	Sil.	‡	A10MP													
312, 313 (AC)	Vol.	118	L	6			SA103740	57	CM175	B203			12	[3]58, 57, [3]56, [3]46, 82	175	3-1, 2-16
	Tone	122	L				SA103595	57	CS131/CM172	B204						
							SA103037	16	CS123							
350, 352	Vol.	18	N				SA106340	25/19	CM172/BB15	B202			5	2A7, 58, 2A6, 2A5, 80	175	4-9
	Tone	22	N	6												
355, 357	Vol.	18	N				SA105700	8/15	RM257/BB12	B207			5	6A7, 78, 75, 43, 25Z5	175	4-10
	Tone	22	N	6												
360, 361, 364	Vol.	18	N				CE954	25/19	RM261/BB15	B213			7	2A5, 2A6, [3]58, 56, 80	456	7-5,6
	Tone	22	N	6												
370, 371	Vol.	18	N				SA105817	3	RM262				7	2A7, [3]58, 2B7, [3]53, 83	265	4-12, 5-31
	Tone	22	N	6			SA105818	3/13/15	CM173/BB15	B208						
376, 376BT, 376F, 376S	Vol.	4/9	GG				SA107029	12/13	2N516	B209			5	1A6, [3]34, 33, 32	456	5-33, 6-1,2
	Tone	121	N													
385	Vol.	4/9	GG				CE959	12/13	2N516	B209			5	1A6, [3]34, 33, 32	463	6-3,4
386	Vol.	45	N				CE959	12/13	2N516	B209			6	1C6, [3]34, 30, 32, 33	463	6-5,7
402 Ed. 1, 2	Vol.	18	N	6			SA105722	8/15	UR182/BB12	B210			5	6F7, 78, 75, 43, 25Z5	456	6-9,10
402 Ed. 3	Vol.	18	N	6			CE957	8	UR182	B210			5	6F7, 78, 75, 43, 25Z5	456	6-9,10
							CE958	15	BB12	B210						
405	Vol.	18	N	6			SA105237	25/19	CM172/BB15	B202			5	57, 58, 2A6, 47, 80	456	7-3,4
420, 421	Vol.	18	N				SA107288	1/15	RM265				5	6F7, 6D6, 75, 42, 80	456	5-35, 6-11
	Tone	121	M	6												
430, 430J, 430T, 431, 431J, 431T, 434, 434J, 434T	Vol.	18	N	6			SA107239	1	HD684				5	6A7, 6D6, 75, 42,	450	6-13,14
							SA107288	1/13/15	RM265					80-83V		
440C, 440T, 441C, 441T, 444C, 444T	Vol.	18	N				SA106665	25/19	RM261/BB15	B213			6	6A7, [2]6D6, 75, 42, 80	456	6-15,16
	Tone	121	M	6			SA107239	13	HD684							
450L, 450H, 451L, 451H	Vol.	18	N	6			SA107239	1	HD684				6	6A7, [2]6D6, 75, 42, 80	450	6-17,19
							SA107288	1/13/15	RM265							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
UNITED AMERICAN BOSCH—Continued																
454L, 454H	Vol.	18	N	6			SA107239	1	HD681				6	6A7, [2]6D6, 75, 42, 83V	450	6-17,19
							SA107288	1/13/15	RM265							
460, 460A-B-R, 461A-B-R (Ed. 1 and 2), 464A-B-R	Vol.	18	N				SA106665	25/19	RM261/BB15	B213			7	[3]58, 2A6, 2A5, 56, 80	456	5-36, 6-21
	Tone	121	M	6												
462A, 462Y	Vol.	18	N										7	[3]78, 76, 85, [2]18	456	7-8,10
	Tone	22	N	6												
470G-U, 471G-U, 474G-U	Vol.	18	N				CE954	25/19	RM261/BB15	B213			7	[3]58, 2A6, 2A5, 56, 80, (83V)	456	6-27
	Tone	121	M	6												
480 (Ed. 3)	Vol.	18	N				SA107510	59	RM265				10	[3]78, 77, 6B7, 42, [2]6A6, 76, 83V	456	6-25,28
	Tone	121	M	6			SA107516	15	BB12							
480 (Ed. 1 and 2), 481, 484	Vol.	18	N				CE955	59	RM262				10	[3]78, 77, 42, [2]6A6, 76, 83V, 6B7	456	6-25,28
	Tone	121	M	6			SA107510	59/13	RM265							
	Supp.	7	G				SA107516	15	BB12							
500	Vol.	18	N	6			SA105309	11/15	UR182/BB12	B214			5	[2]78, 75, 43, 25Z5	456	5-37,38
501, 502 (AC-DC)	Vol.	18	N	6			SA105722	8/15	UR182/BB12	B210			5	6F7, 78, 75, 43, 25Z5	456	5-39,40
503	Vol.	18	N	6			SA106187	25/19	CM172/BB15				5	6F7, 78, 75, 43, 12Z3		5-43,44
505, 510, 510E	Vol.	18	N	6			CE9512	25	RS215				5	6F7, 6D6, 75, 42, 80	465	6-29,32
							CE9511	25	RS213							
							CE958	19	BB12							
515	Vol.	18	N	6			CE9512	1	RS215				5	6F7, 6D6, 75, 42, 80	465	8-5
							CE9511	1	RS213							
							CE958	19	BB13							
524A (Ed. 1, 2, 2D, 2G)	Vol.	18	UM154-SS23	M26			CE951	4	CM172		253Y	C3	5	6A7, 78, 75, 42, 84	456	6-33,34
							.008		Buffer	B14						
536	Vol.	18	UM154-SS23	M26			CE951	4	CM172		253Y	C3	5	6A7, 78, 75, 42, 84	456	7-11,12
							.008		Buffer	B14						
565W, 565K	Vol.	18	N	6			CE9512	1	RS215				6	6L7, 6K7, 75, 6F6, 6C5, 80	465	7-13,14
							CE9511	1	RS213							
							CE958	19	BB12							
575F, 575Q	Vol.	18	N				CE954	25/19	RM261/BB15	B213			7	[2]6K7, 6H6, 6F5, 6F6, 6A8, 80	465	7-15,18
	Tone	121	N	6			CE9511	14	RS213							
585, 585Y, 585Z, 586	Vol.	18	N				CE954	25/19	RM261/BB15	B213			8	[2]6K7, 6H6, 6F5, 6F6, 6A8, 6C5, 80	465	6-35,39
	Tone	121	N	6			CE9518	14	RS213							
							CE9515	15	BB12							
595M, 595P	Vol.	15	O				CE9516	59	RS213				10	[2]6K7, 6A8, 6C5, 6H6, [2]6F5, 6F6, 5Z3	465	6-41,44
							CE9517	59	RS216							
							SA107913	15	TN111							
600	Vol.	18	N	6			CE9541	1/15	3S570		215	C3	4	6A7, 6D6, 75, 41	465	7-19, 9-2
							.008		Buffer	B14						
601	Vol.	18	MR48	M23			CE9542	12	CS131				5	1C6, 1A4, 1B5, 30, 19	465	7-20
602	Vol.	18	MR48	M24									6	1C6, [2]1A4, 1B5, 30, 1J6G	465	7-21
	Tone	22	‡		See Note A5											
604, 604B	Vol.	27	‡		See Note A5		CE9533	6	RS215				4	6A7, 6C6, 43, K55C—Ballast, 25Z5	465	7-23,24
							CE9534	6	RS216							
							CE9515	15	BB12							
605, 605C	Vol.	18	N	6			CE9536	1	RS215				5	6A8, 6K7, 75, 6F6, 5Y3	465	7-25,26
							CE9535	1	RS216							
							CE9515	19	BB12							
610, 610A	Vol.	18	MR48	M26			CE9545	27	RS207				5	6A7, 6D6, 75, 43, 25Z5, K49C	465	7-38
							CE9546	27	RS205							
620	Vol.	18	TRP607	6			CE9539	27	RS207				6	6A8, 6K7, 6H6, 6F5, 25A6, 25Z6, K12C, —Ballast	465	7-27,28
	Tone	22	MR24				CE9538	27	RS207							
							CE9540	13	RS203							
625	Vol.	18	TRP607	6			CE9539	27	RS207				6	6A8, 6K7, 6H6, 6F5, 25A6, 25Z6, K42E —Ballast	465	7-27,28
	Tone	22	MR24				CE9538	27	RS207							
							CE9540	13	RS203							
634A, 634A (Ed. 2)	Vol.	18	UM154-SS23	M26			CE951	4	CM172		253Y	C3	6	[2]77, 78, 75, 42, 84	175	6-45,46
	Tone	121	N				.008		Buffer	B14						
636, 637	Vol.	18	N	6	RS246		CE951	4	CM172		253Y	C3	6	[2]77, 78, 75, 42, 84	175	7-29,30
	Tone	121	N				.008		Buffer	B14						
640, 650	Vol.	18	TRP607	6			CE9536	25	RS215				6	6A8, 6K7, 6H6, 6F6, 6F5, 5Z4 or 5Y3	465	7-31,34
	Tone	125	MR24				CE9535	25	RS216							
							CE9537	13/15	RM262							
660T, 660C	Vol.	18	TRP606				CE9536	25	RS215				7	[2]6K7, 6H6, 6F5, 6A8, 6F6, 5Z4 or 5Y3	465	7-35,37
	Tone	121	N	6			CE9535	25	RS216							
							CE9528	14	RS213							
							CE9526	15	TN111							
670S, 670C	Vol.	18	N				CE9536	25	RS215				9	[2]6K7, 6H6, 6C5, 6F5, 6A8, [2]6F6, 5Z4	465	7-39,42
	Tone	22	L	6		A99	CE9535	25	RS216							
							CE9528	14	RS213							
							CE9526	15	TN111							
680	Vol.	15	MR53				CE9528	30	RS213				13	[4]6K7, 6A8, 6C5, [2]6H6, 6F5, [2]6L6G, 5Y3, 5Z3	465	7-43,44
							CE9536	30	RS215							
							CE9548	30	RS213							
							CE9547	15	TN111							9-7
							CE9549	3	CS133							
							CE9548	3	CS133							
736, 737, 738	Vol.	45	M		RS246		CE951	4	CM172		294	C3	7	6J7, 6A8, 6K7, 6H6, 6F5, 6F6, 0Z4	175	7-47,48
	Tone	121	M				CE9524	19	BB12							
							.005		Buffer	B14						
838	Vol.	45	M		RS246		CE951	4	CM172		294	C3	8	[2]6K7, 6A8, 6H6, 6F5, [2]6F6, 0Z4	175	7-46
	Tone	22	‡		See Note A5		CE9524	19	BB13							
							.005		Buffer	B14						
UNITED MOTORS SERVICE "DELCO" (Buick, Olds, Pontiac)																
A1, B1	Vol.	56	N				8, 8	1	RS213				9	[2]58, [2]57, 56, 55, [2]47, 80	‡	
	Tone	21	N													
	Sen.	7	F													
A3, B3	Vol.	45	N				2	‡	See Note	B11			7	[2]39, [2]36, 37, [2]38	175	
	Tone	22	N													
A5A3 (Auburn)	Vol.	18	UC514	6			W32759	1	RS213		247	C3	5	[2]78, 6F7, 6B7, 42	181.5	
							W32802	1/15	SR605	B23						
							.005		Buffer	B14						
A255 (Cord)	Vol.	15	UM162-SS14				W38473A	1	2N518		273C		5	6D6, 6A7, 6B7, 76, 6B5	450	
A355 (Graham-Paige)	Vol.	15	UM162-SS14				W38473A	1	2N518		273C		5	6D6, 6A7, 6B7, 76, 6B5	450	
A455 (Cord)	Vol.	126	UM162-SS14				38478A	1	2N518		273C		5	[2]6D6, 6A7, 6B7, 6B5	450	
A555 (Graham-Paige)	Vol.	126	UM162-SS14				38473A	1	2N518		273C		5	[2]6D6, 6A7, 6B7, 6B5	450	
66	Vol.	17	MR44	M26			9979	4	CM172		220B	C3	6	[2]6E7, 6A7S, 6C7, 89, 6Y5	175	8-1
	Tone	22	K12				10067	15	BB12							
							.008-.008		Buffer	B14						
626 (Delco)	Vol.	18	UC512				1209285	22/15	3S579		273C		5	[2]6D6, 6A7, 6B7, 42	262	6-1,4
	Tone	21	M				4	15	BB12							
627 (Delco)	Vol.	15	UC514				1209285	22/15	3S579		273C		5	6D6, 6A7, 6B7, [2]6P6	262	7-4,6

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
UNITED MOTORS SERVICE—Continued																
628 (Delco)	Vol.	62	UC514				1209283	1	RS215		273C		6	²⁶D6, 6A7, 85, 6A6	262	7-7,9
	Tone	44	L				1209284	1/15	RS213/TN111							
629 (Delco) (Below No. 40100)	Vol.	45	UC514				1209285	1/15	3S579		273C		4	6F7, 6B7, 6D6, 42	262	8-17,21
629 (Delco) (Above No. 40100)	Vol.	62	UC514				1209285	1/15	3S579		273C		4	6F7, 6A7, 6B7, 42	262	8-19,21
630 (500) (Delco)	Vol.	62	UC514				1209806	4	CM172		294	C3	5	6A7, 6B7, 6D6, 42, 84	262	7-10,12
							.01		Buffer	B14						
631 (Delco)	Vol.	18	UC514				1210556	1	CM172		294	C3	5	6A7, 6B7, 6D6, 6B5, 84	262	8-3,4
							.05		Buffer	B14						
631A (Delco)	Vol.	73	UM150-SS3				1211247	4	RM262	B73	294	C3	6	²⁶D6, 6A7, 6B7, 42, 84	262	8-5,6
							.005		Buffer	B14						
632 (Delco)	Vol.	126	UC514				1210215	1	2N518		294	C3	6	²⁶D6, 6A7, 6B7, 6B5, 84	262	8-7,8
	Tone	21	O				.005		Buffer	B14						
633 (Delco)	Vol.	126	UC514				1210215	1	2N518		294	C3	6	²⁶D6, 6A7, 6B7, 6B5, 84	262	8-9,10
	Tone	21	O				.005		Buffer	B14						
634 (Delco)	Vol.	15	UM162-SS14				1210926	1/15	3S577		273C		6	²⁶D6, 6A7, 85, ²41	262	8-11,12
	Tone	21	M													
635 (Delco)	Vol.	20	TM242-SS14				1210926	1/15	3S577		273C		6	²⁶D6, 6A7, 85, ²6F6	262	8-13,14
R640 Delco	Vol.	18	UM150-SS14				7230164	4	RM262		852	C3	6	²6K7G, 6A8G, 6Q7G, 6F6G, 6X5G	262	9-1,4
	Tone	22	MR14				.005		Buffer	B14						
R641 Delco	Vol.	18	UM150-SS14				7231521	4	28567		852	C3	6	²6K7G, 6A8G, 6Q7G, 6V6G, 6X5G	262	9-5,6
	Tone	22	MR39				.005		Buffer	B14						
R642 Delco	Vol.	18	TM241-SS3				1212038	4	RM262		852	C3	6	²6K7, 6J7, 6Q7, 6F6, 6X5	262	9-2,4
							.005		Buffer	B14						
R643 Delco	Vol.	18	UM150-SS14				7231521	4	28567		852	C3	6	²6K7G, 6A8G, 6Q7G, 6V6G, 6X5G	262	9-7,8
	Tone	22	MR39				.005		Buffer	B14						
R644 Delco	Vol.	20	TM241-SS14				7231605	1	28563		294C	C3	8	²6K7G, 6A8G, ²6R7G, ²6V6G, 0Z4	262	9-9,10
	Tone	22	MR39				.005		Buffer	B14						
R663	Vol.	18	MR44	M26			7234667	74	28564		294C	C3	6	²6K7G, 6A8G, 6Q7G, 6K6G, 6X5G	262	
							.015		Buffer	B14						
R664	Vol.	18	UM147				7234117	74	3S584		294C	C3	6	²6K7G, 6A8G, 6Q7G, 6F6G, 6X5G	262	
							.005		Buffer	B14						
R665	Vol.	18					7234179	74	3S584		294C	C3	6	²6K7G, 6A8G, 6Q7G, 6V6G, 0Z4	262	
							.01-.01		Buffer	B14						
R666, R667	Vol.	18					7234679	74	3S584		294C	C3	6	²6K7G, 6A8G, 6Q7G, 6V6G, 0Z4G	262	
							.01-.01		Buffer	B14						
R668, R669	Vol.	18					7234619	40	28563		294C	C3	7	²6K7G, 6A8G, 6R7G, 6J5G, 6N7G, 0Z4G	262	
							7234635	14	BB31							
							.01-.01		Buffer	B14						
R673	Vol.	18					7234619	40	28563		860	C3	7	²6K7G, 6J8G, 6R7G, 6J5G, 6N7G, 0Z4G	262.5	
							7234886	14	BB31							
							.01-.01		Buffer	B14						
R675	Vol.	18	MR48	M26			7237818	74			860	C3	5	6SA7, 6SK7, 6SQ7, 6K6G, 0Z4G	455	
							.015-.015		Buffer	B14						
R676	Vol.	18					7237541	74	2S568		860	C3	6	²6K7, 6A8G, 6Q7G, 6K6G, 6X5G	262	
							.0075		Buffer	B14						
R677	Vol. & Tone	18/21					7237818	74			860	C3	6	²6SK7, 6SA7, 6SQ7, 6V6G, 0Z4G	455	
							7237819	14	BB40							
							.015-.015		Buffer	B14						
R678	Vol. & Tone	76					7237820	74	BB62		860	C3	6	²6SK7, 6SA7, 6SQ7, 6V6G, 0Z4G	455	
							7233092	74/14	2N518							
							.01-.01		Buffer	B14						
1101 (Delco)	Vol.	56	MR48	M26			1208786	11/15	Order from	Mfr.			5	6F7, 78, 6B7, 43, 25Z5	181.5	6-5,6
1102, 1103 (Delco)	Vol.	15	N				1208317	4	RS215				6	6D6, 6A7, 6B7, 76, 42, 80	456	6-7,10
	Tone	22	Z12	6			1208316	4/14	3S584							
1104 (Delco)	Vol.	...‡	N				1208317	4	RS215				6	6D6, 6A7, 6B7, 6F7, 42, 80	456	6-11,12
	Tone	34	Z12	6			1208316	4/14	3S584							
1105	Vol.	6	G12	6	EX200		8-6	1	RM262				5	²6D6, 76, 6B5, 80	450	7-13,15
1106	Vol.	18	N	6			12	25	RS215				5	6D6, 6A7, 75, 42, 80	465	7-16,18
	Tone	22	Y				16	25	RS216							
1107	Vol.	15	O	6			8-8-8	13/25	3S584				6	²6D6, 6A7, 76, 42, 80	450	7-19,21
1108	Vol.	18	TRP623	6			12	4	RS215				6	²6D6, 6A7, 75, 42, 80	456/490	7-22,24
							18	4	RS216							
							10	13	RS205							
1109	Vol.	20	TRP608	6			12	1	RS215				8	²6D6, 6A7, ²6C5, ²6F6, 80	455	7-25,27
							18	1	RS216							
							10	13	RS205							
1110	Vol.	15	TRP608				12	31	RS215				10	6D6, 6A7, 6K7, ²6C5, 6F6, ²45, 5Z3	455	7-28,30
							18	31	RS216							
							12-12	15	TN111							
R1115	Vol.	7	E	6	2		8-4	1	2N518				5	6A7, 6D6, 76, 41, 80, or ²6D7G, 6C5G, 6F6G, 6X5G	465	9-11,13
							8	1	RS213							
R1116	Vol.	45	TRP623	6			16	25	RS216				6	6A8G, 6K7G, 6H6G, 6F5G, 6F6, 5Z4	456	9-15,16
	Tone	57	N				16	25	RS216							
R1117	Vol.	45	TRP605	6			16	25	RS216				7	6A8G, 6K7G, 6H6, 6F5G, 6F6, 6G5, 5Z4	456	9-15,16
	Tone	57	N				16	25	RS216							
R1118	Vol.	45	TRP623	6			16, 16	25	RS216				10	²6K7, 6A8, 6H6, 6G5, ²6C5, ²6F6, 5V4G	456	9-17,18
	Tone	41	N				8	13	RS213							
							10	19	BB13							
							12	15	BB12							
R1119	Vol.	15	TRP608	6			16, 16	25	RS216				12	²6K7, 6A8, ²6H6, 6J7, ²6C5, 6G5, ²6L6, 5V4G	456	9-19,20
							8	13	RS213							
							10	19	BB13							
							12	15	BB12							
R1120	Vol.	18	N	6			8-4	1	2N518				5	6A8G, 6K7G, 6Q7G, 6K6G, 5Y4G	465	9-21,22
							10	19	BB13							
R1125	Vol.	18	MR53	M26			5-5	23	28567				5	6A7, 78, 75, 41, 80	465	9-23
R1126	Vol.	17	MR48	M26			8-8	1	2N518				6	6A7, 6D6, 75, 41, 6G5, 80	465	9-24
R1127	Vol.	18	MR53	M26			30	25	WE3050				6	6A8G, 6U7G, 6Q7G, 6K6G, 6U5, 5W4G	465	9-25,26
							8-8	25	2N518							
							10	19	BB13							
R1128, R1129	Vol.	18	MR53	M26			8, 8	23	RS213				7	6L7G, 6C5G, 6K7G, 6Q7G, 6G5, 6F6G, 5Y3G	465	9-27,28
R1130	Vol.	45	TM230-SS1	M26			30	25	WE3050				8	6L7G, 6K7, 6H6, 6F5, 6C5G, 6U5, 6V6G, 5W4G	465	9-29,30
							8	25	RS213							
							10	19	BB13							
R1131	Vol.	20	TRP608	6			30	25	WE3050				9	²6K7, 6L7, 6C5, 6H6, 6F5, 6L6, 6U5, 5Y3G	465	9-31,32
							16	25	RS216							
							10-10	15	TN111							
R1132	Vol.	20	TRP611				30	1	WE3050				12	²6K7, 6L7, 6J7, ²6C5, 6H6, ²6V6, 6U5, 5U4G	456	9-33,38
							8	1	RS213							
							10	...‡	BB12							
							10-10	15	TN111							
							4	13	CS131							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
UNITED MOTORS SERVICE—Continued																
2017, 2018 (Delco)	Vol.	25	GK				1202264	4	RS215				6	§24A, 45, 80		
	Tone	22	G12				1201400	4	RS213							
2035 (Revised)	Vol.	17	UC512	6			1207584	1	2N518		221	C3	5	36,§39, 85, 89	262	3-1,2
	Tone	44	K12				1207616	15	BB11							
							.015		Buffer	B14						
R2050	Vol.	18	MR48										4	1C6, 34, 1F6, 33, 5E1	465	9-39,40
R2055	Vol.	17	MR48										4	1C6, 34, 1F6, 33, 5E1	465	9-40,42
3201, 3202 (Below 800,000)	Vol.	17	N	6									6	§6D6, 6A7, 85,§48	262.5	6-13,14
3201, 3202 (Delco) (Above 800,000)	Vol.	17	N	6									6	§6D6, 6A7, 85,§48	456	6-15,16
3203, 3204 (Delco)	Vol.	15	N				1208892	1	RS205/BB13		F247	C3	6	6D6, 6A7, 6B7, 6F7,		
	Tone	44	Z12	6			1208891	1/14	3S584/BB12					§43	456	6-17,19
							1208890	14	RS203							
							.01		Buffer	B14						
3205	Vol.	17	UC504	6									6	§6D6, 6A7, 85,§48	456	7-31,33
	Sen.	6	E12													
3206, 3207	Vol.	18	MR53										9	§6D6, 6A7, 85, 76, §48	465	7-34,36
	Tone	34	MR36	M26												
	Sen.	1	MR18													
R3208, R3209	Vol.	18	MR53										9	§6D6, 6A7, 85, 76, §48	465	9-43,44
	Tone	34	MR36	M26												
	Sen.	1	MR18													
R3210	Vol.	17	MR48										6	6D6, 6A7, 75, 76, §48	465	9-14
	Tone	22	MR33	M26												
R3212 (Delco)	Vol.	17	UM154-SS16										9	§6D6, 6A7, 75, 76,§48	465	9-45
	Tone	44	K12	6												
4036 (B. O. P.)	Vol.	17	UC512	7			1207830	1	CS133		221	C3	6	§36, 39, 85, 89, 84	262	4-1,4
	Tone	44	K12				.015		Buffer	B14						
4037	Vol.	17	UM154-SS11	M26			1207995	1/15	CM162/TN111		222		5	§78, 6F7, 75, 41	262	4-5,6
	Vol.	17	UC512		See Note A4											
4038	Vol.	17	UM154-SS11	M26			1208241	1	CM172		222		5	§78, 6F7, 85, 41	262	4-7,8
	Tone	44	N													
4048	Vol.	6	Y				4-12-4	11	UR182	B31			5	6F7, 78, 75, 43, 25Z5	455	4-9
4049, 4050	Vol.	15	UC504				W29978	1	CS125		F223	C3	6	§78, 6B7, 37, 75, 43	181.5	4-10
	Tone	22	K12				8-8-8	24/15	3S579							
							12-2.5	‡	Order from	Mfr.						
4051 (32 volt)	Vol.	6	E7		1		.01		Buffer	B14						
							12	1	CS135		F223	C3	5	§78, 77, 43	181.5	7-37
							8	1	CS133							
							6	15	BB12							
4052 (AC-DC)	Vol.	17	UC504				12-2.5	‡	Order from	Mfr.						
							8-25-16	11	UR182	B31			5	6A7, 78, 6B7, 43,		
4053, 4053A	Vol.	15	UC504				6	15	BB12					25Z5	456	7-38
	Tone	44	Z				W23705A	3	RS215				10	§56,§58,§2A5, 80	181.5	
4054	Vol.	17	N	6			W29097A	3/14	SR615							
6010	Vol.	18	MR48	M27									4	6A7, 6D6, 85, 48	262	5-1,2
	Tone	57	MR48				8-20	1	UR193		245A	C3	4	1C6, 34, 1B5, 38	456	7-39,41
							5	15	BB11							
R6011 (Delco)	Vol.	18	N				.03		Buffer	B14						
	Tone	22	K12	6			8-8	1	2N518		245A	C3	6	6A7,§15,§76, 19	465	9-48,50
							10	15	BB12							
R6012	Vol.	45	TM230-SS16	M26			.01		Buffer	B14						
	Tone	44	MR33				8-8	1	2N518		245A	C3	7	§15, 6A7,§76, 19	465	9-51,53
							5	15	BB11							
R6015	Vol.	18	UM154-SS16				.01		Buffer	B14						
	Tone	22	MR33	M26			8-8	1	2N518		245A	C3	6	6D8G, §6S7G,§6L5G,		
							10	15	BB12					19	465	9-55,56
364441 (Chevrolet)	Vol.	17	O	7	FS253		.03		Buffer	B14						
	Tone	44	K12				1207695	1	CM172		221	C3	7	§36, 39, 85,§89, 84	262	6-20,22
							1207901	15	TN111	B169						
393884 (Oldsmobile)	Vol.	15	UM154-SS3				.015		Buffer	B14						
393885	Vol.	17	UM154-SS3		EB247		1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	6-23,26
	Tone	44	MR48				1209144	1/15	4S718		273C		6	78, 6A7, 6F7, 85, §41	262	8-15,16
405045	Vol.	127	UM154-SS3		EB247											
	Tone	44	K12				1209144	1/15	4S718		273C		6	78, 6A7, 6F7, 85, §41	262	7-42,44
405046	Vol.	15	UM154-SS3													
405057, 405062	Vol.	15	UM157-SS3				1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	7-42
	Tone	128	N				1209588	1	CM172		273C		5	6F7, 6A7, 6B7,§41	172	8-25,26
405063 (Oldsmobile)	Vol.	15	UM157-SS3													
544245 (Buick-Pontiac)	Vol.	15	UM154-SS3		EB247		1209531	1/15	CM172/BB15		273C		4	6F7, 6A7, 6B7, 42	‡	9-57,58
544246	Vol.	127	UM154-SS3		EB247		1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	6-23,26
	Tone	44	K12				1209144	1/15	4S718		273C		6	78, 6A7, 6F7, 85,§41	262	8-16
544267	Vol.	15	UM154-SS3													
544268	Vol.	127	UM154-SS3		EB247		1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	8-23,24
	Tone	44	K12				1209144	1/15	4S718		273C		6	78, 6A7, 6F7, 85,§41	262	7-42,44
544289 (Pontiac) (Above 1,750,000)	Vol.	15	UM157-SS3													
544290-1 (Pontiac)	Vol.	15	UC514				1209531	1/15	3S579		273C		4	6F7, 6A7, 6B7, 42	262	8-23,24
	Tone	22	M				1209819	1	2S563		273C		5	6F7, 6A7, 6B7,§42	‡	9-59,60
544290, 544291 (O)	Vol.	15	UM157-SS3													
	Tone	128	N				1209588	1	CM172		273C		5	6F7, 6A7, 6B7,§41	172	
544297, 544298	Vol.	15	UM157-SS3													
	Tone	128	N				1209588	1	CM172		273C		5	6F7, 6A7, 6B7,§41	172	
600153 (Chevrolet)	Vol.	17	N		See Note A27											
	Vol.	17	UC512		See Note A4		1207995	1/15	CM162/TN111		222		5	§78, 6F7, 75, 41	262	7-45,46
600249 (Chevrolet)	Vol.	17	UC512													
	Tone	44	K12				1208241	1	CM172		222		6	§78, 6F7, 85,§41	262	4-1,4-7
600565 (Chevrolet)	Vol.	17	Order from	Mfr.												
600566 (Chevrolet)	Vol.	17	Order from	Mfr.			1208241	1	CM172		222		6	§78, 6F7, 85,§41	262	9-61,62
601038 (Chevrolet)	Vol.	18	N	7			1207995	1/15	CM162/TN111		222		5	§78, 6F7, 75, 41	262	6-27,28
	Tone	44	N				1208584	1	CM172		273C		6	78, 6A7, 6F7, 85,§41	175	6-29,32
601176 (Chevrolet)	Vol.	17	UM154-SS3		EB247											
601177 (Chevrolet)	Vol.	15	UM154-SS3		EB247		1209144	1/15	4S718		273C		6	78, 6A7, 6F7, 85,§41	262	8-27,28
601525 (Chevrolet)	Vol.	17	UM154-SS3				1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	9-63,66
601574 (Chevrolet)	Vol.	15	UM157-SS3				1209144	1/15	4S718		273C		6	78, 6A7, 6F7, 85,§41	262	8-27
	Tone	‡	N				1209531	1/15	CM175		273C		4	6F7, 6A7, 6B7, 41	175	6-33,36
601586	Vol.	15	UM154-SS3													
601662 (Chevrolet)	Vol.	15	UC514				1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	8-23,24
	Tone	21	N				1209285	1/15	3S579		273C		4	6F7, 6A7, 6B7, 42	262	7-1,3
601814 (Chevrolet)	Vol.	20	UC514		EB247											
	Tone	44	K12				1210065	1/15	CM172/TN113		273C		5	6D6, 6A7, 6F6, 85, 41	‡	8-22
958200 (Chevrolet)	Vol.	45	UM162-SS3													
	Tone	128	UC511				1210662	4	2S567		294	C3	6	6D6, 6A7, 6B7, 76,		
980393	Vol.	17	UC512	7			.01		Buffer	B14				42, 84	262	8-29,30
	Tone	44	K12				1207830	1	CS133		221	C3	7	§36, 39, 85, §89, 84	262	8-31
980455 (B. O. P.)	Vol.	17	UM154-SS11	M26			.015		Buffer	B14						
980459 (B. O. P.)	Vol.	18	UM154-SS11	M26			1207995	1/15	CM162/TN111		222		5	§78, 6F7, 75, 41	262	6-37,38
	Tone	44	K12				1208241	1	CM172		222		6	§78, 6F7, 85,§41	262	6-39,40

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
UNITED MOTORS SERVICE — Continued																
980507-8 (Buick)	Vol.	17	TM241-SS3				1210537	1/15	4S718		273D		6	‡6D6, 6A7, 85, 76, 6A6	262	9-67
	Tone	22	O													
980509 (Buick)	Vol.	17	TM241-SS3				1210885	1/15	4S718		273D		5	‡6D6, 6A7, 75, 42	262	9-67,68
	Tone	22	O													
980525 (Buick)	Vol.	20	TM241-SS3				1211167	1	CM172		273D		6	‡6D6, 6A7, 85, 76, 6A6	262	9-69,70
							1211166	15	TN111							
980526 (Buick)	Vol.	20	TM241-SS3				1211167	1	CM172		273D		5	‡6D6, 6A7, 75, 42	262	9-70,72
							1211215	15	BB12							
980529 (Buick)	Vol.	20	TM241-SS3				1211167	1	CM172		273D		5	‡6D6, 6A7, 75, 42	262	9-69
							1211215	15	BB12							
980534-5 (Buick)	Vol.	20	TM240-SS2	M26			1211570	1	2N518		514	C3	6	6K7, 6A7, 6D6, 85, 76, 6A6	262	9-72,75
	Tone	22	MR44				1211572	15	TN111							
							.01-.01		Buffer	B14						
982006 (Oldsmobile)	Vol.	17	UM157-SS3				1210514	1/15	SR622		273C		6	‡6D6, 75, 76, 42	262	8-32,34
	Tone	22	N													
982007, 982008 (Oldsmobile)	Vol.	17	UM162-SS3				1210515	1/15	CM172/TN111		273C		7	‡6D6, 85, ‡76, 6E6	262	8-35,37
	Tone	22	N													
982043 (Oldsmobile)	Vol.	20	TM241-SS11				7230264	1	2N518		294C	C3	6	‡6K7G, 6A8G, 6Q7G, 6N6G, 6X5G	262	
							.005		Buffer	B14						
982044 (Oldsmobile)	Vol.	20	TM229-SS3				1211580	1/15	3S579		852	C3	6	‡6U7G, 6A8G, 6Q7G, 6F6G, 6X5G	‡	
							.005		Buffer	B14						
982045 (Oldsmobile)	Vol.	17	TM229-SS3				8-8	1	2N518		294C	C3	8	‡6U7G, ‡6J5G, 6V7G, 6N7G, 6X5G	262	
							5-5	15	TN111							
							.005		Buffer	B14						
982083 (Oldsmobile)	Vol.	17	TM229-SS3				8-8	1	2N518		852	C3	6	‡6U7G, 6A8G, 6B8G, 6V6G, 0Z4G	262	
							10	15	BB12							
							.005		Buffer	B14						
982084 (Oldsmobile)	Vol.	20	TM229-SS3				8-8-2-5-5	1/13/15	3S583/TN111		294C	C3	8	‡6U7G, 6A8G, ‡6J5G, 6Q7G, 6N7G, 0Z4G	262	
							.005		Buffer	B14						
982085 (Oldsmobile)	Vol.	20	TM229-SS3				8-8	1	2N518		852	C3	6	‡6K7G, 6A8G, 6B8G, 6V6G, 0Z4G	262	
							12	15	BB12							
							.005		Buffer	B14						
982126 (Olds)	Vol. & Tone	124/22	Order from	Mfr.			7236854	24/15	TN136		852	C3	7	‡6K7, 6A8G, 6Q7G, 6J5G, 6N7G, 0Z4G	260	
							7236486	14	BB31							
							7237190	24	2N517							
							7237189	14/15	2N516							
							.005		Buffer	B14						
982127 (Olds)	Vol. & Tone	18/22	Order from	Mfr.			7237238	24/15	3S575		851	C3	5	6A8G, 6K7G, 6Q7G, 6V6G, 6X5G	455	
							7236846	14	BB31							
							.0075		Buffer	B14						
982153 (Olds)	Vol.	17	TM229-SS3				1212441	24/14	3S583		852	C3	6	‡6U7G, 6A8G, 6B8G, 6V6G, 6X5G	262	
							1212487	15	BB12							
							.005		Buffer	B14						
983506 (Pontiac)	Vol.	17	UM162-SS3				1210528	1/15	CM172/TN111		273C		6	‡6D6, 6A7, 85, 76, 6E6	262	8-38
	Tone	22	N													
983507 (Pontiac)	Vol.	17	UM157-SS3				1210511	1/15	2N518/BB12		273C		5	‡6D6, 6A7, 75, 42	262	8-39
	Tone	22	N													
983526 (Pontiac)	Vol.	20	TM229-SS3				1210548	1	2N518		294C	C3	7	‡6U7G, 6A8G, 6V7G, 6J5G, 6N7G, 6X5G	‡	9-77,78
							1210549	15	TN111							
							.005		Buffer	B14						
983527 (Pontiac)	Vol.	20	TM229-SS3				1211580	1/15	3S579		852	C3	6	‡6U7G, 6A8G, 6Q7G, 6F6G, 6X5G	‡	9-79,80
							.005		Buffer	B14						
983534 (Pontiac)	Vol.	20	TM241-SS11				7230264	1	2N518		294C	C3	6	‡6K7G, 6A8G, 6Q7G, 6N6G, 6X5G	262	9-81,82
							.005		Buffer	B14						
983569 (Pontiac)	Vol.	17	TM229-SS3				1212274	1/13/15	3S583/TN111		852	C3	7	‡6U7G, 6A8G, 6R7G, 6J5G, 6N7G, 0Z4G	262	9-83,84
							.005		Buffer	B14						
983570 (Pontiac)	Vol.	18	TM229-SS11				4-8	4	SR639	B187	852	C3	6	‡6K7G, 6J7G, 6Q7G, 6F6G, 0Z4G	262	9-95
							.01-.01		Buffer	B14						
983616	Vol.	18	TM229-SS11				7232668	4	SR639	B187	852	C3	6	‡6K7G, 6J7G, 6Q7G, 6F6G, 0Z4G	262	
							.01-.01		Buffer	B14						
983617	Vol.	17	TM229-SS3				1212274	1/14/15	3S583/TN111		852	C3	7	‡6U7G, 6A8G, 6R7G, 6J5G, 6N7G, 0Z4G	262	
							.005		Buffer	B14						
983667 (Pontiac)	Vol.	20	Order from	Mfr.			1213459	1/15	FPT332		249	C3	7	‡6K7, 6A8, 6R7, 6Z7G, ‡6V6G	260	
							.015-.015		Buffer	B14						
985100 (Chevrolet)	Vol.	17	UM157-SS4				8-8-10	1/15	3S579		294	C3	6	‡6D6, 6A7, 75, 42, 84	262	
	Tone	128	500M		See Note A3		.0022		Buffer	B14						
985200 (Chevrolet)	Vol.	20	UM162-SS3				W38363	4	2S563		294	C3	6	6D6, 6A7, 6B7, 76, 42, 84	262	
							.01		Buffer	B14						
985252 (Chevrolet)	Vol.	18	UM150-SS3				6-6	1	2N518		852	C3	6	‡6K7G, 6A8G, 6Q7G, 6F6G, 6X5G	262	9-85,86
							.005		Buffer	B14						
985253 (Chevrolet)	Vol.	17	TM241-SS3				8-8	1	2N518		294C	C3	6	‡6K7G, 6A8G, 6Q7G, 6N6G, 6X5G	262	9-87,88
	Tone	22	MR39				.005		Buffer	B14						
985254 (Chevrolet)	Vol.	17	TM229-SS3				8-8	1	2N518		852	C3	6	‡6U7G, 6A8G, 6Q7G, 6F6G, 6X5G	262	
	Tone	‡	MR48				.005		Buffer	B14						
985255 (Chevrolet)	Vol.	17	TM232-SS3				8-8-4-12	1/13/15	3S584/BB12		294C	C3	7	‡6K7G, 6A8G, 6R7G, ‡6N6G, 6X5G	262	9-89,90
	Tone	22	MR44				.005		Buffer	B14						
985283 (Chevrolet)	Vol.	18	TM252-SS3				1212314	1/15	3S579		294C	C3	7	‡6U7G, 6A8G, 6R7G, ‡6V6G, 0Z4	262.5	9-91,92
	Tone	22	MR44				1212313	15	BB11							
							.01-.01		Buffer	B14						
985284 (Chevrolet)	Vol.	18	TM219-SS3				7233092	1	2N518		294C	C3	7	‡6K7G, 6J7, 6R7G, 6J5G, 6N7G, 0Z4G	262	9-93
							7231831	15	BB12							
							.01-.01		Buffer	B14						
985285 (Chevrolet)	Vol.	17	TM229-SS3				1212441	1/13	3S584		852	C3	6	‡6U7G, 6A8G, 6Q7G, 6F6G, 0Z4G	262	9-94
	Tone	22	MR48				.005		Buffer	B14						
985300 (Chevrolet)	Vol.	17	TM241-SS3				1210857	1/15	2N518/TN111		273D		6	‡6D6, 6A7, 85, 76, 6A6	262	8-40,43
	Tone	119	K12													
985301 (Chevrolet)	Vol.	20	TM241-SS3				1211167	1	CM172		273D		6	‡6D6, 6A7, 85, 76, 6A6	262	8-45,46
							1211166	15	TN111							
985400 (Chevrolet)	Vol.	20	TM241-SS3				1209285	1/15	3S579		273C		6	‡6D6, 6A7, 85, ‡41	262	8-44
985424 (Chevrolet)	Vol.	20/39	Order from	Mfr.			1212902	1/15	FPT332		294C	C3	7	‡6K7, 6A8, 6R7, ‡6V6G, 0Z4	262.5	
							1212313	15	BB12							
							.01-.01		Buffer	B14						
1291344 (Buick)	Vol.	127	UM154-SS3		EB247		1209144	1/15	4S718		273C		6	78, 6A7, 6F7, 85, ‡41	262	8-15,16
	Tone	44	K12													
1291345 (Buick)	Vol.	15	UM154-SS3		EB247		1209047	1/15	SR622		273C		4	6F7, 6A7, 6B7, 42	262	6-23,26
1304873 (Buick)	Vol. & Tone	22/17	SMD502				8-8	1	2N518		514	C3	6	‡6K7G, 6A8G, 6R7G, 6J5G, 6N7G	262	9-76
							10-10	15	TN111							
							.01-.01		Buffer	B14						
1308221 (Buick)	Vol. & Tone	17/22	Order from	Mfr.			7232952	1	2N518		716	C3	6	‡6K7G, 6A8G, 6R7G, ‡6V6G	260	
							7235996	15	TN111/BB12							
							.015-.015		Buffer	B14						
7232553 (Pontiac)	Vol.	18	TM229-SS11				7232668	4	SR639	B187	852	C3	6	‡6K7G, 6J7G, 6Q7G, 6F6G, 0Z4G	262	
							.01-.01		Buffer	B14						
UNITED REPRODUCERS CORP. (Peerless)																
20 Series	Vol.	35	‡		See Note A5		2-2-2	60	See Note	B1			9	‡24A, ‡27, ‡45, 80		1-1
	Sen.	105	X													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
UNITED REPRODUCERS CORP.—Continued																
45 (Arborphone)	Vol.	4	G12				‡	1/14	See Note	B1			8	[26], 27, [27]1A, 80		
65 (Electro Static Spkr.)	Vol.	7	UC500				2-1	1	See Note	B1			9	[24]A, [27], [45], 80, 99		1-2
70 Series (71, 72)	Vol.	6	E12		See Note	A3	2-2	1	See Note	B1			9	[24]A, 01A, 27, [45], 80		1-3
	Sen.	98	X		See Note	A3										
UNITED SCIENTIFIC LABS. — See Dewald.																
UNIVERSAL BATTERY CO.																
5 tube 32V	Vol.	18	MR48				10	15	BB12				5	6A7, 6D6, 75, 76, 48	‡	
6 tube 6 volt	Vol.	15	MR48				12-6	1	CM165	B3	Order from Mfr.		6	6A7, 34, [76], 75, 19	‡	
							10	15	BB12							
							.01-.01		Buffer	B14						
7 tube 6 volt	Vol.	15	MR48				12-6	1	CM165	B3	Order from Mfr.		7	[34], 6A7, [76], 75, 19	‡	
							10	15	BB12							
							.01-.01		Buffer	B14						
50A6	Vol.	17	MR48				4-8	1	2N518		246	C3	5	1D7G, 1D5G, 1H4G, 1H6G, 1F5G	175	
	Tone	57	MR48				.01		Buffer	B14						
60	Vol.	18	UM157		See Note	A96	18-203	7‡	3S579	B64	294	C3	6	6K7, 6A8, 6D6, 75, 41, 84	262	
	Tone	21	‡		See Note	A5	.005		Buffer	B14						
61A6	Vol.	17	MR48				4	1	BB40		245C	C3	6	6D8G, 1D5G, [31]H4G, 1J6G	465	
	Tone	65	MR48				20	1	BB34							
							.01		Buffer	B14						
70	Vol.	18	UM157		See Note	A96	18-204	24/15	3S579		294	C3	7	6K7, 6A8, 6K7G, 6Q7G, 6J5G, [6]N7G, 0Z4G	262	
	Tone	22	Order from	Mfr.			.008		Buffer	B14						
72A6	Vol.	17	MR48				4	1	BB40		245C	C3	7	[31]D5G, 6D8G, 1H6G, [31]H4G, 1J6G	465	
	Tone	65	MR48				16	1	BB34							
							.01		Buffer	B14						
80	Vol.	18	UM157		See Note	A96	18-204	24/15	3S575		294	C3	8	[26]K7, 6A8, 6K7G, 6Q7G, 6J5G, 6N7G, 0Z4	262	
	Tone	22	Order from	Mfr.			18-205	13	BB60							
							.008		Buffer	B14						
613V (32 Volt DC)	Vol.	18	N													
636V	Vol.	15	MR48				4	1	BB40		See Note	C8	6	6D8G, 34, [30], 19	‡	§6-35
	Tone	57	MR48				16	1	BB34							
							.01		Buffer	B14						
802	Vol.	18	UM154		See Note	A96	4-4	4	CM170		294	C3	5	6A7, 6D6, 75, 42, 84	456	7-1
							.01		Buffer	B14						
803	Vol.	18	UM154		See Note	A96	4-4	4	CM170		294	C3	6	[26]D6, 6A7, 75, 42, 84	456	7-1
							.01		Buffer	B14						
5010	Vol.	18	MR48	M26			12-16	4	21P46				5	6A8G, 6K7G, 6Q7G, 25A6G, 25Z6G	465	7-1
5032	Vol.	18	MR48				10	15	BB12				5	6A8G, 6K7G, 6Q7G, 6C5G, 48	465	7-1
6110	Vol.	18	MR48				8-8	23	2S567				6	6C5G, 6J7G, 6K7G, 6Q7G, 6F6G, 5Y3	456	7-2
6132	Vol.	18	MR48										6	6A8G, 6K7G, 6Q7G, 38, [48]	465	
	Tone	57	MR48													
6310	Vol.	18	MR48				8-8	23	2S567				6	6C5G, 6J7G, 6K7G, 6Q7G, 6F6G, 5Y3	456	7-2
7232, 7332 (32 V.)	Vol.	15	N				12-6	1	See Note	B3	F251		5	76, 6D6, 6C6, 6A7, 42	465	§6-35, 7-2
8210	Vol.	18	MR48				10	15	BB12							
	Tone	57	MR48				8, 8	3	RS213				8	6J7G, [26]C5G, 6K7G, 6Q7G, 6G5, 6N6G, 5Y3G	465	7-2
							4	3	CS131							
8232, 8332	Vol.	15	MR48				8, 8	1	CS133		F294	C3	8	[26]K7G, 6A8G, 6H6G, 6G5, 6J7G, 6F6G, 6X5G	465	
	Tone	34	N				10	15	BB12							
							.01		Buffer	B14						
8410	Vol.	18	MR48				8, 8	3	RS213				8	6J7G, [26]C5G, 6K7G, 6Q7G, 6G5, 6N6G, 5Y3G	465	7-2
	Tone	57	MR48				4	3	CS131							
U. S. RADIO & TELEVISION		(Apex, Radiotrope)														
3	Vol.	58	F				8, 8	4	RS213	B3			4	[24]A, 47, 80		
5A (AC) (Chassis 502)	Vol.	6	G12	6			4703	1	CM172				5	[27], 58, 47, 80	455	3-1,2
7 (AC)	Vol.	15	N				3366	28	CS131				7	[35], [24]A, 27, 47, 80	262	2-1,4
	Lclzr.	‡	UC502				3529	28	CS131							
	Tone	22	UC502													
7D (Chassis 700)	Vol.	6	G12				8-8	1	See Note	B3			7	[56], 57, [58], 47, 80	455	4-1,2
	Tone	34	M				8	19	BB12							
8 Series	Vol.	15	O				2803	1	CS133	B194			8	[35], [27], 47, 80	262	2-5,7
	Tone	34	UC502				2852	17	CS123							
9 (Chassis 900, 902)	Vol.	15	M	6			8-8	28	CM172				9	[58], [57], 56, [46], 80	262	3-3,4
	Sen.	98	F				8	28	CS133							
	Tone	95	L				4	14	CS123							
10	Vol.	15	O				2803	1	CS133				10	[35], [27], [47], 80	262	2-8,10
	Tone	44	UC502				2719	13	CS123							
							2852	15	BB13							
10C (Chassis 1000-1001)	Vol.	15	O				2803	1	CS133				10	[35], [27], [47], 80	262	2-11,14
	Tone	41	M				2719	13	CS123							
							2852	15	CS123							
12 (Class "B") (Chassis 1200)	Vol.	15	M		See Note	A27	4	3	HS690	B3			12	[58], [56], [46], [57], 82	262	4-3,4
	Vol.	20	TRP606		See Note	A4	8-8-8	3/18	See Note	B3						
	Tone	‡	L		See Note	A27	8	17	BB13							
	Tone	21	N		See Note	A4										
	Sen.	7/12	DRP316													
19 (Chassis 900, 902)	Vol.	15	M				8-8-8	28	See Note	B3			9	[58], [57], 56, [46], 80	262	3-3,4
	Tone	95	L				4	‡	BB20							
	Sen.	98	F													
20	Vol.	6	G12				8-8	25	See Note	B3			4	[24]A, 71A, 80		1-1,2
24 (Chassis 400)	Vol.	40	Y	6			8-8	1	CM172				4	47, [57], 80	455	3-5,6
							4	19	BB12							
25 (Chassis 500) (2 types)	Vol.	6	G12				8-8	1	See Note	B3			5	[57], 58, 47, 80	455	4-5,6
26	Vol.	6	G12				1942	1	HD684				5	[24]A, 45, 80		1-3,4
26P	Vol.	6	G12				2678	1	HD681				5	[24]A, 47, 80		1-3,4
27 (Early)	Vol.	42	UC500				8-8	1	See Note	B3			5	[24]A, 27, 45, 80		1-5
27 (Late)	Vol.	6	G12	6			8-8	1	See Note	B3			5	[24]A, 27, 45, 80		1-5
27P	Vol.	6	G12				8-8	1	See Note	B3			5	[24]A, 27, 45, 80		1-6
	Phono.	87	‡		See Note	A5										
28 (Early) (Late)	Vol.	8	A4001P				1-3-1	3	See Note	B1			8	[24]A, [27], [45], 80		1-7,8
	Tone	41	N													
29	Vol.	6	G12	6			8-8-8	1/14	See Note	B3			8	[24]A, [27], [45], 80		1-9
	Tone	41	N													
30 Auto	Vol.	7	UC501										5	[24]A, 26, 71A, 01A		2-16
31 Apex	Vol.	6	G12	6			8, 8, 8	28	HD684				8	[27], [24]A, [45], 80		1-10
	Tone	41	N													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
U. S. RADIO & TELEVISION —Continued																
31R (Remote Control)	Vol.	7	G				8, 8, 8	28	RS213				8	27,24A,45, 80		1-10
	Tone	41	N													
32 Series	Vol.	6	G12				8, 8, 8	28	RS213				7	45, 27,24A, 80		1-11
	Tone	41	N													
33 (DC)	Vol.	6	G12										6	64,71A		3-7,8
36, 37 Apex	Vol.	4	D12				1-1-1	3	See Note	B1			7	71A,26, 27, 80		1-12
41 (60 Cycle)	Vol.	8	A400P				1-1.5-1	3	See Note	B1			8	27,45, 80		1-13
42 (60 Cycle)	Vol.	8	A400P				1-1-1	3	See Note	B1			8	27,45, 80		1-13
43 (25 Cycle)	Vol.	8	A400P				1-1.5-1	3	See Note	B1			8	27,45, 80		1-13
44 (25 Cycle)	Vol.	8	A400P				1-1-1	3	See Note	B1			8	27,45, 80		1-13
46, 46A, 47, 47A	Vol.	8	A400P				1-1.5-1	3	See Note	B1			7	27,24A,45, 80		1-14
48, 48A, 48W	Vol.	8	A400P				1-3-1	3	See Note	B1			8	27,24A,45, 80		1-15
	Tone	41	N													
49	Vol.	6	G12										5	24A, 26, 01A, 71A		1-15
69 (Chassis 906)	Vol.	15	N				4-4	12/19	2N516				9	32, 34,30	262	3-9
	Tone	44	UC502													
80 (Case)	Vol.	4	D12		See Note	A27	‡	‡	See Note	B1			9	26, 27,71A, 80		1-16
	Vol.	40	G12		See Note	A4										
99 Series	Vol.	6	G12				3366	1	CS131				5	24A, 35, 47, 80	262	2-17,18
							2803	1	CS133							
120 Class "B" (Chassis 1200)	Vol.	15	M		See Note	A27	4-8-8	3	See Note	B3			12	58,56,46,57, 82	262	4-3,4
	Vol.	20	TRP606		See Note	A4	8	18	See Note	B3						
	Tone	‡	L		See Note	A27	8	17	BB13							
	Tone	21	N		See Note	A4										
	Sen.	7/12	DRP316													
160, 250 (Chassis 90)	Vol.	40	‡		See Note	A5	2-2-2	1/14	See Note	B1			9	27,45, 80		3-10
482	Vol.	8	A400P				1-3-1	3	See Note	B1			8	24A,27,45, 80		1-15
	Tone	41	N													
1006, 1007 Class "B"	Vol.	15	M				8-8-8	28	See Note	B3			10	58,56,46, 80	262	4-9,10
	Tone	95	K12				8-8	‡	See Note	B3						
3040, 3056 (Chassis 507)	Vol.	6	Y				8-8	1	CM172				5	47,57, 58, 80	455	3-11,12
							4	17	BB12							
3070 (Chassis 1009)	Vol.	15	M				8-8	55	CM172				10	58,56,46, 80	262	4-11,12
	Tone	41	K12				4	55	CS131							
3092 (Chassis 513)	Vol.	6	Y				4-12-4	11	UR182	B182			5	6F7, 78, 75, 43, 25Z5	455	5-1
UTAH PRODUCTS CO.																
400A Series	Vol.	15	M				8-8-4-2	37	See Note	B3			13	58, 55,56, 57,47, 80	180	
	Supp.	‡	Y250MP		See Note	A4	40	15	BB17							
	Tone	41	O													
400B	Vol.	33	M				8-8-4-2-2	3	See Note	B3			16	55,58,56, 57, 42A5, 5Z3	180	
	Tone	‡	M				40	15	BB17							
	Supp.	44	UC501													
"B" Elim. (Non Sync.)							8	1	CS123		221	C3		84		1-1
							20	‡	BB15							
							.02		Buffer	B14						
VICTOR—See RCA.																
VIKING—See Ozarka.																
VOCO RADIO MFG. CO., INC.																
V41N	Vol.	6	SRP263				8-4	4	See Note	B3			4	35, 24A, 47, 80		§6-36
V60	Vol.	15	N				6-6	1	CM172	B3			6	58, 57, 55, 47, 80	175	§6-36
V80	Vol.	15	N				‡	1	See Note	B3			8	58, 56, Wunderlich, 47, 80	‡	§6-37
V100	Vol.	15	N				‡	1	See Note	B3			9	58, Wunderlich, 56, 47, 80	‡	§6-37
WALGREEN—AETNA																
B25-RS	Vol.	18	MR48	M27									5	1C6, 1A4, 1B5, 30, 19	456	8-1
55-RS	Vol.	18	MR48	M26			317	4	RS213				5	6A7, 6D6, 75, 42, 80	456	8-2
57-RS	Vol.	18	MR48	M26			311	27	ST589				6	6A7, 6D6, 75, 43, 25Z5, 6G5 or L49C	456	8-3
							314	27	ST587							
255	Vol.	6	Y	6	EX200		2525	1	RS208				4	6D6, 6C6, 25L6, 25Z5, R55CP		9-1
	Tone	21	N													
370	Vol.	18	MR48	M26			311	27	ST589				6	6A7, 6D6, 85, 43, 25Z5, 6G5 or L49C	456	8-4
							314	27	ST587							
630, 635, 652	Vol.	18	MR48										6	6D6, 75, 6B5. 80, 76	456	9-1
	Tone	22	MR33													
700	Vol.	18	MR18				16, 16	27	BB24				5	6A7, 6D6, 75, 43, 25Z5	456	8-2
	Tone	34	MR33													
WALTHAM																
32	Vol.	6	H12				8-8	4	See Note	B3			6	24A, 45, 80		3-1
WALTON RADIO CORP.																
Wal-Tone "EX"	Vol.	8	H		2		A403	4	CS133				6	56, 57,58, 47, 80	457.5	
							A404	4	CS131							
WARE MFG. CORP.																
B1, B2, Bantam	Vol.	8	UC500				14-2	1	MN273				6	24A, 27, 45, 80		2-2
SBA	Vol.	42	Y10MP	6			8-4-2	3	MN275				7	51,24A, 27, 47, 80	175	2-4
	Tone	22	O													
SBB	Vol.	42	G	6			8, 8	4	RS213				7	51,24A, 27, 47, 80	175	3-1
	Tone	22	O													
SBF, SBFa	Vol.	42	A10MP				8-8	25	See Note	B3			7	27,24A,35, 47, 80	175	2-5
	Tone	22	‡		See Note	A5										
S1	Vol.	42	A400P				8-4-2	3/13	MN275				9	24A,27,45, 80	175	2-5
	Tone	41	O													
SB7	Vol.	42	A10MP				8, 8	23	RS213				7	35, 27,24A, 47, 80	175	3-3
	Tone	22	Y200MP													
SB8	Vol.	59	G12				8, 8	23	RS213				8	51,24A, 47, 27, 80	175	3-2
	Tone	22	Y200MP													
SB45	Vol.	6	G12	6			8-4-2	3	MN275	B3			7	24A,27, 45, 80	175	2-3
	Tone	22	O													
WARWICK																
4 tube AC	Vol.	6	N			A14	12	4	RS215				4	6A7, 6C6, 42, 80	456	7-4
							16	4	RS216							
5-Tube Super A. C.	Vol.	17	MR48	M26			8-8	4	2S567				5	6A7, 6D6, 75, 42, 80	456	9-1
6-Tube AC Superhet	Vol.	17	MR48	M26			8-8	4	2S567				6	6A7, 6D6, 75, 42, 80, 6G5	456	9-1
6 tube Auto	Vol.	17	UM162		See Note	A96	4-4-8	4/15	3S579		504	C3	6	6D6, 6C6, 75, 42, 84	262.5	7-2
	Tone	‡	L				.0075		Buffer	B14						
7 tube Battery	Vol.	18	MR48										6	1C6,34, 1B5, 30, 19	456	7-3
	Tone	22	MR33													

‡ Data not substantiated. * IMPORTANT: Read Notes in Note Section if specified in Note Column. § Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WARWICK—Continued																
400	Vol.	18	MR48	M27			8-8	1	2N516				4	6A7, 34, 1B5, 41	456	9-2
							12	15	BB12							
419, 420	Vol.	6	H12		EX300		16-12	27	2P546				4	6D6, 6C6, 43, 25Z6		7-3
							10	15	BB12							
453	Vol.	18	MR53	M26			1845	1	2N516		246	C3	5	6D8G, 6S7G, 6T7G,		
							.008		Buffer	B14				6N5, 1F5G	456	
501	Vol.	18	MR48				16-12	4	2P546				5	6A7, 6D6, 75, 43,		
														25Z5	456	8-1
515	Vol.	18	MR48	M26			18-102	1/15	3S570				5	6A7, 6D6, 75, 41, 80	456	
517	Vol.	17	MR53	M26			18-102	1/15	3S570				5	6A7, 6D6, 75, 41, 80	456	
518	Vol.	18	MR48	M26			18-102	1/15	3S570				5	6A7, 6D6, 75, 41, 80	456	8-2
520	Vol.	6	H12	6			8-4-10-10	24/15	4N701				4	6D6, 6C6, 43, 25Z5		7-3
521	Vol.	17	MR53	M26			18-102	1/15	3S570				5	6A7, 6D6, 75, 41, 80	456	
524	Vol.	6	‡	M26	See Note	A5	18-212	24	3N532				4	6D6, 6C6, 43, 25Z5,		
														L55C	456	
525	Vol.	17	MR48	M27									4	1C6, 34, 1B5, 33, 5E1	456	9-3
530	Vol.	18	MR48				8-8	23	2S567				5	6A7, 6D6, 75, 42, 80	456	7-4
536	Vol.	15	MR48	M26			16-100	20	BB12				4	1C6, 34, 1B5, 33, 5E1	456	8-2
537	Vol.	18	MR48	M27			16-100	19	BB12				4	1D7G, 1D5G, 1H6G,		
														1G5G, NB1	456	
542	Vol.	6	H12		EX300		16-12	27	2P546				4	6D6, 6C6, 43, 25Z5		7-4
551	Vol.	17	MR48				8-8	23	2S567				5	6A7, 6D6, 75, 42, 80	456	8-1
562	Vol.	18	MR48				1845	1	2N516		246	C3	5	1C6, 1A4, 6T7G, 41,		
	Tone	21	‡		See Note	A5	.01-.01		Buffer	B14				6N5	456	
600	Vol.	45	MR48	M27			8-8	1	2N517		246	C3	5	1C6,[3]34,[3]30	456	9-4
	Tone	22	MR33				.01		Buffer	B14						
601	Vol.	18	N				18-202	25	RS215				6	6A7, 76, 6D6, 75, 42,		
	Tone	21	N	6			18-201	25	RS215					80	456	8-3
613	Vol.	17	N				18-102	1/15	3S570				6	6A7, 6D6, 75, 41,		
	Tone	21	N	6										6G5, 80	456	8-3
623	Vol.	18	MR48				18-102	1/15	3S570				6	6A7, 6D6, 75, 41,		
	Tone	21	MR48	M26										6G5, 80	456	
633	Vol.	18	N				18-102	1/15	3S570				6	6A7, 6D6, 75, 41,		
	Tone	21	N	6										6G5, 80	456	8-4
645	Vol.	18	MR48				18-102	1/15	3S570				6	6A7, 6D6, 75, 6G5,		
	Tone	21	MR48	M26										41, 80	456	
646	Vol.	18	UM157			A96	18-203	74/19	3S579	B64	294	C3	6	6K7, 6A8, 6D6, 75,		
	Tone	21	MR48				.005		Buffer	B14				41, 84	262	8-1
651	Vol.	18	N				1845	1	2N516		246	C3	6	1A6, 30, 1A4, 6T7G,		
	Tone	21	‡	7	See Note	A5	16-100	15	BB12					6L5G, 19	456	8-4
							.01-.01		Buffer	B14						
700	Vol.	45	MR48	M27			8-8	1	2N517		246	C3	7	1C6,[3]34, 1A4,[3]30, 19	456	9-5
	Tone	22	MR33				.0075		Buffer	B14						
701	Vol.	18	N				18-202	25	RS215				7	6A7, 76, 6D6, 75, 42,		
	Tone	21	N	6			18-201	25	RS215					6G5, 80	456	9-6
710	Vol.	17	MR53	M26			18-211	1	2N512	B66			6	6A7, 6D6, 6Q7G,		
														6G5, 25B5, 25Z5,		
														L42B	456	
715A	Vol.	17	MR53	M26			18-211	1	2N512	B66			6	6A7, 6D6, 6Q7G,		
														6G5, 25B5, 25Z5,		
														L42B	456	
725	Vol.	18	MR48	M27									6	1C6, [3]34, 1B5, 30, 19,		
	Tone	22	MR33											6E1	456	9-7
735	Vol.	18	MR48				18-202	25	RS215				7	6A7, 6D6, 76, 6Q7G,		
	Tone	21	MR48	M26			18-201	25	RS215					6V6G, 6G5, 80	456	
741	Vol.	18	N				18-200	23	CM172				7	6A7, 76, 6D6, 75, 41,		
	Tone	21	N	6										6G5, 80	456	9-8
746	Vol.	18	UM157			A96	18-204	24/15	3S579		294	C3	7	6K7, 6A8, 6K7G,		
	Tone	22	Order from	Mfr.			.008		Buffer	B14				6Q7G, 6J5G, 6N7G,		
														0Z4	262	
749	Vol.	18	MR48				40-40	4	Order from	Mfr.			6	6A7, 6D6, 75, [3]25L6G,		
	Tone	22	‡		See Note	A5								25Z5, BM17C	456	9-9
751	Vol.	18	N				1845	1	2N516		246	C3	7	1A6, 30, 1A4, 6T7G,		
	Tone	21	‡	7	See Note	A5	16-100	15	BB12					6L5G, 19, 6N5	456	9-10
							.01-.01		Buffer	B14						
761	Vol.	18	N				1845	1	2N516		246	C3	7	6D8G, 30, [3]1A4, 6T7G,	456	
	Tone	21	‡	7	See Note	A5	16-100	15	BB12					6L5G, 19	456	
							.01-.01		Buffer	B14						
780	Vol.	18	N										6	1A6, 1A4, [3]30, 1F6,		
	Tone	21	‡	7	See Note	A5								19, 5H1 (Ballast)	456	
846	Vol.	18	UM157			A96	18-204	24/15	3S579		294	C3	8	[2]6K7, 6A8, 6K7G,		
	Tone	22	Order from	Mfr.			.008		Buffer	B14				6Q7G, 6J5G, 6N7G,		
														0Z4	262	
871, 872	Vol.	18	MR48				18-202	1	RS215				8	6A7, 6D6, 75, 76, [3]42,		
	Tone	21	‡	6	See Note	A5	18-201	1	RS215					6H5, 80	456	
881, 885	Vol.	148	‡		See Note	A5	18-202	1	RS215				8	6A7, 6D6, 6H6G,		
	Tone	41	‡		See Note	A5	18-201	1	RS215					6G5, 6Y7G, [2]6V6G,		
														80	456	
1101, 1105	Vol.	148	‡		See Note	A5	18-214	1	RS216				11	[2]6C5G, 6A8G, 6K7G,		
	Tone	44	Order from	Mfr.			18-215	1	RS215					6H6G, 6G5, [2]6J7G,		
							18-216	13	CS123					[2]6V6G, 80	456	
WEBSTER CO.																
OC2	Vol.	35	B				20-8	1	2N507				3	6J7, 25A6, 25Z6,		
							12	15	BB12					R3003		8-1
OC2A	Vol.	35	B				16-16	24	2N506				3	6J7, 25L6, 25Z6,		
							10	15	BB12					R3003		8-1
C (OX and OXM)	Vol.	35	UM118-SS4				16-16	1	2N506				3	6J7, 25L6, 25Z6,		
							10	15	BB12					R3003		8-2
							20	15	BB15							
D (OC3 to OC10)	Vol.	35	‡		See Note	A5	16-16	24	2N506				3	6J7, 25L6, 25Z6,		
							10	15	BB12					R3003		8-2
							20	15	BB15							
B53	Vol.	‡	‡		See Note	A5	8-8-8	3	See Note	B3			4	2A6,[3]53, 82		5-2
	Phono.	‡	‡		See Note	A5	20, 20	15	BB15							
							20	14	BB15							
HG417	Vol.	15	O				8-8-8-8	3/13	See Note	B3			6	57, 53, [2]A5, 5Z3		§6-38
	Phono.	63	K12				12	15	BB12							
	Tone	41	L				8	15	BB13							
							8	14	BB31							
K358A	Vol.	16	K12				8-8-8	3	See Note	B3			5	57, 56, [2]A3, 83		5-4
	Phono.	63	S				4	15	BB12							
							8	15	BB12							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WEBSTER—Continued																
K359A	Vol.	16	K12				8-8-8	3	See Note	B3			5	‡, ‡,[2]A3, 83		5-4
	Mic. Adj.		M100P				4	15	BB12							
PA17	Vol.	16	L				8, 8, 8, 8	3	RS213	B3			5	58, 56,[2]B6, 5Z3		5-1
	Phono.	...‡..	K12				20-20	15	BB15							
PA42	Vol.	16	K12				8-8	1	See Note	B3			4	79,[2]42, 82		5-1
	Phono.	63	G12				20	‡	BB15							
	Tone	34	G12				4	15	BB12							
WR85	Vol.	15	O				8-8-8	3	See Note	B3			5	58, 56,[2]A5, 80		2-3
	V.R.	...‡..	Order from	Mfr.			8	13	BB61							
	P.E. Adj.	...‡..	M50MP													
	Tone	...‡..			See Note A5											
WELLS-GARDNER & CO.—"Gulbransen," "Truetone"—(See Trade Names)																
A1	Vol.	45	MR48	M26			44X35	23	RS215				8	6J7, 6K7, 6H6, 6C5, 6G5, 6F5, 6F6, 5Y3, or glass equivalents	456	9-14,16
	Tone	34	UC502				44X31	23	WE3035							
A2	Vol.	45	TM228-SS1	M26			44X30	25	RS216				11	[2]6K7, [2]6J7,[2]6C5, 6H6, 6G5,[2]6F6, 5Y3, or glass equivalents	456	9-21,23
	Tone	34	MR53				44X11	25	WE1835							
							45X223	13	CS123							
							45X222	19	BB15							
A3	Vol.	15	TM251-SS1	M26			44X21	25	WE3050				13	[2]6K7, 6J7, [2]6C5, 6H6, 6G5,[2]6L6,[2]5Y3	456	9-17,20
	Tone	41	P				44X36	25	WE4030							
							45X224	19	BB15							
A4	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6C5, 6Q7, 6G5, 6F6, 5Y3G	456	9-25
	Tone	34	L				44X35	23	WE3035							
A5	Vol.	45	TM228-SS1	M26			44X10	23	RS216				9	[2]6K7, 6J7, 6C5, 6G5, 6H6, 6F5, 6F6, 5Y3G	456	9-27
	Tone	34	L				44X11	23	WE1835							
A6	Vol.	15	TM251-SS1	M26			44X21	25	WE3050				13	[2]6K7, 6J7, [2]6C5, 6H6, 6G5, [2]6L6, [2]5Y3	456	9-17,20
	Tone	41	P				44X36	25	WE4030							
							45X224	19	BB15							
A10	Vol.	18	MR48	M26			44X37	23	WE2050				7	6A8G, 6U7G, 6Q7G, 6K6G, 6J5G, 6U5, 5Y3G	456	
	Tone	34	MR39				44X38	23	WE4030							
A11	Vol.	6	MR18	M26			45X237	1/15	3N528				4	[2]6J7, 25L6G, 25Z6G, L55B	456	
							45X242	1/15	Order from	Mfr.						
A12	Vol.	20	.....‡.....		See Note A19		44X30	25	RS216				11	[2]6U7G, [2]6J7G, [2]6J5G, 6U5, 6H6, [2]6F6G, 5Y3G	456	9-36,38
	Tone	...‡..	L				44X36	25	WE4030							
							45X238	19	BB17							
A13	Vol.	17	MR57	M26			44X37	23	WE2050				7	6A8G, 6U7G, 6Q7G, 6J5G, 6K6G, 6U5, 5Y3G	456	
	Tone	34	MR42				44X38	23	WE4030							
A14	Vol.	20	.....‡.....		See Note A19		44X39	23	WE4030				11	[2]6U7G, [2]6J7G, 6J5G, 6H6, 6U5, 6F5G, 6K6G, 5Y3G	456	9-39,40
	Tone	...‡..	L				44X40	23	WE2050							
							45X239	15	BB12							
A15	Vol.	17	MR57	M26			44X37	23	WE2050				7	6A8G, 6U7G, 6J5G, 6U5, 6Q7G, 6K6G, 5Y3G	456	
	Tone	34	MR42				44X38	23	WE4030							
A16	Vol.	20	TM248-SS1				44X21	25	WE3050				13	[2]6U7G, 6J7G, 6H6, 6J5G, 6F8G, 6U5, [4]6F6G, 5U4G	456	
	Tone	21	Order from	Mfr.			44X36	25	WE4030							
							44X244	19	BB19							
							45X239	15	BB12							
A17	Vol.	45	MR55	M26			44X39	4	WE2050				11	[2]6K6, 6C6, [4]76, 6U5, [2]41, 80	465	
	Tone	...‡..	MR53		See Note A100		44X40	4	WE4030							
							45X239	15	BB12							
A20	Vol.	17	2 Meg. No. 1		See Note A19		44X41	23	WE2050				9	6A7, 6D6, [2]76, 75, 6U5,[2]41, 80	456	
	Tone	22	MR57				44X42	23	WE4030							
							45X247	13	BB40							
							45X239	15	BB12							
A22	Vol.	17	2 Meg. No. 1		See Note A19		44X41	23	WE2050				9	6A7, 6D6, 75, [2]76, 6U5,[2]41, 80	456	
	Tone	22	MR57				44X42	23	WE4030							
							45X247	13	BB40							
							45X239	15	BB12							
A23	Vol.	76	MR48	M26			44X42	23	WE4030				7	6A7, 6D6, 75, 76, 6U5, 41, 80	456	
	Tone	76	MR57				44X41	23	WE2050							
B1	Vol.	18	MR53	M27			4	12	BB31				4	1D7G, 1D5G, 1H6G, 1F5G	456	
	Fil.	27	C6R													
B2	Vol.	45	MR53	M26			45X225	13	2N502				7	1C7G, 1D5G,[4]1H4G, 1E5G	456	
	Tone	44	MR42													
B2A	Vol.	18	MR53				45X225	13	2N516		246	C3	7	1C7G, 1D5G, [4]1H4G, 1E5G	456	
	Tone	44	MR42				45X234	1	2N514							
							45X233	...‡..	Order from	Mfr.						
							.02		Buffer	B14						
B3, B4	Vol.	13	MR48	M27			45X250	12	BB31				5	1A7G,[3]1N5G, 1H5G, 1C5G	456	
C5	Vol.	56	TM219		See Note A96		45X219	1/15	3S579		248	C3	6	[2]6K7, 6J7, 6B8G, 6K6G, 6N7G	175	
	Tone	22	Order from	Mfr.			.0055		Buffer	B14						
C6	Vol.	15	UM163	M26		A96	45X236	24	3S572		952W	C3	5	6A8G, 6U7G, 6H6, 6F5G, 6K6G	456	9-31
							45X239	15	BB12							
							.018		Buffer	B14						
C7	Vol.	17	UM163	M26		A96	45X235	1	2N518		952W	C3	6	[2]6U7G, 6J7G, 6K8G, 6K6G, 6N7G	175	
							45X240	13	BB40							
							45X239	15	BB12							
							.008		Buffer	B14						
00A	Vol.	62	O				80891B	12	CS123				9	[3]34, [4]30, 10AB	175	4-1
	Tone	44	UC502													
00B	Vol.	15	P	6			P80990	2	RS216				10	[4]58,[3]56,[2]45, 80	175	
	Tone	41	UC504				P81000	2/13	2N517							
0C Series (20C5)	Vol.	15	P	6			P81039	2	RS216				10	[4]6D6,[2]76,[2]45, 80	456	5-1,2
	Tone	41	UC504				P81018	2/13	CM173							
0DM	Vol.	7/15	DRP315	6T			44X10	4	RS216				10	[4]6K7,[2]76,[2]45, 80	456	7-1,3
	Tone	41	UC504				44X11	4	RS216							
							44X18	13	RS203							
OEL	Vol.	62	2 Meg. No. 1	6	See Note A19		44X10	25	RS216				11	[4]6K7,[3]6C5, 6G5,[2]6F6, 5Z4MG	456	8-1,4
	Tone	65	Order from	Mfr.			44X11	25	RS216							
							44X213	13/15	BB20/BB12							
OF Series	Vol.	64	2 Meg. No. 1	13	See Note A19		P45X214	12	CM173				10	[4]30, 32,[3]34	456	8-5,7
	Tone	44	Order from	Mfr.												
OFLB	Vol.	45	TM248-SS1	M26			45X214	13	TN120		Order from	Mfr.	11	[3]34, 32, 6N5,[3]30	456	
	Tone	44	Order from	Mfr.			45X226	23	2P549							
							45X228	...‡..	Order from	Mfr.						
							.01		Buffer	B14						
S2	Vol.	17	MR57	M26			45X243	1/15	3S572		246	C3	6	6D8G, [2]6S7G, 6T7G, 6AB5, 6G6G	456	
	Tone	34	MR42				45X239	15	BB12							
							.015		Buffer	B14						
T1	Vol.	18	N	6			45X227	12/15	BB19/BB12				7	6A8G, [2]6U7G, 6V7G, 6C5G, 25A6G, 6N7G	456	
	Tone	44	Z12													
T2	Vol.	17	MR57	M26			3-20	12/15	BB14/BB15				7	6A8G, [2]6U7G, 6V7G, 25A6G, 6J5G, 6N7G	456	
	Tone	41	MR42													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WELLS-GARDNER & CO.—Continued																
T3	Vol.	17	MR57	M26			45X241	12/15	2N514				7	6A8G, [2]6U7G, 6V7G, 6J5G, 25A6G, 6N7G	456	
	Tone	41	MR42												175	4-2
02A	Vol.	17	P	6			P80984	2/13/14	UR191/BB21	B164			12	[4]58, 55, [2]56, [2]45, 82		
	Tone	41	UC504													
02AA	Vol.	17	P	6			P80984	2/13/14	UR191/BB21	B161			12	[4]58, 55, [2]45, [2]56, 82	175	
	Tone	41	UC504													
022	Vol.	45	Z12				8	58	HD682				12	[4]58, [2]56, [2]57, [2]46, 82	175	4-10
	Tone	41	UC502				8	58	RS213							
	Supp.	8	E				4	58	RS213							
							4	19	BB20							
05A	Vol.	6	G12	6	EX300		P80944	11	SR631				5	[2]77, 78, 43, 25Z5	262	4-3
							80878C	19	BB20							
							80936C	15	BB12							
05AA	Vol.	6	H12	6			80944E	11	SR631				5	6C6, [2]6D6, 43, 25Z5	262	4-4
05BA	Vol.	6	H12	6			80944E	11	SR631				5	6C6, [2]6D6, 43, 25Z5	262	4-5
052 Series	Vol.	6	H12	6	EX300		8-8	4	CM172				5	[2]57, 35, 47, 80	262	2-1
06A	Vol.	97	TRP602				P80968	12	BB31				5	32, [2]34, 19, 30	175	4-6
06W	Vol.	18	UM154	M26		A96	P80939	2	2S563		210	C5	6	[2]78, 77, 85, [2]41	262	4-7,8
	Tone	44	UC502				P80937	14/15	2N516							
							.01		Buffer	B14						
06Z	Vol.	18	UM154	M26		A96	P80956	25/19	RM262/BB15	B126	292	C12	6	[2]78, 77, 75, 41, 84	262	
							P80937	14/15	2N516	B127						
							.02		Buffer	B14						
062 (Auto Set)	Vol.	45	N				4	13	BB31		205		6	[2]39, 37, 36, 38	262	3-1
							4	15	BB11							
062A	Vol.	45	UM154			A96	4	13	BB31		205		6	[2]39, 36, 37, 41	262	5-8
							4	15	BB11							
07A	Vol.	15	O	6			P80990	25	RS216				7	[2]6D6, 6C6, [2]37, 42, 80	175	4-9
	Tone	22	UC502				P80916	23	RS213							
072	Vol.	18	N				P80902	13/15	See Note	B3	210		7	[2]39, 36, 37, [2]38	262	
	Tone	44	UC502													
073	Vol.	15	N				4	13	BB31				7	[2]36, [2]39, [2]41	175	4-11
	Tone	22	K12													
092 Series Battery	Vol.	45	N				P80878C	12	BB31				9	[2]34, [6]30	175	3-2
	Tone	22	UC502													
2B Series (22B5)	Vol.	15	P	6			P81058	2	RS216				11	[2]6D6, [2]76, [2]42, 80	456	6-1,3
	Tone	21	UC502				P81039A	2	RS216							
							P81056	13	2N518							
							P82000	19	BB14							
2CM	Vol.	7/15	DRP315	6			P44X21	25	WE3050				12	[2]6K7, [2]76, [2]6F6, [2]80	456	7-4,6
	Tone	22	UC504				P44X11	25	RS216							
							P44X20	19	Order from	Mfr.						
2DL	Vol.	20	TM247-SS1	M26			44X21	30	WE3050				13	[2]6K7, 6H6, [2]6C5, [2]6L6, [2]5Z4MG, 6G5	456	7-7,9
	Tone	65	Order from	Mfr.			44X11	30	RS216							
							44X216	13	BB31							
							44X209	19	BB12							
5B	Vol.	6	G12	6	EX300		P80944	11	SR631				5	[2]77, 78, 43, 25Z5	262	4-12
							P80878C	19	BB31							
							P80936C	15	BB11							
5C6	Vol.	17	UM163	M26		A96	45X236	24/15	3S572		952W	C3	5	6A8G, 6U7G, 6H6, 6F5G, 6K6G	456	
5D Series	Vol.	6	H12	6			.018		Buffer	B14						
							P82004	23	RS215				5	6C6, [2]6D6, 42, 80	456	6-4,5
5E Series (25E1, 25E5)	Vol.	97	TRP602				P82003	23	RS213							
5F, 5FL	Vol.	18	MR48				P80968	12	BB31				5	32, [2]34, 30, 19	175	5-3,4
							12	23	RS215				6	6A8, 6K7, 6Q7, 6G5, 6F6, 5W4	456	8-8,10
5G Series (35G510, 35G560)	Vol.	97	TRP617	14			16	23	RS216							
5 Tube D. C. Model	Vol.	6	H12			A14	P45X28	12	CS123				5	32, [2]34, 30, 19	175	6-6,8
	Tone	21	O										5	[2]24A, [2]01A, 71A		
Series 5H	Vol.	18	MR53	M26			45X218	46	RM259		246	C3	5	1C6, [2]34, 1B5, 1F4	456	8-11,13
							.01		Buffer	B14						
5K, 5KL	Vol.	18	MR48				12	23	RS213				6	6A8, 6K7, 6Q7, 6G5, 6F6, 5W4	456	8-14,16
							16	23	RS216							
5Y Series (25Y1)	Vol.	17	P	6			P82002	1/15	CM173		286S	C3	5	[2]6D6, 6C6, 75, 41	175	6-9,11
							.007		Buffer	B14	G286S	C16				
6B Series (26B1, 26B5)	Vol.	56	N				P81016	23	CM172		F251	C3	6	6F7, 6D6, 6B7, 12A5, [2]12Z3	175	6-12,14
	Tone	34	UC502				.015		Buffer	B14						
6C Series	Vol.	17	P				P81042	23	RS215				6	[2]6D6, 6A7, 42, 6B7, 80	456	6-15,17
	Tone	34	UC502				P81043	23	RS216							
							P81003	15	BB12							
6C1	Vol.	18	UM147-SS3	M26			45X210	4	CM172		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	8-17,19
	Tone	22	UC502				.0075		Buffer	B14						
6C7	Vol.	18	UM163	M26		A96	45X235	1	2N517		248	C3	6	[2]6U7G, 6K8G, 6K6G, 6N7G	175	
							45X240	‡	BB31							
							.008		Buffer	B14						
6D	Vol.	18	MR48	M26			25	12	BB14				6	[2]6D6, 6A7, 85, 43, 6A6	175	7-10,11
	Tone	44	Z12				30	13	RS207							
							12	15	BB12							
6F	Vol.	7/15	Order from	Mfr.			P44X22	3	WE3050				16	[4]6K7, [2]76, 6B7, 6F7, [2]2A3, 45, [2]5Z3	456	7-12,17
	Tone	34	O				P44X23	13	RS206							
							P45X205	13/‡	CM162/BB31							
							P44X26	13	BB42							
6G	Vol.	18	O	14			45X242	12	CS123				6	1C6, 34, 1B5, [2]30	456	7-18,19
6J	Vol.	56	TM220-SS3	M26			45X219	1/15	3S579		248	C3	6	[2]6K7, 6J7, 6B7, 41, 6A6	175	9-33,34
	Tone	22	MR53				.0055		Buffer	B14						
6K	Vol.	56	TM230-SS3	M26			E45X211B	1/15	SR601/BB12		248	C3	6	6K7, 6J7, 6B7, 41, 6A6	175	7-20,21
	Tone	22	O				.005		Buffer	B14						
6L	Vol.	18	UM154-SS3	M26			45X210	4	CM172		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	7-22,23
	Tone	22	UC502				.0075		Buffer	B14						
6N, 6R	Vol.	17	UM163	M26		A96	E45X206C	4/15	3S575		294	C3	6	[2]6D6, 6C6, 75, 41, 84	175	7-24,28
	Tone	34	UC502				.0075		Buffer	B14						
6S (26S1)	Vol.	17	UM163-SS3	M26			45X204	1	2S567		253	C3	6	[2]6D6, 6C6, 75, 41, 84	175	8-20,22
	Tone	22	M				45X203	15	TN111							
							.01		Buffer	B14						
6 Tube 32 Volt	Vol.	56	N				P81016	23	CM172		F251	C3	6	6F7, 6D6, 6B7, 12A5, [2]12Z3	175	
	Tone	34	UC502				.015		Buffer	B14						
6U Series (26U1)	Vol.	18	UC511	6			P81028	1	2N518		253	C3	6	[2]78, 77, 75, 41, 84	262	5-5,7
	Tone	22	UC502				P81021	15	TN111							
							.01		Buffer	B14						
7C Series (27C1, 27C5)	Vol.	45	O				P81014	12	CM164				7	[2]34, 30, 19	175	6-18,19
7D Series (27D1, 27D5)	Vol.	56	N	6			P81043	4	RS216	B10			7	76, [2]6D6, 6B7, 42, 80	456	5-9,10
	Tone	34	UC502				P81042	4	RS216	B10						
							P80916	4	RS213							
							P81032	4	RS213							
7E	Vol.	45	MR53	M27			P44X17	40	RS207				7	[2]34, 1C6, [2]30, 19	456	8-23,26
	Tone	44	UC502													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WELLS-GARDNER & CO.—Continued																
7F, 7FL	Vol.	17	TM216-SS1	M26			44X10	23	RS216				8	[36]K7, 6C5, 6Q7, 6G5, 6F6, 5Z4MG	456	8-27,29
	Tone	34	Order from	Mfr.			44X11	23	WE1835							
							45X209	15	BB12							
7GM Series (37G508, 37G566)	Vol.	7/56	DRP314	6T			44X10	23	RS216				7	[36]K7, 6B7, 6F6, 76, 80	456	6-21,23
	Tone	34	UC502				44X11	23	RS216							
7H Series (37H508, 37H566)	Vol.	45	O	14			20	12	BB25				7	[33], 1C6, [30], 19	456	6-24,26
	Tone	44	UC502													
7J	Vol.	56	N				44X11	23	RS216				7	[36]D6, 6B7, 76, 42, 80	456	8-30,32
	Tone	34	UC502				44X10	23	RS216							
7K	Vol.	7/56	DRP314	6			44X10	23	RS216				7	[36]K7, 76, 6B7, 6F6, 80	456	7-29,31
	Tone	34	UC502				44X11	23	RS216							
7L	Vol.	20	TM216-SS1	M26			44X10	23	RS216				8	[36]K7, 6C5, 6Q7, 6F6, 6G5, 5Z4MG	456	8-33,34
	Tone	34	Order from	Mfr.			44X11	23	RS216							
							44X209	15	BB12							
7P	Vol.	18	N	6			45X217	12/15	2N512				7	[36]K7, 6A8, 6A6, 85, 43	456	
	Tone	44	Z12													
7Q	Vol.	45	MR53	M27			P45X215	1/13	RM259		Order from	Mfr.	7	[33], 1C6, [30], 19	456	
	Tone	44	UC502				P44X17	1	RS207							
							.01		Buffer	B14						
8T (AC)	Vol.	2/7	GG				‡	‡	See Note	B1			5	24A, [27], 45, 80		
	Tone	41	O													
9 in Line	Vol.	1/15	DRP241				2-1-1-1.5	3	See Note	B1			9	[26], 24A, [45], 80		
9B Series (29B5)	Vol.	15	P				P82001	24	2N516				9	[34], [30], 19	456	5-11,13
	Tone	41	K12													
9C	Vol.	15	MR55				4-8	13	2N516				9	[34], [30], 19	456	7-32,34
	Tone	44	UC502													
10-7 Tube Super	Vol.	7	F		2		80848	23	RS213				7	[35], [24]A, 47, 27, 80	175	
	Tone	103	O	6			80849	23	RS213							
20 Series	Vol.	78	N				8, 8, 8	30	RS213				10	[35], [27], [47], 80	175	
	Tone	41	P	6												
20C5	Vol.	15	MR55	M26			P81039	2	RS216				10	[46]D6, [76], [45], 80	456	5-1,2
	Tone	41	UC504				P81018	2/13	CM173							
27D	Vol.	17	MR48	M26			P80916	23	RS213				7	[36]D6, 6B7, 76, 42, 80	456	
	Tone	34	L				P81043	23	RS216	B20						
							P81032	23	RS213							
							P81042	23	RS216	B20						
29B	Vol.	15	MR55				P82011	12/13	2N516				9	[34], [30], 19	456	9-45
	Tone	44	K12													
40	Vol.	111	Y5MP				P80896	30	CM173				8	[35], [24]A, 47, 27, 80	175	5-15,16
	Tone	34	UC502				P80878	13	BB31							
40A	Vol.	14	N				P80896	30	CM173				8	[35], [24]A, 47, 27, 80	175	5-15,16
	Tone	34	UC502				P80878	13	BB31							
50	Vol.	‡	SRP272				P80196	4	RS213				7	[35], [24]A, 47, 80	175	4-15
	Tone	34	UC502				P80878C	13	BB31							
51A2	Vol.	18	TM228-SS1	M26			44X11	25	WE1830				11	[26]K7, [36]J7, 6H6, [36]C5, 6G5, [36]F6, 5Y3G	456	
	Tone	34	MR53				44X30	25	RS216							
							45X222	19	BB15							
							45X223	13	BB31							
53A3	Vol.	20	TRP620	6			44X21	25	WE3050				13	[36]K7, 6J7, 6H6, [36]C5, 6G5, [26]L6, [25]Y3G	456	
	Tone	41	P				44X36	25	WE4030							
							45X224	19	BB15							
57A4	Vol.	18	MR48	M26			44X31	23	RS215				7	6J7, 6K7, 6Q7, 6F6, 6C5, 6G5, 5Y3G	456	
	Tone	34	L				44X35	23	WE4030							
59A5	Vol.	45	TM228-SS1	M26			44X10	23	RS216				9	[26]K7, 6J7, 6C5, 6H6, 6G5, 6F5, 6F6, 5Y3G	456	
	Tone	34	L				44X11	23	WE1830							
60, 63	Vol.	6	TRP600	7			P80849	25	RS213				6	[24]A, 45, 80		
							P80848	25	RS213							
72	Vol.	6	H12				‡	‡	See Note	B1			7	[32]A, [27], [45], 80		1-3
	Tone	41	O													
80, 82A	Vol.	2/7	GG				‡	‡	See Note	B1			8	[32]A, [27], [45], 80		1-4
	Tone	41	O													
80A, 82	Vol.	‡	D	6			‡	‡	See Note	B1			8	[32]A, [27], [45], 80		
	Tone	41	O													
88A9	Vol.	18	MR48	M26			44X37	23	WE2050				8	6J7, 6K7, 6H6, 6J5, 6G5, 6F5, 6F6, 5Y3G	456	
	Tone	34	MR39				44X38	23	WE4030							
90, 91, 92, 93	Vol.	4	DRP241				4	12	BB31				5	[32], 33	175	5-14
161, 162	Vol.	97	TRP600	7			P80849	25	RS213				6	[24]A, 45, 80		
							P80848	25	RS213							
200, 291, 292, 295	Vol.	1/15	DRP241				2-1-1-1.5	3	See Note	B1			9	[26], 24A, [45], 80		
322	Vol.	45	Z12				8	30	HD682				12	[58], [56], [57], [46], 82	175	
	Tone	41	UC502				8	30	RS213							
	Supp.	8	E				4	30	RS213							
							4	19	BB20							
352 Series	Vol.	6	H7	6	3		8-8	4	CM172	B3			5	[57], 35, 47, 80	175	
502	Vol.	15	N	6			P80923A	30	CM175				10	[58], [57], [56], [47], 80	175	4-16
	Tone	22	O				80873	30	CS133							
							80878C	13	BB31							
572 (AC)	Vol.	‡	SRP271				80894B	4	CM172				7	[58], [57], 47, 80	175	3-3,4
	Tone	34	UC502				80891B	13	BB31							
872 Series	Vol.	‡	SRP271				80894B	4	CM172				7	[58], [57], 47, 80	175	
	Tone	34	UC502				80891B	13	BB31							
C-CG (1st and 2nd types)	Vol.	60/15	DRP243		See Note	A4	2-1-1-1	59	See Note	B1			9	[26], 24A, [45], 80		1-1
	Vol.	2	E12		See Note	A27										
V6Z2, Z6Z1	Vol.	17	UM154	M26		A96	P80956	25/19	RM262/BB15	B126	292	C12	6	[78], 77, 75, 41, 84	262	4-13,14
							P80937	14/15	2N516	B127						
							.02		Buffer	B14						
WESTERN AIR PATROL																
5-Tube 3-Dial (209)	Vol.	9	Y200MP										5	[01]A, 71		
	Fil.	29	M60B													
V1, 2-Dial (217)	Vol.	13	‡		See Note	A3							6	[01]A		
	Fil.	29	‡		See Note	A3										
6-Tube Model 100 D. C. (W215)	Vol.	6	G12		See Note	A14	2-2-2	3	See Note	B1			8	[27], 45, 80		
6-Tube Model 100 D. C. (W216)	Vol.	7	K				2-2-4	3	See Note	B1			8	[27], [71], 80		
6-Tube Model 100 A. C. (W176)	Vol.	‡	‡		See Note	A3	2-2-8	3	See Note	B1			8	[26], 27, 71A or 10, 81, BII		
6-Tube Model 100 A. C. (W177)	Vol.	‡	‡		See Note	A3	2-2-8	3	See Note	B1			8	[26], 27, 71, BII, 81		
6-Tube Model A. C. (W178)	Vol.	‡	‡		See Note	A3	2-2-8	3	See Note	B1			8	[26], 27, 71, 81, BII		
6-Tube Model 100 A. C. (W180)	Vol.	‡	‡		See Note	A3	2-2-8	3	See Note	B1			8	[26], 27, 71, 81, BII		
100 A. C. Highboy (W182)	Vol.	‡	‡		See Note	A3	2-2-8	3	See Note	B1			8	[26], 27, 71, 81, BII		

‡ Data not substantiated.

*IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WESTERN AIR PATROL—Continued																
80 Midget (W184)	Vol.	3	H12	6			2-2-4	3	See Note	B1			7	§26, 27, 71A, 80		
80 Console (W185)	Vol.	3	H12				2-2-4	3	See Note	B1			7	§26, 27, 71A, 80		
80 Console (W186)	Vol.	3	H12				2-2-4	3	See Note	B1			7	§26, 27, 71A, 80		
80 Power Pack							2-2-4	3	See Note	B1				80		
90 A. C. (W170)	Vol.	6	A		See Note	A14	2-2-4	3	See Note	B1			8	§27, 24, 45, 80		
70 (W172)	Vol.	6	‡		See Note	A3	8-8	1	2N518				7	§24, §27, 45 or 71A, 80		
	Tone	22	‡		See Note	A3										
40 (W187)	Vol.	8	‡		See Note	A3	8-8	1	2N518				7	§35, §27, 47, 80		
	Tone	22	L				10	17	BB12							
60 Console (W188)	Vol.	7	H	6		A14	8, 8	1	ST595				9	§51, 24, §27, §47, 80		
25 Midget (W159)	Vol.	6	F7				4-8	23	2S567				4	58, 57, 47, 82		
	Tone	22	G12													
25SW Police (W152)	Vol.	110	F7				8-4	23	2S567				4	58, 57, 47, 82		
	Tone	22	G12													
44 (W157)	Vol.	15	N	6			8-4	1	See Note	B3			7	57, §58, 56, 55, 59, 82	262	
	Tone	22	UC502				10	15	BB12							
46 Console (W151)	Vol.	127	N	6			8-8	35	See Note	B3			10	§57, §58, 55, §56, §59, 82	262	
	Tone	22	UC502				4	19	BB20							
	Sil.	‡	UC502		See Note	A5										
46 Console, No. 46 Power Tubes	Vol.	15	N	6			4-8-4	3	See Note	B3			10	55, §56, §58, §46, 83, 57	262	
46 Console, No. 59 Power Tubes	Vol.	15	N	6			8-8	35	See Note	B3			10	55, §56, §57, §58, §59, 82	262	
	Tone	22	UC502				4	19	CS123							
	Supp.	‡	UC502		See Note	A5										
49 Console (W158)	Vol.	15	N	6			8-4	1	See Note	B3			7	57, 56, §58, 55, 59, 82	262	
	Tone	22	UC502				10	15	BB12							
30 Table Type (W202)	Vol.	110	G7				4, 4	23	ST595				4	57, 58, 2A5, 80		
31 Super Table Type (220)	Vol.	6	E7				4-4	23	2S567				4	2A7, 57, 2A5, 80		
	Tone	22	K12													
32 Super (W219)	Vol.	56	N				8-4	23	See Note	B3			5	57, 58, 55, 2A5, 80		
	Tone	22	G12													
J8 (W435)	Vol.	7	K		EX150		21632	11	SR613				6	§6D6, 6A7, 75, 43, 25Z5		
	Tone	22	K12													
S10 Motorola	Vol.	83	N				8-8-12	3	See Note	B3			8	§78, 77, 85, 56, §45, 83		
	Tone	21	K12				25	15	BB15							
	Sen.	7	K		EX300											
35 Console (W225)	Vol.	56	N	6			8-4	23	See Note	B3			5	57, 58, 55, 2A5, 80		
	Tone	22	G12													
37 (W221)	Vol.	15	N	6			8-8	1	See Note	B3			7	55, 56, 57, §58, 59, 80	262.5	
	Tone	22	UC502				10	15	BB12							
51 (W404)	Vol.	6	G7	6			6-4	1	See Note	B3			4	6A7, 6F7, 42, 80		
	Tone	22	K12				10	15	BB12							
79 8-Tube Console (W224)	Vol.	‡	N	6			8-8	1	See Note	B3			8	55, 56, 57, §58, §59, 5Z3	262.5	
	Tone	22	UC502													
	Sen.	8	UC500													
79 7-Tube Console (W224)	Vol.	15	N	6			8-8	1	See Note	B3			7	55, 56, 57, §58, 59, 82		
	Tone	22	UC502				10	15	BB12							
79 10-Tube Console (W224)	Vol.	15	N	6			4-8-8	35	See Note	B3			10	§57, §58, 55, 53, 56, §59, 80	262.5	
	Tone	22	UC502				4	‡	BB20							
	Sil.	‡			See Note	A5										
PR10 (W403)	Vol.	7	D	6			8-8	35	RS213				10	§55, §57, §58, 59, 5Z3	467.5	
	Sen.	7	C1MP				10	15	BB12							
	Meter	26	C1MP													
	Gain	15	N													
17 (W405)	Vol.	6	G7				4-4	23	See Note	B3			4	58, 57, 2A5, 80		
19 (W410)	Vol.	113	G7		EX300	A14	4-4	23	See Note	B3			5	57, 58, 56, 2A5, 80		
20C5 (W416)	Vol.	15	P	6			P81039	2	RS216				10	§6D6, §76, §45, 80	456	
	Tone	41	UC504				P81018	2/13	CM173							
28 (W405)	Vol.	18	N	6			4-8	23	See Note	B3			5	57, 58, 2A6, 2A5, 80	175	
	Tone	22	K12													
36 (W407)	Vol.	15	N	6			8-8	4	See Note	B3			6	2A7, §58, 55, 2A5, 80	262.5	
	Tone	22	K12				10	15	BB12							
48 (W408)	Vol.	15	N	6			8-8	4	2S567				6	§2A5, §58, 55, 80	262.5	
	Tone	22	K12				10	15	BB12							
15A (W417)	Vol.	6	H7				4, 4	23	ST595				4	58, 57, 2A5, 80		
18 (W418)	Vol.	6	G7		See Note	A14	4, 4	23	ST595				4	58, 57, 2A5, 80		
25E1 (W409)	Vol.	97	TRP602										5	§32, §34, 30, 19	175	
29 (W414)	Vol.	18	N	6			8	23	BB61				5	57, 58, 2A6, 2A5, 80	175	
	Tone	22	K12				4	23	BB60							
38 (W415)	Vol.	18	M	6			8-4	1	2N518				5	6A7, 78, 75, 42, 80		
							10	19	BB12							
175AW (W421)	Vol.	15	O				16	1	RS216				7	6A7, 6D6, 6B7, 6A6, §42, 80		
	Sen.	7	‡		See Note	A5	8	1	RS213							
							10	15	BB12							
185AW (W411)	Vol.	18	N	6			8-8	1	2N518				8	§6D6, 6A7, 76, §42, 80	432	
	Tone	149	K12				8	14	RS213							
1105AW (W423)	Vol.	45	TM230-SS1	M26			8	7	RS213				10	§6D6, 6A7, §85, 76, §42, 5Z3	432	
	Tone	22	MR33				8-8	7	2N518							
	Sil.	48	C1MP				5	15	BB12							
4G1T (W476)	Vol.	6	H7				5-5	23	2S567				4	78, 77, 42, 80		
4G2T (W477)	Vol.	6	G7				4-4	23	2S567				4	58, 57, 2A5, 80		
5G1T (W478)	Vol.	6	H7		See Note	A14	4-4	23	2S567				5	§77, 78, 42, 80	460	
6M2T (W479)	Vol.	45	N	6			4-8	23	2S567				6	6J7, 6K7, 6H6, 6F5, 6F6, 5Z4	175	
	Tone	22	K12													
6M3T (W480)	Vol.	45	M				8, 8	1	ST595				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	460	
							10	19	BB12							
7M3C (W481)	Vol.	46	N				8, 8	1	RS213				7	§6K7, 6A8, 6H6, 6F5, 6F6, 5Z4	460	
	Tone	21	K12				10	19	BB13							
9M3C (W482)	Vol.	46	N	6			16	25	RS216				9	§6K7, 6A8, 6H6, §6C5, §6F6, 5Z4	460	
	Tone	21	K12				18	25	WE2050							
	Sen.	7	UC500				10	19	BB13							
11M3C (W483)	Vol.	46	N	6			16	1	RS216				11	§6K7, 6A8, 6H6, §6C5, §6F6, 5Z4	460	
	Tone	76	M				18	1	WE2050							
	Sen.	7	UC500				10	19	BB13							
25G (W419)	Vol.	97	TRP617	14			4	12	BB31				5	§32, §34, 30, 19	175	
27E (W420)	Vol.	45	MR53				P44X17	40	RS207				7	§34, 1C6, §30, 19	456	
	Tone	44	UC502													
2116 (W491)	Vol.	7/83	DRP314				16	1	RS216				11	§6K7, 6A8, 6R7, 6G5, §6C5, §6F6, 5X4G	462	
	Tone	44	K12				18	1	WE2050							
							8	13	BB61							
							25	19	BB15							
2136 (W492)	Vol.	7/56	DRP314				16	1	RS216				13	§6K7, 6H6, §6C5, 6A8, 6G5, 6Q7, §6F6, 5X4G	462	
	Tone	44	K12				8	13	BB61							
							25	15	BB15							
16 (W497)	Vol.	6	MR21	M26			5, 5	23	ST595				4	78, 76, 42, 80		
26G (W493)	Vol.	18	O	14			45X212	12	CS123				6	1C6, 34, 1B5, §30	456	

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WESTERN AIR PATROL—Continued																
27T (W496)	Vol.	45	MR53				P45X215	1/13	RM259	Order from	Mfr.		7	1C6,[3]34,[2]30, 19	456	
	Tone	44	UC502				P44X17	1	RS207							
							.01		Buffer	B14						
46	Vol.	6	H12				5-5	23	CM172				4	78, 77, 42, 80		
24BT (W831)	Vol.	18	MR53				4	12	BB31				4	1D7G, 1D5G, 1H6G, 1F5G	456	
	Fil.	29	C6P													
57 (W499)	Vol.	18	MR48				8-8	23	CM172				5	6A7, 78, 75, 42, 80	460	
77 (W481)	Vol.	46	MR48				8, 8	25	RS213				7	6A7, 78, 6H6, 6F5, 6T5, 42, 80	460	
	Tone	22	MR33				10	19	BB12							
157 (W827)	Vol.	18	MR48				A10005	23	CM172				5	6A8, 6K7, 6Q7, 6F6, 5Z4	460	
257 (W500)	Vol.	18	MR48				A10005	23	CM172				5	6A7, 78, 75, 42, 80	460	
	Tone	22	MR33													
258 (W958)	Vol.	18	MR48				A10005	23	CM172				5	6A7, 78, 75, 42, 80	460	
	Tone	22	MR33													
587 (W835)	Vol.	46	MR48				8, 8	1	ST595				8	[2]6K7G, 6A8G, 6U5, 6H6G,[2]6F5G, 6F6G, 5Y3	460	
	Tone	22	MR33				10	19	BB13							
	Sen.	98	D													
557M (W496)	Vol.	18	MR48				A10005	23	CM172				5	6A7, 78, 75, 42, 80	460	
56 (W485)	Vol.	18	MR48				5-5	23	CM172				5	6A7, 6D6, 75, 42, 80	460	
	Tone	22	K12				10	15	BB12							
66 (W486)	Vol.	45	MR48	M26			8-4	23	CM172				7	6A8, 6K7, 6H6, 6F5, 6G5, 6F6, 5Y3	175	
	Tone	22	K12													
76 (W487)	Vol.	46	MR48				8, 8	1	ST595				7	[2]6K7, 6A8, 6H6, [2]6F5, 5Y3	460	
	Tone	22	MR33				10	19	BB13							
146 (W488)	Vol.	6	G7		See Note A14		4-4	23	CM172				4	58, 57, 2A5, 80		
708 (W832)	Vol.	62	MR48				18, 18	1	BB34		246	C3	7	[3]6S7G, [3]6L5G, 6K6G, 6N5	456	
	Tone	34	MR42				4	15	BB11							
							.01		Buffer	B14						
1337 (W838)	Vol.	46	500M No. 1		See Note A19		18	1	WE2050				13	[3]6K7G, 6A8G, 6H6G, 6U5G, 6F5G, [3]6C5G, [3]6F6G, [3]5Y3G	460	
							10	1	RS215							
							25	19	BB14							
1487 (W839)	Vol.	46	MR48				8, 8	1	ST595				8	[3]6K7G, 6A8G, 6H6G, 6U5, 6F5G, 6F6G, 5Y3	460	
	Tone	22	MR33													
	Sen.	98	D													
WESTERN AUTO SUPPLY CO. (Truetone, Wells-Gardner)																
062, 062A	Vol.	45	UM154			A96	4	13	BB31		205		6	[3]39, 36, 37, 41	262	5-1
	Tone	34	UC502				4	15	BB11							
06W	Vol.	56	N				16-8	1	2S563		210	C3	6	[2]78, 77, 85,[3]41	262	
	Tone	41	UC502				4	15	BB11							
06Z	Vol.	18	N				P80956	25/19	RM262/BB15	B126	292	C12	5	78, 77, 41, 84, 75	262	
							P80937	14/15	2N516	B127						
							.02		Buffer	B14						
6S	Vol.	17	UC511	6			45X204	1	2N518		253	C3	6	[2]6D6, 6C6, 75, 41, 84	175	
	Tone	22	L				45X203	15	TN111							
							.01		Buffer	B14						
6U	Vol.	18	UC511	6			P81028	1	2N518		253	C3	6	[2]78, 77, 75, 41, 84	262	5-2
	Tone	22	UC502				P81021	15	TN111							
							.01		Buffer	B14						
670	Vol.	17	N	6			P103-2	4	RM262		296	C3	6	6D6, 6C6, 78, 75, 42, 84	175	6-1,2
							20	15	BB15							
							.02		Buffer	B14						
685, 686 Series	Vol.	18	MR53	M26			P103-6	23	RS213				7	6L7, 6K7, 6C5, 6Q7, 6F6, 5Y3, 6G5	465	
	Tone	22	K12				P103-7	23	RS213							
720, 732	Vol.	18	O	6			103-6	42	RS213				7	6L7, 6K7, 6C5, 6Q7, 6G5, 6F6, 5Y3	465	
	Tone	22	K12				103-7	42	RS213							
786 Series A	Vol.	18	MR53	M26			P103-6	23	RS213				7	6L7, 6K7, 6C5, 6Q7, 6F6, 5Y3, 6G5	465	
	Tone	22	K12				P103-7	23	RS213							
1312 (R131)	Vol.	17	N	6			84829	4	CM172		294	C3	6	[2]78, 77, 75, 41, 84	177.5	
							83803	15	BB12							
							.03-.03		Buffer	B14						
D689	Vol.	20	‡		See Note A19		44X39	4	WE2050				9	[2]6U7G, 6J7G, 6J5G, 6H6, 6F5G, 6K6G, 5Y3G, 6U5	456	
	Tone	22	L				44X40	4	WE4030							
							45X239	15	BB12							
D690	Vol.	15	‡		See Note A19		4649	4	WE3050				14	[4]6D6, 6A7, 6H6G, [2]76, [4]42, 80, 6G5	**	
	Tone	...‡..	MR55				4062	4	WE4030						456	
							3079	14	RS203							
D691	Vol.	106	MR48	M26			3375	23	WE1650				11	6A7, 6D6, 6Q7G, [2]76, [2]42, 6G5, 80	456	
	Tone	106	MR55				4062	23	WE4030							
							4528	14	BB31							
D692 (Truetone)	Vol.	124	TRP621				3111	72	WE1660				11	[2]6K7, 6A7, 6H6, 6G5, 6C5,[2]76,[2]42, 80	465	
	Tone	147	UM181	M28		A96	3112	72	RS216							
	Sen.	48	A2MP				3113	72	WE1835							
							3136	72	BB15							
D695	Vol.	20	TM247-SS1	M26			P44X21	30	WE3050				13	[4]6K7, [3]6C5, 6H6, 6G5, [3]6L6,[3]5Z4MG	456	
	Tone	41	Order from	Mfr.			P44X11	30	WE1830							
							P45X216	14	BB31							
							P45X209	15	BB12							
D697	Vol.	45	TM228-SS1	M26			44X30	1	RS216				11	[3]6K7, [3]6C5, 6H6, 6G5, 6J7, [3]6F6, 5Y3G	456	
	Tone	...‡..	O				44X11	1	WE1830							
							45X223	13	BB31							
							45X222	19	BB15							
D698	Vol.	45	MR48	M26			44X35	23	RS215				8	6J7, 6K7, 6H6, 6C5, 6F5, 6G5, 6F6, 5Y3	456	
	Tone	34	UC502				44X31	23	WE3033							
D699 (147E)	Vol.	18	N	6			3375	23	RS216				8	6A7, 6D6, 75, 76, [2]42, 80, 6G5	456	
	Tone	147	P				3351	23	WE825							
D699 (840)	Vol.	18	MR53	M26			103-6	4	RS213				8	6A8, 6K7, 6Q7, 6C5, [2]6F6, 5Y3, 6G5	465	9-1,2
	Tone	22	MR44				103-14	4	RS216							
D700	Vol.	18	N	6			3375	23	RS216				7	6A7, 6D6, 75, 76,[2]42, 80	456	
	Tone	147	P				3351	23	WE825							
D701	Vol.	20	TM246-SS1	M26			44X10	23	RS216				8	[3]6K7, 6C5, 6R7, 6F6, 6G5, 5Z4G	456	
	Tone	34	Order from	Mfr.			44X11	23	RS216							
							44X209	15	BB12							
D702	Vol.	18	MR53	M26			P1511	23	RM262				5	6A7, 6D6, 75, 41, 80	456	
D705	Vol.	20	‡		See Note A19		44X30	25	RS216				11	[2]6U7G, [2]6J7G, [2]6J5G, 6U5, 6H6, [2]6F6G, 5Y3G	456	
	Tone	...‡..	L				44X36	25	WE4030							
							45X238	19	BB17							
D706	Vol.	18	MR48	M27			119-32	1	2N516		216	C3	8	[2]6S7G, 6D8G, [2]6L5G, 6T7G, 19, 6N5	465	9-3,4
	Tone	22	MR39				.005		Buffer	B14						
D707	Vol.	7	H	6			3229	23	2P544				4	6D6, 6C6, 43, 25Z5, BK55B		8-3
D708	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 34,[2]30, 32, 33	456	
	Tone	34	L				.01-.01		Buffer	B14						
D709	Vol.	18	MR48				P2251	1	2N516		850	C3	6	6A8G, 6J5G, 6U7G, 6Q7G, 6G6G, 6ZY5G	456	
							.015		Buffer	B14						
D711	Vol.	56	N				44X11	23	WE1835				7	[3]6D6, 76, 6B7, 42, 80	456	
	Tone	34	UC502				44X10	23	RS216							
D712	Vol.	7/15	DRP315	6T			44X10	4	RS216				10	[4]6K7,[2]76,[2]45, 80	456	
	Tone	41	UC504				44X11	4	WE1835							
							44X18	13	RS213							

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WESTERN AUTO SUPPLY CO.—Continued																
D713	Vol.	45	O	14			20	12	BB25				7	§34, 1C6, §30, 19	456	
	Tone	44	UC502													
D713 (2nd Type)	Vol.	7/56	DRP314	6T			44X10	23	RS216				7	§6K7, 6B4, 6F6, 76, 80	456	
	Tone	34	UC502				44X11	23	WE1835							
D714	Vol.	17	MR53	M26			119-69	25	BB24				6	6K8G, 6K7, 6Q7G, 6P5G, 6AC5G, 5Y3G	465	
	Tone	22	MR44													
D716	Vol.	7/15	DRP315	6			P44X21	25	WE3050				12	§6K7, §76, §6F6, §80	456	
	Tone	22	UC504				P44X11	25	WE1835							
D717	Vol.	18	MR53	M26			P44X20	19	Order from	Mfr.			5	6A7, 6K7, 75, 41, 80	465	
	Tone	21	MR53				119-38	23	SR633							
D717 (6V-110V)	Vol.	18	N	7			P2140	1/15	3S570		850	C3	7	6D8G, 6L5G, 6S7G, 6T7G, 6G6G, 6ZY5G, 6AB5	456	
	Tone	34	L				.015		Buffer	B14						
D718	Vol.	18	N	7			P958	1	2N518		245C	C3	6	6D8G, 6S7G, 6T7G, §30, 19	456	
	Tone	44	L				.01-.01		Buffer	B14						
D719	Vol.	18	MR48	M27			4159	24	2N512		245	C3	4	6D8G, 6S7G, 6T7G, 1D5G	456	
							.03		Buffer	B14						
D722	Vol.	62	2 Meg. No. 1		See Note A19		44X10	25	RS216				11	§6K7, §6C5, 6G5, §6F6, 5Z4MG	456	
	Tone	65	Order from	Mfr.			44X11	23	RS216							
D723	Vol.	18	N	6			44X213	13/15	BB20/BB12				7	6A7, 6D6, 75, 76, §42, 80	456	
	Tone	147	P				3375	23	RS216							
D724	Vol.	18	N	6			3351	23	WE825				8	6A7, 6D6, 75, 76, §42, 80, 6G5	456	
	Tone	147	P				3375	23	RS216							
D727	Vol.	18	N	6			3351	23	WE825				8	6A7, 6D6, 75, 6G5, 76, §42, 80	456	
	Tone	147	P				3375	23	RS216							
D730	Vol.	6	MR36	M26			3351	23	WE825				5	6D6, 6C6, 25L6G, 25Z5, 155GB	456	
							P2216	1	2N506							
D731	Vol.	18	MR53	M26			119-53	1/19	3N534	B188			5	6A8, 6K7, 6Q7, 25L6, 25Z6, L49B	470	
D734	Vol.	17	UM154-SS13	M26			119-33	4	2S567		294	C3	5	6A8, 6K7, 6Q7, 6F6, 6X5	465	9-5,6
D743	Vol.	18	UM154-SS13	M26			.005		Buffer	B14						
							119-37	4	2S564		294	C3	6	§6K7, 6A8, 6Q7, 41, 6X5	465	
D744	Vol.	18	UM147-SS13	M26			.005		Buffer	B14						
	Tone	22	MR53				119-34	4	2S567		294	C3	6	§6K7, 6A8, 6Q7, 6F6, 6X5	262.5	
D744, Series "A"	Vol.	18	UM147	M26	See Note A96		.01		Buffer	B14						
	Tone	22	MR53				119-34	4	2S567		294	C3	6	§6K7, 6A8, 6Q7, 6X5, 6F6	262.5	
D745	Vol.	20	TM230-SS3	M26			.01		Buffer	B14						
	Tone	22	MR53				P45X211	1/15	CM175/BB12		248	C3	6	§6K7, 6J7, 6B7, 41, 6A6	175	
D746, Series "A" (Issue "A" & "B")	Vol.	18	MR53	M26			.005		Buffer	B14						
							119-50	40	2S567		294	C24	5	6A8, 6K7, 6Q7, 6K6, 6X5	465	
D746, Issue "C"	Vol.	18	MR53	M26			.005		Buffer	B14						
							19-50	40	2S567		294	C24	5	6SA7, 6SK7, 6Q7, 6K6, 6X5	465	
D747, Series "A" (Issues "A," "B," & "C")	Vol.	18	‡		See Note A19		.005		Buffer	B14						
							119-51	4	2S567		294	C3	5	6A8, 6K7, 6Q7, 6V6, 0Z4 or 6X5	465	
D748	Vol.	127	UM163	M26		A96	.01		Buffer	B14						
							45X235	1	2N518		952W	C3	6	§6U7G, 6J7G, 6B8G, 6K6G, 6N7G	175	
							45X240	‡	BB10							
							45X239	15	BB12							
D901	Vol.	45	MR48				.008		Buffer	B14						
	Tone	107	MR55	M26			3285	1	WE1650				9	6A7, 6D6, §76, 6G5, 6K5G, §6V6G, 80	456	
D920	Vol.	127	MR53				5101	1	WE1625							
	Tone	22	MR44				119-64	1	2S568				8	6K8G, 6K7, 6Q7G, §6K6G, 6A8G, 6U5, 5Y3G	465	
D921, Issue "A"	Vol.	45	MR55				119-73B	1	ST597				9	6K8, 6K7, §6J5, 6Q7, 6U5, §6K6, 5Y3	465	
D930	Vol.	106	MR48				119-69	1	ST597							
	Tone	106	MR55	M26			3285	1	WE1650				8	6A7, 6D6, 6Q7G, 76, §41, 80, 6G5	456	
D941, Issue "A"	Vol.	45	MR55	M26			5101	1	WE1625				6	12SA7, 12SK7, 12J5GT, 12SQ7, 35L6GT, 35Z5GT	465	
							119-53D	1/15	3N534	B193						
D976, Issue "A"	Vol.	18	UM163	M26		A96	119-81	74	BB44		294	C3	6	§6K7, 6A8, 6Q7, 6K6, 6X5	465	
D978	Vol.	18	Order from	Mfr.			.008		Buffer	B14						
	Tone	106	UM163-SS18				119-78	24	FPQ426		248	C3	6	6K7, 6A8, 6SK7, 6Q7, 6J5G, 6N7	465	
DE3000, Issue "A"	Vol.	18	UM154-SS13	M26			.0055		Buffer	B14						
							119-65C	74	BB44		294	C24	6	§6K7G, 6A8G, 6Q7G, 6K6G, 6X5G	465	
L7	Vol.	45	SRP275	7			.008		Buffer	B14						
	Tone	‡	L				P391	1	2N516		245C	C3	7	1C6, 19, §30, §34	456	
S690, S691	Vol.	45	N				.01-.01		Buffer	B14						
	Tone	34	L				4	13	BB31		205		5	§39, 36, 38	262	7-1
S710, S711	Vol.	56	N				4	15	BB11							
	Tone	34	UC502				44X11	23	WE1835				7	§6D6, 76, 6B7, 42, 80	456	
S712M	Vol.	7/15	DRP315	6T			44X10	23	RS216							
	Tone	41	UC504				44X10	4	RS216				10	§6K7, §76, §45, 80	456	
							44X11	4	RS216							
S716, S717	Vol.	8	A5MP				44X18	13	RS203							
	Tone	34	UC502				4-2-6	46	CM175				8	§35, §24, 27, 47, 80	175	7-2,3
S719	Vol.	6	Y	6	EX300		8-8	4	CM172				5	§57, 35, 47, 80	262	7-4
S721	Vol.	‡	SRP271				P80196	4	RS213				7	§58, §57, 47, 80	175	8-1,2
	Tone	34	UC502				P80878-C	13	BB31							
S724	Vol.	97	TRP602	14			P45X28	12	CS121				5	32, §34, 30, 19	175	8-3,4
S725, S726	Vol.	56	N	6			P81043	23	WE1830				7	§6D6, 6B7, 76, 42, 80	456	7-5,6
	Tone	34	UC502				P81032	23	RS213							
S727	Vol.	15	P	6			P81039	2	RS216				10	§6D6, §76, §45, 80	456	8-5,6
	Tone	41	UC504				P81018	2/13	CM173							
S732, S733	Vol.	17	N				P80956	25/19	RM262/BB15	B126	292	C12	6	§78, 77, 75, 41, 84	262	6-3,4
							P80937	14/15	2N516	B127						
							.02		Buffer	B14						
S735	Vol.	17	P	6			P82002	1/15	CM173		286S	C3	5	§6D6, 6C6, 75, 41	175	6-6,7
S740	Vol.	18	UC511	6			P81028	1	CM172		253	C3	6	§78, 77, 75, 41, 84	262	6-8
	Tone	22	UC502				P81021	15	TN111							
S743	Vol.	17	N	6			.01		Buffer	B14						
							84829	4	CM172		294	C3	6	§78, 77, 75, 41, 84	177.5	6-9,10
							83803	15	BB12							
V6Z2	Vol.	17	N	6			.03-.03		Buffer	B14						
							P80956	25/19	RM262/BB15	B126	292	C12	6	§78, 77, 75, 41, 84	262	
							P80937	14/15	2N516	B127						
							.02		Buffer	B14						
Z4	Vol.	45	SRP275	7			P391	1	2N516		245C	C3	6	1C6, 19, §30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z5	Vol.	45	SRP275	7			P958	1	2N516		245C	C3	6	1C6, 19, §30, 32, 34	456	
	Tone	44	L				.01-.01		Buffer	B14						
Z6Z1	Vol.	17	N	6			P80956	25/19	RM262/BB15	B126	292	C12	6	§78, 77, 75, 41, 84	262	5-3,4
							P80937	14/15	2N516	B127						
							.02		Buffer	B14						

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WESTERN RADIO MFG. CO. SG80BM, SG80BMX	Vol.	12	Y50MP				8-8-8	3	See Note	B3			8	‡24A, 27,‡45, 80		§6-39
WESTINGHOUSE																
WR4—See Radiola	48															
WR5—See Radiola	80															
WR6—See Radiola	82															
WR6R—See Radiola	82R															
WR7—See Radiola	86															
WR7R—See Radiola	86R															
WR8—See Radiola	82 (with clock)															
WR8R—See Radiola	82R (mod. for vertical operation.)															
WR9—See T5																
WR10—See R7 (Superette)																
WR10A—See R7A																
WR10 (DC)—See R7 (DC)																
WR12—See R9																
WR12 (DC)—See R9 (DC)																
WR13—See RE16																
WR13A—See RE16A																
WR14—See R5																
WR14 (DC)—See R5 (DC)																
WR14CR—See R5X																
WR15—See R11																
WR15A—See R10																
WR16—See RO23																
WR17—See R4																
WR18—See R8																
WR18 (DC)—See R8 (DC)																
WR19—See R71																
WR20	Vol.	6	Y	6			4-8	4	CM162				4	6D6, 6C6, 38, 1V		5-1
WR21	Vol.	6	Y	6	EX300		4-16-8	11	UR193	B264			5	‡78, 77, 43, 25Z5	456	5-2
WR22	Vol.	6	Y		EX500		8-8	4	CM172				5	‡58, 57, 47, 80	456	5-9
WR23, WR24	Vol.	18	N				SA106665	25	RM262/BB15	B213			7	‡58, 2A6, 2A5, 56, 80	456	5-3,4
	Tone	26	M	6												
WR25	Vol.	17	UM154	M26		A96	ZC123	1	2N518		294	C20	6	‡78, 6A7, 75, 41, 84	172.5	5-5,6
							IC43	15	BB12		296	C20				
							.02		Buffer	B14						
WR26	Vol.	18	N	6			WR06558	4	CM172		294	C20	6	‡77, 78, 75, 42, 84	175	5-7,8
	Tone	22	N				.02		Buffer	B14	296	C20				
WR27	Vol.	6	Z12	6	EX250		WRUC-93	4	CM172				4	6A7, 77, 42, 80	456	5-10
WR28, WR29	Vol.	18	N				WR06665	25/19	RM262/BB15	B213			6	6A7,‡6D6, 75, 42, 80	456	5-11,12
	Tone	121	M	6			WR07239	13	RS213							
WR30	Vol.	18	N				WR07510	59	RM265				10	‡78, 77, 6B7,‡6A6, 42, 76, 83V	456	5-13,14
	Tone	121	M	6			WR07516	15	BB12							
WR100	Vol.	18	N	6			2DC203	27	2P544				5	6A7, 6D6, 75, 43, 25Z5	456	6-1
WR101 (U6A)	Vol.	55	N	6			ZZC192A	11/27	UR193	B99			6	6A8, ‡6K7, 75, 43, 25Z5	456	6-2,3
	Tone	121	M				YC98A	19	BB20	B99						
WR101 (U6F)	Vol.	55	N	6			2LC224	11/27	UR193	B99			6	6A7, 6K6, 6H6, 6F5, 43, 25Z5	456	7-1,2
	Tone	121	M				YC98A	19	BB20							
WR102	Vol.	7	MR18	M26	EX300		CE9533	6	RS205				4	6A7, 6C6, 43, 25Z5	456	7-1
							CE9534	6	ST587					K55C	465	7-1
							CE9515	15	BB12							
WR102A	Vol.	7	MR18	M26	EX300		CE9553	27	RS208				4	6A7, 6F7, 25B6G, 25Z5, K55C	465	8-1
							CE9534	27	ST587							
WR103, WR103A	Vol.	18	MR48	M26			CE9545	27	RS207				5	6A7, 6D6, 75, 43 or 25B6, 25Z5, K49C	465	8-2,4
							CE9546	27	RS205							
WR116	Vol.	45	TM230-SS1	M26			CE9539	27	RS207				6	6A8, 6K7, 6H6, 6F5, 25A6, 25Z6, K42E	465	9-1,4
	Tone	22	MR24				CE9538	27	RS207							
							CE9540	13	RS203							
WR120	Vol.	18	MR48	M26			CE9559	4	RS208				5	6A8G, 6K7G, 6Q7G, 25B6G, 25Z6G, K49CB	456	
							CE9560	4	RS207							
WR140	Vol.	18	MR48	M26			CE9557	1	RS208				5	6A8, 6K7, 6Q7G, 25L6, 25Z6G, K49CB	455	
							CE9574	4	RS207							
							CE9575	13	RS203							
WR201	Vol.	6	E12		EX150		8-6	1	See Note	B3			5	‡6D6, 76, 42, 80	456	6-4
							12	15	BB12							
WR203	Vol.	55	M				XXC188	4	2S567				6	6A8,‡6K7, 75, 6F6, 80	456	6-5,6
	Tone	22	M	6												
WR204	Vol.	18	N				CE954	25/19	RM262/BB15	B213			7	‡6K7, 6A8, 6H6, 6F5, 6F6, 80	465	6-7,10
	Tone	121	N	6			CE9511	14	RS213							
							CE9515	15	BB12							
WR205	Vol.	18	N				CE954	25/19	RM262/BB15	B213			8	‡6K7, 6A8, 6C5, 6H6, 6F5, 6F6, 80	465	6-11,14
	Tone	121	N	6			CE9518	14	RS213							
							CE9515	15	BB12							
WR208	Vol.	56	M	6			2NC246	1	RS216				5	6A7, 6D6, 85, 42, 80	456	7-3,4
							2NC247	1	WE1650							
							IC43A	15	BB12							
WR209	Vol.	18	MR48	M26			CE9512	1	RS215				5	6F7, 6D6, 75, 42, 80	465	7-2
							CE9511	1	RS213							
							CE9558	19	BB12							
WR210	Vol.	18	MR48	M26			CE9536	1	RS215				5	6A8, 6K7, 75, 6F6, 5Y3	465	7-3
							CE9535	1	RS216							
							CE9515	19	BB12							
WR211	Vol.	45	TM230-SS1	M26			CE9536	25	RS215				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Y3	465	8-9
	Tone	22	MR24				CE9535	25	RS216							
							CE9537	13/15	2N518							
WR212	Vol.	45	TM230-SS1				CE9536	25	RS215				7	‡6K7, 6A8, 6F5, 6H6, 6F6, 5Y3 or 5Z4	465	8-5,8
	Tone	15	MR48	M26			CE9535	25	RS216							
							CE9528	13	RS213							
							CE9526	15	TN111							
WR214	Vol.	45	N				CE9536	25	RS215				10	‡6K7, 6A8, 6C5, 6H6, 6F5, ‡6F6, 5Y3 or 5Z4, 6G5	465	9-5,8
	Tone	22	O	6			CE9535	25	RS216							
							CE9528	13	RS213							
							CE9526	15	TN111							
WR217	Vol.	18	N	6			3RC318	23	CM172				5	6A7, 6D6, 75, 41, 80	456	
WR222	Vol.	18	MR48	M26			CE9564	4	RS216				5	6A8G, 6K7, 6Q7G, 6Y6G, 5Y3G	455	9-9,10
							CE9565	4	RS216							
WR224	Vol.	18	MR48	M26			CE9554	1	RS216				5	6A8G, 6K7, 6Q7G, 6V6G, 5Y3G	455	
							CE9562	1	RS216							
							CE9568	13	RS213							
WR226	Vol.	45	MR48	M26			CE9554	1	RS216				6	6A8, 6K7, 6H6, 6F5, 6V6G, 5Y3G	455	
							CE9562	1	RS216							
							CE9568	13	RS213							
WR228	Vol.	18	TM251-SS1	M26			CE9554	1	RS216				8	‡6K7, 6Q8, 6Q7G, ‡6F6G, 6L5, 5Y3G	455	
							CE9562	1	RS216							
							CE9568	13	RS213							
WR303	Vol.	55	M				XXC188	4	2S567				6	6A8,‡6K7, 75, 6F6, 80	456	6-5,6
	Tone	22	M	6												

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WESTINGHOUSE — Continued																
WR304	Vol.	18	N				CE954	25/19	RM262/BB15	B213			7	[26]K7, 6A8, 6H6, 6F5, 6F6, 80	465	6-7,10
	Tone	121	N	6			CE9511	14	RS213							
							CE9515	15	BB12							
WR305	Vol.	18	N				CE954	25/19	RM262/BB15	B213			8	[26]K7, 6A8, 6C5, 6H6, 6F5, 6F6, 80	465	6-11,14
	Tone	121	N	6			CE9518	14	RS213							
							CE9515	15	BB12							
WR306	Vol.	15	MR53				CE9516	59	RS213				10	[26]K7, 6A8, 6C5, 6H6, 6F5, [26]F6, 5Z3	465	7-5,8
							CE9517	59	RS216							
							SA107913	15	TN111							
WR310	Vol.	18	MR48	M26			CE9536	1	RS215				5	6A8, 6K7, 75, 6F6, 5Y3	465	
							CE9535	1	RS216							
							CE9515	19	BB12							
WR311	Vol.	45	MR48	M26			CE9536	23	RS215				6	6A8, 6K7, 6H6, 6F5, 6F6, 5Y3 or 5Z4	465	7-4
	Tone	22	MR24				CE9535	23	RS216							
							CE9537	13/15	2N518							
WR312	Vol.	45	TM230-SS1				CE9536	25	RS215				7	[26]K7, 6A8, 6F5, 6H6, 6F6G, 5Y3 or 5Z4	465	8-5,8
	Tone	15	MR48	M26			CE9535	25	RS216							
							CE9528	13	RS213							
							CE9526	15	TN111							
WR314	Vol.	45	N				CE9536	25	RS215				10	[26]K7, 6A8, 6C5, 6H6, 6F5, [26]F6, 5Y3 or 5Z4, 6G5	465	9-5,8
	Tone	22	O	6			CE9535	25	RS216							
							CE9528	13	RS213							
							CE9526	15	TN111							
WR315	Vol.	18	TM230-SS1				CE9536	3	RS215				12	[26]K7, [26]A8, 6J7, 6H6, 6Q7, [26]L6, 5Z3, 6G5	465	8-10,13
							CE9528	3	RS213							
							CE9535	3	RS216							
							CE9515	15	BB12							
WR316	Vol.	45	TM230-SS1	M26			CE9539	27	RS207				6	6A8, 6K7, 6H6, 6F5, 25A6, 25Z6, K42E	465	9-1,4
	Tone	22	MR24				CE9538	27	RS207							
							CE9540	13	RS203							
WR326	Vol.	45	MR48	M26			CE9554	1	RS216				6	6A8, 6K7, 6H6, 6F5, 6V6G, 5Y3G	455	
							CE9562	1	RS216							
							CE9568	13	RS213							
WR328	Vol.	18	TM251-SS1	M26			CE9554	1	RS216				8	[26]K7, 6A8, 6Q7G, [26]F6G, 6U5, 5Y3G	455	
							CE9562	1	RS216							
							CE9568	13	RS213							
WR330, WR332	Vol.	20	TM251-SS1				CE9554	1	RS216				10	[26]K7, 6A8, 6H6, 6F5, 6C5, [26]F6G, 6U5, 5Y3G	455	
							CE9562	1	RS216							
							CE9528	14	RS213							
WR334	Vol.	18	TM251-SS1				CE9554	3	RS216				12	[26]K7, 6A8, 6Q7, 6J7, 6H6, 6C5, [26]V6G, 6U5, 5X4G	465	
							CE9570	3	RS216							
							CE9562	3	RS216							
WR336	Vol.	18	TM251-SS1				CE9554	3	RS216				12	[26]K7, 6A8, 6Q7, 6C5, 6J7, 6H6, [26]V6G, 6U5, 5X4G	465	
							CE9562	3	RS216							
							CE9570	3	RS216							
WR338	Vol.	45	MR48	M26			CE9554	1	RS216				6	6A8, 6K7, 6H6, 6F5, 6V6G, 5Y3G	455	
							CE9562	1	RS216							
							CE9568	13	RS213							
WR500	Vol.	18	N	6	RS246		CE951	4	CM172		253Y	C3	6	[27]7, 78, 75, 42, 84	175	6-15
	Tone	121	N				.008		Buffer	B14						
WR501	Vol.	17	UM157		See Note	A96	QQC169A	1	4S718		253Y	C3	5	78, 6A7, 85, 41, 84	172.5	6-16
							.008		Buffer	B14						
WR503	Vol.	45	UM150			A96	CE951	4	CM172		294	C3	7	[26]K7, 6A8, 6H6, 6F5, 6F6, 0Z4	175	
	Tone	121	UM150			A96	CE9524	14	BB12							
							.005		Buffer	B14						
WR601	Vol.	17	N	7									5	33, 34, 25S, 1C6, 30, LLL25—Ballast	456	6-4
WR603	Vol.	18	MR48	M26			CE9541	1/15	3S570		245	C3	4	6D6, 6A7, 75, 41	465	
							.008		Buffer	B14						
WR604	Vol.	18	MR48	M24			CE9542	12	RS203				5	1C6, 1A4, 1B5, 30, 19	465	
WR605	Vol.	18	MR18	M24			CE8543	12	RS207				6	1C6,[21]A4, 1B5, 30, 19	465	
	Tone	22	MR18													
WR606	Vol.	18	MR48	M26			CE9541	1/15	3S570		245	C3	4	6D6, 6A7, 75, 41	465	
							.008		Buffer	B14						
WR607	Vol.	18	MR18	M24			CE9542	12	RS203				5	1C6, 1A4, 1B5, 30, 19	465	
WR608	Vol.	18	MR18	M24			CE9543	12	RS207				6	1C6,[21]A4, 1B5, 30, 19	465	
	Tone	22	MR18													
WR610	Vol.	18	MR48	M26			CE9573	1	RS203		245	C3	4	6D8G, 6S7G, 6T7G, 6K6G	455	
	Tone	22	MR24				CE9550	15	BB17							
							.02-.02		Buffer	B14						
WESTONE RADIO CORP.																
20	Vol.	6	G12				4-4	4	2S567				4	58, 56, 2A5, 80		6-2
34 (4 Tube)	Vol.	6	G12				4-4	23	2S567				4	2A7, 57, 2A5, 80	456	6-1
34 (5 Tube)	Vol.	6	G12				4-4	23	2S567				5	57, 58, 56, 2A5, 80	‡	6-1
40	Vol.	18	N				4-4	23	2S567				5	2A7, 58, 2A6, 2A5, 80	456	6-2
WEXTARK RADIO CORP.	(See Allied Radio & Knight Radio)															
WHOLESALE RADIO SERVICE "Lafayette"— Also see Wells-Gardner																
L1 (AC)	Vol.	45	Z12				8	58	WE850				12	[36],[57],[58],[46], 82	175	3-1
	Tone	41	UC502				8	58	WE850							
	Supp.	8	E				4	58	RS213							
							4	19	BB20							
10	Vol.	7	F		2		8, 8	23	RS213				7	[23]5,[24]A, 27, 47, 80	175	
	Tone	103	O													
20	Vol.	78	N				8, 8, 8	30	RS213				10	[43]5,[27],[47], 80	175	
	Tone	41	P	6												
L20 (05A Series)	Vol.	6	G12	6	EX300		P80944	11	SR631				5	[27]7, 78, 43, 25Z5	262	3-2
							P8087C	20	BB20							
							P80936C	15	BB11							
M31	Vol.	6	G12				271	4	BB60				5	[25]7, 58, 47, 80	‡	3-3
M35, M37	Vol.	124	N				4, 4	4	BB60				7	[25]8, 55, 56, 47, 80	175	3-3
	Tone	22	M													
40	Vol.	111	Y5MP				4-2-6	30	CM173				8	[23]5,[24]A, 27, 47, 80	175	
	Tone	34	UC502				4	13	BB31							
40A	Vol.	14	N				4-2-6	30	CM173				8	[23]5,[24]A, 27, 47, 80	175	
	Tone	34	UC502				4	13	BB31							
M53	Vol.	124	N				4, 4	4	BB60				7	[25]8, 55, 56, 47, 80	175	3-3
	Tone	22	M													
Mighty Atom	Vol.	6	G12	6			2-2	1	See Note	B2			5	[25]1, 24, 47, 80		
V.A.	Vol.	6	H12				5, 5	4	ST595				5	[24]A, 51, 47, 80	‡	
Great Duo-Symphonic	Vol.	24	GG				1-1-1.5-1.5	61	See Note	B1			8	[24],[27],[45], 80		1-1
	Tone	41	O													
Duo-Sytophonic Jr. 1931	Vol.	6	H12				1-1-5	‡	See Note	A1			7	[24]A, 27,[45], 80		1-1
	Tone	41	O													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WHOLESALE RADIO SERVICE—Continued																
Duo-Symphonic 1930	Vol.	1	E12				1-1-1-2	59	See Note	B1			9	§26, 24, §45, 80		1-2
Auto Radio Superheterodyne	Vol.	64	N										6	§39, 36, 37, 38	262	3-4
WILCOX-GAY																
A3, A4 (5A6)	Vol.	45	MR44										6	1A6, §34, §30, 33	456	9-1
A5, A6 (5F8)	Vol.	45	MR48				6-6	1	2N516		296	C3	8	§34, §30, 33, 84	456	9-2
	Tone	106	MR44				4	13	BB31							
							25	15	BB15							
							.015		Buffer	B14						
A11	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
							18-2006	1	ST587							
							18-928	15	BB15							
A16	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
							18-2006	1	ST587							
							18-928	15	BB15							
A18, A19	Vol.	17	MR48				18-2005	1	ST591				6	6A8, 6K7, 6Q7, 6F6,		
	Tone	114	MR45				18-2006	1	ST587					6G5, 5Z4	175	8-4
							18-928	15	BB15							
A21	Vol.	15	MR48	M26			18-721	4	RS213				12	§6K7, 6A8, 6H6, §6F5,		
	Tone	21	MR45	M27			18-2004	14	CS131					§6L6, §5Z4, 6G5	456	
							18-928	15	BB15							
A22, A23	Vol.	12	N										4	1C6, 1A4, 1B4, 1F4	175	
A24, A25	Vol.	6	MR18	M26			18-2006	1	ST597		See Note	C8	4	6A7, §15, 38	175	
							18-928	15	BB15							
							.015		Buffer	B14						
A26	Vol.	18	MR48	M26			18-721	4	ST595				10	6A8, §6K7, 6H6, §6F5,		
	Tone	114	MB45				18-2005	4	ST591					6G5, §6F6, 80	456	
A27, A28	Vol.	18	MR48	M26			18-2005	1	RS215				5	6A7, 78, 75, 42, 80	175	
	Tone	21	MR45				18-2006	1	RS216							
							18-928	15	BB15							
A29	Vol.	18	MR48				18-2003	8	TN122				5	6A7, 78, 75, 25L6,		
	Tone	21	MR45				18-928	15	BB15					25Z5	175	
A30, A31	Vol.	18	MR48	M26			18-2008	1	ST595				5	6A8, 6K7, 6Q7, 6F6,		
	Tone	21	MR45				18-928	15	BB15					5Z4	456	
A33	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
	Tone	21	MR45				18-2006	1	ST587							
							18-928	15	BB15							
A35, A36, A37	Vol.	17	MR48				18-721	1	RS213				7	§78, 6A7, 75, 42, 80	456	
	Tone	21	MR45				18-2005	1	ST591							
							18-928	15	BB15							
A40	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
	Tone	21	MR45				18-2006	1	ST587							
							18-928	15	BB15							
A41, A42	Vol.	17	MR48										5	1C7G, §1D5G, 1H6G,		
	Tone	57	MR45	M27										1F5G	456	
A43, A44, A45	Vol.	18	MR48	M26			18-2008	1	ST595				5	6A8, 6K7, 6Q7, 6F6,		
	Tone	114	MR45				18-928	15	BB15					5Z4	456	
A49	Vol.	18	MR48	M26			18-2009	1	2N512				5	6A7, 78, 75, 43, 25Z5	456	
	Tone	114	MR45				18-928	15	BB15							
C15	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
							18-2006	1	ST587							
							18-928	15	BB15							
2S5	Vol.	6	G12				4, 4	4	BB60				5	§57, 58, 47, 80	175	3-1
2T5	Vol.	6	G12				4, 4	4	BB60				5	§57, 58, 47, 80	175	3-2
2U7	Vol.	18	N				4-12	4	See Note	B3			7	2A5, 2A6, 56, §58, 80	175	
	Tone	21	M													
2VA7	Vol.	124	N	6			4, 4	4	BB60				7	§58, 56, 55, 47, 80	175	4-1
	Tone	22	M													
2VB7	Vol.	18	N				4-12	4	See Note	B3			7	§58, 2A6, 2A5, 56, 80	‡	4-2
	Tone	21	M													
3D5	Vol.	6	G12	6			4, 4	4	BB60				6	§57, 58, 47, 80	175	4-3
	Tone	21	M													
3F7	Vol.	6	G12	6			4-12	4	See Note	B3			7	57, 58, §56, 47, 80	115	4-4
	Tone	21	M													
3J4	Vol.	18	MR48										4	§34, 33, 1A6	175	7-4
3J5, 3K5	Vol.	6	G12	6			965	8	TN122				5	§78, 77, 43, 25Z5	175	4-7
							928	15	BB15							
3JC5	Vol.	6	MR18	M26			18-1085	8	TN122				5	6A7, 78, 77, 43, 25Z5	175	7-1
3JD5, 3JG5	Vol.	6	G12	6			1085	8	TN122				5	6A7, 78, 77, 43, 25Z5	115	6-1
							267A	15	BB12							
							928	15	BB15							
3JE5	Vol.	6	MR18	M26			18-1085	8	TN122				5	6A7, 78, 77, 43, 25Z5	175	7-1
							18-928	15	BB15							
3JF5	Vol.	6	G12	6			6-6	6	2N502				5	6A7, 78, 77, 43, 25Z5	175	6-2
3JM6, 3JQ6	Vol.	17	MR48	M26			18-2003	8	TN122				6	6A7, 78, 75, 43, 25Z5,		
	Tone	114	MR45											L49B	175	7-2
3KD5	Vol.	6	G12	6			4-10-4	8	TN122				5	§77, 43, 78, 25Z5	115	5-1
							25	15	BB15							
3KE5	Vol.	6	G12	6			1085	8	TN122				5	§77, 78, 43, 25Z5	175	6-2
							928	15	BB15							
3LB7	Vol.	18	N				8-8-4-4-4-4	62	See Note	B3			7	§78, 6A7, 75, 42, §25Z5	175	4-5
	Tone	76	M													
3PA6-66, 3P6	Vol.	6	G12	6			1085	8	TN122				6	§77, 78, 43, 25Z5	115	4-7
	Tone	22	M				928	15	BB15							
3PB8	Vol.	6	G12	6			4-10-4	8	TN122				8	§43, 76, §77, 78, 25Z5	115	
	Tone	21	M													
3R6	Vol.	7	J	6	See Note	A1	8-4	1	2N518		296	C3	6	77, §78, 75, 79, 84	175	4-6
	Tone	22	M				928	15	BB15							
							.02		Buffer	B14						
3SB5	Vol.	15	N				8-4	25	See Note	B3			5	6A7, 78, 75, 42, 80	175	5-2
	Tone	21	M				25	19	BB15							
3S5-66	Vol.	76	N	6			4-4	4	CM170	B3			5	6A7, 78, 75, 42, 80	175	4-8
	Tone	76	M				928	15	BB15							
3T6-66	Vol.	18	N	6			1085	8	TN122				6	6A7, §78, 75, 43, 25Z5	175	4-8
	Tone	21	M				928	15	BB15							
3TB8	Vol.	18	N				4-19-4	8	UR182	B3			8	§78, 6A7, 76, 75, §43,		
	Tone	22	M											25Z5	175	
3V6 (BC & SW)	Vol.	17	N				4-4	4	CM170				6	§78, 6A7, 75, 42, 80	175	5-4
3VA6 (BC only)	Tone	21	M				25	19	BB15							
3VB6	Vol.	17	N	6			4-4	4	CM170				6	6A7, §78, 42, 75, 80	175	5-3
	Tone	21	M				25	19	BB15							
4B6 Road Mate	Vol.	18	N				1327	1	CM162		296	C23	6	§78, 77, 75, 41, 84	175	5-5
							25	15	BB15							
							.015		Buffer	B14						
4C5, 4CA5 4CB5	Vol.	17	N				8-4	25	See Note	B3			5	6A7, 78, 75, 42, 80	175	5-6
							25	19	BB15							

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
WILCOX-GAY—Continued																
4CD5	Vol.	17	N				8-4	25	See Note	B3			5	6A7, 78, 75, 42, 80	175	5-7
							25	19	BB15							
4D10, 4DB10	Vol.	106	N	6			8-8	1	2N518				10	2B7, 45, 2A7, 58, 56, 80	175	5-9
	Tone	106	M				25	15	BB15							
4E6	Vol.	17	N	6			4-4	4	CM170	B3			6	42, 75, 76, 77, 78, 80	115	5-10
	Tone	21	M				25	15	BB15							
4G7	Vol.	17	N	6			1129	4	RM262				7	42, 75, 76, 78, 80	456	6-5
	Tone	76	MR45				928	20	BB15							
4H11	Vol.	76	N	6			18-721	1	RS213				11	45, 6B7, 76, 78, 80	456	6-6
	Tone	76	MR45				75-267A	13	BB31							
							18-928	15	BB15							
4J6, 4JC6	Vol.	76	N	6			1295	8	TN122				6	6A7, 78, 43, 75, 25Z5	456	6-4
	Tone	76	MR45				1379	13	BB21							
							928	15	BB15							
4JA6, 4JB6	Vol.	76	N	6			1295	8	TN122				6	6A7, 78, 43, 75, 25Z5	456	6-3
	Tone	76	MR45				1379	8	BB21							
							928	15	BB15							
5B5, 5BC5	Vol.	17	MR48	M26			18-2002	4	CM170				5	6A7, 78, 75, 42, 80	456	7-4
	Tone	21	MR45				18-928	15	BB15							
5BA5	Vol.	17	MR48	M26			18-1274	4	CM170				5	6A7, 78, 75, 42, 80	456	7-5
	Tone	76	MR45				18-928	15	BB15							
5BE6	Vol.	17	MR48	M26			18-2002	4	CM170				6	6A7, 78, 75, 42, 80, 6E5	456	7-6
	Tone	21	MR45				18-928	19	BB15							
5E7	Vol.	17	N	6			18-1247	4	CM170	B3			7	76, 78, 42, 75, 80	456	6-7
	Tone	21	MR45				18-928	15	BB15							
5EA7	Vol.	76	N	6			18-1247	4	CM170	B3			7	76, 78, 75, 42, 80	456	6-8
	Tone	76	MR45				18-928	20	BB15							
5E8, 5E9	Vol.	17	MR48	M26			18-2004	4	ST595				8	6K7, 6C5, 6H6, 6F5, 6F6, 5Z4	456	7-5
	Tone	22	MR45				18-2002	4	CM170							
							18-928	19	BB15							
6A5	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	8-1
							18-2006	1	ST587							
							18-928	15	BB15							
6AB5, 6AC5	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
							18-2006	1	ST587						115	
							18-928	15	BB15							
6B8	Vol.	17	MR48	M26			18-2002	4	CM170				8	78, 76, 6K7, 6J7, 42, 6E5, 80	175	8-2
	Tone	21	MR45				18-928	15	BB15							
6D6	Vol.	17	MR48	M26			18-2003	8	TN122				5	6A7, 78, 75, 43, 25Z5, L19B	175	8-3
							18-928	15	BB12							
6F6, 6FB6	Vol.	17	MR48				18-2005	1	ST591				6	6A8, 6K7, 6Q7, 6F6, 6G5, 5Z4	175	8-4
	Tone	114	MR45				18-2006	1	ST587							
							18-928	15	BB15							
6J4	Vol.	6	MR18	M26			18-2006	1	ST587		See Note	C8	4	6A7, 15, 38	175	
							18-928	15	BB15							
							.015		Buffer	B14						
6P4	Vol.	12	N										4	1C6, 1A4, 1B4, 1F4	175	
6S12	Vol.	15	MR48	M26			18-721	4	RS213				12	6K7, 6A8, 6H6, 6F5, 6L6, 25Z4, 6G5	456	
	Tone	21	MR45	M27			18-2004	14	CS131							
							18-928	15	BB15							
6T11	Vol.	18	MR48	M26			18-721	4	RS213				10	6A8, 6K7, 6H6, 6F5, 6G5, 6F7, 80	456	9-3
	Tone	114	MR45				18-2005	4	ST591							
7A5	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
	Tone	21	MR45				18-2006	1	ST587							
							18-928	15	BB15							
7AB5	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	115	
	Tone	21	MR45				18-2006	1	ST587							
							18-928	15	BB15							
7AC5	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
	Tone	21	MR45				18-2006	1	ST587							
							18-928	15	BB15							
7D6	Vol.	18	MR48				18-2003	8	TN122				5	6A7, 78, 75, 25L6, 25Z5	175	
	Tone	21	MR45				18-928	15	BB15							
7E5, 7EA5	Vol.	18	MR48	M26			18-2008	1	ST595				5	6A8, 6K7, 6Q7, 6F6, 5Z4	456	
	Tone	21	MR45				18-928	15	BB15							
7G5, 7GB5	Vol.	18	MR48	M26			18-2005	1	ST591				5	6A7, 78, 75, 42, 80	175	
	Tone	21	MR45				18-2006	1	ST587							
							18-928	15	BB15							
7J7, 7K7	Vol.	17	MR48				18-721	1	RS213				7	78, 6A7, 75, 42, 80	456	
	Tone	21	MR45				18-2005	1	ST591							
							18-928	15	BB15							
7R5	Vol.	17	MR48										5	1C7G, 1D5G, 1D6G, 1F5G	456	
	Tone	57	MR45	M27												
7T5	Vol.	18	MR48	M26			18-2009	1	2N512				5	6A7, 78, 75, 43, 25Z5	456	
	Tone	114	MR45				18-928	15	BB15							
WINDHAM—See Airking																
WINGS—See Goodyear Service.																
WORKRITE MFG. CO.—See U. S. Electric Corp.																
RUDOLPH WURLITZER—Also see			All American		Mohawk "Lyric"											
Model "B" 1930-31	Vol.	25	DRP169										6	32, 30, 31		
C4, M4	Vol.	...‡	O	6			16	10	BB34				4	6A7, 6B7, 43, 25Z5	456	4-1, 5-10
							8-4-10	10/15	3S570							
P5	Vol.	17	N	6			Y3764RA	6/15	UR189	B98			5	6A7, 78, 75, 43, 12Z3	456	4-2, 5-11
SA5	Vol.	18	N				Y3715RA	1/15	3S579				5	2A7, 58, 2A6, 2A5, 80	175	4-3, 5-12
	Tone	22	G12	6			10	15	BB12							
SU5	Vol.	17	N	6			16-12-10	6/15	3N526				5	6A7, 78, 75, 43, 12Z3	456	4-5, 5-15
	Tone	22	H12													
SA6	Vol.	18	N				8-8	1	RM262				6	2A7, 58, 2A6, 2A5, 80	175	4-4, 5-13
	Tone	22	G12	6			10	15	BB12							
B6	Vol.	25	DRP244										5	1A6, 34, 32, 33, 10AB	175	5-19
	Tone	22	H12	6												
D.C. 7 110 volts	Vol.	24	...‡		See Note	A5	1.5-2	1	See Note	B7			7	33, 36, 37	175	
	Tone	34	K12													
S40	Vol.	2	Y				8, 8	1	ST595				4	47, 57, 80	175	
							10	19	BB12							
S50	Vol.	6	F12	6			8, 8	1	RS213				5	47, 57, 58, 80	175	
	Tone	22	G12				10	19	BB12							
U50	Vol.	6	Y	6			16-12-10	6/15	3N526				5	44, 43, 25Z5	485	4-6
A60	Vol.	...‡	UG502				Y3773RA	1/15	3S579		292	C3	6	6B7, 78, 6A7, 41, 84	485	4-7
	Tone	22	H12				.02		Buffer	B14						
S63	Vol.	42	H				6900	1	RS213				6	24, 27, 35, 47, 80	175	
	Tone	22	G12				10	15	BB12							
DC65 110 volts	Vol.	8	G				3.5	...‡	See Note	B11			6	33, 36, 37, 39	175	
	Tone	34	K12													
SA65	Vol.	15	N	6			8, 8	1	RS213				6	47, 55, 57, 58, 80	175	
	Tone	22	G12				10	16	BB12							
B80	Vol.	43	DRP169				8	12	RS203				8	30, 34, 32	175	
	Tone	21	M													

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
RUDOLPH WURLITZER—Continued																
SW80	Vol.	15	N				8, 8	1	RS213				8	47,256,257,258, 80	485	
	Tone	22	G12													
SW88	Vol.	15	N				8, 8	1	RS213				8	257,258,256, 2A5, 80	485	4-8, 5-16
	Tone	22	G12	6			10	15	BB12							
SA90	Vol.	45	N	6			8, 8	1	RS213				9	24, 27,235,247, 55, 80	175	
	Tone	21	N				10	15	BB12							
	Sen.	...‡..	F		See Note A4											
SA91	Vol.	45	N	6			8, 8	1	RS213				9	247, 56, 257, 258, 55, 80	175	
	Tone	21	N				10	15	BB12							
	Sen.	...‡..	F		See Note A4											
SA91A	Vol.	45	N				8, 8	1	RS213				9	257,258, 56, 55,2A5, 80	175	4-9, 5-14
	Tone	21	N	6			10	15	BB12							
	Sen.	...‡..	F													
SA120	Vol.	45	N				8, 8	1	RS213				12	258,256,257,246, 80	175	4-10
	Tone	21	N				5	15	BB11							
	Supp.	...‡..	F				5	17	BB11							
SA130	Vol.	15	N				8, 8, 8	7	RS213				13	247,256,257,258, 82	175	
	Tone	39	N	6			5	15	BB11							
	Sen.	8	H12		See Note A1											
SA133	Vol.	15	O				8, 8, 8	7	RS213				13	256,257,258,2A5, 82	175	4-11, 5-17
	Tone	21	N	6												
450	Vol.	6	F7	6	I		Y3715RA	1/15	3S579				5	258, 57, 2A5, 80	456	5-1,2
454	Vol.	18	N	6			Y3715RA	1/15	3S579				5	6A7, 6D6, 75, 41, 80	456	5-4
							10	15	BB12							
460	Vol.	17	UC512				8-6-10	4/15	3S570	.B3	292	C3	6	41, 6B7,26D6, 84	175	5-5,6
	Tone	22	H12				.02		Buffer	.B14						
470, 471	Vol.	18	N				8-8	1	2N518				7	26D6, 76, 6A7, 75, 41, 80	370	5-7,8
	Tone	22	G12				10	15	BB12							
480	Vol.	18	N				8	1	ST595				7	26D6, 6A7, 75, 41, 80	456	5-9
	Tone	21	L				12	1	ST596							
							10	15	BB12							
U500	Vol.	17	N	6			Y3764RA	6/15	3N526				5	6A7, 78, 6B7, 43, 25Z5	456	4-12
ZANEY GILL																
Vitatone Model 54	Vol.	4/7	DRP119	6	Dual		2-2	1	See Note	.B1			6	24, 27, 45, 80		§1-24
	Vol.	6	G12	6	Single											
	Tone	22	G12													
ZENITH																
A, B, C, D (2004)	Vol.	...‡..	Order from	Mfr			22-87	1	RS213				6	24,245, 80		1-26
	Tone	34	Order from	Mfr			22-84	1	BB60							
AH	Vol.	8	SRP262	6			22-118	4	RS213				8	27,251, 24, 47, 80	175	1-23,24
	Tone	22	O				22-119	4	RS213							
BH (2021)	Vol.	7	G	6			22-132	26	CS133				7	251, 24,227, 47, 80	175	2-11
	Tone	22	K12				22-133	26	CS130							
							22-131	26	CS133							
CH	Vol.	8	SRP262	6			22-118	4	RS213				8	27,251, 24, 47, 80	175	1-23,24
	Tone	21	O				22-119	4	RS213							
L (2009-C)	Vol.	6	G12				22-87	1	RS213				5	24, 45, 80		1-27
							22-102	1	RS213							
LH, MH (2022)	Vol.	8	A10MP	6			22-131	4	CS133				7	251, 24,227, 47, 80	175	2-12
	Tone	34	N				22-140	4	CS133							
LP (2009CP)	Vol.	6	G12				22-119	1	RS213				5	251, 24, 47, 80		1-25
							22-118	1	RS213							
RH	Vol.	8	SRP262	6			22-118	4	RS213				8	27,251, 24, 47, 80	175	1-23,24
	Tone	21	O				22-119	4	RS213							
WH (2022)	Vol.	8	A10MP	6			22-131	4	CS133				7	251, 24,227, 47, 80	175	2-12
	Tone	34	N				22-140	4	CS133							
							8-8	4	CM172	.B10						
4B106, 4B131, 4B132 (5406)	Vol.	18	N	6			22-419	1	2N516		246	C3	4	15, 75, 38	456	7-1,2
	Tone	34	L				22-225	15	BB12							
							.01-.01		Buffer	.B14						
4B231 (Chassis 5409)	Vol.	18	N	6			22-582	1/15	3S570		246	C3	4	6D8G, 6S7G, 6R7G, 38	456	8-1,6
							.01-.01		Buffer	.B14						
4B313, 4B355 (5410)	Vol.	18	MR44	M26			22-739	46	FPT374		246	C3	4	6A8G-6D8G, 6K7G-6S7G, 6Q7G-6J7G, 6G6G	455	9-1
							.01-.01		Buffer	.B14						
4B314, 4B317 (5411)	Vol.	18	MR44	M26			22-739	46	FPT374		246	C3	4	6A8G-6D8G, 6K7G-6S7G, 6Q7G-6T7G, 6G6G	455	9-3
							.01-.01		Buffer	.B14						
4F133 (Chassis 5407)	Vol.	17	O	7			22-522	1	2N516		W246	C3	4	1C7, 1D5, 1F7, 1F5	456	8-2
							.01-.01		Buffer	.B14						
4F227 (Chassis 5408)	Vol.	17	O	7									4	1C7G, 1D5G, 1F7G, 1F5G	456	8-3
4P26, 4T26 (Chassis 5403)	Vol.	6	D7	6			22-407	4/13	RM265	.B58			4	6A7, 6F7, 42, 80, or 6A8, 6P7, 6F6, 5Y3	456	6-17,18
4P51, 4T51 (Chassis 5401)	Vol.	6	D7	6			22-407	4/13	RM265	.B58			4	6A7, 6F7, 42, 80, or 6A8, 6P7, 6F6, 5Y3	456	6-17,18
4V31, 4V59 (5405)	Vol.	18	M	6			22-419	1	2N516		246	C3	4	15, 75, 38	456	6-19,20
	Tone	34	L				22-225	15	BB12							
							.006		Buffer	.B14						
5F134 (Chassis 5518)	Vol.	17	O	7			22-522	1	2N516		W246	C3	5	1C7, 1D5, 1F7, 1H4, 1J6	456	8-4
	Tone	44	K12				.01-.01		Buffer	.B14						
5F166 (Chassis 5518)	Vol.	17	O	7			22-522	1	2N516		W246	C3	5	1C7, 1D5, 1F7, 1H4, 1J6	456	8-4
	Tone	44	K12				.01-.01		Buffer	.B14						
5F233, 5F251 (Chassis 5522)	Vol.	15	O	7									5	1C7G, 1D5G, 1F7G, 1H5G, 1J6G	456	8-5,6
5J217, 5J247, 5J255 (Chassis 5524)	Vol.	18	N	7			22-577	1/15	3S570		294	C3	5	6D8G, 6S7G, 6T7G, 38, 6ZY5G	456	8-6,8
							.02-.02		Buffer	.B14						
5J217T (5524T)	Vol.	18	N	7			22-653	1/13/15	3S582/BB12		294	C3	5	6D8G, 6S7G, 6T7G, 38, 6ZY5G	456	9-5
							.02-.02		Buffer	.B14						
5M90 (Chassis 5510)	Vol.	18	UM154-SS11	M26			22-388	4	CM172		294SW	C3	5	6A7, 6D6, 75, 41, 6Z4	456	7-3,4
							.01		Buffer	.B14						
5M191 (Chassis 5520)	Vol.	17	O	7		A31	22-528	23	2S567		294	C3	5	6A8G, 6K7G, 6Q7G, 6F6G, 6X5 or 0Z4	465	8-9,12
							.008		Buffer	.B14						
5R123, 5R135, 5R165 (Chassis 5519)	Vol.	18	N	6			22-505	4	RS215				5	6A8, 6K7, 6Q7, 6F6, 5W4, or glass equivalents	456	8-13
							22-506	4	RS216							

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ZENITH—Continued																
5R216, 5R226, 5R236 (Chassis 5526)	Vol.	18	N	6			22-596	4	2S563				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y4G	456	
							8	4	RS213	B10						
							14	4	RS216	B10						8-14
5R303, 5R312, 5R316, 5R317, 5R337 (5528)	Vol.	18	MR44	M26			22-691	4	BB61				5	6A8G, 6K7G, 6Q7G, 6K6G, 6X5G	455	9-7
							22-692	4	BB61							
5S29, 5S56 (Chassis 5513, 5513A)	Vol.	18	M	6			22-125	23	RS213				5	6A8, 6K7, 6B6, 6F6, 5Y3, or glass equivalents	252.5	7-5,6
	Tone	34	K12													
5S119, 5S126, 5S127, 5S150, 5S151, 5S161 (5516)	Vol.	18	N	6			22-505	4	RS215				5	6A8, 6K7, 6Q7, 6F6, 5Y3, or glass equivalents	456	7-2,7
	Tone	34	K12				22-506	4	RS216							
5S201, 5S218, 5S220, 5S228, 5S237, 5S250, 5S252 (Chassis 5521)	Vol.	18	N	6			22-596	25	2S563				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y4G	456	8-22
							8	25	RS213	B10						
							16	25	RS216	B10						
5S218AT, 5S228AT, 5S237AT (5521AT)	Vol.	124	MR48	M26			22-686	25	RS213				5	6A8G, 6K7G, 6Q7G, 6F6G, 5Y4G	456	9-9
							27-634	25/13	2S563							
5S319, 5S327, 5S330, 5S338, 5S339 (5529)	Vol.	18	MR44	M26			22-700	4	BB61				5	6A8G, 6K7G, 6Q7G, 6K6G, 6X5G	455	9-11
							22-701	4	BB61							
6B107, 6B129, 6B164 (5635)	Vol.	124	TRP613	6			22-459	1	2N516		246	C3	6	[3]15, 6A7, 75, 76, 19	456	7-8,9
							.01-.01		Buffer	B14						
6B321 (5653)	Vol.	18	MR44	M26			22-742	46	FPT374		246	C3	6	6D8G, [3]6S7G, 6T7G, [3]6G6G	455	9-17,18
	Tone	34	‡		See Note A5		22-741	13	BB31							
							.01-.01		Buffer	B14						
6D116, 6D117, 6D118 (5633)	Vol.	18	N	6			22-517	11	2N504				5	6A8, 6K7, 6Q7, 25A6, 25Z6, or glass equivalents	456	7-10,11
							22-518	11	BB31							
6D202, 6D219, 6D221, 6D238 (Chassis 5639)	Vol.	18	N	6			22-560	1/15	3N534				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z6G	456	8-15,16
6D302, 6D311, 6D326, 6D336, 6D360 (5646)	Vol.	18	MR44	M26			22-681	25	BB27				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z6G	455	9-4
							22-680	25	BB24							
6D312, 6D316, 6D317, 6D337 (5647)	Vol.	18	MR44	M26			22-681	25	BB27				5	6A8G, 6K7G, 6Q7G, 25L6G, 25Z6G	455	9-13
							22-680	25	BB24							
6J230, 6J257 (Chassis 5642)	Vol.	17	O	7			22-577	1/15	3S570		294	C3	6	6D8G, 6S7G, 6R7G, 6L5G, 1J6G, 6ZY5G	456	8-17,18
	Tone	44	K12				.02-.02		Buffer	B14						
6J322, 6J357 (5657)	Vol.	18	MR44	M27			22-742	46	FPT374				6	6D8G, 6S7G, 6T7G, [3]6G6G, 6ZY5G	455	9-19
							22-405	15	BB13							
6M90S, 6M90D (Chassis 5630)	Vol.	18	UM154-SS17	M26			22-464	4	CM172		294	C3	6	[3]6K7, 6A8, 6Q7, 6F6, 6X5	252.5	7-12,13
	Tone	22	L				.008		Buffer	B14						
6M91S, 6M91D (Chassis 5631)	Vol.	18	UM154-SS17	M26			22-464	4	CM172		294	C3	6	[3]6K7, 6A8, 6X5, 6Q7, 6F6	252.5	7-13,14
	Tone	22	L				.008		Buffer	B14						
6M92 (Chassis 5632)	Vol.	18	UM147-SS17	M26			22-474	4	CM172		294	C3	6	[3]6K7, 6A8, 6Q7, 6F6, 6X5	252.5	7-13,15
							.008		Buffer	B14						
6M192	Vol.	17	MR53	M27		A31	22-526	23	2S567		294	C3	6	[3]6K7, 6A8G, 6Q7G, 6F6G, 6X5 or 0Z4	262.5	8-19,21
							.008		Buffer	B14						
6M193, 6M194 (5637)	Vol./ Tone	145	SMD500				22-526	4	2S567		294	C3	5	[3]6K7G, 6A8G, 6Q7G, 6F6G, 6X5 or 0Z4	252.5	8-20,21
							.008		Buffer	B14						
6S27, 6S52 (Chassis 5619)	Vol.	18	M	6			22-414	25	2S567				6	6A8, [3]6K7, 6F6, 6H6, 5Y3	252.5	7-16,20
	Tone	34	Y				22-420	15	BB12							
6S128, 6S137, 6S147, 6S152, 6S157 (5634)	Vol.	124	TRP613	6			22-294	1	WE1650				6	6A8, 6K7, 6F6, 6H6, 6F5, 5W4, or glass equivalents	456	7-17
							22-491	1/13	2N518							
6S203, 6S222, 6S223, 6S229, 6S239, 6S241 (Chassis 5638)	Vol.	18	N	6			22-596	25	2S563				6	6A8G, 6K7G, 6H6G, 6F5G, 6F6G, 5Y4G	456	8-23,24
	Tone	34	K12				8	25	RS213	B10						
							14	25	RS216	B10						
6S254, 6S256 (Chassis 5644)	Vol.	124	TRP613	6			22-551	25	WE1650				6	6A8G, 6K7G, 6H6G, 6F5G, 6F6G, 5Y4G	456	8-33
							22-552	25	WE2050							
6S254AT, 6S256AT (5644AT)	Vol.	45	‡		See Note A19		22-633	25	ST595				6	6A8G, 6K7G, 6H6G, 6F5G, 6F6G, 5Y4G	456	9-21
							22-634	25/13	2S563							
6S301, 6S302, 6S303, 6S304, 6S305, 6S306, 6S321, 6S322, 6S340 (5651)	Vol.	45	MR44	M26			22-718	25	BB63				6	6A8G, 6K7G, 6J5G, 6F5G, 6F6G, 6X5G	455	9-15
	Tone	34	‡		See Note A5		22-719	25	BB64							
6S341, 6S362 (5649)	Vol.	20	TRP613	6			22-551	25	WE1650				6	6A8G, 6K7G, 6H6G, 6F5G, 6F6G, 5Y4G	456	9-23
							22-552	25	WE2050							
6V27, 6V62 (Chassis 5621)	Vol.	18	M	6			22-432	1	2N516		246	C3	6	[3]15, 6A7, 75, 76, 19	456	6-21,22
	Tone	34	Y				.01		Buffer	B14						
7	Vol.	17	UG512	6			7119-4	4	SR605		296	C3	5	6D6, 75, 42, 6C6, 84	175	5-3
							.015		Buffer	B14						
7D119, 7D126, 7D127, 7D138, 7D148, 7D151, 7D162, 7D168 (5707)	Vol.	45	N	6			22-514	1/11	3S582	B218			6	6A8, 6K7, 6H6, 6F5, 25A6, 25Z6, or glass equivalents	456	7-11,18
	Tone	34	K12				22-515	11/13	2N516	B218						

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ZENITH—Continued																•
7D203, 7D222, 7D223, 7D229, 7D239, 7D241, 7D243, 7D253 (Chassis 5710)	Vol.	18	N	6			22-559	6/13/15	TN129/BB12				6	6A8G, 6K7G, 6H6G, 6F5G, 25L6G, 25Z6G	456	8-25,26
	Tone	34	K12													
7J232, 7J259 (Chassis 5711)	Vol.	124	TM248-SS1				22-577	1/15	3S570		294	C3	7	[2]6S7G, 6D8G, 6T7G, 6L5G, 1J6G, 6ZY5G	456	8-27,28
							.02-.02		Buffer	B14						
7J232T, 7J259T (5711T)	Vol.	124	‡		See Note A19		22-653	1/13/15	3S582/BB12		294	C3	7	[2]6S7G, 6D8G, 6T7G, 6L5G, 1J6G, 6ZY5G	456	9-25
							.02-.02		Buffer	B14						
7J323, 7J368 (5715)	Vol.	124	‡		See Note A19		22-742	46	FPT374				7	[2]6S7G, 6D8G, 6T7G, [2]6G6G, 6ZY5G	455	9-27
							22-741	13	BB31							
7M91S, 7M91D (Chassis 5706)	Vol.	18	TRP606	6	RS246		22-469	1/15	SR611	B219	294	C3	7	[2]6K7, 6A8, 6Q7, 6X5, 6C5, 6N7	252.5	7-19,20
	Tone	22	L				.008		Buffer	B14						
7S28, 7S53 (Chassis 5704)	Vol.	45	N	6			22-416	25/13	3S584				7	[2]6K7, 6A8, 6H6, 6F6, 5Y3	456	7-20,21
	Tone	34	Y													
7S204, 7S232, 7S240, 7S242, 7S258, 7S260, 7S261 (Chassis 5709)	Vol.	124	TM248-SS1	M26			22-569	25	RS215				7	6A8G, 6K7G, 6H6G, 6T5, 6F5G, 6F6G, 5Y4G	456	8-29,30
							22-562	13/25	2S563							
7S232AT, 7S240AT, 7S242AT, 7S258AT, 7S260AT (5709AT)	Vol.	45	‡		See Note A19		22-633	25	ST595				7	6A8G, 6K7G, 6H6G, 6T5, 6F5G, 6F6G, 5Y4G	456	9-29
							22-634	25/13	2S563							
7S323, 7S342, 7S343, 7S363, 7S364, 7S366 (5715)	Vol.	124	‡		See Note A19		22-718	25	BB63				7	6A8G, 6K7G, 6J5G, 6U5, 6F5G, 6F6G, 6X5G	455	9-31
							22-719	25	BB64							
8M195 (Chassis 5803)	Vol./Tone/Sen.	145	SMD500				22-527	1/15	Order from	Mfr.	294	C3	8	[2]6K7, 6A8G, 6H6G, [2]6C5G, 6N7G, 6X5G	252.5	8-31,32
		‡	X				.008		Buffer	B14						
8S129, 8S154 (Chassis 5801)	Vol.	124	TRP613	6			22-294	25	WE1650				8	[2]6K7, 6A8, 6H6, 6C5, 6F5, 6F6, 5W4, or glass equivalents	456	8-34,36
							22-491	25/13	2N518							
9S30, 9S54, 9S55 (5903)	Vol.	45	TRP613	6			22-412	46	2S563/BB60				8	[2]6K7, 6A8, 6H6, 6C5, [2]6F6, 5Y3	456	6-27,28
	Tone	‡	O													
9S203, 9S232, 9S242, 9S244, 9S262, 9S263, 9S264 (Chassis 5905)	Vol.	124	TM248-SS1				22-569	1	ST596				9	[2]6K7G, 6L7G, 6J5G, 6H6G, 6T5, 6F5G, 6F6G, 5Y4G	456	8-35
							22-571	1/13/15	3S584							
9S204AT, 9S232AT, 9S244AT, 9S262AT, 9S264AT (5905AT)	Vol.	20	‡		See Note A19		22-633	25	ST595				9	[2]6K7G, 6L7G, 6H6G, 6F5G, 6F6G, 5Y4G, 6J5G, 6T5	456	9-33
							22-637	25/13/14	2S563/BB60							
9S307, 9S324, 9S344, 9S367, 9S369 (5907)	Vol.	45	‡		See Note A19		22-711	25/13	FPD231				8	[2]6K7G, 6L7G, 6J5G, 6U5, 6F5G, 6F6G, 5Y4G	455	9-35
							22-710	25/14	FPD234							
9S365 (5906)	Vol.	45	TM248-SS1				22-569	25	ST596				9	[2]6K7G, 6L7G, 6H6G, 6U5, 6J5G, 6F5G, 6F6G, 5Y4G	455	9-37
							22-571	25/13/14	3S584							
10, 11, 12	Vol.	12	SRP289				22-72	3	RS213				8	[4]24, 27, [3]45, 80		2-9,10
	Tone	41	N													
10S130, 10S153, 10S155, 10S156, 10S157, 10S160, (1004)	Vol.	45	TRP613	6			22-504	3	RS213				10	[2]6K7, 6A8, 6H6, [2]6C5, [2]6L6, 5W4, or glass equivalents	456	8-36,38
							22-506	14	RS216							
							22-493	3	2N518							
							22-405	19	BB13							
							22-507	15	BB12							
10S147 (1004)	Vol.	45	TRP613	6			22-512	3	RS213				10	[2]6K7, 6A8, [2]6C5, [2]6L6, 6H6, 5W4, or glass equivalents	456	8-37,38
							22-510	3/14	3S584							
							22-405	19	BB13							
							22-507	15	BB12							
11, 12	Vol.	11	L										6	[3]01A, 71A, 00A, 12A		1-2
12 (2nd Type)	Vol.	11	L										6	12A, [3]01A, 71A		1-2
12A57, 12A58, 12L57, 12L58 (Chassis 1202)	Vol.	45	TRP613	6			22-294	3	WE1650				12	[2]6K7, 6A8, [4]6C5, 6H6, [2]6F6, [5]5Y3, or glass equivalents	456	7-23,25
	Tone	‡	O				22-445	3	2N518							
							22-405	19	BB13							
							22-420	15	BB12							
12S205, 12S232, 12S245, 12S265, 12S266, 12S267, 12S268 (1204)	Vol.	124	TM228-SS1				22-566	1	2S569				12	[2]6K7G, 6L7G, [4]6J5G, 6H6G, 6T5, [2]6V6G, 5Y4G	456	9-41
							22-573	13/14	2N518							
							22-572	15/19	TN111/BB12							
12S345, 12S370, 12S371 (1206)	Vol.	45	‡		See Note A19		22-714	1	2S569				12	[3]6K7G, 6L7G, [3]6J5G, 6U5, 6F8G, [2]6V6G, 5Y4G	455	9-39
							22-728	13/14	Order from	Mfr.						
							22-748	15/19	Order from	Mfr.						
12U158, 12U159 (Chassis 1203)	Vol.	45	TRP613	6			22-504	3	RS213				12	[2]6K7, 6H6, 6F5, 6F6, [2]6L6, [5]5Y3, 6L7, [2]6C5, or glass equivalents	456	8-36,40
							22-294	3	WE1650							
							22-125	3	RS213							
							22-506	14	RS216							
							22-405	15	BB13							
							22-509	19	BB13							

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ZENITH—Continued																
14	Vol.	11	L										6	[3]01A, 12A, 71A, 00A		1-2
15S308, 15S346, 15S372, 15S373 (1502)	Vol.	45	‡		See No	te A19	22-569	3	ST596				15	[3]6K7G, 6L7G, [3]6J5G, 6U5, 6F8G, [4]6V6G, [5]Y4G	455	9-41
							22-727	3	2N518							
							22-747	‡	Order from	Mfr.						
							22-748	‡	Order from	Mfr.						
15U246, 15U269, 15U270, 15U271, 15U272 (Chassis 1501)	Vol.	124	TRP621				22-569	3	ST596				15	[2]6K7G, 6L7G, 6T5, [4]6J5G, 6H6G, [4]6V6G, [5]Y4G	456	8-43,44
							22-568	3	2N518							
							22-578	13/14	2N518							
							22-580	15	TN111/BB12							
16A61, 16A63 (1601C, 1601P)	Vol.	17	TRP613	6			22-361	1/3/14	RS216				16	[3]6K7, 6A8, 6C5, 6H6, 6F5, [3]6F6, [5]Z4	456	7-27,29
	Tone	‡	O				22-438	15	BB14							
	Fid.	‡	‡		See No	te A3	22-420	15	BB12							
							22-321	13	CS133							
17	Vol.	11	L										6	[3]01A, 71A		1-4
31, 32 Battery	Vol.	11	SRP289										6	[3]01A, 12A, 71A, 00A		1-6
34P	Vol.	11	SRP289										8	[3]27, 10, [3]81		1-7
33, 33X, 34, 35, 35A	Vol.	11	SRP289										6	[3]27, 71A		1-8
35P, 35AP	Vol.	11	SRP289										8	[3]27, 10, [3]81		1-10
35APX, 35PX	Vol.	11	SRP289										7	[3]27, 26, 50		1-9
37A, 39, 39A	Vol.	11	SRP289										6	[3]27, 10		1-9,11
40A	Vol.	11	SRP289										8	[3]27, 26, 10		1-11
41, 42	Vol.	11	SRP289										6	24, [3]27, 71A		1-13
	Sen.	1	K12													
52, 53, 54, 55 (50 Series)	Vol.	12	SRP261		Single	A82	22-61	3	MN277	B83			8	[3]24, [3]27, 45, 80		1-14,15
	Vol.	123	DRP221		Dual	A83										
60, 61, 62, 64, 67 (60 Series)	Vol.	12	SRP261		Single	A82	22-61	3	MN277	B83			9	[3]24, [3]27, [3]45, 80		1-16
	Vol.	123	DRP221		Dual	A83										
71, 72, 73, 77 (70 Series)	Vol.	12	SRP261		Single	A82	22-72	3	HD684				9	[3]24, [3]27, [3]45, 80		1-18
	Vol.	123	DRP221		Dual	A83	22-73	3	RS216							
	Tone	41	M		See No	te A4										
80 (Hypermetron)	Vol.	12	SRP289				22-72	3	HD684				10	[3]24, [3]27, [3]45, 80		1-20,22
	Tone	41	N				22-73	3	RS216							
91, 92	Vol.	111	A5MP		See No	te A27	22-119	26	RS213				10	[3]51, [3]27, [3]45, 24, 80	175	2-3,8
	Vol.	15	N		See No	te A4	22-125	26	RS213							
	Tone	41	N													
102	Vol.	12	SRP289				22-72	3	HD684				8	[3]24, 27, [3]45, 80		2-9,10
103 (2017) Serials 450,001 to 450,450	Vol.	111	Y5MP				22-119	26	RS213				13	[3]51, [3]24, [3]27, [3]45, 80	175	2-16
	Tone	41	N				22-125	26	RS213							
103 (2017) Serials above 450,451	Vol.	23	MM				22-119	26	RS213				13	[3]51, [3]24, [3]27, [3]45, 80	175	2-15
	Tone	41	N				22-125	26	RS213							
112, 122	Vol.	12	SRP289				22-72	3	HD684				8	[3]24, 27, [3]45, 80		2-9,10
	Tone	41	N													
210, 210-5, 211-5 (2022 A & B)	Vol.	8	A10MP	6			22-156	4	CS133				7	[3]58, 24, [3]27, 47, 80	175	3-1,2
	Tone	34	N				22-157	4	CS133							
215, 216, 217 (Chassis 2044)	Vol.	15	N	6			22-173	25	CS133				7	[3]58, 56, 55, 59, 80	175	7-30
	Tone	34	N													
	Sen.	7	SRP262													
220, 221 (2022 A & B)	Vol.	8	A10MP	6			22-157	4	CS133				7	[3]58, 24, [3]27, 47, 80	175	3-2
	Tone	34	N				22-156	4	CS133							
225 (Chassis 2044)	Vol.	15	N	6			22-173	25	CS133				7	[3]58, 56, 55, 59, 80	175	7-30
	Tone	34	N													
	Sen.	7	SRP262													
230, 240, 241, 244, 245 (Chassis 2036)	Vol.	15	N	6			22-172	23	CS130				8	[3]58, 56, [3]57, 59, 80	175	3-3,4
	Tone	34	N				22-173	23	CS133							
250, 251, 252 Chassis 2031)	Vol.	8	A10MP	6			22-156	4	CS133				9	[3]58, 24, [3]27, 47, 57, 80	175	2-20, 7-32
	Tone	34	N				22-157	4	CS133							
258 (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	[3]58, 55, 56, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													
259, 260, 261, 262 (Chassis 2031)	Vol.	8	A10MP	6			22-156	4	CS133				9	[3]58, 24, [3]27, 57, 47, 80	175	2-20, 7-32
	Tone	34	N				22-157	4	CS133							
263 (Chassis 2044)	Vol.	15	N	6			22-173	1	CS133				7	[3]58, 56, 55, 59, 80	175	7-30
	Tone	34	N													
	Sen.	7	SRP262													
268 (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	[3]58, 56, 55, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													
269 (Chassis 2031)	Vol.	8	A10MP	6			22-157	4	CS133				9	[3]58, 57, 24, [3]27, 47, 80	175	2-20, 7-32
	Tone	34	N				22-156	4	CS133							
270-5	Vol.	9	A10MP	6			22-156	4	CS133				7	[3]58, 24, [3]27, 47, 80	175	3-1
	Tone	34	N				22-157	4	CS133							
271 (Chassis 2036)	Vol.	15	N	6			22-173	42/12	CS133				8	[3]58, 56, [3]57, 59, 80	175	3-3,4
	Tone	34	N				22-172	12	CS130							
	Sen.	7	UC513													
272 (Chassis 2031)	Vol.	8	A10MP	6			22-156	4	CS133				9	[3]58, 24, [3]27, 47, 57, 80	175	2-20, 7-32
	Tone	34	N				22-157	4	CS133							
273 (Chassis 2030)	Vol.	20	TRP607				22-167	28	CS133				10	[3]58, [3]56, 57, [3]59, 80	175	3-5,8
	Tone	41	N				22-169	15	BB13							
	Sen.	7	UC513													
277 (Chassis 2056)	Vol.	17	N	6			22-204	1	RM262				8	[3]58, 56, 2A6, 59, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													
278, 280, 281 (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	[3]58, 56, 55, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													
281 (2nd) (Chassis 2056)	Vol.	17	N	6			22-204	1	RM262				8	[3]58, 56, 2A6, 59, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													
288, 289 (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	[3]58, 56, 55, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ZENITH—Continued																
288 (2nd) (Chassis 2056)	Vol.	17	N	6			22-204	1	RM262				8	§58, 56, 2A6, 59, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													
291, 292 (Chassis 2022)	Vol.	8	A10MP	6			22-157	4	CS133				7	§58, 24, §27, 47, 80	175	3-2
	Tone	34	M				22-157	4	CS133							
293 (Chassis 2056)	Vol.	17	N	6			22-204	1	RM262				8	§58, 56, 2A6, 59, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													
299 (Chassis 2031)	Vol.	8	A10MP	6			22-157	4	CS133				9	§58, 57, 24, §27, 47, 80	175	2-20, 7-32
	Tone	34	N				22-156	4	CS133							
333	Vol.	11	SRP289										6	§01A, 71A		1-29
342	Vol.	11	SRP289										6	§27, 71A		1-8
342P	Vol.	11	SRP289										8	§27, 10, §81		1-7
352, 352A	Vol.	11	SRP289										6	§27, 71A		1-8
352P, 352AP	Vol.	11	SRP289										8	§27, 10, §81		1-10
352PX, 352APX	Vol.	11	SRP289										7	§27, 26, 50		1-9
353A	Vol.	11	SRP289										6	§01A, 71A		1-29
362, 362X	Vol.	11	SRP289										6	§27, 71A		1-5,8
392, 392A	Vol.	11	SRP289										9	§27, 10, §81		1-11
410, 411	Vol.	20	TRP607				22-167	28	CS133				9	§58, §56, §59, 57, 80	175	3-5,8
	Tone	41	N				22-169	15	BB13							
412 (414)	Vol.	11	SRP289										6	24, §27, 71A		3-5,8
420	Vol.	20	TRP607				22-167	28	CS133				10	§56, 57, §58, §59, 80	175	3-5,8
	Tone	41	N				22-169	15	BB13							
422	Vol.	11	SRP289										6	24, §27, 10		1-13
	Sen.	1	K12													
430, 440, 441, 442	Vol.	20	TRP607				22-167	28	CS133				12	§56, §57, §58, §59, 80	175	3-7
	Tone	41	N				22-169	15	BB13							
	Sen.	8	A400P													
443 (Chassis 2030)	Vol.	20	TRP607				22-167	28	CS133				10	§58, §56, 57, §59, 80	175	3-5,8
	Tone	41	N				22-169	15	BB13							
	Sen.	7	UC513													
444 (Chassis 2033)	Vol.	124	TRP607	6			22-167	28	CS133				12	§58, §56, §57, §59, 80	175	3-7
	Tone	41	N				22-169	15	BB13							
	Sen.	8	A400P													
460 (2047) (Auto)	Vol.	‡	N				22-183	1	2N518		221	C3	7	§6D6, 85, §89, 6Z4, 6C6	485	4-1,2
	Tone	44	K12				22-195	15	BB12							
	Sen.	7	J				.02		Buffer	B14						
462 (Chassis 2057)	Vol.	17	UM154	M26	See Note A96		22-236	4/15	SR628		221	C3	6	6C6, 6F7, 6D6, 75,		
	Tone	34	K12				.02		Buffer	B14			4	42, 84	252.5	4-3,4
470 (Chassis 2044)	Vol.	15	N	6			22-173	1	CS133				7	§58, 56, 55, 59, 80	175	7-30
	Tone	34	N													
	Sen.	7	SRP262													
472 (Chassis 2031)	Vol.	8	A10MP	6			22-157	4	CS133				9	§58, 57, 24, §27, 47, 80	175	2-20
	Tone	34	N				22-156	4	CS133							
473 (Chassis 2030)	Vol.	20	TRP607	6			22-167	28	CS133				10	§58, §56, 57, §59, 80	175	3-5,8
	Tone	41	N				22-169	15	BB13							
	Sen.	7	UC513													
474 (Chassis 2053)	Vol.	17	N	6			22-168	1	CM172				8	§58, 55, §59, 56, 80	175	4-8
	Tone	41	N													
	Sen.	7	SRP262													
475 (Chassis 2054)	Vol.	17	N	6			22-168	1	CM172				9	§56, §58, §59, 80	175	4-11
	Tone	41	N				22-169	15	BB13							
	Sen.	7	UC500													
476, 476A (Chassis 2032)	Vol.	20	TRP607	6			22-241	28	SR642				12	§56, §57, §58, §59, 80	175	4-12
	Tone	41	N				22-240	28	HD684							
	Supp.	7	A400P													
476B (Chassis 2059)	Vol.	15	N	6			22-230	3	SR642				12	§56, §58, §59, 80	175	4-13,14
	Tone	57	K12				22-247	3	HD684							
	Sen.	7	K				22-225	15	BB12							
478 (Chassis 2056)	Vol.	17	N	6			22-204	1	RM262				8	§58, 56, 2A6, 59, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													
478 (2nd) (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	§58, 56, 55, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													
479 (Chassis 2059)	Vol.	15	N	6			22-247	3	HD684				12	§58, §56, §59, 80	175	4-13,14
	Tone	57	K12				22-230	3	SR642							
	Sen.	58	K				22-225	15	BB12							
500, 501, 503, 514, 515, 516 (Chassis 2037)	Vol.	15	N	6			22-173	23	CS133				8	56, §57, §58, 59, 80	175	2-21,22
	Tone	34	N				22-172	23	CS130							
517, 518 (Chassis 2031)	Vol.	8	A10MP	6			22-157	4	CS133				9	§58, 57, 24, §27, 47, 80	175	2-20
	Tone	34	M				22-156	4	CS133							
520, 521, 530, 531, 533, 535 (Chassis 2035)	Vol.	20	TRP607	6			22-167	28	CS133				12	§58, §56, §59, §57, 80	175	8-48,50
	Tone	41	N				22-169	15	BB13							
	Sen.	7	K													
530, 531, 532, 533 (2038)	Vol.	124	TRP607	6			22-167	28	CS133				12	§58, §56, §57, §59, 80	175	8-49
	Tone	41	N				22-169	15	BB13							
	Sen.	7	‡		See Note A5											
558 (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	§58, 56, 55, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB13							
	Sen.	7	J													
563	Vol.	11	SRP289				22-61	3	MN277	B83			7	§01A, §71		1-29
568 (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	§58, 56, 55, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													
577 (Chassis 2056)	Vol.	17	N	6			22-204	1	RM262				8	§58, 56, 2A6, 59, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													
578 (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	§58, 56, 55, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													
588 (Chassis 2056)	Vol.	17	N	6			22-204	1	RM262				8	§58, 56, 2A6, 59, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													
581, 590 (Chassis 2051)	Vol.	15	N	6			22-204	1	RM262				8	§58, 56, 55, 59, 80	485	8-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													
593 (Chassis 2056)	Vol.	17	N	6			22-204	1	RM262				8	§58, 56, 2A6, 59, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													

‡ Data not substantiated.

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§ Indicates miscellaneous section.

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ZENITH—Continued																
600 (Chassis 2037)	Vol.	15	M	6			22-173	23	CS133				8	56,§57,§58, 59, 80	175	2-21,22
	Tone	34	N				22-172	23	CS130							
M601 (P51)	Vol.	6	G12				22-119	1	RS213				5	§35, 24, 47, 80		5-1,2
							22-118	1	RS213							
602	Vol.	12	SRP261		See Note	A82	22-61	3	MN277	B83			9	§24,§27,§45, 80		1-16
602 (2035)	Vol.	20	TRP607				22-167	28	CS133				12	§58,§56,§59,§57, 80	175	8-48
	Tone	41	N				22-169	15	BB13							
	Sen.	7	K													
603 (Chassis 2038)	Vol.	124	TRP607	6			22-167	28	CS133				12	§58,§56,§57,§59, 80	175	8-49,50
	Tone	41	N				22-169	50	BB13							
	Sen.	8	‡		See Note	A5										
604, 606 (Chassis 2037)	Vol.	15	N	6			22-173	23	CS133				8	56,§57,§58, 59, 80	175	2-21,22
	Tone	34	N				22-172	23	CS130							
605 (2035)	Vol.	20	TRP607				22-167	28	CS133				12	§58,§56,§59,§57, 80	175	8-48
	Tone	41	N				22-169	15	BB13							
	Sen.	7	K													
608 (Chassis 2035)	Vol.	20	TRP607	6			22-167	28	CS133				10	§58,§56, 57,§59, 80	175	8-48,50
	Tone	41	N				22-169	15	BB13							
	Sen.	7	K													
610 (Chassis 2031)	Vol.	15	N	6			22-173	23	CS133				8	§58, 56,§57, 59, 80	175	2-21,22
	Tone	34	N				22-172	23	CS130							
611 (Chassis 2035)	Vol.	20	TRP607	6			22-167	28	CS133				10	§58,§56, 57,§59, 80	175	8-48,50
	Tone	41	N				22-169	15	BB13							
	Sen.	7	K													
612 (Chassis 2038)	Vol.	124	TRP607	6			22-167	28	CS133				12	§58,§56,§57,§59, 80	175	8-49,50
	Tone	41	N				22-169	15	BB13							
	Sen.	8	‡		See Note	A5										
613	Vol.	12	SRP261		See Note	A82	22-61	3	MN277	B83			8	§24,§27,§45		1-16
615 (Chassis 2035)	Vol.	20	TRP607	6			22-167	28	CS133				10	§58,§56, 57,§59, 80	175	8-48,50
	Tone	41	N				22-169	15	BB13							
	Sen.	7	K													
616 (Chassis 2037)	Vol.	15	N	6			22-173	23	CS133				8	56,§57,§58, 59, 80	175	2-21,22
	Tone	34	N				22-172	23	CS130							
617 (Chassis 2038)	Vol.	124	TRP607	6			22-167	28	CS133				12	§58,§56,§57,§59, 80	175	8-49,50
	Tone	41	N				22-169	15	BB13							
	Sen.	8	‡		See Note	A5										
618 (Chassis 2037)	Vol.	15	M	6			22-173	23	CS133				8	§58, 56,§57, 59, 80	175	2-21,22
	Tone	34	N				22-172	23	CS130							
619 (Chassis 2033)	Vol.	124	TRP607	6			22-167	28	CS133				12	§58, §56,§57,§59, 80	175	3-7
	Tone	41	N				22-169	15	BB13							
	Sen.	8	A400P													
620 (Chassis 2038)	Vol.	124	TRP607	6			22-167	28	CS133				12	§58,§56,§57,§59, 80	175	8-49,50
	Tone	41	N				22-169	15	BB13							
	Sen.	8	‡		See Note	A5										
622	Vol.	12	SRP261		See Note	A82	22-61	3	MN277	B83			9	§24,§27,§45, 80		1-16
623 (Chassis 2038)	Vol.	124	TRP607	6			22-167	28	CS133				12	§58,§56,§57,§59, 80	175	8-49,50
	Tone	41	N				22-169	15	BB13							
	Sen.	8	‡		See Note	A5										
642	Vol.	12	SRP261			A82	22-61	3	MN277	B83			9	§24,§27,§45, 80		1-16
650 (2057)	Vol.	17	UM154	M26		A96	22-236	4/15	SR628		292	C3	6	6C6, 6F7, 6D6, 75, 42, 84	252.5	4-3,4
							.02		Buffer	B14						
650HD, 651HE, 660TD, 661TE	Vol.	17	UM154	M26		A96	22-236	4/15	SR628		292	C3	6	§6D6, 6F7, 75, 42, 84	252.5	4-5,6
	Tone	34	K12				.02		Buffer	B14						
663-4 (Chassis 5510)	Vol.	18	UM154-SS11	M26			22-388	4	CM172		294SW	C3	5	6A7, 6D6, 75, 41, 6Z4	456	7-31
							.01		Buffer	B14						
660, 666, 668 (Chassis 5616, 5626)	Vol.	18	UM154-SS17	M26			22-347	4	CM172		294	C3	6	§6D6, 6C6, 75, 42, 84	252.5	6-1,2
							.01		Buffer	B14						
672	Vol.	12	SRP261		See Note	A82	22-61	3	MN277	B83			9	§24,§45,§27, 80		1-16
680 (Chassis 5617)	Vol.	18	UM154-SS17	M26			22-347	4	CM172		294	C3	6	§6D6, 6C6, 75, 42, 84	252.5	6-3,4
							.01		Buffer	B14						
701	Vol.	15	N	6			C525	11	UR182	B31			5	§6D6, 75, 43, 25Z5	456	5-4,3-9
702	Vol.	17	N	6			C525	11	UR182	B31			5	6A7, 6D6, 75, 43, 25Z5	465	5-4
705, 706, 707 (Chassis 2052)	Vol.	17	N	6			22-217	1	RM262				6	57, 58, 56, 2A6, 59, 80	485	4-7
							22-225	15	BB12							
711, 712 (Chassis 2052)	Vol.	17	N	6			22-217	1	RM262				6	56, 57, 58, 2A6, 59, 80	485	4-7
							22-225	15	BB12							
712 (Early)	Vol.	12	SRP261		Single	A82	22-72	3	HD684				9	§24,§27,§45, 80		1-18,19
	Vol.	123	DRP221		Dual	A83	22-73	3	RS216							
	Tone	41	M		See Note	A4										
715 (Chassis 2053)	Vol.	17	N	6			22-168	1	CM172				8	§58, 55,§59, 56, 80	175	4-8
	Tone	41	N													
	Sen.	7	SRP262													
722	Vol.	12	SRP261		Single	A82	22-72	3	HD684				9	§24,§27,§45, 80		1-18,19
	Vol.	123	DRP221		Dual	A83	22-73	3	RS216							
	Tone	41	M		See Note	A4										
730	Vol.	97	TRP602				P80968	12	BB31				5	19, 30, 32,§34	175	4-9
732	Vol.	12	SRP261		Single	A82	22-72	3	HD684				9	§24,§27,§45, 80		1-18,19
	Vol.	123	DRP221		Dual	A83	22-73	3	RS216							
	Tone	41	M		See Note	A4										
735	Vol.	97	TRP602				P80968	12	BB31				5	19, 30, 32,§34	175	4-9
740	Vol.	15	O				P80968	12	BB31				9	§34,§30, 10AB	175	4-10
	Tone	44	UC502													
750 (Chassis 2052)	Vol.	17	N	6			22-217	1	RM262				6	56, 57, 58, 2A6, 59, 80	485	4-7
							22-225	15	BB12							
755, 756 (Chassis 2053)	Vol.	17	N				22-168	1	CM172				8	§58, 55,§59, 56, 80	175	4-8
	Tone	41	N													
	Sen.	7	SRP262													
757 (Chassis 2054)	Vol.	15	N	6			22-168	1	CM172				9	§58,§56,§59, 80	175	4-11
	Tone	41	N				22-169	15	BB13							
	Sen.	58	UC500													
760, 765, 767 (Chassis 2054)	Vol.	17	N	6			22-168	1	CM172				9	§56,§58,§59, 80	175	4-11
	Tone	41	N				22-169	15	BB13							
	Sen.	7	UC500													
770 (Chassis 2032)	Vol.	20	TRP607	6			22-241	28	SR642				12	§58,§56,§57,§59, 80	175	4-12
	Tone	41	N				22-240	28	HD684							
	Supp.	7	A400P													
770B (Chassis 2059)	Vol.	15	N	6			22-230	3	SR642				12	§58,§56,§59, 80	175	4-13,14
	Tone	57	K12				22-247	3	HD684							
	Sen.	7	K				22-225	15	BB12							
772	Vol.	123	DRP221	6		A83	22-72	3	HD684				9	§24,§27,§45, 80		1-18,19
							22-73	3	RS216							
775 (Chassis 2032)	Vol.	20	TRP607	6			22-241	28	SR642				12	§56,§57,§58,§59, 80	175	4-12
	Tone	41	N				22-240	28	HD684							
	Supp.	7	A400P													

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ZENITH—Continued																
775B (Chassis 2059)	Vol.	15	N	6			22-230	3	SR642				12	§56,§58,§59, 80	175	4-13,14
	Tone	57	K12				22-247	3	HD684							
	Sen.	7	K				22-225	15	BB12							
777, 778	Vol.	12	SRP261		Single	A82	22-72	3	HD684				8	§24,§27,§45		1-18
	Vol.	123	DRP221		Dual	A83	22-73	3	RS216							
	Tone	41	M		See Note	A4										
780 (Chassis 2032)	Vol.	20	TRP607	6			22-241	28	SR642				12	§56,§57,§58,§59, 80	175	4-12
	Tone	41	N				22-240	28	HD684							
	Supp.	7	A400P													
785 (2053)	Vol.	17	N	6			22-168	1	CM172				8	§58, 55,§59, 56, 80	175	4-8
	Tone	41	N													
	Sen.	7	SRP262													
788 (Chassis 2059)	Vol.	15	N	6			22-247	3	HD684				12	§58,§56,§59, 80	175	4-13,14
	Tone	57	K12				22-230	3	SR642							
	Sen.	58	K				22-225	15	BB12							
801	Vol.	17	N	6			C525	11	UR182	.B31			5	§6D6, 75, 43, 25Z5	456	5-5
805 (Chassis 5502)	Vol.	18	N	6			22-125	23	RS213				5	6F7, 6D6, 75, 42, 80	252.5	5-6
							8-8	23	RM262	.B10						
806, 807 (Chassis 5504, 5505)	Vol.	18	M	6			22-125	23	RS213				5	6A7, 6D6, 75, 42, 80	252.5	5-7,8
							8-8	23	RM262	.B10						
808, 809 (Chassis 5605, 5607)	Vol.	18	M	6			22-125	25	RS213				6	§6D6, 6A7, 75, 42, 80	252.5	5-9,10
							22-318	25/14	RM262							
							22-306	13	CS130							
810, 811 AC-DC (Chassis 5609)	Vol.	18	M	6			22-307	11	2N512				6	§6D6, 6A7, 75, 43, 25Z5	252.5	6-5
							22-308	11	RS216							
							22-195	15	BB12							
812 (Chassis 5608) AC-DC	Vol.	18	M	6			22-307	11	2N512				6	§6D6, 6A7, 75, 43, 25Z5	125	5-11,12
							22-308	11	RS216							
814, 815 (Chassis 5611, 5612)	Vol.	18	M	6			22-125	25	RS213				6	§6D6, 6A7, 75, 42, 80	125	6-6
							22-318	25/13	RM262							
816, 817 (Chassis 5608)	Vol.	18	M	6			22-307	11	2N512				6	§6D6, 6A7, 75, 43, 25Z5	125	5-11,12
							22-308	11	RS216							
819 (Chassis 5608)	Vol.	18	M	6			22-307	11	2N512				6	§6D6, 6A7, 75, 43, 25Z5	125	5-11,12
							22-308	11	RS216							
825, 827 (Chassis 5701-2-3)	Vol.	18	M	6			22-283	23	2S567				7	§6D6, 75, 42, 37, 80	485	5-13,14
							22-266	23	2S563	.B10						
S827 (Chassis 5701R)	Vol.	18	M	6			22-321	25	CS133				7	§6D6, 76, 75, 42, 80	252.5	6-23,24
							22-322	25/13	RM262							
829 (Chassis 5701-2-3)	Vol.	18	M	6			22-283	23	2S567				7	§6D6, 75, 42, 37, 80	485	5-13,14
							22-266	23	2S563							
S829 (Chassis 5701R, 5702R, 5703R)	Vol.	18	M	6			22-321	25	CS133				7	§6D6, 75, 42, 76, 80	252.5	6-23,24
							22-322	25/13	RM262							
835 (Chassis 1001, 1001A)	Vol.	18	TRP606	6			22-331	3	RS213				10	§6D6, 75,§42, 76, 5Z3, 6A7	485	5-15,16
							22-125	3	RS213							
							22-225	15	BB12							
845 (Chassis 5502)	Vol.	18	N	6			22-125	23	RS213				5	6F7, 6D6, 75, 42, 80	252.5	5-6
							8-8	23	RM262	.B10						
S847, 850 (Chassis 5504, 5505)	Vol.	18	M	6			22-125	23	RS213				5	6A7, 6D6, 75, 42, 80	252.5	5-7,8
							8-8	23	RM262	.B10						
860, 861 (Chassis 5605, 5607)	Vol.	18	M	6			22-125	25	RS213				6	§6D6, 6A7, 75, 42, 80	252.5	5-9,10
							22-318	25/14	RM262							
							22-306	13	CS130							
862 AC-DC (Chassis 5609)	Vol.	18	M	6			22-307	11	2N512				6	§6D6, 6A7, 75, 43, 25Z5	252.5	6-5
							22-308	11	RS216							
							22-195	15	BB12							
864 (Chassis 5611, 5612)	Vol.	18	M	6			22-125	25	RS213				6	§6D6, 6A7, 75, 42, 80	125	6-6
							22-318	25/13	RM262							
865, 866 AC-DC (Chassis 5609)	Vol.	18	M	6			22-307	11	2N512				6	§6D6, 6A7, 75, 43, 25Z5	252.5	6-5
							22-308	11	RS216							
							22-195	15	BB12							
870 (Chassis 5701-2-3)	Vol.	18	M	6			22-283	23	2S567				7	§6D6, 75, 42, 37, 80	485	5-13,14
							22-266	23	2S563	.B10						
S870, S871 (Chassis 5701R, 5702R, 5703R)	Vol.	18	M	6			22-321	25	CS133				7	§6D6, 75, 42, 76, 80	252.5	6-23,24
							22-322	25/13	RM262							
880,881,885 (Chassis 1001, 1001A)	Vol.	18	TRP606	6			22-331	3	RS213				10	§6D6, 75,§42, 76, 5Z3, 6A7	485	5-15,16
							22-125	3	RS213							
							22-225	15	BB12							
908, 909 (Chassis 5614)	Vol.	18	M	6			22-385	25/13	3S584				6	§6D6, 6A7, 75, 42, 80	252.5	6-15,16
	Tone	22	Y50MP													
S908, S909 (Chassis 5618)	Vol.	18	M	6			22-385	25/13	3S584				6	§6D6, 6A7, 75, 42, 80	252.5	6-25,26
	Tone	34	Y50MP													
935 (Chassis 1001)	Vol.	124	TRP606	6			22-331	3	RS213				10	§6D6, 6A7, 76, 75,§42, 5Z3	485	5-15,16
							22-125	3	RS213							
945, 950 (Chassis 5508, 5509)	Vol.	18	M	6			22-125	25	RS213				5	6A7, 6D6, 75, 42, 80	252.5	6-7,8
	Tone	22	Y50MP													
960, 961 (Chassis 5614)	Vol.	18	M	6			22-385	25/13	3S584				6	§6D6, 6A7, 75, 42, 80	252.5	6-15,16
	Tone	22	Y50MP													
S961 (Chassis 5618)	Vol.	18	M	6			22-385	25/13	3S584				6	§6D6, 6A7, 75, 42, 80	252.5	6-25,26
	Tone	34	Y50MP													
963 (5609)	Vol.	18	M	6			22-307	11	2N512				6	§6D6, 6A7, 75, 25Z5, 43	262.5	6-5
							22-308	11	RS216							
							22-195	15	BB12							
970, 975 (Chassis 5902)	Vol.	114	N	6			22-125	3	RS213				9	§58, 2A7, §2A5, §56, 80	175	6-9,10
	Tone	114	N				22-230	3	SR642							
978 (Chassis 1001)	Vol.	124	TRP606	6			22-331	3	RS213				10	§6D6, 6A7, 76, 75,§42, 5Z3	485	5-15,16
							22-125	3	RS213							

‡ Data not substantiated.

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MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ZENITH—Continued																
980 (Chassis 1201, 1201A)	Vol.	20	TRP606	6			22-331	3	RS213				12	^{3}6D6, ^{5}76, 6A7, ^{2}42, 5Z3	485	6-11,14
							22-125	3	RS213							
983 (Chassis 1001)	Vol.	124	TRP606	6			22-331	3	RS213				10	^{3}6D6, 6A7, 76, 75, ^{3}42, 5Z3	485	5-15,16
							22-125	3	RS213							
985, 990 (Chassis 1201, 1201A)	Vol.	20	TRP606	6			22-331	3	RS213				12	^{3}6D6, 6A7, ^{5}76, ^{2}42, 5Z3	485	6-11,14
							22-125	3	RS213							
Stratosphere 1000Z (Chassis 2501C, 2501P)	Vol.	‡	Order from	Mfr.			22-361	3	RS216				25	^{6}6D6, 6A7, ^{3}76, ^{2}42, 85, 79, ^{8}45, ^{2}5Z3	485	6-29,32
	Tone	‡	Order from	Mfr.			22-360	3	HS691							
	Supp.	‡	500M No. 1		See Note A19		22-362	14	CS133							
							22-189	15	BB15							
							22-225	15	BB12							
1101 (Chassis 1001)	Vol.	124	TRP606	6			22-331	3	RS213				10	^{3}6D6, 6A7, 76, 75, ^{3}42, 5Z3	485	5-15,16
							22-125	3	RS213							
1105 (Chassis 1001)	Vol.	124	TRP606	6			22-331	3	RS213				10	^{3}6D6, 6A7, 76, 75, ^{3}42, 5Z3	485	5-15,16
							22-125	3	RS213							
1115 (5609)	Vol.	18	M	6			22-307	11	2N512				6	^{2}6D6, 6A7, 75, 43, 25Z5	262.5	6-5
							22-308	11	RS216							
							22-195	15	BB12							
1117 (Chassis 5614)	Vol.	18	M	6			22-385	25/13	3S584				6	^{2}6D6, 6A7, 75, 42, 80	252.5	6-15,16
	Tone	22	Y50MP													
1161 (Chassis 5611, 5612)	Vol.	18	M	6			22-125	25	RS213				6	^{2}6D6, 6A7, 75, 42, 80	125	6-6
							22-318	25/13	RM262							
1162 (Chassis 5609) AC-DC	Vol.	18	M	6			22-307	11	2N512				6	^{2}6D6, 6A7, 75, 43, 25Z5	252.5	6-5, 7-22
							22-308	11	RS216							
							22-195	15	BB12							
1167 (Chassis 5618)	Vol.	18	M	6			22-385	25/13	3S584				6	^{2}6D6, 6A7, 75, 42, 80	252.5	6-25,26
	Tone	34	Y50MP													
1170 (Chassis 5701R, 5702R, 5703R)	Vol.	18	M	6			22-321	25	CS133				7	^{3}6D6, 75, 42, 76, 80	252.5	6-23,24
							22-322	25/13	RM262							
2009C	Vol.	6	G12				22-87	1	RS213				5	^{3}24, 45, 80		1-27
							22-102	1	RS213							
2051 (Chassis)	Vol.	15	N	6			22-204	1	RM262				8	^{4}58, 55, 59, 56, 80	485	1-45,47
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	J													
2056, 2056I (Chassis)	Vol.	18	N				22-204	1	RM262				8	^{4}58, 2A6, 59, 56, 80	485	4-15
	Tone	34	K12				22-203	15	BB12							
	Sen.	7	E													
2062 (Chassis)	Vol.	17	N	6			22-230	1	SR642				7	^{2}58, 57, 56, 2A6, 2A5, 80	125	
	Tone	34	K12													
	Sen.	7	K													

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

ZENITH CROSS REFERENCE BY CHASSIS NUMBER

Chassis	Models
1001, 1001A	835, 880, 881, 885, 935, 978, 983, 1101, 1105
1004	10S130, 10S147, 10S153, 10S155, 10S156, 10S157, 10S160
1201, 1201A	980, 985, 990
1202, 1020A	12A57, 12A58, 12L57, 12L58
1203	12U158, 12U159
1204	12S205, 12S232, 12S245, 12S265, 12S266, 12S267, 12S268
1206	12S345, 12S370, 12S371
1501	15U246, 15U269, 15U270, 15U271, 15U272, 15U273
1502	15S308, 15S346, 15S372, 15S373
1601C	16A61, 16A63
1601P	16A61, 16A63
2004	6-Tube Zenette
2009C	5-Tube Zenette
2009-C-P	L-P
2012J	AH, CH, BH
2012-4-J	090, 90, V8
2014	91, 92
2017	103
2021	RH
2022A & B	LH, WH, MH, 210, 211, 220, 221, 270, 291, 292
2030, 2043	273, 410, 411, 412, 414, 420, 443, 473
2031	250, 251, 252, 259, 260, 261, 262, 269, 272, 299, 472, 516, 517, 518
2032	476, 476A, 770, 775, 780
2033	430, 440, 441, 442, 444, 619
2035	520, 521, 602, 605, 608, 611, 615
2036	230, 240, 241, 244, 245, 271
2037	500, 501, 502, 503, 514, 515, 516, 600, 604, 606, 610, 616, 618
2038	530, 603, 612, 617, 620, 623, 631, 632, 633
2044	215, 216, 217, 225, 263, 470
2047	460
2051	258, 268, 278, 280, 281, 288, 289, 478, 558, 568, 578, 589, 590
2052	705, 706, 707, 711, 712, 750
2053	474, 585, 715, 755, 756, 785
2054	475, 757, 760, 765, 767
2056	277, 281, 288, 293, 478, 577, 588, 593
2057	462, 650
2059	476B, 479, 770B, 775B, 777, 788
2501C, 2501P	1000Z, Stratosphere 1st and 2nd Series
5401	4P26, 4P51
5403	4T26, 4T51
5405	4V31, 4V59
5406	4B106, 4B131, 4B132
5407	4F133
5408	4F227
5409	4B231
5410	4B313, 4B355
5411	4B314, 4B317
5502	805, 845
5504, 5505	806, 807, S847, 850
5508, 5509	945, 950
5510	663, 664, 5M90
5513, 5513A	5S29, 5S56
5516	5S119, 5S126, 5S127, 5S150, 5S151, 5S161
5518	5F134, 5F166
5519	5R123, 5R135, 5R165
5520	5M191
5521	5S201, 5S218, 5S220, 5S228, 5S237, 5S250, 5S252
5521AT	5S218AT, 5S228AT, 5S237AT

Chassis	Models
5522	5S233, 5S251
5524	5J217, 5J247, 5J255
5524T	5J217T
5526	5R216, 5R226, 5R236
5528	5R303, 5R312, 5R316, 5R317, 5R337
5529	5S319, 5S320, 5S327, 5S338, 5S339
5605, 5607	808, 809, 860, 861
5608	812, 816, 817, 819, 962, 1112, 1116
5609, 5610	810, 811, 862, 865, 866, 963, 1115, 1162
5611, 5612	814, 815, 864, 1161
5614	908, 909, 960, 961, 1117
5616	660, 666
5618	S908, S909, S961, 1167
5619	6S27, 6S52
5621	6V27, 6V62
5626	668
5630	6M90D, 6M90S
5631	6M91D, 6M91S
5632	6M92
5633	6D116, 6D117, 6D118
5634	6S128, 6S137, 6S147, 6S152, 6S157
5635	6B107, 6B129, 6B164
5637	6M192, 6M193, 6M194
5638	6S203, 6S222, 6S223, 6S229, 6S239, 6S241
5639	6D202, 6D219, 6D221, 6D238
5642	6J230, 6J257
5644	6S254, 6S256
5644AT	6S254AT, 6S256AT
5646	6D302, 6D311, 6D326, 6D336, 6D360
5647	6D312, 6D316, 6D317, 6D337
5648	6S330, 6S361
5649	6S341, 6S362
5651	6S301, 6S304, 6S305, 6S306, 6S321, 6S322, 6S340
5653	6B321
5654	6J322, 6J357
5701	825, 827, 829, 870
5701R	S827, S829, S870, S871, 1170
5702	825, 827, 829, 870
5702R	S827, S829, S870, S871, 1170
5703	825, 827, 829, 870
5703R	S827, S829, S870, S871, 1170
5704	7S28, 7S53
5706	7M91S, 7M91D
5707	7D119, 7D126, 7D127, 7D138, 7D148, 7D151, 7D162, 7D178
5709	7S204, 7S232, 7S240, 7S242, 7S258, 7S260, 7S261
5709AT	7S232AT, 72S40AT, 7S242AT, 7S258AT, 7S260AT
5710	7D203, 7D222, 7D223, 7D229, 7D239, 7D241, 7D243, 7D253
5711	7J232, 7J259
5711T	7J232T, 7J259T
5714	7S323, 7S342, 7S343, 7S363, 7S364, 7S366
5715	7J323, 7J368
5801	8S129, 8S154
5803	8M195
5902	970, 975
5903	9S30, 9S54, 9S55
5905	9S203, 9S232, 9S242, 9S244, 9S262, 9S263, 9S264
5905AT	9S204AT, 9S232AT, 9S244AT, 9S262AT, 9S264AT
5906	9S365
5907	9S307, 9S324, 9S344, 9S367, 9S369

MANUFACTURER AND MODEL	CONTROLS						CONDENSERS				VIBRATORS		No. Tubes	Complete Tube Complement	I. F. Peak	Rider's Reference
	Use	Circuit	Correct Replacement	Switch	Bias	*Note	Original Part	Circuit	Correct Replacement	*Note	Replacement	*Note				
ZEPHYR																
AA (650,001 & up)	Vol.	‡	N				5	19	BB12				4	1A6,‡1B4, 1F4	456	
C (AC-DC, 750,001 up)	Vol.	6	L		EX600		8-4	6	2N502				4	78, 77, 43, 25Z5		9-1
							5	15	BB12							
DA	Vol.	17	N				5	19	BB12				5	1C6, 1A4, 1B5, 30, 19	456	9-1
	Tone	22	L	6												
DB, DF	Vol.	17	N				10-20	1	2S563	B190	245C	C3	4	1C6, 34, 1B5, 38	456	
	Tone	22	L				.01		Buffer	B14						
G	Vol.	15	N				8-8	4	See Note	B3			7	6A7, 6K7, 76, 6F5, 42, 6G5, 80	456	
	Tone	31	L				5	15	BB12							
GB, GBE	Vol.	17	N				8-8	1	2N518		245C	C3	5	1C6, 1A4, 1B5, 30, 19	456	
	Tone	34	N				.01		Buffer	B14						
GE	Vol.	15	N				8-8	4	See Note	B3			7	6A7, 6K7, 76, 6F5, 42, 6G5, 80	456	
	Tone	34	L				5	15	BB12							
NT, NTE	Vol.	15	N				4-8-8	3	See Note	B3			10	6K7, 6A8, 6D6, ‡6, ‡6B5, 75, 80, 6G5	456	7-1
	Tone	22	N				5	15	BB12							
P (645,001 & up)	Vol.	17	N				8-8	4	2S567				5	6A7, 6D6, 75, 42, 80	456	7-2
	Tone	22	L				5	15	BB12							
RKD, RKE, RKSD	Vol.	6	UC510		EX300		15-8	6	2N504				4	6D6, 6C6, 43, 25Z5		
							5-5	15	TN111							
TA	Vol.	17	UM154	M26		A96	8-8	1	2N518		248	C3	4	6A7, 78, 6B7, 41	456	9-2
							5	15	BB12							
							.0125-.0125		Buffer	B14						
V (AC-DC, 285,001 up)	Vol.	6	UC510	6	EX500		8-4	6	2N502				4	77, 78, 43, 25Z5		
							5-5	15	TN111							
Y (AC-DC, 405,001 up)	Vol.	6	G12		EX500		20-4	6	2N507				4	6D6, 6C6, 43, 25Z5		7-2
	Tone	22	L				5-5	15	TN111							
2M7	Vol.	18	SRP281	6			8-8	1	SR605		292	C3	6	‡6K7, 6A8, 6Q7, 6F6, 0Z4	177.5	
3M7	Vol.	18	UC514	6			8-6	1	SR605		294	C3	6	‡6D6, 6A7, 6Q7, 41, 0Z4	262	
3M8	Vol.	18	UC514	6			8-6	1	SR605		294	C3	7	‡6K7, 6L7, 6C5, 6Q7, 6F6, 0Z4	262	
4Z (290,001 & up)	Vol.	6	UC510		EX300		15-8	24	2N504				4	78, 6C6, 38, 76		
							5-5	15	TN111							
5DA	Vol.	17	N				5	19	BB12				5	1C6, 34, 1B5, 30, 19	456	
5DK (780,001 & up)	Vol.	17	N				4-20	6	2N507				5	6A7, 6D6, 75, 43, 25Z5	456	9-2
	Tone	22	L				5-5	15	TN111							
6G (700,001 & up)	Vol.	17	N				8-8	4	See Note	B3			6	6A7, 6D6, 75, 76, 42, 80	456	
	Tone	22	L	6			5	15	BB12							
6GM (650,001 & up)	Vol.	45	N				8-8	4	See Note	B3			6	6A8, 6K7, 6H6, 6F5, 6F6, 5Z4	456	
	Tone	22	L	6			5	15	BB12							
8J (765,001 & up)	Vol.	17	N				4-8	30	RM262				8	‡6D6, 6A7, 75, ‡42, 80	456	
	Tone	22	L	6			4-8-8	30/13	CM175							
							5	19	BB11							
							5	15	BB12							
8J (765,361 & up)	Vol.	17	N				4-8	30	RM262				8	‡6D6, 6A7, 75, 76, ‡6B5, 80	456	
	Tone	22	L	6			4-8-8	30/13	CM175							
							5	15	BB12							
8JM (720,001 & up)	Vol.	118	L				4-8	30	RM262				8	‡6K7,‡6A8,‡6F6, 5Z4	456	
	Tone	22	L	6			4-8-8	30/13	CM175							
							5	15	BB12							
20A6, 21A6, 22A6	Vol.	15	N	6			5	19	BB12				5	1C6, 1A4, 1B5, 30, 19	456	8-1
20B6, 21B6, 22B6	Vol.	15	N				4-8	1	2N516		See Note	C8	5	6D8, 6S7, 6Q6, 38, 6G5	456	8-1
20P6, 21P6, 22P6	Tone	34	L	6			5-5	15	TN111							
20X7, 21X7, 22X7	Vol.	15	N				20-20	1	UR192				6	6A7, 6K7, 75, 43, 25Z5, 6G5, K38B2	456	8-2
	Tone	34	L	6			5-5	15	TN111							
23A5	Vol.	15	N	7									5	1C6, 1A5, 1B5, 30, 19	456	
25B5	Vol.	15	N	6			8, 8	1	RS213				5	6A7, 6S7, 6T7, 41, 6G5	456	
							10	15	BB12							
25X7	Vol.	15	N	6			20	4	RS207				6	6A7, 6D6, 75, 43, 25Z5, 6G5, L42C	456	
							10	4	RS205							
25Y11	Vol.	15	N				8-8	2	CM172				11	6K7, 6L7, 6D6, ‡6, 75,‡6B5, 80, 6G5	456	8-2
	Tone	34	L	6			5-5	15	TN111							
30B7	Vol.	15	N				8-8	1	CM165		See Note	C8	6	6D8, 6S7, 6L5, 6Q6, 38, 6G5	456	
	Tone	34	L	6			5-5	15	TN111							
30P7	Vol.	15	N				8-8	1	CM165		See Note	C8	6	6D8, 6S7, 6L5, 6Q6, 38, 6G5	456	
	Tone	34	L	6			5-5	15	TN111							
30X5	Vol.	6	G12	6	EX300		14-8-5-5	1/15	UR189				4	6D6, 6C6, 43, 25Z5, K55C		
30Y9	Vol.	15	N				16-16-8-4	9	Order from	Mfr.			8	6L7, 6D6, 76, 6H6, 75, 25B5, 25Z5, 6B5	456	
	Tone	34	L	6												
31X5	Vol.	6	G12	6	EX300		20-10	1	UR192				3	6D6, 6C6, 25A7, L49C		
31YP6	Vol.	15	N	6			40-12-10	‡	3N534				5	6A7, 6D6, 6Q7, 25B5, 25Z5, 16SL8	456	
	Tone	34	L													
32B7	Vol.	15	N	6			8-8	1	CM162		See Note	C8	6	6D8, 6S7, ‡6L5, 19	456	
	Tone	34	L													
32P6	Vol.	15	M	6									6	6A7, 6D6, 75, 76,‡48	456	
	Tone	34	L													
32X5, 33X5, 34X5	Vol.	6	G12	6	EX300		16-12	4	CM164				4	6D6, 6C6, 43, 25Z5, L49C		
32Y5	Vol.	15	N	6			8-4	4	CM172				5	6A7, 6D6, 75, 42, 80	456	
	Tone	34	L													
32Y6	Vol.	15	N	6			8-4	4	CM172				7	‡6K7, 6A8, 6Q7, 6F6, 6G5, 80	456	
	Tone	34	L													
33B6	Vol.	15	N	6			8-8	1	CM162		See Note	C8	6	6D8, 1E5, ‡1A4, 1J6, 6T7	456	
	Tone	34	L													
35X5, 36X5	Vol.	6	G12	6	EX300		20-8-6-5	1/15	UR182/BB12				4	6D6, 6C6, 43, 25Z5, 185R8		
35Y12	Vol.	15	N	6			12	4	RS215				12	‡6K7, 6A8, ‡6H6, 6G5, ‡6C5,‡6F6,‡5Y3	456	
	Tone	34	L				18	4	WE2050							
40Y6	Vol.	15	N	6			16-16-8-4	9	Order from	Mfr.			6	6A7, 6K7, 6Q7, 6F6, 6G5, 80	456	
41X5	Vol.	6	G12	6	EX500		16-12	4	CM164				4	6D6, 6C6, 43, 25Z5, L55C		
41X6	Vol.	15	N	6			16-20	4	UR192				5	6A7, 6D6, 6Q7, 43, 25Z5, BM49B	456	
42X5	Vol.	6	G12	6	EX500		16-12	4	CM164				4	6D6, 6C6, 43, 25Z5, L49C		
42X6	Vol.	15	N	6			16-20	4	UR192				5	6A7, 6D6, 6Q7, 25L6, 25Z5, BM49B	456	
43X5	Vol.	6	G12	6	EX500		14-8-4-5	1/15	UR182/BB12				4	6D6, 6C6, 43, 25Z5, L55C		
61X6	Vol.	15	N	6			16-12	4	CM164				5	6A7, 6D6, 75, 43, 25Z5, L49C	456	
61X8	Vol.	15	N	6			16-12	4	CM164				7	6A7, 6D6, 75, 6G5, 76, 25L6, 25Z5, L49C	456	
	Tone	34	L													
62X8	Vol.	15	N	6			40-10-8	1	UR182/CS126				7	6A7, 6D6, 75, 6G5, 76, 25L6, 25Z5, L49C	456	
	Tone	34	L													
63X8	Vol.	15	N	6			16-12	4	CM164				7	6A7, 6D6, 76, 6G5, 6F5, 43, 25Z5, L40S	456	
	Tone	34	L													
67Y8	Vol.	15	N				8, 8	‡	WE850				8	6A7, 6D6, ‡76, 6F5,		
	Tone	34	L	6			10	15	BB12					6G5, 42, 80, WL22	456	

‡ Data not substantiated.

* IMPORTANT: Read Notes in Note Section if specified in Note Column.

§ Indicates miscellaneous section.

Explanation of Abbreviations

(Used in Control Listings, Pages 11 to 205)

Att.....Attenuator Control.
AVC.....Automatic Volume Control.
Band.....Band Adjustment Control.
Bass.....Bass Tone Adjustment Control.
Batt.....Battery Voltage Control.
BFO.....Beat Frequency Osc. Control.
Bias.....Bias Adjustment Control.
B. Tone....Bass Tone Control.
Clr'ty.....Clarity Control.
Equal.....Equalizer Control.
Exp......Expander Control.
Exp. Bias...Expander Bias Adjustment Control.
Fid......Fidelity Control.
Fidlty......Fidelity Control.
Fil......Filament Control.
F.O.G......Flashograph Adjustment Control.
Gain.....Gain Control.
H.F. Tone..High Frequency Tone Control.
Hum.....Hum Control.
L.F. Tone..Low Frequency Tone Control.
Loc'lzr.....Localizer Control.
Meter.....Meter Adjustment Control.
Mic......Microphone Adjustment Control.
Mike.....Microphone Adjustment Control.
Mod......Modulator Control.
Mon......Monitor Control.
M. Vol......Manual Volume Control.
NSC.....Noise Suppression Control.
Osc. Adj....Oscillator Adjustment Control.
P.E. Adj....Photo-Electric Cell Adjustment Control.
Phantom...Phantom Tuning Control.
Phono......Phonograph Pick-up Control.
Power.....Line Voltage Control.
Primary....Primary Voltage Control.
P.U. Adj....Pick-up Adjustment Control.
P.U. Volt...Pick-up Voltage Control.
QAVC.....Q.A.V.C. Adjustment Control.
Reg......Regeneration Control.
Regen......Regeneration Control.
Relay.....Relay Adjustment Control.
Screen.....Screen Voltage Control.
Sel......Selectivity Control.
Sen......Sensitivity Control.
Sil......Silencing Control.
Supp......Suppressor Control.
Tone.....Tone Control.
Tone B'm...Tone Beam Adjustment Control.
T. Tone....Treble Tone Control.
Tunlgt.....Tuning Light Adjustment Control.
Vol......Volume Control.
Voltage....Plate Voltage Adjustment Control.
V. R......Voltage Regulator Control.
EX 100.....EX followed by a numeral indicates that an external resistor of the stated value must be connected between the right hand terminal of the control and the cathode circuit of the receiver.

Trade-Name Quick Reference Chart

Trade-Name	*See*
Acratone	Federated Purchaser Airking
Admiral	Continental
Aero Products	Chas. Hoodwin
Aetna	Walgreen
Aircastle	Spiegel, & Radio Prods. Corp.
Airline	Montgomery Ward
Air Queen	Airking
American Bosch	United American Bosch
Apex	U. S. Radio & Tel.
Arcadia	Wells Gardner
Arkay	R. K. Radio Labs.
Arvin	Noblitt-Sparks
Audiola	Fairbanks-Morse
Bel Canto	Amrad
Bell Tone	Airking
B. O. P.	United Motors Service
Bosch	United American Bosch
Buick Motor	United Motors Service
Cable-Nelson	Howard Radio Co.
Case	Case or U. S. Radio & Tel.
Chevrolet	United Motors Service
Clarion	Transformer Corp.
Comet	Airking
Coronado	Gamble-Skogmo
Croydon	Airking
Delco	United Motors Service
Electrical Research Labs.	Erla
Erla (Erla-Sentinel)	Sentinel
Eveready	National Carbon Co.
Everette Piano	Orgatron
Gilt Edge	Airking
Gloriatone	U. S. Radio & Tel.
Gulbransen	Wells-Gardner
Hudson-Terraplane	R.C.A.-Victor, Zenith
Interocean Radio Corp.	Zenith
Kadette	International
Knight	Allied Radio Corp.
Kylectron	United Reproducers
Lafayette	Wholesale Radio
Meteor	Airking
Motorola	Galvin
Peerless	United Reproducers
Pierce-Airo	Dewald
Pontiac	United Motors Service
Premier	Airking
Radiette	Keller-Fuller
Radiochron	Clago
Radiotrope	U. S. Radio & Tel.
Rex	Airking
Sentinel	Sentinel or Erla-Sentinel
Silver King	Appel & Henderson
Silvertone	Sears-Roebuck
Sky Hawk	Airking
Sky King	Airking
Songbird	Airking
Sparta	Simplex
Sparton	Sparks-Withington
Spencer	Truevalue
Splitdorf	Thomas A. Edison Inc.
Star Raider	Continental Radio Corp.
Stratfield	Electrical Specialties Export Co.
Synchrophase	A. H. Grebe & Co.
Tiffany Tone	Herbert H. Horn
Tom Thumb	Automatic Radio
Tone Master	Airking
Transitone	Philco Radio & Tel. Corp.
Tructone	Western Auto Supply Co.
United Air Cleaner	Sentinel
United Scientific Labs.	Dewald
Victor	R.C.A.
Viking	Ozarka
Wextark	Allied Radio
Wings	Goodyear Service

SECTION "A" CONTROLS

● Before going into detailed discussion on any of the various problems to be considered in replacement control work, it is worthwhile to enumerate the main factors which guide the accuracy or effectiveness of the average installation. These factors are:

1. **Resistance Value**
2. **Taper**
3. **Circuit Requirements**
4. **Physical Requirements**
   (a) **Control Size**
   (b) **Shaft and/or Driving Mechanism**

The following discussion will deal with the above listed topics in the order outlined.

Resistance Value

One of the first points to be considered in the replacement of a defective control is the proper resistance value. Although resistance value is actually of secondary importance as compared to the primary requirement of correct taper, it is common practice in all service data and in some cases in stamping on the original controls, to identify by specifying the ohmic value. Therefore, it is most convenient in determining the correct replacement type to accept the value specified as the initial guiding factor.

A radio manufacturer, in setting up the design of a particular receiver, normally devotes a print of specifications to each of its component parts. It is important to note that on original volume control drawings the resistance value is given as in the following example: 1 megohm ±20%. This means that the control will be acceptable for use in the receiver if its value lies between 800,000 ohms (1,000,000 −200,000 ohms) or 1,200,000 ohms (1,000,000 +200,000 ohms). The common term "tolerance limits" applies to the maximum percentage variation either plus (+) or minus (−) from the nominal value.

In many cases the tolerance limits have been very wide. Thus, it is perfectly safe to use a slightly higher or lower value of resistance for replacement. The value need only be sufficient to give full control of volume as in the case of antenna cathode circuits, or satisfy the requirements of automatic volume control circuits as used in the majority of late receivers. The possibility of changing resistance value depends to a large extent upon the circuit of the individual application and it is therefore recommended that a study be made of the portion of this "A" Section devoted to "Circuit Action." (See page 210.)

Modern radio receivers are being designed with an increasing tendency toward standardization in ratings of the component parts. Since almost all standard values of resistance and taper types are included in both the one and one-half-inch Yaxley controls as well as in smaller midget series, selection of the proper replacement value does not present as serious a problem as it has in the past.

Taper

The word taper, as applied to controls, means that the resistance of the control does not change in a direct ratio with the rotation of the control. The term direct ratio or linear action means that the resistance value varies directly with the degree of rotation. That is, at ¼ rotation there is ¼ of the total resistance, similarly at ½ rotation there is ½ of the total resistance.

There are only two basic types of taper, Left Hand (Yaxley No. 1) and Right Hand (Yaxley No. 2).

Popular usage has defined "Linear" as a "Taper," therefore it will be listed as such.

In addition to the two basic tapers, Yaxley lists the III (3), a combination of tapers I (1) and II (2), for "special" (SRP) controls. Also, the VII (7) taper (in wire wound controls only) for special use as a replacement for Ant.-Bias circuits, or to replace shunt controls for circuits designed before it was possible to make logarithmic types of taper. The three remaining Yaxley tapers (4A, 5, and 6) are modifications of the basic tapers. The Yaxley No. 5 taper is a general type of taper having a characteristic of approximately 20% of total resistance at 50% rotation. The curve of this taper varies according to the location of the tap. This design is necessary because in circuits using tapped controls, the loss of the higher frequencies must be offset by shifting the taper curve to obtain an apparently even control in volume. It is not desirable to have a large and confusing array of slightly different tapers, hence the generalization of the No. 5 taper.

Yaxley tapers are controlled by a new and exclusive design as shown in Figure 1.

This views a tapered element (Yaxley No. 2 right hand taper, with switch) and shows the method of tapering a control by "Geometric Design," mathematically calculated. Notice that the tails of each section fade into the next section (marked by the ball and arrows) and that the roller contacts a gradually increasing or decreasing area of each section. This prevents any "step" or "jump" in resistance value and assures a smoothness unknown to any other method of tapering a control.

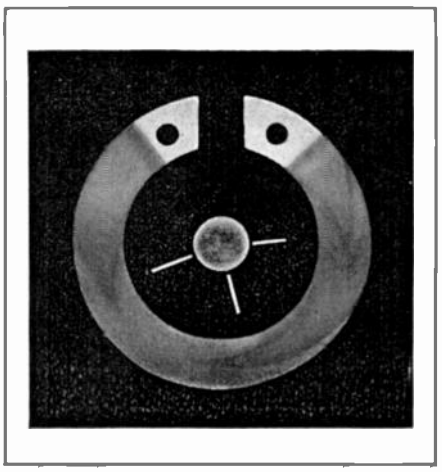


FIGURE 1

It is necessary to taper the resistance of a control in order to give an apparent linear control of the signal, thus when the control is turned to the half-way position, one expects to hear a volume of signal which will be one-half that obtained at the full "on" position of the control.

Let us suppose that the control in Circuit 16 (Figure 2) is in an amplifier and that we supply a certain measured value of signal, with the control at full "on" position. Next we turn the control, until the signal sounds only half as loud, and measure the signal at the grid of the tube.

Our measurement shows that we have reduced the signal to approximately 1/10 its former value.

The reason for this unusual action is that the human ear has a peculiar characteristic in that to double a

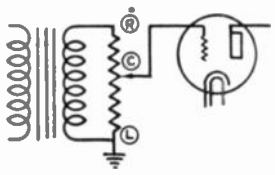


FIGURE 2

given volume of sound requires an increase of approximately ten times the original intensity.

Or, more simply—if it requires a pressure of one pound per square inch to produce a certain volume of sound, it will require a pressure of ten pounds per square inch to double this volume. Sound pressures are not measured in the large quantities given. However, the explanation serves its purpose.

Left-Hand Taper

The taper action shown in Circuit 16 (Figure 2) is that of the common or "Left-Hand" taper (Yaxley No. 1).

It is common practice to have volume controls wired so that when the knob is rotated all the way in a clockwise direction, or as we often say, "to the right," we will have our full volume position. Minimum volume or "off" position will be at the full counter-clockwise, or "left hand" position of the knob.

In the explanation of taper action, we pointed out that at half volume or half rotation position of the control knob, we need only 1/10 of the full volume voltage. Therefore, we need only 1/10 of our total resistance between full "left" position and the "half-way" position of our knob. This is made clear in Figure 3.

Note the position of the arm of the control and the resistance values of the two halves of the control.

Figure 4 shows the connections of the ohmmeter, and Figure 5 illustrates the plotting of the complete taper curve.

Note that the left hand half of the control has its resistance tapered out. This is the reason for calling this a "Left Hand" taper.

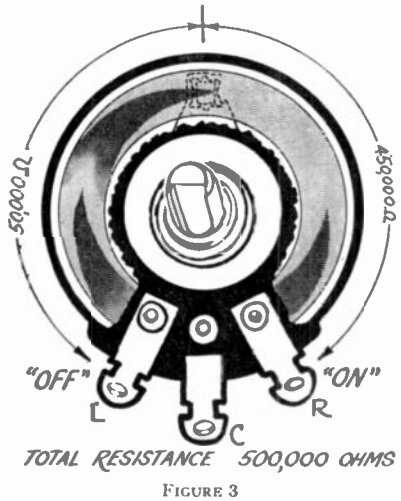


FIGURE 3

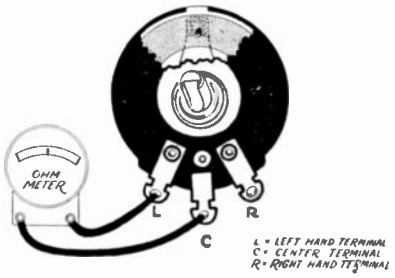


FIGURE 4

A left hand taper (Yaxley No. 1) is universally used for all "Shunt" or "Short Out" circuits. (See the exceptions given in the chapter on "Circuit Action," page 210.) Refer to pages 222 to 227 and look at circuits numbered 1 to 6, 10 to 16 to 20, (21), (22), 23, 33 to (36), 39 to 41, 44 to 46, 50, 55 to 57, 60 to (67), (69), 72, 73, 76, 77, 79, 80, 81, 83, 85, 87, 93, 94, 96, (100). All these circuits require fundamental left hand taper. Those marked with parenthesis and a few others use a modified or combination taper. The reasons for this departure are given in the chapter on "Circuit Action."

Tone Controls are generally left hand taper, as they usually have the "Bass" position at the left of the knob. When "Bass" position is at the right of the knob, a right hand taper is required. See the discussion on "Tone Controls," page 214.

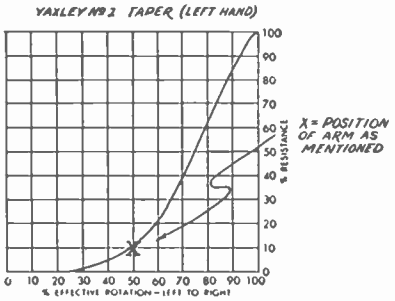


FIGURE 5

A good general rule is, "When only the center and left hand terminals are used, use a left hand taper (Yaxley No. 1).

Right Hand Taper

Right Hand Taper (Yaxley No. 2) is the designation applied to a control wherein the right hand half of the resistance is tapered out. Right hand taper is used in series circuits.

We have explained the necessity of taper, because of the characteristics of the human ear. Right hand taper is necessary because of a combination of circuit action and the action of the ear. Figures 6, 7, 8, and 9, give a clear picture of the arrangement and measurement of right hand taper.

Let's take a common application of Right-Hand Taper (Yaxley No. 2) to see why it is necessary and how it works. The "graph" (Figure 10) plots the "resistance against rotation" versus the Mutual Conductance (Gm) of a tube of the remote "cut-off" type such as a 6D6. The control—Yaxley UC510—100,000 ohms No. 2 right-hand taper.

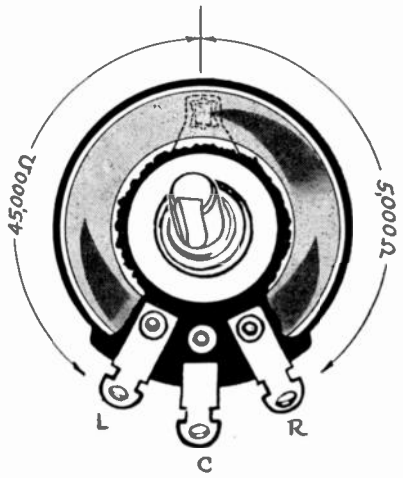


FIGURE 6

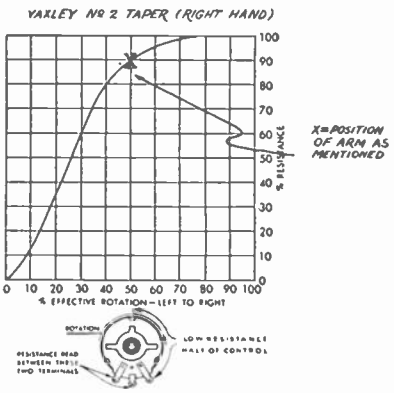


FIGURE 7

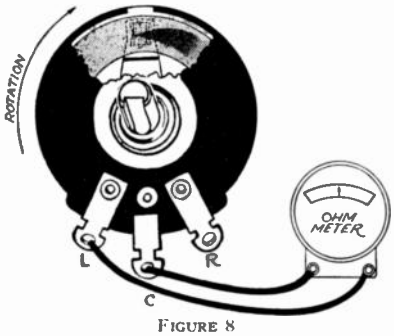


FIGURE 8

WHERE ONLY THE CENTER AND RIGHT HAND TERMINALS ARE SUPPLIED ON A CONTROL

WHERE ONLY THE CENTER AND RIGHT HAND TERMINALS ARE SUPPLIED ON A CONTROL

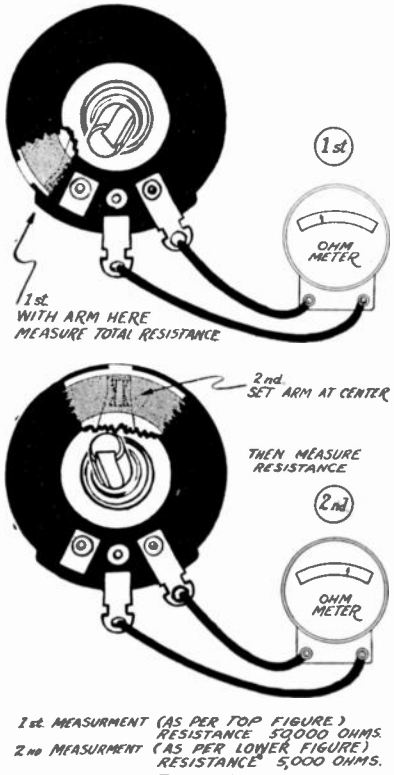


FIGURE 9

Quick Reference—Taper 1

Ohms Resistance	Catalog Number	Type	General Use
500	A	W. W.	Ant. Shunt
1000	B	W. W.	Ant. or Pri. Shunt
2000	C12	W. W.	Ant. or Pri. Shunt
3000	D12	W. W.	Ant. or Pri. Shunt
5000	E12	Carbon	Ant. or Pri. Shunt
7500	F12	Carbon	Ant. or Pri. Shunt
10M	G12, MR18, UM118	Carbon	Ant. Shunt or Ant.-Bias Tone
15M	H12, MR21, UM121	Carbon	Ant. Shunt or Ant.-Bias Tone
20M	Y, MR24, UM124	Carbon	Ant. Shunt or Ant.-Bias Tone
50M	K12, MR33, UM133	Carbon	Screen Voltage, Tone
75M	Z12, MR36, UM137	Carbon	Screen Voltage, Tone
100M	L, MR39, UM140	Carbon	AF or RF Shunt, Audio, Tone
100M	UM143 (Clutch Type)	Carbon	AF or RF Shunt, Audio, Tone
150M	UC502, MR42, UM144	Carbon	AF or RF Shunt, Audio, Tone
250M	M, MR44, UM147, UC511*	Cargon	AF or RF Shunt, Audio, Tone
350M	UM151	Carbon	AF or RF Shunt, Audio, Tone
500 M	N, MR48, UM154, UC512*, UC513, UM157 (Clutch Type)	Carbon	AF or RF Shunt, Audio, Tone, Auto.
750M	UC503, MR51, UM158	Carbon	AF or RF Shunt, Audio, Tone
1 Meg.	O, MR53, UM161, UM162 (Clutch Type)	Carbon	Audio, Tone
2 Meg.	P, MR55, UM163	Carbon	Audio, Tone
3 Meg.	UC504, MR57, UM165	Carbon	Audio, Tone
4 Meg.	UC505	Carbon	Audio, Tone
5 Meg.	UC506	Carbon	Audio, Tone
9 Meg.	UC508	Carbon	Audio, Tone

*Slotted shaft for auto receivers.
In the "General Use" column are abbreviations of the use of the control; circuits follow:
Ant. Shunt—Circuits 1 to 5, 40, 60. Pri. Shunt—Circuits 10, 81 (Plate control).
Ant.-Bias†—Circuits 6, 69. Screen Voltage—Circuit 12.
Tone—Circuits 21, 22, 34, 39, 41, 44, 57, 65, 67, 72, 85, 101, 103.
AF Shunt—Circuits 15 to 18, 33, 76, 96. RF Shunt—Circuits 13, 14, 18 (Grid).
Audio—Circuits 15 to 18, 33, 45, 46, 55, 56, 61, 73, 76, 77, 78, 83, 93, 96.
†Ant.-Bias circuits 6 and 69 often use a left hand tapered control where tubes of sharp cut off characteristics (such as type 24) are used: Yaxley No. 7 taper is excellent for this use.

Reducing the Mutual Conductance (Gm) of a tube lowers the amplification. However, there is a limit to this reduction because if the plate current of the tube is reduced to the "cut-off" point, distortion will occur. Study the curve in Figure 10. Note that the "gain" is reduced to approximately 10% when this control is at the "middle" point of its rotation. This is necessary if we wish to have an apparent linear reduction of volume with rotation of the control. Right hand taper

(Yaxley No. 2) is used in most series circuits, such as plate voltage, screen voltage, cathode or "Bias" control and "series losser" types of circuits. Note the list of right hand tapered controls (Yaxley No. 2) and look at the circuits that are specified for each one.

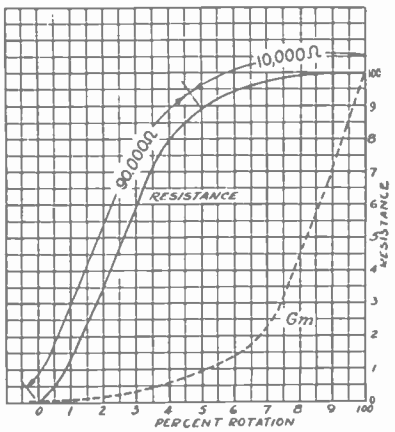


FIGURE 10

Combination Taper

Yaxley No. 3 taper is a combination of left and right-hand tapers. It is necessary in only a few designs. Supplied in SRP (special) controls only.

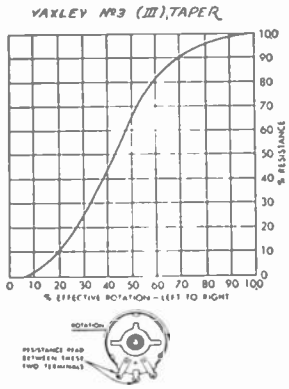


FIGURE 11

Linear Taper

A Linear control is not tapered, that is the resistance is equal in percentage to the percentage of rotation. At the center of rotation the resistance is equal in both halves of the control.

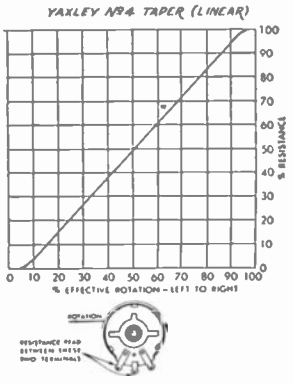


FIGURE 12

Note the ends of the "curve" are tapered off so that there will be no "hop off" on a weak signal.

Quick Reference—Taper II

Ohms Resistance	Catalog Number	Type	General Use
1000	UC500	W. W.	Bias
2000	C*	W. W.	Bias
3000	D*	W. W.	Bias
5000	E*	W. W.	Bias
7500	F*	W. W.	Bias
10M	UC501*, MR19, UM119	Carbon	Bias, Losser
10M	G*	W. W.	Bias, Losser
15M	H*	W. W.	Bias, Losser
15M	MR22, UM122	Carbon	Bias
25M	J*, MR28, UM128	Carbon	Bias
50M	K*, MR34, UM134	Carbon	Bias, Plate, Screen
75M	Z*, MR37, UM138	Carbon	Bias, Plate, Screen
100M	UC510*, MR40, UM141	Carbon	Bias, Ant.-Bias, Plate
250M	UC509*, MR45	Carbon	Bias, Ant.-Bias, Bias-Audio
500M	UC513	Carbon	Bias, Ant.-Bias, Bias-Audio
1 Meg.	MR54, UM160	Carbon	Bias, Ant.-Bias, Bias-Audio
5 Meg.	UC507	Carbon	Screen

*Have exclusive Yaxley "adjustable fixed bias" feature.
NOTE: Nearly all low resistance "bias" controls carry heavy current and are therefore wire wound type.
In the "general use" column are abbreviations of the use of the control; circuits follow:
Bias—Circuits 7, 8, 42, 47, 49, 58, 98.
Losser—Circuit 84.
Plate—Circuit 26.
Screen—Circuit 27.
†Ant.-Bias—Circuits 6, 69, 70.
Found in popular AC-DC receivers.

Quick Reference—"Linear" Controls

Ohms Resistance	Catalog Number	Type	General Use
400	A400P	W. W.	Voltate Divider
550	A550P	W. W.	Voltage Divider
1M	A1MP	W. W.	Voltage Divider
2M	A2MP*	W. W.	Voltage Divider
3M	A3MP*	W. W.	Voltage Divider
5M	Y5MP*, MR14, UM114	Carbon	Antenna, Antenna Bias
5M	A5MP	W. W.	
10M	Y10MP, MR20, UM120	Carbon	Ant.-Bias, Voltage Divider. (Low Current for Midget Controls)
10M	A10MP*	W. W.	Voltage Divider
20M	A20MP*	W. W.	Voltage Divider
25M	Y25MP, MR29, UM129	Carbon	Voltage Divider (Low Current for Midget Controls)
50M	Y50MP, MR35, UM135	Carbon	Voltage Divider (Low Current for Midget Controls)
100M	Y100MP, MR41, UM142	Carbon	Voltage Divider (Low Current for Midget Controls)
200M	Y200MP	Carbon	Voltage Divider
250M	Y250MP, UM149	Carbon	Voltage Divider (Low Current for Midget Controls)
500M	Y500MP, MR50, UM156	Carbon	Voltage Divider (Low Current for Midget Controls)
1 Meg.	Y1000MP	Carbon	Voltage Divider

*Has exclusive Yaxley adjustable bias feature,
W. W.—Wire wound.

Yaxley No. 7 Taper

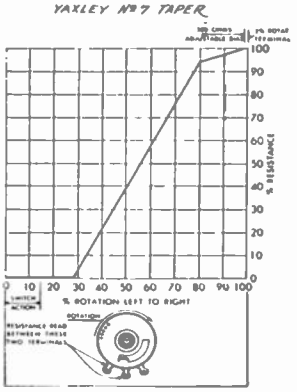


FIGURE 13

Yaxley No. 7 taper is almost a linear. Note that at the left hand terminal there is a small amount of resistance in the first few degrees of rotation. Yaxley No. 7 taper is for use in replacing older types of Wire Wound controls in Ant.-Bias circuits. **The "spread-out" portion of resistance, at the left hand end of the control, gives a smooth control of the most powerful signals.** Controls with this taper have the **Adjustable Bias feature,** explained on page 229.

To determine the taper of a control wherein there is an "open" in the resistance element proceed as follows:

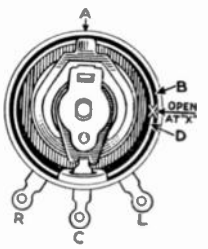


FIGURE 14

Refer to Figure 14 wherein there is a rear view of a wire wound control with an "open" at the point marked "X."

Although a wire wound control is shown, these instructions also apply to carbon type controls.

In Figure 14, **note that the terminals bear the designations R, C and L. By turning the control around and facing the shaft end, these would read properly; i. e., L, left hand; C, center, and R, right hand.**

To determine the taper first place the moving arm in the center of its rotation as shown in Figure 14.

Second, measure the resistance between terminal "R" and terminal "C" and make a note of this value.

Third, measure the resistance between "C" and the edge of the "open" marked "B" and make a note of this value.

Fourth, measure the resistance between terminal "L" and the edge of the "open" marked "D."

Fifth, add the values obtained in steps three and four to obtain the resistance of right hand half of the control.

With the values of the two halves of the control known a comparison will quickly show the taper as explained earlier in this article.

If there is more than one "open" proceed as above with the exception that the value of resistance between the different "open" places will have to be obtained and added together so that it is possible to compare the resistance of the two halves of the control.

The foregoing method of determining taper by comparing the right and left halves of the resistance element is a "rough and ready" method applicable in most cases. However, for those who wish to obtain the exact shape of taper curve employed in any control they may do so very readily by employing the 360 deg. scale.

This scale should be made on paper, cut out and pasted on a thin Bakelite or Wood panel with a 7/16" or 1/2" hole at the center for the volume control bushing.

To use this device mount the control on the rear of the panel and fasten with the usual mounting nut or one of the Yaxley shoulder nuts No. 11260-12 or 11260-2. Adjust the control so that when the knob is turned all the way to the left the dial reading is zero. Then turn the knob all the way to the right and read the total rotation in degrees and divide by ten to get the number of degrees for each 10% rotation. Attach an ohmmeter to the left hand terminal and to the center terminal of the control and with the control rotated all the way to the left take the first reading which in most instances will be zero.

Take a reading of the resistance every 10 percent of the rotation from left to right and plot the readings on graph paper.

Circuit Action

Many servicemen are somewhat afraid to make minor changes in a receiver, even though they know that the receiver is of earlier design and not suitable for satisfactory operation under present conditions. This statement does not intend any reflection on the older receivers. At the time of their production these receivers were capable of excellent reception, and a similar quality of reception can reasonably be expected now if minor changes are made to allow for the greatly increased power of broadcasting stations. In a number of the older receivers, this increased power has resulted in unsatisfactory control of volume on local stations. The most common complaints are:

a. A "jumpy" control action on local stations (one in which the increase or reduction in volume is not gradual).
b. An inability of the control to reduce the volume of local stations to an acceptable value.

A thorough study of this section devoted to an analysis of each type of control circuit, will be of real assistance to the serviceman.

Antenna Circuits

The most simple type of control circuit is that generally called the **"Antenna Control."** This type of control came into popular use with the introduction of the AC Tube, the filament rheostat having been widely used as a volume control previous to that time.

The antenna control functions as a regulator, controlling the amount of signal fed to the grid of the first RF amplifier. Circuits 1, 2, 3, 4, 5, 40, and 60 on pages 222 to 224, are variations of this type of control circuit. Circuit 1 (Figure 15), illustrates the simplest circuit of this type.

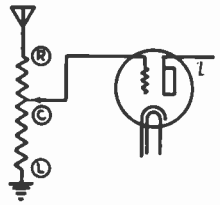


FIGURE 15

The antenna is directly connected to the right hand terminal of the control, the left hand terminal being connected to the ground, and the moving arm (center terminal) is connected directly to the grid of the first RF amplifier tube. This connection gives maximum volume when the control is turned to the right (clockwise).

Thus, we see that the full antenna voltage of all signals, affecting the antenna, is applied directly across the control and that any portion of this voltage may be applied to the grid of the first tube, depending upon the setting of the moving arm of the control. The resistance value of this type control varies from a minimum of 450 ohms (see the older Atwater Kent receivers) to a value of about 10,000 ohms maximum, inasmuch as a resistance value greater than this tends to isolate the grid of the tube, and causes hum.

The taper for the Antenna type control is, in general, of the left-hand, or Yaxley No. 1 type. Many of the earlier receivers used wire wound controls, which are difficult to make with logarithmic taper, and inasmuch as the antenna voltages developed by the earlier low-power transmitters were not of any great magnitude, it was not necessary to pay much attention to taper, although a slight amount of taper in the form of a low resistance winding, generally 10 to 25 ohms and spread over about 20% (1/5) of the rotation, at the left hand side of the control, was often used.

It is found **that this type circuit,** using the earlier type wire control, **does not give good attenuation, because of the high antenna signal voltages developed by modern transmitters.** This condition may be overcome by **using a left-hand taper carbon control** (Yaxley No. 1). This will allow smooth attenuation of powerful local signals. TROUBLES usually encountered with this type of circuit are: **Poor attenuation** or "hop off," that is, a sharp "cutting off" of the signal (usually on local stations), and generally poor control of all signals, as previously mentioned, a simple change from the original wire type control to the Yaxley No. 1 left-hand tapered carbon control will often cure the trouble. It has been reliably reported that a sure cure of this trouble will be had if a Yaxley DRP241 or DRP243 control is installed with the low resistance section connected as the original antenna control and the high resistance section connected as per Circuit 16 (Figure 2), so as to give a dual control of both the input signal and of the output. This overcomes chassis pick-up due to lack of, or poor shielding.

Circuit 2 (Figure 16), illustrates the second type of "Antenna" control circuit.

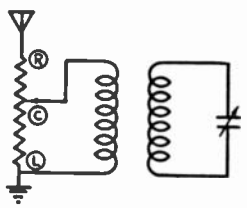


FIGURE 16

The connections of the Antenna to the control are the same as those in Circuit 1 (Figure 15) except that the primary of an RF transformer is connected to "ground" and to the moving contact (center terminal), of the control. **When the control is at maximum volume position** (R-right-hand terminal) **the total resistance of the control is in shunt with both the Antenna** (Source) **and the primary coil** (Load). Varying the position of the control arm causes the resistance value of the shunt across the primary to vary over the full range of the resistance value of the control.

In view of this, **the total resistance of the control must be of such a value so that, at "full volume" position, there will be but little loss of signal through the control.** In other words, **the total resistance of the control must be much greater than the impedance of the primary.** In practice the resistance value of the control is usually not more than 4 or 5 times the value of the primary impedance, as higher ratios are not practical because of the shunting action of the antenna impedance.

Taper for this circuit is normally Left Hand, or Yaxley No. 1. Some receivers were built with very little taper in the control. The replacement control for the latter, may well be a Yaxley control of No. 4 (Linear) taper although a Yaxley No. 1 tapered (carbon type) control will sometimes be better, than the original linear control, depending on local conditions.

Troubles with this type circuit are best overcome by the methods outlined for Circuit 1 (Figure 15), however, due to increased transmitter power, a lower resistance control will often work wonders without loss of signal strength even on the weaker stations. It is best to "cut and try" to ascertain the correct value

Circuit 3 (Figure 17) illustrates the third type of "Antenna" control.

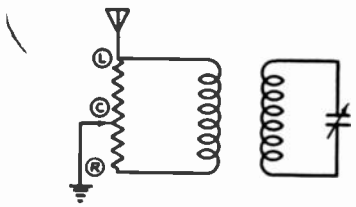


FIGURE 17

In this circuit the Antenna is connected to the left-hand terminal of the control. The primary coil floats across the total resistance of the control.

This change of connections causes the effective resistance in shunt with the antenna to vary with the setting of the moving contact of the control. The shunt resistance across the primary coil does not vary, to any great extent, with the position of the contact arm of the control. If anything, the shunt impedance rises slightly, with reduction of volume. This type of circuit does not give as good results as that of Circuit 2 (Figure 16) or Circuit 4 (Figure 18).

Circuit 4 (Figure 18) is an illustration of a fourth type of "Antenna" control.

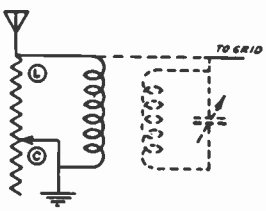


FIGURE 18

The antenna is connected to the left-hand terminal and ground to the moving arm terminal. The right-hand terminal is not used.

This type of circuit is often called a "Shunt" circuit, however, it is better to refer to it as a Short Out type of circuit, inasmuch as the control "Shorts Out" the primary and simultaneously grounds the antenna.

Taper and Resistance Value of the controls for this type circuit is the same as for the circuits previously given.

Trouble is usually encountered with this type of circuit unless the chassis is thoroughly grounded. This is not so when the ground wire is connected to the antenna post, because this leaves the chassis at RF potential to ground.

If a good Antenna cannot be erected and it is necessary to use such an improvision for an Antenna, it may be advisable to change this circuit to that of Circuit 2 (Figure 16) or if possible use Circuit 6 (Figure 29).

Circuit 5 (Figure 19) is the fifth type of "Antenna" circuit.

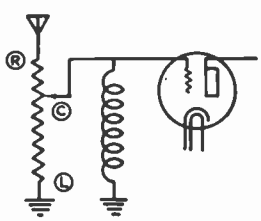


FIGURE 19

This circuit is similar to that of Circuit 1 (Figure 15) except that an RF choke is connected from Grid to Ground.

The purpose of this choke may be to either give a "rising response" at the lower frequency end of the broadcast band or to allow the use of a higher resistance value of control without hum trouble. In addition these chokes are often broadly peaked in the center of the broadcast band so as to get a slightly increased signal voltage from the Antenna.

"Bias" Control Circuits

This type of volume control circuit makes use of a variation of the bias voltage, applied to the tubes as a means of controlling the volume of a receiver. Increasing the bias of a tube lowers the Mutual Conductance (GM) of a tube and reduces the "Gain" of the stage.

Remember, there are two general types of tubes, those with "Sharp" cut-off and the Variable Mu or Remote cut-off types. This introduces a disturbing factor in that complete control cannot be had with Sharp cut-off types of tubes.

As an illustration, the type 24A tube has a (GM) of 1050 at 3 volts bias, yet it requires only 9 volts to bring the plate current down to cut-off. This is an example of the sharp cut-off type of tube. The type 35 tube also has a (GM) of 1050 at the same plate, screen and bias voltages. It requires 40 volts to bring the plate current down to approximate cut-off. This is an example of the Remote Cut-Off type of tube. Incidentally, **the useful range of control is 5 to 1 for the 24 and 70 to 1 for the 35 tubes respectively.**

Circuit 31 (Figure 20) is an illustration of the earliest Bias Type control.

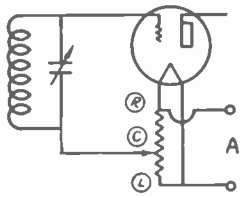


FIGURE 20

This control was used on the early battery sets. It consists of a fairly high resistance potentiometer generally of 200 or 400 ohms total resistance shunted across the filament supply which was, of course, 6 volts. This control served to vary the bias on the R.F. amplifier tubes, and thereby gave control of the volume. On the whole, this circuit was not very satisfactory, as the range of control was not great and it was used mostly as a control to prevent oscillation.

Figure 21 (Circuit 7) illustrates the common Bias control circuit.

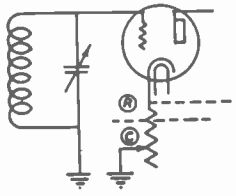


FIGURE 21

In this illustration **dotted lines indicate that a portion of the control resistance may be retained to supply the minimum bias which is required by the tube at full volume.** Also, the dotted lines show that one or more cathodes may be connected to the control and that there may, or may not be a bleed current through the control. For the present, we will consider that the circuit controls only one tube and does not have a bleed current. Although a triode tube is shown, this circuit is also used with tetrodes and pentodes. For the purpose of explanation, we give Figure 22, which shows the use of a 100,000 ohm Yaxley No. 2 right-hand taper control, Yaxley type UC509, with the resistance plotted against the (GM) Mutual Conductance of the tube and both curves against the rotation of the control.

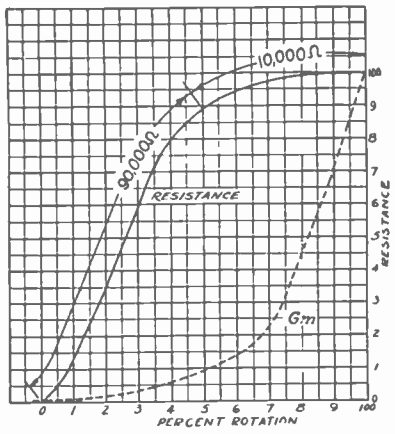


FIGURE 22

The graph in Figure 22 illustrates the use of a bias type control on a remote cut-off type of tube. In fact, a 6D6 was used in this calculation. In practice, a straight Bias type control would hardly ever be used with this tube, but rather the combination Ant.-Bias circuit in order that locals may be fully attenuated.

The cathode bias type control was widely used with the type 27 tube which has a fairly remote cut-off. However, the increased power of modern broadcasting stations has resulted in poor control from this type of circuit. Therefore, **it is sometimes necessary to change this circuit to the "Ant.-Bias" type circuit by connecting the right-hand terminal, of the control, to the Antenna.** Additional types of circuits similar to circuit 7 are circuits numbers 47, 58 and 98, see pages 223 to 225. The difference in these circuits is merely in the connections to the control and associate circuit, the control action remaining entirely the same.

The Second Class of "Bias" control circuits, represented by Circuit 8 (Figure 23) and Circuit 42 (Figure 24) differs but little from the class just mentioned, the difference being that the resistance value is lower and that a current is bled, from either the screen or plate supply, into the control so as to give a rapidly rising bias voltage, with rotation of the control.

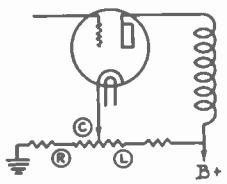


FIGURE 23

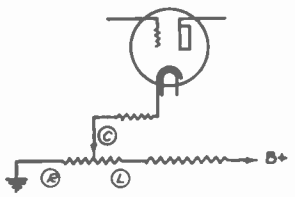


FIGURE 24

The Third Class of "bias" control circuit is that in which the grid return connects to the arm of a variable resistance, which is connected across the source of bias voltage. This type of circuit is generally used in battery receivers and therefore the bias source is usually a "C" battery or "voltage dropping" network of resistors in the "B" circuit. In this type of control circuit, **the range of bias voltage applied to the tube, is dependent almost exclusively upon the voltage applied to the control,** inasmuch as the grid does not draw any current from the control circuit. **The resistance value of the control may be quite high in order to prevent unnecessary "drain"** on the batteries.

Circuit 9 (Figure 25) is an illustration of one of the most common circuits of this type.

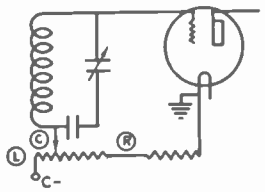


FIGURE 25

Note, that **the left hand terminal** of the control **connects to the highest negative polarity of the "C" battery,** as shown by the notation C—. The Right-Hand terminal of the control connects to a fixed resistor which is of such a value that **the current flowing through the control will cause a voltage drop across it, equal to the required "minimum" bias of the tube.** The rotating arm or "Center Terminal" of the control connects directly to the grid return. Thus, it will be seen that the bias may be varied over quite a range, depending upon the voltage of the "C" battery

Circuit 54 (Figure 26), although a resistance coupled amplifier, is basically, identical to Circuit 9 (Figure 25) and clearly shows the full connections for this type of circuit.

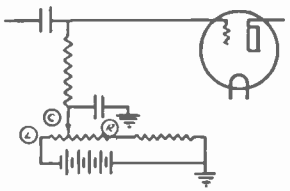


FIGURE 26

Circuit 59 (Figure 27), is of the same type as that of Circuit 9 (Figure 25) and Circuit 54 (Figure 26). However, it is applied in this case to an "A.C." receiver.

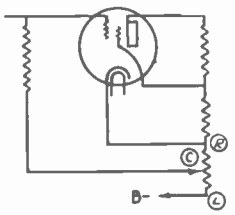


FIGURE 27

This type of circuit is often used on the AVC tube for control of its action.

There is one remaining type of bias control in which the **grid of the tube is biased by signal voltage developed across a diode rectifier Load,** which in this case is the resistance of the control. Circuit 62 (Figure 28) illustrates a circuit of this type

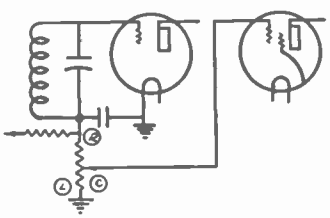


FIGURE 28

Usually, there is provision made for minimum bias of the controlled tube, which is not shown in this schematic. Study of this circuit will reveal that the bias on the controlled tube **varies with the strength of the signal input,** in addition to the position of the "arm" of the control, this type of circuit being used in "Quiet" AVC circuits.

Taper of controls for the third class of Bias type of control circuit varies considerably. It depends upon the class of tube, that is, Sharp or Remote cut-off. In general, the taper is linear, although in some cases a slight left-hand taper is required, particularly where sharp cut-off types of tubes are employed.

"Ant.-Bias" Control Circuits

In this circuit, there are two distinct actions combined. **The first is the control of volume by means of increasing the bias on the controlled tubes. The second action is the shorting out of the input signal at the Antenna.**

Important—There are two basic types or classes of this circuit; i. e., that type employed with sharp cut-off tubes and that employed with remote cut-off tubes. **In the first class, the control serves to increase the bias to reduce the (Gm) Mutual Conductance of the tube or tubes, to a slight extent, and simultaneously short out the input signal.**

Note: The main function of the control in this **case is really to short out the signal input and** at the same time **reduce the (Gm) Mutual Conductance** of the tubes to a point where chassis pick-up will not be bothersome. Chassis pick-up means the absorption of signal voltage from powerful stations by poorly shielded conductors within the receiver. **This type of circuit is used where the straight antenna shunt or short-out type of circuit would fail to give full attenuation of powerful signals** such as from local broadcasting stations.

The second class of Ant.-Bias circuit operates in exactly the reverse manner, in that the main attenuation of signal is accomplished by increasing the bias to a high value, which reduces the (Gm) Mutual Conductance. This action will attenuate all but the most powerful local signals. These powerful signals are taken care of by the antenna short-out action. The resistance value of controls for the second type circuit is much greater than that for use in the first class.

Circuit 6 (Figure 29) is an illustration of the "Antenna-Bias" type of circuit.

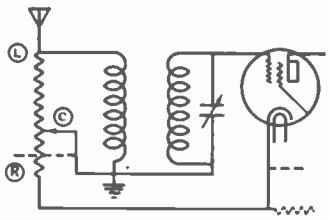


FIGURE 29

Your attention is called to the dotted lines on this schematic. **The dotted line across the control indicates that a portion of the resistance may be retained for use as the minimum bias resistor** to supply correct bias to the tube or tubes at full volume position.

The straight dotted line immediately below the tube indicates that other cathodes may be connected at this point. The dotted line resistor immediately below the last mentioned dotted line indicates that there may be a bleed current flowing through the control.

The exclusive design of Yaxley controls **provides an adjustable resistor** for use when **replacing controls** wherein a portion of the resistance was set aside for use **as the minimum bias resistor.** In **wire type** controls, this is a built-in variable resistor. **In carbon type** controls, **it is a variable resistor** supplied with the control for exterior application.

The bleed current mentioned is merely a current which is bled from either the screen or plate supply circuits. The purpose of this current is to stabilize the circuit and to provide a greater increase of bias per degree of rotation of the control, where it is necessary or desirable to use a fairly low resistance control.

Another type of "Antenna-Bias" circuit is generally used in battery receivers. Circuit 70 (Figure 30) given below, is an example of this type circuit.

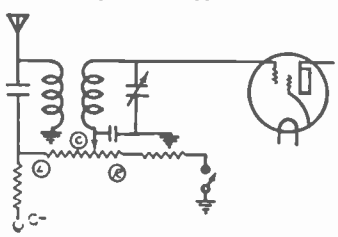


FIGURE 30

In this circuit the control varies the bias applied to the tube, and in the left-hand position shorts out the antenna. This latter action is accomplished by reason of the condenser connected from the antenna to the control. Signal current leakage, or by-pass in the full volume of the control, is prevented by the resistance of the control, and by the resistor connected between "C" and the junction of the condenser and left-hand terminal of the control.

Taper for use in this circuit is generally left-hand (Yaxley No. 1), although Yaxley No. 4 may be used, depending upon the type of tubes, as previously explained under "Bias Control Circuits."

Oscillation and poor tuning may often be traceable to a poor by-pass condenser, inasmuch as the R.F. impedance of these condensers usually increases with age.

General design of this type circuit calls for selecting the proper value of resistance for the control, for the minimum bias resistor, and in addition for the R.F. blocking resistor. The latter also serves to limit the value of bias voltage which may be applied to the tube, which, as has been previously mentioned, if too high, particularly with sharp cut-off tubes, will cause distortion.

The capacity value for the Antenna condenser should be rather large, inasmuch as it should offer but very little Capacitive Reactance to the lowest frequency signal voltage to be handled, and it will thus act so as to allow a complete short-out of the signal. The capacity value of the by-pass condenser from the moving arm of the control to ground, is generally of a value of .05 mfd., or .1 mfd.

Circuit 97 (Figure 31) is an illustration of another type Ant.-Bias circuit.

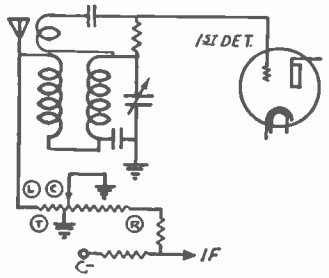


FIGURE 31

Observe that in this circuit the control is tapped. The purpose of this tap is to divide the action of the control into two separate and distinct parts. Thus—when the moving arm is to the right of the tap, the control is acting purely as a bias type control. When it is to the left of the tap, the control acts only as an Antenna short-out type of control.

Resistance Value for this control is usually about 6,000 ohms with the tap located at approximately 2,500 ohms from the left-hand terminal.

Screen Voltage Control Circuits

Circuit 12 (Figure 32) is an illustration of the usual screen voltage control.

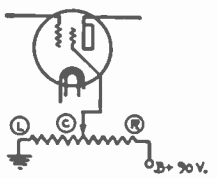


FIGURE 32

The action of this control is similar, in most respects, to the action obtained by controlling the bias of the tube. The (Gm) "Mutual Conductance" of the tube varies with the screen voltage.

The first graph (Figure 33) shows the relation of Mutual Conductance to screen voltage. The second graph (Figure 34) shows the curve of "Mutual Conductance" versus the rotation of the Yaxley control and illustrates the use of left-hand taper in this circuit.

At this time, we would like to point out that circuit 27, as given on page 223, is a rare type of screen voltage control, in which the control is in series with the

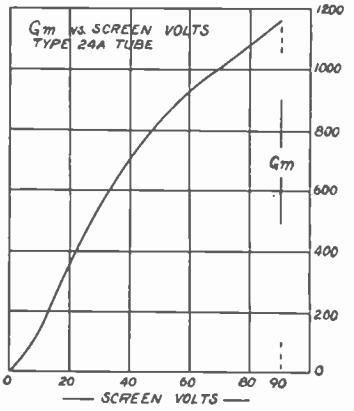


FIGURE 33

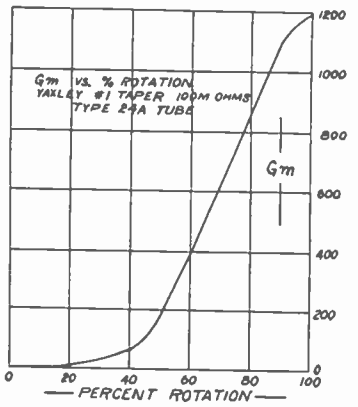


FIGURE 34

screen. Taper for this control is Yaxley No. 2 right-hand, and the resistance is 5 megohms total. Circuit 79 (Figure 35), is an illustration of a combined screen voltage and antenna short-out control circuit.

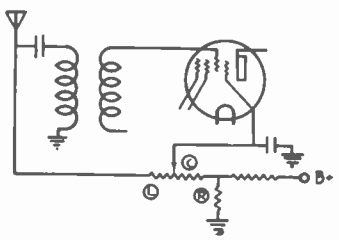


FIGURE 35

This control is used to a limited extent in battery receivers. **A study of this circuit will reveal that the control simultaneously controls the screen voltage, and by that the (Gm) of the tube, and at the same time acts as an Antenna short-out.**

This type control circuit is not recommended. Yaxley Silent Controls **will give faultless service** in this, or any other critical circuit.

TAPER AND RESISTANCE

For very low resistance values, 10,000 ohms or less, the taper of the volume control, for use in this circuit is generally linear. For values above 10,000 ohms, it is the general rule to use Yaxley No. 1 left-hand taper.

The most common value of resistance for this type control, with the exceptions noted above, is 100,000 ohms. This value is replaceable with Yaxley type L control.

Plate Voltage Control Circuits

Circuit 11 (Figure 36), is an illustration of the most common "Shunt Plate Voltage" volume control circuit.

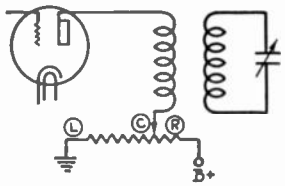


FIGURE 36

The action in this circuit is similar to that of the "Screen Voltage" control circuit except that here the plate voltage is varied.

The Taper for use in this type circuit is nearly always left-hand. The resistance value is usually of the order of 50,000 to as much as 500,000 ohms.

RF Primary (Shunt) Control Circuits

Circuit 10 (Figure 37), illustrates the connections of this type control circuit.

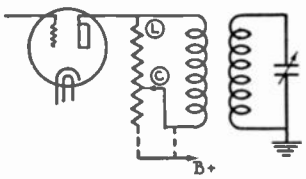


FIGURE 37

The dotted lines show connections that differ but little from each other, and may be encountered in the wiring of a control in a circuit of this type.

The action of this circuit is similar to that of the Ant.-Shunt type of circuit, in that the control is so arranged as to Short Out the primary of the RF transformer, and thereby prevent the transfer of RF current to the succeeding tubes in the receiver. This circuit was popular with the later battery and early AC receivers. **It is totally unsuited for modern conditions.**

RF Secondary (Shunt) Control Circuits

Circuit 13 (Figure 38), illustrates the usual connections for this type circuit.

Although the connections shown in circuit 14 on page 222 may sometimes be encountered, the latter circuit does not give quite as good control as that of Circuit 13 (Figure 38) is similar to the action of Circuit 16 (Figure 2), page 207, illustrated and thoroughly explained in the chapter entitled Taper.

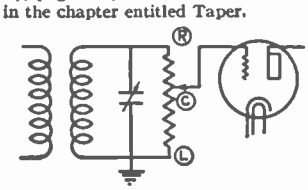


FIGURE 38

In Figure 78, we see the control shunted across a tuned RF transformer, with the left-hand terminal connected to the ground, and the right-hand terminal to what would ordinarily be the grid side of the tuned circuit. The grid of the tube is connected to the moving arm of the control. Hence—Variation in the position of the moving arm of the control varies the amount of RF voltage impressed on the grid of the tube.

In common with all shunt type circuits, the resistance of the control should be of such a value that it will not present too great a load or by-pass of the RF voltage developed in the secondary circuit. Inasmuch as one might broadly state that **the average impedance of a tuned circuit of this type is rarely more than 100,000 ohms,** the lowest value possible to use would be 100,000 ohms, with usual values of 250,000 ohms and in some cases 500,000 ohms. An outstanding example of this circuit is that of the Bosch model 28, which, incidentally, uses Yaxley Control SRP179 of 125,000 ohms resistance.

AF "Shunt" Control Circuits

Circuit 15 (Figure 39), is one of the two basic types of this circuit.

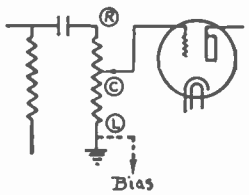


FIGURE 39

The AF "Shunt" control circuit is one in which the control is shunted across the Source of Audio frequency voltage, either as indicated in Circuit 15 (Figure 39), or as in the Short Out type of circuit as is shown in Circuit 33 (Figure 40).

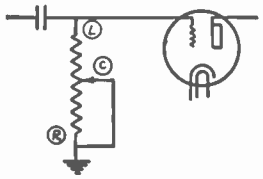


FIGURE 40

Circuit 33 (Figure 40), is not recommended because of distortion caused by the variation of the "plate load" of the preceding tube. Returning to Circuit 15 (Figure 39), note that the left-hand terminal of the control is the low volume or ground connection of the control and that the signal is applied to the right-hand terminal through the coupling condenser, which also serves to block out the DC plate voltage of the preceding tube.

In this type of circuit the control is actually part of the plate load of the preceding tube. This load is made up of the coupling condenser (capacitive reactance), **the resistance of the control and the resistance of the plate coupling resistor.** The input admittance of the tube must be considered. This is best determined by consulting tube manufacturers' data wherein you will often find a note: **"When using resistance coupling, the grid resistor for this tube should not exceed 'blank' ohms."** This is one way of saying that the admittance of the tube is rather low and that a high value of resistance cannot be used.

Volumes have been published on the subject of "Impedance Matching" i. e., the relation of the load impedance to the impedance of the source or generator. We regret that space limitations do not allow more than a mention of this subject as applied to the above control circuits. The important point is that **the resistance of the control is determined by the required plate load of the preceding tube, and by the admittance of the grid circuit of the tube. It is also influenced by the coupling condenser and the plate resistor of the preceding tube. Thus we have a series parallel circuit made up of these three elements and also the consideration of admittance of the tube.**

Circuit 16 (Figure 41) is an illustration of the second type of Audio Shunt control circuit.

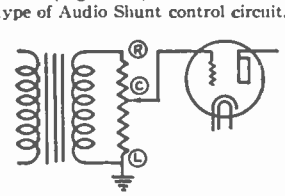


FIGURE 41

In this circuit we have approximately the same connections as for Circuit 15 (Figure 39). Note that the control is connected across the secondary of an Audio transformer. This gives a different picture, in that the control resistance is determined to a certain extent by the Impedance Ratio of the transformer in addition to the other factors, such as plate load and admittance, previously mentioned.

Circuit 96, page 225, is a peculiar reversed type of the Audio Shunt circuits. The same considerations, such as taper and resistance, also apply to this circuit.

Resistance Value of controls for this type of circuit usually range from 100,000 ohms to 2 megohms. In replacing controls the original resistance value should be approximated, thus for 200,000 ohms use 250,000; 350,000 ohms may be replaced with either 250,000 or 500,000 ohm values.

Taper of controls for use in these circuits **is always** Yaxley No. 1 Left-Hand. These circuits give but little trouble.

Audio Control Circuits

This designation is applied to any control which varies the Audio frequency voltage or current as a means of controlling the volume of a receiver. With one exception, they are mostly variations of the Shunt type of Audio circuits. The exception is Circuit 18 (Figure 42).

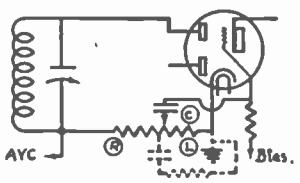


FIGURE 42

In this type of circuit the control acts as a load resistor, commonly referred to as the load of a diode rectifier.

The signal current generated in the transformer secondary is applied to the diode plate or plates and to the resistance of the control.

The signal current is an alternating current, the same as our usual power and light supply. The frequency is determined by the resonant point of the transformer, usually several hundred kilocycles, i. e., 465, 175, or other frequencies. When the plate of the diode goes positive, in relation to the control, a current, the value of which depends on the voltage and load resistance, flows from the cathode to the plate, through the coil and resistance of the control and arrives back at the cathode, thus completing the circuit. The end of the control which is connected to the secondary is at a potential above the cathode. **"There is a voltage drop across a resistor when a current is flowing through it." The polarity of the voltage drop is negative at the secondary end of the control, with respect to the cathode of the tube.**

The voltage developed across the diode load is usually thought of as having two components, first the DC voltage developed by the rectifying action of the diode and second, the Audio Frequency voltage. This is fully explained in the graph shown in Figure 43.

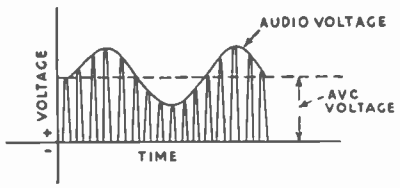


FIGURE 43

This graph shows the voltage appearing across the diode load.

This is the audio frequency voltage applied to the grid of the tube (through the control) **and in addition, it is also applied to a "filter" from which it emerges as DC, the value of which is directly proportional to the signal voltage induced in the secondary coil. As the signal voltage rises in value, so does the DC potential. The DC can be used as a "bias" voltage to give automatic volume control.**

The audio frequency component is taken off the control resistance and applied to the grid of the tube through the blocking condenser. In this circuit, **the DC component of the signal does not affect the grid circuit of the tube.**

In a certain type of this circuit, similar to Circuit 62 (Figure 28), there is no blocking condenser. **The DC potential across the control is applied to the grid so that the bias on the grid varies with the signal intensity, therefore the tube is said to be**

"signal biased." This type of circuit is used in certain "Quiet" AVC circuits wherein the first audio stage is biased to "cut off" (with no signal). When a signal is applied to the diode, the DC component, appearing across the control, counteracts the bias applied to the tube. When the signal is strong enough to overcome the "overbias" on the tube, the signal will be amplified and appear at the speaker.

Tapers for controls for these circuits are Yaxley No. 1 Left-Hand for the first type and in most cases Yaxley No. 4 Linear for the second type, because of the common use of "Sharp Cut-Off" type tubes in this position.

Tapped Control Circuits

The three basic types of circuits using the tapped control are: first—where the control is tapped in order to provide different values of voltage, such as in an AVC circuit; and second—where the tap is brought out so that automatic tone compensation may be accomplished; third—where it is desired to use one control to act upon two circuits; for example, to give either radio or phonograph control.

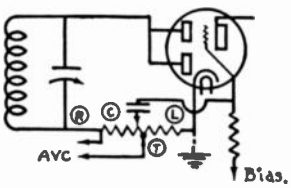


FIGURE 44

Circuit 19 (Figure 44), is a circuit employing what might be termed the voltage type of tapped control, in that the tap is brought out so that two different values of automatic volume control voltage may be had.

A study of the connections of the control reveals that the maximum DC voltage, as developed across the control, is used for Automatic Volume Control in a portion of the preceding circuit. The design of the receiver is such that only a fraction of this voltage is required in certain parts of the circuit. The easiest and the best method of obtaining this fractional voltage, is to tap it off the control. This assures the correct relation between the two values of AVC voltage which might not be obtained by the use of a separate resistor net-work in parallel with the control, when one considers that the control resistance changes, with wear and age and in addition, the resistor net-work would add to the cost.

This type of circuit and/or connections is perfectly satisfactory, except in a circuit such as Circuit 62, (Figure 28), wherein the control is used as the diode load resistor, and furnishes signal bias to the succeeding tube.

The second type of tapped volume control circuit is that wherein the tap is used to obtain automatic tone compensation with rotation of the control; i. e., an increase in apparent Bass response at the lower volume levels to compensate for a deficiency of the ear.

Circuit 20 (Figure 45) illustrates most clearly the usual connections for the tone compensated type of tapped control circuit.

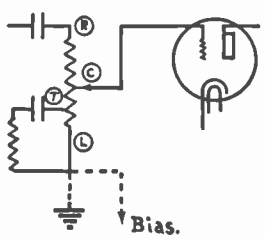


FIGURE 45

The action which takes place in this circuit is as follows: With the control arm at the Right-Hand (R) terminal, the signal is fed directly to the grid of the tube without being affected by the circuit. As the control arm is rotated toward the "Left-Hand" (L) terminal, the effect of the tap, with its associated circuit, consisting of the condenser and resistor connected from the tap to ground, becomes pronounced. The condenser, with or without a series resistor, as shown in the illustration, acts as a bypass for the higher frequencies of the signal. When the arm is at the tapped position, or is at any position between the tap and the "Left-Hand" terminal, the higher frequencies of the signal are by-passed to ground. It appears to the ear as though the bass portion of the signal has been increased.

The position of the tap, that is, the relation of the amount of resistance between the left-hand terminal and the tap, and the resistance between the tap and the right-hand terminal determines the signal level at which the tone compensation becomes effective.

In a tapped control circuit, the percentage of attenuation, of the higher frequencies of the signal, is determined by the capacity of the condenser, and where used, the value of the resistor. The resistor is employed to broaden the action of the condenser and to prevent a rather sharp attenuation of the higher frequencies.

We have covered the basic action, and although a great many varieties of circuits are used, the basic law rules all of them.

One of the latest developments in the use of tone compensated control circuits, is illustrated in Circuit 100 (Figure 46).

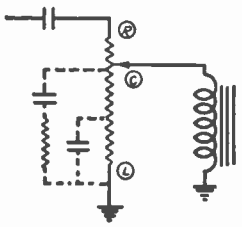


FIGURE 46

This shows a control circuit wherein there are two taps on the control, both used for tone compensation. The action in this circuit is basically the same as the action in any tone compensated control circuit using a single tap, except that here we have the compensating action in two phases. The first is not nearly so noticeable as the second. In simple words, when the control arm is in the full volume position, there is practically no compensation in the circuit, but as the signal value is reduced, there is a slight amount of compensation at the first tap, and a much greater amount at the second tap. The reason for this arrangement is to give a very gradual tone compensation, more gradual than that to be obtained by the use of a single tap, particularly where it is desirable to have a rather large attenuation of the higher frequencies or where two different bands are to be attenuated.

The third type of tapped control circuit is illustrated in Circuit 82 (Figure 47).

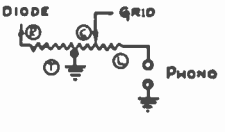


FIGURE 47

In this circuit the control is center tapped and is made with two separate tapers which meet at the tap, so that in effect there are two separate controls. When the arm of the control is to the left of the tap the control acts as the radio control. When the arm is to the right of the tap it controls the phonograph signal. Circuit 28, page 223, illustrates a slightly different circuit often used in amplifiers. The action is the same as described with the exception that, here, the sources of signal may be microphone and phonograph. Yaxley control number TRP609 is especially designed for these types of circuits.

When replacing a tapped control, select a Yaxley TRP or TM control having the same overall resistance as that of the original AND BE SURE that the resistance between the left-hand terminal and the tap (with terminals down and facing the shaft side of the control) is duplicated within reasonable limits by the Yaxley control which you select.

Do not be confused by the fact that the Yaxley tap terminal may be in a different position than that of the original control. The tap value of Yaxley controls is determined upon a scientific basis and not by the mechanical replacement of the tap.

Taper of controls for use in tapped volume control circuits is roughly the same as for audio control circuits. It is sometimes necessary to distort what would otherwise be a logarithmic taper, in order that the tone compensation will not occur at such a fast rate as to cause an apparent hop-off in the signal attenuation.

Tone Control Circuit

Tone controls are supplied with radio receivers so that the user may adjust the tone characteristics to suit a personal preference.

The usual tone control consists of a condenser in series with a variable resistance so connected that when the resistance of the control is zero, the higher frequencies of the signal will be attenuated; i. e., by-passed, and will not appear at the loud speaker.

There are many types of tone control circuits. Fundamentally, all of them act upon this principle. There are a few tone control circuits arranged to really boost the bass response of a receiver. There are certain circuits so arranged that when the control is turned in one direction, the higher frequencies are attenuated. When turned in the other direction, the lower frequencies are attenuated. This type circuit can only be successfully employed in a receiver having a flat response over the whole audio frequency spectrum.

Circuit 21 (Figure 48) illustrates what is popularly known as a "Grid circuit" tone control.

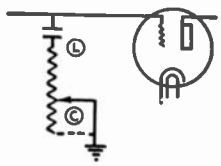


FIGURE 48

This circuit is seen to consist of the condenser and the variable resistor. The action of the circuit follows: When the control arm is at the "Left-Hand" (L) terminal, the condenser is seen to be shorted directly from grid to ground. Inasmuch as the Capacitive Reactance of a Condenser decreases with an increase in frequency, it is easy to see that the resistance; i. e., "Capacative Reactance" of the condenser is much lower at the higher frequencies and that they are effectually short circuited and cannot influence the grid of the tube to any great extent. As the arm of the control is rotated toward the right hand terminal, resistance is gradually introduced into the circuit, in series with the condenser. This increasing resistance gradually adds to the resistance; i. e., Capacitive Reactance of the condenser. It will be seen that the variable resistance is a convenient means of reducing the Capacative Reactance of the condenser. Of course, the same action could be obtained by using a variable condenser. However, the space required by a variable condenser of a size suitable to obtain the desired action would be entirely prohibitive. Therefore, a fixed condenser and a variable resistance is used to obtain the same action. In the design of a tone control circuit of this type, a control having a resistance value many times that of the "resistance"; i. e., "Capacitive Reactance" of the condenser (at the lowest frequency to be considered) is chosen, in order that when the moving arm of the control is at the right-hand terminal there will be very little, if any, attenuation of the higher frequencies of the signal.

Circuit 22 (Figure 49), illustrates the "plate circuit" type of tone control.

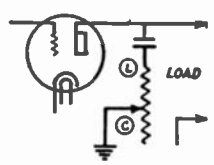


FIGURE 49

The connections and action of this control circuit are practically the same as that of the previously discussed grid circuit type, with of course the exception that the condenser is connected to the plate of the tube.

There is one outstanding difference between the grid circuit and plate circuit types of tone control. The impedance of the ordinary grid circuit is in the order of 100,000 ohms or more, whereas the impedance of the plate circuit, particularly of the output or power tubes, ranges from approximately 2,000 to 20,000 ohms. As tone controls are in "shunt" with the respective grid or plate circuits, it is easy to see that in a grid circuit, a small condenser and a large value of resistance must be used. In the plate circuit, a larger condenser and a lower value of resistance is required to give the same amount of tone control.

Another consideration in the action of these two types of tone control circuits is the fact that **there is little voltage, other than that of the signal, impressed upon the grid circuit type of control. In the plate circuit type of tone control the condenser is subject to the full plate voltage of the tube. When used in the plate circuit of a high-powered amplifier, the control must be able to dissipate considerable power.**

Failure to take this factor into consideration has caused a good bit of grief to service men who have installed tone controls in power amplifiers, in that they forgot that the control might have to handle 4 or 5 watts of power when used in this position, with the result that they burned out the control.

Resistance Value of controls for use in tone control circuits ranges for the "Grid" type from 50,000 to 500,000 ohms inclusive. The resistance value of controls for the plate type ranges from 5,000 to 50,000 ohms, in some cases, to a maximum of 150,000 ohms. **The exact value of the control is dependent upon the amount of high frequency attenuation desired.**

Taper used in tone controls is generally of the Yaxley No. 1 Left-Hand type.

A simple rule, regarding taper, to be observed when replacing tone controls is: "When the bass position is to the left of the knob, use a Yaxley No. 1 Left-Hand Taper, or, when the bass position is at the right-hand side of the knob, use a Yaxley No. 2 Right-Hand Taper."

Another convenient rule to be applied when replacing tone controls is: "When only the center and left-hand terminals of the control are used, use Yaxley No. 1 Left-Hand Taper, or, when only the center and right-hand terminals of the control are used, use Yaxley No. 2 Right-Hand Taper."

For the combination Bass and Treble control circuit where the control gives Bass attenuation when turned in one direction, and Treble in the other direction, use Yaxley No. 4 Linear taper.

Trouble encountered in tone control circuits is usually in burning out of the control because of the break-down of the condenser. This occurs only in the plate circuit type of control. The cure for this, of course, is to install a new condenser of the same value of the original before attempting to replace the control.

Additional tone control circuits of the grid type are illustrated by Circuits 39, 41, 57, 65, and 72, appearing on pages 223 and 224. Additional tone controls of the plate type are illustrated in Circuits 34, 44, 80, 85, 95, and 103, on pages 223 to 225.

"Losser" Type Control Circuits

Losser type volume controls were at one time in fairly common use. The general development and improvement of circuits obsoleted this type of control circuit.

Circuit 84 (Figure 50), illustrates one common type of "Losser" control.

This control was employed in a receiver designed only a few years ago; in fact, one of the early receivers using AVC.

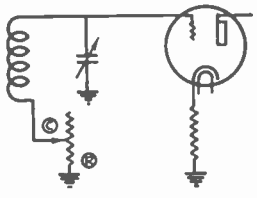


FIGURE 50

This circuit is an outstanding example of all "losser" type control circuits. **The reason for the peculiar name applied to this type of circuit is that the control introduces a "loss" into a circuit. The word "losser" indicates that the control destroys the efficiency of the circuit.**

To explain the action of this circuit it is necessary to briefly review the action of a tuned circuit.

The voltage developed across the tuned circuit; i. e., from grid to ground, is maximum when the impedance of the circuit is maximum; i. e., at resonance; as is shown by the formula L/RC. Where L is the inductance, R is the resistance and C is the capacity.

This formula shows that an increase of R will decrease the impedance of the circuit and lower the voltage applied to the grid of the tube.

When the control arm is at the Right-Hand terminal, the lower end of the coil is grounded. In this position the control has no effect on the tuned circuit. When the arm is rotated, resistance is introduced into the circuit. This is, of course, an increase of "R" in the formula.

It will be seen from this formula and explanation, that as resistance is introduced into the circuit, the voltage applied to the grid of the tube is reduced, and from the explanation, it is clearly seen that **any control which destroys the efficiency of a circuit, can very aptly be termed a "losser" type control.**

A characteristic of this type of control is that it tends to broaden the resonant peak, resulting in reduced selectivity.

Resistance Value of controls for "losser" type circuits is dependent upon the circuit with which they are used. In the example given, the resistance, for a circuit tuned to 175 kilocycles, is 10,000 ohms. This might be taken as an average value for this type of circuit.

Taper for controls used in a circuit as shown in Figure 93, is of the Yaxley No. 2 Right-Hand type, because the control is a Series Control, and as we have previously explained in the chapter on Taper, a series circuit requires the use of a Right-Hand taper.

"Dual" Control Circuits

The expression "Dual Control Circuits" is applied to all circuits using two controls driven by the same shaft.

The reason for using a dual control circuit is that it is often necessary in order to obtain complete attenuation of all signals.

The first of these types to be discussed is one of the most common, illustrated by Circuit 23 (Figure 51).

The control is applied to the grids of a push-pull amplifier. This action is necessary as it would be impossible to control the volume on only one side of the circuit.

Study of the control connections in the illustration reveals that as the control is rotated, the arm moves from the center of the diagram, where the letter "L" indicates the Left-Hand terminals of both sections of the control, outward toward the Right-Hand terminals of the control, which are indicated by the letter "R."

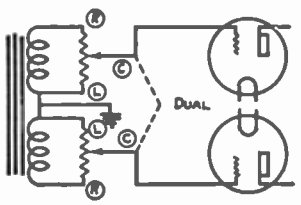


FIGURE 51

A control for use in this circuit would consist of two sections, each of the same resistance and taper.

Yaxley furnishes "Universal Dual" replacement controls, suitable for use in this circuit. These controls are "LL," "MM," and "NN."

Before taking up other types of "dual" control circuits, we wish to point out that Circuit 36, on page 223 is, for all practical purposes, identical to the one explained above.

The second most common type of dual control circuit is Circuit 24 (Figure 52).

In this circuit we meet a combination of two entirely different circuits, which are controlled by means of a dual control. One section of the control acts as an antenna control of the short-out type. The other section of the control is of the bias type.

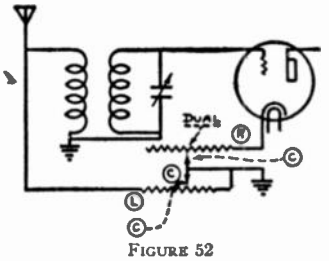


FIGURE 52

The action in the dual control circuit No. 24 (Figure 95) is a combination of the action of the two circuits controlled, in that as the control is rotated from right to left, the bias on the tube is increased and the signal is shorted out at the antenna.

The reason for using a dual control in this circuit, which is, as far as its action is concerned, the same as that of Circuit 6 (Figure 29), is that the conditions in this particular design are such that neither one of the two sections of the circuit could be used for satisfactory control of the volume. Also Circuit 6 (Figure 29) was not applicable at the time of design, because the sensitivity of the receiver was probably rather low, and every possible means had to be taken to get the most out of the receiver. The use of the single control Ant.-Bias circuit would probably reduce the input from the Antenna, whereas a special taper on the Antenna section of the dual control, assures the full possible input.

Resistance Values of controls for use in Circuit 24 (Figure 52) usually range from a minimum value of 2,000 and 5,000 ohms to 10,000 and 50,000 ohms. Yaxley DRP119, of 3,000 and 10,000 ohm value, is widely used in this type of circuit, as is the DRP169, 7,500 and 10,000 ohms. "Universal Dual" controls "CE," "GE," "GG" and "GK" are also widely used for this type dual control circuit.

Circuit 43 (Figure 53) illustrates another type of "Dual Control Circuit." This is one of the combination antenna Short-Out and Bias Control circuits.

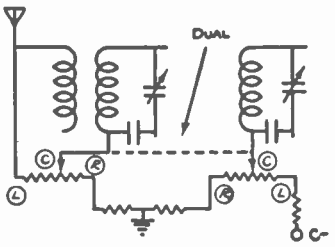


FIGURE 53

Circuit 43 (Figure 53), is used in battery type receivers. A study of the circuit reveals that the action is identical to that of Circuit 24 (Figure 50).

In some cases it might be possible to replace this dual control with a single tapped control, by using Circuit 97, see page 225.

"Antenna-Losser" Type Control Circuits

This type is illustrated in Circuit 38 (Figure 54), and is seen to consist of two sections, one of which is an antenna "Short-Out" type control. The other section serves to short out the RF signal at the plate of the first RF tube.

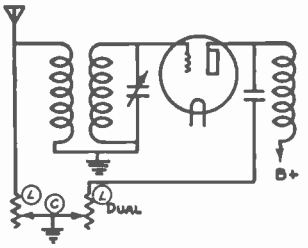


FIGURE 54

This circuit is rather unique in its action, in that when the control is rotated to its full counter-clockwise position, the two arms of the control, as shown

in Figure 54, would be at the top of the resistance. In this position the antenna would be connected to ground. Inasmuch as the "Capacitive Reactance" of the condenser (usually of rather large capacity value) is practically zero at the frequencies involved, the plate is effectively shorted to ground, thereby preventing the flow of RF current through the primary coil and transferring to the succeeding tubes.

A second type of "Antenna-Losser" circuit is illustrated in Circuit 102 (Figure 55).

The action in this circuit is standard for the antenna section. However, the losser section is unusual, in that **the control forms a series circuit with a tertiary, or third coil, which is inductively coupled to the RF transformer between the second and third RF tubes.**

The action of this losser control circuit is rather unique in that **when the control is at maximum volume position, the full resistance value of the control is in series with the tertiary coil, and thus prevents this coil from absorbing energy from the RF transformer.**

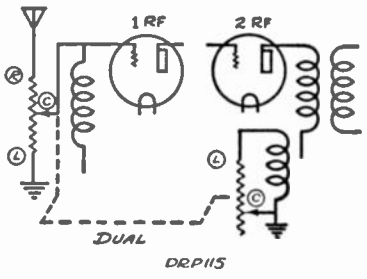


FIGURE 55

The antenna control arm, at full volume position, is at the right-hand terminal of the control. In this position it contacts the antenna. The signal is applied directly to the grid of the first RF tube.

When the control is turned so as to reduce the volume, the arm of the antenna section moves down the control, away from the antenna, reducing the RF input. At the same time the arm of the losser section of the control moves up on the resistance, reducing the amount of resistance in series with the tertiary coil. This reduction of resistance causes the tertiary coil to absorb energy from the transformer and reduces the amount of signal which reaches the grid of the third RF tube.

When the control is at the minimum volume position, the grid of the first RF tube is grounded. The resistance in series with the tertiary coil is at zero. Under this condition this coil will absorb practically all the RF energy present in the RF transformer. Thus—it is seen that there will be no voltage at the grid of the third RF tube.

"Ant.-RF Rheo" Dual Control Circuits

Figure 56 illustrates the circuit of schematic 123.

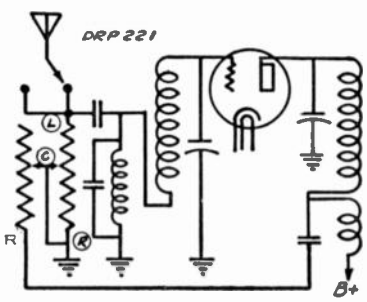


FIGURE 56

Figure 56 has two distinct control circuits, each controlled by its own section of the dual. One section is a standard antenna control, and the other section acts as an RF Rheostat which controls the amount of RF current flowing into the primary circuit of the RF transformer.

A study of the connections of the above circuit will reveal that the primary of the RF transformer is tuned to resonance with the signal. The primary is coupled to the secondary by means of a small coupling coil, immediately below. Immediately below this coil is an RF choke which prevents the RF current from getting into the plate voltage supply of the receiver.

When the control is at the full volume position, the path of the RF current is from the plate through the primary and coupling coil; then through the large condenser, inasmuch as the right-hand terminal of the control is grounded at full volume position to the chassis. The tuning condenser being connected from the plate of the tube to chassis is (at full volume position of the control) effectively connected across the primary.

As the control is turned to reduce the volume, resistance is introduced in series with the tuned primary circuit.

In addition, due to the decreased current flowing in the primary circuit (because of the resistance introduced into its path) **there will be a reduction in signal transfer at the coupling coil. This signal transfer depends upon the amount of current flowing in the circuit. While this action is taking place, the antenna section of the control has reduced the signal input to the grid of the tube.**

Resistance and Taper of the dual control for use in Circuit 123 (Figure 56), are both special. A correct dual replacement control for the receivers using this circuit, is listed in the forepart of the encyclopedia.

"Hum" Control Circuits

As the title suggests, the type of circuit now explained is used to control hum in receivers.

Whenever "filament type" tubes are used, it is necessary that the grid return be connected (in effect) to the center tap of the filament. In other words the grid return must be connected to a neutral point in respect to the filament voltage. If the grid return is connected to either side of the filament, there will be an alternating voltage impressed upon the grid, which will cause an objectionable hum. An adjustable resistor is used to select the "neutral voltage" point in the filament circuit.

The adjustable resistor used for hum control is a potentiometer, usually connected directly across the filament supply. **In some designs hum control is effected by selecting a voltage equivalent to the disturbing or hum voltage, but "out of phase" with the hum voltage, and applying this "out of phase" voltage to the grid of the tube in such a manner as to counteract the effect of the voltage causing the hum.**

The most common circuit for hum control is illustrated by Circuit 37 (Figure 57), which shows the control connected across the filament supply.

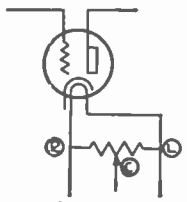


FIGURE 57

In receivers using a direct current for filament supply, as in old battery receivers, it is customary to connect the grid return to one side or the other of the filament, depending upon the polarity of bias desired, it being the usual practice to make the connection to the negative side of the filament. If this were attempted with an AC filament supply, the polarity applied to the grid would shift with the reversal of polarity in the filament circuit. This, of course, would give rise to a terrific hum.

Suppose that we theoretically "stop" or arrest the AC filament supply at such a point in its cycle so that we would have full voltage across the filament. If this were possible, we could take a voltmeter and find a point on the resistance element of the control at which the polarity of the voltage would be neutral. That is, it would be neither positive or negative. This neutral point does not shift with the frequency or the alternations of the filament supply voltage. If we connect our grid return to this point, there will be no alternating voltage impressed upon the grid, and no hum.

Taper is not required in controls for these circuits, because of their use as a simple voltage divider.

Another type of hum control is illustrated in Circuit 30 (Figure 58).

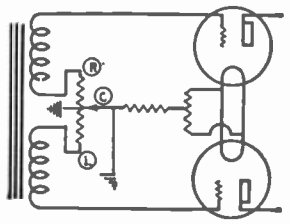


FIGURE 58

In this circuit we see a center tapped control which is connected between the two halves of the secondary of an audio transformer which supplies signal to the grids of a push-pull amplifier.

The action taking place in the above circuit is that when the two tubes are exactly alike, **the neutral point**, obtained by the fixed center tapped resistor across the filament circuit, **provides the correct adjustment for minimum hum.** In this case the arm of the hum control would be at the center position of the control, which point is grounded.

Because tubes for use in this circuit are **rarely exactly alike** in their characteristics, and because of a slight difference in plate current, hum might develop, were it not for the fact that **the control can be shifted to either side** of the center tap **to adjust the bias** supplied to the tubes, **and equalize the plate current** and other factors causing the hum.

Circuit 51 (Figure 59), illustrates an unusual circuit which accomplishes the same results as that of the two circuits which have just been discussed.

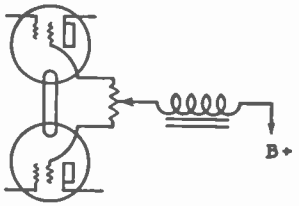


FIGURE 59

A study of this circuit reveals that **the control is connected from one screen to the other** of the two tubes in a push-pull amplifier, usually the output or power tubes.

The arm of the control is connected, in case of Circuit 51, to a choke. **The action of this circuit** is similar to that of Circuit 30 (Figure 58), and Circuit 66 (see page 224). In this case **the control of the hum is accomplished by balancing the plate current of the two tubes by means of varying the screen voltage. As explained, balancing the plate current tends to minimize hum and to prevent distortion.**

Carbon or Wire Controls

Many servicemen are of the opinion that only carbon type controls should be used. This is not true. Carbon and wire wound controls have their distinct individual advantages—advantages which are not alike. The wire wound control is the oldest type. Let us analyze its advantages and disadvantages first.

Advantages of Wire Wound Controls

1. **Absolute accuracy of resistance value** maintained throughout the life of the control. Wire controls can be commercially made to within a tolerance of 2% plus or minus.

2. **High current carrying ability.** In the case of Yaxley wire wound replacement controls, dissipation of a full 5 watts is assured.

3. **Low resistance values** are obtainable with the wire wound type control. Yaxley wire wound controls start as low as one-half ohm.

Disadvantages of Wire Wound Controls

1. **Difficulty of obtaining taper.** Tapers in wire wound controls are rather abrupt.

2. A slight amount of noise is generated when the arm moves from one turn of wire to another. The cause of this noise is the "voltage drop" per turn of the resistance wire.

3. Limited resistance value. Because it is difficult to handle wire of less than .001" diameter, controls of more than 150,000 ohms would be not only extremely difficult to wind, but would require a large amount of space.

Advantages of Carbon Type Controls

1. Ease of tapering—A distinct advantage in that any taper "curve" may be easily obtained.

2. Silent operation, because the resistance change is progressive and not by means of minute steps as in the wire control.

3. Resistance values of carbon type controls **may range into many megohms** without bulkiness or undue difficulty of manufacture.

Disadvantages of Carbon Type Controls

1. Variation of resistance. The resistance value of a carbon control is influenced by humidity, heat, age and wear, in addition to the tolerance which must be allowed in order to obtain commercial production. (See page 184 for further data).

2. Low current handling capacity. The usual limit of dissipation for carbon type controls of approximately 1 1/2 inch diameter is 1 watt. Yaxley carbon controls below 75,000 ohms will readily handle 2 watts, or even more for the lowest resistance values. For midget control ratings see "Midget Controls."

3. Limited resistance value. It is almost impossible, at this time, to successfully make carbon controls of less than approximately 500 ohms.

From this compilation, we see that **each type of control has advantages which offset the disadvantages of the other type. Each type of control is limited in its application to the circuits or conditions requiring the particular advantages of its type.**

In your service work, you are confronted with the **replacing of controls of either type. It is our advice that you replace a wire control with a wire control, and an original carbon type control with a carbon type control. By adhering to this rule, you will avoid customer dissatisfaction,** loss of time and labor, which are distinct possibilities if one type control is substituted for the other.

For your convenience "Yaxley" provides both type controls in all necessary resistance values; and tapers in the range of resistance wherein either type may be used.

There are certain conditions where it might be desirable to change the type of control; i. e., use a carbon control to replace an original wire wound control. This is a matter of discretion for the serviceman. The exchange should not be made unless the advantages to be gained are NOT offset by the disadvantages of the particular type control. Quite often this can only be correctly ascertained by trial and error.

For your advantage, we list below a table showing the Yaxley wire wound and carbon types which are interchangeable as to resistance value and taper.

Wire	Carbon
E7	E12
F7	F12
G7	G12
H7	H12
G	UC501

Physical Requirements

In considering the physical requirements of replacement controls, the question of control size is the first specification to be met. At the present time the majority of controls, both original equipment and replacement types, fall into two classifications. The first group, popularly termed "standard," are of 1⅜" or 1½" diameter, while the second group is the midget type or those controls of roughly 1⅛" to 1¼" diameter.

It is usually advisable to replace a control with one of equivalent physical size, except in cases such as audio circuits where there is no heavy current condition. In these instances a midget control is often specified to replace the larger 1½" diameter control, so that the stock of controls normally carried by the serviceman may be kept at a minimum.

The second physical requirement is that of duplicating or equalling the original shaft design. All Yaxley controls of the Universal type (letter types "M," "N," "K," etc., TRP tapped replacements, and the "MR" midget series with fixed shaft) employ what is termed the Universal shaft. In addition, this Universal shaft appears as SS1 in the plug-in series for use with Yaxley "UM" and "TM" controls.

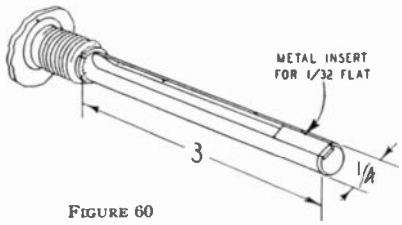


FIGURE 60

The Universal shaft (illustrated in Figure 60) is an aluminum alloy shaft 3 inches in length with a special channel extending its entire length. This channel makes it possible to use the shaft for either the ⅛" or ⅛" type flat. For the ⅛" flat (either set screw or push on knob) simply place the metal insert at the end of the channel and assemble the knob. For the ⅛" type flat the edges of the channel should be scraped or cut away until level with the bottom of the groove. This is easily accomplished with a file, knife, or the edge of a screw driver. This shaft will service approximately 60% of all replacement applications.

For applications which cannot be readily serviced by the use of the Universal control, we are presenting a specialized discussion covering first, automotive controls, and second, an explanation of the replacement system employed in the Yaxley "UM" and "TM" midget controls.

Automobile Controls (Large Diameter)

A study of auto radio controls reveals that a 1/4" diameter shaft, with a longitudinal slot, the width of which is usually 3/32", is by far the most popular type. Therefore, we will first demonstrate the universal replacement features of the Yaxley line with this type shaft.

Figure 61 shows a type of slotted shaft which is often used with auto receivers. This type of shaft is usually required where the control is operated by means of a removable key, as this allows the locking of the receiver by removal of the key.

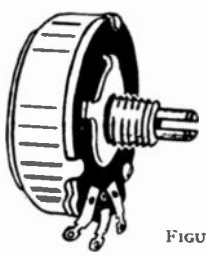


FIGURE 61

Yaxley supplies two controls equipped with this type shaft. These are:

SRP251—250,000 ohms—No. 1 Left-Hand taper.
SRP252—500,000 ohms—No. 1 Left-Hand taper.

These controls have the Yaxley attachable switch feature. In addition the shaft may be cut off flush with the bushing wherever the application requires a control having a slotted shaft which is flush with the bushing. Such controls are used by certain models of Arvin, Ford and RCA Auto Receivers.

For the replacement of the slotted type shaft where the length of the shaft lies between 1/4" and 2" (as measured from the bushing), Yaxley presents in Figure 62 the type of shaft used in Yaxley controls—types:

UC511—250,000 ohms—No. 1 Left-Hand taper.
UC512—500,000 ohms—No. 1 Left-Hand taper.
UC514—1 Meg.—No. 1 Left-Hand taper.
TRP620—2 Meg.—Tapped at 1 meg. Special Tapped Taper.

These controls will supply a replacement for any automobile receiver requiring a slotted shaft less than 2" long.

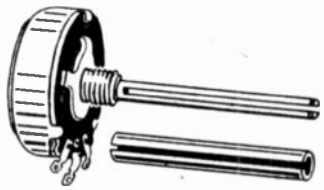


FIGURE 62

Figure 62 shows that this shaft is equipped with a sleeve. **When cutting the shaft it is advisable to cut through the sleeve, except in rare cases where it is necessary to have the sleeve project beyond the end of the shaft.**

For replacing controls having a slotted shaft over 2" in length, the UC515 Control is recommended.

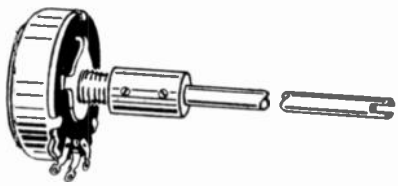


FIGURE 63

Figure 63 clearly reveals that Yaxley Control Type UC515 of 500,000 ohms No. 1 Left-Hand taper will readily replace any control wherein the shaft length is not more than 5 1/2".

By cutting off the shaft and using the coupler to connect it to the control, you may easily and quickly make a replacement.

Because controls of values other than 500,000 ohms rarely are equipped with a slotted shaft greater than 2" in length, Yaxley has not found it necessary to furnish the above described type of control in values other than 500,000 ohms.

For your convenience, and to assure that you may replace most any control which may have a slotted shaft, Yaxley supplies a Slotted Extension Shaft—RS245 as shown in Figure 64.

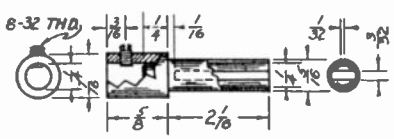


FIGURE 64

A tongue-shaped shaft, with a guiding sleeve, and equipped with a set screw attachment is catalogued as the RS246 and illustrated in Figure 65.

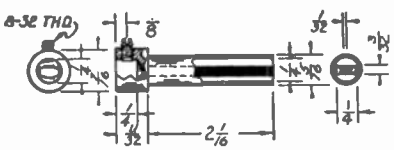


FIGURE 65

For further data on shaft accessories other than those used for automotive radio, refer to pages 228 to 231. Complete descriptions of the accessories and illustrations demonstrating their use are included.

Clutch Type Controls

A large number of auto receivers are constructed so that the "On-Off" switch is located in or upon the control head in place of being attached to the volume control. This is shown in Figure 66.

This arrangement requires a special type of control known as the "Clutch Type" because it contains a clutch which permits the shaft to "slip," to allow the alignment of the rotation of the control with the knob indicator on the tuning head. Install the control and insert the driving shaft, then turn the control knob through its full rotation in both directions. The result

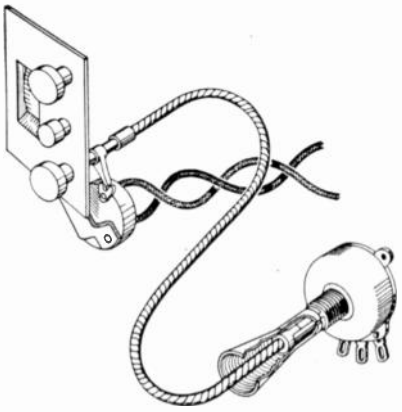


FIGURE 66

is the proper alignment of the moving arm of the control with the driving knob so that the switch operates at the correct position.

Controls having this clutch feature are provided with a plain cover but with a proper portion of the resistance shorted out for the switch action. Midget controls having this feature are marked in the catalogue in the following manner: "UM143, 50M (ohms) Taper I, Clutch." In addition the SRP282 (with short-tongue shaft) is a Clutch-Type control.

Midget Controls

The midget control has been developed in response to a demand for smaller component parts for auto receivers, and the small AC-DC receiver types.

Due to its small size the midget control is not, as a general rule, suitable for use in circuits where the control is called upon to dissipate much more than one-half watt. Therefore, it finds its widest field of use in those circuits generally classed as the "Audio Control Circuits" (such as circuits 15 to 20 inclusive on page 178).

However, some designers have used midget controls in current-carrying circuits of the Antenna-Bias type, where they may be overloaded. Although this is not likely to occur in the receivers made by nationally known concerns, it is a possible source of trouble, particularly in "off brand" or a few "trade name" receivers, where midget controls are often used even though there is sufficient space for the larger type control. **If the original midget control is burned out and a check reveals that the failure is due to excessive current in the control, replace it with a large control if there is space available!**

Midget type controls have been in use for approximately three years. Although the greater majority fall in the taper and resistance values for audio circuits (usually 250,000 or 500,000 ohms and No. 1 left hand taper), there are some eight (8) or more basically different types of shafts for this group. This does not include the various lengths of each type, which if counted, would make the number of different shafts extremely large.

Figure 67 illustrates the new Yaxley Plug-In type controls, and a few of the replacement shafts available.

The connection between the shaft and receptacle is rigid and unfailing. It is accomplished by a novel design that does not require the use of tools to install. It is only necessary to line up the long axis of the ovular shaped lock ring with the slot in the receptacle and push in the shaft, after which, for safety, the lock ring is easily clinched with pliers. Should this clinching be overlooked the possibility of the lock ring aligning itself with the slot is remote.

With the use of the Yaxley Plug-In shaft controls, it is possible to carry a small stock of five or six controls which are capable of replacing, both mechanically and electrically, over 90% of the midget requirements.

For complete coverage of midget control requirements, the Yaxley line includes 58 known basic controls. At the present time a total of 23 Plug-In Shafts provide all necessary types. Since the possible use of any one control is increased 23 times by the plug-in feature, it naturally follows that the complete line has a potential range equal to 1,334 (23 x 58) fixed shaft controls. This provides two results beneficial to servicemen. First, since the stock required is small, a distributor is able to carry a complete line, thereby assuring the serviceman of a reliable source of supply. Second, a serviceman can carry a few popular or representative controls and shafts, and in this manner be able to service a large percentage of sets without immediate reference to his supplier

The most common type of shaft is the ordinary ¼" shaft with a milled flat. This has been standardized as either ⅛" or ⅛" in depth. The ⅛" flat is used either for a "set screw" knob or one type of the push-on knob, whereas the ⅛" flat is for the other type of push-on knob only.

The relation of the flat to the moving arm varies with different receivers and for convenience it is best to check this before plugging in the SSI shaft, because this shaft may be inserted either with the flat on the same side as the moving arm or on the opposite side. Figures 68 and 69 i lustrate this point.

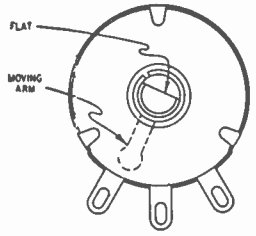


FIGURE 68

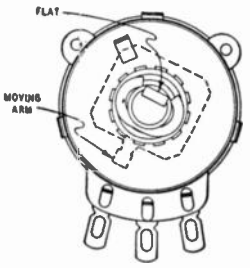


FIGURE 69

The installation of the plug-in shafts is very simple as shown in Figures 70, 71, and 72.

How to Insert "Plug-In" Shaft

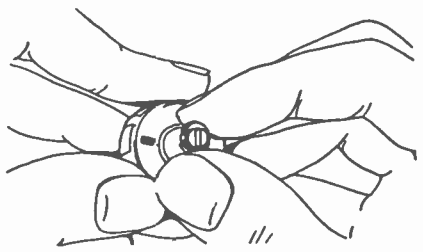


FIGURE 70

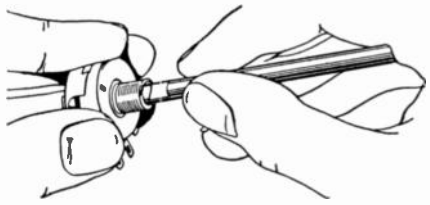


FIGURE 71

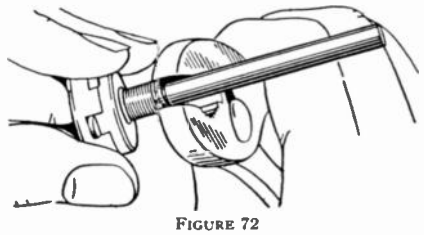


FIGURE 72

How to Cut "Plug-In" Shaft

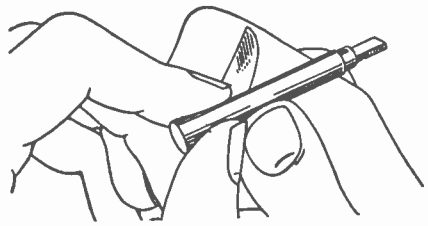


FIGURE 73

The aluminum funnel shaft guide for use with slotted shafts is easily cut to the proper length with a file or knife as illustrated.

The Plug-In (SS) Shafts

Fifteen (15) of the shafts are of such shape or design that their length is necessarily fixed but the other eight (8) are so designed that they will exactly fit many receivers by sawing them off at the required length. This is easy to do. The cutting may be done either before or after plugging in the shaft, though preferably before, as it is easier to handle. Figure 74 illustrates the method of ascertaining the correct length of shaft.

The chart (Figure 75) illustrates the complete line of Yaxley Plug-In Shafts.

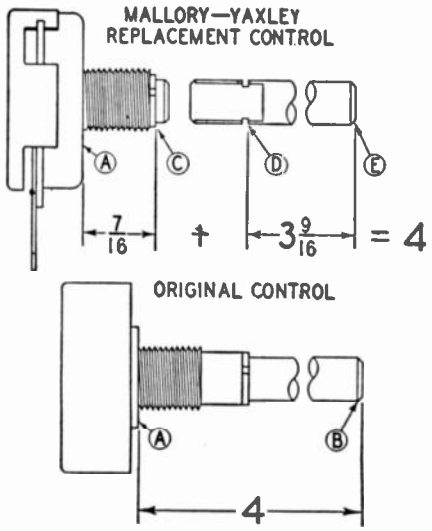


FIGURE 74

Yaxley Standard (MR) Midget Controls

These controls have the same constructional details as the Universal Midget types with the exception of the Plug-In Shaft feature. The same high quality is incorporated in the "MR" types, but their use is, of course, limited to fixed shaft application.

Attachable Switches

Similar to the large control, the Yaxley Midget Control is designed for a snap-on switch.

The line switches for the Yaxley Midget Controls are necessarily smaller than the switches for the large Yaxley controls. They are of rugged construction. For your convenience the connections of the various switches are shown in Figures M26, M26T, M27, M28, M23, M24. The M27 may be used in place of the M23 as shown in Figure M27 (3-pole closing).

Quick and Easy Replacement of Controls

Replacement of controls in receivers will always be an easy and simple matter if the instructions outlined in this chapter are followed.

1. **Before removing the control,** or even unsoldering the leads **TRACE OUT THE CIRCUIT** and **be sure to note the connections** of the leads to the control. It is advisable to **make a sketch** so as to **prevent confusion** when attaching the leads to the new control.

2. Remove the control from the **chassis.**

3. **Measure the overall resistance.** If the control is burned out, it will be necessary to open it and measure the various remaining sections of the resistance, and from this total, calculate the amount of resistance which has been destroyed, so as to obtain the overall resistance value.

4. **Ascertain the taper. To measure the taper,** it is only necessary to **set the moving arm** of the control **at the center of its arc of movement.** It is not necessary to remove the cover to do this, inasmuch as the shaft of the control may be marked, its total travel ascertained from this mark by rotating the shaft, then set the mark at the center of the indicated travel. **With the arm of the control at the center of its rotation, measure the resistance of the two halves of the control. When facing the shaft end of the control and with the terminals down or toward the operator, if the resistance between the center terminal and left-hand terminal is lower than the resistance between the center and right hand terminal, replace with a Yaxley No. 1 Left-Hand tapered control. If the resistance between the center and left hand terminal is greater than that between the center and right hand terminal, the control should be replaced with a Yaxley No. 2 Right-Hand tapered control.**

In case the resistance of the two halves of the control is equal, a Yaxley control of No. 4 taper should be used.

5. **If the control is tapped, measure and note the resistance between the left hand terminal and the tap.**

6. At this point, you have the following information which is to be used in selecting the correct Yaxley replacement control:

(a) Circuit.
(b) The overall resistance.
(c) The taper.
(d) Tap value (if control is tapped).
(e) Shape of shaft.

Procedure:

If shaft is of standard 1/4" diameter (regardless of milling [flat] on the shaft), proceed as follows: For purposes of explanation we will assume that we have the following information: **50,000 ohms resistance, left hand taper** and no tap. Therefore, it is necessary to consult only a listing of Yaxley controls and select a control of 50,000 ohms No. 1 Left-Hand taper, which will be the Yaxley type K12, MR33, or UM133.

However, if we are dealing with a tapped control, it is necessary to consult the table of Yaxley TRP or TM controls, first looking for the TRP or TM control having an overall resistance value nearest that of the original. Then choose the TRP or TM control having the same overall resistance which is tapped at a value nearest that of the original.

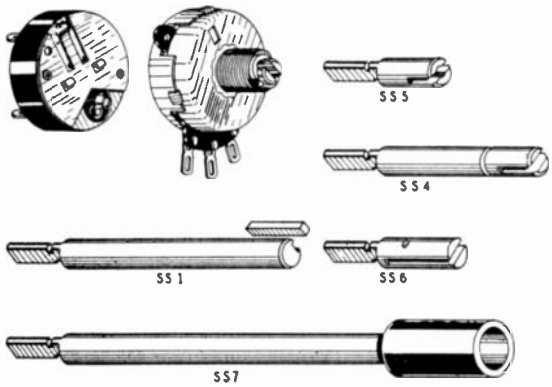
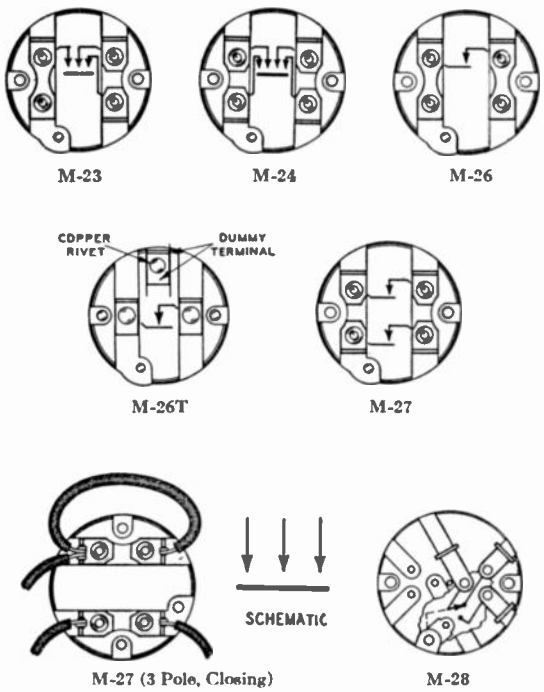


FIGURE 67

Yaxley Midget Attachable Switches



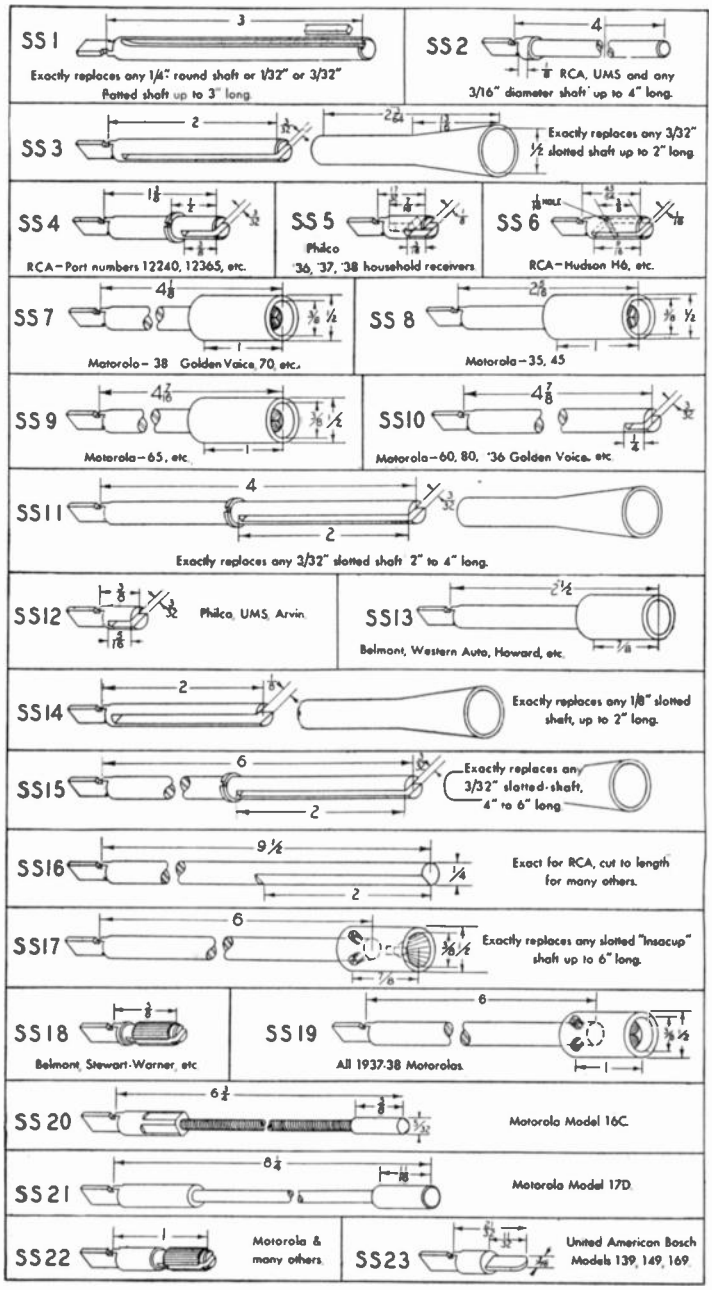


FIGURE 75

"A" NOTES

Explanation of "A" Control Notes

The following section of the MALLORY-YAXLEY ENCYCLOPEDIA is without doubt the finest and most helpful compilation ever presented to servicemen.

This section of the encyclopedia enables you to have detailed instruction on replacement of controls. It also allows us to be perfectly frank with you. It permits the listing of receivers and information which will enable you to make a quick replacement.

WE STRONGLY ADVISE FOR YOUR OWN BENEFIT THAT YOU READ "A" NOTES. IT WILL SAVE YOU TIME, WORRY, AND MONEY.

A1—Shape of shaft unknown; if slotted or tongue shaped see Yaxley UC511, UC512, SRP251 or adapter shafts RS245, RS246, etc. (See article "Auto Controls").

A2—This control used on some types of this chassis in place of the first mentioned control.

A3—Mechanics of control unknown; select proper Yaxley control having resistance and taper given, or if value is not given, see Note 5. If control is of two sections use a Yaxley dual. See Note 1.

A4—This control used on later type of this chassis.

A5—Resistance value unknown; measure the overall resistance; if control is burned out use the method given under heading "Determination of Taper," then select Yaxley control having an equivalent resistance of the taper suggested. If not suggested see the article, "Determination of Taper."

A6—Use Yaxley GG if there is sufficient space; if not change circuit to use G12. See Circuit No. 6.

A7—Circuit was changed during production so as to use a 500M control.

A8—This receiver was originally equipped with either a Yaxley wire control of 6M ohms, or a carbon control of 30M ohms. Yaxley Type Y control will replace either of the originals. However, if you wish a wire control use the Yaxley F7.

A9—Space available unknown; if not sufficient for the Yaxley DRP119, change the circuit to the ordinary "Ant.-Bias" circuit as shown in Circuit No. 6 and use the Yaxley G12 control; this will be both easy and satisfactory.

A10—Improved signal attenuation may be obtained by connecting the left-hand terminal of the control to the antenna. This gives the ordinary Bias and Antenna type of control circuit.

A11—Original control is in filament circuit. Change to Circuit No. 2 and use Yaxley type G12.

A12—AK receivers for which Yaxley SRP-239 is specified may be serviced with the Yaxley silent carbon control type E12 by installing it in the original bakelite control housing. This is easily accomplished and gives a smooth, silent control. See note 30.

A13—See instructions on page 123 for use of Yaxley No. 7 Switch.

A14—Check original control or circuit to ascertain if the minimum bias resistor is included in the original control. If so use the Yaxley minimum bias plate on the wire controls, or if a carbon is recommended, use the adjustable resistor.

A15—Requires use of Yaxley shoulder nut A11260-12 and also the regular nut. Arrange so that control is set back from the panel so as to clear the dial. Yaxley extension bushing EB247 might be used.

A16—May require use of Yaxley bracket RB248.

A17—Be sure to check the coupling condenser before replacing the control.

A18—Note: Some of these chassis use the Yaxley Type GG Dual Control.

A19—Note: Measure resistance between left-hand terminal and tap (when facing shaft, terminals at bottom), and select Yaxley TRP having same overall resistance and tapped at a value nearest that of the original.

A20—Originally a dual control, this circuit is easily adaptable to the Yaxley Type G12 Control by using Circuit No. 6 as given in the schematics. Refer to Note 14 when installing the control. If desired, Yaxley DRP119 is suitable for this circuit.

A21—This receiver may require a control with a portion of the shaft of smaller diameter to clear the dial; if so, use Yaxley SRP275.

A22—Note: Use Yaxley extension shafts RS242 and RS244. These shafts are attached to the Type T Control and cut to the proper length, preferably by cutting the shaft of the Type T Control and the RS242 Shaft.

A23—Note: When using the Yaxley SRP185 with metal shaft, be sure to ground the shaft near the front of the set by means of a pigtail, if there is any tendency toward oscillation.

A24—Extension shaft required; use RS244 for 3/16" diameter. For 1/4" diameter use RS242 or RS243.

A25—Note: If shaft of UC512 Control is not of sufficient length use the Yaxley Type N Control and extension shaft RS245.

A26—Note: Some of these chassis use a dual control; Yaxley GG is correct replacement.

A27—Used on first type of this chassis.

A28—Volume control for radio tuner section.

A29—Volume control for radio amplifier section.

A30—Note: This is a replacement strip to be installed in the original housing.

A31—Parallel the two sections of the Yaxley No. 7 Switch to prevent overload; see page 123 for instructions on the use and connections of the Yaxley No. 7 Switch.

A32—It is suggested that this receiver be changed to use type '36 tubes in place of the 24 and 26 types, and the 37 in place of the 01A.

A33—Requires Nos. 203 and 212 washers.

A34—"Kennedy" made by Detrola; see Detrola Model 1000.

A35—Note: Controls SRP276 and SRP277 are to be used together and neither is to be used with any other make of control.

A36—Note: Mechanical features unknown; we suggest Control SRP276.

A38—Note: The Antenna section of this control is wired as per schematic No. 4. The other section is wired as follows: the center terminal to type '30 plate, the right-hand terminal to "P" of the audio transformer, and the left-hand terminal to "B" positive. Yaxley GK should make a satisfactory replacement. However, the Yaxley DRP243 wired with the rear section in the grid circuit of the 1st A.F. ('30) as per schematic No. 15, and the front section wired as per schematic No. 2, will give better attenuation in areas of high signal intensity.

A39—Note: Switch used on later types and model KDC only.

A40—Note: Switch used on volume control only on the chassis having a tone control.

A41—Connect left-hand terminal to chassis, center terminal to screen circuit, and right-hand terminal to positive 67.5 volts. (View control from shaft end, terminals down or toward operator).

A42—Note: Cut off the shaft of the SRP251 Control flush with bushing.

A43—Note: Original control was of the inductive type. Replacement with a variable resistance control is highly satisfactory. Connect the left-hand terminal to the antenna and grid, and the center terminal to ground. (Control viewed from shaft end, terminals at bottom).

A44—Original control is a dual; however, only one section is to be used at any one time. The Yaxley G7 is a perfect replacement for the Antenna Shunt section which is most commonly used.

A45—Note: When replacing the tone control, use Yaxley Bracket RB249, or file out the hole in the original mounting bracket. Be sure to use only the left-hand and center terminals of the control.

A46—Original dual control is replaced with single Yaxley Y100MP, which is connected as follows: Center terminal to first audio plate, left terminal to tone condenser, and right terminal through 5,000 ohm resistor to B positive.

A47—If original control is wire and carbon, use Yaxley DRP307. If original is carbon in both sections, use DRP244, with the front section (nearest the shaft) for the screen circuit and the rear section for the Antenna circuit.

A48—Refer to schematic 14. The original control was in the filament circuit. We recommend a change as per Circuit No. 14 using a Yaxley Type "M" Control as a shunt across the detector grid coil.

A49—The DRP222 Control was originally made with a short shaft for use in the chassis 180 (model 181), and requires the use of two RS242 extension shafts when used in the chassis 100 (model 101).

The DRP222 is now being made with a 7 5/32" shaft to fit the chassis 100. When

used in the chassis 180 this shaft should be cut off at a point 1 3/8" from the body of the control.

Note: The chassis 100 requires the use of three terminals on the rear (phono.) section and only the center and right-hand terminals of the front section.

In some cases better ratio of signal attenuation is obtained by connecting the left-hand terminal of the front section to the Antenna so as to obtain a signal attenuation in addition to the bias increase.

A50—The DRP117 Control is an exact replacement for the Yaxley original. The DRP242 Control is an exact replacement for the control in the bakelite housing.

A51—Requires Yaxley FS251 flexible shaft.

A52—Requires Yaxley FS252 flexible shaft.

A53—This control does not require the fixed resistor shunt.

A54—When installing the "CE" control, connect the front section to the Antenna circuit and the rear section to the bias circuit. This is the reverse of the original but has been filed checked and found to give satisfactory results.

A55—The Yaxley No. 14 Switch has four terminals which must be connected as follows: one terminal to chassis, one terminal to white lead and one to black lead with white tracer. Disconnect the 1,500 ohm resistor from the chassis and connect it between the remaining switch terminal and the remaining lead, which goes to C-9 volts and to the grid returns of the 1H4G and 1E7G.

A56—The Yaxley DRP114 has a 250 ohm front section for the bias control (Circuit 8) and a 5000 ohm rear section for the antenna control (Circuit 2). Original control may have had sections in reverse order.

A57—The original control is two megohms.

A58—Left-hand terminal (control viewed from shaft end, terminals down) must be grounded to chassis.

A59—The original control has a dummy terminal. This terminal is the junction point of a condenser and fixed resistor. When using the Mallory replacement, solder together and tape the connections formerly made to this terminal.

A60—May require use of Yaxley EB247 extension bushing.

A61—Can be replaced with Standard Yaxley Control. May require use of RB248.

A65—For emergency replacement use SRP-265 Control.

A66—Wire the switch so that it is shorted when control is turned to extreme counter-clockwise position. (See chapter on "Attachable Switches.")

A67—Disregard the tap in this replacement.

A68—File shaft to duplicate original.

A69—This control requires two Yaxley RS-242 Extension Shafts or the EC240 Coupler and a suitable length of 1/4" shaft.

A70—This replacement (L) requires a slot to be filed or sawed in the shaft of the "L" control, or change of the knob to the standard Philco push-on type.

A71—Note: Requires a 100M No. 1 Taper or "L" Control (subject to the instructions in Note 70) for replacement. In some cases a UC511 Control is satisfactory.

A72—The EC240 is a 1/4" shaft coupler having an internal sleeve to reduce the diameter to 3/16".

A73—For this replacement we advise a change in the volume control circuit, to correspond to Circuit No. 8. Use an A3MP Control and a 4,500 ohm Fixed Resistor in series, in place of the original tapped control.

A74—Due to the many variations in both circuit and control, we advise measuring the original control carefully and duplicating with similar Yaxley Control, or returning original to Yaxley for duplication.

A75—If tone control on the broadcast band is not desired, an L control with No. 7 switch may be used. If tone control is desired, use the SRP284 with No. 7 switch. The short wave band will then be switched on at the extreme right end of rotation. If present circuit leaves dead end of coil open, rewire to short unused portion of coil.

A76—Improved operation may often be obtained by removing the shunt (6M ohms) resistor across the control and using the Yaxley E Control. In extreme cases, use a Yaxley E7 Control and connect as per Circuit No. 6.

A77—If original control has 3/16" diameter shaft end, use Yaxley RS244 Extension Shaft.

A78—Replace with an A2MP Control and an EC240 and a portion of 1/4" shaft taken from the old control.

A79—If trouble with oscillation is encountered in this set, the addition of a 5M ohm resistor, connected from antenna to ground will usually effect a cure.

A80—Be Sure to check the series resistor between the screen circuit and B positive! It it is not a full 20,000 ohms or if it is of the carbon type REPLACE it with a Wire Wound 20,000 ohm resistor. This will prevent the control being burned out and the possibility of a dissatisfied customer.

A81—Select a Yaxley TRP Control of 500,000 ohms total resistance having a tap at the same resistance value (as measured from left-hand terminal) and slot the shaft.

A82—The voltage applied across the SRP-261 Control should not exceed a maximum of 170 volts. If the voltage exceeds this value, the control will burn out. **Important:** Be sure that the bias on the tubes is at the rated value when using the SRP261 Control as a plate voltage control.

A83—The Yaxley DRP221 Control is an exact replacement for the dual control used on the 50, 60, and 70 Series receivers, although it was used interchangeably with the SRP261 Control in the earlier 50 and 60 series. In many cases a change of circuit to the antenna-bias type, and the use of the Yaxley 117 Control will give much better control action.

A84—Question as to available space. If sufficient for 1 1/2" diameter control use a Yaxley "Y" Control.

A85—Because of a tendency toward noisy operation with the present volume control circuit, we recommend a change to circuit 15 using a Yaxley "O" control. Connect a 500M ohm fixed resistor between the leads that were soldered to the outside terminals of the original control. Take out the one megohm resistor connected between the grid of the first audio tube (type 27) and the chassis. Install the "O" control as follows: The right hand terminal to the coupling condenser, the center terminal to the first audio grid, and the left hand terminal to the chassis. (Control viewed from shaft end, terminals at bottom.)

A86—The tone control as connected in circuit 130 has its maximum treble response in the extreme counter-clockwise or normal "off" position.

A87—If control is single section type, use Yaxley UC504.

A88—Ground the cover of the control for this installation.

A89—This control when wired as in the specified circuit has its maximum bass response and switch action (if switch is included) at the extreme counter-clockwise or left position.

A90—Refer to specified circuit and reverse "L" and "R" terminals.

A91—The recommended control requires shunting of its outside terminals with a 1500 ohm resistor such as the Yaxley 71500 to duplicate the resistance value of the original control.

A92—May require use of shoulder nut for mounting.

A93—The Yaxley MN control may be used for this replacement. Use the 500M ohm section in place of the one megohm section of the original. The lower resistance value will not affect the performance of the receiver.

A94—To save yourself time and trouble we advise the use of the Yaxley RS244 conversion shaft which allows the use of the old 3/16" knob with an easily obtainable Yaxley Universal Control. Where the original has a short 3/16" shaft, either drill out the knob or use the later 1/4" type which may be obtained from the set manufacturer.

A95—The original volume control had a 5000 ohm resistor connected between the two actuating arms of the switch. This or similar resistor must be connected in the same manner on the Yaxley No. 7 replacement switch.

A96—Select proper replacement shaft. See replacement shaft (SS types) description, page 174.

A98—The Number 8 switch used in conjunction with this control must be wired so the switch is shorted in the extreme clockwise position.

A99—Connect a 5,000-ohm fixed resistor in series with the right terminal of the replacement control. (Control viewed from shaft side, terminals down.)

A100—The original control has no connection to the resistance on the right hand side. When using the Mallory replacement, remove the wires connected to the right hand terminal (facing shaft side, terminals down), solder together and tape.

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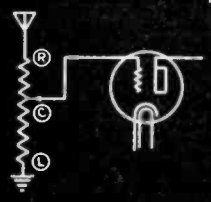

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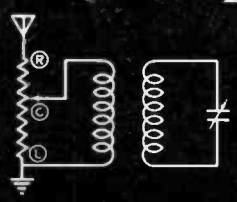

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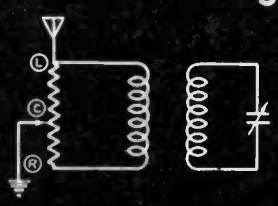

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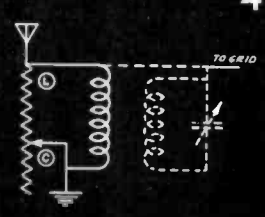

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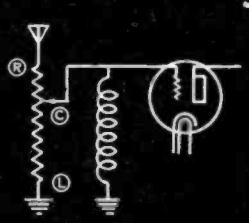

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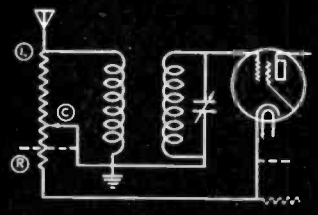

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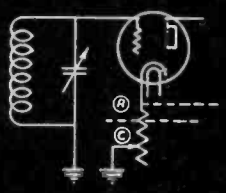

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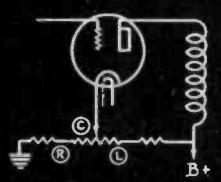

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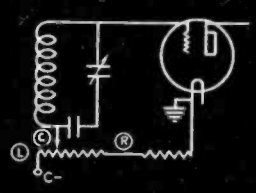

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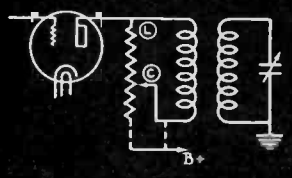

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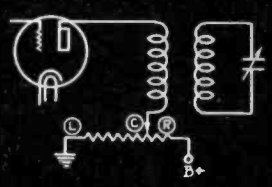

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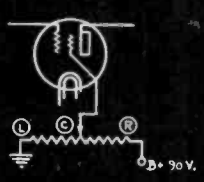

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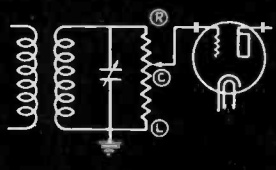

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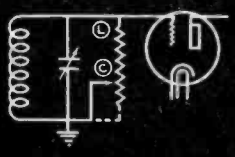

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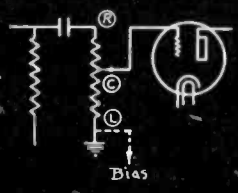

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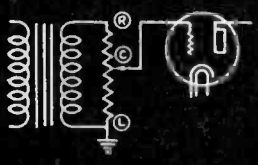

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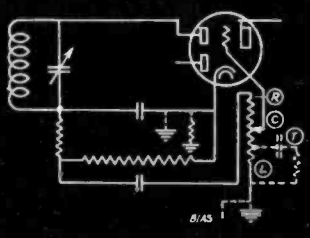

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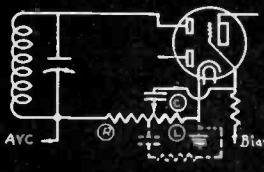

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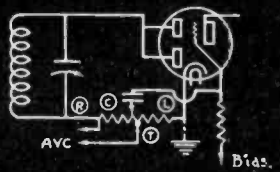

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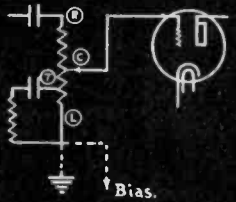

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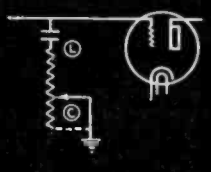

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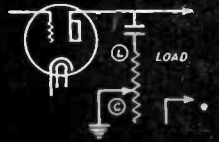

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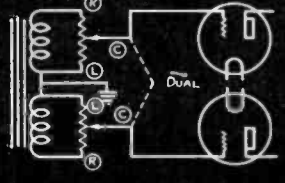

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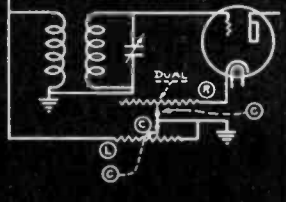

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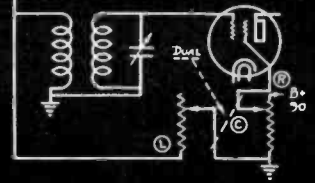

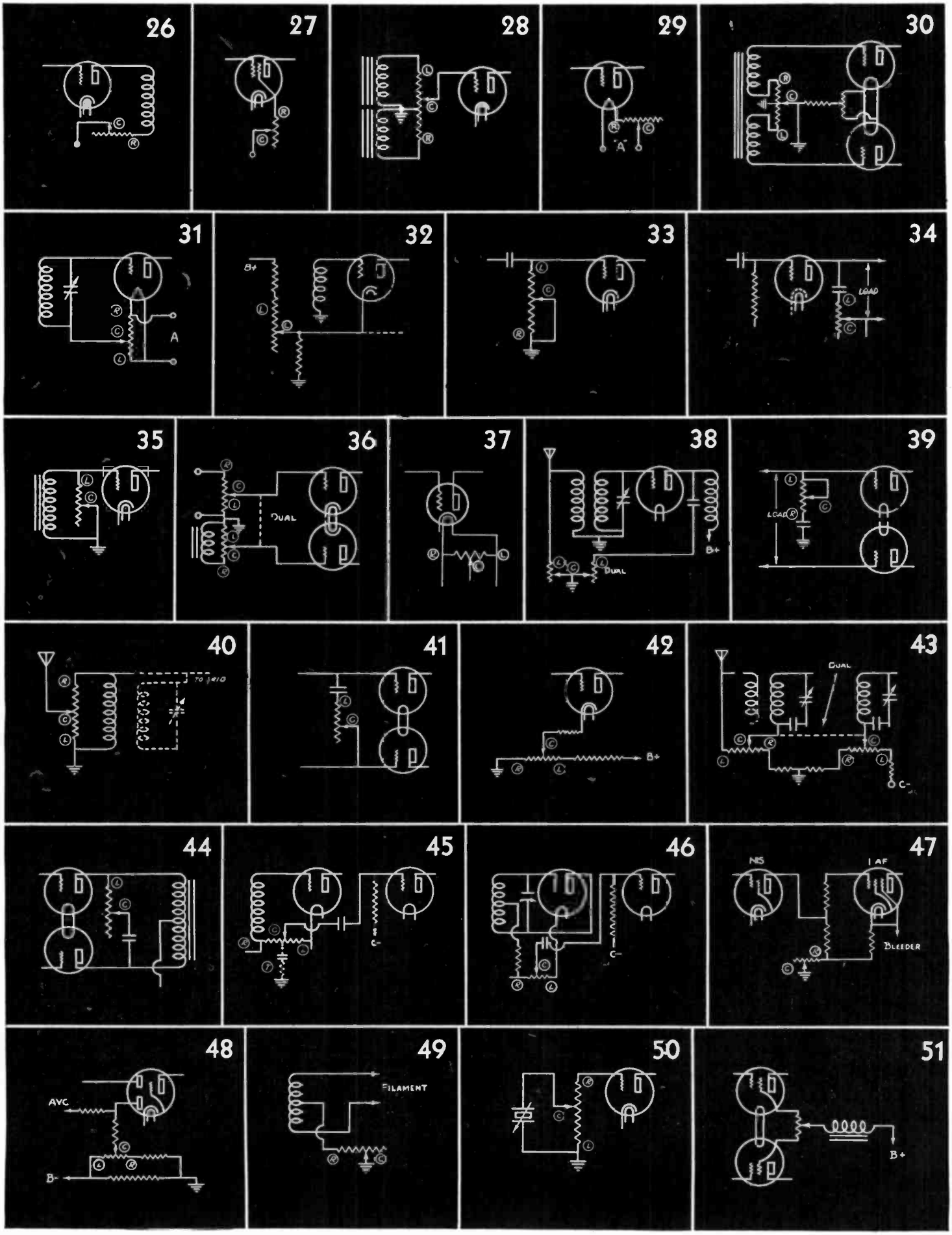
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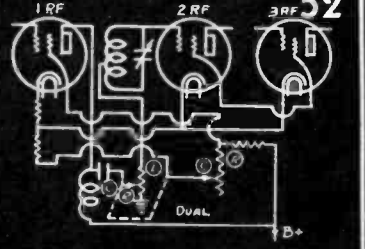

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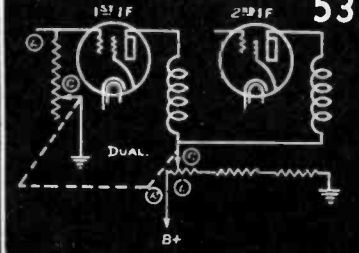

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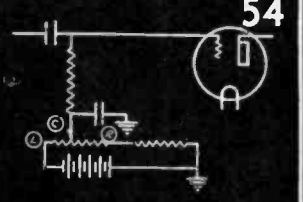

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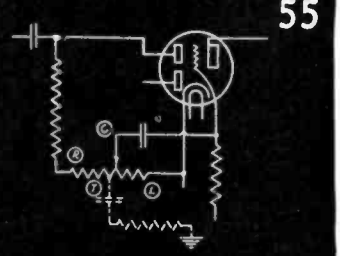

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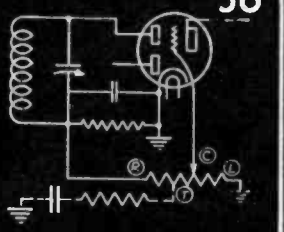

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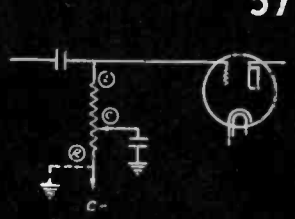

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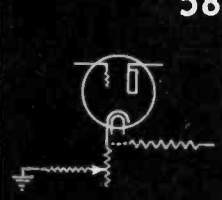

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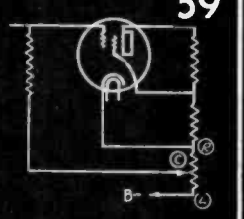

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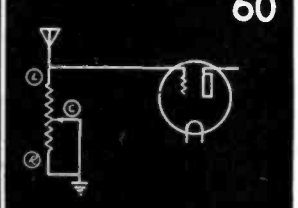

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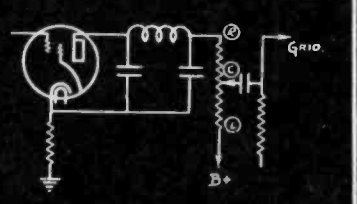

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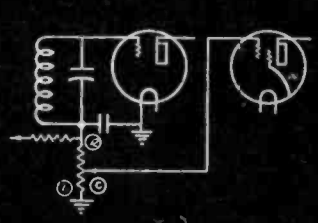

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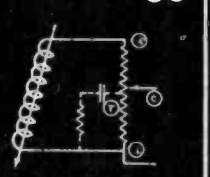

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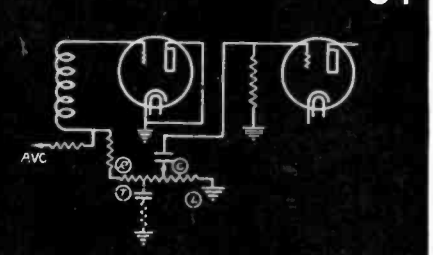

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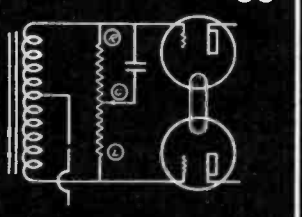

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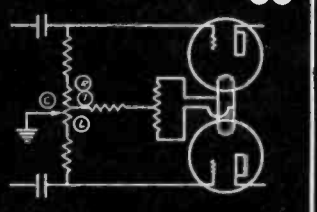

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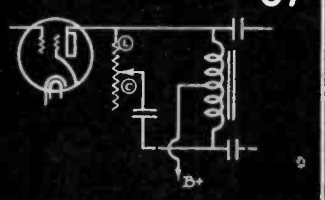

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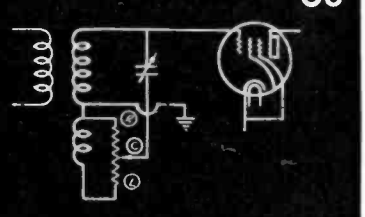

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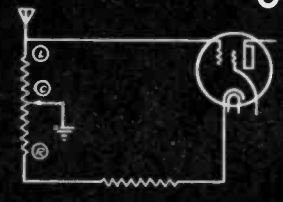

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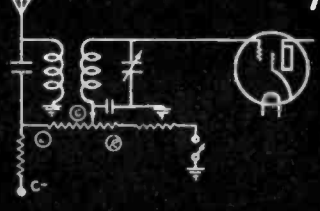

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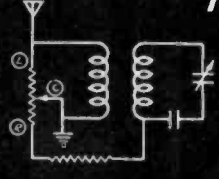

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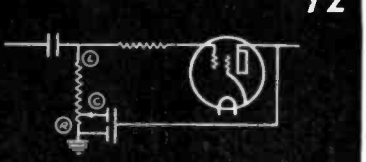

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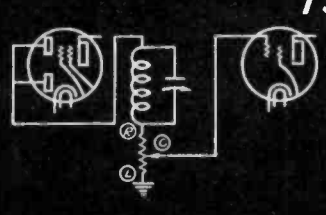

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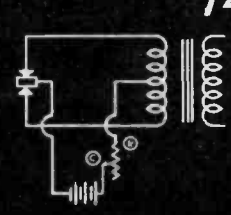

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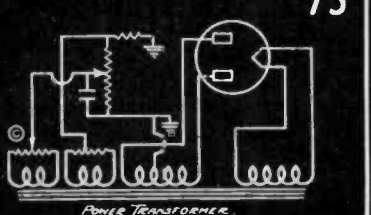

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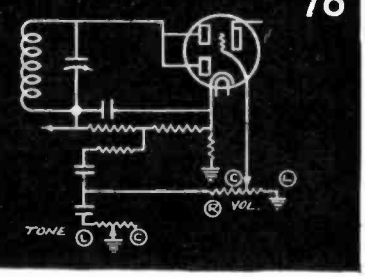

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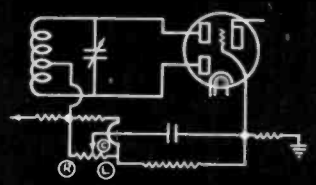

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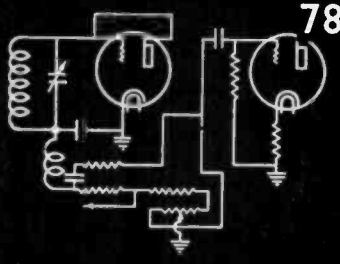

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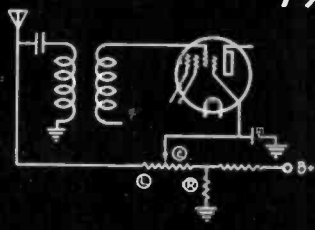

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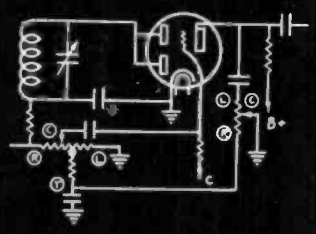

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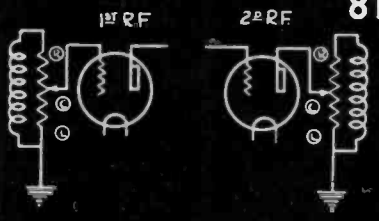

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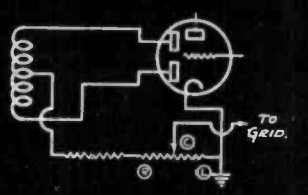

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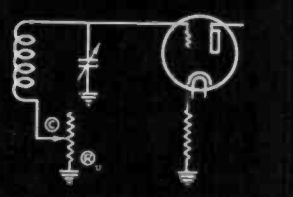

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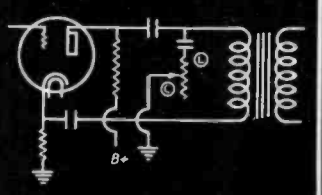

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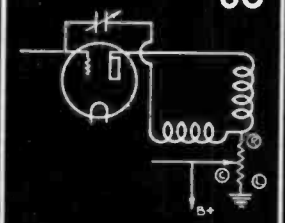

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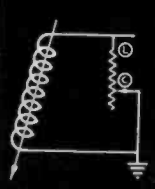

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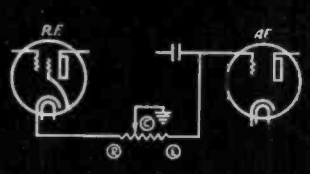

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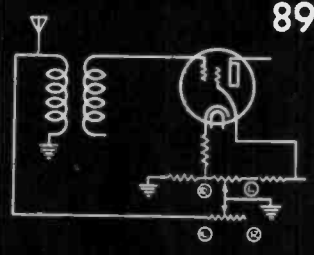

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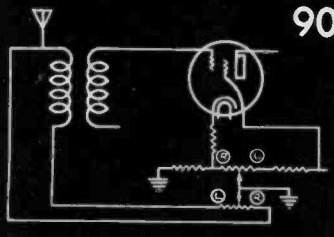

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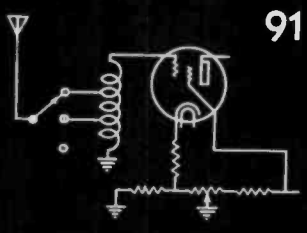

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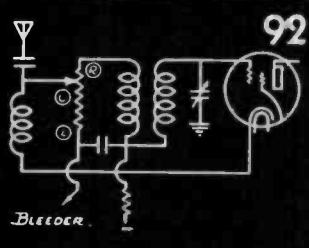

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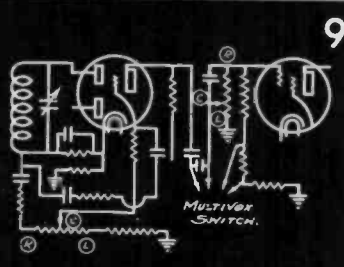

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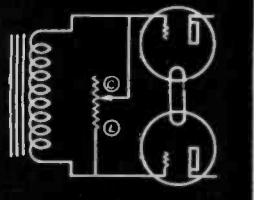

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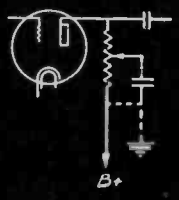

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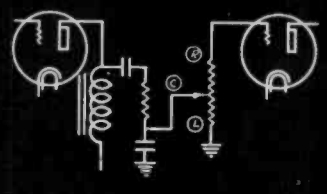

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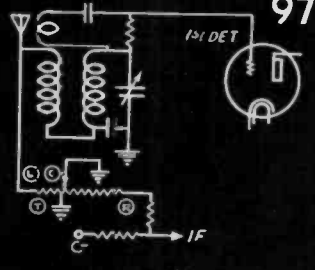

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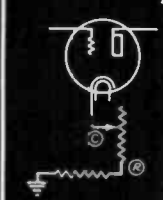

IMPORTANT
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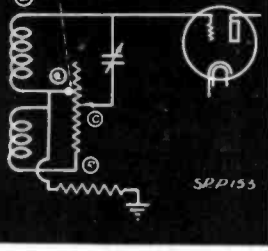

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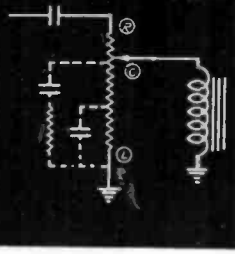

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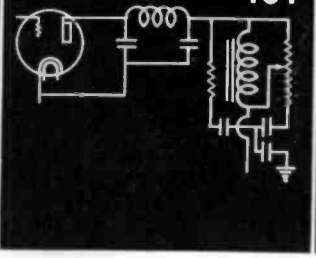

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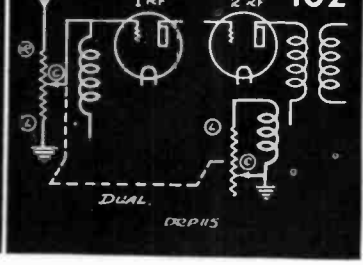

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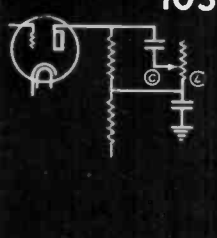

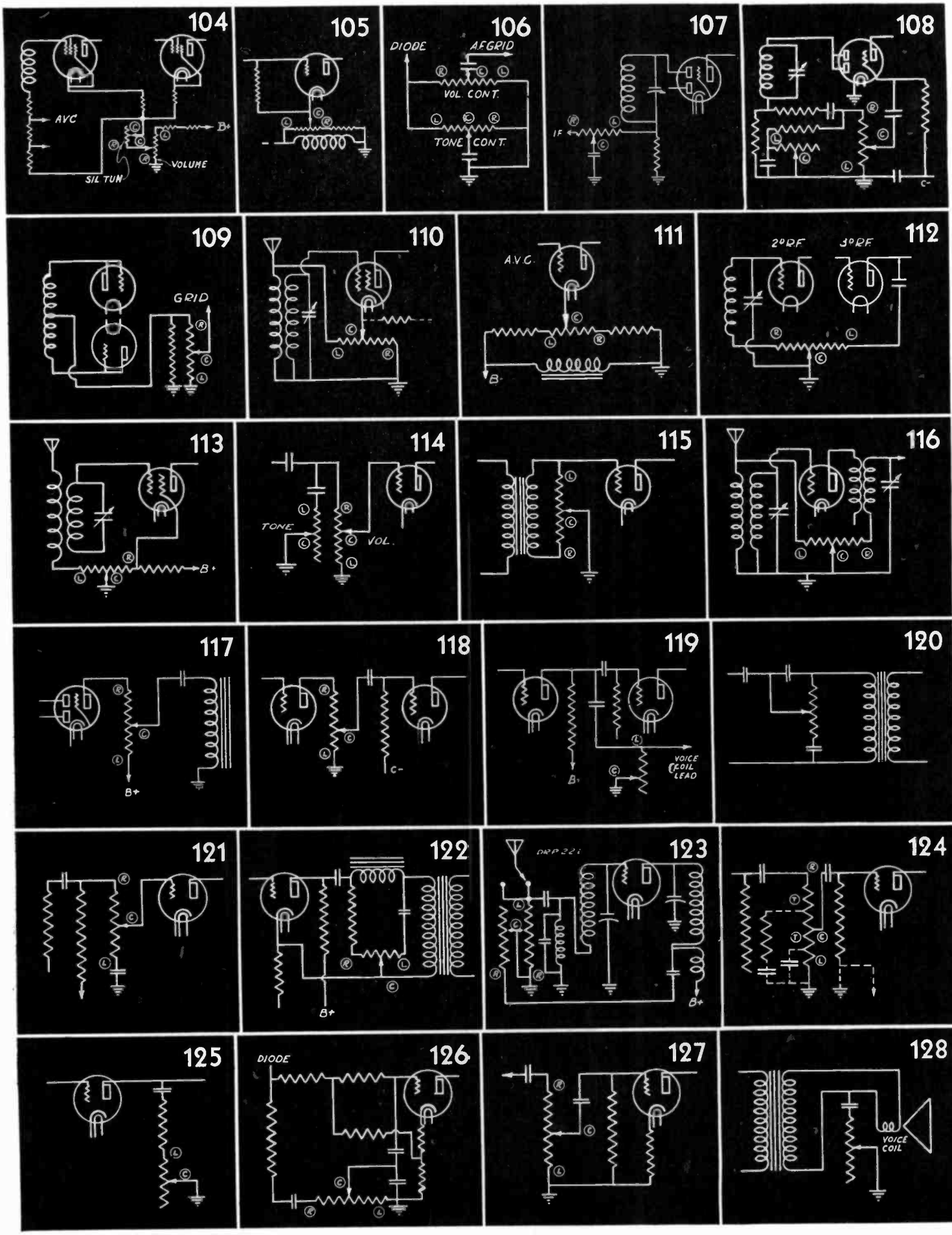
104
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B-
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2° R.F.
3° R.F.
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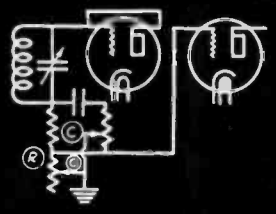

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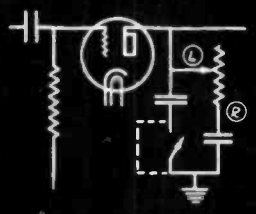

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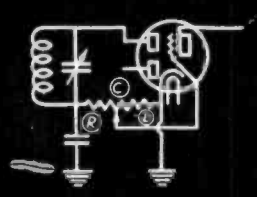

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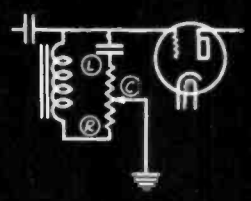

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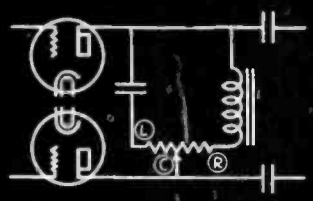

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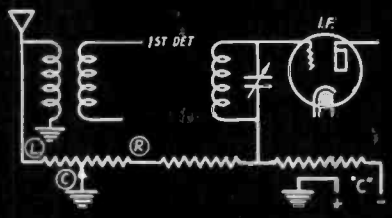

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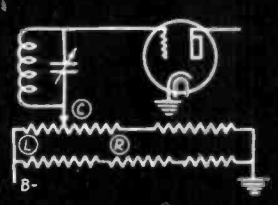

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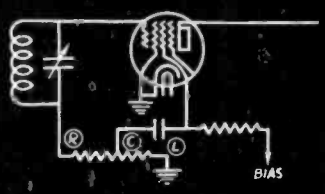

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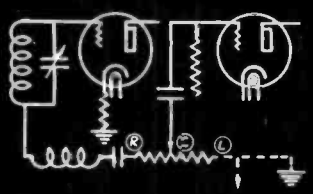

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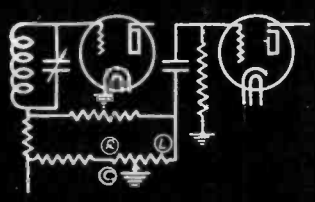

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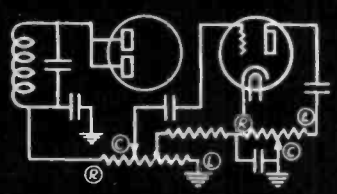

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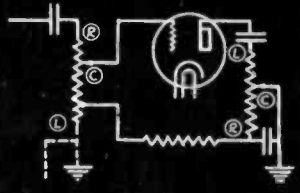

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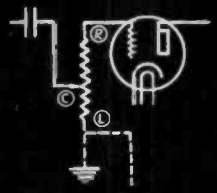

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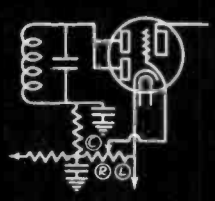

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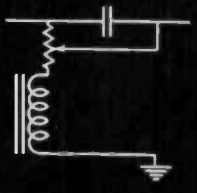

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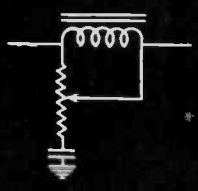

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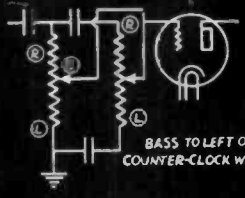

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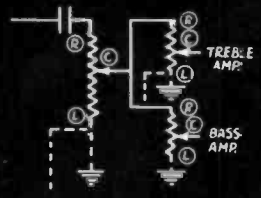

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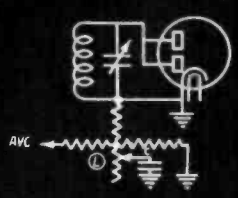

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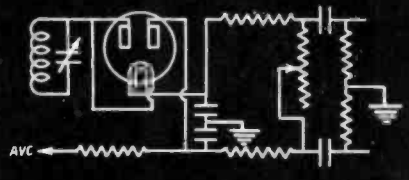

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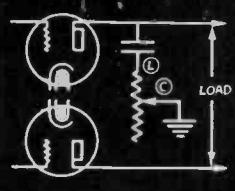

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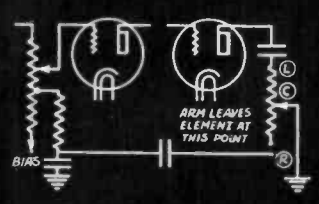
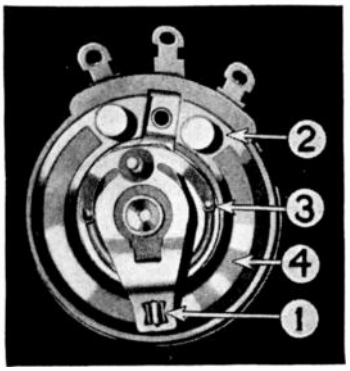


YAXLEY
REPLACEMENT CONTROLS
ACCESSORIES

Yaxley volume controls are designed for the purpose of furnishing the utmost convenience to the serviceman. A completely Universal line. Universal Controls apply in 90% of the service cases. A minimum number of special controls for application where the particular requirement, because of unorthodox mechanical or electrical features, renders Universal types unsatisfactory.

Exclusive Features of Yaxley Controls

Yaxley volume controls represent a culmination of years of intensive research and engineering development. The Yaxley "Silent Element" is one of the major improvements this research has contributed. Attention should be called to several other noteworthy features of these controls.



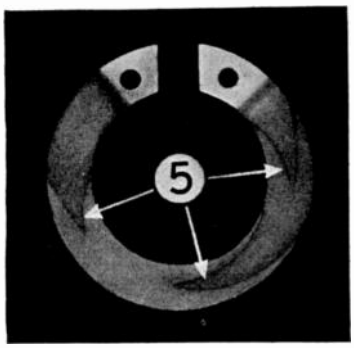
1. "The Roller That Does Not Roll." This exclusive Yaxley contact design maintains a constantly dust-free surface element and is further protected by Yaxley's dust-proof shield. The best type of contactor as recognized by leading contact engineers.

Yaxley engineers recognize the basic law of physics that there is friction between moving objects. Yaxley provides a firm pressure on the roller, but this is opposed by a carbon element that can "take it." It does not require mollycoddling as on ordinary elements where the pressure must be kept low to prevent destruction of the element.

2. Pure Silver Shortouts! Used for clean-cut, quick, positive switch action. Assure zero signal before switch action and a never failing contact between terminals and carbon on the element.

3. Silver to Silver Contacts! Used between all moving current carrying parts. Another Yaxley superiority. Silver oxide is a conductor. No trouble will ever be experienced due to oxide insulating films as would be the case with brass or copper.

4. Perfect Contact! Yaxley controls have perfect contact between moving arm and carbon element. A true and uniform area of contact is effected on the



element at all points. **Notice the track.** It does a real job of contacting! Other methods are likely to hit only the high spots.

5. Perfect Smooth Taper! Controlled by geometric design; no sudden changes in resistance value. Yaxley elements are sprayed by mathematically designed methods. Tapers are feather-edged to insure electrical smoothness and are applied in rapid succession to permit flow between joints. That provides perfect mechanical smoothness. **Only Yaxley has such perfect control of taper.**

6. New Spring Wedge. Yaxley Wire Wound Controls are also new. They embody a **new spring wedge design,** which definitely eliminates any possibility of loose terminals. Expansion and contraction due to temperature changes are taken up by this patented spring which holds the element and terminals firmly in place.

Low Humidity Coefficient! Less than 15% resistance change when subjected to 110°F. 90% relative humidity for 100 hours. No need to fear "damp spots." **Yaxley controls will work in all climates.**

Negligible Voltage Coefficient! Yaxley controls are the same in all circuits, truly universal regardless of voltage. It is almost impossible to separate this coefficient from the temperature coefficient, but it will not exceed 4% or 5% per 100 volts.

Extremely Low Temperature Coefficient! Yaxley controls are not limited by climate. They give perfect performance everywhere. Temperature does not affect a Yaxley control. This coefficient does not exceed 5% for 80° C. change and the combined temperature and voltage coefficients will not ordinarily exceed 5% for 100 volts and 80° C. rise.

Highest Current Carrying Capacity of Any Carbon Control. Careful engineering has raised the dissipation factor of Yaxley carbon-type controls above the common one-watt rating.

Uniform Characteristics. All Yaxley controls are held to rigid, detailed specifications, and are manufactured for you to the same exacting specifications that are required by original equipment users. Inspection limits are rigidly enforced.

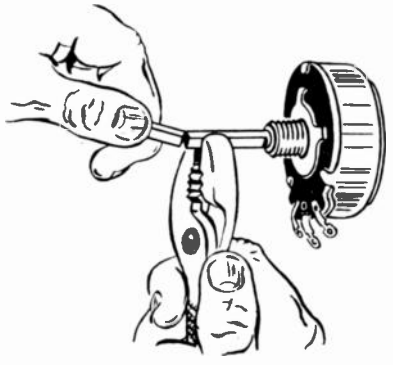
Long Life. 25,000 to 50,000 and over complete cycles, borne out in over 3 years testing. Yaxley controls have a longer operating life. Resistance changes 10% or less in 50,000 complete cycles, or 100,000 passes of the contactor.

Long Shelf Life. Yaxley controls will never go "stale." Age will not affect them nor in any way change their excellent characteristics.

Permanently Identified. A non-removable ink assures permanent identification.

"Universal Shaft"

This long, specially designed, aluminum alloy shaft will save you time and labor, because it is so easy to cut (no saw required). Either type of **push-on** or any **set-screw** type of knob may be used **without filing.** The long 3" length is ample for ordinary work, and, where necessary, a greater length is easily secured by using Yaxley Extension Shafts. The illustration shows the easy breaking feature.



"Just notch it, then break." Always cut the notch rather deeply, with either a file or a pocket knife, then hold the shaft near the cut with pliers, and bend back and forth once or twice, as shown. Simple, easy, and no burrs.

PUSH-ON KNOBS requiring a 1/32" flat on the shaft (Philco) are easily attached. Place the insert in the groove at the end of the shaft, and press on the knob. The 3/32" type of push-on knob (Crosley and RCA) is readily attachable. The edges of the groove should be scraped or cut away until level with the bottom of the groove. This is easily accomplished with a file, a knife, or with the edge of a screw driver.

The Adjustable Bias Resistor

This time, labor and money saver is exclusively Yaxley. All Yaxley carbon and wire controls for cathode or Antenna Bias circuits, are provided with a simple minimum bias resistor (an adjustable stop plate), easily and quickly adjusted to the proper value.

(Some manufacturers use a portion of the volume control element, as a resistor, to supply the correct minimum bias to the tubes at full volume position of the control.)

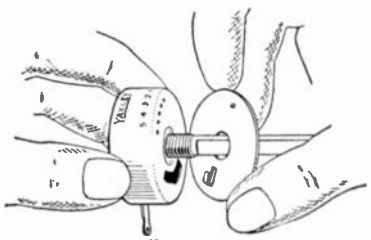


FIGURE 1

Figure 1 shows the Yaxley Stop Plate and the numerals 1 to 5 on the shell of the control.

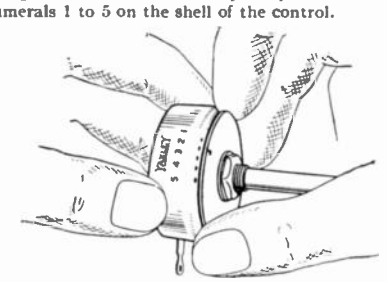


FIGURE 2

Figure 2 illustrates the setting of the plate. Position 1—100 ohms, position 2—200 ohms, position 3—300 ohms, position 4—400 ohms, position 5—500 ohms, all with the usual commercial tolerance of approximately plus or minus 10%.

For resistance values other than the values given, the indicating bump may be filed off the plate and an adjustment made with an ohmmeter.

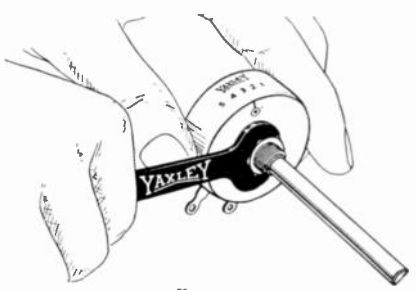


FIGURE 3

Figure 3 illustrates a method of locking the plate in its proper position while mounting the control. Some servicemen prefer to merely hold the plate in its proper position and let the mounting nut perform the dual function of mounting the control and holding the plate.

Yaxley carbon controls are equipped with a small easily adjusted external resistor, which has a total resistance of 500 ohms, for use as the bias resistor.

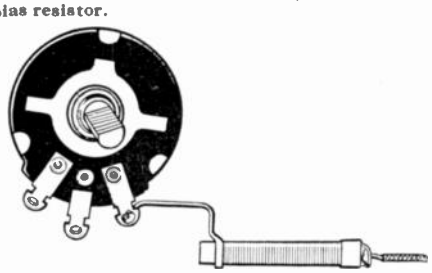


FIGURE 4

This unit is to be attached to the right-hand terminal of the control, as per figure 4, and the clip attached at the correct point and firmly clamped with ordinary slip-joint pliers, after which the unused portion may be clipped off with "diagonal" or "side" cutters. The lead from the cathode circuit connects to the end of the resistor.

The New Yaxley Universal Midget Design

After careful consideration of all the requirements involved, Mallory-Yaxley presents a complete and outstanding new midget control line. Yaxley midget controls embody the following salient features:

1. The revolutionary Plug-In Shaft—
   This development results in a tremendous increase in the flexibility of control application. Only a few types of controls are required to service a large majority of receivers.
2. A ruggedly constructed, smoothly tapered element, built on the principle of the famous Yaxley Silent element. Again taper controlled by geometric design.
3. Pure silver to silver contact. Pure metallic silver on the element in contact with silver plating on the terminal.
4. Terminal anchorage; sprung into place and anchored by a permanent clamp. The terminal is flexible, yet it maintains lasting contact.
5. The Yaxley resistance ratio tap, again pure silver to silver contact, and correctly tapped by resistance ratio.
6. Floating silver plated moving contact arm.
7. Element perfectly centered and anchored in place with rivets.
8. A patented locking method, which rigidly clamps the shaft. When the shaft is inserted this part is sprung outward to give a perfect fit between the shaft and the receptacle, and the receptacle and the bushing. This eliminates any play or looseness in the shaft parts.

Complete instructions for use of the Midget control types appear on pages 218 and 219.

Yaxley Attachable Switches

Yaxley attachable switches are equipped with a bayonet and slot arrangement which assures a definite location and placement on the back of the control. This unique feature of Yaxley controls is furnished for all Universal replacement controls, both wire and carbon.

Controls are covered with a protective dust plate (Figure 5) which is easily removed.

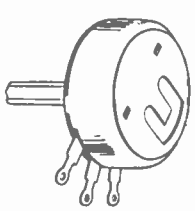
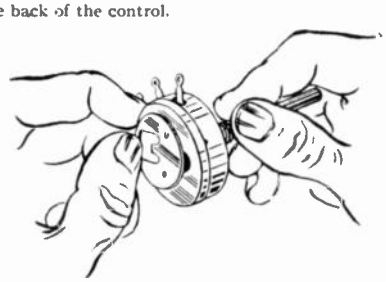
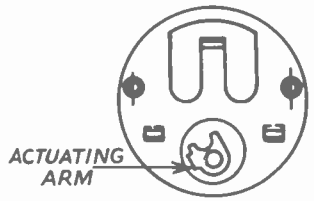


FIGURE 5

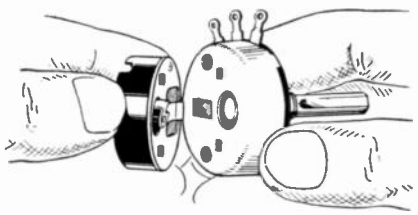
To attach the switch, first remove the cover from the back of the control.



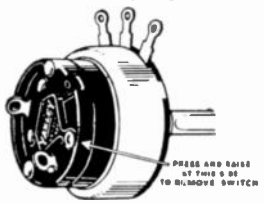
Second, holding the shaft in your hand, turn the shaft as far as it will go in a clockwise direction. Third, make certain actuating arm in switch is in proper position as shown.



Fourth, insert the tongue of the switch into the slot from which the cover was removed.



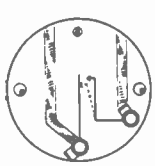
Fifth, push up slightly on the switch and it will snap into position, when it is again pushed down.



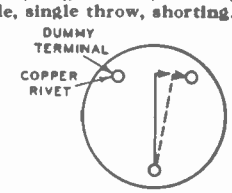
NOTE: If a switch does not fit properly, it is due to mishandling, and is easily restored to perfection by bending the tongue down into the switch by means of "small nosed" pliers.

Yaxley Attachable Switches:

No. 6—Single pole, single throw.
No. 7—Double pole, single throw.
No. 8—Single pole, double throw.
No. 13—Three pole, single throw, shorting.
No. 14—Four pole, single throw, shorting.



No. 6



No. 6T

No. 6 is a heavy duty switch for general use on both battery and power type receivers.

No. 6T is the same as the No. 6 with the exception that it has a dummy terminal to facilitate replacement wiring in receivers using this type switch as original equipment.

No. 7 is for use on battery receivers where it is necessary to break both the "A" and "B," or the "A" and "C" battery circuits.

In addition No. 7 may be paralleled to give a greater current handling ability than that of the No. 6; however, this is rarely necessary.

No. 7 may also be used as a Three pole, single throw shorting type of switch as illustrated in Figure 6.

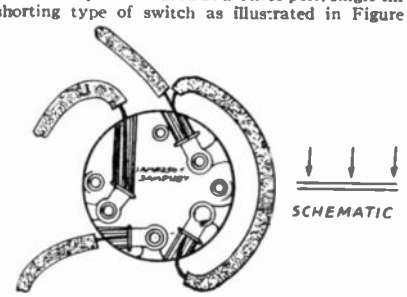


FIGURE 6

No. 8 is for use where it is desired to close one circuit during operation of a control, yet open this circuit and close another when the control is turned to the off position. This is usually found on radio-phonograph combinations. Figure 7 shows the proper connections of the No. 8 switch.

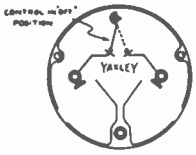


FIGURE 7

No. 13 is for use on battery receivers because it is often necessary to open the "A," "B," and "C" battery lines to prevent useless discharge of the batteries. Figure 8 shows connections.

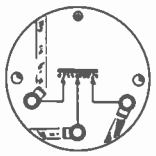


FIGURE 8

No. 14. Like the No. 13, this switch is for use on battery receivers. It allows one additional circuit to be opened and although there are only three battery circuits, the wiring of many late battery receivers is such that it is necessary to open four circuits. Figure 9 clearly shows the connections for this switch.

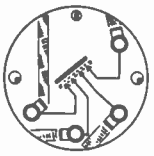
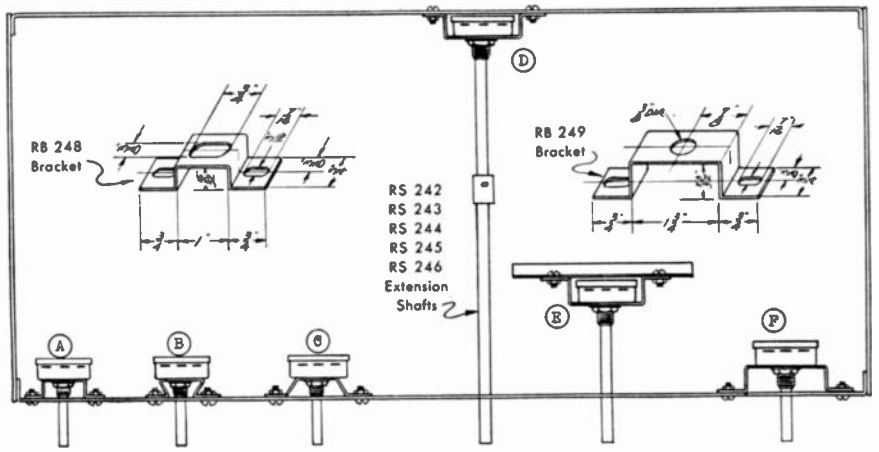


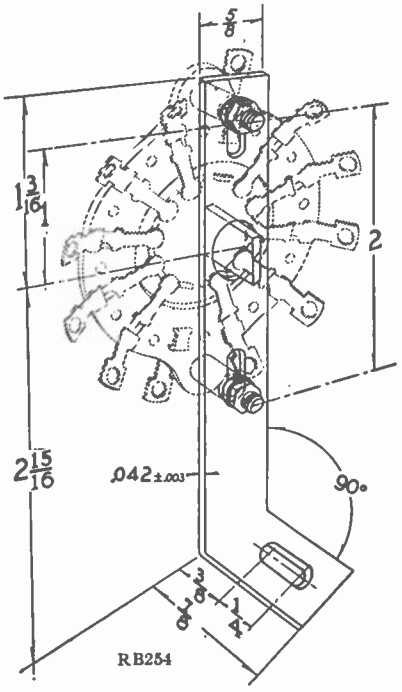
FIGURE 9

Accessories that Simplify Service Work

A knowledge of the proper use of these accessories will be of genuine assistance to the serviceman. A real advantage of these accessories lies in their ability to speed up or clarify an apparently difficult installation.

Mounting Brackets





The illustration shows the many uses to which the RB248 and RB249 mounting brackets may be adapted. These brackets may also be used to relocate old controls, allowing shorter lead lengths and curing tendencies toward oscillation. The RB248 and RB249 brackets are helpful in experimental work, when it is desirable to mount controls or similar parts on a breadboard layout.

Note, also, the use of Yaxley extension shafts. See how easy it is to bend the brackets to meet the different requirements. "A," "B," and "C" show the use of the RB248. "D," "E," and "F" show the use of the RB249.

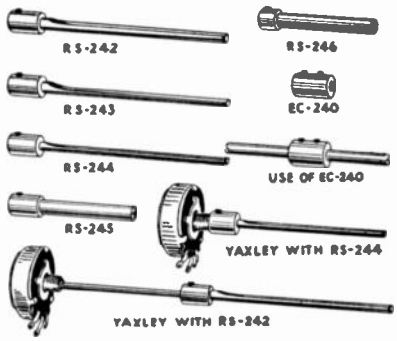
Note the new Universal Mounting Bracket RB254. It is ideal for baseboard or rear support mounting for all Yaxley circuit selector switches, Yaxley Volume controls, jacks, or in fact any device having a standard 3/8" bushing requiring a supporting bracket for mounting at right angles to a baseboard.

The height is especially convenient for mounting circuit selector switches in building short wave receivers, because of easy accessibility to the underneath terminals, or actual mounting of coils beneath the switch. The drawing fully describes this useful product.

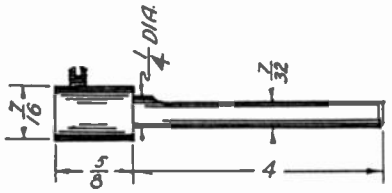
Extension Shafts

Helpful, widely used and in great demand.

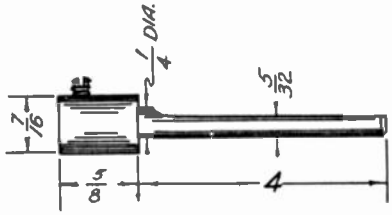
This picture shows clearly how every necessary type of shaft is made available for your use.



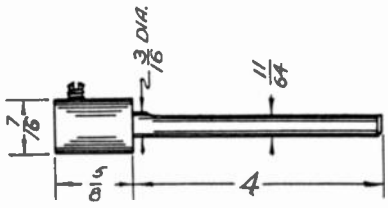
In their order are: RS242, RS243, RS244, RS245, RS246, each of which is explained. Notice Shaft Coupler EC240.



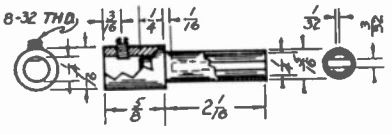
RS242 with its 1/32" flat is used wherever a push-on knob of this type or a set-screw type of knob is to be used.



RS243 with its 3/32" flat is for the 3/32" type of push-on knob.

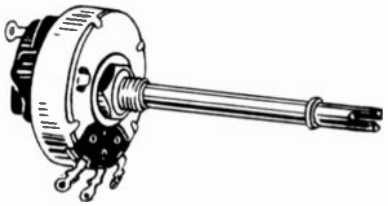


RS244. The solution to any 3/16" diameter shaft problem. Use the RS244 and a Universal Yaxley control whenever you need a 3/16" shaft control.

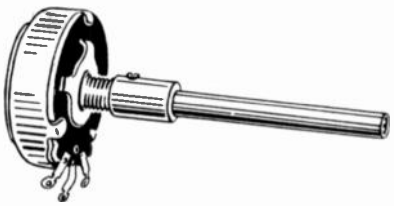


RS245 for Auto Radio Control. Use RS245 with Universal Controls for automotive type replacements. If the length of the original control shaft is two (2) inches or less, cut off the Yaxley control shaft at 1/4" from the bushing. Then cut the RS245 to the proper

length, attach it to the control and the job is done. If the original control shaft is over three inches long, either cut off (if necessary) the Yaxley control shaft or cut the RS245, so as to obtain the correct length. (See Figure 10.)



Original Auto Radio Control

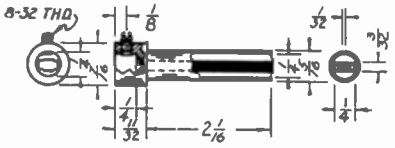


Yaxley Replacement with RS245

FIGURE 10

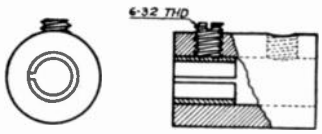
RS246 is also for Auto Radio Controls and should be used where a tongue-shaped shaft is required.

The tongue is roughly finished because it is often necessary to file this shaft to the desired dimensions. This is easy because of the soft brass material.



EXPERIMENTERS will find that by inserting the RS246 within an RS245, they can obtain a positive drive in a rotary direction, yet be able to vary the length of the shaft at will. This gives a "push-pull" and rotary motion with one shaft.

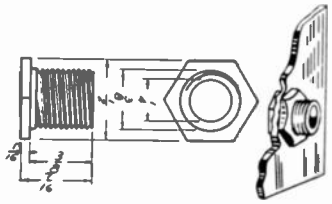
For complete descriptions of the Plug-In Shaft (SS type) accessories for use with UM and TM controls, see page 174.



EC240. This shaft coupler is very useful to couple two 1/4" diameter shafts, or a 1/4" shaft to a 3/16" diameter shaft. Remember the Yaxley EC240 the next time you have such a problem. See the illustration on page 186.

EB247. A valuable accessory where the control must "set back" from the chassis so as to clear a dial or switch. Easy to use. Just screw it on the bushing of a Yaxley control and then install the control. The effective length is 5/8". Extremely useful when servicing Philco receivers.

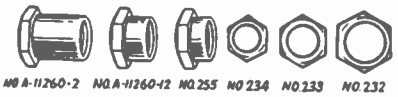
Yaxley Control with EB247



UB241. A universal panel bushing for experimental and repair work.

Mounting Nuts

These accessories facilitate panel mounting of controls, switches, and jacks or any other parts of similar nature.



There is the common flat hexagon nut No. 232 as supplied on Yaxley controls. No. 255 nut is for 1/8" panels.

SHORT SHOULDER nut No. A11260-12 for use on medium thick panels and for jacks and other similar parts.

LONG SHOULDER nut No. A11260-2 for thick panels. Will mount a control on a 3/4" panel. In addition it may be used as a "safety" to prevent tampering with the setting of a control or switch; just screw it on the bushing with the hexagon end next to the panel.

Flexible Shafts

The FS Flexible Shafts may be used to replace wire shaft controls or for experimental work. Fig. 30 illustrates their use.

FIGURE 30

Properly used, these shafts will equal or better the life of a "wire shaft" because they are not subject to steel "fatigue."

Made of special rubber compound surrounding a flexible copper wire core and covered with a varnish protected braid, they offer a very low "capacity" coupling between units.

Note: All types of flexible shafts are limited both as to the angle of the center lines of the driving and driven shafts and to the amount of "twist" or torque which may be applied. The illustration (Figure 31) shows the practical limits of these shafts as to angle of operation. The "load" should not exceed 50 "inch ounces" torque, for the least "whip" (which is useless rotation). These shafts will readily operate a dual volume control with a line switch attached, or a light multiposition switch.

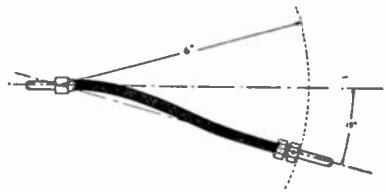
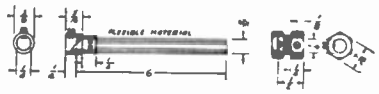
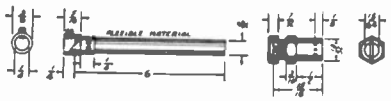


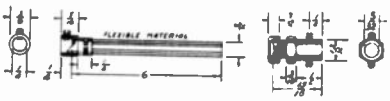
FIGURE 31



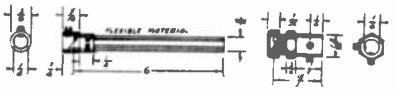
FS250 is for general use, where a flexible coupling is required between two 1/4" shafts.



FS251 has a 15/64" diameter hole, 1/2" deep with a transverse pin to be used with a Universal Yaxley control to replace Auto Radio Controls having a slotted end on the driving shaft, such as used by Philco on their models 805, 806 and others.



FS252 has a 5/32" diameter hole approximately 1/2" deep and is equipped with two set screws opposite each other. It is for use with the proper Yaxley Control as a replacement for wire shaft controls which are used with a driving shaft having a small diameter round end, such as is used on Philco models D and AC989 (122).



FS253 has a 1/4" diameter hole, 1/2" deep and is equipped with two set screws located at 90 degrees to each other. It is for use with a Yaxley Control, to replace the original wire shaft such as is used on Chevrolet model 364441.

No. 178 Yaxley Volume Control Wrench is for all standard control hexagon nuts.

Hardware

Your attention is directed to Yaxley hardware items:

Bakelite head tip jacks and tip plugs.

Bar knobs, Round knobs.

Cable—Plugs, Jacks, Jack Switches—Push Button Switches—Circuit opening switches.

Jewels.

Dial lights—Panel lights.

Many other useful items are all beautifully illustrated and described in the new Yaxley catalogue. Look them over. You will find many uses for them.

SECTION "D" CONDENSERS

Electrolytic Condensers

Condensers are classified according to the nature of the dielectric medium employed in their construction. Thus—**an oil condenser** is one in which oil is used as the dielectric; **an air condenser** is one in which air is used as the dielectric; **a paper condenser** is one in which paper is used as the dielectric.

From the description of the terminology applied to condensers, one might suppose that the **electrolytic condenser** uses an electrolyte as the dielectric. This supposition, however, is inaccurate in that the electrolyte used in the electrolytic condenser is not the actual dielectric material but is the negative electrode.

The dielectric material in the electrolytic condenser consists of an extremely thin oxide film which is formed on the surface of the condenser anode or positive plate.

It is a peculiar characteristic of aluminum and a few other metals that when they are immersed in certain electrolytic solutions, and a current is passed through the metal and electrolyte, a non-conducting film will be formed on the metal.

Thus, if we take two pieces of aluminum and immerse them in a suitable electrolyte and pass a current from one plate to the other, the current will be very high when first applied, but it will taper off until there is very little current flowing in the circuit. This is termed "forming," which means the establishment of a film upon the surface of one of the plates. In the case of aluminum, **the film is formed on that plate to which the positive wire is connected.**

The formation of the film on the plate retards the flow of current. If the polarity is reversed; i.e., the polarity of the charging voltage, current will flow. Thus we see that **the film acts as an insulator only as long as we maintain the same polarity as was used in forming.**

Capacity of a Condenser

The capacity of a condenser is dependent upon:

First—The area of the plates.

Second—The thickness of the dielectric.

Third—The "Dielectric Constant."

The "Dielectric Constant" of a material is the ratio of the capacity of a condenser using this material, to the capacity of a condenser of equal plate area, but using air as the dielectric.

The dielectric constant of the film in an electrolytic condenser varies with the formation voltage. For equal plate area, a condenser formed at low voltage will have a higher capacity than one of the same area formed at high voltage.

Since the thickness of the dielectric film for a given voltage is only a fraction of the thickness of any other dielectric, large capacity may be obtained in small space. By means of an electro-chemical etching process which increases the effective surface area of the aluminum without changing its dimensions, we may still further increase the capacity per unit volume.

Recently a method has been developed to still further decrease the physical size of electrolytic condensers. An aluminum plate, known as fabricated plate, is formed by spraying molten aluminum on a special carrier, giving a higher ratio than can be obtained by any other means.

Reduction in physical size by the above methods does not generally affect the useful life of the condensers. Acid etching, however, requires more careful control in production than fabricated plate.

Rectifiers

Because of the universal use of electrolytic condensers in filter circuits, we will discuss the action of these circuits. Before entering upon this discussion, it will be best to have an understanding of the different types of current which require filtering.

Figure 1 illustrates the connections of a half-wave rectifier. This circuit is seen to consist of a transformer and half-wave rectifier tube. One side of the high voltage winding of the transformer connects to the plate of the tube and the other side to ground. The filament of the tube is lighted by the current obtained from the low voltage winding on the transformer. The high voltage winding of the transformer supplies an alternating current. By alternating, we mean that the polarity, or direction of current flow, reverses itself periodically. First one side of the transformer is positive, then the other. The voltage will rise to a peak and then fall to zero, at which point the polarity reverses; i.e., the side which was positive will now be negative, and the voltage will again rise to a peak value and fall to zero. This completes one cycle of the current flow.

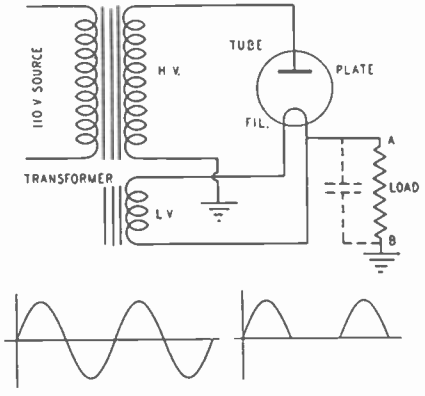


FIGURE 1

When the plate of the tube is positive, electrons are attracted from the filament. The electrons flowing from the filament to the plate constitute a current, the value of which depends on the voltage applied to the plate. Therefore the current is seen to rise and fall with the voltage applied to the plate.

During each cycle of the supply voltage, the tube will deliver current while the plate is positive, and there will be a lack of current while the plate is negative. Thus we see that for a half-wave rectifier we will have regular periods of current flow, each of which is followed by a period of time during which no current flows. This, of course, is far different from the steady direct current plate supply, which is required to give successful operation of a radio receiver. A voltmeter connected across points "A" and "B" of Figure 1 would show the average voltage existing across the load. This average voltage would be far below the RMS voltage supplied by the transformer, because of the periods of time during which there is no current flowing in the circuit.

If by some means we could provide a reservoir which would absorb current during the periods of current flow, and feed this stored current into the circuit during the periods when current is not flowing from the tube into the circuit, we would be able to raise our average voltage across the load. We would, in effect, have a more continuous flow of current and therefore a higher average voltage across the load. A condenser provides just such a reservoir, and when connected across the load as in Figure 1, it will act exactly as the imaginary reservoir action described.

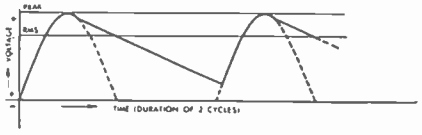


FIGURE 2

Figure 2 is a graph of the voltage across the load resistor shown in Figure 1, as plotted on the basis of time. **The two heavy and dotted curves** show the voltage supplied by the tube, and **the slanting line** shows the voltage which would be supplied to the circuit by a condenser connected from points "A" to "B." Notice that this condenser will discharge current into the circuit while the charging voltage is falling, and that this discharge continues, until the condenser is either entirely discharged or until a charging voltage is again applied to the circuit by the rectifier tube.

Inasmuch as the quantity of current is determined by the amount of load, it is easy to see that a very large condenser would be required to supply reasonably constant voltage to the circuit during the entire period of time in which the rectifier tube plate is negative.

The full wave rectifier operates in exactly the same manner as the half-wave rectifier, with the exception that **the full-wave rectifier enables us to use both halves of each cycle of current.**

It was pointed out in the description of the half-wave rectifier that current flowed for a certain length of time and then was absent for an equal length of time, due to the second half of the cycle being of reversed polarity. However, the full-wave rectifier enables us to use the other half of the cycle.

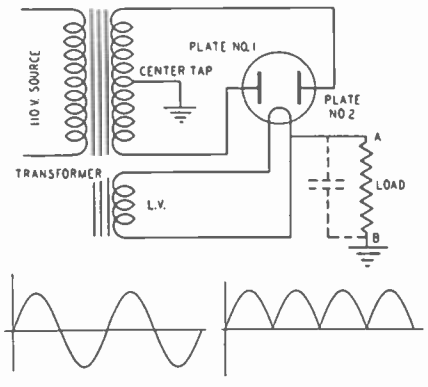


FIGURE 3

Figure 3 shows the circuit of a full-wave rectifier. This circuit consists of a transformer which supplies

the high voltage to be rectified, and the low voltage for lighting the filament of the rectifier tube. Note **that the high voltage winding is tapped at its center.** This center tap of the transformer provides a return path common to both sections of the high voltage winding.

The high voltage winding is arranged to supply a voltage between the two ends of the winding which is twice the value of the voltage required across the load. The reason for this is that only half of the winding is used at a time.

Notice that the tube shown in Figure 3 has one more plate than the tube shown in Figure 1. However, the tube action is identical. Current will flow from the filament to that plate which is positive, but not to the plate which is negative.

For explanation, let us assume that plate No. 1 is positive. Therefore, plate No. 2, since it is connected to the other end of the high voltage winding, is negative. Electrons will flow from the filament to plate No. 1 and complete the circuit by leaving the center tap and going through the chassis and load, back to the filament.

In our previous study of the half-wave rectifier it was pointed out that the current and voltage rises to a peak, falls to zero, reverses polarity, rises to a peak, and again falls to zero, to complete one cycle. Therefore, the voltage across the load (because of the current flowing through the plate No. 1) will gradually rise to a peak and then fall to zero.

Remember that when the current supplied by the transformer reaches zero, the polarity reverses. When this happens, plate No. 2 of the rectifier tube in Figure No. 3 will be positive and plate No. 1 will be negative.

As the voltage rises and falls on plate No. 2, there will be an electron flow from the filament of the rectifier tube to plate No. 2, and from the center tap of the high voltage winding through the chassis and load, back to the filament, thus completing the circuit.

The voltage across the load will gradually rise and fall. It flows in the same direction, no matter which plate is positive.

By the use of a full-wave rectifier, we have a more continuous current flow. This means that we will not have to depend upon an extremely large condenser to maintain the flow of current in the load.

Refer to Figure 3 and note that we have a period of time, between each half cycle of the supply current, during which the voltage falls to zero. If a condenser is connected across the load, it will discharge current through the load as soon as the applied voltage starts to fall, and it will continue this discharge of current until its voltage falls to zero, or until the condenser voltage is augmented by the rising voltage of the second half of the cycle.

Figure 4 shows the meeting point between the discharge of the condenser and the increasing charging voltage of the second half of the cycle of current supplied by the rectifier.

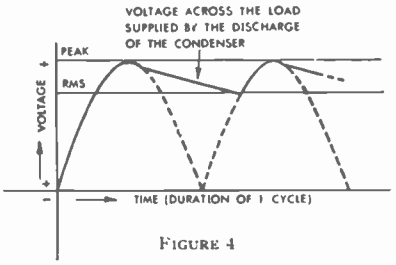


FIGURE 4

Compare the shape of the curve illustrating the DC voltage existing across the load resistor, in Figure 3, with that of Figure 1, **and note that we have twice the number of peaks of current per cycle of the supply current. It will require less capacity to smooth out the current delivered by the full-wave rectifier than is required by the output of the half-wave rectifier. This is due to the fact that there are more impulses of current in the same length of time. A condenser of a given capacity will maintain a higher voltage level in the load with a full-wave circuit than with a half-wave rectifier circuit, because it needs supply current for much shorter periods of time between impulses of current.**

A great many auto sets and battery operated household sets obtain their high voltage plate supply from a synchronous vibrator mechanical rectifier. Though the action of this device is more fully explained in the "C" section, we shall give a short description of it here.

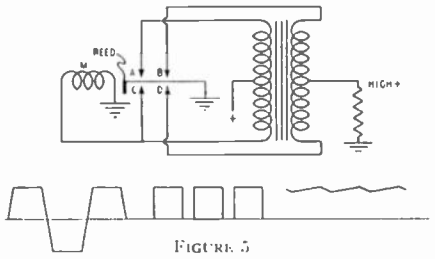


FIGURE 5

Figure 5 shows the schematic of this combination interrupter-rectifier. Applying voltage between ground and the primary center tap causes a small current to flow through magnet M. This pulls the reed against contacts "C" and "D," causing a heavy current to flow through the bottom half of the transformer primary, and an opposing voltage to develop in the secondary. This voltage is of such polarity as to make contact "C," which is now connected to ground, negative with respect to the secondary center tap. When contact "C" is closed the magnet is de-energized, allowing the reed to spring back and connect to contacts "A" and "B." A voltage is now induced which causes contact "B" to assume a negative potential with respect to the center tap. Thus for both halves of the cycle the load current will flow in the same direction. The input and output wave shapes are shown in Figure 5. The saw-tooth wave shown in the figure shows the output wave obtained when a condenser is connected across the load.

The pulsating current obtained from a rectifier, even with a condenser connected to the circuit, **is not suitable for "B" supply** in a radio receiver or amplifier, **because the remaining pulsations or ripple would still give rise to a very strong and objectionable hum** in the loud speaker.

Increasing the capacity of the condenser connected across the load, at the output of the rectifier, will not decrease the hum below a certain value, inasmuch as **the "charging voltage" applied to the condenser must fall to a certain extent before the condenser discharges its current into the circuit. Likewise, the "charging voltage" must rise to a certain extent before it can begin to replenish the charge in the condenser.** Thus we see that **we can reduce the amplitude of the voltage variation, or ripple, by the use of a condenser, but that above a certain value of capacity, depending upon the load and frequency of the supply voltage, there will be no further reduction in the amplitude of the ripple in the current supply. It will be necessary to use some means** in addition to the condenser **to entirely eliminate the ripple** from the supply voltage. The most convenient means of doing this is by the use of a choke.

Action of Chokes

The word "CHOKE" is applied to a piece of equipment properly termed an Inductor.

An increase of current through an inductor is opposed by the self-induced current in the coil, which is usually called the "counter-electromotive-force."

A decrease in current will generate a counter-electromotive-force which will oppose the decrease in current.

The amount of inductance in a coil of wire is dependent upon the number of turns and the nature of the material used for the core. Air is a poor material, in that it is not a good magnetic conductor. If we use an iron core the inductance will be much higher because iron is an excellent magnetic conductor.

In the discussion of rectifier circuits it was pointed out that it was necessary to find some means of holding down the peaks of the ripple in the current supplied by the rectifier, so as to obtain a steady flow of current for use as "B" supply in a receiver or amplifier; therefore, it appears that an inductor or choke is ideally suited for this action.

Basic Filter Circuit Action

At this point we are ready to describe the action taking place in a filter circuit; i.e., a circuit composed of capacity and inductance which will smooth out the pulsating current delivered by a rectifier. Figure 6 shows the connections of the iron core choke and two condensers which comprise the simplest and basic type of filter circuit.

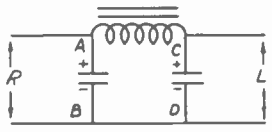


FIGURE 6

The letters "R" and "L" in Figure 6 indicate respectively the rectifier and load. The condenser at the Input has the same action upon the circuit as the condenser described in the chapter on rectifiers. This condenser **acts as a reservoir to supply current to the load during the zero current periods** in the current supply from the rectifier.

The choke in the circuit of Figure 6 **opposes any sudden increase or decrease of current** because of its inductance.

At this point in our explanation, we have a current supplied to a load ("L" in Figure 6) through a choke which opposes and prevents any sudden increase in the current, and we have a condenser at the rectifier output which will supply current when the rectifier can not. **The choke prevents the peak of the ripple from getting into the load, and the condenser fills in the hollows in the supply.**

Inasmuch as the choke prevents any sudden increase in current, it is necessary to provide a means of supplying current to meet any sudden demand for current **made upon the filter. Without such an auxiliary current supply we would be forced to wait for an increase of current to come through the choke.** We have in reality, a need for a "reservoir." Therefore, **we see the reason for the condenser across the load side of the filter circuit** shown in Figure 6.

Due to the fact that all chokes have more or less resistance (because of the resistance of the wire used to wind them), **there is a voltage drop across the choke which subtracts from the effective voltage useful for plate supply.**

In addition to a tube requiring a plate voltage, it also requires a negative bias voltage which is applied to the grid. If we can obtain both our plate and bias voltages from the "B" supply, or, in simpler words, make full use of the voltage from the "B" supply, we will be effecting an economy.

Due to the fact that it is convenient and economical to use the chassis as the negative side of the circuit, **it is possible to insert a resistance between the center tap of the high voltage winding on the power transformer and the chassis. This will make the center tap of the transformer negative with respect to the chassis.** If we connect the cathode, or filament center tap of our tubes directly to the chassis, and connect the grids to the center tap of the transformer, **the grid will be negative with respect to the cathode by the amount of voltage drop obtained across the resistance.**

The introduction of the dynamic speaker enabled designers to "kill two birds with one stone," in that **the dynamic speaker could be used as the choke.** Inasmuch as the magnetic circuit of the field in a dynamic speaker must necessarily include a "gap" (for the movement of the voice coil), we have the makings of a choke, as we have a coil of wire on an iron core, and the core is provided with an air gap.

The use of the field of a dynamic speaker as a choke is economical as the saving in the cost of the choke offsets part of the cost of the speaker.

An additional advantage is that since the field of the speaker requires several watts for its proper excitation there will be considerable voltage drop across it.

What could be more natural than to utilize the voltage drop across the field as the bias voltage?

Figure 7 shows the simplest type of filter circuit wherein the choke is in the negative lead.

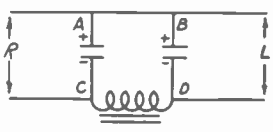


FIGURE 7

Because practically the same filtering action can be obtained with the choke in the negative lead as is obtained with the choke in the positive lead, we can expect to find the same types of circuits as previously described, with the chokes in the negative side of the circuit instead of in the positive. See circuits 4, 5, and 26 on pages 244 and 245.

Due to the fact that the wattage required to be expended in the field coil may not be of such a value as to give a convenient voltage drop, it is sometimes necessary to adopt the expedient shown in Figure 8.

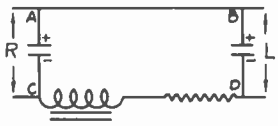


FIGURE 8

Here we see the same circuit as shown in Figure 7, **except that there has been a resistance added in series with the choke; i. e., the field coil; in order that the voltage drop between the load and rectifier may be sufficient for use as bias voltage.** In case the voltage drop across the field is too great, a divider network is placed across the field so as to tap off the desired voltage.

Resonant Element Filter Circuits

Our discussion to this point has been confined to the type of filter circuit commonly known as the "Brute Force" type. However, there is another type of filter circuit wherein use is made of a resonant circuit.

Such a "resonant circuit" type of filter is shown in Figure 9.

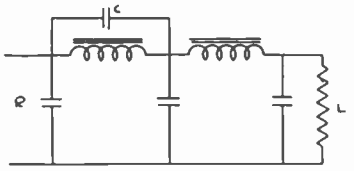


FIGURE 9

The circuit shown in Figure 9 is practically the same as that of Figure 14, with the exception of the small condenser "C" which is shunted across the first choke.

The capacity of the condenser "C" is so chosen that it tunes the choke to resonance with the hum frequency. The reason for tuning this choke is that a tuned circuit of this type offers a very high impedance to the hum frequency. The action of this tuned circuit may be described by saying that it absorbs the particular alternating current, in this case, the ripple current, which is applied to it.

It is well to point out that all filter circuits described have been of the "Low Pass" type; i. e., CIRCUITS THAT WILL PASS ALL FREQUENCIES BELOW A CERTAIN VALUE and prevent all frequencies "above" this certain value from passing through the circuit.

The "cut-off" point; i. e., the frequency below which the filter is ineffective, must be below the frequency of the hum voltage, or ripple, and in good design it should be below the lowest frequency which will be handled by the audio amplifier. In addition, it is very important that the resonant frequency of the filter circuit should not be the same as the frequency of the supply current fed to the transformer.

An "absorption" type of filter next to the rectifier is shown in Figure 10.

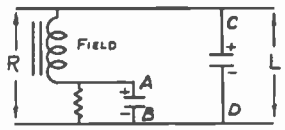


FIGURE 10

In this circuit **the field coil of a speaker is used as the inductance, which with the capacity of the series condenser, resonates at the ripple frequency. Inasmuch as it is a "series resonant" circuit, it offers a short circuit for the ripple frequency current.** This current is not suitable for use as a field supply, therefore a resistor is shunted across the condenser in order to provide a path for the necessary DC current.

The resistor is of a much higher value than the value of the capacitative reactance of the condenser at the frequency involved. The resistor does broaden the peak of impedance of the circuit, but this offsets any slight discrepancy in capacity value of the condenser.

Before taking up the more complex rectifier-filter circuits, we wish to call your attention to the fact that under certain conditions a resistor may be used in place of a choke in a filter circuit. This is shown in Figure 11.

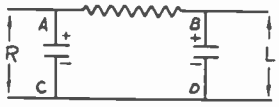


FIGURE 11

This circuit is seen to consist of a resistor and two condensers arranged in the same manner as the simplest and the first described filter circuit. **This type of circuit is not nearly as efficient as one using a choke.** It is much cheaper, as there is a large difference in cost between the price of a resistor and that of a good choke.

The action in this circuit is rather simple, in that **the resistor sets up a voltage drop in any current passing through it,** the voltage drop being determined by the current flowing through the resistor. **For use as a filter, there will be a greater voltage drop in the direct current than there will be in the ripple current, because of the fact that the DC current is greater than that of the ripple current,** or, we might state that the DC voltage applied to the resistor is much greater than the ripple voltage. **It will require a rather large resistor to give appreciable drop in the ripple current flowing through the resistor, and for this reason, such a circuit can not be used except where the load on the filter is small.** An additional disadvantage is that large capacitors must be used with such a circuit.

A frequently used modification of this circuit is the plate and screen filter shown in circuit 13 on Page 244.

Filter Component Limitations

In order to present a clear picture of the action of a filter circuit, we have deliberately avoided the introduction of any of the limiting factors which must be considered in the design, application, and repair of a filter circuit, or parts thereof.

First, let us consider the limitations of our choke. A serious limitation in the action of a choke is that **if too large a current is passed through it, the core material will become "saturated,"** i.e., it can absorb or carry only a limited number of magnetic lines of force. **When this point is reached, a sudden increase of current will be unopposed** because the magnetic field cannot increase.

This saturation may be prevented by use of an air gap, though this will reduce the inductance.

In our discussion of condensers and their action, we have thus far omitted any reference to their limitations. One of these is resistance, which causes loss of power and heating of the condenser if it is not considered.

The effect of resistance in an electrolytic condenser is that it limits the amplitude (voltage variation) of the ripple which can be applied to the condenser. Remember that this ripple must flow through the condenser, because it is an alternating current.

Figure 12 is a table which gives full information on this subject.

FIGURE 12—MALLORY DRY ELECTROLYTIC CONDENSER VOLTAGE RATINGS

DC Operating Volts	Maximum Surge	Maximum Peak AC Ripple Voltage at 120 Cycles							
		Mfd. 1-3	Mfd. 4-5	Mfd. 6-9	Mfd. 10-12	Mfd. 13-16	Mfd. 17-25	Mfd. 26-35	Mfd. 36-50
25	40	10	10	10	10	10	8	8	5
50	75	15	15	15	15	10	8	8	5
100	150	25	20	20	20	15	10	8	5
150	200	25	20	20	20	15	10	8	5
200	250	30	27	25	20	15	10	8	5
250	300	30	27	25	20	15	10	8	5
300	350	30	27	25	20	15	10	8	5
350	400	30	27	25	20	15	10	8	5
450	525	30	27	25	20	15	10	8	5
475	525	30	27	25	20	15	10	8	5
500	525	30	27	25	20	15	10	8	5

Surge Voltage

When first turned on, many radio receivers and amplifiers develop an unusually high "surge" voltage across the filter circuit, because there is little, if any, load on the filter. This is especially true where heater type tubes are used, with a rectifier of the filament type.

An electrolytic condenser is limited in the amount of voltage which may be impressed upon it because of the puncturing voltage of the film and the sparking potential of the electrolyte.

The voltage at which the film of an electrolytic condenser starts to puncture or scintillation starts in the electrolyte is called the surge voltage. The highest value generally obtained is approximately 525 volts.

Electrolytic condensers are rated as follows:

Working voltage, 450; Surge voltage, 525.

The meaning of this is that the condenser is designed to work continuously at a DC potential of 450 volts. Superimposed upon this is the ripple voltage. Figure 12 gives the practical limit for the ripple voltage which may be applied to different electrolytic condenser ratings.

The term "Peak Voltage" is relatively unimportant but refers to the total of the DC working voltage plus the AC ripple safe for continuous operation. This term is often misused for "Surge Voltage."

The "Surge Voltage" is usually considered the maximum voltage that may be applied to the unit through some limiting resistance for a few seconds without damage. Continuously applied, it will generally ruin an ordinary condenser in a short time because of the development of heat within the unit.

Few dry electrolytic condensers will withstand a surge greater than 525 volts. **You will note in Figure 12 that the 450, 475, and 500 volt DC ratings** all carry the same surge rating. **For this reason it is possible to replace 475 and 500 volt units with 450 volt Mallory units as far as the surge is concerned. We recommend this practice as long as the surge does not exceed 525 volts and the continuous working voltage does not exceed 450 volts.**

The best practical way to measure surge voltage is to disconnect all filter condensers and install a 1 mfd. paper condenser, at the output of the rectifier. A 1,000 ohm per volt meter applied at the paper condenser terminals **will then indicate the voltage applied to the condensers during the heating cycle of the tubes. BE SURE THAT THE TUBES ARE COLD AND THE METER IS ATTACHED BEFORE THE SET IS TURNED ON. The maximum swing of the meter may then be taken as the maximum surge.** The paper condenser may be connected to the terminals of the voltmeter if this is more convenient.

It will pay you to make this measurement where high surges are suspected **as this initial surge affects all the filter sections.**

Surge voltage should always be measured wherever the line voltage is high; i. e., above the standard level of 110 volts, as **in many localities the line voltage may rise to 125 volts or more.**

Obviously, where the ordinary type of condenser is used, the speaker plug should never be removed while the set is on as this removes all load and may damage the first filter condenser. If there is a possibility of this happening, as on amplifiers, we suggest the use of Mallory Type HS Condensers.

Should a particular receiver give trouble due to repeated failure of condensers, **we suggest using one of the Special Mallory High Surge units developed for this purpose.** These condensers are es-

pecially designed to withstand any surge condition likely to be met in the field. Since they cost more than ordinary units they are recommended only for severe cases.

Filter Circuit Action

In the previous chapters we have discussed the actions which take place in each part and component and their limitations with respect to the simple type of filter circuit which is shown in Figure 6. There is one type of filter circuit which is not covered.

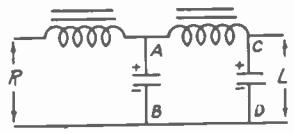


FIGURE 13

Figure 13 is a circuit wherein there is no condenser connected across the output of the rectifier. This circuit is commonly known as the choke input type of circuit. The choke which is connected directly to the output of the rectifier is often called the swinging choke.

Inasmuch as there is no reservoir action at the input to the filter, there will be a lower output voltage from the filter, because of the hollows in the current supply from the rectifier. Because we have an extra choke over that of the circuit shown in Figure 6, we will have a much smoother current.

The voltage output of the choke input type of filter circuit is smoother for lower values of load than the corresponding capacity input type of filter. The voltage is lower except for higher loads. This type of circuit is useful where there is a large variation in load.

It is often necessary to employ a filter circuit such as shown in Figure 14.

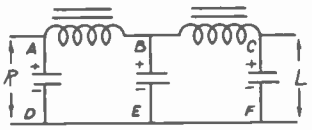


FIGURE 14

The circuit shown in Figure 14 is seen to consist of **two chokes with condenser input and output, and, in addition, a condenser from the point of connection of the two chokes to the negative side of the circuit.** We have in reality two of the simple filter circuits placed end to end with the advantage that we can obtain a much better filtering action because we have two chokes and three condensers.

Complex Filter Circuits

Present day filter circuit design is for the most part simple and direct. Several years ago, and in occasional cases, even today, one may encounter rather complex filter circuits. These circuits often are not as complicated as they may seem at first glance, as they are **usually combinations of filter circuits and load distribution circuits** with associated by-pass condensers, arranged in such a manner that the schematic of the whole circuit, with all the various connections involved, appears to be extremely complex.

Study will enable one to disassemble such a complex circuit into its various functions as to filter and load distribution. We will present two new circuits which have not been discussed. The first of these circuits is illustrated by Figure 15.

This circuit is seen to consist of the ordinary single section "Brute Force" filter with a choke connected across the filter input. The purpose of connecting a choke, or in reality a field coil, across the circuit at this point is to effect an economy in the filter design. The current supplied to the field coil does not need to be as ripple free as that which is supplied to the plates of the tubes. In addition, the current drawn by the field coil is rather large. **If the field coil were connected across the output of the filter, it would increase the voltage drop across the choke, and in addition, would call for a much larger choke** (in physical size) **to obtain the necessary smoothness in the current** to be applied to the load. It is economical to place the field coil across the input to the filter, as this will enable the use of a smaller choke.

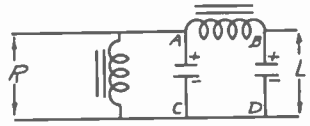


FIGURE 15

The principal use for such a circuit is in AC-DC receivers, wherein a half-wave rectifier is generally used, and inasmuch as a half-wave rectifier requires the use of large capacitors, and a good inductance, any unnecessary increase in these items would be uneconomical.

There is one point which must be borne in mind with such a circuit. **The combination of inductance of the field coil, together with the capacity of the input condenser, should not be of such values as to form a tuned circuit resonant at the ripple frequency. Such a tuned circuit in this position would cause a high voltage to be developed across it.**

Circuits 27 and 38, on page 245, are practically identical, except that the choke is in the negative lead. Note the unusual connection to the rectifier tube in the circuit of Figure 38. The two halves of the tube are in parallel. In addition, the tube is in the negative side of the circuit. This is unusual, as the tube is nearly always in the positive side of the circuit. **The tube acts in the ordinary manner, in that current flows through the entire circuit and the rectifier tube when the cathodes are negative in respect to the plates.** A much better circuit than that described is shown in Figure 16.

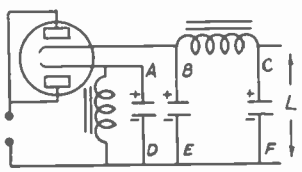


FIGURE 16

This circuit is really very simple. We have a rectifier tube which has two separate and distinct half-wave rectifiers within its envelope, such as the Type 25Z5 Tube. **We have a half-wave rectifier and filter system to supply current to the load, and another half-wave rectifier which supplies current to the field coil.**

The condenser connected across the field coil is for the purpose of filtering the current flowing through it. **With the condenser in parallel with the field coil, the peak of the ripple is absorbed and the condenser discharges through the field coil during the period of no current flow from the rectifier. Steadier average current is maintained through the field coil.**

The circuit illustrated in Circuit 11, on page 244, is identical, except that it has the choke for the load filter in the negative lead.

Voltage Doubler Circuits

Although the principal and action of the voltage doubling type of rectifier-filter circuit was known for many years, it was not until the introduction of the popular AC-DC receivers that there was any commercial reason for using such a circuit.

A voltage doubler circuit is one which will deliver twice the voltage applied to it. The true voltage doubler circuit does not use a transformer, but rather obtains the voltage doubling by means of condenser action.

The circuit shown in Figure 17 is one of the simplest types of voltage doubling circuit.

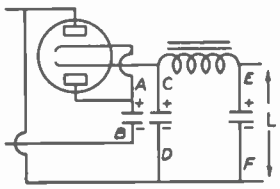


FIGURE 17

In order to facilitate the explanation of this circuit, we present Figure 18, which is a break-down of the circuit showing the action that takes place in the first half of a single cycle of the alternating current supply.

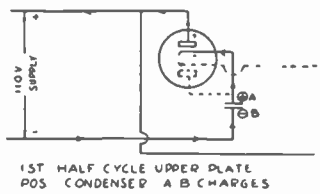


FIGURE 18

Notice the polarity marked on the supply line; i. e., positive at the top, and negative at the bottom.

In one of the earlier chapters devoted to rectifier action, it was explained that **whenever the plate of the tube becomes positive, electrons are attracted to it from the cathode.**

In Figure 18, we see that the upper plate is positive. Therefore, current is attracted. This current flows in from the negative line through the condenser to the cathode. This completes the circuit. The actual current flow is of very short duration, because it establishes an electrostatic charge in the condenser. The action taking place in the circuit on the first half of the cycle, is merely THE CHARGING OF THE CONDENSER "AB." The direction of current flow during the first half of the cycle is indicated by the arrows.

The action which takes place in the second half of the cycle is shown in Figure 19.

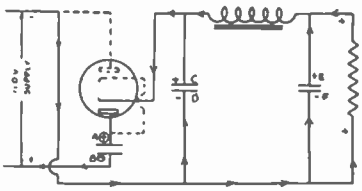


FIGURE 19

We now have condenser "AB" fully charged to 110 volts, and with a polarity as marked in Figures 18 and 19.

Note that in the second half of the cycle of supply voltage the polarity shown in Figure 19 is opposite that shown in Figure 18. The bottom supply line is now positive, and the upper negative. The positive polarity of the bottom line attracts current which flows from the negative line through the load and choke to the lower cathode of the rectifier tube. Inasmuch as the lower plate of the tube is positive, because it is connected to the positive line through the condenser "AB," the current will flow from the cathode to the plate. It encounters the charge in condenser "AB."

We now have 110 volts applied to the circuit, and also 110 volts of charge in condenser "AB." Note that the polarity of the charge in the condenser and the polarity of the current from the line are addative; i.e., positive to negative, and negative to positive.

We have added two separate charges of 110 volts each together. Inasmuch as they are ADDATIVE, the resulting voltage is 220. Theoretically the voltage is equal to twice the peak voltage of the supply circuit. This exists only with an extremely low load, and is not true in practical use. The resulting voltage in such a circuit is usually equal to approximately twice the RMS value of the applied voltage.

Circuit 9 on page 244 is a voltage doubler circuit with slightly different connections, but with the same action as that of the circuit which we have just described and illustrated.

From the description of the voltage doubler circuit, it is easy to see that **this circuit may only be used with an alternating current supply, and can not be used in an AC-DC receiver which may be operated on direct current, inasmuch as there is no reversal of polarity in a direct current circuit.** Therefore, the circuit illustrated in Figure 17 cannot be used where the line supply is direct current.

In order to provide for the operation of a receiver using a voltage doubler on either AC or DC sources of supply, it is necessary to provide

some means of changing the circuit. Such a means is the switch shown in the circuit of Circuit 45, on page 246. A study of this circuit will reveal that when used on an AC supply, **with the switch in the AC position, the circuit is a voltage doubler,** but that when the receiver is to be used on a DC source of supply, the switch must be turned to the DC side and the circuit then acts as a common half-wave rectifier.

Non-Polarized Condensers

There are a few applications where it would be dangerous to use the usual DC electrolytic condenser. In cases where the polarity applied to the condenser may be reversed, the heat generated by the heavy current flowing through the condenser would damage, if not totally destroy the unit. This is due to the unidirectional property of the dielectric film which retards the current flow in one direction, but offers little resistance in the other direction.

Note that we say "usual DC condenser" in the above paragraph, because **there is a simple means of providing an electrolytic condenser which may be used in any circuit wherein the polarity may be accidentally, or intentionally reversed.** Such a condenser is called a non-polarized type.

A non-polarized condenser is one in which there is no polarity; i.e., either one of the terminals may be connected to the positive side of the potential source.

Such an electrolytic condenser is easily made by either one of two methods. The first method is to build the condenser with two "formed" plates, or second, **to connect two electrolytic condensers together negative to negative, using the remaining positive terminals for connection to the circuit.**

The most general use for non-polarized electrolytic condensers is in receivers to be operated from a DC line, although they are frequently used in receivers which are to be operated from batteries.

Inasmuch as there is not a very large number of direct current receivers in use, the demand for non-polarized condensers is not sufficient to enable a distributor to stock them.

We present a sensible and economical method, whereby you may replace a non-polarized condenser, quickly and easily.

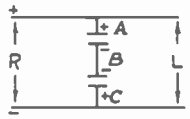


FIGURE 20

Figure 20 will clarify the method which is recommended for the replacement of non-polarized condensers.

Supposing you have need for a 4 mfd. non-polarized condenser to operate at 300 volts. The proper replacement is Type 2N517. This condenser consists of two 8 mfd. units with a common negative lead.

To use the Type 2N517, it is only necessary to connect the two red leads to the circuit and disregard the black negative lead. When making this installation, it is advisable to cut off the black negative lead and tape it, to prevent any accidental shorting.

The result of the foregoing procedure is shown in Figure 20.

It should be noted that the capacity resulting from such an arrangement of condensers is equal to one-half the capacity of either section. Both sections of a condenser so used should be of the same capacity.

The working voltage of the condenser resulting from the connections described, and illustrated in Figure 20, is that of one section, and not twice the rating of the one section. Thus two 450-volt condensers so connected will have a working voltage of 450 volts.

Although the Type 2N (common negative) type condenser was mentioned in the explanation of the method used to replace the non-polarized unit, we would like to point out that two single unit condensers may be so connected.

Where it is necessary that the replacement should be in one container and above 4 mfd. rating, multiple separate section type condensers may be used. For instance, the RM257 can easily be wired to replace an original 8 mfd. round can non-polarized unit by connecting the two 8 mfd. sections in parallel, and the negative leads of these two sections to the negative lead of the 16 mfd. section. This will give two 16 mfd. sections with their negative leads connected together, resulting in a non-polarized capacity of 8 mfd.

By-Pass Condenser Circuits

Many circuits in radio receivers or amplifiers carry both alternating and direct current. It is necessary to provide separate paths for the flow of these two different currents in order to accomplish certain actions. A circuit may carry direct current for plate supply and an AC signal current at the same time. It is necessary to provide a path for the signal voltages so that they may be applied only to certain portions of the circuit. In other words, it is necessary to separate the direct current and the alternating signal current.

A convenient means of obtaining this separation is to use a condenser to provide a path for the alternating current, because the direct current does not flow through a condenser.

This action is perhaps best illustrated by Figure 21.

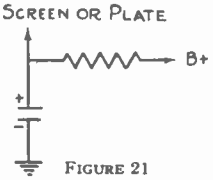


FIGURE 21

This circuit shows the use of a condenser to allow the passage of alternating signal current, from the screen circuit of a tube to ground, the resistor keeps the AC current from getting into the "B" supply where it might cause trouble. In most instances the resistor is necessary to provide the correct voltage for the screen, therefore it readily serves two purposes.

An additional illustration of the use of a condenser to provide a path for alternating current, is illustrated in Figure 22.

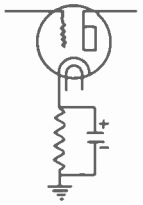


FIGURE 22

The resistor shown connected from the cathode of the tube to ground, is for the purpose of supplying a bias voltage for the grid of the tube. This resistor is usually of several thousand ohms resistance and would offer an impedance of this value to the flow of the signal current. Such an impedance to signal currents at this point would introduce degeneration, and this is usually to be avoided. If we connect a condenser across the resistor we will provide a path for the alternating current which will not affect the required voltage drop across the resistor necessary for bias supply.

Capacity of By-Pass Condensers

The capacity of a by-pass condenser is regulated by the frequency of the current to be handled, and in addition, the resistance of the circuit to be by-passed. It is a general rule that the capacitative reactance of a condenser would be one-tenth, or less, the resistance value of the circuit to be by-passed.

Capacitative reactance is the impedance of a condenser to the flow of an alternating current. This reactance is expressed in ohms by the formula $X = \frac{1}{w F C}$, where w is 6.28, F is the frequency in cycles per second, and C is the capacity in Farads.

To those mathematically inclined, the above formula shows that for a given value of capacity, the reactance decreases with increasing frequency. For practical illustration, let us say that a 1 mfd. condenser has a reactance of 1592 ohms at 100 cycles, but that for 200 cycles, the reactance is only 796 ohms.

To find the correct capacity value to be used for by-pass condensers, it is only necessary to know the resistance of the circuit to be by-passed, and the lowest frequency which will appear in the circuit. Then find the capacity value the reactance of which is approximately one-tenth or less of the resistance of the circuit to be by-passed at the lowest frequency which appears in the circuit.

Electrolytic By-Pass Condensers

Inasmuch as many circuits to be by-passed are of very low resistance, or are carrying a low frequency current, it requires a large capacity to affect the proper by-passing action.

Previous to the introduction of the electrolytic condenser, large values of capacity were extremely expensive. However, in electrolytic condensers, particularly at low voltages, it is possible to obtain a very large value of capacity at low cost, and in a small space. For instance, the usual capacity required for by-pass in the circuit of Figure 22, is in the order of 25 mfds. at a potential difference of approximately 25 volts or less.

An electrolytic condenser suitable for use in this circuit will occupy a space of only 1⅛" diameter x 1⅞" long. These are the dimensions for the Type BB15, which has a capacity of 25 mfds., and a working voltage of 25 volts. Such a capacity value in a paper condenser would occupy quite a few cubic inches of space.

Wherever a large capacity is required for a by-pass condenser, and where there is a DC voltage, it is advisable to use an electrolytic condenser. For very high frequencies, a paper condenser should be used, inasmuch as electrolytic condensers are not suitable for use as by-pass condensers at frequencies above several kilocycles.

Where a circuit to be by-passed carries both Audio and RF currents it is often advisable to use both an electrolytic condenser and a paper condenser. Such arrangements are found in many receivers.

Easy Replacement of Unmarked Condensers

When it is necessary to replace a condenser which is not marked as to capacity and working voltage, this easy, quick, step-by-step method saves a lot of time in repairing a receiver.

First: **Ascertain the working and surge voltages.** A method of doing this is outlined in the chapter "Surge Voltage."

Second: With the voltage known, the condenser is semi-classified, and the replacement will necessarily have a voltage rating equal to or greater than the actual voltage.

The next most important step is to ascertain the capacity value.

Procedure for Filter Condensers

A. **FOR SINGLE UNIT CONDENSERS** of either the can or carton type, **use 8 mfd. or larger, except at the input to a filter.**

When replacing original paper condensers, which rarely exceed 2 mfd., it is advisable not to use more than 4 mfd., as values above this may cause the output voltage to rise to too high a value. On the other hand, half-wave rectifiers require a large capacity value at the input to the filter. In AC-DC receivers, the input capacity for half-wave rectifier is usually in the order of 25 mfd.

B. **FOR BLOCK OR MULTI-SECTION CONDENSERS.**

First, Sketch the circuit and note the connection of the leads of the condensers and their color. For illustration, let us suppose you are working on an AC-DC receiver, and your sketch looks like this:

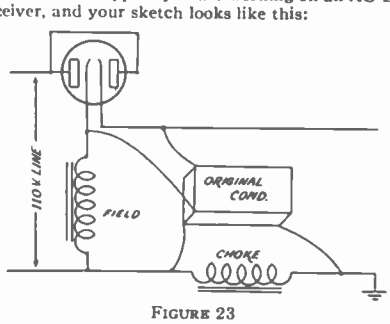


FIGURE 23

Second. Carefully open the condenser and trace and sketch the connections of the various units. This will help you to ascertain the way in which the various sections are connected in the circuit.

Next, sketch in the condenser connections to the various parts of the circuit as per Figure 24.

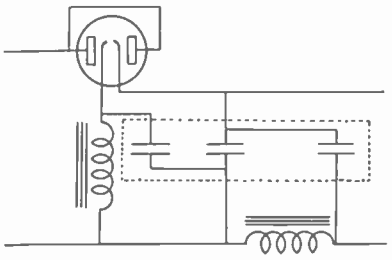
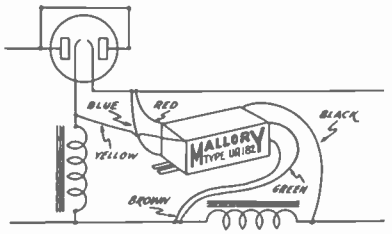


FIGURE 24

Now, refer to the condenser circuits given on pages 244 to 247 and find a circuit such as the one you have sketched. This turns out in this instance to be Circuit 11.

Now turn to the "Replacement" section and go up and down the "Circuit" column under the heading "Condensers," until you find this circuit number. When you have found this number, you will also find the correct replacement condenser, because it is given in the next column to the right of the circuit column. For instance, Circuit 11 will be found in the replacement section on page 17, where you will note that the UR182 is listed as the replacement.



With some circuit numbers you may have to search over several pages. This is advisable, because there are many combinations of condensers which may be used as replacements. Thus, by consulting two or three pages of the replacement section, you may ascertain several different combinations which may be used as a replacement and from these select the types of condensers most suited to your particular job.

There is generally no harm in raising or lowering the input capacity 2 or 3 Mfds. but with half wave rectifiers, too great a reduction in input capacity will cause a loss of voltage.

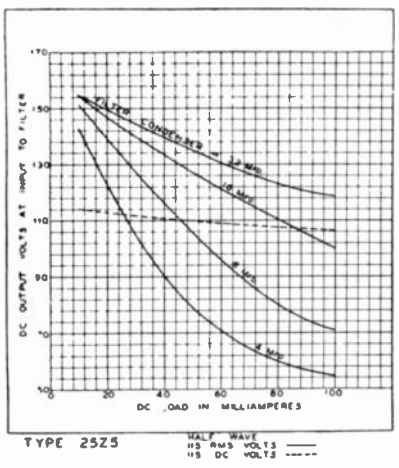


FIGURE 25

Figure 25 shows the relation between load and input capacity for various output voltages of a half-wave rectifier.

By-Pass Condenser Replacement

When replacing by-pass condensers, follow the same procedure as is given in the preceding paragraphs devoted to filter condenser replacement. Note—Low voltage condensers may always be replaced with condensers of a higher voltage rating. Thus, a 5 mfd. 20 volt condenser may be replaced by an 8 mfd. 450 volt condenser. Although the higher voltage condenser may cost a few cents more than the low voltage condenser, there are many times when such a replacement will save you much more than the difference in cost, in the time saved.

How to Use the "B" Notes

The extreme right-hand column under the general heading "CONDENSERS" in the replacement section of the encyclopedia is the "NOTE COLUMN," in which is listed various numerals preceded by the letter "B," such as "B16."

"B16" refers to one of the notes on the following pages. These notes pertain to the replacement of condensers, and enables us to tell you exactly what to do and how to do it. These notes guide you so that you may make a quick and easy repair. They also enable us to warn you to watch for certain things, and most of all tell you how to wire in a condenser regardless of the original color code, change during manufacture, or previous repair.

CONDENSERS			
Original Part	Circuit	Correct Replacement	*Note
8-8 . .	1	See Note	B3

Here is an illustration of part of the replacement section. The meaning expressed in the apparently cryptic message is that the original condenser combination in the particular receiver is two 8 mfd. units used in Circuit 1, as shown on page 244, and that you are to read "B" note No. 3, which states "B3—Physical characteristics are unknown. We suggest replacing with equivalent Mallory type of equal or higher capacity. Check voltage for higher rating." You are told that there are two 8 mfd. units used in Circuit 1, but you alone know whether there are two single 8 mfd. units or a single unit containing two 8 mfd. sections. You also know the physical specifications; i. e., whether it is a round can or carton type of condenser, or, condensers.

You have the original before you in the receiver. You know the physical appearance and permissible size. We have given you the capacity and a schematic of the circuit. THIS IS ALL THE INFORMATION ONE COULD ASK TO MAKE A REPLACEMENT. The voltage rating should not bother you, for—if the receiver is of an AC type using a transformer, a 450 volt condenser should be used. If the receiver is an AC-DC type, a 250 volt condenser should be used, inasmuch as even with a voltage doubler, the 250 volt rating is always sufficient.

Let us take a more complicated note, for example: No. B18, which states: "Refer to schematic No. 6 and connect UR182 as follows: Green, Brown and Black to points 'C,' and 'D,' Red to point 'A,' Yellow and Blue to point 'B.' "

Figure 26 shows Circuit 6 with the UR182 connected as per the instruction in Note No. B18.

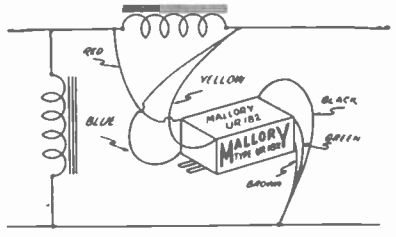


FIGURE 26

"B" NOTES

B1—Originally equipped with paper condensers. Electrolytics of equal or greater capacity are O.K. for replacement. Check voltage to determine proper condenser rating.

B2—Input condenser may be paper type. In such cases we suggest the replacement be made with a paper condenser or Mallory HS or HD high voltage units, the choice being determined by the voltage requirements.

B3—Physical characteristics are unknown. We suggest replacing with equivalent Mallory type of equal or higher capacity. Check voltage for proper rating.

B4—Filter condensers may be of paper; if so, replace with Mallory HS or HD types. Working voltage, capacity and mounting will determine type.

B5—Use types UR188 or UR189 to replace a combination such as 16-12, 16-8, 12-12, etc. The dual mfd. low voltage units are intended for by-pass circuits and may be connected in parallel (Yellows together) to obtain a single 10 mfd. section. Connect the two Red leads together to obtain the higher capacity filter section. The UR188 and UR189 contain the same capacities and voltage ratings. Select the unit which may be installed most conveniently.

B6—It is not necessary that the cathode by-pass condensers be in the same container as the filter condenser. Mallory BB units are easily installed within the chassis, the wire leads offering firm support.

B7—Originally equipped with paper condensers. Replace with Mallory UB units of proper voltage and capacity.

B8—When a Mallory Multi-section condenser is recommended to replace an original single section condenser, connect the sections in parallel. This gives a capacity that is equal or greater than the original.

B9—This condenser is enclosed in the original block and tunes the filter choke to the ripple frequency. Replace with Mallory TP unit or combination of units giving the same capacity as the original.

B10—This condenser is used only on the later type of this model.

B11—Requires a non-polarized type of electrolytic for replacement. To obtain a non-polarized capacitor use a Mallory 2N type having the same capacity in both sections. Cut off the black lead close to the container and tape to prevent shorting against chassis. Use the two Red leads as the terminals of the condenser. The resulting capacity equal to one-half the capacity of one sec
i.e., 2N518 will have an effective no
ized capacity of 4 mfd. at 450 V
Circuit 39 in the "B" condense
tion.) Note: the 2S units m
by paralleling the sections
ing the negative leads
as above.

ed
rect-
taping

B12—This additional capacity used on 25 cycle models only.

B13—This power pack is used in many early Mohawk models. Color code of the filter condensers are: Green 2 mfd., Blue 2 mfd., Yellow 1 mfd. In addition there is a .5 mfd. from B positive to B negative. See note B1.

B14—These condensers are used across the secondary of the vibrator transformer. Replace with Mallory VB or OT type condensers of the same capacity value.

B16—Mount in hole in chassis or use Mallory bracket No. 104-1.

B17—Refer to schematic No. 11 and connect UR182 as follows: Black and Brown to points "D" and "E," Red to point "A," Blue to point "B," Yellow to point "C," and Green to point "F."

B18—Refer to schematic No. 6 and connect UR182 as follows: Green, Brown and Black to points "C" and "D," Red to point "A," Yellow and Blue to point "B."

B20—This condenser is used only on later models.

B21—Install beneath chassis and connect Red and Yellow leads together to positive, Black and Blue to negative. Leave old unit in place if desired, but be sure to remove leads from it.

B22—Refer to schematic No. 9 and connect 3S582 as follows: Red to point "A," Black and one Yellow to point "B," remaining Yellow to point "D," Blue to points "C" and "E."

B23—When Mallory Stud type condensers such as the SR602, SR605, etc., are recommended to replace condensers of the ring clamp mounting type, the stud may be cut off flush with the top of the can. Be careful not to cut into the can.

B24—Connect as follows: Red to point "A," Yellow to point "B," Black to point "C," Blue to point "D."

B25—Refer to schematic No. 4 and connect CM172 as follows: Red leads together and to points "A" and "B," one Black to point "C," remaining Black to point "D."

B26—Refer to schematic No. 1 and connect as follows: Red to point "A," Yellow to point "C," Black and Blue to points "B" and "D."

B27—Later type used a 16 mfd. condenser in place of the 8 mfd. No. 27585; in which case use the RS216.

B28—There were two types of filter circuits used in this model; the older type used a dual 4 mfd. as first and second filter with an 8 mfd. in the output. The later type used the same combination but with the 8 mfd. as the input condenser.

B29—Refer to schematic No. 1 and connect UR189 as follows: Blue to point "A," both ds to point "C," Brown, Black and Green assis. Connect one Yellow to cathode of tube, the other Yellow to cathode of meube.

 the SR611 by means of the t off and disregard the Blue lead. Two CS133 units may be used if desired.

B31—Refer to schematic No. 11 and connect UR182 or UR193 as follows: Yellow to point "A," Red and Blue to points "B" and "C," Green and Brown to points "D" and "E," Black to point "F" (chassis).

B32—Join the Yellow leads together and to B positive, Red lead to Blue lead from switch, Black to plate of 25Z5, Blue to chassis.

B33—Connect as follows: Red and Yellow to points "A" and "B," Black to point "C," Blue to point "D."

B34—Refer to schematic No. 1 and connect one Red to point "A," another Red to point "C," remaining Red to cathode of output tube, Black to chassis.

B35—We suggest the use of UR190 for this replacement.

B36—Refer to schematics Nos. 6 and 15 and connect UR189 as follows: Blue to point "A," both Reds to "B," Brown, Black and Green to chassis at points "C" and "D," one Yellow lead to cathode of detector, remaining Yellow to cathode of output tube.

B37—May require use of condenser bracket No. 104-1.

B38—On some chassis of the model 525 the condenser was in two cartons, the C525C (5 mfd.—25 mfd.) and the C525D (5 mfd.). We recommend the UR182 which replaces both of the units.

B39—Install Mallory condenser in the old can or beneath the chassis.

B40—Connect as follows: Red to rectifier filament, Yellow to junction of resistors in 6C6 plate circuit, Black and Blue to chassis.

B41—Refer to schematics Nos. 1 and 13 and connect as follows: Red to point "C," Yellow to junction of resistors in 6C6 plate supply, Black and Blue to chassis.

B42—Connect as follows: Red to points "A" and "B," one Black to point "C," other Black to point "D."

B43—An .05 condenser was used for buffer on first type only, value of second type unknown.

B44—Models using the F312 vibrator have a .005 mfd. buffer; those using the F221 vibrator have an .04 mfd. buffer.

B45—The original block No. P80902 contained two 4 mfd. condensers and a .1 mfd. paper. Replace with a 2N516 and TP438 connected as follows: one Red of 2N516 to screen circuit, remaining Red to first audio cathode, Black to chassis. Connect TP438 from RF screen to ground.

B46—Substitute TP441 for TP438 and connect as in note B45.

B47—Refer to schematic No. 29 and connect CM165 as follows: Red to point "A," corresponding Black to "B," another Red to point "B," corresponding Black to "C," remaining Red to "D," and Black to "E."

B49—Refer to schematic No. 9 and connect CM165 as follows: one Red to point "A," corresponding Black to point "B," another Red to "B," corresponding Black to point "C," remaining Red to point "D" and Black to "E." Note—In some cases there are two pigtail resistors between the field and point "E" which is connected to the chassis.

B50—Refer to schematic No. 23 and connect RM262 as follows: Blue and Red to points "A" and "B," Brown to point "C," and Black to point "D." If necessary use Mallory bracket No. 104-1.

B51—Refer to schematic No. 29 and connect CM165 as follows: one Red to point "A," corresponding Black to point "B," another Red to point "B," corresponding Black to point "C," remaining Red to point "D" and Black to "E." Note—In this receiver there may be a pigtail resistor between the field and point "E."

B53—Refer to schematic No. 29 and connect UR190 as follows: one Red of one of the independent sections to point "A," corresponding Black to point "B," Red of the other independent section to point "B," corresponding Black to point "C," one Red of the common section to point "D," the other Red to 6A7 plate supply, Black to ground at point "E."

B54—This chassis is the same as the Majestic 300, 300A.

B55—Red to points "B" and "C," one Black to point "E," other Black to point "F."

B56—Refer to schematic No. 11 and connect RM259 and BB12 as follows: Green of RM259 to point "A," Yellow and Brown to points "D" and "E," Blue and Red to points "B" and "C," Black to "F." Connect BB12 positive to second detector cathode, negative to point "F."

B57—Connect Black leads to chassis; other lead connections are obvious.

B58—Refer to schematic No. 4 and connect RM265 as follows: Red and Blue to points "A" and "B," Black to point "C," Brown and Yellow to point "D," Green to screen circuit.

B59—Refer to schematic No. 1 and connect RM257 as follows: Red to point "A," Black to point "B," Blue and Green to point "C," Brown and Yellow to point "D."

B60—Connect one 8 mfd. section to rectifier side of choke, combine two sections and connect to speaker side of choke, the remaining section to voltage divider at output side of speaker field.

B61—Connect as follows: Yellow to point "A," Red to point "B," Green to cathode of output tube, Black to chassis.

B62—Red to point "A," Yellow and Green to point "C," Black and Blue to points "B" and "D."

B63—Refer to schematic No. 1 and connect RM257 as follows: Brown, Yellow and Black together and tape, Red to choke at point "C," Blue and Green together to point "D." Note—It may be necessary to use a CM164 installed beneath the chassis. See note B11.

B64—Refer to circuit 74 and connect as follows: Yellow to point "A," Red to point "B," Green and Black to chassis at point "D," Blue to point "C."

B65—If original is in three sections use three RS213.

B66—Red to point "A," Yellow to point "C," Black to points "B" and "D."

B67—Refer to schematic No. 8 and connect RM259 as follows: Green to point "A," Red to point "B," Blue to point "C," Yellow, Brown and Black to points "D," "E," and "F."

B68—Refer to schematic No. 11 and connect RM259 as follows: Green to point "A," Yellow and Brown to points "D" and "E," Blue and Red to points "B" and "C," Black to point "F."

B71—Refer to schematic No. 11 and connect the UR190 as follows: Connect the two Red leads (that exit from the same hole in the carton) together and to one of the other Red leads, then connect this assembly to the cathode of the rectifier at point "A;" the three Black leads connect to the line at points "D" and "E," the remaining Red lead connects to the rectifier cathode at point "B."

B72—Refer to schematic No. 29 and connect UR190 as follows: Combine two Reds (that exit from same hole in carton) and connect to point "A," corresponding Black lead to point "B," connect one other Red lead to point "B," corresponding Black lead to point "C," connect remaining Red lead to point "D" and remaining Black to point "E." Point "B" is connected to DC side of switch.

B73—Refer to schematic No. 4 and connect RM262 as follows: Red and Blue to points "A" and "B," Brown to "C" and Black to "D."

B75—Yellow to point "A," Red to point "C," Black and Blue to points "B" and "D."

B76—Refer to schematics Nos. 1 and 15, and connect RM257 as follows: Red to cathode of output tube, Blue to "A," Green to "C," Brown, Yellow and Black to chassis.

B77—We suggest the use of two UR190 condensers connected as follows: Both Red leads of the common section to cathode of 25Z5, the two other Red leads of this condenser together and to cathode of 12Z3. On the other UR190, connect both Red leads of the common section to the output of the choke, one of the remaining Red leads to cathode of 6C6 and the other Red lead to the cathode of 43, all Black leads to negative line.

B78—Red to point "B," Yellow to point "C," Black and Blue to points "E" and "F."

B79—Red to point "A," Yellow to point "C," Green to plate return of first AF, Black and Blue to chassis.

B80—Refer to schematics 1 and 15 and connect RM257 as follows: Red lead to point "C"; Blue lead to IF screen; Green lead to cathode of output tube; Brown, Yellow and Black leads together and to points "B" and "D" (chassis).

B81—Refer to schematic 32 and connect as follows: Red to point "A," Yellow to point "C," Black and Blue to point "D."

B82—Red to point "B," Yellow to point "C," Black and Blue to points "E" and "F."

B83—Refer to schematic No. 3 and connect one section of the MN277 to "A," connect two of the sections together and to point "B," connect the other section to point "C."

B84—Refer to schematics Nos. 1 and 15, connect both Reds to point "A," Blue to "C," Black, Brown and Green to chassis at "B" and "D," one Yellow to cathode of second detector and the other to cathode of output tube.

B85—Mount the Mallory condenser in the original can.

B86—Refer to schematic No. 4 and connect RM261 as follows: Red and Blue to points "A" and "B," Brown to "C" and Black to "D."

B87—Red to point "A," Yellow to point "B," Green to point "C," Black and Blue to points "D," "E," and "F."

B88—Refer to schematic No. 27 and connect CM165 as follows: All three Red leads to "A," "B" and "C," two Black leads to "D," "E," remaining Black lead to "F."

B89—Replace with a UR190 mounted beneath the chassis. Refer to schematic No. 29 and connect as follows: one of two Red leads having common exit to point "B"; other Reds together and to points "A" and "D"; Black opposite Reds having common exit to point "C"; one other Black to point "B"; remaining Black to point "E."

B90—Red to point "A," Yellow to point "B," Black to points "C" and "D."

B91—Red and Yellow to points "A" and "B," Blue to point "C," Black to point "D."

B92—Red to point "B," Yellow to rotor of band switch, Black and Blue to chassis.

B93—Red to point "A," Yellow to point "B," Green to chassis, Black to B minus at points "C" and "D."

B94—Refer to schematic No. 27 and connect UR189 as follows: The two Red leads to "A" and "B," Blue to "C," Black to "F," Brown and Green to "D" and "E," Yellow leads together and to cathode of detector.

B95—Refer to schematics Nos. 27 and 15 and connect the UR182 as follows: Red and Blue to "A," "B" and "C," Black and Green to chassis at "F," Brown to line at "D" and "E," Yellow to cathode of Detector (or in some cases the first AF stage).

B96—See Note B3; if round can unit can be installed we suggest RM259 for this installation.

B97—Refer to schematics Nos. 1 and 44, connect all Black leads of the UR190 to B−, the two Red leads (with common exit) together and to chassis, one of the remaining Red leads to each side of the choke.

B98—Refer to schematics Nos. 6 and 15 and connect UR189 as follows: Both Red leads to "A," Blue to "B," Yellow leads to cathode of Detector and output tubes respectively, Brown, Black and Green to chassis.

B99—The chassis type number is the group prefixing the serial numbers. The first run of this chassis used schematic No. 27 with 16 mfd. from cathodes (in parallel) to line, 8 mfd. from cathodes to chassis and 4 mfd. from 6A8 plate supply to chassis, also a .25 paper across the choke. For the first run, connect UR193 as follows: Refer to schematic No. 27, connect Blue to "A" and "B," Red to "C," Brown to line at "D," "E," Black and Green to chassis, Yellow to 6A8 plate supply. In the second run the cathodes of the 25Z5 were separated thus changing the circuit to schematic No. 11 and the .25 mfd. condenser was removed from across the choke and a separate 4 mfd. tubular connected across the field. For this circuit refer to schematic No. 11 and connect UR193 as follows: Blue to "B," Red to "C," Brown to line at "E'," Black and Green to chassis at "F," Yellow to 6A8 plate supply. Use an additional BB20 with positive to "A," negative to "D."

B100—Refer to schematic No. 27 and connect CM165 as follows: All Red leads to "A," "B," "C," two Black leads to "D," "E," one Black lead to chassis at "F."

B101—Red to point "A," one Yellow to point "B," other Yellow to anode grid return of 6A7, Black to chassis.

B102—Use one CM164 and one UR183; refer to schematics Nos. 8, 13 and 15, and connect units as follows: Black leads of CM164 to chassis, one Red lead to each side of the choke. Black and Brown leads of the UR183 to chassis, Yellow to cathode of output tube, one Red to rectifier cathode supplying the field, one Red to 6A7 screen supply.

B103—Reds together and to point "A," Yellow to point "D," Black to point "C."

B104—When AC-DC switch is in AC position the filter circuit is the same as schematic No. 8 with the exception that there is an additional choke connected at point "C." Connect UR182 as follows: Red to point "C," Black to point "F," Yellow to point "A," Blue to point "B," Green to the AC side of the AC-DC switch connected to the speaker field, and Brown to points "D" and "E."

B105—Refer to schematic No. 45 and connect UR190 as follows: One each of the two Red leads (having a common exit from the carton) to points "D" and "E," the Black of this section to chassis at "F," one of the remaining Red leads to point "A," corresponding Black connects to the remaining Red and to point "B," the remaining Black to the chassis at point "C."

B106—Refer to schematics Nos. 4 and 17 and connect RM265 as follows: Red and Blue to points "A" and "B," Black to "C," Brown and Yellow to "D," Green to filament center tap resistor.

B107—Refer to schematic No. 29 and connect CM162 as follows: one Red to point "A," corresponding Black and remaining Red to point "B," remaining Black to point "C." The additional 8 mfd. unit is beneath the chassis and connected Red to point "D," Black to point "E."

B108—Refer to schematics Nos. 8 and 15 and connect RM259 as follows: Blue and Green together to point "C," Red to point "B," Black, Brown and Yellow to chassis at "E" and "F." Connect 2N504 Black to chassis at "D," Yellow to point "A," Red to cathode of output tube.

B109—To replace RC501 refer to schematics Nos. 13 and 15, and connect 2N518 as follows: One Red to osc. plate supply, other Red to cathode of output tube, and Black to chassis. For RC502 refer to schematics Nos. 13 and 14, and connect 2N518 as follows: one Red to junction of 20M ohms and 500M ohms resistors in the first AF plate supply, remaining Red to first AF screen, and Black to chassis.

B110—If the filter and by-pass condensers are all in one block, refer to schematics Nos. 6 and 15, and use UR182 connected as follows: Connect Blue to point "A," Yellow to point "B," Black, Green and Brown together to points "C" and "D," remaining Red to detector cathode.

B111—Red to point "C," Yellow to anode grid return, Green to cathode, Black and Blue to chassis.

B112—Yellow to point "A," Red to point "B," Black to points "C" and "D."

B113—Connect as follows: Red to point "B," Yellow to point "A," Black to points "D" and "E," positive of BB21 to point "C," negative to point "F."

B114—Refer to schematics Nos. 6 and 15 and connect UR182 and BB12 as follows: Blue to point "A," Red and Yellow to point "B," Black, Brown, Green and negative of BB12 to chassis. Positive of BB12 to cathode of output tube.

B115—Refer to schematic No. 27 and connect as follows: Red, Blue and Yellow to points "A," "B" and "C," Brown and Green to points "D" and "E," Black to chassis at point "F."

B116—Refer to schematics Nos. 3 and 14 and connect HS692 as follows: Red to point "A," Black to point "D." Connect UR191, the two Red leads (with common exit) together and to point "B," corresponding Black to point "E," one of the two remaining Red leads to point "C," the other to the 100-volt tap on the voltage divider, both remaining Black leads to point "F."

B118—Refer to schematic No. 11 and connect UR182 as follows: Yellow to point "A," Red and Blue together and to points "B" and "C," Green and Black together and to point "F," and Brown to point "E." This connection is not the same as the standard described in note 31. However, the wiring used in note 31 is applicable in some cases of noticeable hum.

B119—Refer to circuit 74 and connect as follows: Green to point "A," Red to point "B," Blue to point "C," Yellow and Black to point "D."

B120—Red of 2N504 to point "B," Yellow to point "A," Black to points "D" and "E." One Red of 2N502 to point "C," other Red to cathode of detector, Black to chassis at point "F."

B121—If receiver should be disconnected from the power pack the voltage rises to 900 volts for 9P6 and correspondingly for the other similar power packs; therefore, we advise the use of HS (High Surge) units for replacement.

Schematic No. 47 gives a view of a replacement made with HS carton units.

The by-pass sections of the original may be replaced with larger capacity units of electrolytic type, thereby giving better filtering action at the by-pass point.

The illustration in schematic No. 47 shows an installation of two HS692 and two HS690 condensers replacing the original block.

B122—Red of 2N512 to point "B," Yellow to point "A," Black to points "D" and "E." One Red of 2N502 to point "C," other Red to cathode of detector, Black to chassis at point "F."

B123—Refer to schematic No. 29 and connect CM165 as follows: One Red to point "A," corresponding Black to point "B," second Red to point "B," corresponding black to point "C," remaining Red to point "D," and Black to "E." In some cases there may be a pigtail resistor between the field and point "E."

B124—Blue of UR193 to original red. Red to original yellow, Yellow to original green, brown, and black; and Green to original black.

B125—Condenser supplied on order. State part, make and model number of receiver.

B126—To replace P80956 refer to schematic 25 and connect RM262 and BB15 as follows: Red of RM262 to point "A," Black to point "C," Blue to point "B," and Brown to chassis. Connect BB15 negative to point "C," and positive to chassis.

B127—To replace P80937 refer to schematics Nos. 14 and 15 and connect 2N516 as follows: One Red to IF screen, the other Red to second detector cathode, and Black to chassis.

B129—Since these condensers originally had a screw-socket base, we recommend replacement with a carton beneath the chassis.

B130—May require the use of washer No. A-017.

B131—Reds of 3N526 replace original yellows. Yellow replaces original red. One Red of 2N502 to original green, other Red to original blue, Blacks of both units to chassis.

B132—Reds of 3N526 to original yellows. Yellow to original red. One Red of 2N500 to original blue, other Red to original green, Blacks of both units to chassis.

B133—Original unit was combination of .25 mfd. and .5 mfd. paper, and 8 mfd. electrolytic. Replace with combination of TP420, TP432 and BB12 respectively.

B134—Refer to schematics Nos. 8 and 15 and connect UR189 as follows: Blue to point "A," one Red to point "B," the other Red to point "C," Black, Brown and Green to points "D," "E" and "F," one Yellow to cathode of detector and output tube respectively.

B135—Refer to schematics Nos. 14 and 15 and connect CM172 and TP420 as follows: One Red of CM172 to oscillator plate supply, remaining Red to cathode of first audio tube, and Blacks to chassis. Connect TP420 to the junction of 25M ohms and 250M ohms resistors in the second Detector plate lead, and to the chassis.

B136—The original condenser had two .25 mfd. and one .5 mfd. paper sections, and one 20 mfd. electrolytic. To replace electrolytic section, use BB15, connecting positive to cathode of output tube, negative to chassis.

B137—Refer to schematics Nos. 13 and 14 and connect UR181 as follows: Red lug to driver plate supply, Blue lug to IF screen circuit, and Green lugs to first AF plate resistor.

B139—Red of 4S715 to cathode of the 25Z5 which supplies plate power, Yellow to junction of filter choke and the 4000 ohm resistor, one Green to cathodes of the 43 output tubes, other Green to cathode of 6C5, Black and Blue to chassis. Connect one Red of 2N502 to cathode of 25Z5 supplying field power, other Red to RF screen, Black to chassis.

B140—Reds of 2N506 to original yellows, Black to chassis. Red of 3N520 to original green, Yellow to original blue, Green to original red, Black to chassis.

B141—Black and Blue of 3S579 to center tap of high voltage winding. Red to screen of first detector, Yellow to first AF plate supply, Green to cathode of output tubes. Positive of BB64 to output side of filter choke, negative to high voltage center tap.

B142—Refer to schematic No. 13 and connect UR181 as follows: Red lug to anode grid supply of first detector, Blue lug to IF plate supply, Green lugs to screen circuit.

B143—Refer to schematics Nos. 1 and 15 and connect RM259 as follows: Red to point "A," Blue to point "C," Black, Brown and Yellow to chassis, Green to cathode of output tubes.

B144—Connect 3S579 Red to output screen, Yellow to target of tuning eye, Green to cathode of audio driver, Black and Blue to chassis. Connect positive of BB14 to cathode of output tube, negative to chassis.

B145—Yellow to point "A," Red to point "C," Blue to point "B," Black and Green to point "D."

B146—Refer to schematics Nos. 13 and 14 and connect UR181 as follows: Red lug to audio plate supply, Blue lug to IF screen circuit, Green lugs to anode grid supply of first detector.

B147—Refer to schematics Nos. 13 and 14 and connect UR181 as follows: Red lug to second detector plate supply, Blue to IF screen circuit, Green lugs to anode grid supply of first detector.

B148—Refer to schematics Nos. 13 and 14 and connect UR181 as follows: Red lug to driver plate supply, Blue lug to IF screen circuit, one Green lug to first audio screen, remaining Green lug to oscillator plate supply.

B149—Refer to schematics Nos. 13 and 14 and connect UR181 as follows: Red lug to first detector screen, Blue lug to driver plate supply, one Green lug to second detector plate resistor, remaining Green lug to first detector anode grid supply.

B150—Refer to schematics Nos. 13 and 14, connect UR181: Red lug to IF screen circuit, Blue lug to first detector anode grid supply, Green lugs to driver plate supply.

B151—Refer to schematic No. 13 and connect UR181 as follows: Red and Blue lugs to first detector screen circuit, and Green lugs to second detector plate resistor.

B152—Connect Red leads in place of original lugs, Black to chassis.

B153—Refer to schematics Nos. 13 and 14 and connect UR181 as follows: Red lug to oscillator plate supply, Blue lug to RF plate supply, one Green lug to second audio plate supply, and remaining Green lug to second detector plate resistor.

B154—Refer to schematic No. 11 and connect UR182 and CS123 as follows: Yellow of UR182 to point "A," Red and Blue to points "B" and "C," Green and Brown to points "D" and "E," Black of UR182 and CS123 to point "F," Red of CS123 to osc. anode resistor.

B155—Refer to schematic No. 27 and connect UR182 as follows: Blue, Red and Yellow together and to points "A," "B," and "C," Brown to points "D," "E," and Black and Green together and to point "F."

B156—These two 4 mfd. sections are contained in the same unit with several small capacity condensers of the paper type. For the replacement of the filter section use a non-polarized unit as in note B11. The 4 mfd. by-pass section may be replaced with BB11 installed at the socket.

B157—Refer to schematic No. 50 and connect RM257 as follows: Red to point "A," Black to point "C," Blue and Green together to point "B," Brown and Yellow to point "D."

B158—These condensers are contained in a capacitor block with several small paper condensers. To replace these units we recommend for external replacement a CM175 connected as follows: Two Reds to points "A" and "B," one Black to point "C," two remaining Blacks to point "D," remaining Red to screens.

B159—Refer to schematics Nos. 6 and 15 and connect RM259 as follows: Red to point "A," Blue to point "B," Black, Brown and Yellow to points "C" and "D," Green to cathode of output tube.

B160—The original block contained two 10 mfd. electrolytics and a .5 mfd. paper. Replace with 2N518 and TP431. Connect one Red of the 2N518 to the screen of output tubes, the remaining Red to the cathode of detector tube, Black to negative line. TP431 replaces the coupling condenser between the 37 plate and the interstage transformer.

B161—Use 4S718 and BB13 and connect as follows: Red of 4S718 to RF screen, Yellow to driver plate supply, one Green to first audio cathode, other Green to driver cathode, Black and Blue to chassis. Connect BB13 positive to chassis, negative to high voltage center tap.

B162—Use 3S579 and BB13 and connect as follows: Red to RF screen, Yellow to the junction to the two resistors in the first AF plate supply, Green to first AF cathode, Black and Blue to chassis. Connect BB13 negative to high voltage center tap, positive to chassis.

B163—Refer to schematics 9 and 13 and connect as follows: All Blacks to chassis, one Red each to points "A," "B," "D," and to input plate of the 25B5. Connect BB31 negative to point "B," positive to point "A."

B164—Refer to circuits 2, 13, and 44, and connect as follows: all Blacks of UR191 to chassis. Two Reds to point "A," one Red to point "C," and one Red to plate return of the 55 triode section. Positive of BB21 to chassis, negative to bias supply.

B165—Refer to schematics Nos. 15 and 19 and connect CM162 as follows: One Black to transformer center tap, corresponding Red to chassis, remaining Red to first AF cathode, Black to chassis.

B166—This block contains the filter condensers and the output choke and condenser. When replacing by section be sure to leave output assembly intact.

B167—For replacement of this entire block, we recommend purchase of original block from manufacturer. However, in case of emergency, the block may be taken apart and replacement accomplished by using the 2N518 unit or exterior application may be made. Precaution should be taken to preserve the original block wiring, not affected by the replacement.

B169—This condenser is contained in a block with several paper condensers and this replacement is suggested to replace this section only and the rest of the block must be left in the receiver as connected.

B170—Refer to schematics Nos. 27 and 19 and connect RM259 and BB12 as follows: Red, Blue and Green of RM259 together and to points "A," "B" and "C," Black and Yellow together and to points "D" and "E," Brown to point "F." Connect BB12 positive to output tube cathode, negative to resistor tap in output tube grid circuit.

B171—Refer to schematics Nos. 9 and 15 and connect UR190 and CM161 as follows: One Red of common negative section of UR190 to point "B," remaining Red to point "A," Black to point "C," Red of one independent section to point "A," Black to point "B," remaining Red to point "D," Black to output cathode. Connect CM161, Blue to point "D," Brown to point "E," Red to output cathode, Black to point "E."

B172—Connect UR189 as follows: One Red to rectifier cathode, Green and Black to negative line, remaining Red to RF screens, Blue to output plate supply, Brown and both Yellow to output cathode.

B173—For replacement of this entire block we advise purchase of a duplicate from the manufacturer. In case of emergency, the block may be taken apart and replacement accomplished by using the 2N518 unit. Wiring to parts of the block not affected by the replacement should be left intact.

B174—This assembly contains an 8 mfd. electrolytic, a .5 mfd. and a .25 mfd. paper condenser and the driver transformer. We advise the CS133 unit for external replacement of the 8 mfd. section.

B175—Ground lug with Black dot (negative) to chassis.

B176—Refer to schematics Nos. 13 and 15 and connect CM173 and BB42 as follows: One Red of CM173 to output plate supply, second Red to anode grid, remaining Red to screen supply, Blacks to chassis. Positive of BB42 to detector cathode, negative to chassis.

B177—Refer to schematics Nos. 13 and 15 and connect 3S579 as follows: Red to first AF plate supply, Yellow to RF screen supply, Green to first AF cathode, Blue and Black to chassis.

B178—Refer to schematics Nos. 14, 15 and 19 and connect 2N516 and BB12 as follows: one Red of 2N516 to first Audio cathode, other Red to RF screens, Black to chassis. Positive of BB12 to chassis, negative to power transformer HV. center tap.

B179—Refer to schematics Nos. 13, 14 and 19 and connect 2S567 and BB13 as follows: Red of 2S567 to screen circuit, Yellow to second Det. plate supply, Black and Blue to chassis. Positive of BB13 to chassis, negative to power transformer HV. center tap.

B180—Refer to schematics Nos. 9 and 15 and connect CM173, CM160 and BB15 as follows: One Red of CM173 to point "A," corresponding Black to point "B," another Red to point "B," remaining Black to point "C," remaining Red to point "A." Red of CM160 to point "D," corresponding Black to cathode of output tube, remaining Red to RF screen circuit, Black to point "E." Positive of BB15 to output cathode at tube socket, negative to point "E."

B181—Refer to circuits Nos. 1 and 15 and connect as follows: Reds of 2S562 together and to point "A," Black to chassis. Red of 2N504 to point "C," Yellow to cathode of output tube, Black to chassis.

B182—The UR182 replacement has higher capacity values than the original. However, the UR182 will not cause any change in the operation of the set.

B183—Refer to schematics 12, 13 and 19 and connect 2N516 and BB17 as follows: One Red of 2N516 to screen of AF output, remaining Red to RF screen, Black to chassis. Connect BB17 positive to chassis, negative to B minus.

B184—This condenser is connected between points "B" and "D" in circuit No. 54.

B185—Refer to schematic No. 9 and connect RM257 as follows: Blue to point "A," Red and Green to points "B" and "C," Black and Brown to points "D" and "E," Yellow to point "F."

B186—Refer to schematic No. 52 and connect RM259 and BB12 as follows: Red and Green of RM259 to point "A," Black and Yellow to point "D," Blue to point "B," Brown to point "E." Connect BB12 Positive to point "F," negative to point "D."

B187—Original condenser has three lugs, one of which is grounded to chassis. The SR639 has this connection made internally.

B188—Refer to circuits Nos. 1 and 19 and connect 3N534 as follows: Yellow to point "A," Red to point "C," Black to B minus at points "B" and "D," Green to chassis.

B189—Refer to schematics Nos. 24 and 15 and connect UR189 as follows: Both Reds to point "A," Blue to point "B," Black, Brown and Green to points "C" and "D," one Yellow to output cathode, remaining Yellow to Det. cathode.

B191—Refer to schematics Nos. 1 and 13 and connect RM259 as follows: Red to point "A," Black to point "B," Blue to point "C," Brown to point "D," Green to original bypass lead, and Yellow to chassis.

B193—Refer to circuits Nos. 1 and 15 and connect as follows: Yellow to point "A," Red to point "C," Black to B minus, Green to cathode of output tube.

B194—This model originally used two 8 mfd. carton type condensers. If both units are defective, CM172 affords an ideal replacement.

B195—The filter condenser for this receiver is contained in a block which is of the plug-in type. We advise replacing the defective sections with Mallory Carton type units of the same voltage and capacity beneath the chassis.

B196—When two units are specified for a non-polarized replacement, connect the negative leads together and tape. Use the two positive leads for wiring into the circuit. Also see Note B11.

B198—Refer to schematic No. 25 and connect CM171 as follows: Blue to point "A," Red to point "B," Brown to point "C," and Black to point "D."

B199—Refer to schematic No. 25 and connect CM171 as follows: Red to point "A," Blue to point "B," Black to point "C," Brown to point "D."

B200—Refer to schematics Nos. 30 and 14 and connect UR191 as follows: the two Red leads (having common exit) to points "A" and "B," and corresponding Black to points "D" and "E," one remaining Red to point "C," the other to the IF plate supply, both remaining Blacks to chassis at point "F."

B201—Refer to schematics Nos. 3 and 13 and connect UR191 as follows: One Red each to points "A," "B," and "C," remaining Red to first AF plate supply, all Black leads to chassis (points "D," "E," and "F").

B202—Refer to schematic No. 25 and connect CM172 and BB15 as follows: one Red of CM172 to point "A," other Red to point "B," one Black to point "C," and other Black to point "D." Connect BB15 positive to point "D," and negative to point "C."

B203—Refer to schematic No. 57 and connect CM175 as follows: one Red to each of the following points: "B" "D," and "G." Blacks to point "H" (chassis).

B204—Refer to schematic No. 57 and connect CS131 and CM172 as follows: Red of CS131 to point "A," one Red of CM172 to point "C," remaining Red to points "E" and "F," all Blacks to point "H" (chassis).

B205—Refer to schematic No. 56 and connect CM175 as follows: two Red leads to point "A," the two corresponding Black leads to point "C," remaining Red to point "B," remaining Black to point "D" (chassis). This unit may be installed in the original case.

B206—Refer to schematic No. 30 and connect CM175 as follows: One Red to point "A," corresponding Black to point "D," another Red to point "B," corresponding Black to point "E," remaining Red to point "C," remaining Black to point "F" (chassis).

B207—Refer to schematics Nos. 8 and 15 and connect RM257 and BB12 as follows: Blue of RM257 to point "A," Red to point "B," and Green to point "C." Connect Brown, Yellow and Black together and to points "D," "E" and "F." Connect BB12 positive to AF output cathode and negative to point "F."

B208—To replace with CM173 and BB15, connect as follows: Connect one Red of CM173 to center tap of output transformer, another Red to the driver plate supply, remaining Red to IF plate supply, all Blacks to chassis. Connect BB15 positive to driver cathode, negative to chassis.

B209—Connect 2N516, one Red to "B" plus 135V., other Red to RF screen, and Black to chassis. Some models used a non-polarized filter condenser. 2N516 is satisfactory for this replacement if the proper battery polarity is observed. Be sure to check this point, as a reversal of polarity may result in serious damage to the receiver.

B210—Refer to schematics Nos. 8 and 15 and connect UR182 and BB12 as follows: Connect Yellow of UR182 to point "A," Blue to point "B," Red to point "C," Black, Brown and Green together and to points "D," "E" and "F." Connect BB12 positive to output tube cathode, negative to point "F."

B213—Refer to schematic No. 25 and connect RM261 and BB15 as follows: Red of RM261 to point "A," Blue to point "B," Black to point "C," and Brown to point "D." Connect BB15, positive to point "D," and negative to point "C."

B214—Refer to schematics Nos. 11 and 15 and connect UR182 and BB12 as follows: Connect UR182, Yellow to point "A," Blue and Red together and to points "B" and "C," Green and Brown together and to points "D" and "F," and Black to point "F." Connect BB12 positive to detector cathode and negative to point "F."

B215—Refer to schematic No. 11 and connect RM257 as follows: Blue to point "A," Green and Red to point "B," Black, Brown, and Yellow to points "D" and "E."

B216—In some cases this condenser is a single 8 mfd. unit; we recommend the use of RS213 for these cases in place of RM262.

B218—Refer to schematic No. 11 and connect 3S582 as follows: Red to point "A," Yellows to point "B," Black and Blue to point "D." To replace second condenser connect 2N516, one Red to point "C," other Red to osc. anode grid supply, Black to point "F."

B219—Refer to schematics Nos. 1 and 15 and connect SR611 as follows: One positive 8 mfd. lug to point "A." The other positive 8 mfd. lug to point "C," Black lead to points "B" and "D," Blue lead to second AF cathode. It may be of assistance in installing if the leads of the old unit are cut close to the carton and these leads used for connecting the new unit.

B221—Refer to schematics 27 and 15 and connect UR182 as follows: Red and Blue leads together and to points "A," "B," "C." Brown lead to points "D," "E." Black and Green leads together and to point "F" (chassis) and Yellow lead to detector cathode.

B226—The use of two UR182 condensers is recommended for this replacement. Refer to schematics 64 and connect as follows: Both Blue leads and one Red lead to point "A"; remaining Red lead to point "B"; both Yellow leads to point "C"; both Brown leads and both Green leads to point "D"; and both black leads to point "E." The following color code replacement is applicable to the Detrola Model 1200. Both Yellow leads together replace the original Yellow lead. Both Green leads and both Brown leads together replace the original Black lead. Both Blue leads together replace the original Red lead. The two Red leads replace the two original lugs marked +8. Both Black leads together replace the original lug marked — (neg). The Mallory terminal connector A-016 is helpful for ease of installation.

B227—Install the MN278 unit with the 9 mfd. sections in parallel, and wire in as a three section condenser.

B228—Refer to schematic No. 4 and connect CM175 as follows: All Red leads together and to points "A" and "B," one Black lead to point "C," and the two remaining Black leads to point "D."

B229—Refer to schematics No. 26 and 14 and connect UR191 as follows: One of the two Red leads having common exit to the IF screen, the remaining Red lead of the common section together, with the red leads of the independent sections to points "A," "B," and "C." Connect the Black lead of the common section to point "F," and the remaining Black leads to points "D" and "E."

B230—This unit contains a 16 mfd. electrolytic and two paper dielectric sections. Replacement of the electrolytic section with a Mallory BB15 mounted at the output tube socket is recommended.

B231—Refer to schematic No. 1 and connect CM175 as follows: Two Red leads to point "A," remaining Red lead to point "C" and Black leads to points "B" and "D" (chassis).

B233—Refer to schematic No. 59. The condenser connected between points "A" and "D" is a 4 mfd. paper, the condenser connected between points "B" and "E" is an 8 mfd. electrolytic. There are two condensers connected in parallel between points "C" and "F," an 8 mfd. electrolytic and a 4 mfd. paper. We recommend replacement of the two 4 mfd. sections with a 2N518 unit. The 8 mfd. electrolytics are easily replaced with CS133 units.

B234—Refer to schematic No. 57 and connect CS131 and CM172 as follows: Red lead of CS131 to point "A," Black lead to point "H," one Red lead of CM172 to point "C," remaining Red lead to point "E," "F"; and Black leads to point "H."

B235—Refer to schematic 67 and connect RM257 as follows: Red lead to point "A," Black, Brown and Yellow leads together and to point "B," Green and Blue leads together and to point "C."

B236—Refer to schematic No. 1 and connect MN275 as follows: one terminal to point "A," remaining two terminals together and to point "C." In some cases a 2½" diameter can with 5 and 15 mfd. sections may have been used. Replace this unit with the Mallory type MN273.

B237—Refer to schematic No. 28 and connect RM265 as follows: Red lead to point "A," Blue lead to point "B," Green lead to point "C," Black lead to point "D," Brown lead to point "E" and Yellow lead to point "F."

B238—Refer to schematics No. 1 and 19 and connect CM171 and BB12 as follows: Red lead of CM171 to point "A," Blue lead to point "C," Black and Brown leads and the negative lead of the BB12 to points "B" and "D," and positive of BB12 to chassis.

B239—Refer to schematics 1 and 19 and connect CM171 and BB12 as follows: Blue lead of CM171 to point "A," Red lead to "C," Black and Brown leads of CM171 together with negative lead of BB12 to points "B," "D"; and positive lead of BB12 to chassis.

B240—Substitute BB15 for BB12 and connect as directed in note B239.

B241—Refer to schematics 1 and 15 and connect CM175 and BB12 as follows, one Red lead of CM175 to point "A," the two remaining Red leads to point "C," and Black leads to points "B," "D." Connect positive of BB12 to output tube cathode and negative lead to chassis.

B242—Refer to schematics 1, 13, and 15 and connect 3S584 and BB12 as follows: Red lead of 3S584 to point "A," one Yellow lead to point "C," the remaining Yellow lead to the oscillator plate supply and the Black and Blue leads to points "B," "D." Connect BB12, positive to output tube cathode and negative to chassis.

B244—Refer to schematics 1 and 15 and connect 3S584 and BB12 as follows: Two Yellow leads of 3S584 to point "A," Red lead to point "C," Black and Blue leads to points "B," "D." (Caution: this lead is not to chassis.) Connect the positive lead of BB12 to the output tube cathode and the negative to the Black lead of the 3S584.

B245—Refer to schematic No. 3 and connect RM265 as follows: Red and Blue leads to point "A," Green lead to point "B" and Black, Brown, and Yellow leads to points "D," "E," and "F."

B246—These filter sections are contained in a block with several small paper dielectric by-pass sections. We recommend external replacement of the defective filter section or sections, with CS type units of the proper capacity, or the purchase of a complete block from the original manufacturer.

B247—The filter condensers are in a large plug-in type block with connections as follows: (starting with the large pin opposite the grounding pin and proceeding in a clockwise direction). Pin No. 1-negative 16 mfd. second filter and negative 8 mfd. power tube bias by-pass; Pin No. 2-positive 4 mfd. 350V. 1AF plate filter; Pin No. 4-positive 8 mfd. 100V first detector cathode by-pass; Pin No. 5-common negative to all pins except Nos. 2 and 8; Pin No. 6-positive 4 mfd. 100V 1AF cathode by-pass; Pin No. 7-positive 4 mfd. 100V driver tube cathode by-pass; and Pin No. 8-positive 16 mfd. second filter. In 25 cycle models Pin No. 8 is positive 20 mfd. In an emergency individual sections may be replaced with Mallory carton type units of proper capacity and voltage ratings mounted beneath the chassis. However for complete replacement we recommend the purchase of an entire block from the set manfuacturer.

B248—Filter capacitors are in a large plug-in block with connections as follows: Pin No. 1—8 mfd. 450V first filter; Pin No. 2—4 mfd. 450V power screen by-pass; Pin No. 3—4 mfd. 450V (60 cycle) or 12 mfd. 450V (25 cycle) filter output; Pin No. 4—8 mfd. 20V IF cathode by-pass; Pin No. 5 common negative; Pin No. 6—4 mfd. 20V 55 cathode by-pass; Pin No. 7—4 mfd. 450V second filter. In an emergency individual sections may be replaced with Mallory carton type units of the proper voltage and capacity ratings mounted beneath the chassis. However, for complete replacement we recommend the purchase of an entire block from the set manufacturer.

B249—These condensers are contained in a large plug-in type block. The connections are as follows: (starting with the large pin opposite the grounding pin and proceeding in a clockwise direction)—Pin No. 1 negative 16 mfd. 450V and negative 8 mfd. 100V; Pin No. 2-positive 4 mfd. 350V 1AF plate filter; Pin No. 3-positive 16 mfd. 450V third filter; Pin No. 4-positive 8 mfd. 100V IF cathode by-pass; Pin No. 5-common negative for all pins except Nos. 2 and 8; Pin No. 6-positive 4 mfd. 100V, 1AF cathode by-pass; Pin No. 7-positive 4 mfd. 250V driver bias by-pass; Pin No. 8-positive 16 mfd. 450V, second filter. In an emergency individual sections may be replaced with Mallory carton type units of proper voltage and capacity ratings mounted beneath the chassis. However, for complete replacement we recommend the purchase of an entire block from the set manufacturer.

B250—Refer to schematic No. 4 and connect CM175 as follows: one Red to point "A"; corresponding Black to point "C"; remaining Red leads to point "B"; and remaining Black leads to point "D."

B256—Red to point "A," Yellow to point "B," one Green to cathode of detector, remaining Green to cathode of output tube, Black and Blue to chassis. BB21 positive to output tube screen, negative to chassis.

B259—Refer to schematics 4 and 13 and connect UR182 as follows: Blue and Red leads to points "A" and "B"; Brown lead to point "C"; Black and Green leads to point "D"; and Yellow to detector cathode.

B260—Refer to schematic No. 11 and connect RM257 as follows: Blue to point "A"; Green and Red to points "B" and "C"; Brown and Black to points "D" and "E"; Yellow to point "F."

B261—Refer to schematic 23 and connect as follows: Red and Green to point "A"; Blue to point "B"; Black and Yellow to point "C"; Brown to point "D."

B264—Refer to schematic No. 11 and connect UR193 as follows: Yellow to point "A"; Red and Blue to points "B" and "C"; Green and Brown to points "D" and "E"; Black to point "F."

B265—Refer to schematics 11 and 13 and connect UR193 and CS121 as follows: Red and Blue of UR193 to points "B" and "C"; Brown to point "E"; Black and Green to point "F"; Yellow to oscillator anode return. Connect CS121 Red to point "A"; Black to point "D."

B266—Refer to schematics 75 and 15 and connect RM259 and TN111 as follows: Red of RM259 to point "A"; Blue and Green to point "B"; Black, Brown, and Yellow together and to points "D" and "F." Connect negative of TN111 to chassis; positives to cathodes of AF amplifiers. Connect RS207 Red to point "C"; Black to point "E."

B268—Refer to schematics 24 and 15 and connect UR182 as follows: Blue to point "A"; Red to point "B"; Brown, Black and Green to points "C" and "D"; Yellow to cathode of audio tube.

B269—Refer to schematics 1 and 13 and connect UR182 as follows: Blue to point "A"; Red to point "C"; Brown, Black and Green to points "B" and "D"; Yellow to cathode of audio tube.

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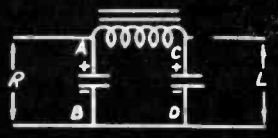

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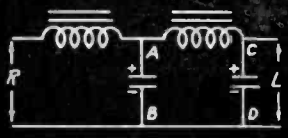

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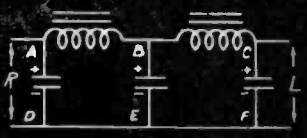

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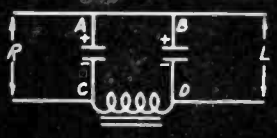

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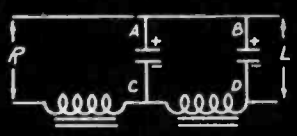

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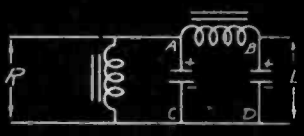

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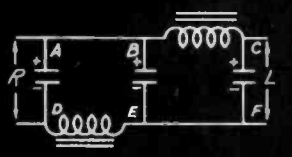

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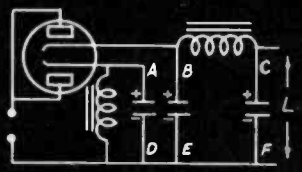

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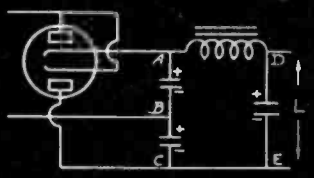

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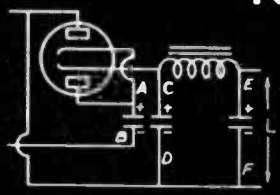

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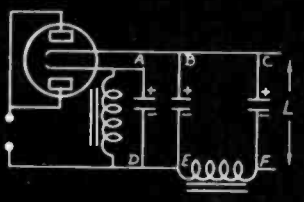

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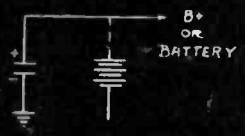

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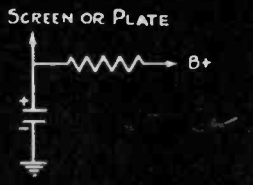

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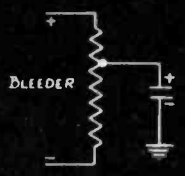

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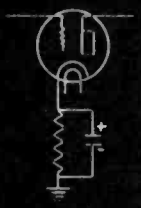

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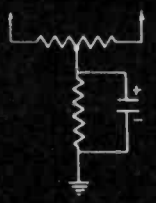

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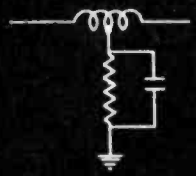

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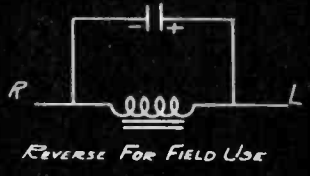

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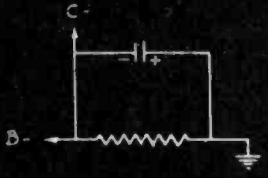

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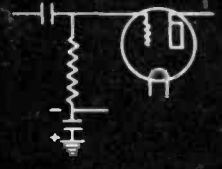

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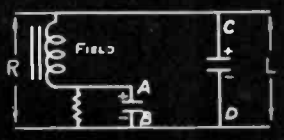

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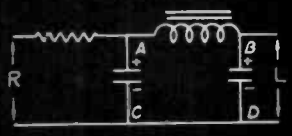

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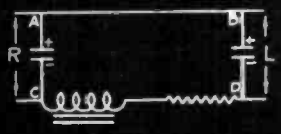

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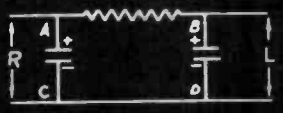

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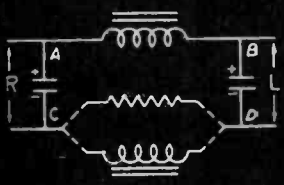

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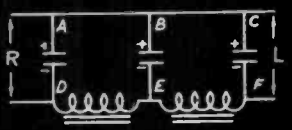

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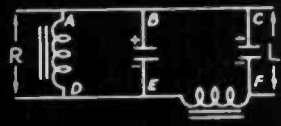

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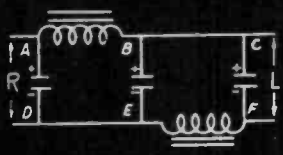

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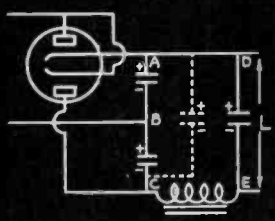

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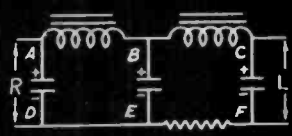

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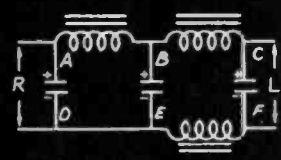

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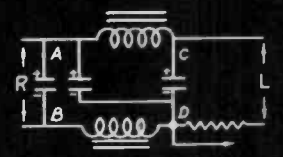

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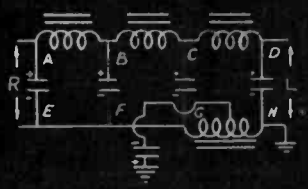

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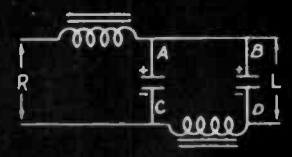

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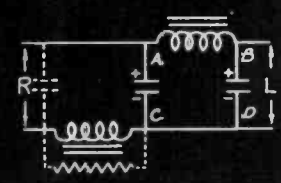

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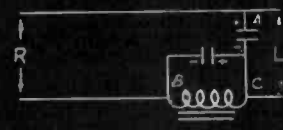

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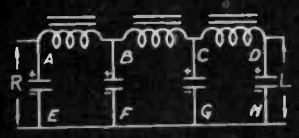

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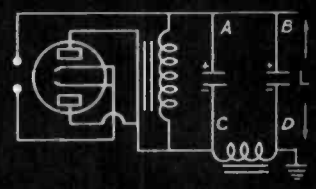

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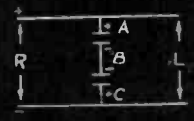

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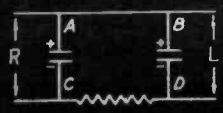

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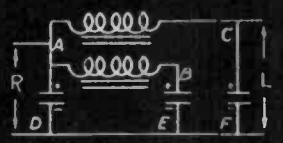

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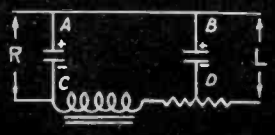

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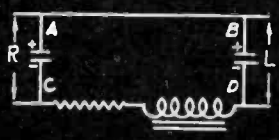

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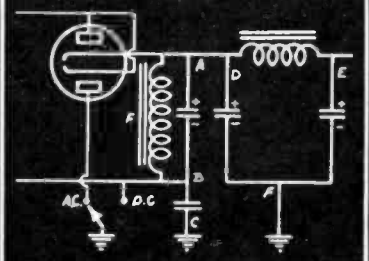

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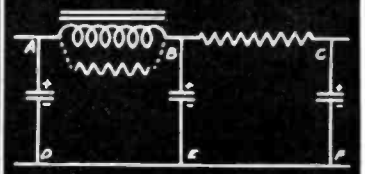

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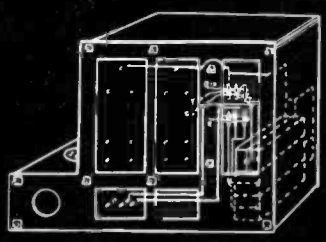

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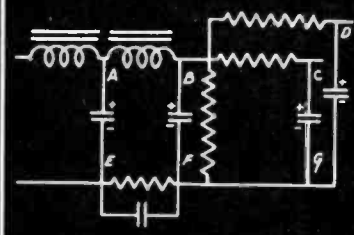

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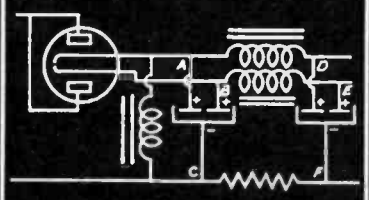

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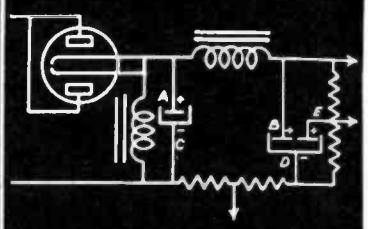

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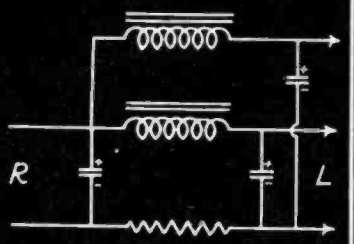

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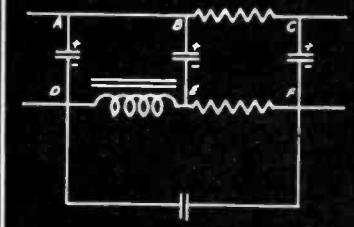

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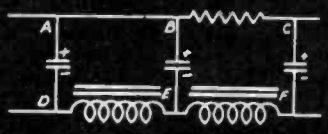

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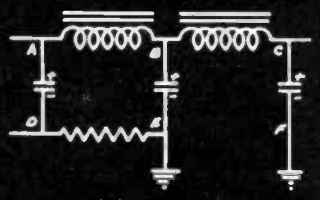

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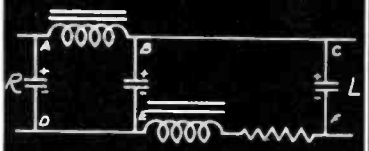

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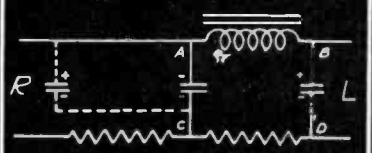

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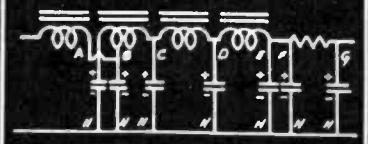

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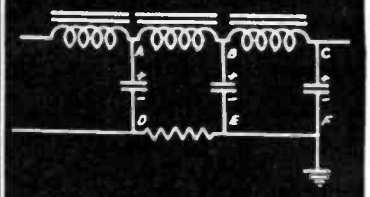

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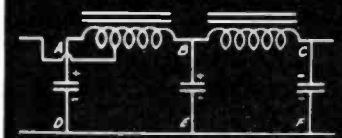

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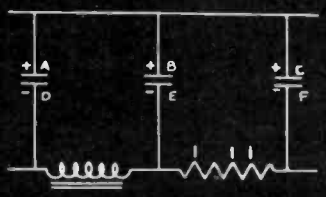

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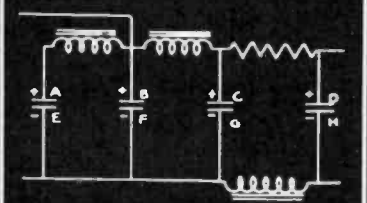

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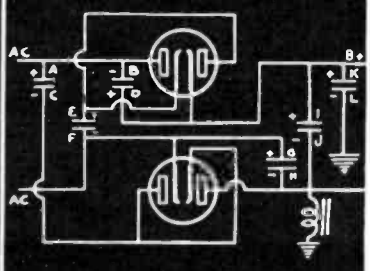
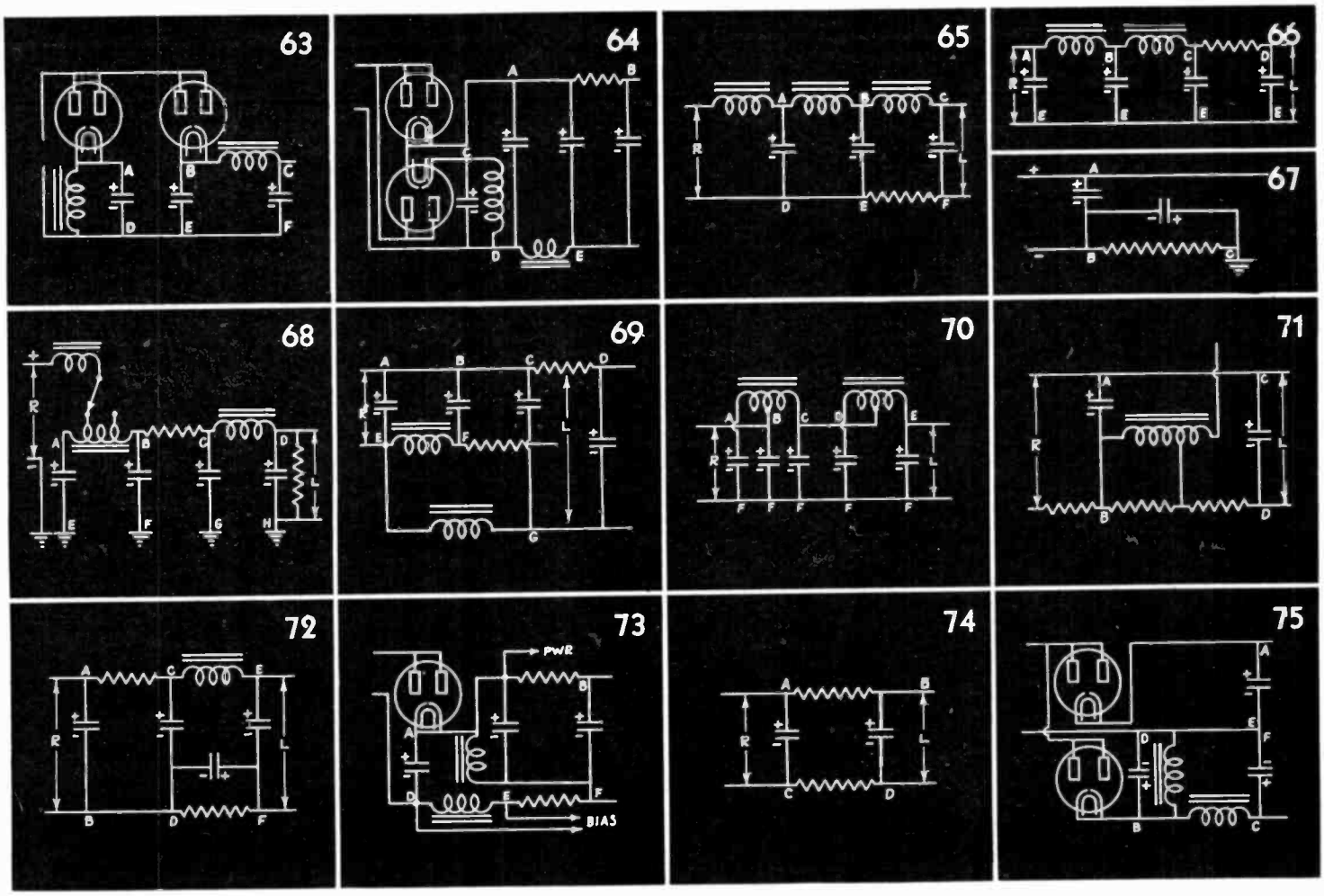




MALLORY CONDENSER TYPE CODE

AG.....**A**uto **G**enerator Units
AM.....**AM**meter By-Pass Units
BT.....**B**akelite Base **T**rimmer Units
CB.....**C**ased **B**y-Pass Units
CM.....**C**arton Type Condensers **M**ultiple Separate Sections
CN.....**C**arton Type Condensers Multiple Units Common **N**egative
CS.....**C**arton Type Condensers **S**ingle Units
CT.....**C**eramic Base Midget **T**rimmer Units
CTD.....**C**eramic Base **T**rimmer Units **D**ual Sections
CTX.....**C**eramic Base **T**rimmer Units Single Sections
DL.....**D**ome **L**ight Unit
FM.....**F**ord Auto Generator Unit
FPD.....**F**abricated **P**late **D**ual Section
FPQ.....**F**abricated **P**late **Q**uadruple Section
FPS.....**F**abricated **P**late **S**ingle Section
FPT.....**F**abricated **P**late **T**riple Section
HC.....**H**igh **C**apacity Round Can Units
HD.....**H**eavy **D**uty Units
HS.....Special **H**igh **S**urge Units
MC.....**M**ica **C**ondensers
MN.....Large Round Can Units **M**ultiple Common **N**egative
MSR.....**M**otor **S**tarting **R**eplacement AC Capacitors
OT.....**O**il-Impregnated Oil-Filled **T**ubular Units
OW.....**O**il-Impregnated **W**ax-Filled Units
RC.....**R**ectangular **C**an High Capacity Unit
RF.....**R**adio **F**requency Chokes or Condensers
RM.....**R**ound Can Type Condensers **M**ultiple Separate Sections
RN.....**R**ound Can Type Condensers Multiple Units Common **N**egative
RS.....**R**ound Can Type Condensers **S**ingle Units
SR.....**S**pecial **R**eplacements
ST.....**S**ingle Section **T**ubular
TN.....**T**ubular Common **N**egative Units
TP.....**T**ubular **P**aper Units
TR.....**T**ransmitting Condenser **R**ound Can Units
TX.....**T**ransmitting Condensers Rectangular Type
TZ.....**T**ransmitting Condensers Round Can Units
UB.....**U**ncased Filter **B**lock Sections
UR.....**U**niversal **R**eplacements
VB.....**V**ibrator **B**y-Pass Units
VL.....**V**ibrator By-Pass Units **L**ong Type
VO.....**V**ibrator **O**val Type Units
WE.....**W**et **E**lectrolytics
2N.....2 Section Tubular Common **N**egative
2P.....2 Section Tubular Common **P**ositive
2S.....2 Section Tubular **S**eparate Sections
3N.....3 Section Tubular Common **N**egative
3S.....3 Section Tubular One Section **S**eparate
4N.....4 Section Tubular Common **N**egative
4S.....4 Section Tubular One Section **S**eparate

P.R. MALLORY & CO. Inc. MALLORY REPLACEMENT CONDENSERS AND ACCESSORIES

Mallory Universal Mounting Flanges for Carton Types

The mounting of carton type condensers has always been a problem from a replacement standpoint. An almost unanimous appeal for something new and practical was noted in the response to the Mallory Service Questionnaire. Mallory Engineers have studied the problem from the service man's angle.

All Mallory carton type condensers are equipped with a new type of mounting flange—**the first practical Universal mounting feature ever designed.**

Since there are several ways in which it may be used, complete instructions are given:

A. The unit may be mounted by the use of nuts and bolts or self-tapping screws in the usual manner as in Figure 1.

FIGURE 1

B. One end may be pushed under any screw head on the chassis without removing the screw as in Figure 2. The other end may be left loose or soldered to the chassis as in Figure 3.

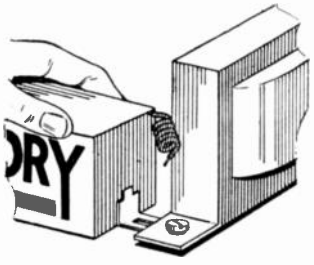


FIGURE 2

C. One flange or both flanges may be soldered to the chassis as in Figure 3. Tin the chassis first, then solder in place.

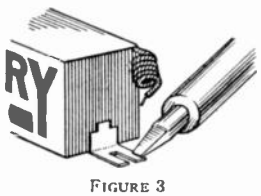


FIGURE 3

D. One half of the flange may be bent down as in Figure 4 and pushed through any convenient hole in the chassis. Bend back the flange after it is through the hole.

FIGURE 4

E. Both flanges may be bent flat against the side of the carton and the unit held in place by its wire leads.

In bending the flanges, hold your thumb tightly on the part attached to the carton to prevent tearing the carton.

Mallory Universal Mounting flanges have been widely copied, proving their merit and worth to service men. Constant improvement may be expected from Mallory—as their leadership in the replacement parts field will be maintained.

Tubular Dry Electrolytic Condensers

Types ST, 2N, 2S, 3N, 3S, TN, 4N, 4S

LEAD COLOR CODE—The new Mallory tubular units are too small to provide space for legible marking of complete lead color code. The following simple system has, therefore, been adopted for easy reference.

1. Single units (Type ST). Red positive and black negative.
2. Common negative units (Types TN, 2N, 3N and 4N). Red, yellow and green positive respectively for highest to lowest capacity with black common negative. (Consider by-pass units as lowest capacity regardless of rating.) Identical units same color.
3. Common positive units (Type 2P). Red common positive, blue and black negative respectively for highest to lowest capacity. Identical units same color.
4. Dual separate section units (Type 2S). Red positive, black negative for highest capacity and yellow positive, blue negative for lowest capacity. Same color scheme for identical units.
5. Multiple units having one separate section (Type 3S and 4S). Red positive and black negative for separate section. Yellow and green positive respectively for highest to lowest capacity with blue for common negative for balance of unit. (Consider by-pass units as lowest capacity regardless of rating.) Identical units same color.

Mounting Features—All Mallory Type A units have two universal mounting ears which may be soldered or bolted to the chassis for either vertical or horizontal mounting. (See Figure 5.)

When mounting horizontally, extra ear may be used as terminal connector, if desired.

These units may also be mounted in spade bolt holes. (See Figure 6.)

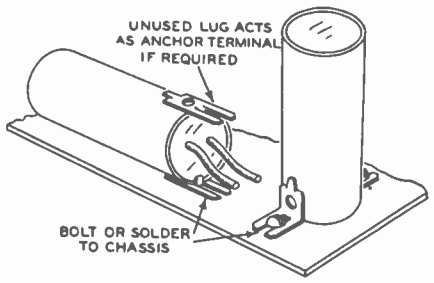


FIGURE 5

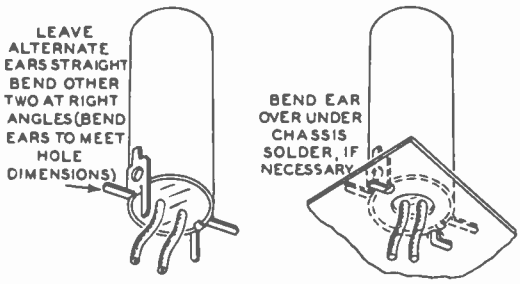


FIGURE 6

All Mallory Type B units are supplied with an easily assembled circular strap designed to cover all forms of strap mounting. (See Figure 7.) The strap is not pre-assembled to the unit, as different applications require variable location along the length of the unit.

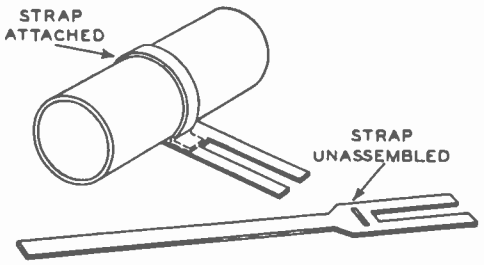


FIGURE 7

Assemble strap by winding the tongue around the unit as in Figure 8. Hold the broad end of the strap against the tube with the thumb and wind tongue past broad end (not through slot) as shown.

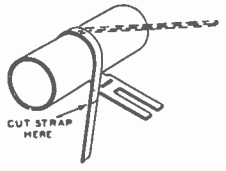


FIGURE 8

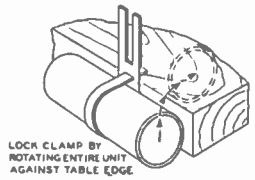


FIGURE 9

Cut strap with diagonal cutters about ¼" longer than required to meet wide portion. Release strap and thread tongue through slot.

Hold unit against table edge (Figure 9) and tighten with rotating motion. Then rotate entire unit about table edge to bend short tongue at right angles, clamping strap in place.

These operations have been carefully studied and represent the best method. Pulling tongue through slot with pliers does not make as tight a clamp.

A long slot is provided in the flat portion of the strap for variable location of chassis hole in relation to unit. Cut off unwanted portion if it interferes with mounting.

These straps are identified by Mallory part A-90686, and may be purchased separately. One strap is included in the carton with each Type B unit.

Mallory FP Condensers

The new standard Mallory FP (Fabricated Plate) capacitors, which have been so popular in the original equipment field, are now carried in stock in a wide variety of universal ratings.

These remarkably small capacitors deserve their nation-wide endorsement, as evidenced by the millions already in use, because of their long life and stable characteristics under extreme heat and humidity conditions.

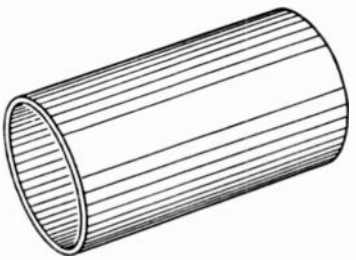
It is important to note that the method of rating FP capacitors differs considerably from former types and this should be understood in reviewing the universal listings provided. Since FP capacitors are completely standardized mechanically, the only variables are the capacity and voltage ratings. These ratings, while variable, are also standard insofar as odd capacities, such as 4, 8, 12, etc., are not available.

Figure 10 shows complete details of the standardized physical dimensions of the FP units, the method of identification for the lug terminals, and the mounting accessories for horizontal or vertical mounting either insulated or grounded.

MOUNTING—Vertical (See Figure 10)—Mallory FP condensers are easily mounted by employing either one of the two mounting plates furnished with each unit. The metal mounting plate (A93431, A93403, A93424) is used where it is desired to connect the negative, or common negative lead to the chassis. The bakelite plate (A93416, A93410, or A93423) is used when it is desired to insulate the negative connection of the condenser from the chassis. The condenser is anchored in place by twisting the mounting tongues, using either a pair of pliers, or the special mounting wrench (A93436). **If pliers are used be sure to allow at least 1/16" between plier tips and chassis before twisting. This avoids shearing the tongues.**

The mounting plate for the one-inch diameter can (A93410 or A93403) may be mounted in any tube socket hole having 1½" rivet centers.

MOUNTING—Horizontal (See Figure 10)—Horizontal mounting can easily be made by using the proper horizontal mounting clip—see Figure 10. Horizontal mounting clip, type A93434 is used with ¾" diameter condensers; type A93443 is used with 1" diameter condensers, and type A93435 with 1⅜" diameter condensers. The mounting clip will effectively ground the condenser. If an insulated mounting is desired the condenser may be insulated from the clip with the proper type insulating tube as listed and pictured under the chart and illustration Figure 11.



Insulating Tube.....	For ¾ x 2" FP..	A-93280-6
Insulating Tube.....	For 1 x 2" FP...	A-93280-3
Insulating Tube.....	For 1 x 3" FP...	A-93280-2
Insulating Tube.....	For 1⅜ x 2" FP	A-93280-5
Insulating Tube.....	For 1⅜ x 3" FP	A-93280-4

FIGURE 11

The FP capacitor line is the result of a six months' survey of ratings in actual use but carefully selected to serve every known application with a minimum number of units. By this method, approximately 60 FP ratings satisfactorily replace over 1000 combinations and thereby eliminate the complications involved should an attempt be made to duplicate each original rating.

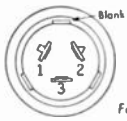
In making replacements by this universal method, it is expected that capacities or voltages higher than the original ratings will sometimes be substituted. This is obvious since it is impractical and uneconomical to attempt listing every possible rating. FP capacitors may be used on lower than rated voltage with no change in characteristics. Over-capacity is, of course, desirable in most instances. Since FP capacitors are low-priced, the system described will prove advantageous from all angles.

TYPE FP CAPACITOR TERMINAL LUG SEQUENCE

Container and Mounting Details

The location of terminals on FP capacitors has been completely standardized. Unwanted terminals are deleted leaving a blank, though sealed, hole in the cover.

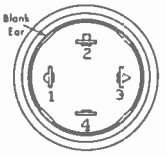
All one-inch FP containers have the following terminal lug sequence



Singles — lug (No 3) (Blank)
Duals ☐ lug (No 1) highest V
△ lug (No 2) lowest V
Triples ☐ lug (No 1) highest V
△ lug (No 2) medium V
— lug (No 3) lowest V

All 1⅜ FP containers have the following terminal lug sequence:

Singles — lug (No 4) (– = Blank)
Duals ⌓ lug (No 1) highest V
△ lug (No 3) lowest V
Triples ⌓ lug (No 1) highest V
☐ lug (No 2) medium V
△ lug (No 3) lowest V
Quads ⌓ lug (No 1) highest V
☐ lug (No 2) next highest V
△ lug (No 3) next highest V
— lug (No 4) lowest V



For Identical Voltages the Above Sequence Will Be Based on the Highest Capacity

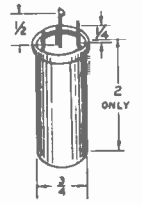
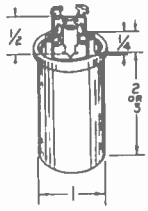
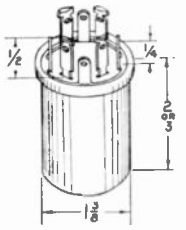
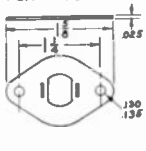
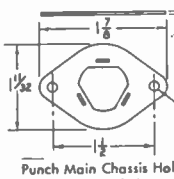
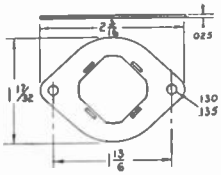
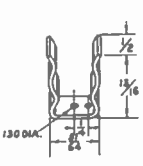
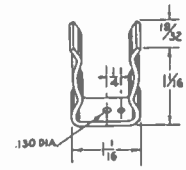
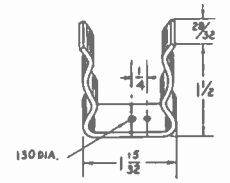
DESCRIPTION	3/4" CONTAINER	1" CONTAINER	1 3/8" CONTAINER
Container and Terminal Detail 1 Mounting Ring is negative terminal in all cases, except non-polarized type. 2 All multiple units have common negative connection to mounting ring. 3 Black cardboard insulating tubes are available for insulating units above chassis potential.			
Metal Plate for Grounded Mounting These plates are cadmium plated, and serve as an alternative mounting to a directly punched chassis. Part A-93403-1 for 1" containers fits standard 1 1/2" tube socket holes	Part A-93431  Punch Main Chassis Hole 3/4" to 1"	Part A-93403  Punch Main Chassis Hole 1" to 1 1/4"	Part A-93424  Punch Main Chassis Hole 1 3/8"
Bakelite Plate for Insulated Mounting (Similar to Metal Plates)	Part A-93416 3/64" thick. Punch Chassis 7/8" to 1"	Part A-93410 1/16" thick Punch Chassis 1/16 to 1 1/4"	Part A-93423 1/16 thick. Punch Chassis 1 3/8"
Horizontal Mounting Clip These clips are similar to those used for cartridge fuses. They are cadmium plated and provided with a locating extrusion to prevent rotation.	 Part A-93434	 Part A-93443	 Part A-93435

FIGURE 10

Mallory Universal Mounting Features for Round Can Types RS, RN and RM

Round can condensers in general have been mounted by the use of one of five different methods, each varying enough to prohibit the use of any other type in making a replacement. This situation has now been overcome by the special features provided on all Mallory round can replacements. The universal nature of the newly designed units does away with the necessity of stocking duplicate ratings in several mounting types and consequently reduces the stock investment. **It is the first practical universal mounting feature for round can type condensers.**

The five methods of mounting referred to are:

1. **Stud mounting having a 5/8" neck.**
2. **Stud mounting having a 3/4" neck.**
3. **Stud mounting having a 7/8" neck.**
4. **Ring Clamp mounting.**
5. **Spade bolt mounting.**

STUD MOUNTING

Types 1, 2 and 3 are so familiar they require no illustration. The originals having the 5/8" or 3/4" neck generally had but one lug or one or more flexible leads. The 7/8" neck was usually of the moulded composition type and was generally equipped with from one to three lugs, this type seldom being supplied with flexible leads.

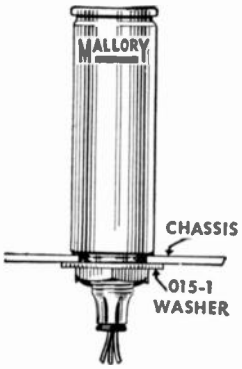


FIGURE 12

Due to their reduced size many Mallory round can units are supplied with 5/8" necks and a few of higher ratings have 3/4" necks. Obviously no instructions are needed to mount a 5/8" neck type Mallory unit in a 5/8" hole. You will find, however, that the 5/8" neck may be also satisfactorily mounted in a 3/4" hole without special accessories by simply centering the unit as the mounting nut is tightened. This holds true for the 3/4" neck unit when mounting in a 7/8" hole.

If the 5/8" neck is to be mounted in a 7/8" hole Mallory Type 015-1 washer supplied with the unit should be used beneath the chassis to afford the lock nut a better grip on the chassis. (See Figure 12.) No washer is necessary on top of the chassis in this case.

RING CLAMP MOUNTING

Where clamp mounting was used originally and the Mallory replacement is of the 1 3/8" can size it may be mounted in the same way as the original (See Figure 13); the threaded neck portion will protrude when mounted.

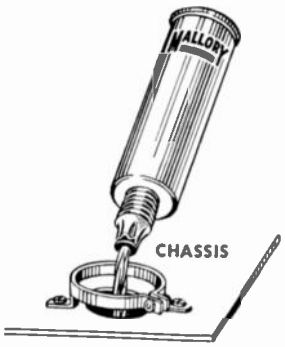


FIGURE 13

In replacing a clamp mounted unit with a 1" Mallory can size use the special Mallory 1 3/8" washer Type No. A-017. (Not supplied with the unit.) This washer is put on the unit and the nut tightened first, then fitted to the clamp as in Figure 14. The washer may be used with the flanged size up or down accord-

FIGURE 14

ing to the space available for the threaded neck portion of the condenser below the chassis. The washer is not supplied with the unit due to the relatively few cases in which it is required. Its cost is so small compared to the reduced stock affected that a supply should always be kept on hand.

In cases where a 1 1/2" unit was used originally, if the clamp will not contract enough to fit the 1 3/8" diameter of the replacement, pad the clamp with a small strip of cardboard. Mallory units are insulated from their containers. It is not necessary that the clamp make electrical contact to the unit.

These features are not provided in the large 2 1/2" and 3" round can units. (See Type MN.)

SPADE BOLT MOUNTING

Pictured in Figure 15, it should be noted that generally the holes punched in the chassis to accommodate this type were made with the same punch used for the wafer type tube sockets. The large center hole

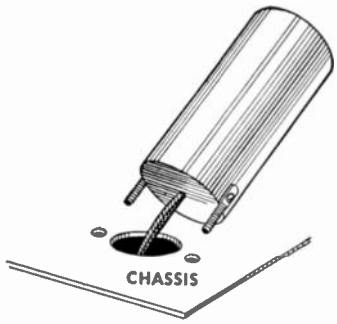


FIGURE 15

is about 1" in diameter but the Mallory 1 3/8" can units will mount satisfactorily using the Mallory Type No. 015-2 washer (supplied with the unit) beneath the chassis similar to Figure 12. The unit should be centered, of course, when tightening the mounting nut.

The 1" can type units require two Mallory Type No. 015-2 washers one above and one below the chassis to replace the spade bolt type. (See Figure 16). These washers are not supplied with the 1" can units. We

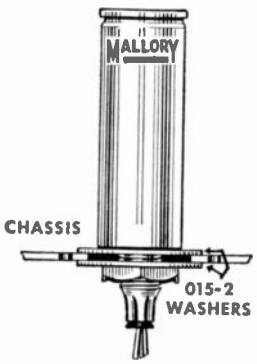


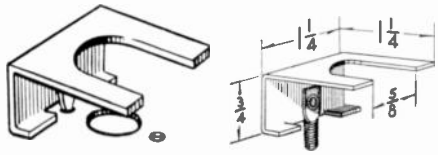
FIGURE 16

suggest that you save these washers when using 1 3/8" Mallory units in mountings not requiring them. (All 1 3/8" units are supplied with one of these washers.) These flat washers are not lock washers and since the nut is self-locking, need not be used except as stated.

All Mallory round can universal replacement units are insulated internally so that the can is not the terminal in any case. A separate wire is always brought out for the cathode connection. It is never necessary to use insulating washers with Mallory round can dry electrolytic units. The HD684, the MN types and some SR types employ the can as the negative connection to provide convenient replacement for certain widely used original equipment.

UNIVERSAL MOUNTING BRACKET

The Universal Mounting Bracket No. 101-1 is for mounting threaded neck round can units on chassis originally provided with ring clamp or spade bolt mountings. The Mallory Ring Clamp, available in 5 sizes, is for mounting all types of round can condensers.



Mallory Terminal Connector

This device will prove a great help whether used with condensers or for other purposes.

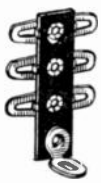


FIGURE 17

The Mallory Terminal Connector (Figure 17) is designed to provide an anchorage for the lead wires from the condenser where ordinarily splicing would be necessary. For example, when replacing an original unit having soldering lugs, the leads from the replacement unit may be cut short and the Terminal Connector used to join them with the set wiring.

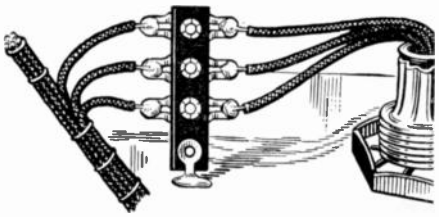


FIGURE 18

Solder (or bolt) the Connector strip to the chassis in an upright position as near as possible to the replacement condenser unit. Cut off the lead wires from the condenser to the proper length to reach the Terminal Connector and solder each one to a lug on the Connector as in Figure 18. Now solder the circuit wires to the opposite lugs on the Terminal Connector in their proper order.

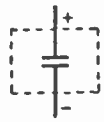
If more than three wires are involved, it will be necessary to use more than one Terminal Connector or splice the remaining leads. Generally, the black or negative lead is soldered to the chassis and need not use a lug.

Should the Terminal Connector be too high for the depth of the chassis it may be bent over to reduce its height.

Internal Connections of Mallory Replacement Condenser Types

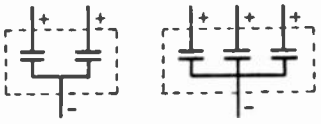
In numerous cases Mallory supplies SR (Special Replacement) condensers for applications where the universal types are not readily suited for replacement work. Pages 252 and 253 are devoted to schematics of each SR type, showing the type of construction employed and the color codes used in identifying the leads or lug terminals. Be sure to consult these charts to verify electrical connections for applications other than those given in the replacement listings, pages 11 through 205.

BB, CS, HD, HS, RS, ST



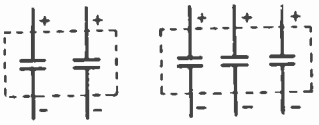
Single Unit

CN, RN, TN, 2N, 3N



Dual Triple

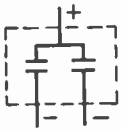
CM, RM, 2S



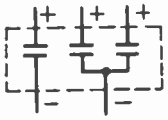
Dual Triple

HD684 (CAN)

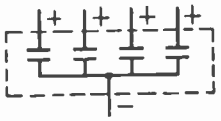
2P (TUBE)



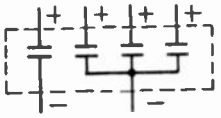
3S (TUBE)



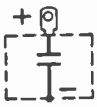
4N (TUBE)



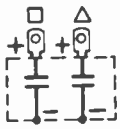
4S (TUBE)



FPS (CAN)

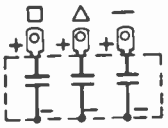


FPD (CAN)



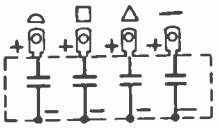
□ Highest voltage
△ Lowest voltage

FPT (CAN)



□ Highest voltage
△ Medium voltage
— Lowest voltage

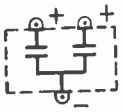
FPQ (CAN)



⌓ Highest voltage
□ Next high. voltage
△ Next high. voltage
— Lowest voltage

UR180 (CARTON)

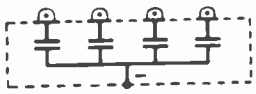
+ 8 mfd. @ 300 v. + 8 mfd. @ 250 v.



Common

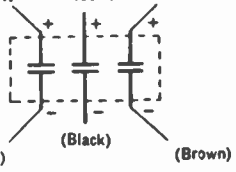
UR181 (CAN)

(Green) 1 mfd. @ 450 v. (Green) 1 mfd. @ 450 v. (Blue) 2 mfd. @ 450 v. (Red) 3 mfd. @ 450 v.



UR182 (CARTON)

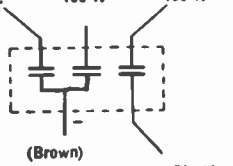
(Yellow) 5 mfd. @ 150 v. (Red) 10 mfd. @ 150 v. (Blue) 25 mfd. 150 v.



(Green) (Black) (Brown)

UR183 (CARTON)

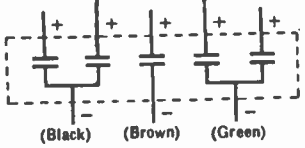
(Red) 4 mfd. @ 150 v. (Red) 4 mfd. @ 150 v. (Yellow) 4 mfd. @ 150 v.



(Brown) (Black)

UR188 (SPADE BOLT MOUNTING)
UR189 (CARTON)

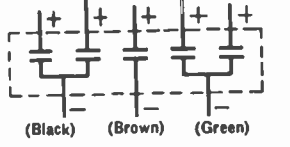
(Red) 8 mfd. @ 200 v. (Yellow) 5 mfd. @ 25 v. (Red) 8 mfd. @ 200 v. (Blue) 8 mfd. @ 200 v. (Yellow) 5 mfd. @ 25 v.



(Black) (Brown) (Green)

UR189 (CARTON)

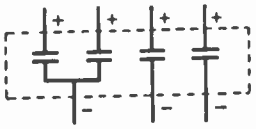
(Red) 8 mfd. @ 200 v. (Yellow) 5 mfd. @ 25 v. (Red) 8 mfd. @ 200 v. (Blue) 8 mfd. @ 200 v. (Yellow) 5 mfd. @ 25 v.



(Black) (Brown) (Green)

UR190 (CARTON)

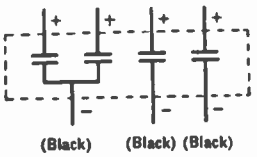
(Red) 8 mfd. @ 250 v. (Red) 8 mfd. @ 250 v. (Red) 8 mfd. @ 250 v. (Red) 8 mfd. @ 250 v.



(Black) (Black) (Black)

UR191 (CARTON)

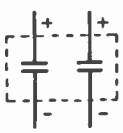
(Red) 8 mfd. @ 450 v. (Red) 8 mfd. @ 450 v. (Red) 8 mfd. @ 450 v. (Red) 8 mfd. @ 450 v.



(Black) (Black) (Black)

UR192 (CARTON)

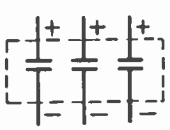
(Red) 20 mfd. @ 150 v. (Red) 20 mfd. @ 150 v.



(Black) (Black)

UR193 (CARTON)

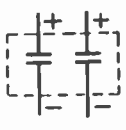
(Yellow) 5 mfd. @ 150 v. (Blue) 16 mfd. @ 150 v. (Red) 8 mfd. @ 150 v.



(Green) (Brown) (Black)

UR194 (TUBE)

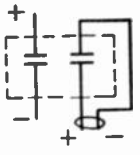
(Red) 16 mfd. @ 200 v. (Blue) 12 mfd. @ 200 v.



(Black) (Brown)

HD686 (CAN)

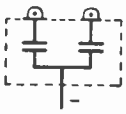
(Red) (Red)



(Black) (Black)

SR 601 (CARTON)

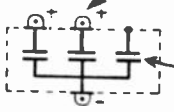
+12 mfd. @ 300 v. +8 mfd. @ 300 v.



(Black)

SR602 (STUD MOUNTING CAN)

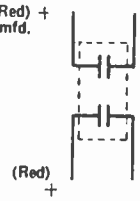
(Yellow) 6 mfd. @ 300 v. (Red) 4 mfd. @ 300 v. 6 mfd. @ 25 v.



(Black)

SR603 (CARDBOARD TUBE)

(Red) + 8 mfd. − (Black) 300 v.

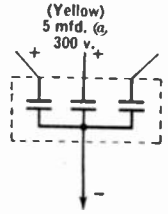


(Red) + (Black)

30 mfd. @ 30 volts

SR 604 (CARTON)

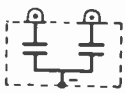
(Red) 3 mfd. @ 300 v. (Yellow) 5 mfd. @ 300 v. (Blue) 6 mfd. @ +12 v.



(Black)

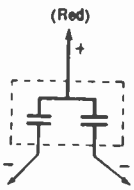
SR605 (STUD MOUNTING CAN)

8 mfd. @ 350 v. (Red) + (Red) + 8 mfd. @ 350 v.



SR606 (CARDBOARD CARTON)

(Red)



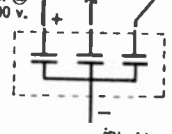
(Black) − − (Blue)

6 mfd. @ 350 v. 6 mfd. @ 350 v.

SR607 (CARTON)

(Red)

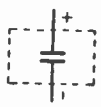
(Yellow) 6 mfd. @ 300 v. 4 mfd. 300 v. (Blue) 6 mfd. @ 12 v.



(Black)

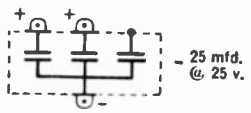
SR608 (TUBE)

65 mfd. @ 30 v.



SR609 (CAN)

(Red) 8 mfd. @ 400 v. (Red) 8 mfd. @ 400 v.



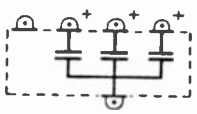
− 25 mfd. @ 25 v.

Plain

SR610 (CARTON)

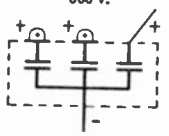
8 mfd. @ 400 v. 8 mfd. @ 400 v. 25 mfd. @ 25 v.

Dummy



SR611 (CARTON)

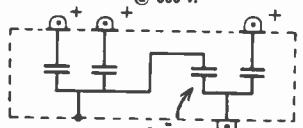
8 mfd. @ 350 v. 8 mfd. @ 300 v. (Blue) 25 mfd. @ 25 v.



(Black)

SR612 (CAN)

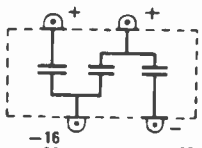
(Red) 8 mfd. @ 350 v. (Red) 8 mfd. @ 350 v. (Blue) 16 mfd. @ 100 v.



16 mfd. @ 100 v.

SR613 (CARTON)

+16 +30 +16

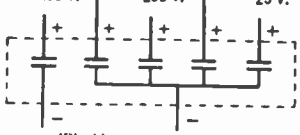


−16 −30 −16

SR614 (CARTON)

(Red) 8 mfd. @ 250 v. (Blue) 12 mfd. @ 25 v.

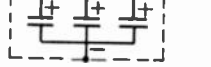
(White) 8 mfd. @ 450 v. (Orange) 8 mfd. @ 250 v. (Green) 12 mfd. @ 25 v.



(Black) (Yellow)

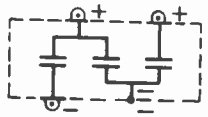
SR615 (CAN)

(Red) 8 mfd. @ 450 v. (Green) 8 mfd. @ 450 v. (Plain) 8 mfd. @ 350 v.



SR616 (CAN)

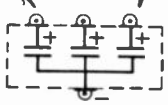
(Red) 8 mfd. 450 v. 8 mfd. 450 v. (Yellow) 8 mfd. 350 v.



(Plain) 8 @ 450 8 @ 350

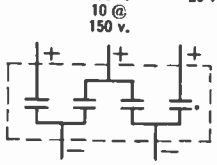
SR617 (CAN)

(Red) 16 mfd. @ 150 v. (Green) 16 mfd. @ 150 v. (Yellow) 10 mfd. 25 v.



SR618 (CARTON)

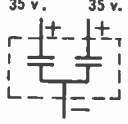
(Yellow) 5 @ 150 v. (Red) 20 @ 150 v. 10 @ 150 v. (Blue) 5 @ 25 v.



(Green) (Black)

SR619 (CARTON)

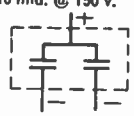
(Red) 5 mfd. @ 35 v. (Red) 5 mfd. @ 35 v.



(Black)

SR620 (CARTON)

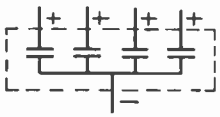
(Red) 30 mfd. @ 150 v. 10 mfd. @ 150 v.



30 mfd. (Yellow) 10 mfd. (Black)

SR621 (TUBE)

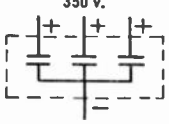
(Red) 16 mfd. @ 200 v. (Blue) 8 mfd. @ 200 v. (Green) 5 mfd. @ 50 v. (Green) 5 mfd. @ 50 v.



(Black)

SR622 (CARTON)

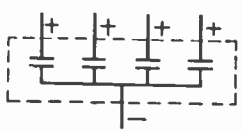
(Red) 8 mfd. @ 350 v. (Red) (White Tr.) 8 mfd. @ 350 v. (White) 12 mfd. @ 25 v.



(Black)

SR623 (CARDBOARD TUBE)

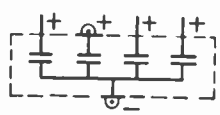
(Red) 16 mfd. @ 450 v. (Green) 2 mfd. @ 450 v. (Green) (Brown Tr.) 2 mfd. @ 450 v. (Yellow) 25 mfd. @ 25 v.



(Black)

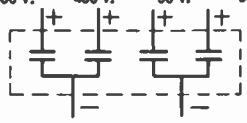
SR624 (CARTON)

(Red) 4 mfd. @ 300 v. 4 mfd. @ 300 v. (Yellow) 10 mfd. @ 150 v. (Blue) 4 mfd. @ 25 v.



SR625 (CARTON)

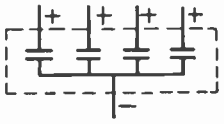
(Red) 8 mfd. @ 450 v. | (Blue) 8 mfd. @ 450 v. | (Yellow) 5 mfd. @ 50 v. | (Yellow) 5 mfd. @ 50 v.



(Black) (Green)

SR626 (CARTON)

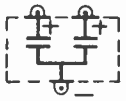
(Red) 8 mfd. @ 450 v. | (Blue) 4 mfd. @ 300 v. | (Green) 4 mfd. @ 150 v. | (Yellow) 12 mfd. @ 25 v.



(Black)

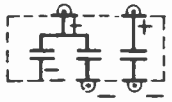
SR627 (CARTON)

4 mfd. @ 450 v. | 4 mfd. @ 150 v.



SR628 (CAN)

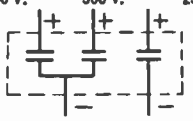
(Red) 8 mfd. @ 300 v. 8 mfd. @ 300 v. | (Blue) 10 mfd. @ 25 v.



(Green) (Plain)

SR629 (CARTON)

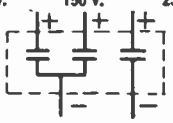
(Blue) 6 mfd. @ 350 v. | (Red) 4 mfd. @ 300 v. | (Orange) 10 mfd. @ 25 v.



(Black) (Green)

SR630 (CARTON)

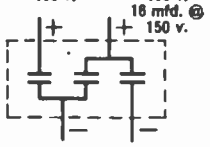
(Red) 16 mfd. @ 150 v. | (Yellow) 8 mfd. @ 150 v. | (Blue) 10 mfd. @ 25 v.



(Green) (Black)

SR631 (CARTON)

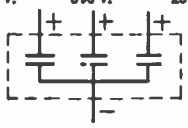
(Red) 4 mfd. @ 150 v. | (Blue) 12 mfd. @ 150 v. | 16 mfd. @ 150 v.



(Green) (Black)

SR632 (TUBE)

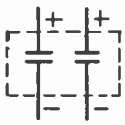
(Yellow) 6 mfd. @ 350 v. | (Red) 4 mfd. @ 350 v. | (Blue) 16 mfd. @ 25 v.



(Black)

SR633 (TUBE)

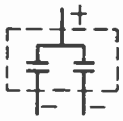
(Red) 6 mfd. @ 250 v. | (Blue) 6 mfd. @ 250 v.



(Black) (Brown)

SR634 (TUBE)

(Red)



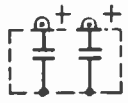
(Yellow) 8 mfd. @ 400 v. | (Black) 12 mfd. @ 400 v.

SR635 (CAN)

12 mfd. @ 150 v.

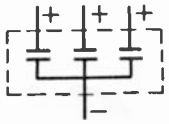
SR636 (CAN)

(Red) 12 mfd. @ 100 v. | (Plain) 4 mfd. @ 100 v.



SR637 (TUBE)

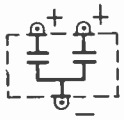
(Red) 8 mfd. @ 350 v. | (Yellow) 8 mfd. @ 350 v. | (Blue) 20 mfd. @ 25 v.



(Black)

SR638 (CAN)

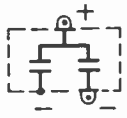
(Red) 8 mfd. @ 450 v. | (Green) 8 mfd. @ 450 v.



(Black)

SR639 (CAN)

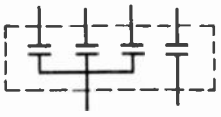
(Red)



(Black) 8 mfd. @ 450 v. | 8 mfd. @ 450 v.

SR640 (TUBE)

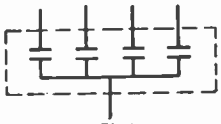
(Blue) 8 mfd. @ 450 v. | (Red) 16 mfd. @ 450 v. | (Yellow) 10 mfd. @ 25 v. | (Green) 10 mfd. @ 25 v.



(Black) (Brown)

SR641 (TUBE)

(Red) 12 mfd. @ 450 v. | (Green) 8 mfd. @ 450 v. | (Blue) 8 mfd. @ 350 v. | (Yellow) 10 mfd. @ 25 v.

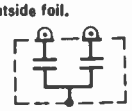


(Black)

SR642 (CAN)

(Red) 8 mfd. @ 450 v. | (Plain) 8 mfd. @ 450 v.

Outside foil.



SR643 (CAN)

10 mfd. @ 450 v.

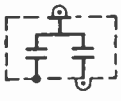
SR644 (CAN)

12 mfd. @ 450 v.

SR645 (CAN)

(Green)

8 mfd. @ 450 v.



(Plain) 8 mfd. @ 450 v.

SECTION "C" VIBRATORS

The Practical Servicing and Testing of Vibrators

The vibrator is literally the heart of every battery-operated radio receiver. The silent throbbing of this heart, whether in the air, on land, or at sea, furnishes the all-essential plate current necessary to give intelligence and life to an otherwise inanimate object. The endless entertainment of drama, music and news, pouring forth from the automobile and rural household radios, rely on its unfaltering rhythmic beat. Its dependable power has been the means of bringing aid to stricken, isolated communities during great emergencies. The protection of lives and property and the reduction of crime are being aided greatly in the ceaseless pulsations of the ever-vigilant police radio. Yes, the vibrator—like the heart—is all-essential.

Because of the importance of the vibrator in the modern battery-powered radio, servicemen should be thoroughly familiar with the functions of the DC power supply system. The millions of automobile and rural home radios which are in use, have given the serviceman a chance to expand and increase his income. In general the radio circuits of these receivers are much the same as other receivers, but here the similarity ends. The automobile radio must be compact, well shielded, and all leads must be well filtered to exclude the interference from the motor. The power pack is of extreme importance and a thorough understanding of its operation will make the servicing of these radios easier and much more profitable.

With the last year, many volumes relative to the Operating Principals of the Vibrator have been written. To gain a working knowledge of the vibrator circuits from these books, many hours of tedious reading and study are required. DC power supply systems, while extremely important, are in reality comparatively simple. A thorough explanation of their working functions can be completely covered in a few paragraphs. Since the DC power system is so closely related, the AC principles can be used very effectively to explain its operation.

AC Analogy

It is impossible to believe that there is a single successful radio service engineer who does not thoroughly understand the power circuit of the modern AC radio receiver. A typical circuit of this type is shown in Figure 1.

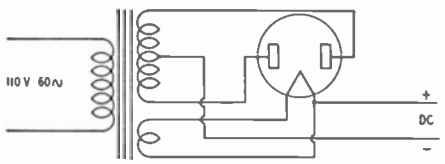


FIGURE 1

If an AC voltage is applied to the primary, in this circuit, there is a voltage developed in the secondary windings proportional to the turn ratio. The low voltage winding is used to light the "heater" of the rectifier tube. (A separate battery could be used just as effectively for this purpose.) The high voltage secondary is center-tapped and so connected that, through action of the rectifier tube, one-half of the secondary is delivering power on the first part of the cycle, and the other half is delivering power on the last part of the cycle. In this manner the alternating current is converted to unipotential or DC voltage. Although this voltage is unipotential, it is not constant so a filter system must be used to obtain a constant DC voltage. Since filter systems are more or less standard, and their action is common knowledge, no further reference to them will be made. So far we have explained only the simple action of the power supply system of an AC receiver, which is of course understood by every service engineer.

"Alternating" DC Voltage

If a DC voltage were applied to the primary of this transformer, there would be no flux change in the transformer core, and, therefore, no transformation of power from the primary to the secondary. However, if the circuit could be so arranged as to "alternate" this same DC voltage, first in one direction and then in the other direction through the primary, there would be essentially an alternating current (AC) flowing, and the transformer would again operate somewhat the same as it did on AC.

A theoretical circuit describing this method of "alternating" the DC is shown in Figure 2.

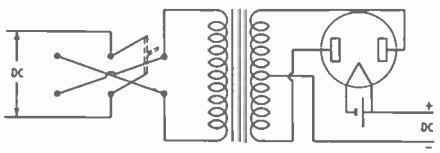


FIGURE 2

In this circuit, a double pole double throw switch is so connected in the primary circuit that, if the switch were rapidly thrown from one position to the other, the direct current would "alternate" in the primary winding of the transformer.

This type of switch could be made in the form of a vibrator but it would be far too complicated and critical for economical manufacturing or commercial use. In order to simplify this switching circuit a second primary, identical to the first, is wound on the transformer. This may be in the form of two separate windings or one continuous winding center-tapped. Figure 3 shows this revised circuit in which a simplified single pole double throw switch is substituted for the more complicated double pole double throw switch.

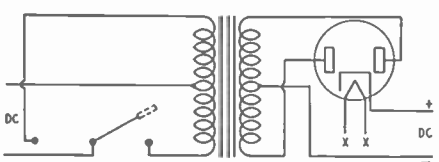


FIGURE 3

Now the switch connects the DC first through one primary and then through the other which produces essentially an "alternating current" which can be transformed and rectified, by the tube, into high voltage DC. With this form of switch, it now becomes possible to make it in the form of a vibrator that is economical to manufacture and reliable in operation.

Interrupter (Tube Type) Vibrator

The single pole double throw switch using the simplified switching circuit may be made in the form of a magnetically-driven switch or vibrator as shown in

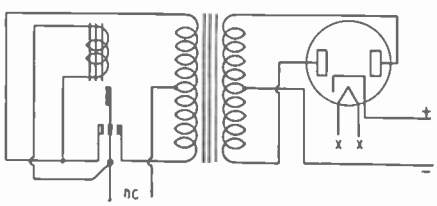


FIGURE 4

Figure 4. In this arrangement the coil is shunted across the contacts so that when current is applied to the vibrator, the coil is energized, pulling the armature toward the magnet. As the armature approaches the magnet, the contact points short the coil, destroying the magnetic force and the armature returns past its normal position and makes contact with the opposite contact point. This operation is rapidly repeated at 115 cycles per second. This method of energizing the vibrator reed is known as the shunt type driver system.

Figure 5 shows a different method of obtaining the magnetic force to energize the vibrator reed.

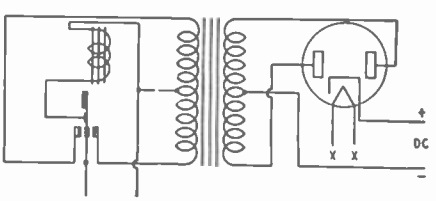


FIGURE 5

In this circuit the entire battery voltage is applied to the driver coil when the current is turned on causing the armature to be attracted toward the magnet and opening the extra set of driver contacts. The opening of the driver circuit destroys the magnetism in the coil. The reed has gained sufficient momentum at this point that it travels somewhat farther to make contact with one of the interrupter contact points but since the magnetism has been destroyed, it returns past its original position to make contact with the opposite contact point, thus completing the cycle. The operations are periodically repeated at fairly high frequency. This method of energizing the vibrator reed is known as the series driver system.

When the contacts connect and disconnect the DC from the primary of the transformer, there are certain power surges of current developed which must be "arrested" in order to prevent damage to the contact points. The "arresting" of these surges can be accomplished by connecting a condenser across the primary of the transformer, but since the capacity required to secure the same result drops rapidly with an increase in voltage applied, a comparatively small capacity high voltage condenser can be connected across the secondary to accomplish the same purpose. The capacity in the secondary circuit is reflected directly into the primary so that substantially the same results are obtained as with a large primary condenser.

Let us simplify this by stating that the secondary "buffer" condenser is used to control the surge voltages developed in the circuit.

A more detailed explanation of transformers and buffer condensers will be given later in this text.

Figure 6 shows the basic circuit in which the interrupter type vibrator "alternates" the DC in the primary of the transformer, the transformer steps up the alternated DC to high-voltage AC and the rectifier tube converts the AC to high-voltage unidirectional or direct current.

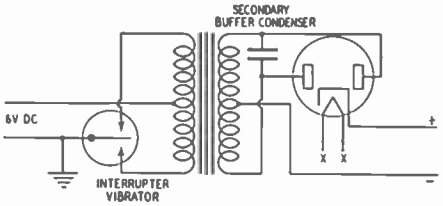


FIGURE 6

The basic operation of the interrupter type vibrator (commonly called tube type) is now clearly explained.

Synchronous or Self-Rectifying Type Vibrator

The purpose of the rectifier as explained is to pass current only in one direction. It is so connected that during the first part of the cycle, one-half of the secondary is delivering current and during the second part of the cycle, the other half of the secondary is delivering current. In the tube rectifier this action is entirely automatic and is controlled by the electronic characteristics of the tube.

If the rectifier tube were replaced by a single pole double throw switch so constructed to operate simultaneously with the single pole double throw switch in the primary circuit, substantially the same rectifying action would take place. Figure 7 shows a theoretical circuit of such an arrangement.

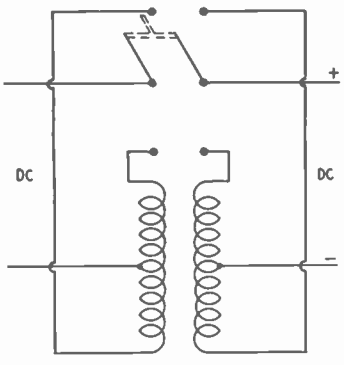


FIGURE 7

The polarity of the DC output, unlike the tube type, would depend on the polarity of the DC input. Correcting for polarity offers no problem, however, since the interchanging of the two secondary wires to the contacts of the "rectifier" section of the switch will give the desired polarity of output.

Since one side of the DC (6-volt battery) and B – are usually grounded, the circuit can be inverted and the polarity of the rectified current changed by reversing the primary wires to the vibrator. The "switch" could then be arranged so both "blades" are grounded or connected together as shown in Figure 8.

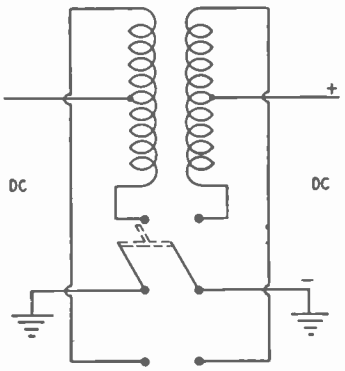


FIGURE 8

Now that both "blades" of this switch are grounded, they can be connected directly together or even made into one piece as in Figure 9.

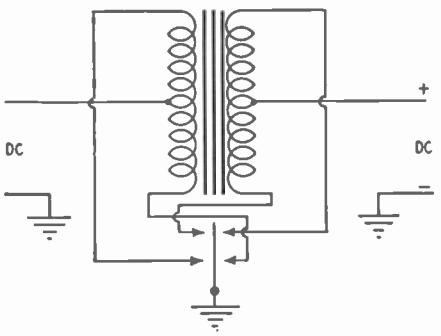


FIGURE 9

By using this arrangement all of the common interrupter and rectifier contacts may be installed on a single reed and thus made to operate synchronously. With this type of construction, a practical synchronous, or self-rectifying, vibrator may be made economically, incorporating long life and reliable operation. Synchronous vibrators eliminate the energy consumed by the rectifier tube, thereby increasing the overall efficiency of the system.

The basic synchronous rectifying type vibrator circuit is shown in Figure 10.

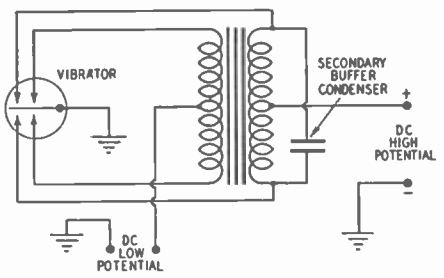


FIGURE 10

Two basic vibrator circuits have been shown. Figure 6 for interrupter type vibrators and Figure 10 for synchronous type vibrators.

Even with all the different lead and plug arrangements and all of the various sizes of containers that have been used, ONLY these TWO basic circuits have been used in the modern automobile and 6-volt household radio receivers since 1933. There is a slight variation of the synchronous type, as shown in Figure 8, where the reed is "split" into two parts which are mechanically (not electrically) connected together, but otherwise this is basically the same as Figure 10.

The foregoing explanation of vibrator power systems has given a picture of the operation of the vibrator, yet to give a complete story, it is in order to touch briefly on transformer and circuit design. Transformers and circuit components are, as a rule, carefully designed and matched by radio set engineers, in co-operation with vibrator engineers. Generally speaking, nothing can be gained by attempting to change these designs and values. Occasionally it is impossible to obtain a vibrator having the same frequency and time efficiency characteristics as the original or perhaps an unknown brand of radio might not be as carefully designed as it might have been. Under these conditions it is well for the service engineer to know how to properly adjust the timing capacity for trouble-free vibrator operation. In rare cases where it might be necessary to replace the transformer, a knowledge of transformer design will be of great help in selecting the most suitable design.

Power Supply Design Considerations

In the design of vibrator-operated power supplies, engineers are faced with a considerably larger number of factors and problems that must be taken into account than are encountered in the design of an equivalent AC power supply. No one component in the supply can be divorced from the rest, since its function and design depends upon the design and operation of the other components. Therefore, the Vibrator, Transformer, Timing Capacity (commonly called the "buffer condenser"), Battery Voltage, "A" Lead Resistance, and the "A" Current of the Speaker Field and Heaters, all must be considered as a unit when the power supply is to be designed. Knowing the nominal battery voltage, i.e., 4, 6, 12, or 32 volts, the approximate lead, switch, fuse, and "A" choke resistances, the current drain of the tube heaters and speaker field, and the variation in battery voltage encountered in service because of charging and temperature, the problem resolves itself into correlating the three important items of the supply, namely the Vibrator, Transformer, and Timing Capacity.

In the design of AC power supplies the designer is considering mainly, Economy of Manufacture, Heating, Regulation, and Output. All of these factors must also be considered in the design of a vibrator-operated power supply, and in addition, size and primary current drain are of paramount importance. Size because of the fact that this type of supply is usually used for auto receivers and other applications where space is at a premium, and primary current drain because of the limitation of battery drain and also the more important factor of vibrator life which is largely determined by the loading applied to the contacts.

Since it is necessary to operate this type of power supply in a multitude of receiver designs having varying values of "A" lead resistance and "A" current, it is customary now to rate the power supply as furnishing the required output at an input voltage of 6.3 volts as measured from the center-tap of the transformer primary to the reed-terminal of the vibrator socket. When this is not done, it is necessary that the "center-tap" voltage be specified at which the required output is to be secured. Since it is also necessary to operate this power supply on a battery whose state of charge is variable, and whose rate of charge from an auto generator or "wind charger" varies from zero to thirty amperes or more, it is necessary to so design the power supply components that they will perform safely with applied voltages to the system varying between 5.75 and 9 0 volts at the battery in the case of a nominal 6-volt battery. Voltages at the center-tap will vary considerably depending upon whether a "starting" condition or a "running" condition is being considered; this voltage may range from 5.25 volts to 8.5 volts, or a 62% variation. This compares to the 24% maximum variation (105 to 130 volts) encountered in the design of AC power supplies. In addition, since heater-type tubes are now used for practically all applications involving vibrator-operated power supplies, a "no load" condition for the supply is present every time the receiver is turned on and this must be considered fully in the design since a vibrator is not only a mechanical device, but is limited by transient conditions arising from unusual operating circumstances.

Vibrator Characteristics

Complete knowledge of the vibrator operating characteristics is the first necessity in starting a design of a power supply's electrical characteristics. These vary somewhat between various manufacturers, especially in those units manufactured prior to 1937-38. Prior to this time, modern full-wave vibrators were manufactured with frequencies of 85, 90, 100, 115, 135, and 165 cycles per second. Mallory has pioneered in establishing a frequency of 115 cycles per second, adopting this now generally-used frequency in 1935. In addition to the item of frequency variations, considerable variation also occurs in the mechanical "time efficiency" of the vibrator. Time efficiency refers to the percentage of the total time of one cycle that the power contacts are held in contact, although it is usually more important to determine this for each half of the cycle in order to measure the balance between the two swings of the vibrator reed mechanism. Values of time efficiency in the past have varied from 70% to 90%, but at the present time are mainly held within the range of 85% to 90% average.

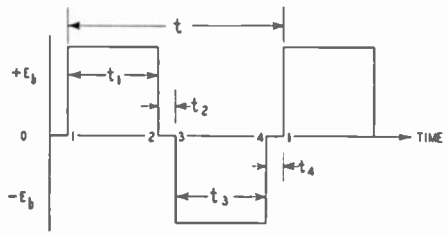


FIGURE A

Referring to Fig. A, time efficiency of the vibrator is illustrated as an electro-mechanical waveform trace plotted against time in seconds. At 1 on the diagram the power contacts are closing on one direction of swing of the reed, connecting the primary of the transformer, in effect, to the positive terminal of the battery. The contacts remain closed until point 2, this length of time being t_1, where the reed has started its return swing and has opened this pair of power contacts. The reed now requires a length of time t_2 to continue this return swing to the point where the opposite pair of power contacts close at 3 on the diagram, connecting the primary of the transformer, in effect, to the negative terminal of the battery. These contacts remain together for the length of time t_3, when the reed has reversed its direction of motion again and has continued its return swing (in same direction as at 1) far enough to open the second set of power contacts at 4. The reed then requires a length of time t_4 to travel between the second set of power contacts at 4 and the original set at 1 where the cycle ends and a new one begins. Current can only flow from the battery while the power contacts are touching, or during the time periods t_1 and t_3. Since this power, in effect, is reversed on each half-cycle, alternating voltage is applied to the primary of the waveform shown. The RMS value of this voltage is, of course, dependent upon the percentage of time the contacts remain closed during each cycle, or in other words, upon the time efficiency. Time efficiency is, therefore,

$$\frac{t_1 + t_3}{t_0} = \frac{t_1 + t_3}{t_1 + t_2 + t_3 + t_4}$$

The Transformer

Knowing the characteristics of the type of vibrator to be used, the next step is the design of the transformer to be used with the vibrator to increase the primary alternating current voltage to a higher voltage of a sufficient magnitude such as to produce the desired rectified direct current. Since it can be shown that the value of timing capacity required in the primary circuit for correct matching of the vibrator and transformer depends directly upon the magnetizing current (maximum value) of the transformer required for the voltage of operation and upon the operating characteristics of the vibrator outlined in the preceding paragraph, it is of exceeding importance in the design of the transformer to consider first the range of flux density and also the maximum flux density to be encountered. This is because the magnetizing current-flux density relationship, commonly known as the magnetization or B-H curve, of the iron to be used in the transformer core is not a straight line, but is a curve which begins to deviate greatly from a straight line in most irons at a flux density of about 65,000 to 70,000 lines per square inch. Because it is necessary to operate the final design upon applied voltages covering a range of 6 to 9 volts, it would be desirable to limit the operating range of flux densities to the comparatively straight-line portion of the curve. However, this range is limited, and would be rather uneconomical except in the cases of some portable, or home receivers, where current drain is paramount. Therefore, it is usually satisfactory to set the upper limit (for maximum voltage) of 65,000 lines per square inch. Where the sacrifice of operating perfection and efficiency is required in order to secure economy, a maximum flux density of 75,000 lines per square inch is permissible. The following diagram, Figure B, illustrates the approximate characteristics of a grade of iron often used for vibrator transformers.

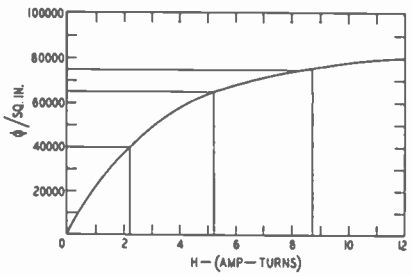


FIGURE B

This grade of iron is used, not only because of the low power lost as core losses, but because the variation between minimum and maximum limits of production runs of this grade are held to narrow limits. This enables a rather accurate determination in advance of the timing capacity necessary to give good vibrator performance. On those grades of iron with wide production limits, exceedingly variable results will be obtained in a production run of receivers using a supposedly identical transformer to the sample approved.

Knowing the limiting flux density, and the fixed vibrator constants, the design is now controlled by the balance between primary turns and the cross-section of iron in the center-leg of the shell-type of transformer usually used in this type of application. The biggest difference between the physical appearance of an AC transformer design and that of one for vibrator operation lies in the use of a dual primary on the vibrator transformer. As explained above, this is required to obtain the AC voltage effect. Also, on low battery voltages, such as 4, 6, and 12 volts, the wire size required for the primary is rather large, giving a rather inefficient winding space factor and almost always requiring that the primary be wound over the secondary. It is quite ordinary to find small power transformers for AC operation operating at a flux density of 90,000 to 100,000 lines per square inch as against the 65,000 to 75,000 lines per square inch for a vibrator transformer. Because of the need for the additional primary winding, the size of a vibrator transformer will always be considerably larger than for an AC transformer to furnish the same power output. The turns per volt are usually kept rather low for high output units, approximating 4 to 5. This is primarily done to reduce the leakage inductance of the transformer, although the combination of a medium size of lamination and large wire size works out best under this arrangement, the core being stacked thicker in order to adjust the flux density. Since the load currents must be increased or decreased through this leakage inductance, it acts as a burden on the contacts and therefore is more detrimental the higher this inductance is made. This leakage inductance burden has been demonstrated experimentally and in practice as being one of the biggest causes of rapid contact erosion, or wear. It is general practice to interleave the laminations 2X2, although 1X1 and 3X3 are often used. Interleaving 2X2 permits a lap joint between each lamination (as does 1X1 interleaving), whereas 3X3 or higher allows only a butt joint between all but the outside laminations in each group. Since the magnetic flux sprays from the core to a certain extent in all transformers, and this flux is modulated by any "hash" frequencies present in the electrical circuit, it is universally necessary to provide a comparatively heavy magnetic shield completely surrounding the transformer in order to provide a "hash"-free power supply. Of course, this is quite often enlarged to include the other components effectively.

Timing Capacity (Buffer Condenser)

With the transformer design arrived at, the magnetizing currents for the nominal and the maximum flux densities (corresponding to the nominal and maximum battery voltages), are calculated from the B-H curve and the length of magnetic path of the lamination used. These values of current are the average theoretical values used in determining the theoretical timing capacity required to give the proper voltage waveform for best vibrator operation. This is known as circuit matching. A timing capacity, or buffer condenser, is required in order to protect the circuit during the time that the reed is moving from one set of contacts to the other, in other words, t_2 and t_4 in Figure A. If no capacity were used, when the contacts opened at 2 in this same figure not only would the battery voltage present on the contacts need to be "broken," but an exceedingly high voltage of the opposite polarity would be induced in the transformer because of the collapse of the sustaining magnetizing current (and therefore flux) which would also have to be "broken." This would cause severe arcing and failure of the vibrator unless some other component suffered voltage breakdown first. Also, when the contacts closed at 3 the full battery voltage would be applied directly across the contacts, causing a spark to jump the gap just before the contacts closed, which is also detrimental to good contact life. By connecting a condenser across either of the windings of the transformer, and adjusting the capacity to the predetermined value, the oscillographic waveform trace illustrated in Figure A can be changed to that shown in Figure C following.

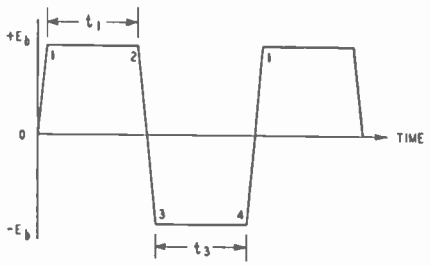


FIGURE C

We now notice that the "off contact" intervals of time, t_2 and t_4, are no longer horizontal lines but are sloping, closing the gaps between points 2 and 3 and points 4 and 1. This is the "ideal" waveform for an interrupter-type vibrator, or a self-rectifying type vibrator operating on no-load.

Selecting Proper Timing Capacity

The condenser has become a "tank" in which we store energy during the "on contact" intervals t_1 and t_3, and which discharges into the transformer winding during the "off contact" intervals t_2 and t_4 to supply energy to the transformer. This discharge is in the form of a damped oscillation in the circuit formed by the transformer winding inductance and the condenser; however, the first one-quarter cycle is never completed before the next pair of contacts close. The "ideal" waveform shown in Figure C can be secured experimentally, but is not practical in production, because of the variations in the several components

used in the circuit. Also, as a vibrator's contacts erode, or wear away, the spacing between those contacts increases, increasing in turn the "off contact" time intervals t_2 and t_4 during which the reed must move from one set of contacts to the other. Because of this fact, a larger timing capacity is theoretically required with an old vibrator than with a new, and the additional capacity that is required to prevent "overclosure" of the voltage waveform must be included in the original design. Therefore, the desirable oscillographic waveform for an average condition for a new vibrator would appear as in Figure D.

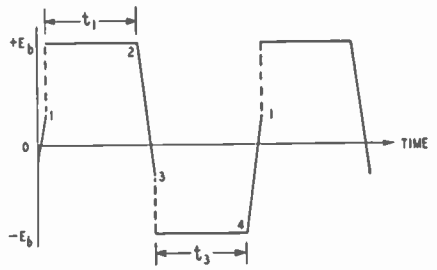


FIGURE D

With the circuit adjusted as described above, the "closure" of the waveform shown in Figure D is between 60% and 70%. That is, the distance vertically between the points where the contacts open and close, 2 and 3, is about 60% of the total distance between the two horizontal lines t_1 and t_3, with the same conditions holding true for the points 4 and 1. This would also hold true, again, for the self-rectifying-type of vibrator operating on no-load. "No-Load" does not mean the removal of the first filter condenser, also.

The waveform picture of a properly adjusted self-rectifying vibrator operating under load is shown in Figure E, following.

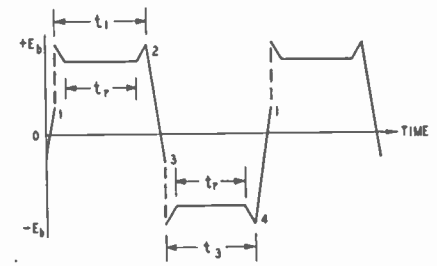


FIGURE E

The short, regular peaks shown at the start and finish of the time intervals t_1 and t_3 are proper and do not create "hash" or circuit difficulties if they appear approximately as shown. These peaks are caused by the increased voltage drop in all of the "A" circuit when the secondary, or "B" load is connected, since the vibrator is so adjusted that the interrupter contacts close before the rectifier contacts and open after the rectifier contacts. In other words, the rectifier contacts are spaced slightly wider than the interrupter contacts, the load thus being broken at high voltage and low current instead of at low voltage and high current.

Improper Timing Capacity

Correctly shaped waveforms have been pictured, but it is advisable to also illustrate a few of the more common mismatches found. It can readily be understood that should a modern 115-cycle vibrator with a time efficiency of 90% be used to replace an original equipment vibrator which originally was operating at 85 cycles and a time efficiency of 80%, a decided mismatch would occur. The new frequency being higher, the flux-density would be reduced by 26%, while because the new time efficiency is higher also, the flux density will in turn be increased by 13%. This is a net decrease of 13% in flux density, and correspondingly an even greater decrease in magnetizing current because of the curvature in the B-H curve of the iron. Because of the increase in time efficiency as well as in frequency, the "off contact" intervals t_2 and t_4 are considerably shorter (in seconds). Therefore, with less magnetizing current required by the transformer, and a shorter time interval in which to dissipate the stored energy, the timing capacity originally in the circuit is now too large, and the waveform pictured in Figure F results.

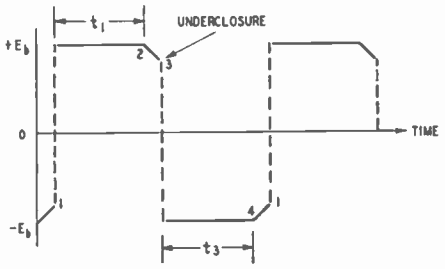


FIGURE F

Since the modern Mallory Replacement Vibrator would easily outperform the original under proper circuit matching, and because it is universally available, should this type of condition arise, it is advisable to replace the timing capacity incorporated in the receiver and install a Mallory Type OT condenser of a value which will approach the waveform shown in Figure D.

Should a mismatch occur in which the reverse, or partial reverse, of the above be found, or a condition be found in which the original capacity chosen was too small, waveform pictures such as shown in Figures G and H will result.

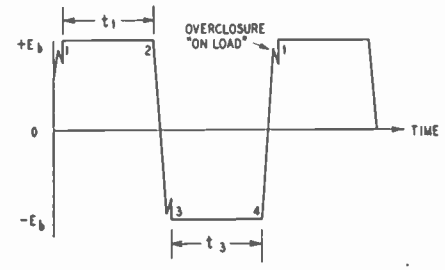


FIGURE G

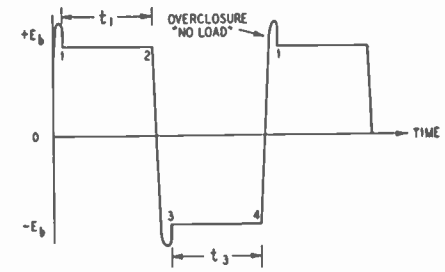


FIGURE H

Figure G illustrates a case of "overclosure" of the waveform with the load applied to the rectifier tube in an interrupter type power supply. This condition is not often noticed since it can be mistaken for bouncing of the contacts at the "make." However, if the load is removed, or the rectifier tube removed from its socket, the picture will change to that shown in Figure H, if overclosure is present. Naturally the cure for this condition will be the addition of more capacity to the original, or better still, to replace the original with a new Mallory Type OT of the correct capacity. Condensers age in much the same manner as springs, and it is frequently advisable to replace such hard-worked types as are used in vibrator power supplies every few years at least, or every 1000 hours of operation

In the case of a self-rectifying vibrator, overclosure will evidence itself in much the same manner as in Figure H, except that very sharp and usually ragged peaks will result instead of the comparatively round ones illustrated. These are exceedingly dangerous and will undoubtedly cause the vibrator or other components to "break down," since the transient voltages are usually much higher than the value observed upon the oscillograph screen, and are multiplied by the transformer turn ratio when applied to the secondary or rectifier circuit. It should be noted that all of the above oscillographic pictures are to be observed with the vertical plates of the oscillograph connected across the entire primary of the transformer. The picture given in Figure A cannot be secured with a transformer, but can be illustrated by the use of a center-tapped resistor of 10 ohms total replacing the primary of the transformer. In this case a separate-driver type of vibrator should have the nominal battery voltage applied, but a shunt type of vibrator should have double this value applied.

All of these oscillograph waveform checks should be made **not only** at the **nominal** battery voltage of operation, but also at the **maximum** voltage under which the receiver may be called upon to operate. Since many automobiles are now being sold equipped with charging voltage-regulators which maintain a voltage at the ammeter of approximately 7.8 to 8 volts, it is essential that a check be made with 4 cells of battery in order to reach the required level of voltage. The higher the voltage applied, the greater the tendency for the waveform to "overclose."

A condition such as "single-footing," the operation of the vibrator mainly on one contact set only, is quite prevalent with old and even with some comparatively new vibrators, and a waveform illustrating this condition is shown in Figure I.

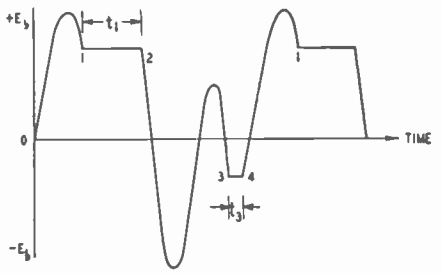


FIGURE I

Here is shown the condition where more than one cycle of the oscillatory discharge of the timing condenser has taken place before the one set of contacts closes at 3, whereas on the other set of contacts comparatively good operation is still secured although this will be found to have a short time interval t_1, since the reed amplitude will be low. This is usually overcome in slipshod engineering practice by use of additional timing capacity. However, this involves the acceptance of a waveform such as that in Figure F, which is not desirable.

Effects of Bouncing Contacts

Bouncing or chatter of the vibrator contacts is illustrated in Figures J and K, where J illustrates this

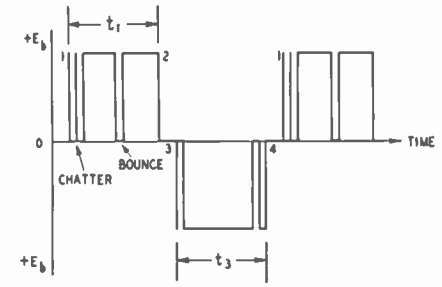


FIGURE J

condition when operating upon a center-tapped resistor, and K when operating upon a transformer-condenser set-up.

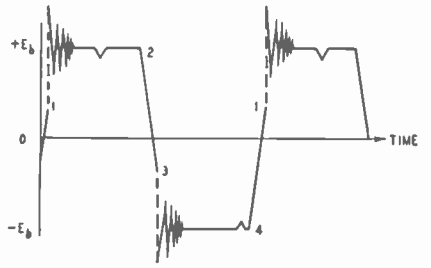


FIGURE K

"Hash" Suppression

Basic vibrator circuits have been clarified. Only one problem remains—that of radio frequency interference developed by the vibrator. This interference is commonly referred to as "hash." **Hash is caused by transient voltage surges, at radio frequency. These surges cannot be controlled by a "buffer" condenser. The only known methods of suppressing hash are:**

First—Shielding—Both magnetic and electrostatic.

Second—Proper grounds, and

Third—Proper RF filtering in the leads to and from the pack.

The amount of "hash suppression" depends mainly on:

First—The sensitivity of the receiver and

Second—the mechanical arrangement of the receiver.

Engineers do, as a rule, thoroughly design their receivers to have adequate shielding, proper grounds and a sufficient amount of RF filtering. They cannot be assured that screws holding the shielding, chassis, and case together will remain tight after hours of jolts and vibration in the automobile nor can they be assured of permanence of efficiency of the old style RF by-pass condensers under varying climatic conditions. Under these conditions it would seem that the only action that could be taken to eliminate hash in a troublesome receiver would be to tighten all the screws and to replace all the by-pass condensers thought to be defective. Figure 11 shows a typical interrupter-type circuit with its associate hash suppression filters.

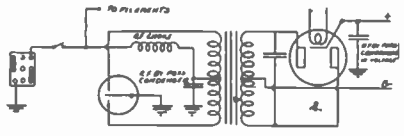


FIGURE 11

The circuit for synchronous vibrators is the same except the rectifier part of the vibrator replaces the tube rectifier as in Figure 10.

Through the combined efforts of the Mallory vibrator and condenser research engineers new types of RF condensers and RF chokes, which are far more efficient and permanent under widely varying climatic conditions have been perfected. It is now possible to do something about the hash caused by ineffective filtering.

On page 31 of the new Mallory-Yaxley General Catalog these condensers and chokes are listed.

Figure 12 shows the way they are to be used in the circuit.

The vibrator reed connection to ground, shown in dotted lines in Figure 12 should be removed, and con-

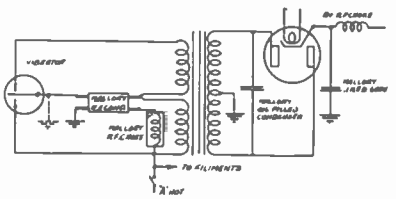


FIGURE 12

nected to one of the double lugs on one end of the Mallory-Special low voltage RF By-Pass Condenser. The other double lug on the same end should be connected to ground as shown. The center tap of the transformer should be connected to one of the double lugs on the other end of the condenser and the RF choke connected to the other double lug on the same end of the condenser as shown in Figure 12. The original RF choke in the primary circuit should be replaced with one of the new Mallory high-efficiency, multiple pie-wound RF chokes. **In most cases of slight "hash"** the Mallory No. RF-481, .5 mfd. 50-volt condenser will be sufficient. **For other cases more pronounced,** the Mallory No. RF-482, 1.0 mfd., 50-volt condenser will be adequate. **When severe cases are encountered** it may be necessary to use either Mallory RF-582, 55 turn RF choke or the No. RF-581, 90 turn RF choke in addition to one of the two condensers mentioned above depending on the severity of the case. **For the greatest amount of "hash" suppression** Mallory No. RF-581, 90 turn RF choke and Mallory No. RF-482, 1.0 mfd. 50 volt RF condenser should be used in the primary circuit and a 200-300 turn RF choke in the B+ lead with a Mallory No. TP-418, .1 mfd. 600 volt by-pass condenser in the secondary circuit as shown in Figure 12.

Exactly the same methods are used for synchronous type vibrator circuits. In these circuits the "rectifier" part of the synchronous vibrator replaces the tube and the center tap of transformer secondary becomes B+ instead of ground." For the sake of simplicity no conventional filter circuits are shown.

The 200-300 turn RF choke can be obtained from most parts distributors if not in the set. The Mallory No. RF-583 55 turn RF choke is wound with No. 12 wire and should be used with high output power packs where space will permit.

This method of "hash" suppression is by no means a "Cure-all." It will not suppress "hash" caused by inadequate shielding or improper grounds. If used intelligently, it will eliminate many cases of annoying chronic complaints.

These basic principles will prove to be a valuable aid in the successful servicing of vibrator-powered radio receivers. The problem of "hash" has been treated in a manner that it should no longer be a serious obstacle, yet **other common troubles are often encountered.**

Causes of Vibrator Trouble

When vibrators were first introduced, servicemen regarded them with suspicion and uncertainty. They were inclined to attribute many auto radio troubles, such as unaccountable noises, low plate voltage, etc., to the vibrator, when actually its operation was perfectly normal. The unquestionable proof of this statement lies in the fact that until recently, more than one-half of all vibrators returned as defective, were perfectly good in every respect.

Vibrators can only be damaged by two causes:

1. Serious overloads from short circuits and/or
2. Defective buffer condensers.

Rarely if ever do power transformers give any trouble.

Eliminating Trouble

If vibrator servicing problems are to be simplified, specific troubles and the recommended remedy must be shown. A list of these troubles is given along with the best way of determining the exact trouble and the method of elimination.

No "B" Voltage

If the vibrator is operating and still there is no "B" voltage, first disconnect the lead from the B+ output of the filter. If the voltage becomes much higher than normal when this lead is disconnected, the trouble is in the radio receiver proper. The procedure for making receiver checks and repairs are outlined in other sections of the encyclopedia.

If, after disconnecting the B+ lead, there is still no voltage, the trouble is in the power pack circuit.

The following list shows the **probable defects, in the order of their importance:**

1. **Shorted Filter Condenser.**
2. **Shorted Buffer Condenser.**
3. **Shorted Rectifier Tube.**
4. **Shorted "B+" Bypass Condenser.**
5. **Grounded Filter Choke.**
6. **Shorted Transformer Secondary.**
7. **Ground in Wiring.**

If the vibrator does not operate, remove the vibrator and check for the following defects:

1. **Low Battery Voltage.**
2. **Blown Fuse.**
3. **Burned Switch.**
4. **Broken "A" Lead.**

All of these points may be quickly checked by measuring the voltage between the center tap of the transformer primary and the REED terminal of the vibrator socket. This voltage should read 5.5 volts or more.

If the check is satisfactory, the vibrator should be tested for proper operation either in a vibrator tester or by the substitution of a new Mallory Replacement vibrator. Sticking or shorted vibrators are usually caused by "projections" being built up on the contact points. These "projections" (contact transfer) are the result of an unbalanced condition in the circuit. A careful check of the "buffer" condenser should be made. If this condenser is open or the capacity not as specified, it should be replaced with a Mallory Oil Filled Condenser, Type VB or OT having the specified capacity. **NEVER CHANGE THE SPECIFIED CAPACITY OF THIS CONDENSER** unless specifically instructed to do so.

Low "B" Voltages

Check the points given below as the **cause for low "B" voltage.**

1. **Battery Voltage Low.**
2. **Corroded Fuse Clips.**
3. **High Switch Resistance.**
4. **Weak Rectifier Tube.**
5. **Defective Buffer Condenser.**
   (Caution: See preceding instruction on buffer condenser replacement).
6. **Defective Filter Condenser.**
7. **Worn Vibrator.**
   (Check in tester or substitute new Mallory Replacement Vibrator).
8. **Check for troubles in radio which will cause low voltage such as shorted cathode resistor, by-pass condenser, shorted transformer, defective tubes, etc.**

Intermittent Operation

1. Generally caused by troubles in the receiver, such as defective antenna insulation or connections, defective wiring, defective tubes, etc. Other sections of the encyclopedia specifically explain this method of servicing these troubles.
2. Intermittent vibrator operation usually caused by worn vibrator nearing the end of its life.
3. Loose connections in the power pack.
4. Defective Rectifier Tube.

Unusual Mechanical Noise

Unusual mechanical noise from the vibrator may be caused by:

1. Vibrator touching other parts and vibrating against them or causing other parts to vibrate. Correct this trouble with a cardboard pad around the vibrator.
2. An old vibrator nearing the end of its life.
3. Loose case screws, or loose parts in the radio set.

Electrical Hum from Speaker

Hum from the speaker is usually caused by:

1. Defective filter condensers (low capacity).
2. Microphonic Tubes.
3. Microphonic Condensers. (Usually variable condenser).
4. Loose chassis screws.
5. Poor Grounds in Radio.

Don'ts

1. NEVER CHANGE THE SPECIFIED CAPACITY OF THE BUFFER CONDENSER (unless circuit matching is carefully checked with oscillograph).

2. NEVER attempt to repair a vibrator. Filing contacts or bending springs destroys the factory adjustment which has been carefully made with expensive instruments.

3. NEVER replace a vibrator until you are sure it is defective.

4. NEVER hesitate to write Mallory for specific information and help.

Selecting Unlisted Replacement Vibrators

If a Mallory replacement vibrator is needed for an unlisted set, refer to the "C" notes 6 or 8. These notes simplify the selection of the proper vibrator. Any Mallory-Yaxley distributor will gladly assist in this selection. If an authentic replacement is desired, have the distributor send the original vibrator together with the NAME and MODEL NUMBER of the receiver, to the Mallory Factory. The proper Mallory Replacement Vibrator will be promptly supplied.

A Practical Vibrator Test

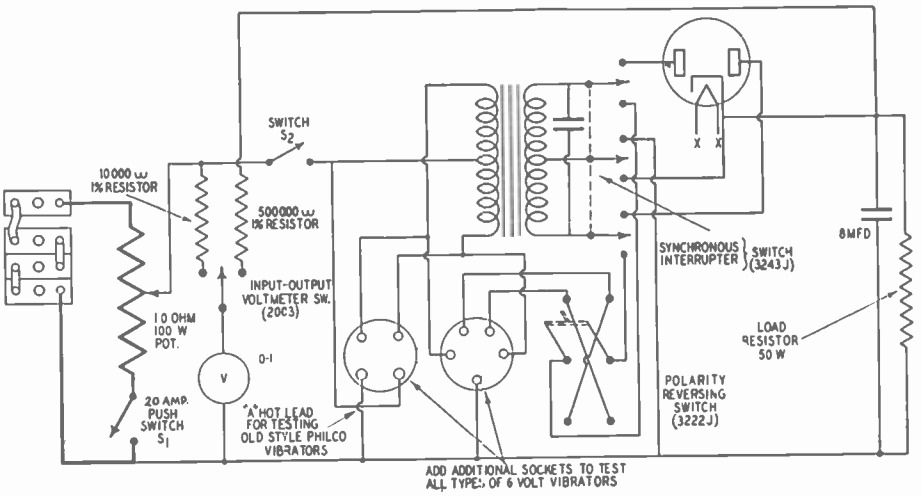


FIGURE 13

A practical vibrator test, which will give the service engineer as good an indication of the vibrator condition as the tube tester does of tubes, will probably be of extreme interest to many in the service profession. Many inquiries have been received for information, which would outline the proper method of using an oscillograph for testing a vibrator. The use of an oscillograph for testing vibrators is much less valuable than the dynamic characteristics or the mutual conductance method would be in testing tubes. The English reading emission tester has become by far the most popular method of testing tubes.

There are a good many vibrator testers available but a simplified test would enable the service engineer to find out easily and rapidly the very things he needs to know about a vibrator. Earlier this article pointed out that vibrators should never need replacement until the contacts are worn to such an extent that the output of the power supply is unsteady or the vibrator fails to start at about 5 1/2 volts.

The goodness of a vibrator may be tested by the value of the starting voltage the same as the goodness of a tube may be checked by the value of electronic emission from the cathode.

Phrasing a vibrator test into English reading indications, vibrators which will start at 5.2 volts or less are "good" vibrators and will give many more hours of satisfactory service. Vibrators that start between 5.2 and 5.6 volts are "doubtful" vibrators and may be expected to fail in the near future. Vibrators that only start above 5.6 volts are "bad" vibrators and may be expected to give immediate trouble, usually when the car battery is low and not being charged by the generator.

After the starting tests are made, the vibrator should be operated on 6 to 6 1/2 volts with a voltmeter connected in the output circuit. If the voltage fluctuates over a fairly wide range, the vibrator is definitely bad, but a fairly steady output voltage indicates a good vibrator. This test is equivalent to the "Short's test" of tube testers.

Vibrators which have been subjected to these two tests may be properly classified and the good ones used with confidence.

Figure 13 shows a typical circuit of a tester which will provide the above tests.

The vibrator is first placed in the proper socket. The voltage is then adjusted by the potentiometer, with Switch S_1 held in a closed position, to 5.2 volts. Switch S_2 is then closed. If the vibrator starts, the starting voltage is 5.2 volts or less, indicating a good vibrator. If it fails to start, open Switch$_2$ and readjust the potentiometer to 5.6 volts and again close Switch$_2$. By adjusting the voltage to various values and opening and closing Switch$_2$ the exact starting voltage of the vibrator and its corresponding condition may be obtained.

After the starting voltage of the vibrator has been obtained, adjust the potentiometer so that the voltage is between 6 and 6 1/2 volts, then observe the output meter for smooth flow of secondary power. The output meter can be calibrated in "good" and "bad" readings by using known good and bad vibrators.

Vibrator testers of this type will prove invaluable since the true condition of the vibrator may be quickly, easily and accurately determined.

Auto Radio Installation and Interference Elimination

The great majority of vibrators are used in automobile radio receivers. Therefore, a treatise on vibrators would scarcely be complete without some mention of Installation and Interference elimination. The proper installation of the radio in the automobile is all-important. Follow carefully the radio set manufacturer's installation instructions. Be sure to properly install the suppression equipment (condensers, suppressors, etc.) where spec fied. Above all, scrape the paint off of the metal around the holes used for mounting the set, to insure good grounds. If installations are made with this exacting care, it may require a few more minutes than a slip shod job, but it will repay you many times. Quite often many hours are spent in locatirg interference and when it is finally located, a good connection, a better ground, or a condenser in an out-of-the-way place, installed carefully according to the manufacturer's instructions, would have saved all the extra time. That lost time is worth money to you. Then, too, a slip shod job is seldom ever entirely satisfactory to the customer.

It is, therefore, to your advantage to make the best possible installation.

Usually, if the manufacturer's instructions are followed carefully, the operation of the radio will be entirely satisfactory. This is especially true on the later models of cars.

CHOOSING AND LOCATING THE ANTENNA

Before the all-steel top, the problem of antenna choice did not exist. There was, in most cases, from 6 to 16 feet of ideal antenna area available by simply tapping in to it.

An ideal antenna is one having the largest possible area and greatest separation between itself and ground. An auto radio must be very sensitive because in no case is the ideal from an antenna standpoint approached. The first introduction of antennas for the steel top cars were of the under-car type. Beneath the car is not the best place for an antenna as it satisfies nothing of the ideal and has several disadvantages. First, it is located near a number of sources of interference, such as wheel static, mechanical noise, etc. It represents a large capacity to chassis and is hard to keep well-insulated from it. It is difficult to keep in place, as ruts, stones and vibration all tend to tear it from its mountings.

The best antennas available today are those of the rod or strip type. Most customers do not object to a rod on top of the car or one located possibly on the door hinge. The higher the antenna is located, the better it will be as it is farther from interference and the car chassis. A single rod 4 or 5 feet in length on the top of the car is much better than an equal number of square feet located close to the ground.

INTERFERENCE

Occasionally, in new cars, and quite often in older cars, unusually troublesome cases of interference are encountered. When such troubles are encountered, it is best to just roll up your sleeves and go to work, for there are no hard and fast rules or cure-all methods of interference elimination. First determine the type of interference.

CHASSIS AND ANTENNA PICK-UP

Two classes of interference exist in auto radio, chassis (lead) pick-up and antenna pick-up. To determine which one exists, ground the antenna lead close to the receiver. If the interference is eliminated, it is antenna pick-up. If interference continues, it is chassis or lead pick-up.

CHASSIS PICK-UP

If interference is found to be chassis pick-up, be sure that all ground connections are clean and tight, all cables, tubes and pipes are grounded and are not rubbing against metal body parts or the receiver itself. If receiver has been properly installed according to the manufacturer's specifications, as to suppressors, condensers, filters, and the receiver wires have been kept out of the motor compartment or have been properly shielded, there should be no chassis noise.

Types of Antenna Pick-Up

GENERATOR INTERFERENCE

Generator interference is due to the sparking between the brushes and the commutator and is radiated from the car wiring to the antenna. Usually a condenser installed at the generator, in accordance with the installation instructions, will eliminate this trouble. If the installation of the condenser is not sufficient to completely eliminate this interference, it will be necessary to clean the commutator and possibly install new brushes. Figure 14 shows the proper method of installing the generator condenser.

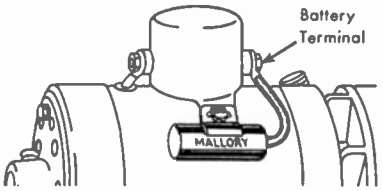


FIGURE 14

ADJUSTMENT OF GENERATOR AFTER INSTALLATION OF RADIO

Quite often it is necessary to "set-up"—or increase the generator output after installing the radio to take care of the increased current consumption. In many cases the service engineer has set the generator to a point where the armature is "burned up" after a short period of use.

Before setting up the generator it is advisable to consult the instruction book supplied with the car to ascertain its maximum output. Never exceed this value. If no instruction book is available, 20 amps. in winter and 15 amps. in summer should be considered maximum. If the generator does not keep the battery fully charged at this maximum setting, the customer should purchase one of the small home chargers which may be put on once or twice a week and left on overnight, thus assuring a good, hot battery at all times. One burned out armature will pay for the cost of the charger. The use of the charger will prevent overtaxing the generator and at the same time is useful, as a well-charged battery is necessary for starting, especially in the winter season.

HIGH TENSION IGNITION NOISE

This type interference is created between the coil and the spark plugs. Usually, with the newer cars and radios, a distributor suppressor is sufficient to reduce this type noise to an acceptable value. If the low tension leads are carried close to the high tension leads, it is advisable to reroute these leads so that they are as far apart as possible. Spark plug suppressors should not be used unless absolutely necessary. Quite often the condenser located at the distributor points will be found defective in which case it will be necessary to replace it. If the car has been in service for some time, inspect the gap between the rotor arm and points. If it is found that the contacts are too wide or burned, peen the rotor contact so that the gap is approximately .005 inches. Care should be taken not to crack the bakelite on the arm or peen it out so much that it will touch the points. Spark plug interference may be introduced into the radio through the oil pressure gauge tubes, windshield wiper, tube, etc. Tubes should be securely bonded to the bulkhead with a piece of heavy braid grounded securely. Keep the antenna lead as far from the high tension system as possible. Install the radio at a distance from the coil, so that it is not in the field of the secondary winding. In one make of radio, a mechanism is incorporated which introduces ignition noise 180° out of phase, which when adjusted properly, will eliminate a large portion of the interference. Never attach any condenser to the low voltage lead running from the coil to the distributor.

CAR BODY INTERFERENCE

While this type of interference is less frequent, it is by far the most baffling to locate and effect a cure. If the car has been in service for considerable time, it is advisable to go over the entire car, tightening all body bolts and screws which make contact with the metal parts of the car. One loose bolt, by making interrupted contact, may cause a noise which makes reception totally unsatisfactory while the car is in motion.

In automobiles using rubber-floated motors, a large portion of the noise may be eliminated by bonding the motor to the frame with a very heavy piece of flexible braid. Leave a little slack in the braid to prevent breaking from vibration. When bonding these parts, make sure all points are scraped clean and a good tight joint is made. Where there is a possibility of the muffler making contact with the frame from vibration, ground the exhaust pipe to the frame at the muffler.

WHEEL STATIC

Wheel static may be determined by allowing the radio to operate while the car is coasting (ignition off) over a dry concrete street. Cars that are equipped with wood wheels seem to be the worst offenders. To eliminate this interference, springs should be installed at the wheel hubs. Some of the modern cars have these installed so that there will be no trouble from this source. The brakes may also cause a noise similar to wheel static if they drag slightly, the noise stopping completely, or getting worse as the brakes are applied. In this case a heavy bond should be installed between the brake shoe and chassis. Wheel static may be carried to the radio through light wires, horn wires or accessory leads, in which case they should be bypassed with a .1 mfd. paper condenser. In some cases, it is very necessary that the hood make good contact with the frame. Small pieces of metal should be installed at the moulding which goes around the edge of the hood. In extreme cases of noise, radio frequency chokes such as the Mallory RF581, RF582, or RF583, may be necessary in addition to the condensers used.

INTERFERENCE FROM APPLIANCES

Cigar lighters, windshield defrosters, heater fans, etc., cause or may carry interference from an offending source to the radio. An ammeter condenser should be installed between one of the terminals and the chassis. Be sure to scrape all paint away from the chassis where the condenser is grounded. Ammeter type condensers will be satisfactory for any of these appliances when installed close to the source of interference. When using these by-pass condensers, make the leads as short as possible. Electric oil and temperature gauges may cause noise, in which case by-pass condensers should be installed at the controlling mechanism. This remedy also applies to electric gas gauges. Spark intensifiers should not be used.

DOME LIGHTS

In older cars the dome light is usually the greatest source of antenna pick-up interference. First check the dome light by disconnecting the dome light connection back of dash and grounding the wire. This should eliminate the interference. If so, install a Mallory dome light filter type DL415, as directed in the instruction sheet enclosed with each unit. Be sure this is installed as far up into the corner post of the automobile as possible. Make all grounds secure.

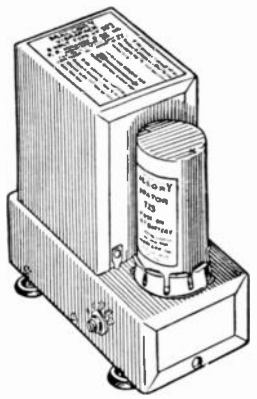
LOOSE CONNECTIONS

Loose connections are a frequent cause of interference. Be sure light bulbs are tight in their sockets, that all battery cable connections are tight and well grounded, that secondary leads at distributor and spark coil leads are making good tight contact.

PASSENGER BODY PICK-UP

In some older cars a person's body acts as a carrier of noise from the floor boards to the roof antenna. When this happens, shield the floor boards of the front seat by covering them with a copper screen and grounding it at several places to the frame.

Vibrator Power Supply Units



"Vibrapack," a copyright Mallory trade name identifies a group of Vibrator Power Supply units, designed for universal application with radio receivers, transmitters, automobile P.A. systems, as well as for other uses.

There are eight types:

Catalog Number	Nominal Operat. Voltage	Nominal Output Voltage	Max. Output Current	Type
VP-551	6.3	125-150-175-200	100 ma.	Self-Rect.
VP-552	6.3	225-250-275-300	100 ma.	Self-Rect.
VP-553	6.3	125-150-175-200	100 ma.	Tube Rect.
VP-554	6.3	225-250-275-300	100 ma.	Tube Rect.
VP-555*	6.3	300	200 ma.	Tube Rect.
VP-557*	6.3	400	150 ma.	Tube Rect.
VP-G556	12.6	225-250-275-300	100 ma.	Self-Rect.
VP-F558	32.	225-250-275-300	100 ma.	Tube-Rect.

*Special Dual Packs for high output.

Output voltages indicated are nominal. Actual average output voltages at various loads will be found in the graphs, Figure 15, when operated at rated terminal voltage.

Tube rectifier types permit "B—" to be isolated from ground if desired.

Vibrapacks are supplied complete with special Mallory vibrator. Rectifier tubes are included in the interrupter types.

Vibrapacks are equipped with complete, built-in noise suppression equipment. Type VP-555 also includes an efficient low-frequency hum filter. Type VP-557 incorporates the first input filter condenser only. Other Vibrapacks do not include the high voltage hum filter. High voltage filter requirements are similar to equivalent AC power packs. The design will depend on the application.

Complete technical data regarding the design, operating characteristics, and recommended application of the Vibrapacks is available in the new Vibrapack folder, Form E555B. See your distributor or write direct to P. R. Mallory & Co., Inc. Indianapolis, Indiana, if you desire a copy of this folder.

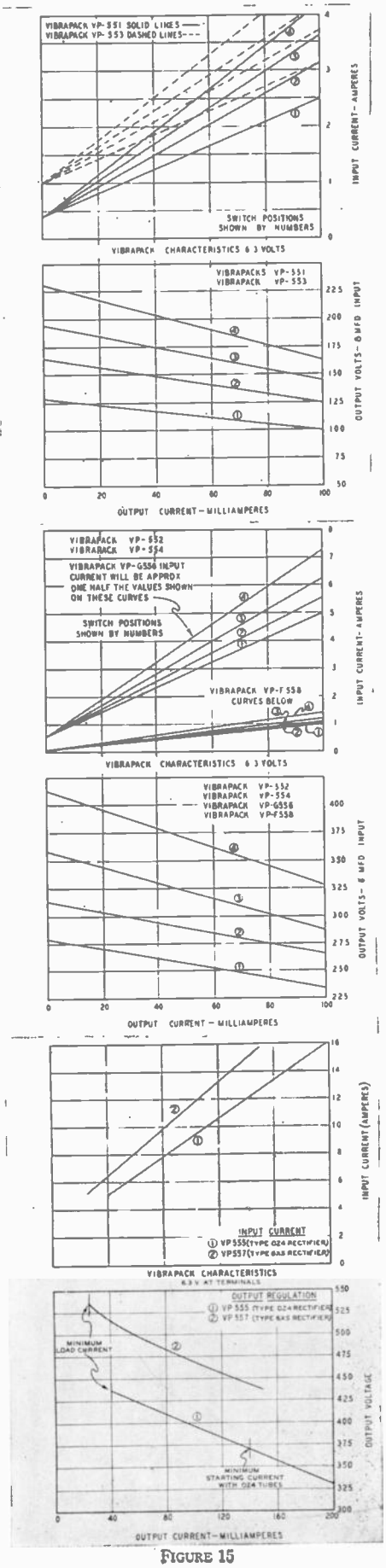


FIGURE 15

"C" NOTES

C1—Use Mallory Replacement Vibrator Type 312T in early models and Type 292 in late models of this receiver. See Note C3.

C2—Use Mallory Replacement Vibrator Type F312 in early models and Type F221 in late models of this receiver. See Note C3.

C3—When unusual vibrator troubles are experienced a thorough check should be made of all of the power pack parts and the circuit. It is especially important that the secondary buffer condenser, connected across the secondary of the transformer be in good operating condition and within plus or minus 10% of the specified capacity. **Be Sure to Check Buffer Condenser.** In some instances this condenser may be two condensers with the common lead grounded. In certain sets resistors have been used in series with these condensers. If the replacement of a buffer condenser is necessary use the Mallory Oil Filled, high voltage condenser, Type "OT" or "VB" as required. NEVER SUBSTITUTE A DIFFERENT VALUE—USE ONLY THE SPECIFIED CAPACITY. The wrong buffer capacity may cause serious damage to the vibrator in a very short time. See Condenser listing for specified capacity.

C4—Use Mallory Replacement Vibrator Type 312T in early models and Type 225 in late models of this receiver. See Note C3.

C5—Use Mallory Replacement Vibrator type 210 in both the "Standard" and the "Master" models.

C6—These sets use an interrupter type (tube type) vibrator; however the size and method of connection are unknown. **For an emergency selection of a replacement vibrator** refer to the Vibrator Connection Charts, pages 262 and 263. Select an interrupter type vibrator which is approximately the same size and has identically the same connection arrangement as the original. For plug-in vibrators the pin-base must have the same arrangement and connections. For lead type vibrator the reed lead is red and the interrupter contact leads (two) will be yellow. Any Mallory-Yaxley Distributor will gladly assist in making this selection. **If an authentic replacement is desired, have your distributor send the original vibrator, together with the name and model of the receiver to the Mallory Factory. The proper Mallory replacement vibrator will be promptly supplied. See Note C3.**

C7—No information available on this vibrator circuit. See Notes C6 or C8.

C8—These sets use a synchronous (self-rectifying) type vibrator; however, the size and method of connection are unknown. **For the emergency selection of a replacement vibrator refer to the Vibrator Connection Charts, pages 262 and 263.** Select a synchronous type vibrator which is approximately the same size and has identically the same connection arrangement as the original. If the original vibrator has condensers connected from the rectifier springs to the reed BE SURE the selected replacement vibrator also has condensers. For plug-in type vibrators the pin-base must have the same arrangement and connections. For lead type vibrators refer to the Vibrator Connection Charts, pages 262, 263, for the color of leads and connections. Any Mallory-Yaxley distributor will gladly assist in making this selection. **If an authentic replacement is desired, have the distributor send the original vibrator, together with the name and model of the receiver, to the Mallory Factory. The proper Mallory Replacement Vibrator will be promptly supplied.** See Note C3.

C9—See Note C6. Two Types of Power Packs are used; one with 25Z5 and the other an 84. Suggest Type F221, F294, F297. See Note C3.

C10—Use Mallory Replacement Vibrator Type F221. See Note C3.

C11—Early type with vibrator mounted on the power transformer uses an F220C, late or plug-in type uses an F294.

C12—The first series of this receiver used a carbon point vibrator for which there is NO replacement. Obtain a new transformer (latest type for this set) from the manufacturer. (Wells-Gardner Co., Chicago, Ill.) After the new transformer has been installed use the Mallory Replacement Vibrator Type 292. A small amount of "hash," which cannot be eliminated, will be experienced with this receiver. See Note C3.

C13—This Mallory Replacement Vibrator used in early models. See Note C3.

C14—This Mallory Replacement Vibrator used in late models. See Note C3.

C15—Use Mallory Cup Adapter with Mallory Replacement Vibrator Type 273. See Note C3.

C16—12 Volt Receiver. See Note C3.

C17—Use Mallory Replacement Vibrator Type 285XS for 1935 models. See Note C3.

C18—Use Mallory Replacement Vibrator Type 245 for early 1936 models. See Note C3.

C19—Use Mallory Replacement Vibrator Type 245A for late 1936 models. See Note C3.

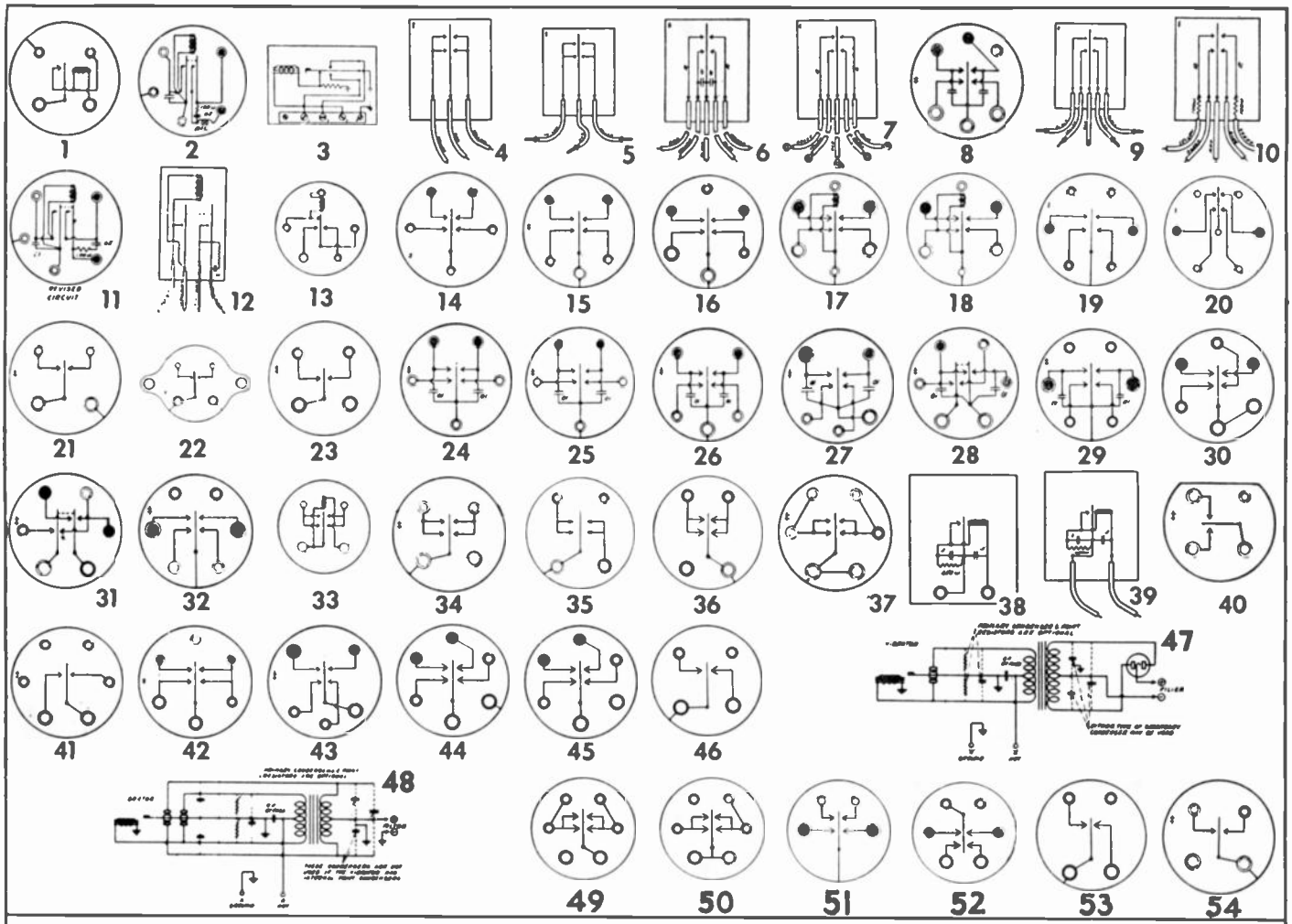
C20—Use Mallory Replacement Vibrator Type 296 for six prong socket and Type 294 for four prong socket. See Note C3.

C22—A few early models of this receiver used Mallory Vibrator Type 75X as original equipment. Use the Mallory Replacement Vibrator Type 275XS in these early models. Use the Mallory Replacement Vibrator Type 285XS in all later models. See Note C3.

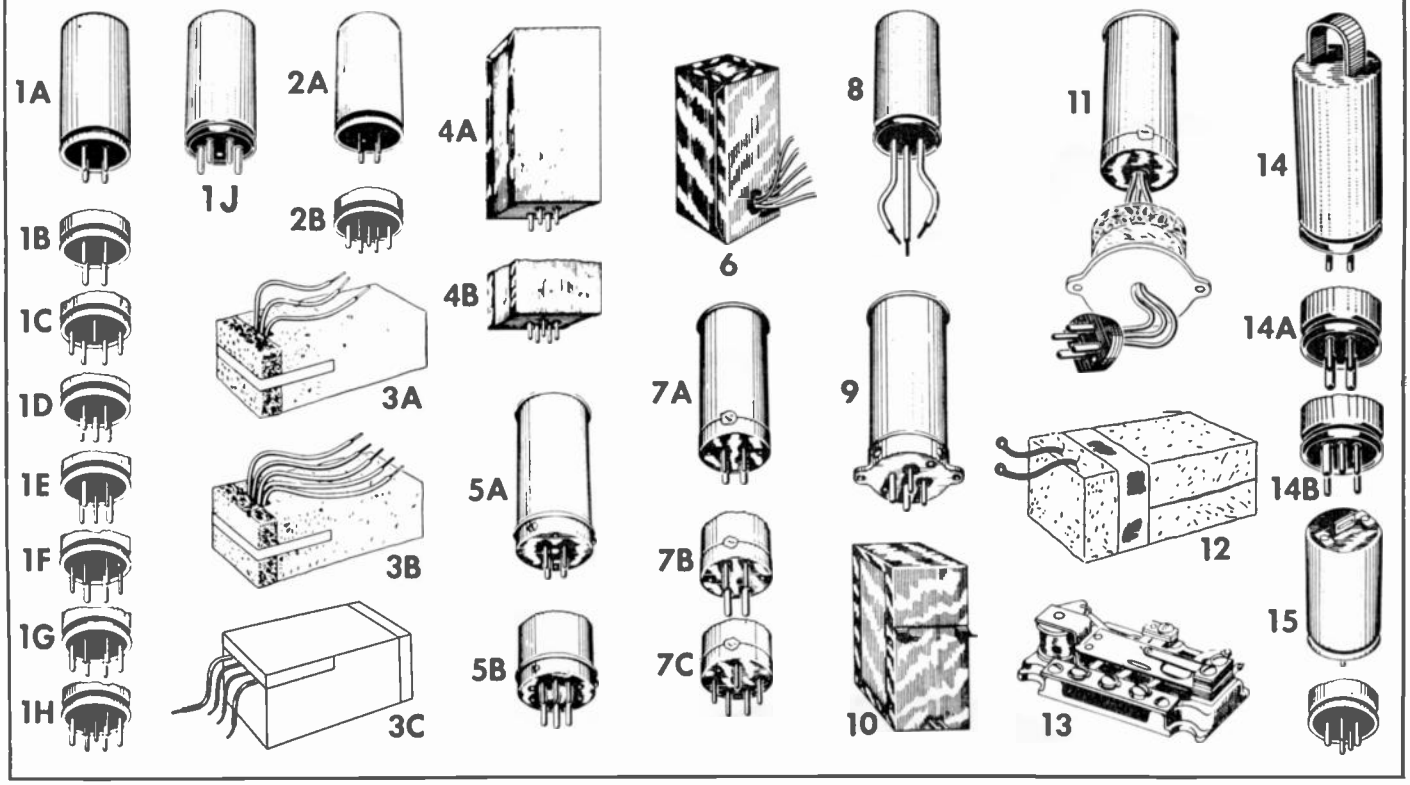
C23—Some production on this model used a plug-in type vibrator instead of the lead type. Select the proper Mallory Replacement Vibrator as outlined in C6. See Note C3.

C24—Change the buffer capacity to .015 mfd. for use with the recommended replacement vibrator.

BASE DIAGRAMS



EXTERNAL VIEWS—Prong and Lead Arrangement



MALLORY REPLACEMENT VIBRATOR SPECIFICATIONS

Int.—Interrupter Syn.—Synchronous

Type No.	Volt.	Type	Base Dia.	Can Type	Size
201	6	Int.	1	4A	2 11/16 x 2 7/8 x 5 5/8
202 (See 201)					
203 (See 201)					
204 (See 201)					
F204	32	Int.	1	4A	2 11/16 x 2 7/8 x 5 5/8
205	6	Int.	1	4A	2 11/16 x 2 7/8 x 5 5/8
206 (See 205)					
F206 (See F204)					
210	6	Syn.	2	4B	2 7/16 x 2 1/4 x 5 5/16
211 (See 210)					
F211	32	Syn.	2	4B	2 7/16 x 2 1/4 x 5 5/16
212 (See 210)					
213 (See 210)					
214 (See 210)					
219 (See 210)					
220B	6	Int.	3	13	3 9/16 x 2 x 1
F220C	32	Int.	3	13	3 9/16 x 2 x 1
221	6	Int.	4	3A	4 1/2 x 1 9/16 x 1 9/16
F221	32	Int.	5	3A	4 1/2 x 1 9/16 x 1 9/16
222	6	Syn.	6	3B	4 7/8 x 1 7/8 x 1 13/16
223	6	Syn.	7	6	4 7/8 x 1 3/4 x 1 13/16
F223	32	Syn.	7	6	4 7/8 x 1 3/4 x 1 13/16
224	6	Syn.	8	5B	2 3/8 dia. x 4 3/4
225	6	Syn.	9	6	4 7/8 x 1 3/4 x 1 13/16
226	6	Syn.	10	3B	4 1/2 x 1 9/16 x 1 9/16
230	6	Syn.	11	4B	2 7/16 x 2 1/4 x 5 5/16
231	6	Syn.	12	3C	2 5/16 x 2 1/8 x 5 5/16
234	6	Syn	12	3C	2 5/16 x 2 1/8 x 5 5/16
235	6	Syn	12	3C	2 5/16 x 2 1/8 x 5 5/16
236 (See 210)					
237 (See 210)					
H240	110	Int.	13	7C	2 3/8 dia. x 4 3/4
245	6	Syn.	14	1C	1 1/2 dia. x 3 1/4
245A	6	Syn.	14	1C	1 15/16 dia. x 3 1/2
F245	32	Syn.	14	1C	1 1/2 dia. x 3 1/4
245C	6	Syn.	15	1D	1 1/2 dia.x 3 1/4
W245	4	Syn.	14	1C	1 1/2 dia. x 3 1/4
W245A	4	Syn.	14	1C	1 15/16 dia. x 3 1/2
246	6	Syn.	16	1F	1 1/2 dia. x 3 1/4
246P	6	Syn.	16	1F	1 1/2 dia. x 3 1/4
W246	4	Syn.	16	1F	1 1/2 dia. x 3 1/4
247	6	Syn.	17	1G	1 1/2 dia. x 3 1/4
F247	32	Syn.	18	1G	1 1/2 dia. x 3 1/4
248	6	Syn.	19	1G	1 1/2 dia. x 3 1/4
249	6	Syn.	20	1H	1 1/2 dia. x 3 1/4
F251	32	Int.	21	1B	2 dia. x 4 1/2
253	6	Int.	21	1B	2 dia. x 4 1/2
253T	6	Int.	22	9	2 dia. x 4 1/2
253Y	6	Int.	23	2A	1 3/4 dia. x 4 1/4
F253 (See F251)					
G253	12	Int.	21	5A	2 dia. x 4 1/2
270B	6	Syn.	24	1C	2 dia. x 4 1/2
271	6	Syn.	25	1C	2 dia. x 4 1/2
271HD	6	Syn.	25	7C	2 dia. x 4 1/2
273 (See 271)					
273C	6	Syn.	26	1D	2 dia. x 4 1/2
273D	6	Syn.	27	1E	2 dia. x 4 1/2
275 (See 271)					
275XS	6	Syn.	28	1F	2 dia. x 4 1/2
277S	6	Syn.	29	1G	2 dia. x 4 1/2
281 (See 245A)					
285 (See 245A)					
285XS	6	Syn.	31	1F	2 dia. x 4 1/2
P285Y	6	Syn.	30	1F	1 3/4 dia. x 4 1/4
W285 (See W245A)					
286S	6	Syn.	32	1G	2 dia. x 4 1/2
G286S	12	Syn.	32	1G	2 dia. x 4 1/2
287M (See 286S)					
G287M (See G286S)					
289Y	6	Syn.	20	2B	1 3/4 dia. x 4 1/4
F290	32	Int.	33	1B	1 1/2 dia. x 3 1/4
292	6	Int.	4	3A	1 1/2 x 1 3/8 x 2 7/16
F292 (See F221)					
294	6	Int.	34	1B	1 1/2 dia. x 3 1/4
294C	6	Int.	35	7B	1 5/8 dia. x 3 5/8
294SW	6	Int.	36	1A	1 1/2 dia. x 3 1/4
F294	32	Int.	34	1B	1 1/2 dia. x 3 1/4
296	6	Int.	37	1F	1 1/2 dia. x 3 1/4
297	6	Int.	49	1F	1 1/2 dia. x 3 1/4
F297	32	Int.	37	1F	1 1/2 dia. x 3 1/4
299	6	Int.	50	1F	1 1/2 dia. x 3 1/4
302S	6	Int.	38	10	2 15/16 x 2 13/16 x 6 5/16
303S (See 302S)					
311S	6	Int.	39	12	2 3/4 x 2 5/8 x 6 1/8
312T (See 302S)					
F312	32	Int.	38	10	2 15/16 x 2 13/16 x 6 5/16
500P	6	Int.	34	7A	2 3/8 dia. x 4 3/4
501P	6	Int.	34	7A	1 5/8 dia. x 3 1/2
F502P	32	Int.	40	11	1 5/8 dia. x 3 1/2
503	6	Int.	4	8	1 1/2 dia. x 3
504	6	Int.	41	1F	1 1/2 dia. x 3 1/4
505P	6	Int.	34	1B	1 15/16 dia.x 3 1/2
506P	6	Int.	42	1F	1 15/16 dia.x 3 1/2
507P	6	Int.	34	7A	1 5/8 dia. x 4 3/4
508P	6	Int.	46	1B	1 1/2 dia. x 3 1/4
510P	6	Int.	23	1B	1 1/2 dia. x 3 1/4
514	6	Syn.	43	15	1 15/16 dia.x 3 1/2
715 (See 514)					
716	6	Syn.	43	14B	1 15/16 dia.x 3 1/2
722A	6	Syn.	44	1F	1 15/16 dia.x 3 1/2
725	6	Syn.	20	1H	1 1/2 dia. x 3 1/4
G725	12	Syn.	20	1H	1 1/2 dia. x 3 1/4
728A	6	Syn.	45	1F	1 15/16 dia.x 3 1/2
825	6	Int.	34	1B	1 1/2 dia. x 3 1/4
F826	32	Int.	23	1A	1 1/2 dia. x 3 1/4
850	6	Int.	23	1B	1 1/2 dia. x 3 1/4
851	6	Int.	53	1B	1 1/2 dia. x 3 1/4
852	6	Int.	53	7B	1 5/8 dia. x 3 1/2
853	6	Int.	46	7B	1 5/8 dia. x 3 1/2
854	6	Int.	54	1B	1 1/2 dia. x 3 1/4
860	6	Int.	53	14A	1 1/2 dia. x 3 1/4
901M	6	Int.	34	1B	1 1/2 dia. x 3 1/4
902M	6	Int.	46	1B	1 1/2 dia. x 3 1/4
903M	6	Int.	34	1B	1 1/2 dia. x 2 29/32
951P	6	Syn.	16	1F	1 1/2 dia. x 3 1/4
952W	6	Syn.	51	1J	1 3/8 dia. x 2 7/8
953W	6	Syn.	51	1J	1 1/2 dia. x 2 7/8
954	6	Syn.	52	1F	1 1/2 dia. x 3 1/4

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