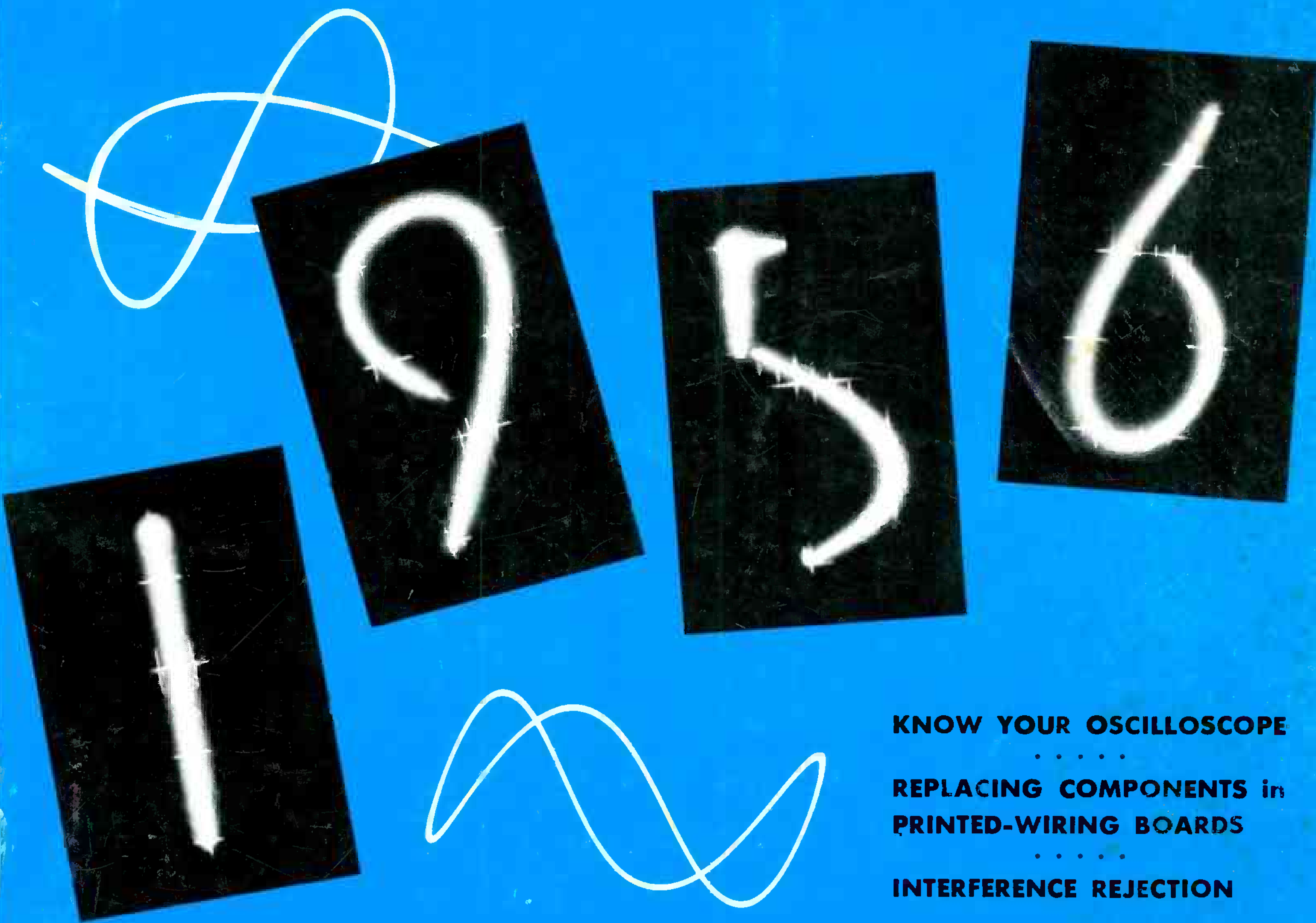
JANUARY • 1956
25 CENTS

Howard W. Sams

PF REPORTER

PHOTOFACT®

for the Electronic Service Industry



KNOW YOUR OSCILLOSCOPE

• • • • • •

REPLACING COMPONENTS in PRINTED-WIRING BOARDS

• • • • • •

INTERFERENCE REJECTION

SELECTED POPULAR VALUES

IRC

RESIST-O-CARD

$6.60 NET

NEW TYPE PW-7 WIRE WOUND POWER RESISTORS • FULL 7 WATT RATING

IRC 442 PW7 7W 25 Ω 10% — 25

IRC 442 PW7 7W 1500 Ω 10% — 1500

IRC 442 PW7 7W 2000 Ω 10%

TRY

these modern power resistors

Servicemen everywhere are finding IRC's unique approach to wire wound power resistors is ideal for today's service requirements. Try them yourself and benefit by these exclusive IRC features:

- **COMPACT, RECTANGULAR DESIGN** for easier assembly in tight circuits
- **AXIAL LEADS** for easier, faster soldering
- **CLEAR, PERMANENT MARKINGS** for full identification
- **CONSERVATIVE RATINGS** permit continuous operation at full power
- **FAMOUS IRC ELEMENT** sealed in ceramic case for complete insulation and protection
- **2 SIZES** PW-7, full seven watts and PW-10, full 10 watts
- **FULL COVERAGE OF RESISTANCE VALUES** for today's service needs

BUY

handy Resist-O-Card assortments

Your IRC Distributor has these new power resistors in 2 convenient assortments of popular values. The values are printed on each card . . . you always know what you have, and you always have what you need.

RESIST-O-CARD #19-A. 7 Watt assortment of 20 popular values—$6.60 net

RESIST-O-CARD #20-A. 10 Watt assortment of 20 popular values—$7.20 net

IRC 442 PW7 7W 1000 Ω 10% — 1000

IRC 442 PW7 7W 5000 Ω 10% — 5000

INTERNATIONAL RESISTANCE CO.

Philadelphia, Penna.

FOR 10 WATT POWER RESISTOR REQUIREMENTS SPECIFY IRC ASSORTMENT #20-A. ASSORTMENT #20-A INCLUDES 20 PW-10 RESISTORS IN SELECTED VALUES—$7.20 NET.

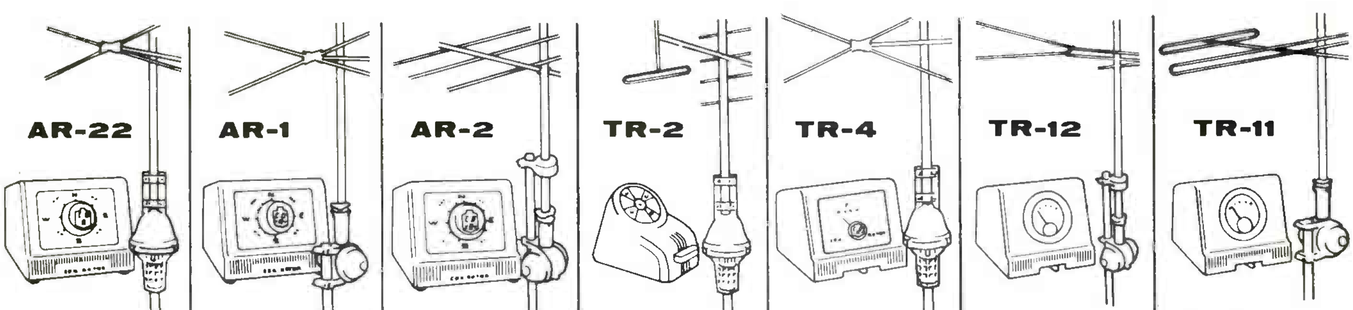
only

C·D·R Rotors

1. The Most Complete Line

The CDR Rotor line is COMPLETE to every detail, with a model for every application! A distinct selling advantage because YOU can give your customer EXACTLY what is required! The RIGHT CDR Rotor for the RIGHT job.

2. Pre-SOLD For You on TV to millions of viewers through an extensive coverage of audiences in every important TV market. Capture this pre-sold market by featuring these nationally advertised CDR ROTORS.



AR-22 Completely AUTOMATIC version of the TR-2 with all the powerful features that made it famous.

AR-1 Completely AUTOMATIC rotor, powerful and dependable. Modern design cabinet. 4 wire cable.

AR-2 Completely AUTOMATIC rotor with thrust bearing. Handsome cabinet, 4 wire cable.

TR-2 Heavy-duty rotor with plastic cabinet, "compass control" illuminated perfect pattern dial, 8 wire cable

TR-4 Heavy-duty rotor, modern cabinet with METER control dial, 4 wire cable.

TR-12 Combination value . . complete rotor with thrust bearing. Modern cabinet with meter control dial, uses 4 wire cable.

TR-11 Ideal budget all-purpose rotor, new modern cabinet featuring meter control dial, 4 wire cable.

CORNELL-DUBILIER
SOUTH PLAINFIELD, N. J.

THE RADIART CORP.
CLEVELAND 13, OHIO

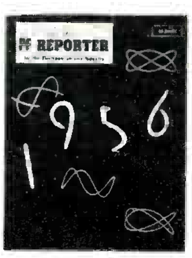
VOL. 6 · No. 1

Howard W. Sams

PF REPORTER

for the Electronic Service Industry

JANUARY · 1956



ABOUT THE COVER

A brief description of the method used to obtain the numerals and waveforms appearing on the cover is given on Page 57. Oscilloscope patterns by Paul C. Smith; Cover design by Glenn R. Smith.

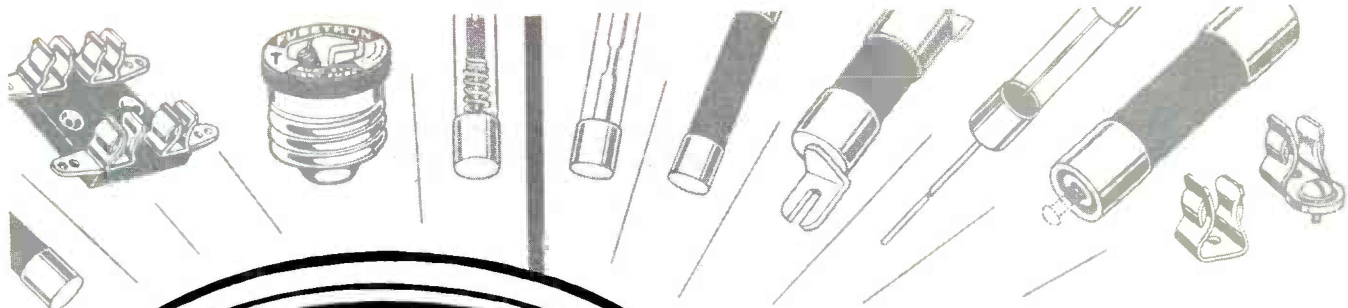
CONTENTS

PUBLICATION INFORMATION

Published monthly by Howard W. Sams & Co., Inc., at Indianapolis, Indiana.

Entered as second class matter October 11, 1954, at the Post Office at Indianapolis, Indiana, under the Act of March 3, 1879.

SUBSCRIPTION DATA: One year, $3.00, Two years, $5.00, Three years, $7.00, in the Continental United States, Hawaii, Alaska, Puerto Rico, and the Virgin Islands. Canada: One year, $3.60, Two years, $6.20, Three years, $8.80.



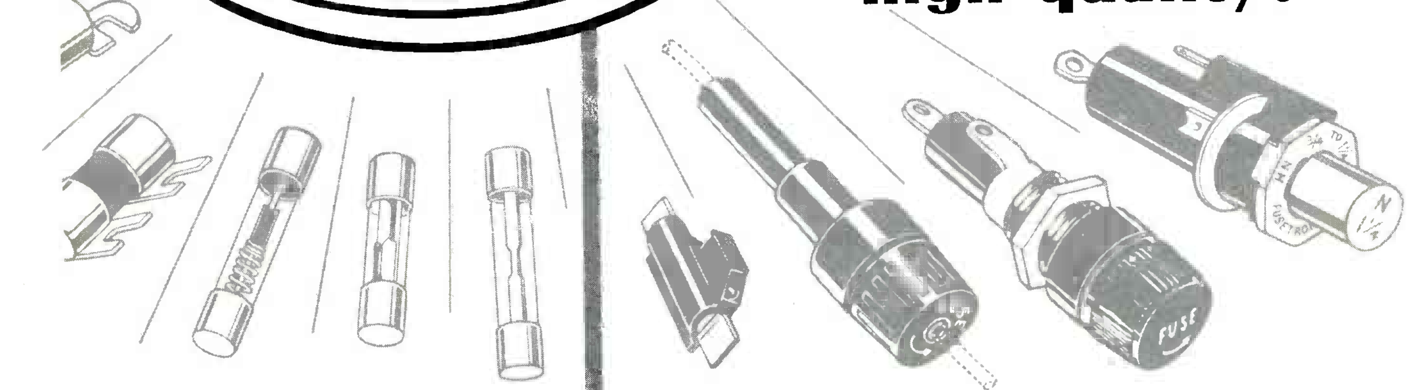
TRADE

BUSS FUSES

ELECTRICITY'S SAFETY VALVE

MARK

. . a source you can trust for fuses of unquestioned high quality!



The BUSS trademark has appeared on millions upon millions of fuses used in homes, farms, and in industries, as well as electronic equipment over the past 41 years. It is a trademark known and recognized by manufacturers, service organizations and customers as standing for the highest quality in fuses.

To make sure the BUSS reputation for dependable electrical protection is maintained — every BUSS fuse, normally used by the Electronic Industries, is tested in a sensitive electronic device. Any fuse not correctly calibrated, properly constructed and right in all physical dimensions is automatically rejected.

This careful testing results in fuses that will open and prevent damage to equipment when there is trouble on the circuit . . . . and just as important, BUSS fuses won't blow when trouble doesn't exist. Users are not annoyed with useless shutdowns caused by needless blows.

So rely on BUSS for all your fuse needs. You will be protecting your goodwill, reputation and profits against troubles and complaints often caused by use of poor quality fuses.

For more information on BUSS and FUSETRON small dimension fuses and fuseholders . . . Write for bulletin SFB.

Makers of a complete line of fuses for home, farm, commercial, electronic and industrial use.

BUSSMANN MFG. CO. (Div. of McGraw Electric Co.)

University at Jefferson, St. Louis 7, Mo.

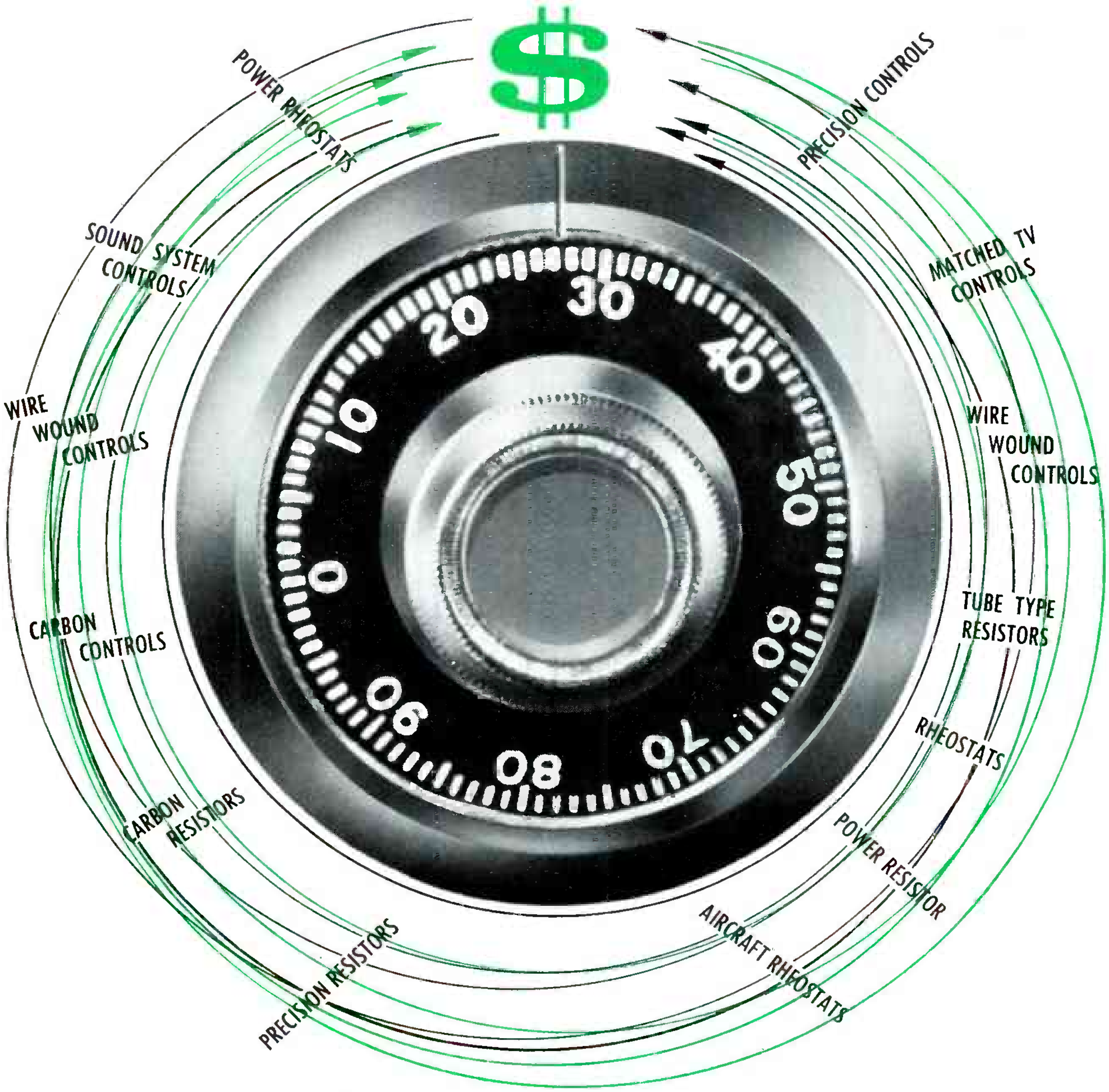
FUSETRON

TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION

BUSS

156

want the combination to **greater profits?**



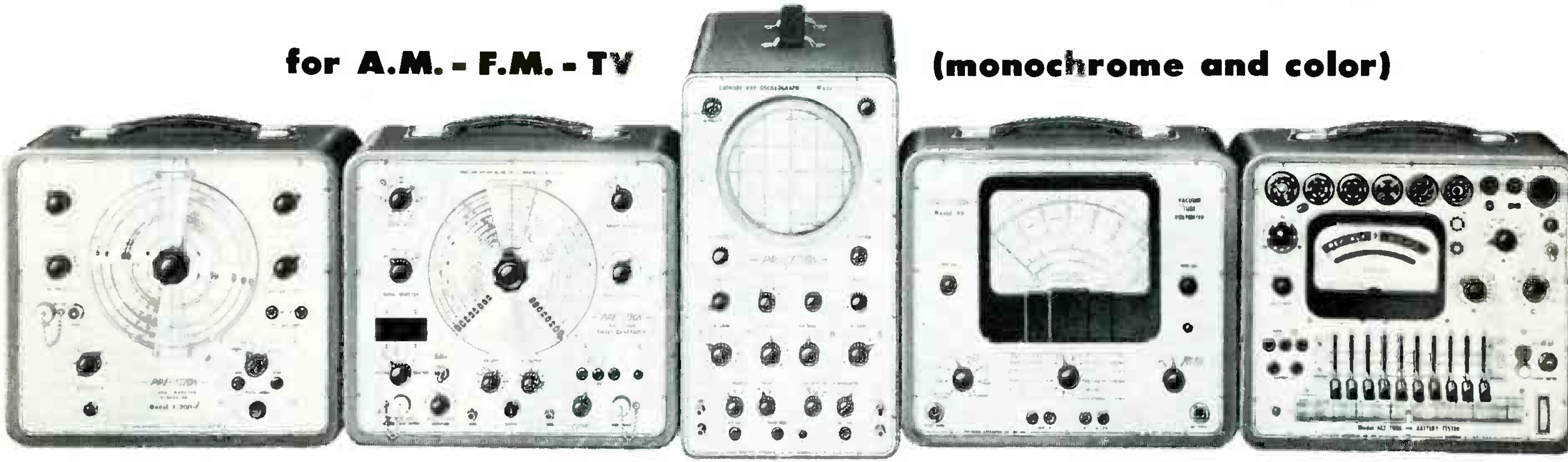
CONTROLS CLAROSTAT® **RESISTORS**

Clarostat Mfg. Co., Inc., Dover, New Hampshire.

In Canada: Canadian Marconi, Toronto 4, Ont.

BUILD YOUR FUTURE ON A FIRM FOUNDATION with Matched *PRECISION* Test Equipment

for A.M. - F.M. - TV **(monochrome and color)**



MODEL E-200-C
SIGNAL-MARKER GENERATOR
Direct Reading to 240 MC.
for AM-FM., and TV Alignment
Deluxe Model ....Net Price $87.50
Standard Model ......Net Price $82.50

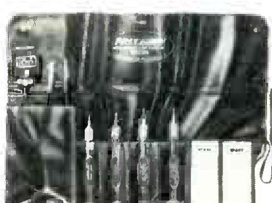
MODEL E-400
SWEEP SIGNAL GENERATOR
Narrow and Wide Band Sweep
Direct Frequency Reading to 900MC
Deluxe Model ......Net Price $150.00
Standard Model ....Net Price $145.00

MODEL ES-550
5" OSCILLOSCOPE
5MC Bandwidth
10MV per inch Sensitivity
Deluxe Model..Net Price $215.00
Standard.........Net Price $210.00

MODEL 98-MCP
VTVM and ELECTRONIC OHMMETER
7" Full View Meter
P-P Voltage Ranges to 3200 Volts
Deluxe Model ......Net Price $109.50
Standard Model ....Net Price $104.50

MODEL 612-MCP
CATHODE CONDUCTANCE TUBE TESTER
and
Dynamic A-B-C Battery Tester
Deluxe Model ....Net Price $86.75
Standard Model ......Net Price $81.75

MODEL SP-5 — OSCILLOSCOPE TEST PROBE SET



for TV Signal Tracing, Alignment, Trouble-Shooting and Waveform Analysis.

For use with all *PRECISION* Oscilloscopes, ES-500, ES-500A, ES-520 and ES-550. In vinyl carrying case with four different, detachable probe heads, universal coaxial cable and operating instructions. .... Net Price: $23.50

PACE
THE METER OF PRECISION

***PRECISION* Apparatus Company, Inc.**
70-31 84th Street, Glendale 27, L. I., N. Y.
Export Division: 458 Broadway, New York 13, U.S.A.
In Canada: Atlas Radio Corp., Ltd., 50 Wingold Ave., Toronto 10

***PRECISION* Test Equipment is available and on display at leading electronic parts distributors.**
Write Directly to Factory for New 1955 Catalog.

MODEL TV-8 — HIGH VOLTAGE SAFETY TEST PROBE

***PRECISION*-engineered to solve the high voltage test problem with utmost safety to operator and equipment.**

Incorporates custom-molded high voltage head and barrier plus internal and external flash shield.

Extends range of Model 98 (above) to 60 KV D.C. Also available for use with other *PRECISION* VTVM's and 20,000 ohms per volt test sets. .... Net Price $14.75

Shop Talk

MILTON S. KIVER

President, Television Communications Institute

Without doubt, the "hottest" item in the electronics industry today is the transistor. It is probably being subjected to more investigation in the various research laboratories than any other single electronic component. The numbers of production applications are impressive, too, with each year showing a remarkable percentage increase over the year before. Since the transistor is a component which is rightly the concern of the service industry, it might not be amiss to survey the field to see where we stand at present along the scale of transistor development.

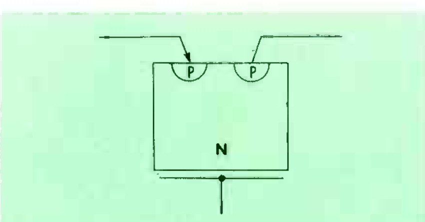


Fig. 1. A Point-Contact Transistor.

At the outset, when the transistor was still largely in the hands of its conceivers at the Bell Telephone Laboratories, Inc., almost all of the developmental work was being done with point-contact transistors. In this form, shown in Fig. 1, two phosphor-bronze wires are mounted side by side on a minute rectangular germanium wafer. Separation between the wires is only about .002 in., and the wafer itself is only .02 in. thick and .05 in. square. One wire forms the emitter of the transistor, and the other wire serves as the collector. A third electrode, the base, is a metal contact plate which is deposited on the underside of the germanium wafer.

Not long after the discovery of the point-contact transistor, the junction transistor was developed. See Fig. 2. Although these two devices possess a number of features in common, they do differ enough to exhibit separate characteristics. Perhaps the outstanding point of departure is the fact that the current gain (designated by the symbol α) is greater than unity in point-contact transistors and less than unity in junction transistors. In spite of this, junction transistors provide higher voltage and power gains because of their extremely high collector resistances; that is, the ratio between output and input resistance in a junction transistor is so much greater than the corresponding ratio in a point-contact transistor that it more than makes up for the gain of less than unity.

Junction transistors also excel in their power-handling capabilities which are tied in with the ability of the collector electrode (from which the output power is taken) to dissipate safely the heat generated by the passage of current. The contact faces between each section of a junction transistor are comparatively large and offer considerable area for the current to pass through. In a point-contact transistor, the contact area between the collector and its cat whisker is only about 0.5 mil in diameter and the funneling of current through a path this narrow causes the heat to rise rapidly. When the collector section becomes too hot, its internal resistance decreases and the average bias current in the collector increases. As a result, more heat is produced. Eventually, the action may be cumulative to the extent that it leads to the destruction of the transistor. Another contributing factor to the low power rating of the point-contact transistor is the restricted channel through which the current flows in traveling between emitter and collector inside the transistor.

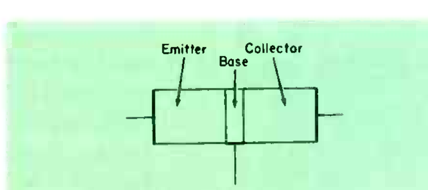


Fig. 2. A Junction Transistor.

Junction transistors also possess a decided advantage in the matter of noise. Typical noise figures for these units range between 10 and 30 decibels, with most values falling near 20 decibels. The usual noise figure of point-contact transistors is two to three times higher than that of junction transistors. It should be noted that the noise figures of both types are decreasing steadily and that more and more junction transistors with noise figures near 10 decibels are appearing commercially. By comparison, the noise figure of a 6AG5 pentode (at a frequency of 1,000 cycles) is only 3 decibels.

Because of the advantages which junction transistors possess over point-contact transistors, more than 90 per cent of the present number of commercial applications involve the junction transistor. This, then, is the type that the service technician is most likely to encounter.

In the development of suitable junction transistors, two problems have received the greatest attention. These are power-handling capability and frequency response. Let us see what progress has been made with each. (It might be desirable, at this point, for the reader to reread the three transistor articles that appeared in the September-October 1953 issue and in the February and March 1954 issues of the PF INDEX.)

Frequency Response

The frequency response of a junction transistor is governed by a number of factors. One of these factors is the time required for a signal to travel from emitter to collector. This time depends upon the

* * Please turn to page 58 * *

Replacing Components in Printed-Wiring Boards

by Calvin C. Young, Jr.

The following pictorial article is intended to illustrate a procedure which may be employed in the replacement of small components in a printed- or plated-wiring board. A somewhat different procedure is recommended for some of the larger components and will be covered in a later issue.

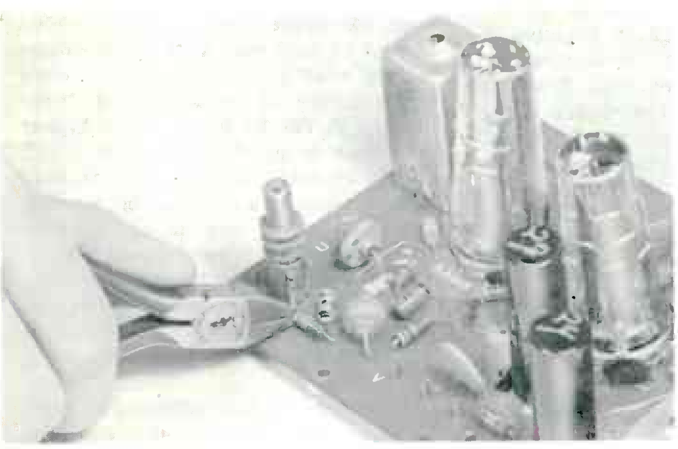
The construction of a printed-wiring board is such that excessive heat can cause the strips to become separated from the board and can make it necessary to replace the entire board.

There is available a 60/40 solder which is composed of 60 per cent tin and 40 per cent lead. This solder has a melting point of only 370 degrees Fahrenheit and should be used for all work with printed-wiring boards.

Dirt and moisture on a printed-wiring board may cause leakage or shorts between the wiring strips. For this reason, always clean the wiring side of a board when servicing it.

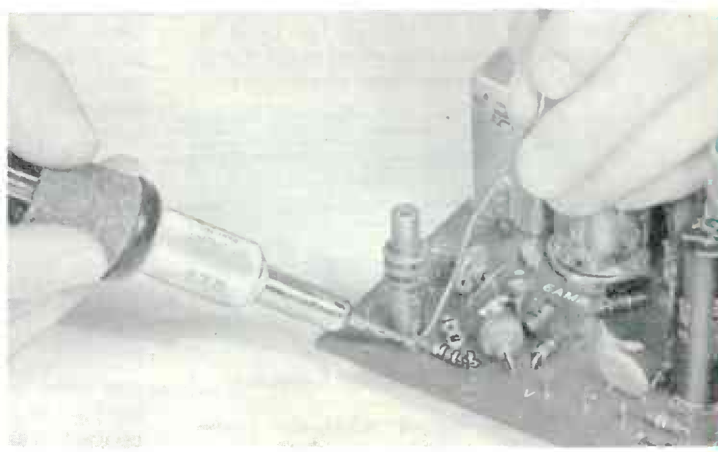
1. Tools and Equipment

These are the tools and equipment which should be at hand when replacing components on printed-wiring boards. (*Upper row from left to right*) 37½-watt pencil type of soldering iron, 60/40 solder, plastic spray, solvent, and rag. (*Lower row from left to right*) ¼-inch nut driver, solder pick, small wire brush, knife, diagonal cutters, long-nosed pliers, and slip-joint pliers.



2. Removing a Resistor

The removal of components, such as resistors that have a portion of lead wire exposed between the wiring board and the component body, may be accomplished by clipping the leads next to the body. This leaves small wire terminals to which the new component may be soldered.



3. Installing a New Resistor

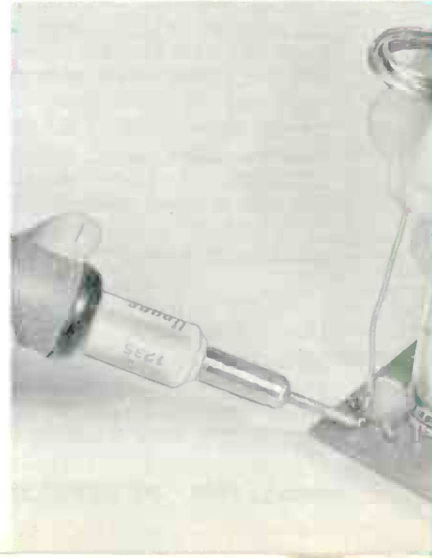
Wrap one turn of each lead wire of the new resistor around each terminal which is left after removal of the old resistor, and then solder as shown.

4. Removing a Disc Capacitor

The removal of components, such as disc capacitors that may not have any lead wires exposed between the component body and the wiring board, can be accomplished by breaking the component body away from the lead wires with a pair of pliers.

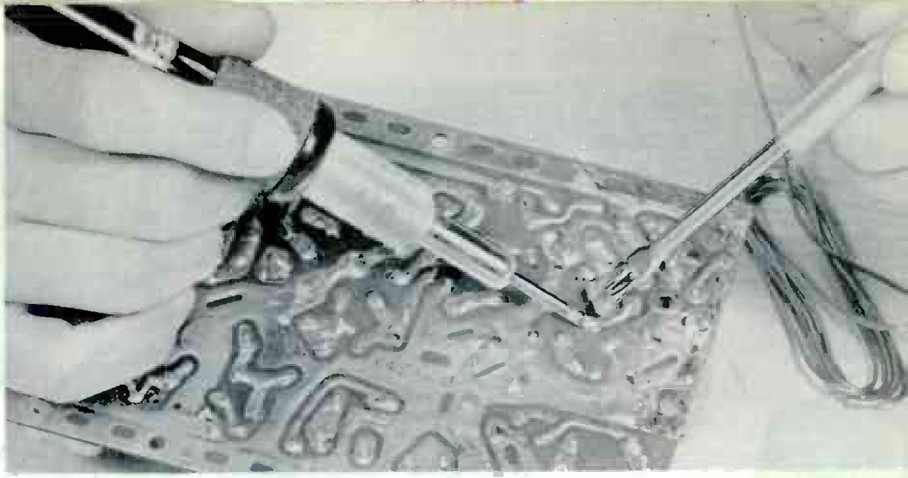
5. Installing a New Disc Capacitor

Twist together each lead wire of the new component with a lead wire that is left after removal of the old component. The new part should be pulled as tightly to the board as possible without damage to the component or board. Solder each connection, and clip away the excess wire with diagonal cutters.



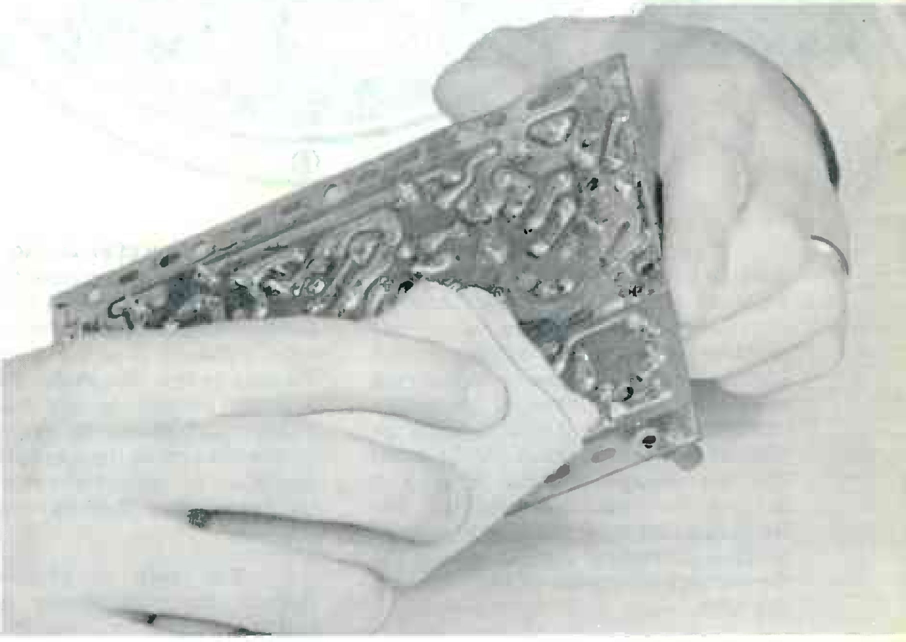
6. Brush Solder from Bent Terminals

In the removal of components with several terminals or lugs which have been passed through the board and bent, it is necessary to heat each terminal and brush the excess solder away with a small wire brush.



7. Using a Knife

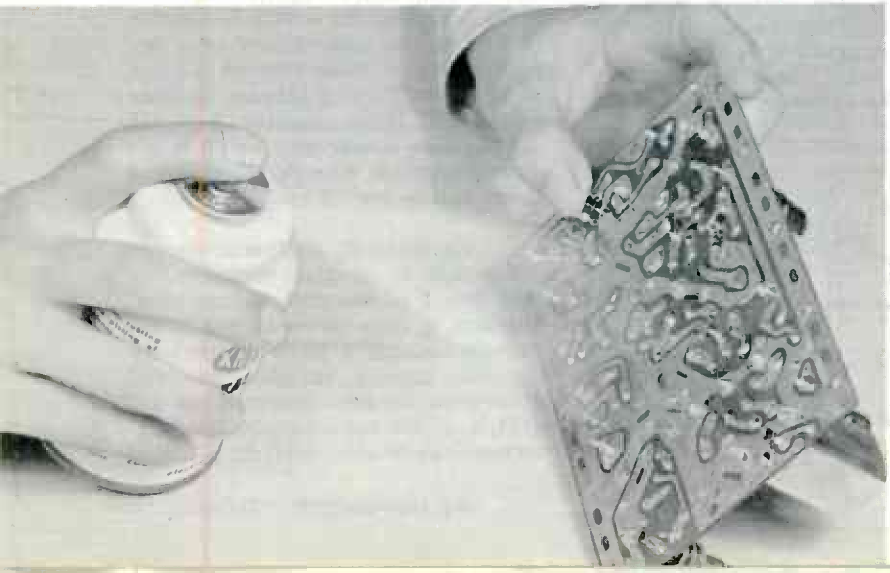
After the excess solder has been brushed away from the bent terminal, the terminal may be disconnected from the wiring foil by slipping a thin-bladed knife between the terminal and the wiring foil at the same time that the terminal is being heated with the soldering iron. This terminal may then be straightened with the long-nosed pliers so that the unit can be removed. CAUTION: Apply heat for as short a time as necessary to the terminal and not to the foil.



8. Cleaning With Solvent

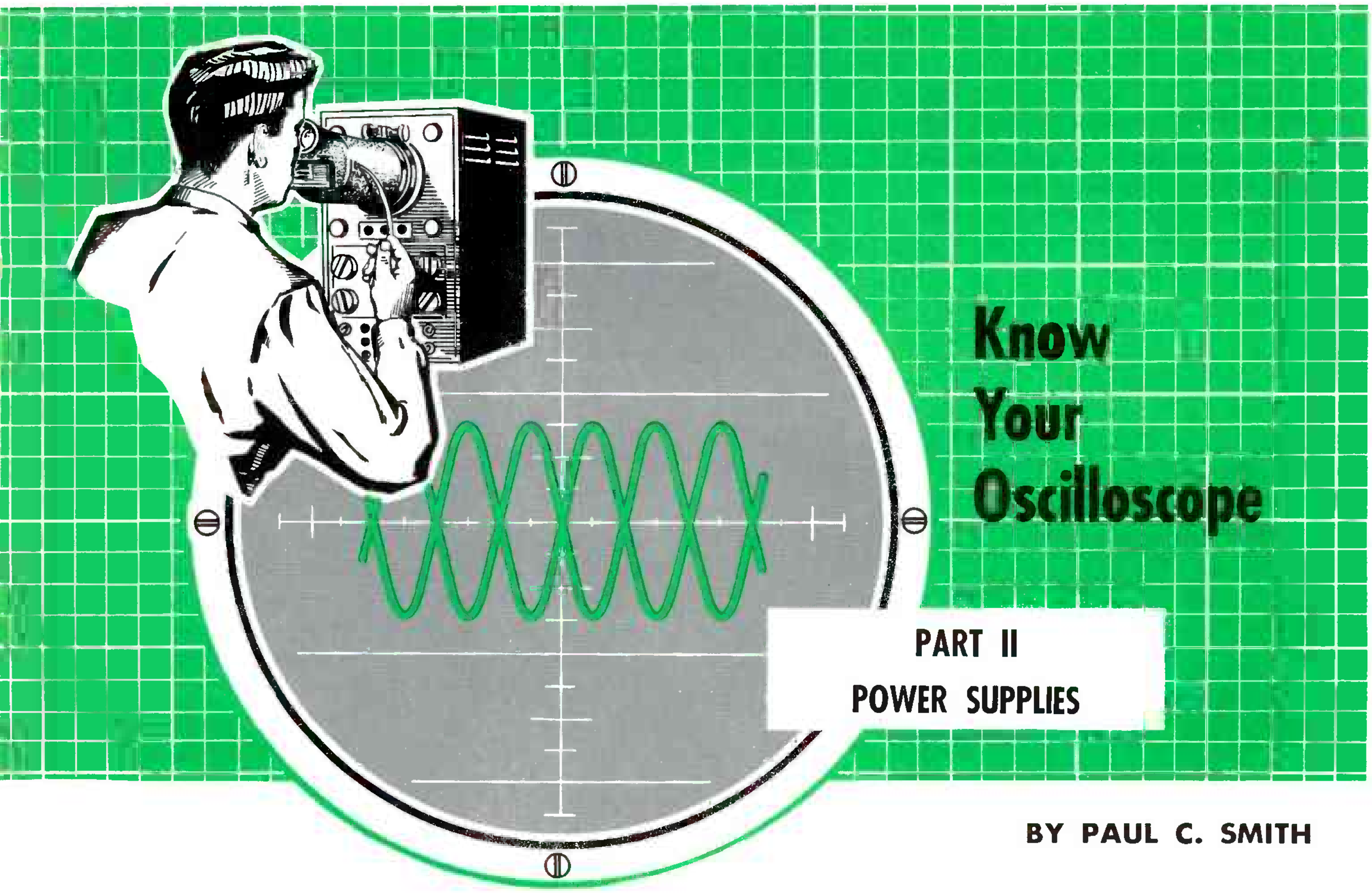
If any soldering work is required on the foil side of the wiring board, the area that has been worked on should be cleaned with solvent after the repair work is completed. Denatured alcohol is usually satisfactory for this purpose.

Photographs: Robert W. Reed



9. Spraying the Printed Board

After the board has been cleaned and inspected, the area that had been worked on should be covered with a protective coating of the type specified by the manufacturer. The purpose of the coating is to prevent dirt or moisture from causing shorts or leakage between the foil strips. Be sure that the spray does not coat tube-socket contacts nor other surfaces that are used to make electrical contact.



Know Your Oscilloscope

PART II
POWER SUPPLIES

BY PAUL C. SMITH

The power requirements of a modern oscilloscope are usually met with a power supply which can be considered to be made up of two sections — one of low voltage (about 300 volts DC) and medium current capabilities, the other of comparatively high voltage (1,000 volts DC or higher) and low current capabilities. The low-voltage section is used to operate the amplifiers and the deflection generator. The high-voltage section furnishes the potentials for the various elements of the cathode-ray tube.

The power supply may also be called upon to deliver signals for certain types of synchronization, for retrace blanking, and for calibration purposes. In order to gain a better picture of some of the demands made upon the power supply, let us first discuss certain aspects of the operation of the cathode-ray tube.

Electron Path Through a Cathode-Ray Tube

Fig. 1 shows a representation of a 5UP1 cathode-ray tube as it commonly appears in the schematic diagrams of oscilloscope instruction books. The order indicated for the elements, starting from the base of the tube, is the same in the diagram as for the actual tube, with the possible exception of anode No. 2. Anode No. 2 is shown connected internally to grid No. 2 and is also connected to the coated interior of the bulb of the tube, although it is not shown in that manner in the diagram. The coating extends almost to the face of the screen and serves to accelerate the electron beam on its way to the screen and also to collect the electrons of the beam after they have struck the screen.

The path of the electrons through the cathode-ray tube is as follows. The electrons are emitted from the heated cathode and, being negative, are attracted toward the nearest positive element which is grid No. 2. They pass on through apertures in grid No. 2, anode No. 1, and anode No. 2; and they are subjected to the action of the deflection plates. Finally, they strike the screen of the tube where they cause a spot or trace of light, and they are then collected by the interior coating which forms a part of anode No. 2. Thus, the electron path through the tube can be said to originate at the cathode and terminate at anode No. 2.

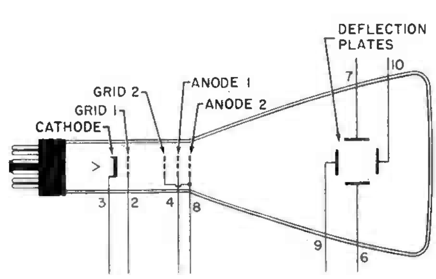


Fig. 1. Control Elements in a 5UP1 Cathode-Ray Tube.

Polarities of the Tube Elements

Proper operation of the cathode-ray tube requires that anode No. 1 be more positive than the cathode and that anode No. 2 be more positive than anode No. 1. Grid No. 1 is the control grid and operates at a voltage equal to or more negative than that of the cathode. Its action is similar to that of the control grid of a receiving tube — it controls the number of electrons flowing between cathode and anode. Being negative, it repels the negative electrons; and if it becomes negative enough, the electron beam will be cut off entirely.

The intensity control of the oscilloscope is usually connected to grid No. 1 of the cathode-ray tube, although it may be connected to the cathode instead. A variable intensity depends upon a variable potential difference between the cathode and grid, and this variable potential difference can be obtained if the potential

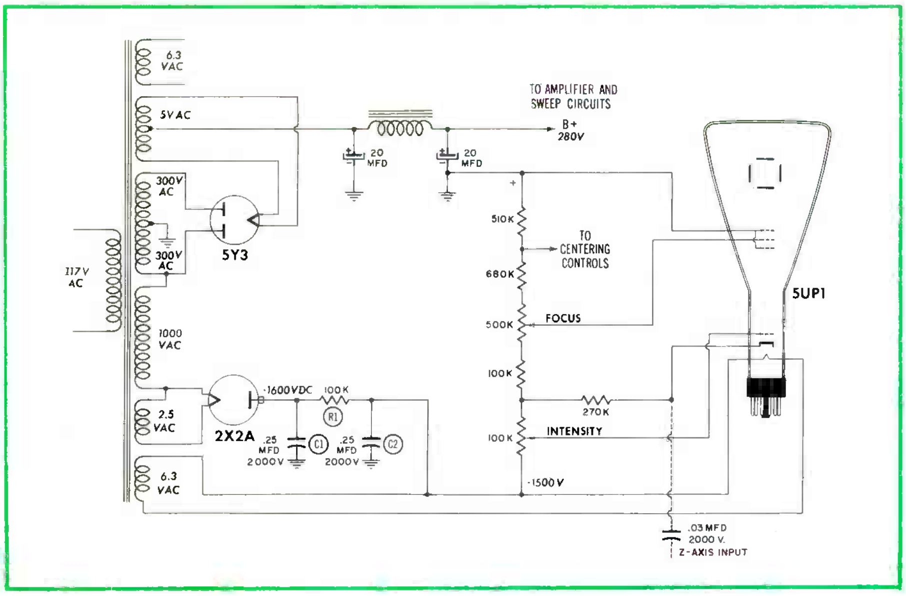


Fig. 2. Partial Schematic Diagram of the Power Supply of the Triplett Model 3441 Oscilloscope.

of one element is varied while the potential of the other element is held constant. The technician is familiar with this aspect of the operation of the cathode-ray tube through his association with TV. In some receivers, the picture-tube element to which the brightness control is connected is the control grid; in others, it is the cathode.

Range of Voltage for Normal Operation

As was stated previously, the necessary potentials for operation of the cathode-ray tube are furnished by the high-voltage section of the power supply. These potentials can vary over a wide range, and satisfactory operation will still be obtained. For example, the voltage at anode No. 2 of a 5UP1 tube can be from 1,000 to 2,500 volts with respect to the cathode. Operation below 1,000 volts is not recommended. No matter which voltage is chosen, there are some advantages and disadvantages. The lower voltages can be attained more easily and economically, and a higher deflection sensitivity is obtained with lower voltages. These advantages are offset by less brilliance of the spot and by poorer focusing qualities.

Rectifier and Filters

A partial schematic diagram of the power supply for the Triplett Model 3441 oscilloscope is shown in Fig. 2.

The low-voltage section of the power supply consists of a full-wave rectifier with capacitor and choke filtering. The high-voltage section employs half-wave rectification. The filtering is obtained by a simple resistor-capacitor network which is adequate because little current is drawn from the high-voltage section. A 1,000-volt winding is in series with one half the low-voltage winding, and therefore a total of 1,300 volts AC is applied to the high-voltage rectifier. This voltage is high enough to make it necessary to use a high-voltage rectifier tube such as the 2X2A. After a slight voltage drop across the filter network, there is a potential of approximately 1,600 volts left to operate the 5UP1 cathode-ray tube.

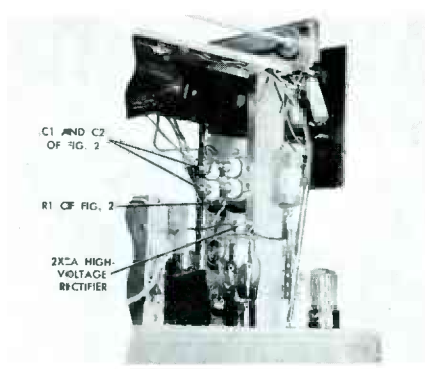


Fig. 3. Photograph Showing the High-Voltage Filter Network of the Triplett Model 3441 Oscilloscope.

A photograph showing the high-voltage filter network appears in Fig. 3. Because little current is required from the supply, the filter network can be of fairly high impedance. It can be a simple RC network with a high value of resistance and a low value of capacitance which help to reduce the physical size of the capacitors. Size is an important consideration when dealing with capacitors having a high-voltage rating. Each one of the capacitors shown has a capacity of .25 microfarad and is rated at 2,000 working volts DC.

The power transformer differs from those used in many other types of test equipment in that more windings are required and the insulation must be better in order to provide the required safety margin for the higher voltages involved. The transformer diagrammed in Fig. 2 has four filament windings instead of the two commonly found in other equipment. One of the extra windings is for the 2X2A high-voltage rectifier, and the other supplies the 5UP1 cathode-ray tube. The filament winding for the cathode-ray tube is sometimes electrostatically shielded from the other windings of the transformer.

Power Supplies

There is a noticeable feature about the power supply (in Fig. 2) that may seem strange to the person who is accustomed to the usual form of power supply used in radios, amplifiers, and many test instruments. This feature is that the output of the high-voltage section is negative with respect to ground. The circuits shown in Fig. 4 are diagrams of simple half-wave rectifiers and illustrate several possible arrangements. In part A of the figure, there

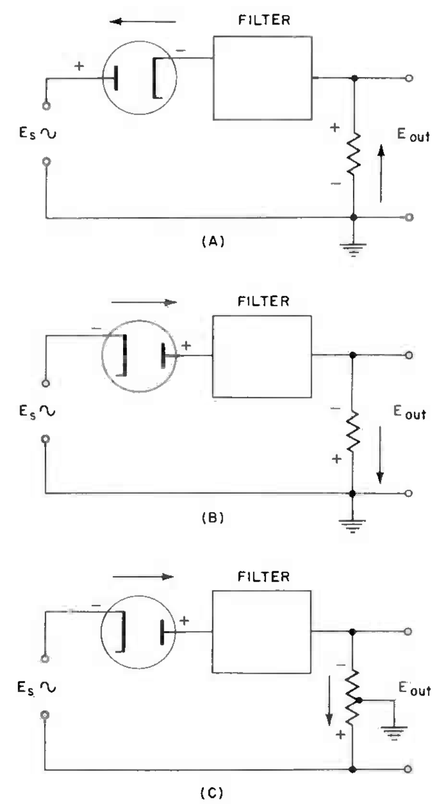


Fig. 4. Several Variations of Half-Wave Rectifier Circuits.

is shown a rectifier system with a DC output voltage that is positive with respect to ground. E_S represents the AC voltage impressed upon the system, and the resulting electron

* * Please turn to page 68 * *

CBS

Silver Vision

THE ALUMINIZED TUBE THAT IS PRE-SOLD

Sure, *you* are already sold on the advantages of aluminized tubes. You know that the CBS Silver Vision aluminized screen with its silver-activated phosphors and the CBS small-spot gun mean clearer, sharper, brighter pictures.

But your woman customer (76.9% of TV service customers are women) doesn't understand electronics or CBS advanced-engineering as you do.

She does know and respect the name CBS . . . she has confidence in Garry Moore and in the Good Housekeeping Guaranty Seal. So all you have to do is take advantage of Garry's pre-selling over the CBS Television Network. Just remind her that there are no finer tubes made than CBS Silver Vision tubes . . . And, like all CBS tubes, they have the Good Housekeeping Guaranty Seal. She's already pre-sold by Garry Moore and national magazine advertising. You build profitable customer confidence and sales every time you recommend CBS Silver Vision tubes.

Garry Moore
famous CBS Television Star

Guaranteed by Good Housekeeping

Show the CBS carton with the Good Housekeeping Guaranty Seal

CBS-HYTRON
Danvers, Massachusetts
A DIVISION OF
COLUMBIA BROADCASTING SYSTEM, INC.

INTERFERENCE REJECTION

INTRODUCING A UNIQUE ANTENNA SYSTEM WHICH IS VERY EFFECTIVE IN CANCELLING UNWELCOMED INTERFERENCE

by George B. Mann

It can be said that the antenna serves as the eyes of the television receiver. The antenna is placed at some vantage point where it can intercept the desired signal. That same antenna, however, may also pick up a variety of interference signals which may affect the operation of the receiver. Whether an interference signal affects the receiver only slightly or a great amount, it is obvious that elimination of the interference signal is desirable.

Interference signals might be grouped into two classifications. In one classification would be those that occur at random frequencies or those that cover a wide band of frequencies at all times. In the second classification would be those signals that occupy a given band and have a fixed position in the spectrum. If signals in either classification fall within the band of the desired signal, the antenna normally cannot separate the wanted from the unwanted signals.

The first classification would include such interference signals as ignition noise, neon-sign radiation, and random atmospheric noise. Note that all of these signals will usually affect reception on all channels but not necessarily to the same degree.

Included in the second classification are reflected, adjacent-channel, co-channel, and FM signals and harmonics of certain transmitted signals. If these unwanted signals are picked up by the antenna and are fed to the receiver, interference may result.

There are several things which can be done in the receiver-antenna combination to cause rejection of some of the unwanted signals. For example, the receiver can be designed so that it will effectively reject any signals of reasonable amplitude provided that they fall outside the channel to which the receiver is tuned. The receiver, in other words, selects from all the signals being picked up by the antenna only those that fall in the desired band of frequencies. Although much improvement has been made in receivers during the past few years, they are limited in their ability to reject unwanted signals of high amplitude. Under some conditions then, a receiver alone cannot reject certain unwanted signals. Keep in mind that the receiver cannot reject signals that fall within the desired band or channel. Once such interfering signals are fed to the receiver, they cannot be eliminated.

Another method of eliminating unwanted signals that fall outside the desired band is that of using an antenna which is tuned to a specific channel. The antenna then is a frequency-discriminating device. It will produce a greater gain in the region to which it is tuned and will produce little or no gain outside of this region. Although this method is effective in reducing certain types of interference, it requires the use of a different antenna for each channel or group of channels. Such a method could not be employed when the use of a single antenna which will cover all channels is desired.

* * Please turn to page 49 * *


TELCO SCOUT 3 ANTENNA
Eight elements; for low channels.
No. A-180 NET $3.30
TELCO DOUBLE V ANTENNA
Adjustable UHF & VHF...Channels 2-83.
No. A-9010 NET $3.75
TELCO U-TYPE DOUBLE V ANTENNA
Adjusts to any V angle; VHF-UHF.
No. A-9017 NET $3.57
TELCO DOUBLE V WINDOW-TENNA
UHF-VHF; mounts on window frame.
No. A-9057 NET $5.37
TELCO STAND-OFF "EYE-OPENER"
Handy tool for faster installing.
No. 8450 NET $0.75
TELCO UHF GOLDEN YAGI
16-element style, cut to channel.
No. A-325 NET $4.92
TELCO HI-LOW DIPOLE ANTENNA
Pre-assembled; VHF chs. 2-13.
No. A-250 NET $5.22
TELCO E-Z STAND-OFF
UHF-VHF; 3½" machine screw.
EZ-8031 NET $4.80/C
TELCO E-Z KANT-STRIP STAND-OFF
7½" 3-way; 9" stainless strap.
EZ-8396 NET $0.33
TELCO E-Z DRIVE-IN STAND-OFF
Hardened metal 3½" drive.
EZ-8751 NET $0.15
TELCO DUPLEX STAND-OFF
7½" in-line duplex wood screw.
No. 8225 NET $0.15
TELCO POCKET TUBE CHECKER
Series fil. and continuity tester.
No. 9270 NET $2.75
Ask For These
TELCO
SERVICE AIDS
...at Your Jobber
TAKES ALL UHF VHF LINES
TELCO UNIVERSAL LEAD-IN TUBE
Fits ¾" hole, 14" wall; brown.
No. 8958 NET $1.17
TELCO TV SET ROLL-AROUND
Fits all sets, easy to install.
No. 8957 NET $5.97
TELCO TRIPOD TOWER BASE
Supports 10' masts without guys.
No. 9063 NET $4.17
TELCO CHIMNEY MOUNT BRACKETS
Cast alum. pair for 1¼" masts.
No. 8001 NET $4.05
TELCO VENT MOUNT
Holds mast to 2" to 4" vents.
No. 8802 NET $1.35
TELCO UNIVERSAL RIDGE MOUNT
Adjustable to peaks, flat roofs.
No. 8906 NET $1.17
TELCO FITZ-ALL MOUNT
Use anywhere; masts to 2".
No. 8804 NET $1.77
TELCO 3-WAY TV LINE KLIP
For straight, side, plug-in (RCA).
No. 9015 NET $0.13
TELCO GROUND ROD
4 ft. long; ⅜" diameter.
No. 8929 NET $0.81
TELCO UNIVERSAL LIGHT. ARRESTOR
UL approved; UHF and VHF.
No. 9242 NET $0.45
TELCO ACRYLIC SPRAY-KOAT
Fast-drying outdoor-indoor use.
No. 8665 NET $1.19
TELCO SPECIAL LIGHT. ARRESTOR
For 300-450-ohm open line; UL.
No. 8640 NET $0.60
TELCO DELUXE LIGHT. ARRESTOR
For all types TV lines, VHF & UHF.
No. 8642 NET $0.75
TELCO RIGID-TYPE TV BASE
Smart wrought black finish.
No. 9082 NET $3.57
TELCO RATCHET CHIMNEY MOUNT
Galvanized straps; masts to 1¾".
No. 9218 NET $2.37
TELCO TUBULAR WALL MOUNT
15" mount; masts to 1½".
No. 9243 NET $3.00
FREE!
Your copies of all current TELCO Catalogs. Send postcard today!
TELCO
TELEVISION HARDWARE
25th Anniversary
GENERAL CEMENT MANUFACTURING COMPANY
TELEVISION HARDWARE MFG. CO.
Division of General Cement Mfg. Co. • 903 TAYLOR AVENUE • ROCKFORD, ILLINOIS

Examining DESIGN Features

by Leslie D. Deane

Sentinel Model 21121T Remote-Control Television Receiver.

Sentinel Remote-Control Unit

In the past, there have been a number of both electromechanical and all-electronic types of remote-control units developed for television. The new Sentinel Model 21121T incorporates one of these devices utilizing an electromechanical arrangement for channel selection. The receiver and its control box are pictured in the heading at the top of this page. A 21-inch picture tube is employed in the VHF receiver which has an additional complement of fifteen receiving tubes. The receiver is of a conventional modern design using selenium rectifiers in the low-voltage power supply and a 600-ma series-filament circuit for all tubes.

A 20-foot connecting cable is supplied with the remote-control unit, and it may be placed along the baseboard or under the rug, provided that it is positioned away from areas having heavy room traffic. Twenty-foot extension cables can be obtained from the manufacturer; however, the use of more than a total of forty feet of cable is not recommended.

The remote-control box is equipped with four adjustment knobs that provide control over the channel selection, brightness, fine tuning, and volume. In addition to these functions, the unit will turn the receiver on and off and will select either the speaker located in the control box or the speaker housed in the receiver. The small PM speaker located in the control box may be seen in the photograph of Fig. 1. The Sentinel receiver may be operated from the control box or by the controls on the receiver; however, to operate the channel-selector knob on the receiver, the fine-tuning knob on the control box must be placed in the maximum counterclockwise position. This position opens the motor switch mounted on the rear of the remote fine-tuning control and removes power from the drive mechanism of the tuner.

The receiver can be turned off by the switch located on the brightness control in the control box or by the on-off switch at the receiver. The receiver cannot, however, be operated unless both switches are turned on.

The remote-control assembly is primarily divided into two sections. One is comprised of the remote unit and the connecting cable and is shown in Fig. 1. The other section is mounted on the TV chassis and may be seen in Fig. 2. All major components of the complete remote-control assembly are indicated in these two photographs. It may be noticed in Fig. 1 that one end of the twelve-wire connecting cable is permanently attached to the remote unit and that the other end is terminated

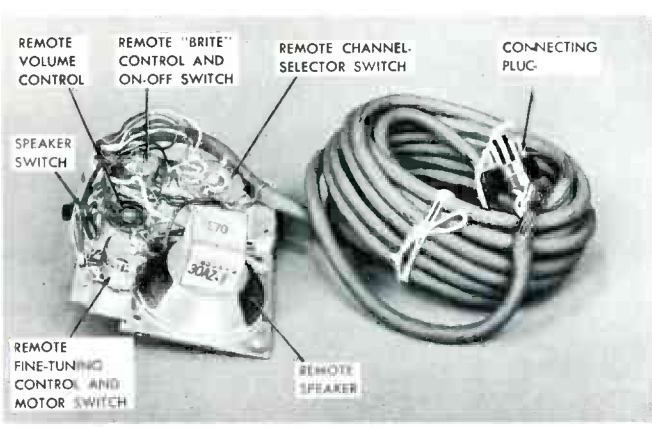


Fig. 1. Remote-Control Chassis and Connecting Cable Employed in the Sentinel Model 21121T.

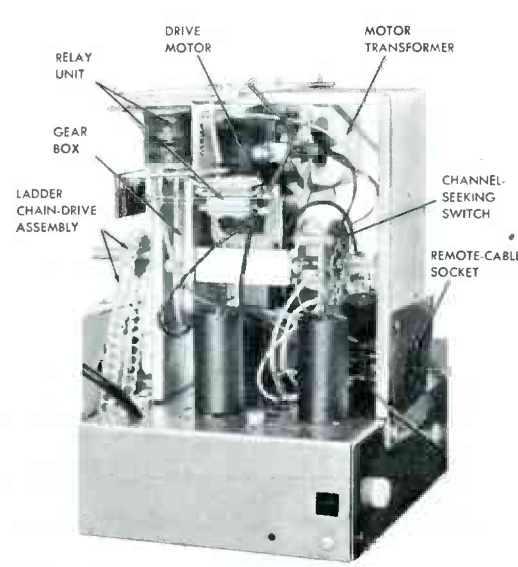


Fig. 2. Remote-Control Mechanism Mounted on the Chassis of the Sentinel Model 21121T.

with a connecting plug. The socket for this plug is conveniently located at the rear of the receiver, and it is identified in Fig. 2. The cable from the remote unit must be connected to the receiver in order for the receiver to be operated by the remote controls or by the controls on the receiver itself.

Circuit Functions

A schematic diagram of the circuitry involved in the Sentinel remote-control system is shown in Fig. 3. With the aid of this schematic and a few additional explanations, the reader should more clearly understand the operation of this device. The fine-tuning control R3 located in the remote unit is connected in series with the plate circuit of the oscillator tube in the tuner of the receiver. It varies the B+ voltage applied to this circuit and thus controls the frequency of the oscillator. If the fine-tuning control on the remote unit does not reach a point of adequate picture detail, then adjustment of the fine-tuning control on the receiver may be necessary. The fine-tuning knob on the remote unit also activates a motor switch. This knob must be in the maximum counterclockwise position when channels are being selected at the receiver; but when channels are being selected from the remote unit, the switch must not be in this position.

The volume control R2 is connected across the secondary of the audio output transformer. The volume control of the remote unit will furnish a proper listening range provided that the volume control on the receiver is set at its mid-position. In connection with the audio system, an additional speaker is located in the remote unit. Both speakers are controlled by a slide switch that is indicated in Fig. 1. When moved to the right, this switch operates the speaker in the remote unit; and when moved to the left, it operates the speaker in the receiver.

The brightness control R1 which is located in the remote unit is connected in series with the brightness control in the receiver. Both brightness controls vary the potential applied to the cathode of the picture tube. Picture brightness can be adjusted from the remote unit by setting the brightness control on the receiver almost to maximum position. The BRITE control knob on the remote unit may then be adjusted for the desired light intensity. Proper brightness cannot be obtained if the brightness control on the receiver is positioned at minimum or if the BRITE control on the remote unit is set at maximum. The BRITE control knob on the remote unit also turns the receiver on and off; however, the receiver switch must be turned on in order for the remote switch to function.

The channel selector of the remote unit is a 12-position, single-wafer switch with both front and rear sections. The front section has five contacts, and the rear has only four. A simplified illustration of the wiring of this selector switch and of the channel-seeking switch in the tuner is presented in Fig. 4.

The positions of the channel-selector switch in the remote unit and the channel-seeking switch in the tuner determine the operation of the drive motor of the tuner. The motor rotates the tuner turret mechanically by means of a chain coupling between the gear box and the tuner. The gear box and chain drive are designated in the photograph of Fig. 2.

The selection of all 12 channels is accomplished even though only four wires connect the remote unit with the channel-seeking switch in the receiver. The selector switch in the remote unit may be manually rotated in either direction, but the channel-seeking switch rotates in only one direction as the motor operates. For any one setting of the channel-selector switch, the motor will operate in all positions of the channel-seeking switch except one. The two switches are so designed and wired that when the remote switch is turned to a channel the drive motor operates until the channel-seeking switch reaches a position at which the power circuit to the motor is open. The power is

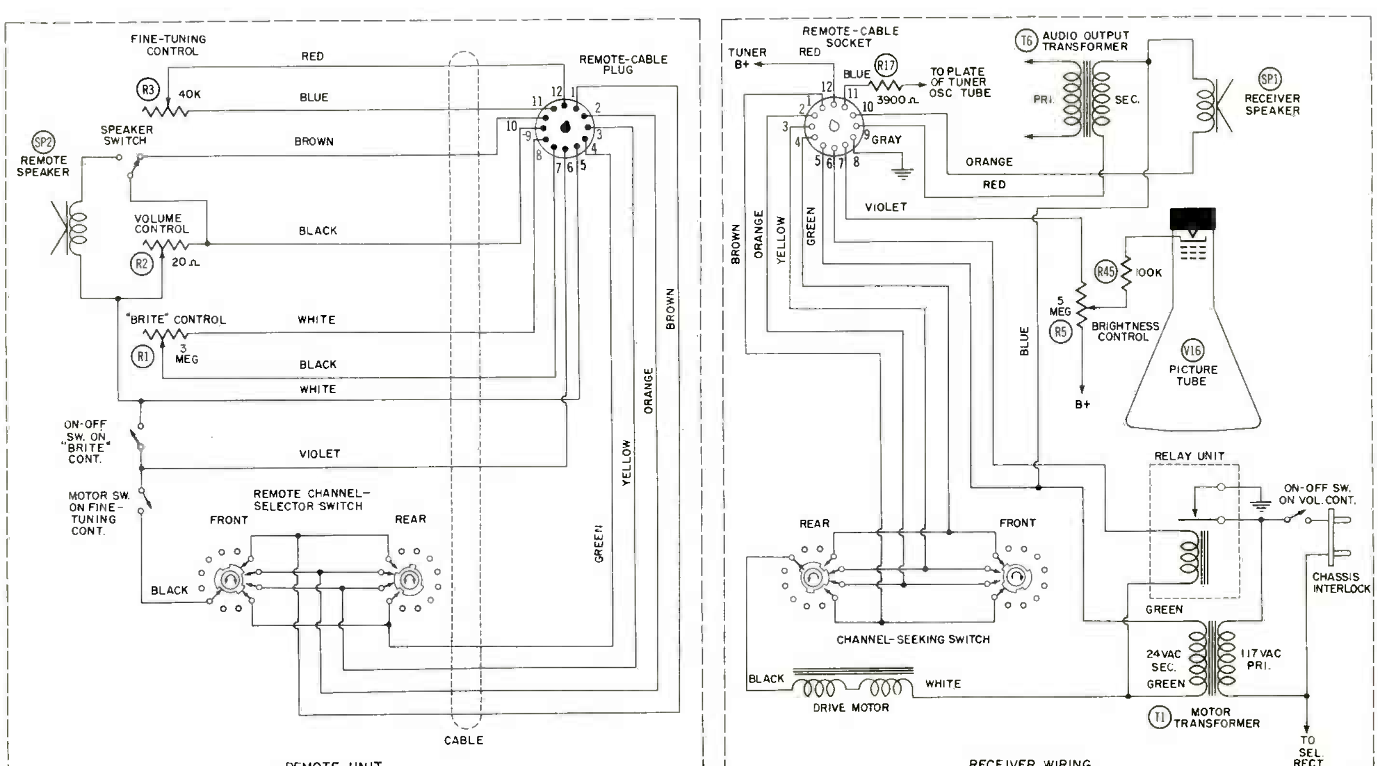


Fig. 3. Schematic Diagram of the Remote-Control System Employed in the Sentinel Model 21121T Receiver.

removed from the motor by the open circuit, and the tuner turret comes to rest on the desired channel position.

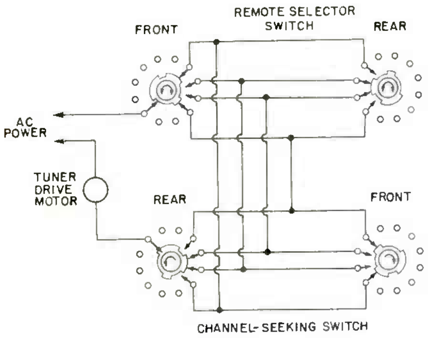


Fig. 4. Simplified Schematic Diagram of the Connections Between the Switches in the Sentinel Remote-Control System.

Servicing

If the channel selected by the channel knob on the remote unit does not track or properly correspond with the channel position of the tuner, the unit may be adjusted as follows: loosen the two setscrews securing the chain sprocket to the drive shaft that extends from the gear box, and turn on the receiver. Then turn the fine-tuning knob of the remote unit clockwise in order to actuate the motor. Observe the channel position of the tuner, and turn the channel-selector knob on the remote unit to the corresponding channel. When the drive motor comes to rest, tighten the two setscrews of the sprocket and check the operation on other channels.

If the turret does not lock into position properly, loosen the two Phillips-head screws that hold the channel-seeking switch to the bracket. Slowly rotate the switch in either direction until the detent locks the turret in position, then tighten the two screws, and check to see that the turret locks into position on all channels. Proper tension on the drive chain must also be maintained at all times.

Should the drive chain become too slack, loosen the four Phillips-head screws which secure the motor mechanism to its mounting, and slide the assembly upward and away from the tuner until only a small amount of slack remains in the chain. Tighten the mounting screws, and check the operation. When the position of the motor assembly has been changed, it will usually be necessary to perform the tracking and locking adjustments.

Another service problem that often occurs in remote-control systems concerns dirty relay contacts. These contacts, as well as the switch contacts, may be cleaned with carbon tetrachloride or cleaners designed for this purpose. If the relay contacts are carbonized or burnt, a piece of "crocus cloth" or very fine sandpaper may be used to resurface the contact area.

Under normal conditions, the mechanical parts of the remote-control system will require no lubrication; however, if the motor bearings become noisy, the manufacturer recommends that a few drops of fine machine oil should be applied to each bearing.

Some of the more common troubles encountered in remote-control systems often stem from damaged connecting cables. This unit is no exception; therefore, if a failure occurs, one of the first checks that should be made is an inspection of the cables. The individual wires should be checked for continuity and for a possible short between wires.

If the inspection reveals no apparent trouble in the connecting cables, then a more thorough check of the switch, relay, and motor circuits should be undertaken.

In order for the Sentinel television receiver to be serviced without the remote unit connected, certain pins on the cable socket must be connected together. These are pins 5 to 6, 7 to 8, 9 to 10, and 11 to 12.

Circuit Breaker

The Airline Model WG-4011B television receiver incorporates a thermal type of circuit breaker which is used in place of the conventional fuse or fusible resistor. The unit lends protection to all circuit components by removing the power from the receiver in case an overloaded condition should develop.

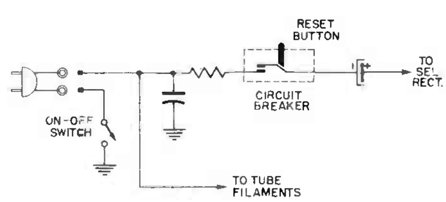


Fig. 5. Partial Schematic Diagram of the Power-Input Circuit Employed in the Airline Model WG-4011B Television Receiver.

The partial schematic diagram shown in Fig. 5 illustrates the use of this unit in the new Airline chassis. The normal operating current of the receiver is approximately 1.35 amperes, and the circuit breaker is designed to cut out at 2.5 amperes. If a momentary current surge should render the receiver inoperative, it may be necessary to reset the spring-loaded breaker by pushing the red button which is located at the rear of the receiver. If the circuit breaker continues to cut out when the receiver is turned on, a check should be made in order to determine the cause of the overloading and corrective steps should be taken.

The circuit breaker should never be bypassed in any manner because of the extreme damage that may result and the possible fire hazards involved. One of the advantages offered by using this kind of circuit protection is the fact that replacement is not necessary as in the case of the fuse or resistor.

A few of the leading television manufacturers have made use of similar items in previous designs, but circuit breakers have never become popular in the television field. What the future holds along this line only time will tell.

CBS-Columbia Tilt-Back Chassis

The new CBS-Columbia Model 3T615 television receiver has been designed with the service technician in mind. In order to service the wiring side of a conventional vertical chassis, it is usually necessary to remove the chassis from the cabinet. In some cases, both the chassis and picture tube must be removed individually before the unit can be serviced. Other vertical-chassis designs have the chassis and picture tube combined on one mounting board or metal frame. Even with this style of construction, it is still a difficult problem to service the wiring side of the chassis because of the proximity of the picture tube.

The CBS-Columbia tilt-back chassis has overcome many of these obstacles which are frequently encountered when servicing receivers with vertical chassis. In the Model 3T615, the chassis is mounted vertically with the small receiving tubes facing the front of the cabinet, thus placing the underchassis wiring toward the rear. The tubes and alignment points on top of the chassis are made accessible by taking off the cabinet back and removing the two wing screws located on the lower brackets which support the chassis. If the speaker leads are clamped to the side of the chassis, open the clamp and free the leads. The chassis may then be tilted backward as shown in Fig. 6. The chassis is fastened to a metal base pan by two hinged brackets which will hold the chassis at about a 45-degree angle. With the chassis in this position, the service technician can easily change

* * Please turn to page 70 * *

DRILLING MASONRY for ANTENNA INSTALLATIONS

by
George B. Mann

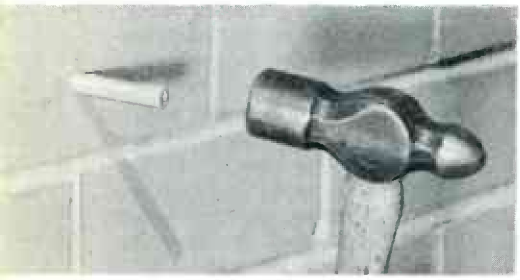
When the installation of an antenna is considered, a problem which often arises involves the choice of running the antenna lead-in through a masonry material or of going around it. The first thought in such a situation is that the older methods of penetrating masonry require an excessive amount of time and labor. At the present time, however, most masonry materials can be penetrated by other means in less time than might be used in running the lead-in around the material.

Rotary types of masonry bits of less than one inch in diameter will penetrate most masonry materials at drilling rates which exceed one inch per minute. The 1 1/4-inch wall of a hollow building block was penetrated by using a 1/2-inch, 550-rpm, electric drill first with a 1/2-inch pointed bit and then with a 1/2-inch coreless bit. Drilling times were only 10 seconds for the pointed bit and 7 seconds for the coreless bit. Lead-in runs can be installed over masonry surfaces such as brick, limestone, or concrete in just a little more time than is required to mount the same lead-in over other structural surfaces.

The time and labor saved on a few antenna installations will pay for the cost of the masonry bits used on the jobs. A set of three or four masonry bits of different diameters will fulfill most of the drilling requirements of all antenna installations. Such a set of bits can be purchased for less than twenty dollars.

DRILLING INTO BRICK

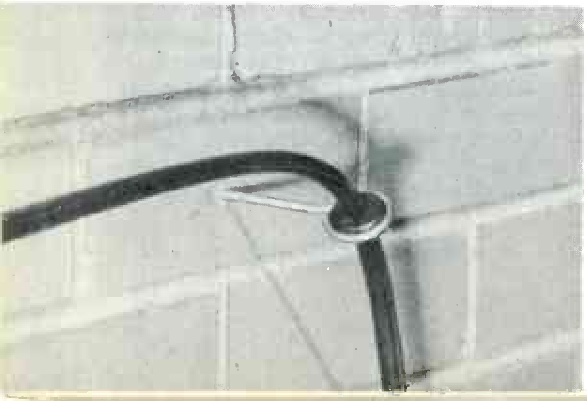
Drilling into the center of a brick provides a solid mounting for a standoff. Any masonry material of block form is much harder than mortar and can withstand much higher stress and strain. Drilling into a mortar joint should not be done. The mortar would split and crack, and water entering between the blocks would cause premature deterioration of the structure.



DRIVING THE PLUG

A wood plug is driven into the drilled hole and is broken off flush with the wall face. A wood-screw type of standoff is then set solidly into the plug.

NOTE: In solid types of masonry, the anchors for guy wires or mounting brackets should be lead expansion types in order to withstand the increased strain or weight.



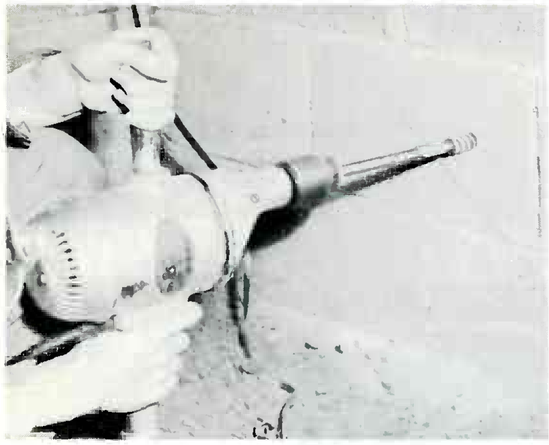
FINISHED INSTALLATION OF STANDOFF IN BRICK WALL

From the start of drilling to the completion of this standoff mounting, approximately one minute was required. The result is a secure mounting made with a minimum expenditure of time and labor.

Masonry Materials

The rate at which a carbide-tipped bit becomes dull is principally determined by the abrasiveness of the material being drilled. Hard sandstone, for example, is very abrasive; and a carbide-tipped bit is dulled more rapidly when penetrating sandstone than when penetrating slate even though the latter is a harder material. This is because slate is not so abrasive as sandstone.

Materials such as granite, field stone, and hard concrete with large pieces of quartz aggregate require excessively high drilling pressures. Because of their extreme hardness, it is impractical to drill into these materials with a rotary type masonry bit.

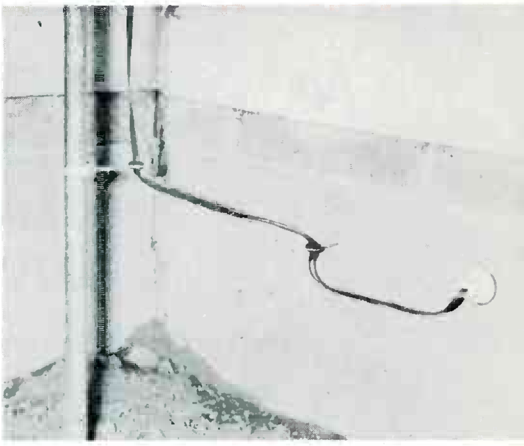


DRILLING AN ENTRANCE HOLE FOR A LEAD-IN

An entrance hole for an antenna lead-in was drilled through the foundation of this house with a ¾-inch bit and a ½-inch electric drill. Less than 45 seconds were required to complete the drilling of this concrete block.

INSTALLING FEED-THROUGH BUSHING

A feed-through bushing was inserted through the wall from inside the house. Note that the rotary bit did not produce a large and unsightly break-through.



COMPLETED LEAD-IN ENTRANCE

The lead-in was installed with a supporting standoff and a drip loop. From the start of drilling to the completion of this installation, approximately fifteen minutes were required.

Masonry materials which have absorbed water should not be drilled until they have dried out. When pulverized masonry material is damp, it adheres to the flutes of the bit and prevents the removal of powder from the hole being drilled.

Sharpening Carbide Bits

The cutting edges of a carbide-tipped bit will become dulled after considerable use, and a dull masonry bit will require increased drilling pressure to keep the bit cutting. This added pressure accelerates the dulling, creates overheating, and produces mechanical stresses which can cause tip breakage. Sharpening of a dull masonry bit before excessive wear has taken place will greatly extend the useful life of the bit.

Some manufacturers recommend that their carbide-tipped bits be returned to them for sharpening. If such a recommendation is not made, the masonry bit can be sharpened by the user or at a local machine shop. Silicon-carbide wheels for use on electric grinders are available for sharpening carbide-tipped tools. The recommendations and instructions for this operation are generally published by the manufacturer of the bits.

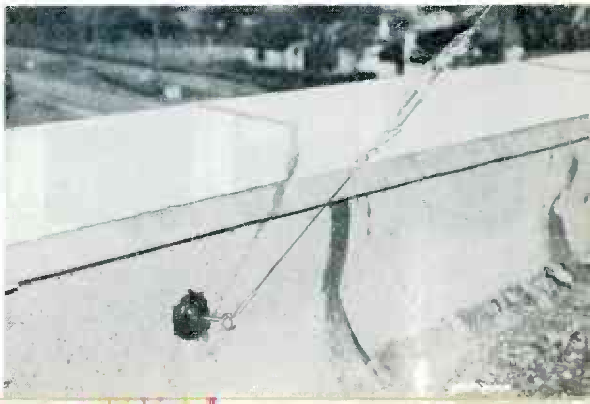
A rotary type of masonry bit can make short work of installing guy-wire anchors, lead-in standoffs, mounting brackets, and feed-through insulators in nearly all kinds of masonry materials used in building and home construction.

DRILLING HOLE FOR GUY-WIRE ANCHOR

This roof parapet is constructed of hollow building blocks and has a tar-paper covering. A hole was drilled to provide an opening into which a toggle-bolt type of guy-wire anchor could be inserted. The proper point for drilling was determined by checking the locations of the mortar joints on the outside wall of the parapet.

SEALING THE TOGGLE BOLT

After the toggle bolt was firmly in place, sealing compound was applied generously around the point of penetration. This must be done to prevent water from getting into the building.



COMPLETED INSTALLATION OF ANCHOR

This toggle bolt provides a sturdy watertight anchor to which the roof antenna was securely guyed.

NOTE: As a safety measure, fasten guy-wire anchors to roof parapets at points as near the roof surface as possible.

you can't match TRIPLETT *model 630 VOM*

for **SPEED ACCURACY DURABILITY CONVENIENCE!**

heavy molded case

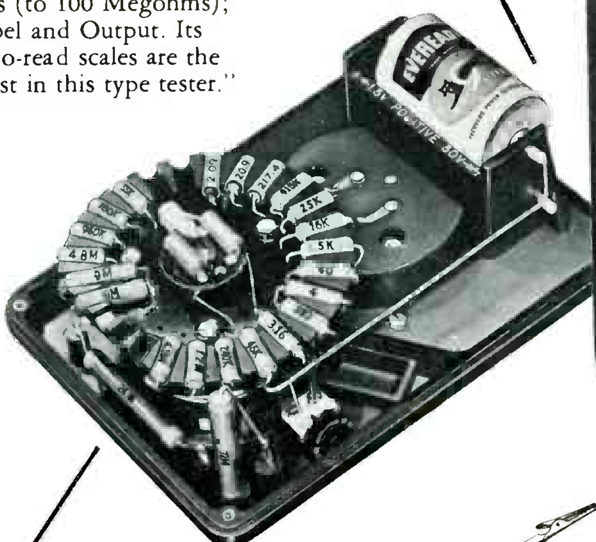
—¼" thick for high impact. Fully insulated.

sure grip battery contacts

Balanced double-spring tension grip assures permanent contact.

"this wide-range model

tests AC-DC Volts (DC at 20,000 O/V); DC Microamperes, Milliamperes, and Amperes; Ohms (to 100 Megohms); Decibel and Output. Its easy-to-read scales are the longest in this type tester."

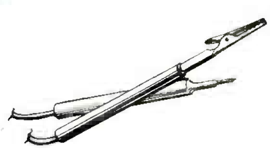


streamlined design

No protruding knobs on switch or ohms control—both are flush with the panel.

king size recessed knob

—Only one switch; (fully enclosed) selects both circuit and range. Just turn the switch and make your reading.



for quick positive connections

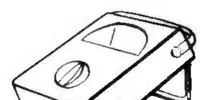
—Banana jacks and plugs on test leads are best. Alligator clips are provided to slip on test prods for extra convenience.

for most efficient meter use

—With every Model 630 you receive complete, simplified instructions on how to use and maintain most efficiently.

advanced engineering

—Molded mounting for resistors and shunts allow direct connections without cabling. No chance for shorts. Longer life and easy-to-replace resistors in their marked positions.



for convenience in reading

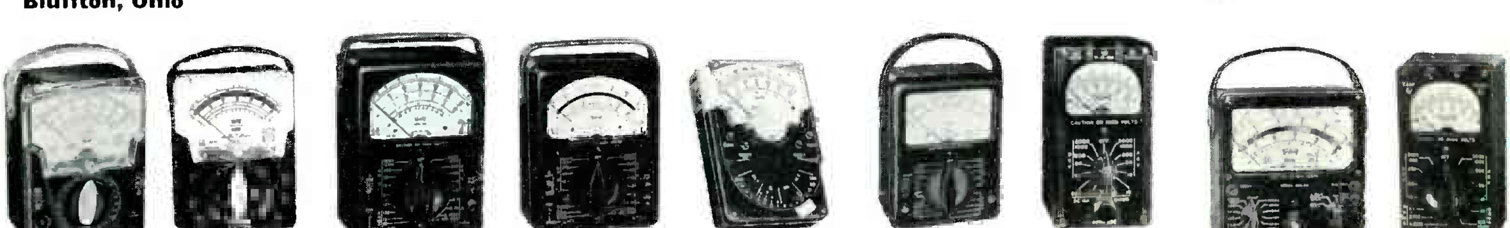
—Available as an extra (only 50c), this special stand tilts meter at best angle for easy reading.

no slip feature

Four rubber feet furnished as standard equipment fit in back of the case to prevent slipping on smooth surfaces.

MODEL 630 | $39.50

TRIPLETT ELECTRICAL INSTRUMENT CO.
Bluffton, Ohio



THE MIGHTY NINE VOM LINE

631	630-NA	630	630-A	310	630-T	666-HH	625-NA	666-R
Combination V-O-M—VTVM	For Best Testing Around The Lab, Production Line or Bench	The Popular All-Purpose V-O-M	A Good Lab and Production Line V-O-M	The Smallest Complete V-O-M With Switch	For Telephone Service	Medium Size For Field Testing	The First V-O-M With 10,000 Ohms/Volt AC	Medium Size With 630 Features

VOLTAGE PHASES in TRANSFORMERS

The Principles Upon Which Radio Detectors, Discriminators, and Quadrature Transformers Operate

by Thomas A. Lesh

Basic explanations of transformer action assume that the voltage induced in the secondary winding is 180 degrees out of phase with the voltage in the primary. In practice, the phase shift across an untuned transformer that is wired into a circuit may either be zero or 180 degrees, depending upon the polarity of the connections in the secondary circuit. If the transformer has a tuned secondary winding, the phase angle between primary and secondary voltages at the resonant frequency will be 90 degrees; but the phase angle will vary widely when the frequency departs from resonance. The operation of phase-detecting circuits such as discriminators and ratio detectors depends upon these facts.

In certain situations, the technician may need to investigate the phase relationship of voltages in transformers. The phase difference between two voltages can be established by careful observation of Lissajous figures on an oscilloscope. It can also be established by use of an electronic switch if one is available.

An electronic switch is a laboratory instrument which is used to enable a single oscilloscope to display two waveforms at the same time. The signals are placed on two separate traces, but they are viewed at the same sweep rate.

The input circuit of an electronic switch consists of two independent amplifiers which are alternately turned on and off by gating tubes which are controlled by a square wave that is generated within the instrument. During a half cycle of the square wave, one amplifying channel is cut off and the signal in the other channel is allowed to reach the output jack. During the other half cycle of the square wave, the situation reverses. Because of the use of DC coupling between stages in the switch, the two traces on the face of the oscilloscope can be either superimposed or separated.

The switching rate is governed by the frequency of a multivibrator which is normally free running, or it can be controlled by an external sync signal. The switching rate should be made lower than the desired sweep frequency of the oscilloscope. If switching is too rapid, the traces will assume a dotted appearance which may be confusing; then some of the details of the waveform may not be visible.

An external synchronization signal for the oscilloscope should be supplied from one of the two circuits which are being examined. If internal synchronization were used, the oscilloscope would try to synchronize its sweep with both signals at once. As a result, the phase difference between the signals would not be apparent.

A hookup which is usable for the examination of phase differences is shown diagrammatically in Fig. 1. The transformer is an IF type which has primary and secondary windings that are tunable. The signal from the generator is fed to the primary winding through a 33K-ohm resistor so that the loading effect of the transformer on the generator will be reduced. A signal for external synchronization of the oscilloscope is taken from the generator output.

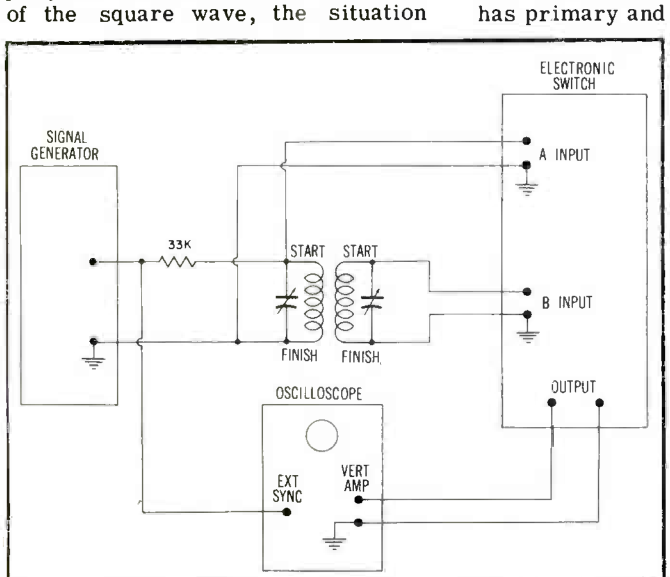


Fig. 1. Diagram of Connections for Waveform Analysis of a Tuned Transformer.

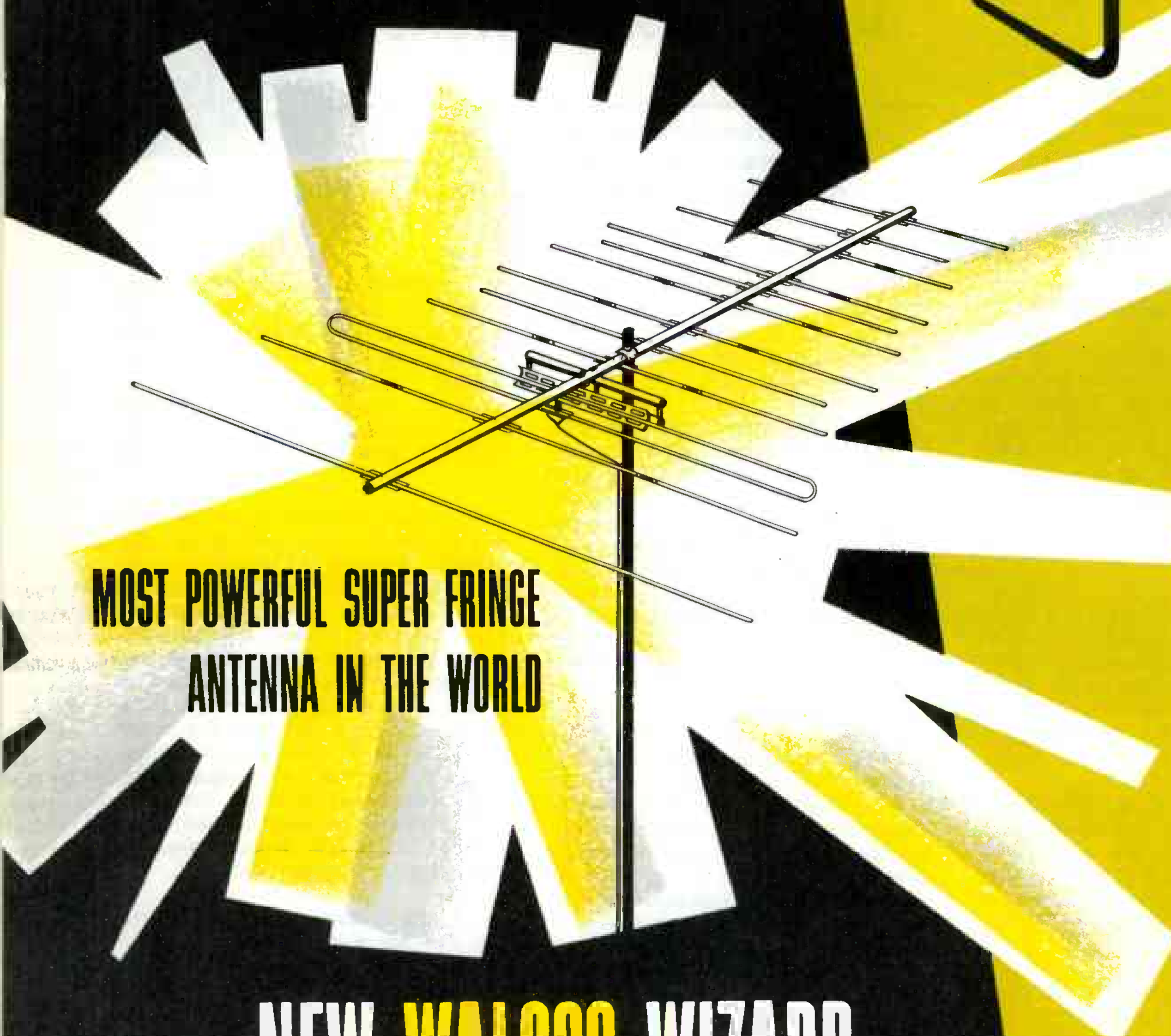
If both the primary and secondary windings of the transformer are tuned to a resonant frequency of 175 kilocycles and the frequency of the output signal of the signal generator is continuously varied at frequencies near resonance, the phase of the secondary voltage will be seen to shift with respect to that of the primary voltage. The waveforms are shown in Fig. 2. The upper waveform of each set is of the voltage across the primary, and the lower waveform is of the voltage across the secondary. A shift to the left in any waveform indicates an advance in phase.

The maximum voltage across the secondary occurs when the frequency of the incoming signal is equal to the resonant frequency of the transformer. At this point, the phase of the secondary voltage lags the phase of the primary voltage by 90 degrees. See Fig. 2B. The angle of lag increases as the incoming frequency rises until, at 179 kilocycles, the secondary voltage lags by nearly 180 degrees. See Fig. 2A. When the generator frequency is reduced below resonance, the phase angle decreases; and it becomes nearly zero by the time that a frequency of 171 kilocycles is reached. See Fig. 2C.

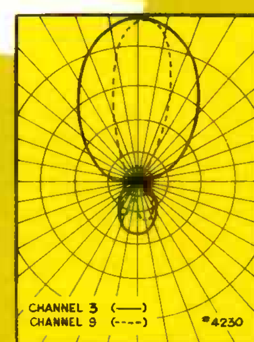
If the signal generator is set at 175 kilocycles and the secondary of the transformer is tuned through resonance, phase shifts identical with those shown in Fig. 2 will be observed. On the other hand, if the primary of the transformer is tuned through resonance, the phase difference between the primary voltage

* * Please turn to page 44 * *

FIRST TO BREAK THE TV RECEPTION BARRIER...



MOST POWERFUL SUPER FRINGE ANTENNA IN THE WORLD



WALSCO WIZARD Imperial equals reception of 10 element yagis on low channels, and equals a three stack 10 element (30 elements) yagi on channels 7 to 13.

NEW WALSCO WIZARD

with exclusive **PHASE REVERSER**

Distance is no barrier to the amazing new WALSCO WIZARD. Exclusive "Phase Reverser" delivers the sharpest, crystal-clear picture ever seen in the most difficult reception areas. No other antenna like it!

New WIZARD offers highest gain and sharpest directivity possible on all VHF channels. Installation in a jiffy . . . without complicated harnesses, phasing stubs, or extra dipoles. Guaranteed for 3 years!

Actual comparison of fringe antenna performance

Channels	Gain (db) Single Bay 2	4	6	7	9	11	13
Walsco Wizard Imperial	6.1	6.9	8.2	11.9	11.6	10.8	12.6
Antenna "A" With 3 Phase Reversing Dipoles	6.3	6.6	8.1	10.5	10.2	10.6	12.4
Antenna "B"—Yagi Type with Phasing Loops	5.1	5.5	6.8	7.5	9.6	8.8	11.2
Antenna "C"—Yagi Type with Loading Coils	5.9	6.9	8.6	9.1	8.6	9.6	7.8

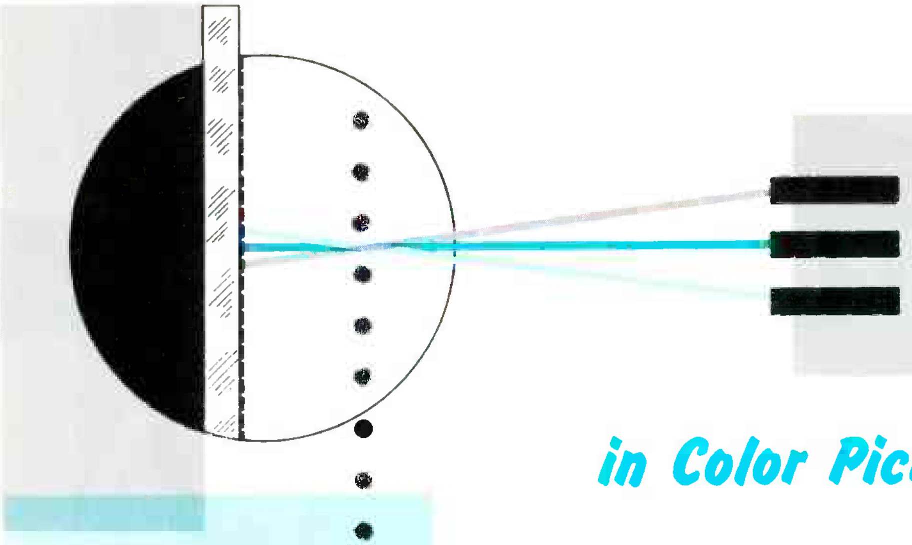
Walsco

ELECTRONICS CORPORATION

A SUBSIDIARY OF Telautograph CORPORATION

3602 Crenshaw Blvd., Los Angeles 16, California

Model	Price
Wizardette #4210	$14.90 list
Wizard #4220	19.50 list
Wizard Imperial #4230	34.90 list



a NEW DEVELOPMENT in Color Picture Tubes

THE GENERAL ELECTRIC POST-ACCELERATION TUBE

by C. P. Oliphant

A great amount of work is being done by the tube manufacturers toward improvement of the color picture tube. A progress report was recently presented at the General Electric Company on the color picture tube that is being developed by its engineers. The following discussion covers the details of the General Electric color tube which is referred to as a "post-acceleration" tube. Post acceleration means that the beams are accelerated after they have been deflected.

The color picture tube that is being employed in color receivers at the present time is the shadow-mask type. This is a tube which employs three electron guns, a shadow or aperture mask, and a phosphor-dot screen. The guns are positioned in the neck of the tube in a triangular arrangement, and the shadow mask is positioned close to the phosphor screen. The screen has three sets of phosphor dots, one set for each electron beam.

Physical Structure of Post-Acceleration Tube

The post-acceleration tube, which is a 22-inch rectangular glass tube, is basically a three-gun type. The design, however, is rather different from that of the shadow-mask tube. The structure of the post-acceleration tube can be seen by referring to Fig. 1.

The three guns, which are of the electrostatic type, are not in a triangular arrangement but are all in one horizontal plane. Notice that just before the beams from the guns strike the phosphor screen they pass through a grille composed of vertical wires which are parallel to each other. The grille wires are very small; they are 3-mil wires with a spacing of 28 wires per inch. The grille is the color-selecting electrode in this tube. It is constructed in such a way that more than 90 per cent of the electrons ejected from the guns strike the phosphor screen and contribute to picture brightness. This is a great increase in brightness over that produced by the shadow-mask tube.

The phosphor screen is made up of three different phosphors. One phosphor emits red light, another emits green light, and the third emits blue light when energized by the electron beams. Instead of the phosphors being arranged in a dot formation as they are in the shadow-mask tube, they are arranged in lines that are vertical and parallel. There are three times as many phosphor stripes as there are grille wires. The beams passing through the grille and striking the phosphor stripes are shown in Fig. 1.

The development program pursued at the General Electric Company has been divided into two stages. The first tube that was developed is referred to as the "sandwich" tube. The name is derived from the way in which the tube is constructed. A flat phosphor plate and a grille mounted on a frame are assembled in the form of a sandwich and are inserted in the front end of the picture-tube envelope. This sandwich tube was the one demonstrated when the General Electric progress report was presented.

A newer design of the post-acceleration tube is in the develop-

* * Please turn to page 52 * *

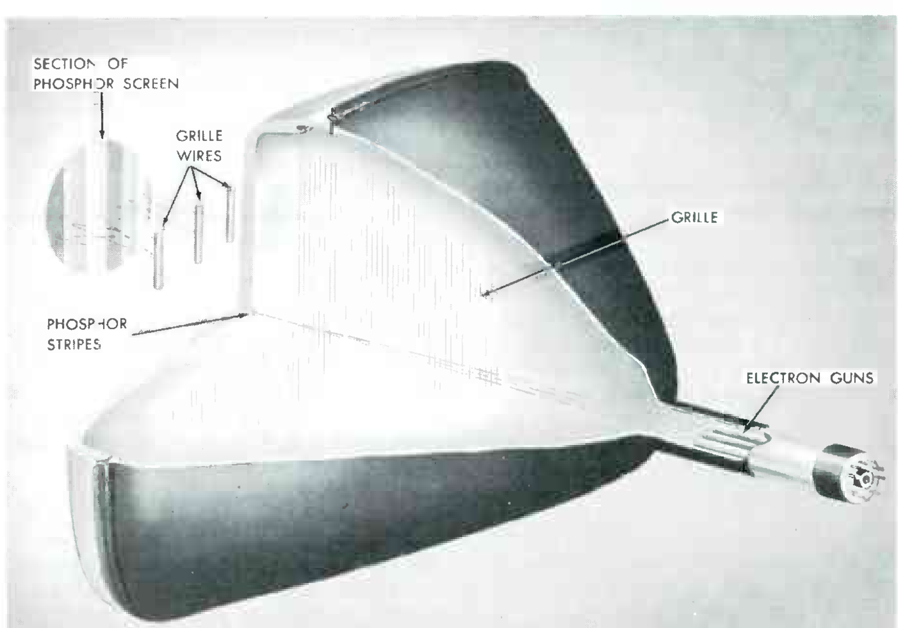
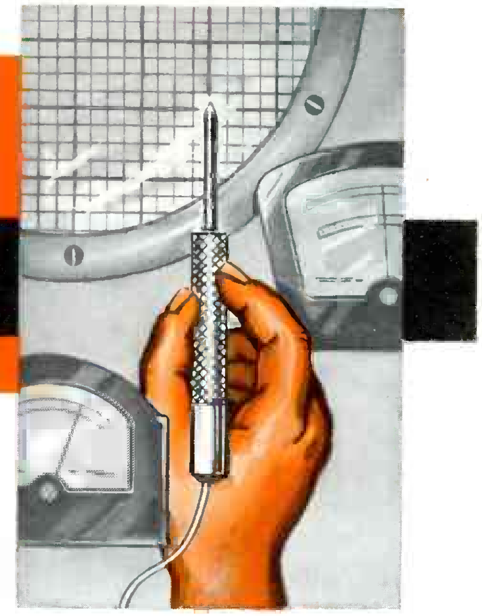


Fig. 1. The Post-Acceleration Color Picture Tube in Development at General Electric Company.

Notes On TEST EQUIPMENT



Presenting Information on Application, Maintenance, and Adaptability of Service Instruments

by Paul C. Smith

Win-Tronix Model 120 Compatible Crystal Calibrator

Winston Electronics, Inc., manufactures the Win-Tronix compatible crystal calibrator shown in Fig. 1. This instrument is designed to provide an RF signal of crystal-controlled accuracy. Such a signal

Fig. 1. Win-Tronix Model 120 Compatible Crystal Calibrator.

is often needed by the technician. The instruction manual lists a number of uses for the instrument. These include use as a frequency standard, as a marker generator for RF and IF sweep curves, as a marker generator for oscilloscope timing, and as a means for comparing the relative activity of crystals.

As the word "compatible" in the name suggests, the instrument provides a signal that is particularly suitable for color TV servicing. A crystal that is mounted internally controls the 3.579545-mc frequency of this signal to an accuracy closer than 18 parts per million.

Three sockets for extra crystals are mounted on the front panel. The internal crystal or any one of the external crystals can be individually put into operation by setting the FUNCTION switch to one of its four operating positions; thus, four crystal-controlled signals including the 3.579545-mc color subcarrier can be selected by a turn of the switch.

The 3.579545-mc crystal is furnished with the instrument. Crystals for other frequencies should be obtained from the manufacturer because the crystal sockets in this instrument will not accept crystals having standard-sized pins.

The oscillator circuit of the instrument will operate from 100 kilocycles to 15 megacycles. The circuit is a Pierce oscillator which requires no adjustment for crystals with fundamental frequencies that are within this range.

The strength of the output signal is governed by a continuously variable attenuator. The output voltage is stated to be not less than 1 volt peak to peak with crystals of 100 kilocycles to 5 megacycles and not less than 1/2 volt peak to peak with crystals of 5 to 15 megacycles.

The relative activity of individual crystals of approximately the same frequency can be compared by connecting a 0-to-100 microammeter to the pin jacks on the front panel. This reading represents the oscillator grid current, and a higher reading indicates a more active crystal.

REVIEW OF TEST INSTRUMENTS

There is such a wide variety of test instruments offered by the manufacturers that it is a problem for the service technician to choose a new piece of equipment for his shop. We shall not presume to make such a choice for the technician, but we plan to give in this column in the next few issues an orderly presentation of specifications of each model plus some discussion of a general nature to make it easier for the technician to arrive at a selection best suited for his particular needs.

A number of factors which will probably influence the technician in his choice are of such a nature that they will apply no matter what type of instrument is being considered. Among these would be such things as appearance, size and weight, ruggedness, versatility, long-term usefulness, and ease of operation. The size and weight of an instrument are important if the instrument is to be carried from house to house or if the amount of bench space is limited. Appearance is also important if the instrument will be used in public a great deal. As an example of long-term usefulness, we might consider a dot/bar generator. It is useful for linearity adjustments in monochrome receivers; and when color receivers become more plentiful, it will also be useful for adjustments in them.

The type of shop in which the instrument will be used may have a bearing on the choice of equipment. If there are a number of technicians in the shop, some general-purpose equipment may be placed at each bench position and perhaps only single units of certain specialized equipment may serve the entire shop.

In addition to offering factory-assembled instruments, some manufacturers offer kits which the technician can assemble for himself. There are both advantages and disadvantages associated with the assembly and use of these kits.

Obviously, a kit can be purchased for less money than a factory-wired unit of the same make and model. The amount saved by wiring a kit unit seems to vary with the complexity of the instrument. A check of 15 different models supplied by a certain manufacturer revealed an average saving of 27 per cent of the price of the factory-wired model when compared to the kit model. Individual savings may be as high as 48 per cent or as low as 14 per cent, depending upon the instrument. There may be certain other advantages to the technician if he assembles his own equipment; it should make him more familiar with construction details and theory of operation of the instrument. This knowledge will make him better qualified to service the equipment if that becomes necessary.

It seldom happens that any operation or circumstance will present all advantages and no disadvantages, and that is certainly true in the case of kits. First, there is the aspect of the time necessary for assembling a kit. If the technician is extremely busy, his time may be worth more to him for his regular duties than the amount of money he saves in assembling a kit. There is the possibility that he may make some error in the wiring, an error which may not necessarily prevent the instrument from operating but which might reduce the efficiency of operation. Since he would have no way of knowing that the instrument was not up to the manufacturer's standards of performance, he may continue to use it unaware of its deficiency. Some parts may be damaged during assembly and may have to be replaced, adding to the over-all cost of the instrument.

Among the instruments to be covered in this and following issues will be multimeters, VTVM's, RF and sweep generators, oscilloscopes, and others. This first coverage will deal with multimeters.

MULTIMETERS

Some of the more important points to consider when examining a multimeter are: (1) ranges offered, (2) meter rating in ohms per volt, (3) size and readability of the meter scale, and (4) simplicity of operation. Other considerations are also important, but we would say that these four are basic.

There should be an adequate number of ranges for each function; otherwise, the scales will be found to be excessively crowded. With a sufficient number of overlapping ranges, most measurements can be made so that the pointer will come to rest in the middle portion of a scale. It is generally agreed that measurements are more accurate in this region of a meter scale.

The ohm-per-volt rating should be high enough so that loading of the circuits to which the meter is applied will be at a minimum. A high rating in ohms per volt means that a sensitive meter movement is used, but this in turn will usually mean a higher-priced meter.

Other considerations which will interest the prospective buyer are portability, ruggedness, resistance of the meter window to breakage, ease of battery replacement, inclusion of decibel scales, frequency response to AC signals, protection against being overloaded, parallax correction, high-current ranges, and availability of probes and other accessories.

The following multimeters with the manufacturers' specifications are grouped according to the respective manufacturers.

Electronic Instrument Co., Inc. (EICO)

EICO MODEL 536

RANGES (31)

AC and DC VOLTAGE, 0 to 5000 volts in 7 ranges each; RESISTANCE, 0 to 1 megohm in 3 ranges; AC and DC CURRENT, 0 to 1 ampere in 4 ranges each (lowest range, 0 to 1 milliampere); DECIBELS, -20 to +69 db in 6 ranges.

OTHER FEATURES

Sensitivity, 1000 ohms per volt for AC or DC voltage; 400-microampere movement; 3-inch meter; size of case, 6 1/2 by 3 3/4 by 2 3/4 inches.

EICO MODEL 526

Same as Model 536 but with 1% precision resistors.

EICO MODEL 565

RANGES (31)

AC, DC, and OUTPUT VOLTAGE, 0 to 5000 volts in 6 ranges each; RESISTANCE, 0 to 20 megohms in 3 ranges; DC CURRENT, 0 to 10 amperes in 5 ranges (lowest range, 0 to 100 microamperes); DECIBELS, -12 to +55 db in 5 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 1000 ohms per volt AC; 50-microampere movement; 4 1/2-inch meter; size of case, 6 3/4 by 5 1/4 by 3 inches.

EICO MODEL 555

Same as Model 565 but with 1% precision resistors.

EICO MODEL 566

RANGES (38)

AC, DC, and OUTPUT VOLTAGE, 0 to 5000 volts in 7 ranges each; RESISTANCE, 0 to 1 megohm in 3 ranges; AC and DC CURRENT, 0 to 1 ampere in 4 ranges each (lowest range, 0 to 1 milliampere); DECIBELS, -20 to +69 db in 6 ranges.

OTHER FEATURES

Sensitivity, 1000 ohms per volt for AC or DC voltage; 400-microampere movement; 4 1/2-inch meter; size of case 6 3/4 by 5 1/4 by 3 inches.

EICO MODEL 556

Same as Model 566 but with 1% precision resistors.

The Hickok Electrical Instrument Co.

HICKOK MODEL 450

RANGES (34)

AC, DC, and OUTPUT VOLTAGE, 0 to 5000 volts in 6 ranges each; RESISTANCE, 0 to 100 megohms in 4 ranges; DC CURRENT, 0 to 10 amperes in 7 ranges (lowest range, 0 to 50 microamperes); DECIBELS, -30 to +55 db in 5 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 5000 ohms per volt AC; 50-microampere movement; 5-inch meter; size of case, 8 1/2 by 5 3/4 by 2 1/2 inches.

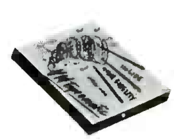
* * Please turn to page 34 * *

NOW V-M POPULAR PRICED TAPE-O-MATIC® PLAYS BINAURAL TAPES

Now more than ever the most versatile tape recorder on the market with the STERE-O-MATIC BINAURAL Conversion Kit $16.95.

- ***ONLY V-M*** tape-o-matic is designed for simple binaural conversion—*Any* tape-o-matic ever built can be converted.
- ***ONLY V-M*** has the Stere-o-matic Binaural Conversion Kit.
- ***ONLY V-M*** gets you repeat business converting previously sold tape-o-matics.
- ***ONLY V-M*** gives you a tape recorder *you* can convert to sell NOW as the *Binaural* tape-o-matic.
- ***ONLY V-M*** lets your customers of today convert to binaural tomorrow or anytime.
- ***ONLY V-M*** tape-o-matic tape recorder offers top ten features for $179.95* List!

The most dramatic in-store demonstration tapes ever created,



use-tested and proved effective, are yours to use in selling the V-M tape-o-matic. Tell 'em and sell 'em on the Spot!

Call your V-M Distributor—NOW!

Your Distributor may already have the factory-converted V-M tape-o-matic Model 701. Ask him about it.

*Slightly higher in the west.

Mail Coupon Today!

I want the full story about the profitable, new V-M Stere-o-matic Binaural Conversion Kit.

Name____________________

Firm____________________

Address____________________

City__________ Zone____ State______

Mail to: V-M Corporation, Benton Harbor 7, Michigan.

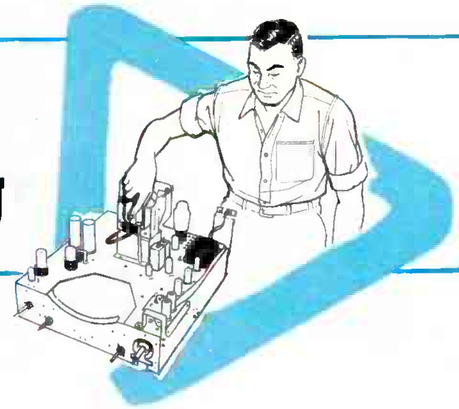
V-M CORPORATION
BENTON HARBOR 7, MICHIGAN

the Voice of Music®

WORLD'S LARGEST MANUFACTURER OF PHONOGRAPHS AND RECORD CHANGERS

In the Interest of . . .

Quicker Servicing



by **Calvin C. Young, Jr.**

Small problems that occasionally arise can sometimes cause the service technician a great deal of trouble, and this trouble is due largely to lack of experience with the particular problem. Several of the less familiar small problems are presented in the following discussion.

Water Under TV Receiver Cabinet

Recently a very disturbed customer called to report that there was a puddle of water under her TV set. This customer thought that the water had come from within the receiver since there was no window near enough to allow water to run into the house and under the TV set. The technician accepted the customer's complaint with some doubt in his mind but nevertheless agreed to make the call.

Upon arrival at the customer's home, the technician's first move was to look under the set; and sure enough, the pool of water was there. In order to get room to inspect this water-spouting monster, the technician took hold of the TV receiver and proceeded to move it away from the wall. In this process, the lead-in wire was grasped; and the technician immediately noticed that it was wet. Since this lead-in was of the tubular type, the technician suspected that the water was entering from this source.

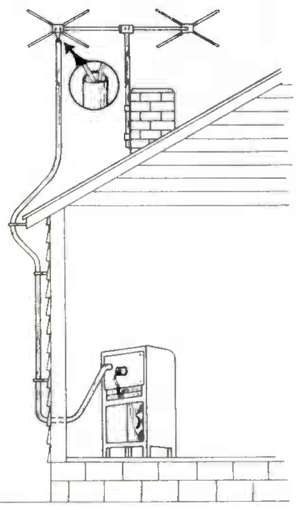


Fig. 1. Improper Installation of Lead-in Wire.

Examination of the antenna system revealed that several mistakes had been made when the antenna and lead-in had been installed, and these mistakes can be seen in the drawing shown in Fig. 1. Notice that there is no drip loop at the point where the lead-in enters the house and that the top of the tubular lead-in was not sealed. These two mistakes in the original installation caused all of the trouble. Not only was water getting into the house from this source, but a considerable portion of the received signal was being lost because of the water that was standing inside the lead-in. This loss could mean no reception at all in fringe, near fringe, or UHF areas. It is much easier to seal the tubular lead-in and to form the correct drip loop when the antenna system is initially installed.

Arcing Within the Deflection Yoke

Failure of the deflection yoke is not too uncommon because of the large pulse signals that are developed across the yoke windings. These same large pulses also have the effect of causing failures that at first may appear to occur in the yoke windings when actually one of the damping components inside the yoke may have failed. These damping components should always be checked thoroughly before the yoke is replaced. This will help guard against unnecessary replacement of the yoke.

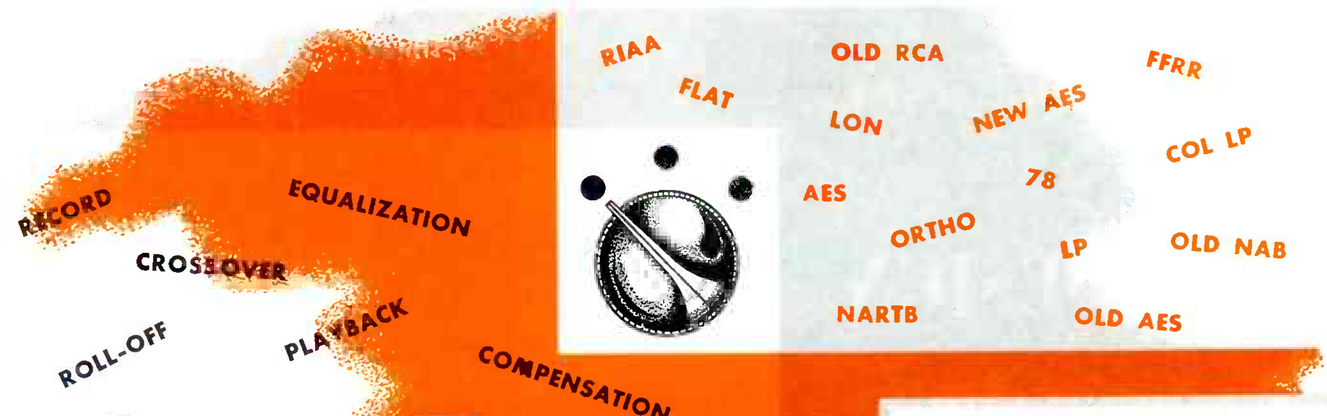
Because of the very limited space available for the damping components and for all of the wires to the yoke coils, the large pulses will sometimes cause trouble in the wiring itself. You will notice in Fig. 2 that the wires are sometimes run against some of the terminals and are therefore a frequent source of shorts and arcing troubles. Part of the reason for the troubles is that, in many cases, the wire which touches the terminal has had its insulation damaged by the soldering iron when that terminal was soldered. This could occur in a repair shop as well as in the factory; therefore, when any soldering or replacing of components within the yoke housing is done, extreme care should be exercised not to damage any of the wiring insulation.

Fig. 2. Short Between Wire and Terminal in Deflection Yoke.

Capacitor Failure in High-Voltage Doubler Circuits

A large number of the Model 630 and other earlier TV receivers were made with a doubler circuit that developed the high voltage. A sample schematic diagram of one of these doubler circuits is shown in Fig. 3. In some cases, the 500-mmf capacitors (C1, C2, and C3 in Fig. 3) are of a type with pigtails. In other

* * Please turn to page 65 * *



Audio-Facts

THE PURPOSE and OPERATION of RECORD-COMPENSATION CONTROLS

by Robert B. Dunham

The record-compensation controls found on phono preamplifiers continue to puzzle many audio enthusiasts. There is no wonder that this is true in some cases because, on one preamplifier, this control may have a single knob which turns to only two or three operating positions; whereas, another unit may have two knobs, one or more levers, or as many as ten slide switches for the same purpose. For those persons not familiar with record compensation, things are made more complicated by the markings on these controls. To name a few of the position markings, we have LP, AES, LON, 78, FFRR, 500, NARTB, RIAA, NEW ORTHO, OLD AES, and COL.

Record-compensation controls have nearly always been used in high quality music systems to enable the operator to obtain the best reproduction from records, but many listeners wonder why these controls are necessary. Some basic reasons why compensation is necessary were discussed in this column in the November-December 1952 issue of the PF INDEX in which we wrote about recording and playback characteristics. But that was a long time ago when considered in the light of the progress made in the field of audio in the home since then. Because of this progress and the improvements that have been made and the tendency of some listeners to ignore record compensation, some more information on the subject should be appropriate.

Records have been improved in most respects, and the equipment with which to reproduce them has also been improved. It seems logical, since we have better records and improved wide-range playback equipment, that equalization to compensate for record characteristics has become more important.

It is true that we now have a standard playback curve, but we still have to compensate for it; and we still have the recordings that were cut according to other curves before the standard curve was adopted.

Let's start at the beginning of recording. Why do we have to have playback compensation when we play a record? What is a playback curve, and why do we have it? Why is the playback curve different for different records? We have playback curves because we have recording curves. Here we go again!

The inherent characteristics of a cutting head cause the stylus which cuts the groove in the master record to respond in a different manner to different frequencies. Equalization must be employed in the circuits that feed the cutting head in order to compensate for some of the characteristics so that a satisfactory recording can be made. When plotted against frequency, the results of this equalization form a recording curve.

In the earliest years of disc recording, all recordings were made by the acoustical method. The sound waves moved a diaphragm which in turn moved the cutting stylus by means of a mechanical hookup and caused it to cut a modulated groove in the disc. This modulation was cut in the form of a wiggle as the cutting stylus was moved in a lateral to-and-fro motion. Because of the natural physical laws which governed the action of the acoustical cutting head, low tones caused the stylus to cut wider (or higher-amplitude) wiggles than did the high tones. If the frequency of the signal was doubled (raised one octave), the amplitude of the signal recorded on the record was reduced by one half.

When a disc recorded by the acoustical method was played back with an acoustical reproducer, the signal was flat or reproduced with its original values (depending upon the limitations of the system). The same natural laws that governed the cutter also governed the reproducer, and therefore the signal was automatically restored to its original proportions.

The same conditions held true when electrical recording was introduced and when magnetic recording heads were used to cut the records. The amplitude of the recorded signal increased as the frequency of the signal decreased. When the disc recorded by a magnetic cutting head was played back with a magnetic pickup cartridge, the signal was flat and sounded normal. These results were due to the inherent constant-velocity characteristic of the cutting head and the cartridge.

Constant Velocity

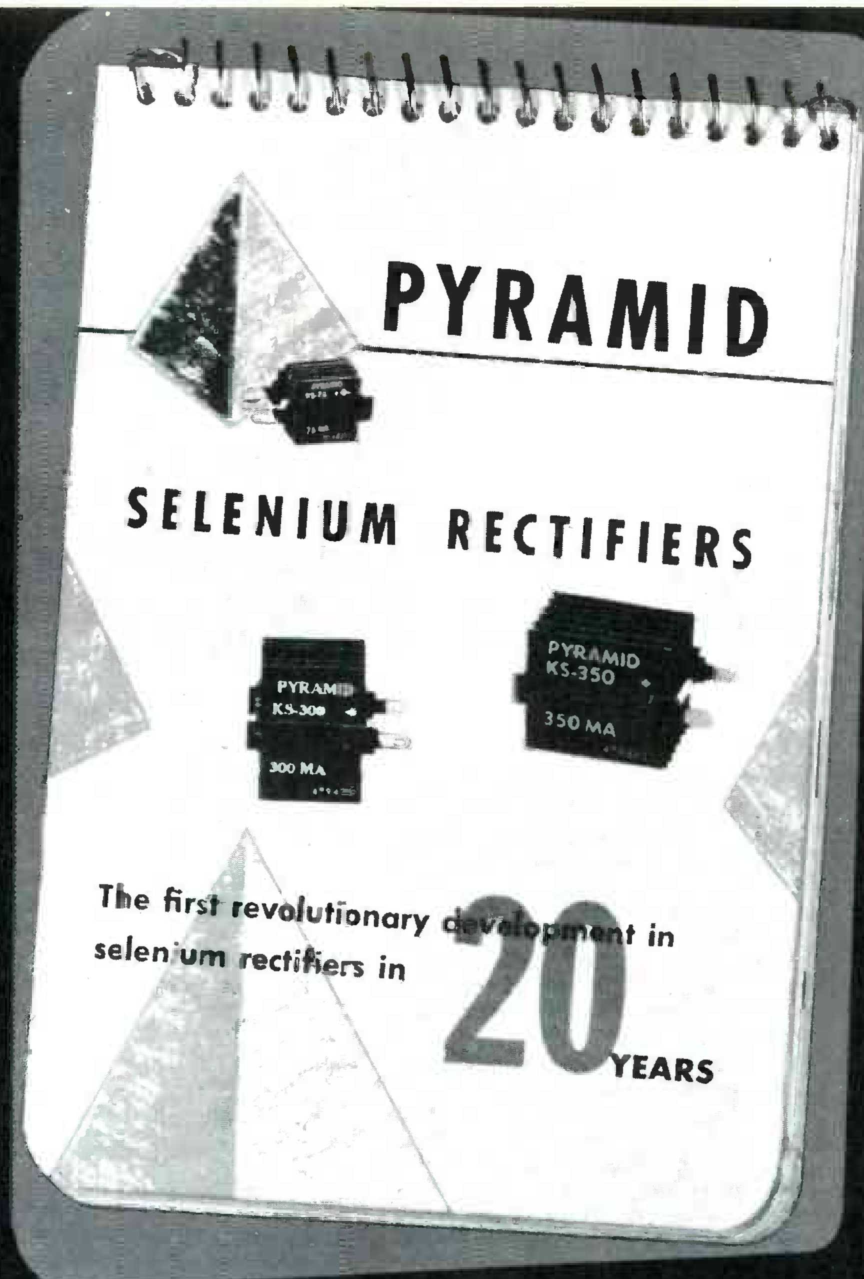
Now, that last statement in which we mentioned constant velocity is where we lose a lot of readers, if we have not already lost them. We can hear them say, "Constant velocity! Who cares about constant velocity? All we were wondering about is why we have to turn a knob marked RECORD COMPENSATION."

* * Please turn to page 54 * *

ask your jobber
for the whole story
of the . . .

1st NEW DESIGN

of selenium rectifiers
in over 20 years



because the new Pyramid Kool-sel design is so revolutionary and because its features themselves sell so immediately Pyramid has prepared this hand-sized flip chart, which tells at a glance all about such features as No Center Mounting and the Secret Barrier Layer of Pyramidium and explains the principles that make Kool-sel rectifiers superior to any on the market.

DISTRIBUTOR DIVISION
PYRAMID
ELECTRIC COMPANY
1445 Hudson Blvd. • North Bergen, N.J.

Burton Browne / New York

Dollar and Sense Servicing

by *John Markus*
Editor-in-Chief, McGraw-Hill Radio Servicing Library

GUESSING. When a TV set goes bad, who fixes it? No one has to our knowledge made a nationwide consumer survey on this question yet, but here's our guesstimate:

Full-time service technician	85%
Part-time service technician	10%
Owner himself	2%
Nobody	3%

We see no cause for worry or excitement in this picture. The part-time man is an essential part of the picture because, in many instances, he is getting his apprenticeship of practical servicing experience while still making enough money at a regular job to support his family.

Repairs are rarely made by the owner, although this category might seem more important than it really is because the chap who fixes his own set once or twice lets the whole world know about it. Let the owners play; they'll come back to you "dragging their tails behind them" the first time they hit a tough one, if you treat them halfway decently.

The nobody item means that the owner has decided the set isn't worth fixing again. Chances are that he's bought a new set and was using the old one as a second set as long as it kept on running. When it quit, he may or may not have had an estimate on repairs. This nobody-fix figure indicates that the percentage of two-set households isn't climbing as fast as predicted.

From the standpoint of practical economics, old TV sets should be left dead the same as old radios. It seems a shame to see fine old radio consoles gathering dust in basements and just waiting for someone to haul them off to the dump, but there's no real money for service technicians in this sad picture. The same holds true for TV. Even if you could run through these old 10- and 12-inchers a hundred at a time on a production-line basis with a good assortment of other oldies which could be cannibalized to get special parts no longer available, you'd have trouble getting labor charges out of the deal. Furthermore, for the customers who might be attracted by low-cost old sets, the receivers would be poor bargains because of the imminent failure of over-age parts.

QUESTION. Are you interested in getting additional service business? If so, you might consider the following suggestion. After you've finished a home call; make a habit of asking something like this: "Have you any other TV sets, radios, or phonographs that need looking at?"

Point out the advantages of getting them all fixed at once, since the minimum charge for a home call applies only to the first set. Point out that you have a large stock of spare tubes and parts in your truck so that you can handle the work in the home most of the time. Sometimes, a 30-second sales talk can bring real results. Of course, your schedule must be flexible enough so that these extra jobs won't make you unduly late for the next appointment.

OVERSEAS. Each new television-conscious tourist in England comes back with enthusiasm for the superior quality of British TV images. The British still use 405-line standards, whereas the American standard is 525 lines; so, theoretically our pictures should be much better. The answer does not lie in the sets but in the British camera-pickup equipment and the expert way it is operated.

SUICIDE. One of the best ways to cut your own throat is to start cutting prices!

COLOR COMMENTS. Instruction in tuning is an essential for color TV if it is to succeed with the public, even though the new RCA sets have only two additional front-of-the-set controls for color. Printed instructions furnished by manufacturers will need to be a lot clearer than they are, and the service technician who makes the installation will have to go over these instructions several times with each and every member of the family if a color set is to be given a fair chance to show what it can do.

In our own case, we watched mistuned color pictures for two weeks before discovering the critical interlocking relationships between the fine-tuning, contrast, and brightness controls and the two color controls. The contrast adjustment is particularly important. The ritual of adjustment has to be repeated for each color program if the set is used for black and white in between.

As to programming, color gives a new third-dimensional quality that contributes greatly to enjoyment. Despite poor camera performance, color makes the ball a lot easier to follow in football games. But before the general public should be asked to get enthusiastic about color even at the hoped-for under-$500 figure, there'll have to be a lot of improvement in studio and transmitter equipment. Today almost every change in the focus and in the switching of cameras alters the color balance and therefore makes performers blush at too-frequent intervals and makes blues change to greens or purples most distractingly.

JOHN MARKUS

Notes on Test Equipment

(Continued from page 27)

HICKOK MODEL 455

RANGES (22)

AC and DC VOLTAGE, 0 to 1200 volts in 6 ranges each; RESISTANCE, 0 to 100 megohms in 4 ranges; DC CURRENT, 0 to 10 amperes in 6 ranges (lowest range, 0 to 50 microamperes).

OTHER FEATURES

Sensitivity, 20,000 ohms per volt for AC or DC voltage; 50-microampere movement; 5-inch meter; size of case, 8 1/2 inches long by 5 7/8 inches wide. Height is 3 inches tapering to 1 3/4 inches. The meter movement and all circuit components are protected from being overloaded by a cutout and fuse system. This model is designed to lie flat on the bench and has an inclined, curved meter face for convenience in reading.

HICKOK MODEL 456

Similar to Model 455 but with the following differences. The sensitivity on AC ranges is 1000 ohms per volt. Five DECIBEL ranges from -18 to +57 db are included. The instrument is frequency compensated for accuracy over the entire audio range.

Phaostron Instrument and Electronics Co.

PHAOSTRON MODEL 555

RANGES (43)

AC and DC VOLTAGE, 0 to 1500 volts in 7 ranges each; RESISTANCE, 0 to 10 megohms in 4 ranges; DC CURRENT, 0 to 15 amperes in 11 ranges (lowest range, 0 to 50 microamperes); AC CURRENT, 0 to 15 amperes in 8 ranges (lowest range, 0 to 1.5 milliamperes); DECIBELS, -10 to +56 db in 6 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 2000 ohms per volt AC; 50-microampere movement; 4 7/8-inch meter scale; size of metal case, 6 1/8 by 4 5/8 by 2 1/8 inches. The function switch has a TRANSIT position in which a shunt is placed across the meter movement for protection during transportation.

Precision Apparatus Company, Inc.

PRECISION SERIES 40

RANGES (31)

AC, DC, and OUTPUT VOLTAGE, 0 to 6000 volts in 6 ranges each; RESISTANCE, 0 to 5 megohms in 3 ranges; DC CURRENT, 0 to 600 milliamperes in 4 ranges (lowest range, 0 to 0.6 milliampere); DECIBELS, -22 to +70 db in 6 ranges.

OTHER FEATURES

Sensitivity, 1000 ohms per volt for AC or DC voltage; 400-microampere movement; 3-inch meter; size of case 3 3/4 by 6 1/4 by 2 1/2 inches.

PRECISION SERIES 120

RANGES (44)

AC, DC, and OUTPUT VOLTAGE, 0 to 6000 volts in 8 ranges each; RESISTANCE, 0 to 20 megohms in 5 ranges; DC CURRENT, 0 to 12 amperes in 7 ranges (lowest range, 0 to 60 microamperes); DECIBELS, -20 to +77 db in 8 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 5000 ohms per volt AC; 40-microampere movement; 5 1/4-inch meter; size of case, 5 3/8 by 7 by 3 1/8 inches. The function switch has a TRANSIT position in which a shunt is placed across the meter movement for protection during transportation.

PRECISION SERIES 858

RANGES (54)

DC VOLTAGE, 0 to 6000 volts in 8 ranges at 20,000 ohms per volt and in 8 ranges at 1000 ohms per volt; AC and OUTPUT VOLTAGE, 0 to 6000 volts in 8 ranges each at 1000 ohms per volt; RESISTANCE, 0 to 600 megohms in 6 ranges; DC CURRENT, 0 to 12 amperes in 8 ranges (lowest range, 0 to 60 microamperes); DECIBELS, -26 to +70 db in 8 ranges.

OTHER FEATURES

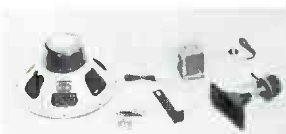
Movement rated at 50 microamperes; 4 5/8-inch meter. Ranges are selected by push buttons rather than by rotary switches. The meter is available as Series 858-P and Series 858-L. Series 858-P is in a portable, hardwood case with a compartment for the test leads. The case is 9 by 10 by 4 1/2 inches. Series 858-L is in a Bakelite case measuring 7 1/2 by 8 1/2 by 3 inches.

BUILD YOUR OWN JENSEN HI-FI SPEAKER SYSTEM

IT'S EASY WITH JENSEN'S NEW COMPLETE SPEAKER KITS AND DETAILED CABINET CONSTRUCTION AND ASSEMBLY MANUAL!

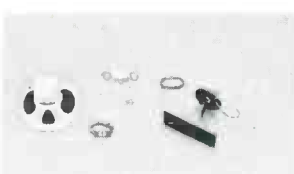
KT-31 IMPERIAL KIT
3-way system. The ultimate in performance. Specially designed 15" "woofer", compression type mid-range and "supertweeter" units. 600- and 4000-cycle crossover networks, intrarange equalizer, special controls, brackets, cables. Recommended enclosure 25 cu. ft. in back-loading folded-horn. 16 ohms. 35 watts. $184.50

KT-32 TRI-PLEX KIT
3-way system. Superlative performance in moderate space; approx. 10 cu. ft. suggested. 15" "woofer", compression type mid-range and "supertweeter" units. 600- and 4000-cycle crossover networks intrarange equalizer, controls, brackets, cables. 16 ohms. 35 watts........$169.50

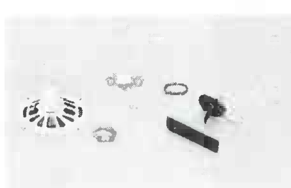


KT-21 CONCERTO-15 KIT
2-way system. An outstanding system with 15" "woofer" and compression type "tweeter", 2000-cycle crossover network and balance control, bracket and cables. 10 cu. ft. enclosure suggested. 16 ohms. 30 watts $99.50

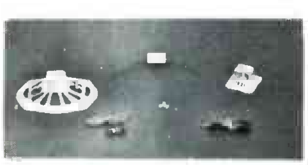
KT-22 CONCERTO-12 KIT
2-way system. Excellent performance in scaled-down size (recommended enclosure as small as 6 cu. ft.). Like KT-21 except 12" "woofer". 16 ohms. 25 watts........$73.00



KDU-10 TREASURE CHEST DUETTE KIT
2-way system. Special 8" "woofer", compression driver "tweeter" and frequency division for compact reproducer (1½ cu. ft. Duette enclosure or 2⅓ cu. ft. Bass-Ultraflex type.) Includes wiring materials. 8 ohms. 20 watts........$24.75



KDU-11 TABLE DUETTE KIT
2-way system. Specially designed for chair side or table TV use. May also be used in 1½ cu. ft. Duette enclosure. Heavy duty 6" x 9" "woofer", compression driver "tweeter", frequency division unit and wiring materials. 3-4 ohms. 20 watts........$23.75



KDU-12 BUDGET DUETTE KIT
2-way system. For maximum results at lowest cost. May be installed in table or 1½ cu. ft. regular Duette or in 2⅓ cu. ft. Bass-Ultraflex enclosures. 6" x 9" "woofer" direct radiator "tweeter" frequency dividing unit plus wiring materials. 3-4 ohms. 15 watts........$10.50

KTX-1 RANGE EXTENDER SUPERTWEETER KIT
Adds smooth, clean highs from 4000-cycles to limits of audibility to any single unit, coaxial or 2-way system. Complete with crossover network, balance control and cable. For systems rated up to 35 watts........$43.75

Cabinart (G & H Wood Products) utility enclosures are available for all except KT-31 and KTX-1 Kits.

BIG 36 PAGE BOOK WITH 18 ENCLOSURE DESIGNS

Complete instructions for building self-contained or built-in single speaker and 2-way and 3-way speaker systems: "Duette", Bass-Ultraflex and Back-loading Folded Horn cabinets. Includes parts lists and speaker data for all types of enclosures.

Get Your Copy Now For Only 50c

If you want a hi-fi system with the stand-out performance for which Jensen speakers are famous . . . plus the fun and saving of "do it yourself" . . . and the advantage of being able to adapt each basic design to your exact needs for a built-in or free standing speaker enclosure, then be sure to get your copy of Jensen's big new 36 page Manual 1060 now!

Explains fully the advantages and relative performance of 18 different speaker systems you can build or build-in with Jensen hi-fi speaker kits. Tells you how to start in high fidelity on a low budget with a real 2-way speaker system that can cost under $20 complete! Shows how to build a hi-fi speaker in table form to improve your TV or to use as an attractive useful furniture piece.

Manual 1060 gives you complete drawings for cabinet work plus easy to follow instructions for woodwork, speaker installation and connecting up. Tells how to make the latest in "Bass-Ultraflex" and back-loading folded horn enclosures. You can build any of Jensen's fine reproducers from the incomparable Imperial to a low cost Duette. Manual 1060 is priced, postpaid at only 50¢.

The JENSEN *authentic high fidelity* speaker system kits give you the same high-quality matched loudspeaker components used in JENSEN'S factory assembled complete reproducers: you "do it yourself" and save. It's easy to select and order the kit you want. Send in the coupon TODAY. Get your copy of Manual 1060 NOW!

JENSEN MANUFACTURING COMPANY
6601 SOUTH LARAMIE, CHICAGO 38, ILL., DEPT. (M)

Please send me the Jensen *Authentic* High Fidelity Manual 1060 "You Can Build Your Own Hi-Fi Loudspeaker System." I am enclosing 50c in coins.

Name____________________

Address____________________

City____________ Zone______ State__________

Jensen MANUFACTURING COMPANY

6601 South Laramie, Chicago 38 • Division of The Muter Co., in Canada, Copper Wire Products, Ltd., Licensee

PRECISION SERIES 866

Similar to Series 858 but with the following differences: sensitivities for DC voltage, 5000 and 1000 ohms per volt; RESISTANCE, 0 to 200 megohms; lowest DC current range, 0 to 300 microamperes; 9-inch meter; the instrument is supplied in a standard panel mount 19 by 12 1/4 inches with dust cover.

Simpson Electric Company

SIMPSON MODEL 221

RANGES (25)

AC and DC VOLTAGE, 0 to 5000 volts in 6 ranges each; OUTPUT VOLTAGE, 0 to 1000 volts in 5 ranges; RESISTANCE, 0 to 20 megohms in 3 ranges; DC CURRENT, 0 to 10 amperes in 5 ranges (lowest range, 0 to 100 microamperes).

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 1000 ohms per volt AC; 50-microampere movement; 5 1/2-inch meter; size of case, 12 3/4 by 10 1/8 by 5 5/8 inches. A different, full-length scale comes into view in the meter window when a different range is selected by means of the range switch. A compartment is provided in the case for the test leads.

SIMPSON MODEL 230

RANGES (12)

DC VOLTAGE, 0 to 1000 volts in 4 ranges; AC VOLTAGE, 0 to 1000 volts in 3 ranges; RESISTANCE, 0 to 100,000 ohms in 2 ranges; DC CURRENT, 0 to 250 milliamperes in 3 ranges (lowest range, 0 to 10 milliamperes).

OTHER FEATURES

Sensitivity, 1000 ohms per volt DC and 400 ohms per volt AC; 3-inch meter; size of case, 3 by 5 7/8 by 2 1/2 inches.

SIMPSON MODEL 240

RANGES (14)

DC VOLTAGE, 0 to 3000 volts in 5 ranges; AC VOLTAGE, 0 to 3000 volts in 4 ranges; RESISTANCE, 0 to 300,000 ohms in 2 ranges; DC CURRENT, 0 to 750 milliamperes in 3 ranges (lowest range, 0 to 15 milliamperes).

OTHER FEATURES

Sensitivity, 1000 ohms per volt for AC or DC voltage; 3-inch meter ;

size of case, 3 by 5 7/8 by 2 1/2 inches.

SIMPSON MODEL 260

RANGES (30)

AC and DC VOLTAGE, 0 to 5000 volts in 6 ranges each: OUTPUT VOLTAGE, 0 to 1000 volts in 5 ranges; RESISTANCE, 0 to 20 megohms in 3 ranges; DC CURRENT, 0 to 10 amperes in 5 ranges (lowest range, 0 to 100 microamperes); DECIBELS, -12 to +55 db in 5 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 1000 ohms per volt AC; 50-microampere movement; 4 1/2-inch meter; size of case, 5 1/4 by 7 by 3 1/8 inches. The rigid handle permits the meter to be propped to the best viewing angle.

SIMPSON MODEL 260RT

Electrically similar to the Model 260 but mounted in a roll-top safety case which has a compartment for storing the test leads.

SIMPSON MODEL 262

RANGES (33)

DC VOLTAGE, 0 to 4000 volts in 7 ranges; AC VOLTAGE, 0 to 800 volts in 5 ranges; OUTPUT VOLTAGE, 0 to 160 volts in 4 ranges; RESISTANCE, 0 to 50 megohms in 6 ranges; DC CURRENT, 0 to 16 amperes in 7 ranges (lowest range, 0 to 80 microamperes); DECIBELS, -12 to +45.5 db in 4 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 5000 ohms per volt AC; 7-inch meter; size of case, 7 15/16 by 6 by 2 15/16 inches.

SIMPSON MODEL 269

RANGES (33)

DC VOLTAGE, 0 to 4000 volts in 7 ranges; AC VOLTAGE, 0 to 800 volts in 5 ranges; OUTPUT VOLTAGE, 0 to 160 volts in 4 ranges; RESISTANCE, 0 to 200 megohms in 6 ranges; DC CURRENT, 0 to 16 amperes in 7 ranges (lowest range, 0 to 16 microamperes); DECIBELS, -12 to +45.5 db in 4 ranges.

OTHER FEATURES

Sensitivity, 100,000 ohms per volt DC and 5000 ohms per volt AC;

7-inch meter; size of case, 7 15/16 by 6 by 2 15/16 inches.

SIMPSON MODEL 355

RANGES (14)

AC and DC VOLTAGE, 0 to 1200 volts in 5 ranges each; RESISTANCE, 0 to 10 megohms in 4 ranges.

OTHER FEATURES

Sensitivity, 10,000 ohms per volt for AC or DC voltage; size of case, 2 3/4 by 4 1/2 by 1 inches. Ranges are selected by placing the test leads into the proper jacks.

Triplett Electrical Instrument Co.

TRIPLETT MODEL 630

RANGES (34)

AC, DC, and OUTPUT VOLTAGE, 0 to 6000 volts in 6 ranges each; RESISTANCE, 0 to 100 megohms in 4 ranges; DC CURRENT, 0 to 12 amperes in 5 ranges (lowest range, 0 to 60 microamperes); DECIBELS, -30 to +70 db in 7 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 5000 ohms per volt AC; 50-microampere movement; 5 1/2-inch meter; size of case, 3 7/32 by 5 1/2 by 7 1/2 inches.

TRIPLETT MODEL 630NA

RANGES (70)

DC VOLTAGE, 0 to 6000 volts in 8 ranges at 10,000 ohms per volt and 0 to 3000 volts in 8 ranges at 20,000 ohms per volt; AC VOLTAGE, 0 to 6000 volts in 6 ranges at 5000 ohms per volt and 0 to 3000 volts in 6 ranges at 10,000 ohms per volt; OUTPUT VOLTAGE, same as AC VOLTAGE ranges but with series capacitor added; RESISTANCE, 0 to 100 megohms in 6 ranges; DC CURRENT, 0 to 12 amperes in 12 ranges (lowest range, 0 to 60 microamperes); DECIBELS, -30 to +70 db in 12 ranges.

OTHER FEATURES

Size of case, 3 5/16 by 5 1/2 by 7 1/2 inches; 5 1/2-inch meter. Meter movement is protected against being overloaded. The instrument is frequency compensated from 35 cps to

LOOK TO THE LITTLE INDIAN FOR

THE **BIGGEST** VALUE IN

MOLDED PAPER TUBULAR CAPACITORS

the Sangamo

Telechief®

The Telechief will outlive all other tubulars! Major manufacturers' test and stamp of approval prove that Telechiefs have longer life. They have a final insulation resistance value *10* to *15 times greater* than any other paper tubular—because they're molded in HUMIDITITE!

The Telechief outperforms all other molded paper tubulars in moisture resistance... in high temperature operation... in holding its rated capacity under all conditions.

EXTRA VALUE AT NO EXTRA COST! This amazing new capacitor — that meets specifications so tough that no previously existing paper tubular could approach them—is a *premium* tubular at the price of an ordinary one. See your Sangamo Distributor today!

Those who know SANGAMO *choose Sangamo*

SANGAMO ELECTRIC COMPANY

MARION, ILLINOIS

20 kilocycles on all ranges up to and including the 300-volt range.

TRIPLETT MODEL 631

RANGES (31)

AC, DC, and OUTPUT VOLTAGE, 0 to 1200 volts in 5 ranges each; RESISTANCE, 0 to 150 megohms in 4 ranges; DC CURRENT, 0 to 12 amperes in 6 ranges (lowest range, 0 to 60 microamperes); DECIBELS, -30 to +56 db in 6 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 5000 ohms per volt AC; 50-microampere movement; 5 1/2-inch meter; size of case, 3 7/32 by 5 1/2 by 7 1/2 inches. This instrument also functions as a battery-operated VTVM. The VTVM specifications will be discussed at a later date in a coverage of VTVM's.

TRIPLETT MODEL 666R

RANGES (16)

AC and DC VOLTAGE, 0 to 5000 volts in 5 ranges each; RESISTANCE, 0 to 3 megohms in 3 ranges; DC CURRENT, 0 to 1 ampere in 3 ranges (lowest range, 0 to 10 milliamperes).

OTHER FEATURES

Sensitivity, 1000 ohms per volt for AC or DC voltage; 3-inch meter; size of case, 3 1/16 by 5 7/8 by 2 9/16 inches.

TRIPLETT MODEL 310

RANGES (23)

AC and DC VOLTAGE, 0 to 1200 volts in 5 ranges each; RESISTANCE, 0 to 20 megohms in 4 ranges; DC CURRENT, 0 to 600 milliamperes in 4 ranges (lowest range, 0 to 600 microamperes); DECIBELS, -30.8 to +56.8 in 5 ranges.

OTHER FEATURES

Sensitivity, 20,000 ohms per volt DC and 5000 ohms per volt AC; 50-microampere movement; size of case, 2 3/4 by 4 1/4 by 1 3/16 inches. Ranges are selected by a lever switch. The meter is internally shielded against RF fields.

Weston Electrical Instrument Corp.

WESTON MODEL 564, TYPE 3-C

RANGES (8)

DC VOLTAGE, 0 to 600 volts in 4 ranges; RESISTANCE, 0 to 1 megohm in 4 ranges.

OTHER FEATURES

Sensitivity, 1000 ohms per volt; size of case, 5 33/64 by 3 45/64 by 2 9/16 inches. The ranges are selected by placing the test leads into the proper jacks.

In addition to the specifications for each model listed, there will be other points which the prospective owner can check by direct examination of the instrument at the parts distributor. He can see how the general appearance of the instrument will fit in with the appearance of the equipment which he already has; he can get a good idea of the quality of the construction of the instrument; and he has a chance to operate the controls, to check the position of jacks, and to see the type of connectors used on the test leads.

When the technician goes shopping for a multimeter, he might evaluate his requirements in the following manner. For general-purpose work in low-impedance circuits, a meter with moderate sensitivity and relatively few ranges might be satisfactory. If the meter is to be used in certain industrial applications for which it must be carried about a great deal, a good carrying case is important and the meter itself must be rugged enough to stand up under hard use. Some types of meter cases have straps or belt loops which permit the user to have both hands free to operate the meter controls and the equipment that is being serviced.

If the meter is to be used in high-impedance circuits, a high sensitivity is desirable so that the circuits will not be excessively loaded. A microampere range would be necessary for measuring low current values such as the value of the beam current in a TV picture tube. A high current range of approximately ten amperes would be useful to the technician who works with automobile radios; and if he intends to service audio equipment, he will be interested in the decibel and output ranges and in the response of the meter to audio frequencies.

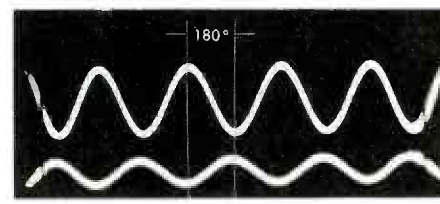
PAUL C. SMITH

Voltage Phases in Transformers

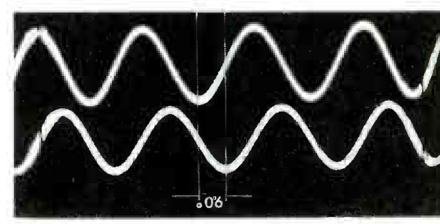
(Continued from page 23)

and the secondary voltage will remain unchanged.

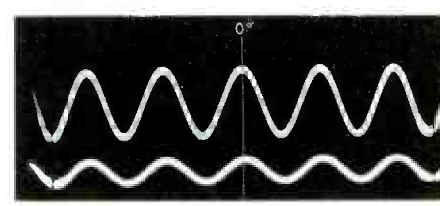
The preceding description applies to a transformer in which the two coils are wound in the same direction and placed side by side on the coil form and in which the "start" and "finish" leads of both coils are connected as shown in Fig. 1. If the leads to the B-channel of the switch were interchanged, the secondary voltage would appear to lead the primary voltage by 90 degrees when the input is at the resonant frequency.



(A) With an Input of 179 Kilocycles.



(B) With an Input of 175 Kilocycles (Resonant Frequency).



(C) With an Input of 171 Kilocycles.

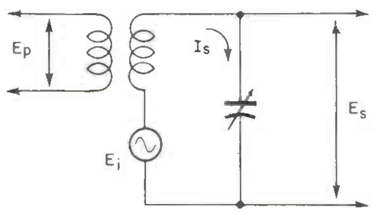
Fig. 2. Waveforms Showing Voltage Phases in a Tuned Transformer.

At an input frequency somewhat higher than resonance, the two voltages would be in phase; and at an input frequency somewhat lower than resonance, they would be 180 degrees out of phase.

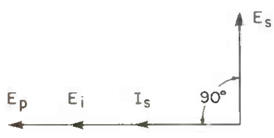
A grounded center tap can be added to the secondary winding in order to permit two output voltages of opposite polarity to be obtained. At the resonant frequency, one voltage will lag the primary voltage by 90 degrees and the other will lead by 90 degrees. The internal connections of the secondary winding determine which output will lead and which one will lag.

The complex behavior which produces this variable phase shift in a tuned transformer will be more easily explained with the aid of the vector diagrams of Fig. 3. The connections of the transformer are as they were in Fig. 1, and therefore the secondary voltage will lag the primary voltage when the transformer is tuned to resonance.

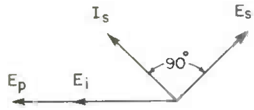
The phase of the vector for the primary voltage E_p will be taken as the reference phase in each diagram, and the vector will always be shown pointing to the left along a horizontal axis. Clockwise shift of the vectors will represent a lag in time.



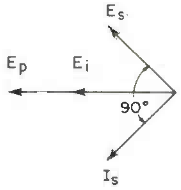
(A) Circuit.



(B) Input Frequency Is Equal to Resonant Frequency.



(C) Input Frequency Is Higher Than Resonant Frequency.



(D) Input Frequency Is Lower Than Resonant Frequency.

Fig. 3. Equivalent Circuit of a Tuned Transformer and Vector Diagrams for Different Input Frequencies.

A voltage is induced in the secondary winding of the transformer by the magnetic field which is developed by the flow of electrons in the primary; and when the transformer is connected as it is in this case, the induced voltage E_i is in phase with the primary voltage E_p.

The secondary winding and the capacitor across its terminals may be considered as a small, self-contained circuit which is series resonant. The voltage generated in the secondary winding by the magnetic field is not the output voltage. Instead, the induced voltage E_i generates a current I_s within the resonant circuit. This current charges the capacitor, and the voltage developed across the capacitor is the output voltage E_s.

When the frequency of the primary voltage E_p is equal to the resonant frequency of the tuned circuit in the secondary, the inductive and capacitive reactances are cancelled within the tuned circuit. Then the impedance of the secondary circuit is purely resistive; and the current I_s will be in phase with the induced voltage E_i, as shown in Fig. 3B. Since the voltage across a capacitor lags by 90 degrees the current which produces it, the output voltage E_s will lag I_s by that amount; therefore, E_s will also lag E_i and E_p by 90 degrees.

When the frequency of the primary voltage E_p is higher than the resonant frequency of the secondary circuit, the inductive reactance within the secondary circuit is greater than the capacitive reactance. The current I_s therefore lags the voltage E_i by some angle. The voltage E_s still lags I_s by 90 degrees, and therefore E_s lags E_i and E_p by more than 90 degrees. These phase relationships are shown in Fig. 3C.

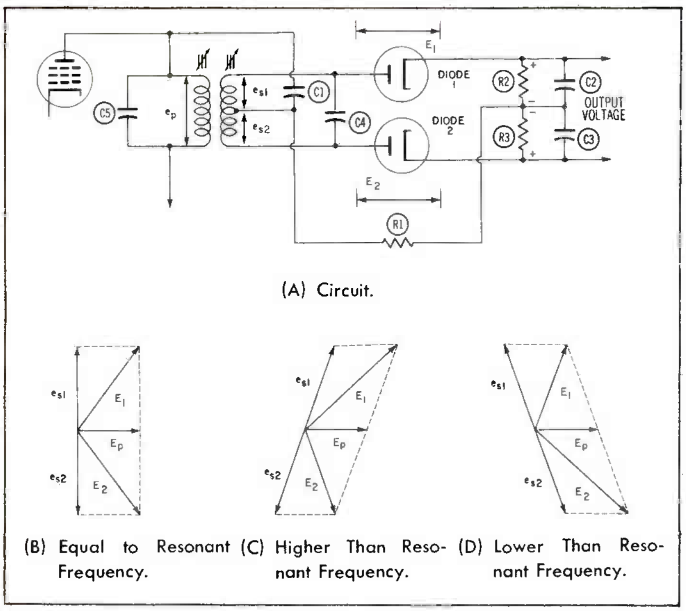
The greater the difference between the frequency of voltage E_p and the resonant frequency of the transformer, the more nearly inductive the secondary circuit becomes. The phase difference between E_p and E_s rapidly reaches 180 degrees as the frequency of E_p is increased.

If the frequency of E_p is lower than the resonant frequency of the transformer, the results diagrammed in Fig. 3D will be produced. The reactance of the secondary circuit becomes capacitive, and I_s leads E_i. The voltage E_s lags I_s as before, and E_s therefore lags E_i and E_p by an angle which is less than 90 degrees. This angle eventually becomes zero degrees.

Discriminator

The phase shift produced by changes in frequency is the basis of the Foster-Seeley type of discriminator used to demodulate FM signals. A schematic diagram of a typical Foster-Seeley circuit is shown in Fig. 4A.

The secondary winding of the discriminator is tuned and is center-



(A) Circuit.

(B) Equal to Resonant Frequency. (C) Higher Than Resonant Frequency. (D) Lower Than Resonant Frequency.

Fig. 4. Foster-Seeley Discriminator and Vector Diagrams for Different Input Frequencies.

tapped in order that two induced voltages e_{s1} and e_{s2}, each with a phase difference of 90 degrees with respect to the primary voltage, may be obtained. The center tap is also connected to the primary circuit through the DC blocking capacitor C1. This connection supplies a reference voltage that is a sample of the primary voltage. The capacitively coupled voltage is not shifted in phase because the reactance of the capacitor is extremely low at the frequency of the primary voltage.

The voltage E_1 or E_2 which is fed to each diode is the vectorial sum of the reference voltage plus the induced voltage in the half of the secondary winding connected to that diode. The manner in which these voltages add is illustrated by the vectors in Figs. 4B, 4C, and 4D. The vector of the reference voltage is shown pointing to the right along a horizontal axis. Counterclockwise rotation of the vectors represents an advance in time.

When the incoming signal is at the resonant frequency of the secondary circuit, the voltage e_{s1} leads the primary reference voltage e_p by 90 degrees, and voltage e_{s2} lags e_p by 90 degrees. See Fig. 4B. The resultant voltages E_1 and E_2 at the plates of the diodes are equal in amplitude. The diodes conduct equally, and the positive voltage across R2 in the cathode circuit of one diode is equal to the negative voltage across R3 in the cathode circuit of the other diode. The audio-output voltage of the discriminator is taken across R2 and R3 in series and is zero.

The leading phase angle of voltage e_{s1} is decreased when the incoming frequency increases; and at the same time, the lagging phase angle of voltage e_{s2} is increased. Voltage E_1 is larger than E_2 (as shown in Fig. 4C), diode 1 conducts more than diode 2, and the drop across R2 is greater than that across R3; therefore, the output voltage is positive.

A decrease in the input frequency below the resonant frequency causes voltage e_{s1} to lead e_p by a larger angle and causes e_{s2} to lag e_p by less than 90 degrees. See Fig. 4D. Diode 2 will conduct more heavily, and the output voltage will be negative.

The frequency of the primary voltage e_p varies at an audio rate during frequency modulation. It swings equally above and below the resonant frequency of the transformer. The degree of frequency change determines the degree of amplitude of the demodulated signal because the conduction of the diodes is most unequal when e_p is farthest off resonance. The more unequal the conduction, the greater the difference voltage across R2 and R3.

The ratio detector, another FM detector circuit, differs from the discriminator in the arrangement of the diodes and the load resistors; but it is very much like the discriminator with regard to the operation of the transformer.

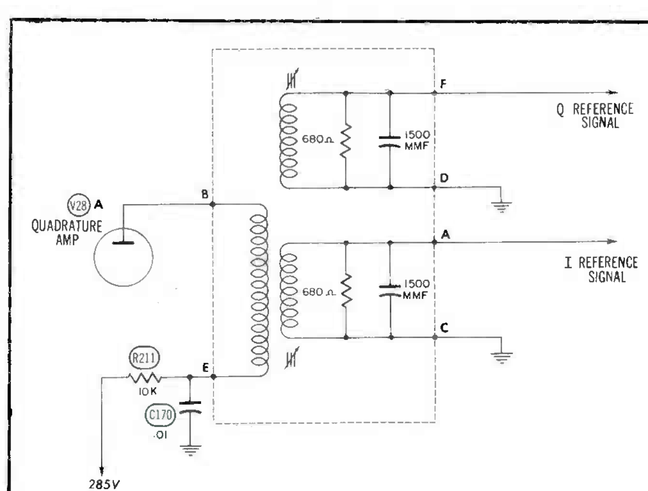
The gated-beam discriminator, the most recently designed type of FM detector, includes a tuned circuit called the quadrature coil which is physically very different from the transformer in the conventional detector circuits. Its function is nevertheless similar to that of the transformer. The changes in phase of the voltage across the tuned circuit indirectly produce variations in the audio output.

Quadrature Transformer

Another interesting usage of the phase shift across a resonant transformer is in color television. The output of the 3.58-mc local oscillator in the chrominance section of the receiver has to be converted into two voltages which are 90 degrees out of phase. These two voltages are used as CW reference signals for the demodulation of the chrominance portion of the color signal.

A component known as a quadrature transformer produces the required phase shift. This transformer is shown schematically in Fig. 6 as it is used in the RCA Victor Model CT-100 color receiver. The primary winding of this transformer is part of the plate circuit of the quadrature amplifier V28A which stage is driven by the 3.58-mc oscillator. The I winding of the transformer is made up of ten turns of wire wound directly over the primary winding and tightly coupled to it. The Q winding is identical to the I winding, but it is wound on the coil

Fig. 5. Circuit of Quadrature Transformer in RCA Victor Model CT-100 Color Receiver.



form at some distance from the primary winding. As a result, the Q winding is loosely coupled to the primary winding. A tuning slug is inserted into each end of the coil form; the bottom slug tunes the I winding, and the top slug tunes the Q winding.

During the alignment of the color receiver, the quadrature transformer is tuned as though it were made up of two separate transformers. One transformer is composed of the primary and I windings, and the other is composed of the I and Q windings. The I winding acts as the secondary of the first transformer and as the primary of the second transformer.

The bottom slug for the I winding is first adjusted for maximum voltage across the I winding. In a conventional type of tuned transformer, the phase of the signal in the secondary winding would shift with respect to the phase of the signal in the primary while the winding was being tuned; but in the quadrature transformer, the phase of the signal in the I winding is kept from shifting by the action of the feedback loop composed of the phase detector, the reactance tube, and the 3.58-mc oscillator. While the I winding is being tuned, it can be observed that the hues in the color picture do not change. This is visual evidence of the fact that the phase of the I signal does not shift.

After the bottom slug has been adjusted, the top slug is rotated until a dip occurs in the voltage across the I winding. This dip corresponds to a maximum transfer of energy from the I winding to the Q winding, and it occurs when the Q winding is tuned to the resonant frequency of 3.58 megacycles. At this condition of resonance, the Q voltage lags the I voltage by 90 degrees. If the Q winding is not correctly tuned, the phase difference between the I and Q signals will be other than 90 degrees — anything from zero to 180 degrees, depending upon the setting of the upper tuning slug.

A slight adjustment of the Q slug causes a radical change in the hues of the color picture. The great variety of hues are visual evidence of the changing phase relationship between the I signal and Q signal as the Q winding is tuned through resonance. Unless the phase of the Q signal is maintained at 90 degrees behind the phase of the I signal, it is impossible to have correct color rendition.

by THOMAS A. LESH

Interference Rejection

(Continued from page 15)

So far, our discussion has dealt with the problem of rejecting signals that lie outside the desired band or channel. Although in some instances these signals can be particularly troublesome, the interference signals that are most difficult to eliminate are those that occur at the same frequencies as the wanted signal. The most common of these are reflected signals and co-channel interference. At first glance, it would seem that nothing could be done to eliminate such unwanted signals because they occur at the same frequencies as the wanted signal. How can the receiver or antenna determine which signal is preferred by the viewer?

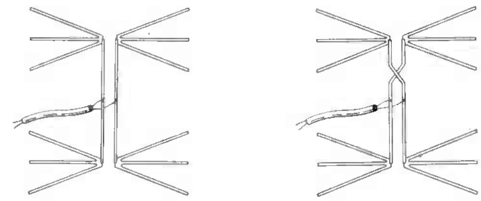
The majority of all interference signals are man made. Ignition, motor, and neon-sign noises are obviously in this category. Although co-channel, adjacent-channel, and most reflected signals are usually not considered as man-made interference, they actually are. All of these interference signals will arrive at an antenna from fixed directions (provided that the source is not moving, of course). The same can be said of wanted signals. This important characteristic makes possible the construction of an antenna system that will discriminate against unwanted interference.

One such system is an antenna which has a high front-to-back ratio to eliminate unwanted signals coming in on the back side of the antenna. Another system is an antenna which has a narrow horizontal-directivity pattern to eliminate reflected signals. Although these systems are effective in many instances, there are cases in which a more flexible system is desired. A highly desirable system would be one which would eliminate an interference signal regardless of its approach angle with respect to the wanted signal.

I.R.I.S.

A system which will select and cancel an interference signal has been developed and is being marketed by the Holloway Electronics Corporation. The system is termed I.R.I.S. (Infinite Rejection Interference System) and utilizes a unique phasing arrangement between two identical antennas that are vertically stacked. Rejection of a signal by this system requires that the signal delivered to the transmission line by one antenna must be equal in amplitude but 180 degrees out of phase with the signal delivered to the transmission line by the second antenna.

Fig. 1. Front Views of Stacked Antennas



(A) Connected for Inphase Operation. (B) Connected for Out-of-Phase Operation.

The phasing harness used in this system is not connected in the same manner as the conventional stacking harness. The normal connection between stacked antennas and the transmission line is shown in Fig. 1A. The connection shown in Fig. 1B is the one used in the I.R.I.S. Note that the leads between the two antennas are transposed and that the feed point for the transmission line is at the center of the stacking harness. Many installers have no doubt inadvertently connected stacked antennas in this manner only to find that all signals were canceled stacked of the improper connection. How then can this system work if all signals are canceled?

The secret lies in the fact that the two antennas are not pointed in the same direction. In fact, the antennas are so arranged that one can be rotated while the other remains stationary! Fig. 2 shows the arrangement that was used by our field crew when the system was field tested. Although it seems fantastic that such a method of operation could be normal, a discussion of a practical application should prove helpful in understanding the theory of operation of the system.

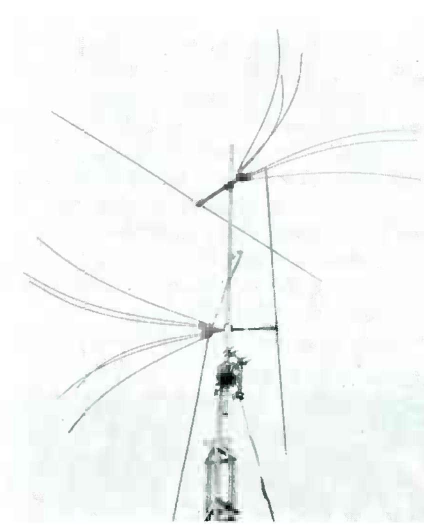
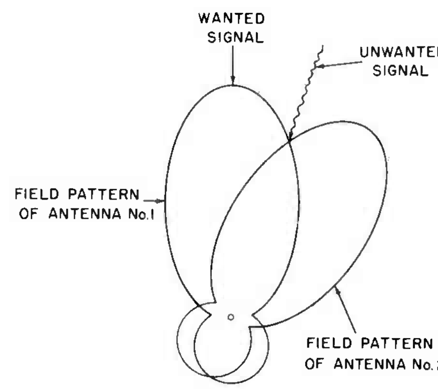


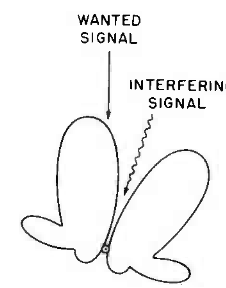
Fig. 2. Holloway EXPO-I.R.I.S. Model X02R Antenna With Mounting Brackets and Stacking Harness Installed for I.R.I.S. Operation.

Rejection of Reflected Signals

The problem of rejecting an unwanted reflected signal is encountered very frequently. Let us assume that certain conditions exist and see how the system under discussion could be employed to eliminate the interference.



(A) Individual Antenna Patterns.



(B) Resultant Pattern.

Fig. 3. Field Patterns of Antennas Positioned So That They Will Reject a Certain Unwanted Signal.

Fig. 3A illustrates the path of the wanted signal as well as the path of the unwanted signal. The field patterns of the two antennas are also shown. Note that antenna No. 1 is positioned so that maximum pickup of the wanted signal will be obtained. This constitutes the first step.

The next step involves the rotation of antenna No. 2 so that the unwanted signal will be rejected. Such a condition will result with antenna No. 2 positioned as shown in Fig. 3A. The unwanted signal is being picked up by both antennas. The signal voltages produced at the terminals of both antennas are of equal amplitude, and these voltages are of the same polarity because the unwanted signal is arriving on the front side of each antenna. Because of the fact that the antennas are connected together in an out-of-phase condition, the unwanted signal is canceled out.

Let us consider what happens to the wanted signal. This signal is shown coming in on the main lobe of antenna No. 1; therefore, maximum gain in this antenna will result. This same signal will also be picked up by antenna No. 2; but because antenna No. 2 is not aimed directly at the source of the wanted signal, less gain will result. Because of the fact that the signal voltage contributed from antenna No. 2 is out of phase with that from antenna No. 1, some cancellation will result. The difference in amplitudes of the signals developed, in this particular instance, on the two antennas is the resultant amplitude. In order to understand more clearly how the wanted signal is picked up by the antenna and how the unwanted signal is rejected, let us analyze the resultant field pattern of the two antennas.

Fig. 3B is the resultant field pattern of the two antennas when they are positioned as shown in Fig. 3A. Note that the wanted signal is picked up on one of the major lobes and that the unwanted signal is rejected because of the sharp null in the field pattern. It should be kept in mind that the null can be made to appear at any point in the pattern by rotation of one antenna with respect to the other. There are, in effect, an infinite number of resultant field patterns that can be obtained with the system.

Rejection of Co-Channel Signals

Another trouble that is frequently encountered is co-channel interference. Fig. 4 illustrates the field patterns of the two antennas in this system when the antennas are positioned to reject a particular co-channel signal. Note that the unwanted signal arrives on the back side of each antenna and produces voltages of equal amplitude and phase in both antennas. Because of the out-of-phase connection between the two antennas, however, the unwanted signal is rejected before it is fed to the transmission line. Adjacent-channel signals and other controlled RF transmissions can also be rejected in the same manner.

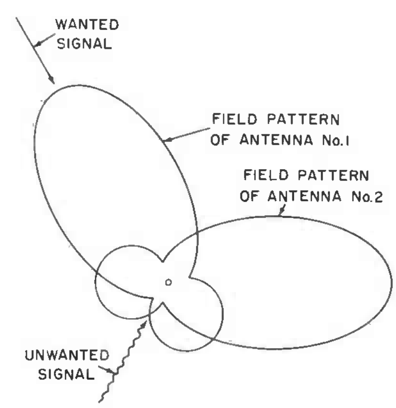


Fig. 4. Field Patterns of Antennas Arranged So That Interference From the Back Will Be Rejected.

Rejection of Other Interference Signals

Interference caused by diathermy machines, induction furnaces, neon signs, and other fixed sources of noise can be rejected by the use of this antenna system. This is accomplished by positioning the antennas so that the wanted signal will be received and the noise will be canceled in the same manner as that described for co-channel and reflected signals.

The fixed antenna (antenna No. 1 in Figs. 3 and 4) can also be used to cancel a signal. For example,

Fig. 5. Installing Antennas and Harness on Mast Assembly. ▲

Fig. 6. Attaching Mast Assembly to Tower. ▶

in a certain receiving location there may be a signal which produces interference on one channel only. At the time of installation, the antenna which is fixed in its position can be set to cancel the interference when this channel is being received. The second antenna can then be rotated for best reception when other channels are desired. From the standpoint of signal reception, it makes no difference which antenna is receiving the desired signal because the two are identical; but the placement of the fixed antenna is important inasmuch as interference cancellation is produced by the combined effects of both antennas.

There are three possible ways of installing the I.R.I.S. They are: (1) fixed mounting of both antennas, (2) fixed mounting of one antenna and the use of a rotator for the other one, and (3) the use of two rotators, one for each antenna.

The first method could be employed when only one interfering signal is encountered and when adequate pickup of all wanted signals is possible. The second method is desirable when greater flexibility is needed because of the presence of more than one interfering signal or because of the need for greater gain for a particular wanted signal. The third method provides for greatest flexibility because an infinite number of resultant field patterns are possible.

Actually, there is a fourth way of mounting the antennas whereby the two antennas are permanently positioned on a single rotating mast. This method, however, does not provide the flexibility of the second and third methods which were previously described.

Our Field Tests of I.R.I.S.

Although the theory upon which the I.R.I.S. is based seemed perfectly feasible to us, we wanted to check firsthand the results that could be obtained with the system. Two antennas, a phasing harness, and two brackets for mounting the antennas were supplied to us by Holloway Electronics Corporation; and we proceeded to conduct a series of field tests. The pictures shown in Figs. 5 and 6 were taken at one of the test locations.

Fig. 5 shows the crew in the process of installing the antennas and harness on the mast assembly. During the tests, a single rotator was used to rotate the top antenna. This accounts for the apparent misalignment of the two antennas. Fig. 6 shows the mast assembly being attached to the tower. The brackets and short mast which can be seen near the rotator hold the sleeve to which the lower antenna is attached. The mast on which the upper antenna is mounted passes through the sleeve and into the rotator.

Our tests showed that nearly all forms of radiated signals picked up by the antenna elements could be rejected through the use of one or more combinations of antenna positions. One of the tests involved the rejection of adjacent-channel interference. The lower antenna was headed toward a distant channel-5 station. The local channel-6 station created a great amount of interference which prevented satisfactory reception of channel 5. The top antenna was rotated, and at one point the local channel-6 interference was eliminated. Although channel 5 was very weak, an acceptable picture was obtained after the interference was eliminated.

For another test, we set up at a location where a ghost signal was present. We were able to rotate one antenna and to eliminate the ghost completely. At still another location, it was found that two different stations on the same channel were being received simultaneously. By rotating the antenna, we were able to select either signal without interference from the other.

During the tests, it was found that strong local interference was sometimes picked up on the lead-in. In order that the system could be checked properly, we twisted the lead-in to reduce this pickup. It should be kept in mind that the I.R.I.S. will reject only those signals which are induced in the antenna elements.

The field tests of this system were considered to be successful inasmuch as it was possible to reject many types of interference; moreover, the assembling and operation of the antennas did not prove to be highly involved. The I.R.I.S. can be used in all locations where the elimination of interference is needed.

GEORGE B. MANN

A New Development in Color Picture Tubes

(Continued from page 25)

mental stages. This tube is referred to as the "P.O.F." tube. These letters stand for "phosphor on the face plate." The main difference in the two types of tubes is that, in the P.O.F. tube, the phosphor stripes are placed directly on the face plate. The grille wires may either be fastened to a ledge which is formed on the face plate (as shown in Fig. 1) or may be mounted on a lightweight frame which can be placed behind the face plate as a subassembly.

Operational Theory

In normal operation, the cone and the final electrode of each gun are held at a potential of about 6 1/2 kilovolts and the grille is held at a potential that is approximately 200 volts lower than 6 1/2 kilovolts. The phosphor screen has a potential of approximately 25 kilovolts.

Because the beams are accelerated after the point of deflection, the deflection requirements are not so rigid as they are in the shadow-mask tube. Since the final gun electrodes and the cone are at a potential of only 6 1/2 kilovolts, much less power is needed for deflection in the post-acceleration tube than in the shadow-mask tube which has a 25-kv beam. The required deflection power is cut approximately in half, and therefore the physical size of the yoke is greatly reduced.

As the electron beams enter the region of the grille, two effects take place. First, the central portion of each beam no longer travels in a straight line but assumes a parabolic path. Second, a focusing action takes place. These effects are illustrated in Fig. 2. It should be pointed out that several artistic liberties were taken in the drawing of Fig. 2 so that the beams in the region of the grille could be shown better. For instance, the angular separation of the beams entering the grille is actually less than 1 degree although it is shown larger in the figure.

The trajectories of the beams are changed when they pass through the grille because of the increased attraction of the potential of the phosphor screen. This action can be compared to that of a ball which has been thrown. The ball travels in a straight line until it is acted upon by the gravitational force of the earth. When this happens, the ball follows a parabolic path to the ground.

With the proper potentials applied, each pair of grille wires forms an electron lens which is cylindrical and through which the electrons pass. This lens has the effect of reducing the size of the beam in the horizontal dimension. The beam is reduced in width by a factor of approximately seven. The focusing action causes the width of the beam to be much smaller than the width of the phosphor stripe. A guard band is therefore formed on either side of the landing area of the beam, and these guard bands allow the beam to move about on a particular stripe without striking an adjacent stripe. Color purity, therefore, can be maintained quite easily. The wide guard bands permit increased allowances in the mechanical tolerances during manufacture and in the electrical tolerances during operation.

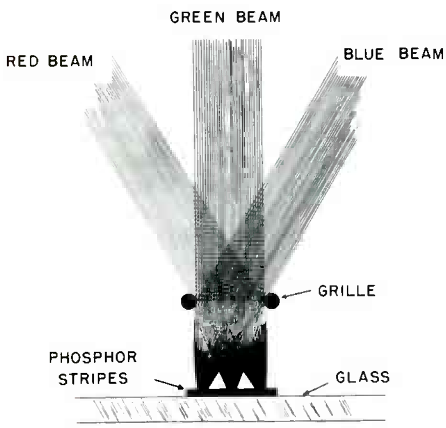


Fig. 2. Drawing Showing How the Beams Are Acted Upon When They Enter the Grille Region.

Since no vertical focusing is obtained by the action of the grille wires, vertical resolution in the picture is governed by the size of the beam before it reaches the grille. A new gun structure capable of producing the required current with the desired beam size has been produced.

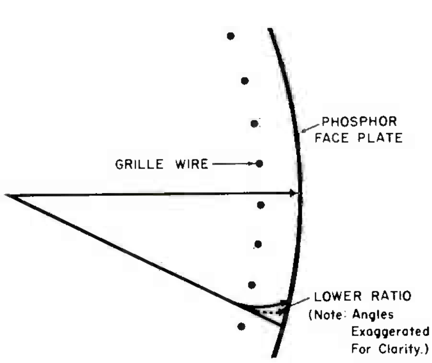


Fig. 3. Drawing Showing the Effect of a Change in the Ratio of the Screen Voltage to the Grille Voltage.

The drawing in Fig. 3 shows more clearly the trajectories of the electrons between the grille and the screen and also shows one of the new circuit requirements of the post-acceleration tube. It is not only necessary to have a high voltage for the screen, but it is also necessary to apply a lower voltage to the grille. This low voltage is not difficult to obtain because the grille draws little current. The absolute magnitudes of the screen and grille voltages are of little consequence as long as the ratio between them is correct; therefore, the ratio between the two voltages must be regulated. The trajectories of the electrons between the grille and the screen as well as the properties of the cylindrical lenses mentioned earlier are dependent upon this ratio. A tube has been developed for the purpose of this regulation, and the regulation should be good to within 5 per cent of the ratio to which the tube itself is designed.

The problem of convergence is of major concern in any picture tube that employs three electron guns. A gun assembly which places the three beams in essentially the same plane has theoretical and practical advantages as far as convergence is concerned. It is necessary to apply convergence dynamically at both the horizontal and vertical rates, but a complete separation of functions is possible with the single-plane construction. In the case of the triangular gun construction, the beams are interdependent. With the three beams in the same plane, the two outside beams can be varied with respect to the center beam. It is possible to move the beams electrostatically or electromagnetically in both directions, horizontally and vertically. Combinations are also possible. For instance, the receiver that was demonstrated in the progress report employed electrostatic dynamic convergence in the horizontal and vertical planes and electromagnetic static positioning in the horizontal plane. Fewer convergence controls are needed for the post-acceleration tube, and the number of critical convergence adjustments is therefore low.

In the post-acceleration tube, there is a loss of contrast produced by secondary electrons which hit the screen in a random manner and which cause the excitation of a white background. This action results from the post-acceleration principles involved and from the fact that only a single grille is used. The contrast is greatly improved by sacrificing some of the brightness through the use of safety glass which has a high attenuation factor. By sacrificing brightness, the contrast ratio of the post-acceleration tube is only slightly lower than that of the shadow-mask tube. When the two tubes are compared in a completely darkened room, the difference in the contrast in their pictures is noticeable and the shadow-mask tube has better contrast. With only a slight increase in room illumination, this difference in contrast becomes hardly noticeable. In a room that has illumination as bright as that in a show room, the picture on the post-acceleration tube can be seen very easily because of the great amount of brightness produced by the tube; and it is actually easier to see more contrast in it than in the receiver with the shadow-mask tube.

The effects of external magnetic fields in the post-acceleration tube are about the same as they are in the shadow-mask tube. Since the beams travel at a lower velocity, they are more easily affected; but in the vertical direction, color purity can easily be maintained since continuous vertical stripes of the same color are being used. Any magnetic field which would cause a shift in the vertical direction can therefore be neglected, but if any magnetic field causes a horizontal shift of the beams, color impurity will usually result. Methods have been devised so that the fields which cause a horizontal shift will be counteracted.

Summary

Although the post-acceleration tube is basically a three-gun tube, it offers three main advantages — increased brightness, increased operating tolerances, and the possibility of decreased cost of the receiver circuitry. According to the designers, it is believed that the post acceleration tube can exist in the same market with the shadow-mask tube because equipment manufacturers can change from the shadow-mask tube to the post-acceleration tube with relatively few changes in circuitry. The critical convergence adjustments which are necessary for any multigun tube are decidedly less complicated in the post-acceleration tube. The transition, education, and training problems for the set manufacturer, distributor, dealer, and service technician in switching from the shadow-mask tube to the post-acceleration tube are not serious.

It was emphasized, when the progress report was given, that the post-acceleration tube is still in the developmental stage and that it may not be ready for production until 1957.

C. P. OLIPHANT

Audio Facts (Continued from page 31)

It may sound as if we are straying away from practical considerations, but actually we are not. Recording on discs is largely a mechanical process. Heads and pickups for magnetic recording operate on both mechanical and electrical principles. Such terms as constant velocity are commonly used when discussing the basic principles involved in the recording and playback processes. They do mean something; and when their meaning is understood, recording characteristics are more easily understood.

A magnetic cutter is a constant-velocity device because it is a highly damped unit that is sensitive to current. It is a current-operated device. Current flowing through the coil of a recording head causes the stylus to move in a manner similar to the operation of an electric motor in which current passing through the motor causes the rotor to turn. The flow of current is what makes it operate.

Velocity by definition is amplitude multiplied by frequency. Since it is the nature of a magnetic cutter to operate at a constant velocity if the frequency of the signal fed to it at a constant level changes, the amplitude of the signal recorded on the disc must change because the velocity is constant and cannot change. If the frequency goes up, the amplitude goes down; if the frequency goes down, the amplitude goes up. If we plot this change in amplitude against the change in frequency, we have our first recording curve shown in Fig. 1. Since no other factors have been considered, we find it is a straight line. One thing to remember is that this line represents an increase in amplitude of 256 times within an 8-octave drop in frequency.

Old recording and playback systems such as the old acoustical systems, for example, were restricted enough in range and were peaked in response in such a way that recordings could be cut and played back satisfactorily (within the limits of the system) with no modifications of the constant-velocity characteristic. As the systems were improved, it became possible to record and play back the very low and the very high frequencies. This improved response meant that the curve shown in Fig. 1 could not be employed unless modified.

Since amplitude increases as the frequency is lowered, low tones cause the stylus to make such wide swings that the grooves it cuts cannot be accommodated on the record. Very little music could be recorded on a disc because the grooves would have to be spaced so far apart. Besides that, it would be found that a recording head would produce a lot of distortion if it had to handle such large signals. The same thing would happen when the pickup tried to follow or track the highly modulated grooves.

Constant Amplitude

To overcome this tendency to overmodulate at the lower frequencies, the recording circuit is equalized so that the signal fed to the cutter is progressively attenuated as it goes lower in frequency below a certain frequency (the crossover frequency). This attenuation has the effect of counteracting the constant-velocity characteristic (of increasing amplitude as frequency is lowered), and it keeps the width of the groove within usable limits.

Because of the low-frequency equalization introduced into the recording circuit, recording below the crossover frequency follows the constant-amplitude characteristic. If a signal lower in frequency than the crossover frequency is fed at a constant level into the equalized recording circuit, the cutter will cut a groove in which the modulation is maintained at a constant amplitude even though the frequency of the signal varies. This permits the recording of the very low frequencies which we now enjoy on our present-day discs.

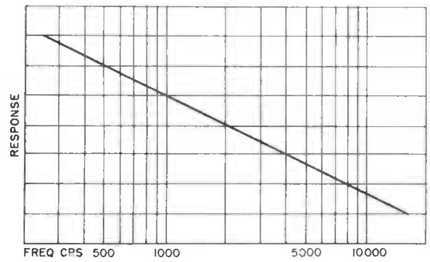


Fig. 1. Typical Response Curve Showing Change in Amplitude With Change in Frequency When Velocity Remains Constant.

Pre-emphasis

Compensating for low frequencies is not the complete story because the recording circuits are also equalized at the higher frequencies. The higher frequencies above the crossover frequency are boosted or pre-emphasized. This boost of the high frequencies is possible because the constant-velocity characteristic of the cutter causes the width of the grooves to decrease as the frequency increases.

Much of the record noise that otherwise would be heard when a record is played is eliminated if a sufficient amount of high-frequency pre-emphasis is employed when the record is cut. This is possible because most of the surface noise is composed of random high frequencies. If the high-frequency signal is recorded at a high level, the modulation which is cut in the grooves will be of such amplitude that the signal will override or mask the noise produced by surface irregularities.

RIAA Curve

The curve shown in Fig. 2 is a good example of a recording curve because most new records are cut according to the characteristics shown by this curve. It is the RIAA (Record Industry Association of America, Inc.,) recording curve which has been adopted as the standard of the recording industry in this country. The curve is identical to the RCA NEW ORTHOPHONIC curve. The curves formerly used by the AES (Audio Engineering Society) and the NARTB (National Association of Radio and Television Broadcasters) have been modified to conform to the RIAA curve; therefore, the RIAA, NEW ORTHOPHONIC, NARTB, and AES curves are now identical. The attenuation of the low frequencies and the boost of the high frequencies can be seen. The crossover frequency is at 500 cps and not at the 1,000-cps point where the response is zero.

Since a recording cut by an uncompensated magnetic cutter would be flat when played back by a magnetic pickup, we can see that if the recorder were equalized (as shown in Fig. 2) the playback circuit would also have to be equalized. The purpose of the record-compensation control is to make the selection of the necessary equalization possible. For accurate reproduction of the original signal, the playback equalization must follow the playback curve which is the opposite of the recording curve employed when the original signal was recorded.

When a record which was recorded according to the RIAA curve shown in Fig. 2 is played with a magnetic pickup, the circuit fed by the pickup must be equalized to comply with the playback curve shown in Fig. 3. This is the standard RIAA playback curve which is the opposite of the RIAA recording curve. The required amount of equalization in decibels is plotted against frequency in cycles per second.

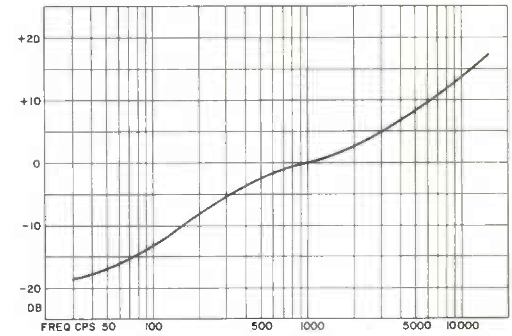


Fig. 2. RIAA Recording Curve.

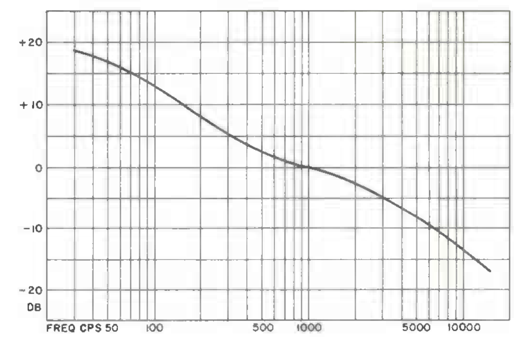


Fig. 3. RIAA Playback Curve.

The following table lists the exact values of the playback characteristics of the RIAA curve. The crossover frequency is 500 cps.

Frequency (cps)	Response (db)	Frequency (cps)	Response (db)
15,000	-17.17	3,000	-4.76
14,000	-16.64	2,000	-2.61
13,000	-15.95	1,000	0
12,000	-15.28	700	+1.23
11,000	-14.55	400	+3.81
10,000	-13.75	300	+5.53
9,000	-12.88	200	+8.22
8,000	-11.91	100	+13.11
7,000	-10.85	70	+15.31
6,000	-9.62	50	+16.96
5,000	-8.23	30	+18.61
4,000	-6.64		

The multiposition record-compensation controls found on most preamplifiers are very useful because they provide proper equalization for the many different recording curves used before the recording companies adopted the standard curve. Before 1954, when the RIAA curve was adopted, each recording company used its own recording curve. Most companies used different curves upon different occasions. Crossover frequency varied anywhere from 300 to 800 cycles per second.

Comparison of Playback Curves

Four playback curves are superimposed on the RIAA playback curve in Fig. 4 to illustrate how they varied before they were standardized. This comparison indicates that if the proper playback curve is not used, the response will be unbalanced because the correct amounts of bass boost and high-frequency roll-off are not applied. The quality of reproduction will suffer because it is surprising how sensitive the ear is to small amounts of unbalance.

Although most of the recent recordings are made according to the RIAA curve, some are still cut according to other curves. Since we are also still using records that were cut before the RIAA curve existed, we have to be able to adjust the playback compensation in order to obtain satisfactory reproduction.

Fig. 4 reveals that some curves or portions of some curves differ very little from the RIAA curve. Because of this, it is sometimes possible to get a satisfactory response by making some small adjustments of the tone controls if the record-compensation control on the preamplifier being used does not have a position for a particular playback curve.

Although magnetic pickup cartridges have been used in so many high quality home music systems, many crystal and ceramic cartridges are also used. Because of the constant-amplitude characteristic and the comparatively high output of the cartridges, they are usually connected to an uncompensated high-level input rather than to the magnetic-cartridge input on a preamplifier. A crystal or ceramic cartridge is a constant-amplitude device because it develops voltage or is a voltage-operating device; therefore, it develops a high output at low frequencies and supplies its own bass boost. In this way, it can be used to play a record without the compensation normally required for a magnetic cartridge.

This arrangement has its advantages; but when the crystal or ceramic cartridge bypasses the phono-preamplifier section, it cannot make use of the record

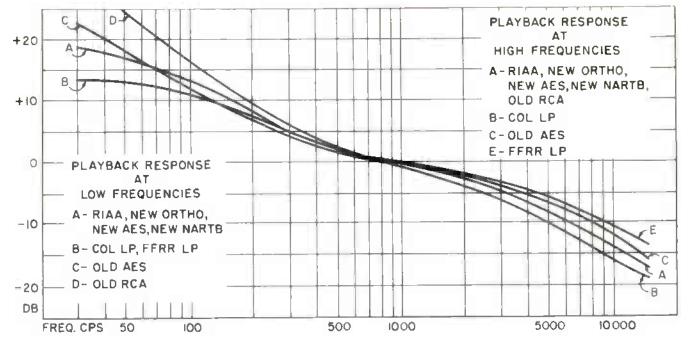


Fig. 4. Comparison of Standard RIAA Playback Curve With Some Curves Used Before Standard Curve Was Adopted.

compensation (for various playback curves) which the preamplifier provides. This situation has been changed to some extent by the availability of crystal and ceramic cartridges that have been modified, usually by a built-in compensating network, so that they can be plugged into inputs intended for use with magnetic cartridges. The flexibility of operation provided by the record-compensation control is a desirable feature which increases the versatility of these particular cartridges.

The adoption of the RIAA playback curve as a standard has simplified the problems of playback equalization, especially for new recordings. Equalization is still required for new recordings, and sometimes listening conditions can influence the response to such an extent that some adjustment is necessary. Of course, we still have the records made according to the old curves; therefore, we cannot eliminate the record-compensation control.

ROBERT B. DUNHAM

ABOUT THE COVER

The numerals and the waveforms which make up this month's cover were photographed directly from the face of an oscilloscope screen. The reader will recognize the waveforms as the familiar Lissajous figures seen in many oscilloscope textbooks and instruction manuals.

In order that the Lissajous figures could be obtained, two sine-wave generators were used to drive the vertical and horizontal amplifiers of the oscilloscope. The 60-cycle sine-wave sweep of the oscilloscope itself could have been used for the horizontal signal; but the voltage from the power line had a slight irregularity, and this showed up in the figures. Simple frequency ratios such as 1 to 2, 1 to 3, 2 to 3, and 3 to 4 were maintained between the two sine-wave signals.

The numerals were a little more difficult to obtain. Apparatus for developing a display of numerals has been designed; but since nothing of that nature was at hand, a little ingenuity was necessary to obtain numerals 5, 6, and 9. The numeral 1 was very easily obtained; a mere horizontal or vertical trace was sufficient. The numeral 5 was developed lying on its side and was the result of applying a sine-wave signal to an electronic switch that had one amplifier channel set for zero amplification. The straight-line portion at the top of the 5 was obtained by misadjusting the sweep-stability control of the oscilloscope. The numerals 6 and 9 result from a 2-to-1 Lissajous figure with the oscilloscope blanking phase adjusted to blank out the appropriate portion of the figure.

PAUL C. SMITH

Shop Talk

(Continued from page 9)

thickness of the base section. The carriers which the emitter injects into the base section must cross this thin layer to reach the collector. In a p-n-p transistor, the carriers from the emitter are holes (rarified spaces having positive charges); and in an n-p-n transistor, electrons perform this function. In either case, the carriers travel across the base by a process of diffusion requiring some small but finite (or measurable) time. If all the injected carriers were to require exactly the same travel time, the net effect would simply be a delay of the output signal with respect to the input signal.

Not all of the carriers take the same path, and consequently the carriers (holes or electrons) corresponding to a particular part of the input signal do not all arrive at the same time at the collector. When the signal frequency is low, this time difference of arrival can be ignored. As we increase the signal frequency, however, some of the carriers that arrive late begin to interfere with the carriers that represent the next portion of the signal. Disturbance and cancellation effects result, and the amplitude of the output signal begins to fall off. The dispersive effect becomes more and more pronounced as the signal frequency rises, and the output signal continues to decrease.

To minimize this effect, the base section should be made very narrow; but as we make the base section narrower, we steadily decrease the reverse voltage which can be applied between the emitter and the collector. With exceedingly thin base layers, irregularities in thickness or in the distribution of impurities may also make it easier for a short circuit to occur between collector and emitter. This short-circuit effect is called "electrical punch through."

Another factor that wields considerable influence on the extent of transistor frequency response is the resistance of the base section. This base resistance is common to both input (emitter-to-base) and output (base-to-collector) circuits; consequently, it introduces a certain amount of degeneration just as an unbypassed cathode resistor does in a vacuum-tube amplifier. This feedback or degeneration reduces the output impedance of the device. It also leads to an increase in the over-all output capacitance of the transistor, and both effects serve to reduce the voltage and power gain of the unit. It would thus be desirable if the resistance of the base section were reduced to a minimum, and one way to do this would be to increase the thickness of the base. This, however, would run directly counter to the conclusion reached above — that the base should be made thinner so that carrier-diffusion time would be reduced. Some sort of compromise or change in construction is therefore required. Both approaches have been employed.

Transistors also possess internal capacitances; and these exert a very important influence on frequency response, too. If we consider a p-n-p transistor, for example, a cross-sectional view might appear like that shown in Fig. 3. At the far left is the emitter section followed by the base section and then the collector section. Between each two consecutive sections is a p-n junction. When there are no bias voltages applied to the transistor, the width of both p-n junctions is the same; moreover, there is a tendency for holes in the emitter section to cross over into the base section and a similar tendency for electrons in the base section to diffuse into the emitter section.

As soon as a relatively small number of electrons and holes do cross a boundary, an unbalance of charge is created in both sections. The emitter section tends to become

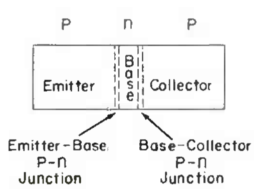


Fig. 3. Two p-n Junctions in a Junction Transistor.

more negative (because of the loss of holes and the gain of some electrons), and the base section tends to become more positive (because of the loss of electrons and the acquisition of holes). All further tendency of this action to continue is thus rather quickly discouraged by the electrostatic potential which is built up across the junction. Since there is a charge existing across the junction and in consequence a small potential difference, we have in essence a small capacitance. The capacitance is that of a parallel-plate capacitor having a plate separation equal to the thickness of the junction layer. In similar fashion, there exists a capacitance between the base section and the collector section at their junction.

The width or spread of the two junctions will change when bias voltages are applied. For example, since the base-to-emitter junction is biased in the forward direction, the width of this junction becomes narrow. On the other hand, the base-to-collector junction is biased in reverse, and the width of this junction increases. See Fig. 4. The latter effect occurs because the applied voltage appears principally across this junction and strengthens the existing electrostatic field by widening the junction so that more fixed donor and acceptor charges will be brought into the field. During the course of operation, the bias voltages at both junctions will vary with the signal and will cause both capacitances to vary, also.

To keep the effect of the emitter capacitance slight, a low base resistance is required because the base resistance is essentially in series with this capacitance. (Emitter resistance is part of this input circuit, too; but emitter resistance is usually much lower than base resistance.) As a matter of fact, the combination of base resistance and emitter-to-base capacitance forms a low-pass filter of the type shown in Fig. 5. To raise the highest frequency which this filter will allow to pass, the resistance and capacitance should both be as small as possible. In the case of the collector capacitance, a low value is also desirable because this capacitance shunts the output circuit. The collector capacitance can be reduced by making the area of the collector smaller, but this reduces the maximum current and power ratings of the transistor. Collector capacitance can also be reduced by the application of a higher collector voltage, since the greater the reverse voltage the wider the spread of the base-to-collector junction. The limit to which collector voltage can be increased is governed by the width and internal resistivity of the base layer.

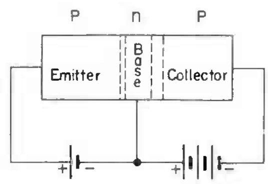


Fig. 4. Application of Proper Biasing Voltages Causes Width Changes in p-n Junctions.

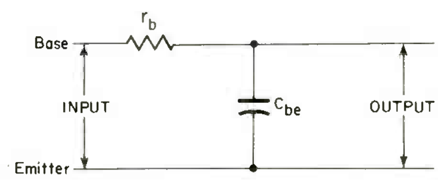


Fig. 5. Simplified Input Circuit of a Junction Transistor.

The foregoing are some of the principal factors that govern the frequency response of a transistor. It is apparent that what is good for one ailment is frequently not good for another, and so an inevitable amount of compromise is necessary. Next month, we shall discuss the forms some of these compromises take.

REVIEW

So much progress has been made in evolving new circuit designs that the service technician is easily led to overlook the very substantial progress that has also taken place in the form and substance of the basic electronic components themselves. It is desirable, therefore, to pause periodically and take a closer look at some of these components. In the present instance, attention will be directed toward fixed capacitors.

An article in which such an examination has been made appeared in the August 1955 issue of Radio & Television News magazine. The author is W. H. Buchsbaum, and the article is entitled, "Fixed Capacitors." Radio & Television News magazine is published monthly by the Ziff-Davis Publishing Company, 366 Madison Avenue, New York 17, N. Y. Subscription rates for the United

CAPACITOR TYPES	AVAILABLE CAPACITANCES	AVAILABLE VOLTAGES (Volts)
CERAMIC	0.5 mmfd to 0.01 mfd	300 to 5000
MICA	1.0 mmfd to 0.1 mfd	200 to 5000
PAPER	100.0 mmfd to 1.0 mfd	100 to 1000
OIL (Dykonol or Pyronol) IN METAL CASES	0.01 mfd to 20.0 mfd	400 to 5000
ELECTROLYTIC	2.0 mfd to 2000.0 mfd	6 to 600
TRANSMITTING AND HIGH-VOLTAGE	0.005 mfd to 4.0	600 to 20000

TABLE I

Capacitor Types and Their Approximate Ranges of Values.

States, its possessions, and Canada are $4.00 per year. Single copies are 35 cents each.

The increase in the number of different capacitor types is due largely to two factors: the development of newer materials and the more strigent demands which the electronics industry and the armed forces are making on the ability of capacitors to operate reliably at higher ambient temperatures in smaller and smaller enclosures. This latter feature is particularly important to the technician in his repair work. If the interior of a receiver becomes very warm — a condition that occurs in many television receivers, particularly in color television sets — then not only must close attention be paid to the value and voltage rating but to the recommended operating temperature of the capacitor as well. In fact, the voltage rating is dependent upon this temperature; and if a unit is operated in a receiver in which the temperature is higher than that for which the capacitor is rated, then the maximum voltage rating must be lowered. This is known as "derating" or the reduction of a certain operating characteristic to a lower value.

There are other features of a capacitor that the technician must consider. For example, there is the capacitance value and the associated tolerance of the unit. The latter property is particularly important in critical circuits. Mica capacitors and some small ceramic units have tolerances of ±5 or ±10 per cent and are labeled accordingly. Other types of ceramic capacitors, especially some disc types, have tolerances of -20 and + 80 per cent. This gives them considerable leeway in value and limits their use to applications, such as those of bypassing and coupling, which are not especially critical from the standpoint of capacitance value. It would obviously not be desirable to employ such units in frequency-selective circuits. Paper capacitors generally fall into the ±20-per-cent class, and electrolytics often have a -20 and a + 50-per-cent tolerance.

When it comes to voltage ratings, most service technicians concern themselves only with the DC working voltage. For most uses, this is sufficient. It is well to remember that capacitors also possess an AC voltage rating and that if this rating is exceeded, the capacitor can be just as decisively damaged as if its DC voltage rating were exceeded.

So much for the general features of capacitors. Now let us examine the various types which are available to the service technician. Table I lists the approximate ranges of values for the major capacitor types. These types are usually named according to the dielectric material used.

Mica Capacitors

Mica capacitors have been with us for a long time, practically as far back as anyone can remember. They are constructed of two interleaved sets of either aluminum, tin, or silver foil; and the sets are separated from each other by thin sheets of mica. Each set of foil goes to one terminal and its pigtail wire. The entire unit is then molded in a Bakelite insulator and is color coded.

The most common tolerance of a mica capacitor is ±20 per cent. Mica units of ±5 per cent (recognized by a gold dot on the case) and ±10 per cent (as indicated by a silver dot) as well as a special silver mica capacitor are available. The latter possesses high stability when subjected to temperature changes and is especially useful in such critical circuits as the horizontal-oscillator stage of a television receiver.

Mica capacitors are generally obtainable in voltage ratings of 300, 500, or 1,000 volts and higher.

Ceramic Capacitors

A ceramic capacitor is one of the newer types and embodies a ceramic material that possesses a high dielectric constant. Generally speaking, the higher the dielectric constant of a material, the greater its sensitivity to heat. This means that the capacitance of such units will fluctuate with temperature unless special precautions are taken during the manufacturing process to limit this variation.

In general, there are three types of ceramic capacitors. There is a "High-K" type which features a relatively large capacitance in a small volume. There is also a low-inductance type for UHF circuits and a temperature-compensating type. The two most popular kinds of temperature-compensating capacitors are the NPO and the N capacitors. (There is also a P capacitor, but it is not employed very often.)

An NPO ceramic capacitor has a temperature coefficient of approximately zero — its capacitance does not vary with temperature. These units are used most widely for bypassing and coupling purposes. An N capacitor possesses a negative coefficient — its capacitance decreases as the temperature rises. This particular characteristic is desirable in resonant circuits so that the tendency of such circuits to go lower in frequency with increasing temperature will be counteracted. (Capacity reduction tends to increase the resonant frequency.)

An N capacitor has a number following the N designation — for example, N750. This notation means that for each degree centigrade of temperature rise, the capacitance will decrease 750 parts for each million parts of its value.

Additional types of ceramic capacitors include the button types for VHF and UHF bypassing and coupling and a wide variety of special types for equipment going to the armed services.

Paper Capacitors

A number of new variations of the familiar paper capacitors have also appeared. These variations feature such things as molded bodies, metalized paper, and metal casings with end seals of glass. The molded and metal casings serve to provide greater protection against heat and moisture. The major constructional difference between conventional paper and metalized-paper capacitors lies in the replacement of the separate layers of metallic foil with an extremely thin metallic film which is deposited directly on the lacquered surface of the paper dielectric by a high-vacuum vaporizing process. The lacquer coating considerably improves the dielectric strength and the insulation resistance of the paper. The metallic films most commonly used are zinc and aluminum.

Most molded paper capacitors are rated for operation up to 85 degrees centigrade, and this is satisfactory for most radio and TV applications. If higher temperatures are encountered, the voltage rating of the capacitor will have to be lowered in accordance with the manufacturer's specifications. For example, here is what one manufacturer recommends:

Temperature (degrees centigrade)	Reduction in Operating Voltage From Rated Voltage (per cent)
55	0
60	5
65	10
70	15
75	20
80	25
85	35
90	50
95	65

The DC polarity of paper capacitors is not usually important; however, most such units are marked to indicate the outside foil in one way or another. The reason for the marking of the lead to the outside foil is that a minimum capacitance to ground may be obtained in certain applications. In audio and video amplifiers, the coupling capacitor often goes from a high to a low impedance circuit; and in such cases, the outside foil should be connected to the circuit where the impedance is low.

Impregnated Capacitors

Another place where paper appears is in impregnated capacitors in which special oils (such as Pyranol, mineral oil, and Dykanol) are used to impregnate the paper and to provide sturdy electrical and physical characteristics. These units are generally assembled in hermetically sealed cases. Capacitance values range from about .01 to 20 microfarads with voltage ratings from 400 to 5,000 volts.

Electrolytic Capacitors

The construction of electrolytic capacitors is completely different from that of any of the other fixed units. In electrolytic capacitors, the capacitive action depends upon the formation of a thin dielectric film on a metallic surface (generally aluminum) by a liquid or paste material. The metallic surface forms one electrode, and the liquid or paste serves as the other electrode; the two are separated by the dielectric film.

Most electrolytic capacitors possess a definite polarity, and the markings must be carefully observed when these units are connected into a circuit. This is true even when using an electrolytic capacitor as a coupling capacitor for signals of low frequency. A typical example is in the output of a cathode follower in which the cathode is positive. The positive terminal of the electrolytic must be connected to the cathode.

If an electrolytic capacitor has been standing unused for some time, either in a receiver or on a shelf, it will be found that a leakage current higher than normal would be obtained upon application of a voltage. After several minutes, the current should decrease to a value of a few milliamperes. This process is known as "forming" whereby the thickness of the dielectric film is re-established by the passage of current. (If the high leakage current persists, the unit is defective.)

Heat has a very detrimental effect on electrolytic capacitors. It causes the leakage current to increase and the capacitance to decrease, and it materially shortens the life of the unit. If heat is a problem in a certain receiver, it is generally best to use an electrolytic capacitor with a metal rather than a cardboard casing. The metal dissipates the heat faster and therefore helps to maintain a lower operating temperature. In such cases, it is also desirable to employ a capacitor with a voltage rating of 50 to 100 volts higher than the peak voltages in the circuit.

Because of their construction, electrolytic capacitors have a fairly high internal inductance. If the capacitor is used in a filter circuit or for bypassing frequencies higher than 10 kilocycles, a paper capacitor of low value should be shunted across the electrolytic capacitor so that the effect of the inductance will be reduced.

MILTON S. KIVER

In the Interest of Quicker Servicing

(Continued from page 29)

cases, they are of a door-knob type. When a capacitor of the pigtail type fails, it is a good idea to change all three of the capacitors as a safety precaution. This will prevent a later call back that might otherwise have been necessary. If the door-knob type of capacitor is employed and if the voltage rating of each capacitor provides for a sufficient margin of safety, replacement of the one defective capacitor should be adequate. If, however, the voltage rating of each capacitor does not provide for a sufficient margin of safety, then all of the capacitors should be replaced. It would also be a good idea to replace both of the tubes in a high-voltage doubler circuit if either of them is defective. This is a good preventive measure.

Mounting Transformers Without Drilling New Holes

It has always been somewhat of a perplexing problem to mount replacement chokes and transformers because many of the standard replacement units have different center-to-center spacings for the mounting bolts or rivets. Sometimes the original unit is riveted into place; and in order to replace the unit, it is necessary to drill out the rivets.

It may or may not be easy to drill a different mounting hole for the replacement unit. In a good many cases, the manufacturer has attached the original unit with self-tapping screws. In these cases particularly, it would save time if the replacement unit could be mounted without having to drill a new mounting hole. The adapter shown in Fig. 4 makes this possible. This adapter is manufactured by the Gramer-Halldorson Transformer Corporation, 2734 Pulaski Road, Chicago 39, Illinois, and is available at electronic parts distributors.

As may be seen in the figure, this adapter is very simple and consists of a slotted strap and a 6-32 bolt and nut. In Fig. 5A, the adapter is shown installed with a replacement unit that has narrower mounting centers than the original unit. In Fig. 5B, the replacement unit has wider mounting centers. Since it takes only

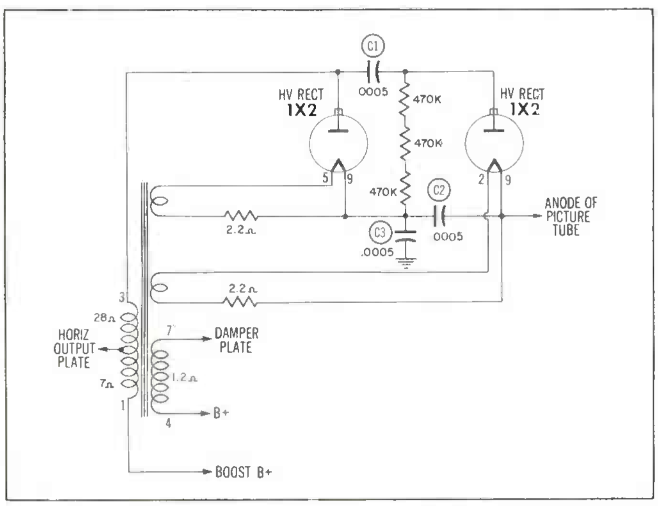


Fig. 3. Schematic Diagram of a High-Voltage Doubler Circuit.

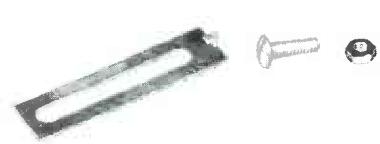


Fig. 4. Adapter for Mounting Transformer.

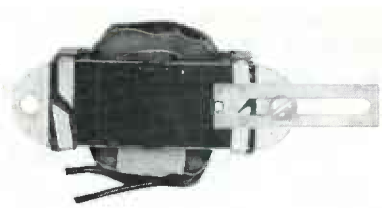


Fig. 5A. Adapter Connected for Narrower Mounting Centers.

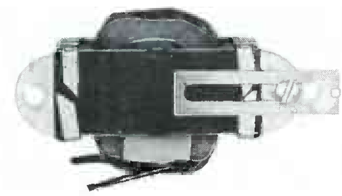


Fig. 5B. Adapter Connected for Wider Mounting Centers.

a few seconds to install this adapter plate for either use, a saving of time may be realized.

Corona and Arcing Problems With Metal Picture Tube

Corona discharge and high-voltage arcing are problems which occur in receivers using metal picture tubes and which are sometimes very difficult to find and solve because of their nature. Corona discharge is very difficult to see even in a darkened room, and it is practically impossible to trace to its source by its sound.

A large number of TV receivers that employ 16-inch metal-cone picture tubes or larger are currently in use. Corona and arcing in these receivers, especially in those that are several years old, presents quite a problem. By consulting the drawing shown in Fig. 6, you will notice that there is a plastic ring around the front of the picture tube. This ring has two functions: it supports the front of the tube, and it provides insulation to guard against arcing of the high voltage to the chassis or other objects. Although it is not shown in Fig. 6, the plastic insulating ring around the front of the tube may have a corrugated surface or a system of ribs to provide a long leakage path for the high voltage. This is done so that a minimum amount of surface leakage or corona discharge will occur.

In Fig. 6, it may be seen that the rear of the picture-tube cone has a slight bulge. This is actually the place at which the metal cone is sealed to the glass neck of the tube. It may also be seen that several rubber bumpers provide a cushion between the tube and the metal yoke-mounting bracket. These rubber bumpers have another function — they furnish insulation between the metal yoke-mounting bracket and the picture tube.

Corona discharge occurs when the high voltage which is present on the metal cone of the tube leaks across the bulge at the neck of the tube and then leaks to the metal yoke-mounting bracket. This becomes possible when the small rubber bumpers become covered with a layer of dirt that is somewhat oily or moist or when the insulating ability of the bumpers is lost through deterioration.

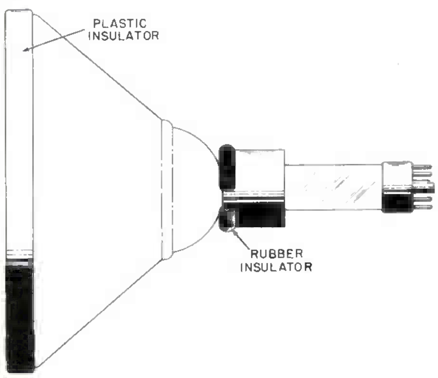


Fig. 6. Drawing of Metal-Cone Picture Tube Showing Front Plastic Mounting Ring and Rear Rubber Bumpers.

This condition may best be remedied by replacement of the rubber bumpers and a thorough cleaning of the picture tube itself.

When a serious arcing condition occurs, it will usually be caused by a breakdown of the plastic ring that is around the front of the picture tube. This kind of failure will be most noticed in receivers in which the tube is mounted to the chassis and is secured with a metal strap around the plastic ring. Such a case was recently encountered in a 19-inch Motorola receiver. The high voltage actually burned a hole through the plastic ring. This hole looked as if it might have been burned with a hot object, but it was actually caused by arcing of the high voltage through the plastic ring to the metal support ring. An attempt was made to tape the metal ring, but a repair in this manner proved impractical; and it was necessary to replace the plastic ring.

Dirt causes a great deal of corona and arcing trouble because it collects moisture. A moist layer of dirt is a fairly good conductor and will, in many cases, provide a path for the high voltage to a point near enough to ground that arcing or corona discharge will result. As mentioned earlier, a thorough cleaning of the affected area can help to combat this problem.

CALVIN C. YOUNG, JR.

BUY-UP MARKET. With plenty of folding money in their pockets, many people this holiday season are turning up their noses at low-priced leader models and are asking salesmen to show them TV sets in the $300-and-up range. Statistical proof of this trend is the fact that the average retail price of sets sold has jumped $20 since January 1955 to a present figure of $215. Some say it would be quite a bit higher if it weren't for the spectacular success of 14-inch portables this year at $100 to $130 each.

Sales of 24-inch sets are perking up, and some predict that this size will be the hottest seller next year. In general, look for good business in 1956; hang onto your good service technicians; and keep up your stocks. Also, give serious thought to boosting at the first of the year — your labor rate for service — say 5 or 10 per cent — to keep it in line with generally increasing labor rates in other industries.

MARKUS . . *Dollar and Sense Servicing*

Know Your Oscilloscope

(Continued from page 13)

flow is indicated by the arrows. The rectifier conducts only when its plate or anode is positive with respect to its cathode. In part B of Fig. 4, the rectifier has been reversed and the DC output voltage is therefore negative with respect to ground. The ground connection could be made as in Fig. 4C, thus giving DC supply points of both negative and positive polarity with respect to ground.

Most oscilloscopes use the arrangement shown in Fig. 4B for the high-voltage supply, with minor variations occurring in some cases. Some of the reasons for this choice will be discussed. In Fig. 5, the circuit of Fig. 2 has been redrawn. The rectifiers and filter sections have been omitted; the final stages and the positioning controls for one of the amplifier channels are shown. R1 together with R2 forms the ground return for one pair of deflection plates, and the AC output from V2 and V3 is developed across these two resistors. This is a push-pull deflection system in which a negative-going signal is applied to one deflection plate of a pair at the same time that a positive-going signal is applied to the other plate.

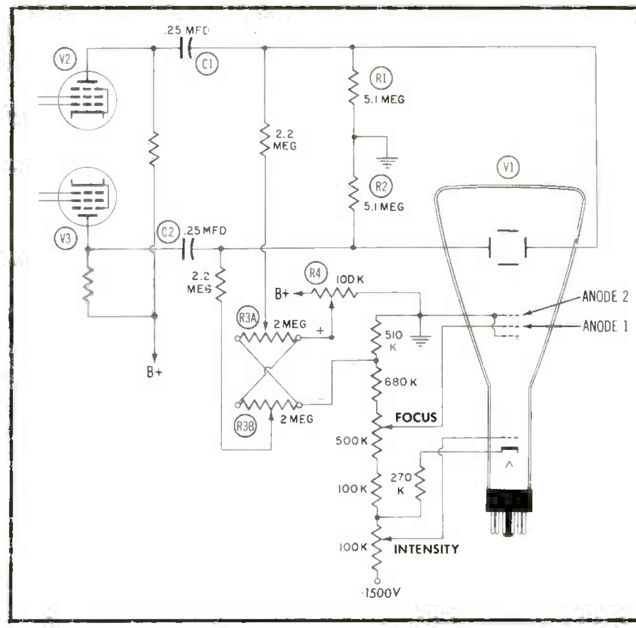


Fig. 5. Partial Schematic Diagram Showing the Positioning Control and High-Voltage Divider Network of an Oscilloscope (Triplett Model 3441).

With the circuit arrangement shown in Fig. 4, the DC potential of neither deflection plate will vary greatly from ground potential. Any variation that may be present will be due to the action of the positioning controls R3A and R3B. These controls are ganged together and are wired in such a manner that any rotation of the common shaft will shift the slider of one control toward a more positive potential and at the same time will shift the slider of the other control toward a more negative potential. As a result, the deflection plates have push-pull action for the DC positioning voltage as well as for the AC signal.

The following advantages result from the choice of a negative high-voltage supply. (1) The deflection plates can be operated at a DC potential close to that of anode No. 2. This is desirable because the defocusing effect which is obtained if the two potentials differ greatly is eliminated. (2) Capacitors C1 and C2 can be of a fairly low voltage rating. (3) The circuit can be more easily adapted to DC connection between deflection plates and amplifiers. (4) Less insulation is needed between the positioning controls and the chassis or the front panel.

Contrast the preceding conditions with those that would be obtained if the polarity of the high-voltage supply were reversed. (1) Anode No. 2 will be at a high positive potential to ground. As a result, there will be an extreme difference in potential between the deflection plates and anode No. 2 if the DC connections are made from the amplifier to the deflection plates. (This condition was mentioned as being undesirable.) (2) If blocking capacitors C1 and C2 are used, the deflection plates and anode No. 2 can be at nearly the same potential; but the voltage rating of the capacitors must be high. Capacitors of that value and rating would be bulky and expensive. (3) The horizontal- and vertical-positioning controls should be insulated from the chassis and the front panel as a protective measure against the high voltage.

The choice of polarity for the high-voltage supply does not affect the voltage rating of the filter capacitors C1 and C2 of Fig. 2. Regardless of the polarity, the voltage rating of these capacitors must be high. In summary, the advantages seem to lie mainly with the high-voltage supply of negative polarity; and the majority of commercially produced oscilloscopes employ this system.

Insulation of Front-Panel Controls

It can be seen in Fig. 5 that the focus and intensity controls are at points of fairly high potential at the negative end of the dividing network; consequently, the manufacturers take precautions to insulate these controls from the chassis and from the front panel. The method used in the Triplett Model 3441 oscilloscope is shown in Fig. 6. Insulating washers are used between each control and the mounting bracket. An insulating coupler is used between the shaft of the control and the long metal shaft running to the front panel.

Beam Intensification

The 5UP1 cathode-ray tube has been used as an example throughout the preceding paragraphs because it is popular with oscilloscope manufacturers; however, other cathode-ray tubes are also used in oscilloscopes, and some of them require a power supply slightly different from those discussed so far. There

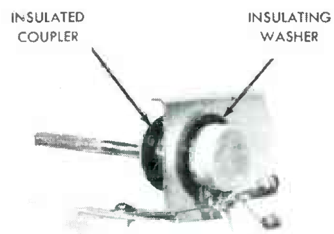
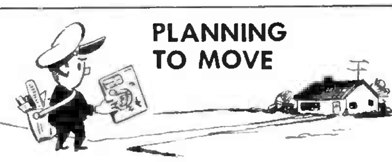


Fig. 6. One Method of Insulating Between a Control and the Chassis.

is an intensifier anode in the 5ABP1 tube and in the 5CP1A tube. This anode (called anode No. 3) may sometimes be operated at a potential that is as much as 2,000 volts positive with respect to ground; and at the same time, the control grid may be as much as 2,000 volts negative with respect to ground. The action of the intensifier anode is to accelerate greatly the electrons in the beam after they have passed between the deflection plates. A brighter spot results; yet the deflection sensitivity is not seriously affected. Because of the increased velocity of the electrons in the beam, a higher scanning rate can be used. In order to obtain the positive high voltage for the intensifier anode, another half-wave rectifier system can be added.

With all these high-voltage sources present within the case, the operator should be very careful when examining the interior of oscilloscopes. The instruction manuals caution against operating the oscilloscope while the chassis is outside of its case. Before touching any part of the interior of an oscilloscope, the operator should make sure that the filter capacitors are not charged.

PAUL C. SMITH

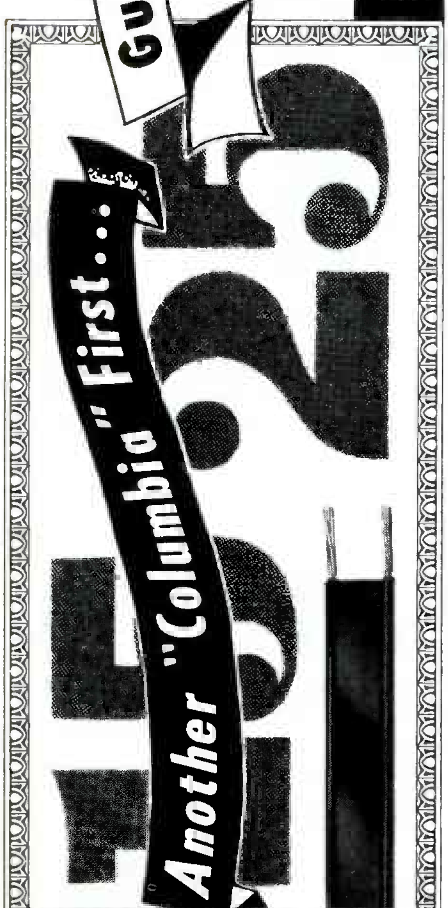


PLANNING TO MOVE

If so, please notify us by the 15th of the preceding month. This will assure uninterrupted delivery of each of your copies of PF REPORTER.

Also, please include your present address. If possible, simply send the address label from one of your back issues. Mail both to:

PF REPORTER
2201 E. 46th Street • Indianapolis 5, Indiana



Examining Design Features

(Continued from page 19)

tubes or replace other components on the top of the chassis. Should the receiver require service on just the wiring side of the chassis, the technician need not tilt the chassis. By merely removing the fiber board which covers the back side of the vertical chassis, all of the underchassis wiring and components are exposed. The photograph of Fig. 7 illustrates the easy access once the cabinet back has been removed.

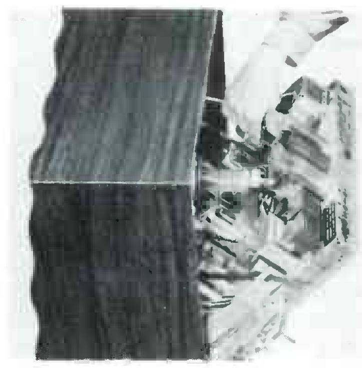


Fig. 6. The CBS-Columbia Tilt-Back Chassis Illustrating the Ease of Access for Tube Replacement.

Fig. 7. The CBS-Columbia Model 3T615 Television Receiver With Cabinet Back Removed and With the Fiber Board Which Covers the Wiring Side of the Chassis Partially Removed.

A rather odd feature of the new CBS-Columbia Model 3T615 receiver is the manner in which the individual oscillator slugs are adjusted. The Standard Coil tuner employed in this receiver is mounted at a 45-degree angle with respect to the base pan and is not part of the tilt-back chassis assembly. The oscillator adjustment is accessible through a hole in the base pan. The alignment tool must be inserted through this hole from the bottom side of the cabinet at a 45-degree angle in order to enter the adjustment hole which is in the front of the tuner.

The electrical design of the receiver is somewhat conventional and uses two selenium rectifiers in the low-voltage supply and a series-filament arrangement for 600-milliampere tubes. The chassis utilizes a stagger-tuned, 40-mc IF strip with a crystal detector. It also incorporates a LOCAL-DISTANT switch to compensate for variations in the signal strength of near and far stations.

Pocket-Size Transistor Radio

The small chassis pictured with a tape measure in Fig. 8 is the Mitchell Model 1103 AM portable radio. The unit is completely transistorized, and miniature parts are used throughout. The entire unit is so compact that it may be conveniently carried in a man's shirt pocket. This radio, complete with battery, weighs only twelve ounces.

All components except the volume control and tuning capacitor are mounted on a small printed-wiring board. The center portion of the board is cut out for the speaker magnet. All the resistors are mounted vertically, and capacitors of the smallest possible size are used to conserve space.

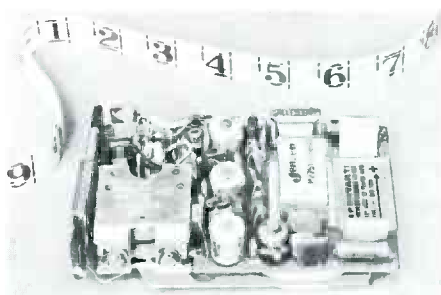


Fig. 8. The Mitchell Model 1103 Transistorized Portable Radio Chassis.

The antenna coil is wound on a flat ferrite form and provides a tuned circuit of high Q-factor. Body capacitance has little effect on the antenna coil; and for a portable receiver of this size, the antenna coil is not exceptionally directional. A transistor and a miniature oscillator coil make up the essential components of the converter stage. The IF transformers used in this receiver are of the tuned-primary, untuned-secondary type. The IF stages are practically identical; however, only the first stage is controlled by AVC. The AVC voltage is derived from the output of the crystal-detector stage. Direct coupling is used between the crystal detector and the volume control. The resistance of the volume control is low so that it will match the input impedance of the audio output transistor.

The output transistor is properly biased in order to compensate for any variations in ambient temperature or fluctuations in battery voltage either of which could adversely affect normal operation of the output stage.

A miniature output transformer matches the impedance of the output transistor to a small 2 3/4-inch speaker. The speaker responds with reasonable fidelity and adequate volume for such a small unit. A hearing-aid earphone is available as an accessory item and may be plugged into a jack provided on one side of the receiver. The power supply for this receiver is made up solely of one small 22 1/2-volt battery. Life expectancy for the battery is rated at 20 to 30 hours, depending upon the frequency and duration of use. The on-off switch is connected in the negative side of the battery line; and when the receiver is on, contact is made by a strip of metal which rides against a small metal disc. The disc is part of the shaft of the volume control and is grounded to the chassis. When the shaft is turned to the off position, a piece of plastic protruding from the knob of the volume control separates the metal strip from the disc and thus the electrical contact is broken.

Push-Button Power Switch

The rather odd-looking photograph presented in Fig. 9 is a close-up view of the push-button type on-off switch employed in the new Motorola Model 21K41R television receiver. This push button is one of the newest features now appearing on the front panel of this Motorola receiver.

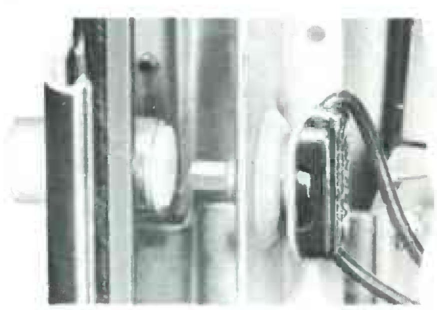


Fig. 9. Push-Button Power Switch Employed in the Motorola Model 21K41R Television Receiver.

The switch itself is of a conventional design and has a current rating of one ampere at 250 volts or three amperes at 125 volts. The Motorola chassis utilizes a power transformer in the low-voltage supply, and the switch is connected in series with one side of the primary winding. It can be seen in Fig. 9 that the switch is mounted on the front of the chassis a short distance from the white plastic button which is attached to the mask assembly.

LESLIE D. DEANE

JAN.-FEB. 1956 NO. 54

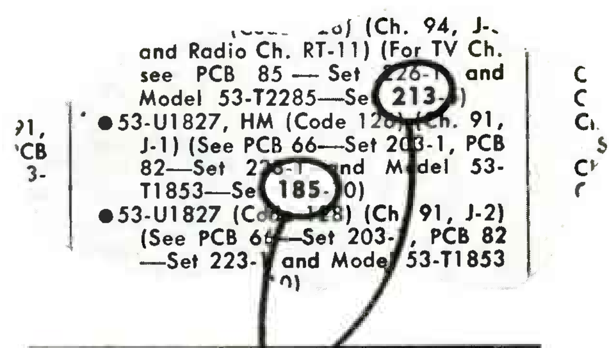
SAMS INDEX TO PHOTOFACT FOLDERS

NO. 54: SETS NUMBER 1 THROUGH 303

YOUR INDEX TO THE WORLD'S FINEST ELECTRONIC SERVICE DATA: FIND THE FOLDER SET YOU NEED . . . GET IT FROM YOUR DISTRIBUTOR

IT'S EASY TO USE THIS INDEX

To find the PHOTOFACT Folder you need, first look for the name of the receiver (listed alphabetically in the following pages), and then find the required model number. Opposite the model, you will find the number of the PHOTOFACT Set in which the required Folder appears, and the number of that Folder. The PHOTOFACT Set number is shown in *bold-face* type; the Folder number is in the regular light-face type.



ORDER BY THE SET NUMBER WHICH APPEARS IN BOLD TYPE

IMPORTANT:

1. The letter "A" following a set number in the Index listing, indicates a "Preliminary Data Folder." These Folders were designed to provide immediate basic data on TV receivers. Many of these were later superseded by regular PHOTOFACT Folders. In those cases where short production runs and/or limited distribution prevented availability of a sample chassis, the "A" designation has been retained.

2. The letter "S" following a folder number in the Index listing denotes schematic *only*. The purpose of these schematics is to provide immediate coverage on new models as soon as they reach the consumer market. The majority of these models will be covered later in complete PHOTOFACT Folder presentation. This is an added service that will keep you current and in no way does it alter the regular PHOTOFACT Folder coverage.

3. **Production Change Bulletins** contain data supplementary to certain models covered in previously issued PHOTOFACT Folders, and are listed in this Index immediately preceding the listing of the original coverage of the model or chassis. These Bulletins should be filed with the folders covering the models to which the changes apply.

FOR MODELS AND CHASSIS NOT LISTED IN THIS INDEX SEE YOUR PHOTOFACT DISTRIBUTOR

CURRENT ONLY UNTIL MARCH 15, 1956: Keep the latest SAMS INDEX handy always . . .

Sams Index to PHOTOFACT FOLDERS

Covering Folder Sets Nos. 1 through 303 · Jan.-Feb., 1956 · No. 54

Set Folder No. No.

ADAPTOL

CT-1 48—1

ADMIRAL (Also see Record Changer Listing)

Chassis UL5K1 30—1
Chassis UL7C1 25—2
Chassis 1HF1 258—2
Chassis 3A1 2-24
Chassis 3C1 (Also see PCB 15—Set 126-1) 117—2
Chassis 3D1 266—1, 271—1
Chassis 3G1 284—3
Chassis 4A1 3-31
Chassis 4B1 24—1
Chassis 4C2 285—1
Chassis 4D1 49—1
Chassis 4HF1 258—2
Chassis 4H1 71—2
Chassis 4J1, 4K1 77—1
Chassis 4L1 100—1
Chassis 4R1 108—3
Chassis 4S1 100—1
Chassis 4T1 143—2
Chassis 4W1 143—2
Chassis 4X1 261—1
Chassis 4Z1 274—2
Chassis 5A3 191—2
Chassis 5B1 (See Model 6T02—Set 1-20)
Chassis 5B1 Phono 4-24
Chassis 5B1A 18—1
Chassis 5B2 100—1
Chassis 5C3 197—2
Chassis 5D2 118—2
Chassis 5D3 256—3
Chassis 5D3A (See Ch. 5D3—Set 256-3)
Chassis 5E2 139—2
Chassis 5E3 224—2
Chassis 5F1 57—1
Chassis 5G2 137—2
Chassis 5H1 26—1
Chassis 5J2 136—2
Chassis 5K1 30—1
Chassis 5L2 160—1
Chassis 5M2 157—2
Chassis 5M3 282—2
Chassis 5N1 31—1
Chassis 5R1 59—1
Chassis 5R2 165—3
Chassis 5R3 272—1
Chassis 5S3 272—1
Chassis 5T1 68—1
Chassis 5T3 279—1
Chassis 5W1 79—2
Chassis 5X1 76—3
Chassis 5X2 204—2
Chassis 5Y2 188—2
Chassis 6A1 (See Model 6T01—Set 1-19)
Chassis 6A2 103—1
Chassis 6B1 48—2
Chassis 6C1 53—1
Chassis 6C2, 6C2A 252—3
Chassis 6E1, 6E1N 6—1
Chassis 6J2 140—2
Chassis 6L1 26—2
Chassis 6M1 25—1
Chassis 6M2 (See Ch. 6J2—Set 140-2)
Chassis 6Q1 78—1
Chassis 6R1 54—1
Chassis 6S1 107—1
Chassis 6V1 62—1
Chassis 6W1 71—1
Chassis 6Y1 75—1
Chassis 7B1 18—2
Chassis 7C1 25—2
Chassis 7E1 36—1
Chassis 7G1 54—2
Chassis 8C1 (See Ch. 8D1—Set 67-1)
Chassis 8D1 67—1
Chassis 9A1 32—1
Chassis 9B1 49—2
Chassis 9E1 68—2
Chassis 10A1 3-30
Chassis 15HF1 258—2
●Chassis 17SX3 (See PCB 140—Set 300-1 and Ch. 17XP3 — Set 284—2)
●Chassis 17XP3 (Also See PCB 140—Set 300-1) 284—2
●Chassis 18SX4BZ, 18SX4EZ, 18SX4FZ, 18SX4GZ 280—2
●Chassis 18X4CZ, 18X4EZ, 18X4FZ, 18X4GZ 280—2
●Chassis 18XP4BZ 280—2
●Chassis 19A1 (Also see PCB 5—Set 106-1) 59—2
●Chassis 19A2, A, AZ, Z 271—1
●Chassis 19B1 (Also see PCB 112—Set 263-1) 210—2
●Chassis 19B1C (See PCB 112—Set 263-1 and Chassis 19B1—Set 210—2)
●Chassis 19B2, A, AZ, Z 271—1
●Chassis 19C1 (Also see PCB 112—Set 263-1) 210—2
●Chassis 19D2, A 271—1
●Chassis 19E1 (Also see PCB 78—Set 219-1) 203—2
●Chassis 19E2, A 271—1
●Chassis 19F1, 19F1A (Also see PCB 112—Set 263-1) 210—2
●Chassis 19F1B, 19F1C (See PCB 112—Set 263-1 and Chassis 19B1—Set 210-2)
●Chassis 19F2AZ, Z 271—1
●Chassis 19G1, A 271—1
●Chassis 19H1, 19K1 (Also see PCB 112—Set 263-1) 210—2
●Chassis 19J1, A 271—1
●Chassis 19K2AZ, Z 271—1
●Chassis 19L1 271—1
●Chassis 19L2, Z, 19M2 266—1

Set Folder No. No.

ADMIRAL—Cont.

●Chassis 19N1 (See PCB 78—Set 219-1 and Ch. 19E1—Set 203-2)
●Chassis 19N2Z 266—1
●Chassis 19P1 271—1
●Chassis 19S1 271—1
●Chassis 19S2, 19T1, 19T1C 266—1
●Chassis 19T2, 19T2A (See PCB 112—Set 263-1 and Chassis 19B1—Set 210-2)
●Chassis 19W1, A, B, C, 19Y1A 266—1
●Chassis 20AX5, A, B, D, EZ, F, GZ (See PCB 142—Set 302-1 and Chassis 20XP5—Set 291—2)
●Chassis 20A1, 20B1 (Also see PCB 23—Set 140-1) 77—1
●Chassis 20A2, 20A2Z 256—2
●Chassis 20D2 256—2
●Chassis 20T1 (Also see PCB 15—Set 126-1 and PCB 26—Set 146-1) 117—2
●Chassis 20V1 (Also see PCB 15—Set 126-1 and PCB 26—Set 146-1) 117—2
●Chassis 20XP5, A 291—2
●Chassis 20X1, 20Y1 100—1
●Chassis 20X5A, 20X5CZ, 20X5EZ 291—2
●Chassis 20X5, B, GZ (See PCB 142—Set 302-1 and Ch. 20XP5—Set 291—2)
●Chassis 20Y4B, E, F, L 302—13—S
●Chassis 20Z1 (Also see PCB 7—Set 110-1) 100—1
●Chassis 21A1 (Also see PCB 23—Set 140-1) 77—1
●Chassis 21A3AZ 275—2
●Chassis 21A3Z 275—2
●Chassis 21B1 (Also see PCB 25—Set 144-1 and PCB 79—Set 220-1) 118—2
●Chassis 21C1 (Also See PCB 25—Set 144-1) 118—2
●Chassis 21C3Z 275—2
●Chassis 21D1 (Also See PCB 25—Set 144-1) 118—2
●Chassis 21E1 (See PCB 25—Set 144-1 and Ch. 21D1—Set 118-2)
●Chassis 21F1, 21G1 (Also see PCB 30—Set 156-2 and PCB 46—Set 180-1) 135—2
●Chassis 21G3Z 275—2
●Chassis 21H1, 21J1 (Also see PCB 25—Set 144-1) 118—2
●Chassis 21K1, 21L1 (Also see PCB 46—Set 180-1) 135—2
●Chassis 21M1, 21N1 (See PCB 30—Set 156-2, PCB 46—Set 180-1 and Ch. 21F1—Set 135-2)
●Chassis 21P1, 21Q1 (Also see PCB 30—Set 156-2 and PCB 46—Set 180-1) 135—2
●Chassis 21W1 177—2
●Chassis 21X1, 21X2 (See PCB 62—Set 196-1 and Ch. 21W1—Set 177-2)
●Chassis 21Y1 177—2
●Chassis 21Z1, 21Z1A 177—2
●Chassis 22A2, 22A2A 180—2
●Chassis 22A3, 22A3AZ, 22A3Z (Also See PCB 121—Set 275-1) 260—2
●Chassis 22B3, 22B3AZ, 22B3Z (Also See PCB 121—Set 275-1) 260—2
●Chassis 22C2 201—2
●Chassis 22E2 201—2
●Chassis 22F2 222—2
●Chassis 22F2Z (Also See PCB 121—Set 275-1) 260—2
●Chassis 22G2, 22G2Z (Also See PCB 121—Set 275-1) 260—2
●Chassis 22M1 180—2
●Chassis 22M2, 22P2 222—2
●Chassis 22N2 (Also See PCB 121—Set 275-1) 260—2
●Chassis 22R2 (Also See PCB 121—Set 275-1) 260—2
●Chassis 22Y1 180—2
●Chassis 23A1 211—2
●Chassis 24D1, 24E1, 24F1, 24G1, 24H1 (Also see PCB 9—Set 114-1) 103—2
●Chassis 30A1 57—2
●Chassis 30B1, 30C1, 30D1 71—2
●Models C23B1, C23B2, C23B3 (See Ch. 20Y4B)
●Models C23B16, C23B17, C23B18 (See Ch. 20Y4B)
●Models C23B26, C23B27 (See Ch. 20Y4B)
●Models C25B6, C25B7, C25B8 (See Ch. 20Y4B)
●Models C2215, C2216, C2217 (See Ch. 19A2)
●Model C2216AZ (See Ch. 20A2Z)
●Models C2225, C2226, C2227 (See Ch. 22A3)
●Models C2225Z, C2226Z, C2227Z (See Ch. 22A3Z)
●Models C2236, C2237 (See Ch. 19A2)
●Model C2236A (See Ch. 20A2)
●Model C2246 (See Ch. 19F1B)
●Model C2256 (See Ch. 20X5A)
●Models C2306BZ, C2306Z, C2307BZ, C2307Z (See Ch. 20X5EZ)
●Models C2316Z, C2317Z, C2319Z (See Ch. 21A3Z)
●Models C2326Z, C2327Z (See Ch. 21A3Z or 21A3AZ)
●Models C2826Z, C2827Z (See Ch. 21G3Z)
●Models CA2215Z, CA2216Z, CA2217Z (See Ch. 19L2Z)
●Models CA2236, CA2237 (See Ch. 19L2)
●Models CA2246 (See Ch. 19W1B)

Set Folder No. No.

ADMIRAL—Cont.

●Model CA2256 (See Ch. 20AX5A)
●Models CA2306BZ, CA2306Z, CA-2307BZ, CA2307Z (See Ch. 20AX5EZ)
●Models CU2215, CU2216, CU2217 (See Ch. 19B2)
●Models CU2225, CU2226, CU2227 (See Ch. 22B3)
●Models CU2225Z, CU2226Z, CU2227Z (Ch. 22B3Z)
●Models CU2236, CU2237 (See Ch. 19B2)
●Models F23B6, F23B7 (See Ch. 20Y4B)
●Models F25B6, F25B7 (See Ch. 20Y4B)
●Models F2216, F2217, F2218 (See Ch. 22A3)
●Models F2216Z, F2217Z, F2218Z (See Ch. 22A3Z)
●Model F2226 (See Ch. 20A2)
●Models F2326Z, F2327Z, F2328Z (See Ch. 21A3Z or 21A3AZ)
●Models FU2216, FU2217, FU2218 (See Ch. 22B3)
●Models FU2216Z, FU2217Z, FU2218Z (See Ch. 22B3Z)
●Models H2216, H2217 (See Ch. 19A2)
●Models HA2216Z, HA2217Z (See Ch. 19L2Z)
●Models HU2216, HU2217 (See Ch. 19B2)
Model HiFi6, HiFi7, HiFi8 (Ch. 15HF1, 4HF1, 1HF1) 258—2
●Models K2216, K2217 (See Ch. 19D2)
●Models K2216A, K2217A (See Ch. 20D2)
●Models K2226, K2227 (See Ch. 19G1)
●Models K2256, K2257 (See Ch. 20X5B)
●Models K2366Z, K2367Z (See Ch. 20X5GZ)
●Models KA2216, KA2217 (See Ch. 19M2)
●Models KA2226, KA2227 (See Ch. 19Y1A)
●Models KA2256, KA2257 (See Ch. 20AX5B)
●Models KA2366Z, KA2367Z (See Ch. 20AX5GZ)
●Models KU2216, KU2217 (See Ch. 19E2)
●Models L2215Z, L2216Z, L2217Z (See Ch. 19F2AZ)
●Models L2326Z, L2327Z (See Ch. 21C3Z)
●Models LA2215Z, LA2216Z, LA2217Z (See Ch. 19N2Z and Ch. 3D1)
●Models LU2215Z, LU2216Z, LU2217Z (See Ch. 19K2AZ)
●Models T23B1, T23B2, T23B6, T23B7 (See Ch. 20Y4B)
●Models T23B16, T23B17, T23B18 (See Ch. 20Y4B)
●Models T23B26, T23B27 (See Ch. 20Y4B)
●Models T25B26, T25B27 (See Ch. 20Y4B)
●Models T1801, N, T1802, N (See Ch. 17XP3)
●Models T1806, N, T1807, N (See Ch. 17XP3)
●Models T1811, T1812 (See Ch. 19B1 or 19B1C)
●Model T1812B (See Ch. 20XP5)
●Model T1822 (See Ch. 19B1, 19B1C)
●Models T1831, T1832 (See Ch. 20X5)
●Model T1842 (See Ch. 20X5)
●Model T2211 (See Ch. 19F1B)
●Model T2211A (See Ch. 19T2A)
●Model T2212 (See Ch. 19F1A or 19F1B)
●Model T2212B (See Ch. 20XP5A)
●Models T2215, T2216, T2217, T2218, T2219 (See Ch. 19A2)
●Models T2216A, T2217A (See Ch. 20A2)
●Model T2222 (See Ch. 19F1 or 19F1C)
●Model T2226 (See Ch. 19F1)
●Model T2232 (See Ch. 22F2)
●Model T2232Z (See Ch. 22F2Z)
●Models T2236, T2237 (See Ch. 22A3)
●Model T2236Z (See Ch. 22A3Z or 22A3AZ)
●Models T2237Z, T2239Z (See Ch. 22A3Z)
●Model T2239 (See Ch. 22A3)
●Model T2242 (See Ch. 19K1)
●Model T2242BZ (See Ch. 20X5CZ)
●Models T2301Z, ZN, T2302Z, ZN (See Ch. 18XP4BZ)
●Models T2311Z, T2312Z (See Ch. 21A3Z)
●Models T2316Z, T2317Z, T2318Z, T2319Z (See Ch. 21A3Z)
●Models T2326Z, ZN, T2327Z, ZN (See Ch. 18XP4BZ)
●Models TA1811, TA1812 (See Ch. 19T1, C)
●Model TA1812B (See Ch. 20AX5F)
●Model TA1822 (See Ch. 19T1, C)
●Models TA1831, TA1832 (See Ch. 20AX5)
●Model TA1842 (See Ch. 20AX5)
●Models TA2211, TA2212 (See Ch. 19W1A or 19W1B)
●Models TA2215, TA2216, TA2217, TA2218 (See Ch. 19L2)

Set Folder No. No.

ADMIRAL—Cont.

●Models TA2222 (See Ch. 19W1 or 19W1C)
●Models TA2226 (See Ch. 19W1)
●Models TA2242 (See Ch. 19S2)
●Models TS1801, TS1802, TS1806, TS1807 (See Ch. 17SX3)
●Models TS2301Z, ZN, TS2302Z, ZN (See Ch. 18SX4BZ)
●Models TS2326Z, ZN, TS2327Z, ZN (See Ch. 18SX4BZ)
●Models TU1811, TU1812 (See Ch. 19S1)
●Model TU1822 (See Ch. 19S1)
●Model TU2212 (See Ch. 19J1A)
●Models TU2215, TU2216, TU2217, TU2218, TU2219 (See Ch. 19B2)
●Models TU2222, TU2226 (See Ch. 19J1)
●Model TU2232 (See Ch. 22G2)
●Model TU2232Z (See Ch. 22G2Z)
●Models TU2236, TU2237 (See Ch. 22B3)
●Models TU2236Z, TU2237Z (See Ch. 22B3Z)
Model 3G18 (See Ch. 3G1)
Models 4C26, 4C27, 4C28 (See Ch. 4C2)
Models 4D11, 4D12, 4D13 (See Ch. 4D1)
●Models 4H15, 4H16, 4H17 (A or B) (See Ch. 20A1)
●Models 4H15, 4H16, 4H17, 4H18, 4H19 (S or SN) (See Ch. 30B1)
●Models 4H18, 4H19 (C or CN) (See Ch. 20B1)
●Models 4H115, 4H116, 4H117 (S or SN) (See Ch. 30B1)
●Models 4H126A, B, C, CN (See Ch. 21A1)
●Model 4H126 (S or SN) (See Ch. 30B1)
●Models 4H137 (S or SN) (See Ch. 30B1)
●Models 4H137A, B (See Ch. 21A1)
●Models 4H145A, B, C, CN (See Ch. 20B1)
●Models 4H145S, SN (See Ch. 30B1)
●Models 4H146A, B, C, CN (See Ch. 20B1)
●Models 4H146S, SN (See Ch. 30B1)
●Models 4H147A, B (See Ch. 20B1)
●Models 4H147S, SN (See Ch. 30B1)
●Models 4H155A, B (See Ch. 20B1)
●Models 4H155S, SN (See Ch. 30B1)
●Models 4H156A, B (See Ch. 20B1)
●Models 4H156S, SN (See Ch. 30B1)
●Models 4H157A, B (See Ch. 20B1)
●Models 4H157S, SN (See Ch. 30B1)
●Models 4H165A, B (See Ch. 20B1)
●Models 4H165S, SN (See Ch. 30B1)
●Models 4H166A, B, C, CN (See Ch. 20B1)
●Models 4H166S, SN (See Ch. 30B1)
●Models 4H167A, B, C, CN (See Ch. 20B1)
●Models 4H167S, SN (See Ch. 30B1)
Models 4R11, 4R12 (See Ch. 4R1)
Model 4T11 (See Ch. 4T1)
Models 4W18, 4W19 (See Ch. 4W1)
Models 4X11, 4X12 (See Ch. 4X1)
Models 4X18, 4X19 (See Ch. 4X1)
Models 4Z11, 4Z12, 4Z14, 4Z18, 4Z19 (See Ch. 4Z1)
Models 5A32/12, 5A32/15, 5A32/16, 5A33/12, 5A33/15, 5A33/16 (See Ch. 5A3)
Models 5D31, A (See Ch. 5D3)
Models 5D32, 5D33 (See Ch. 5D3)
Model 5D38 (See Ch. 5D3)
Models 5E21, 5E22, 5E23 (See Ch. 5E2)
Models 5E31, 5E32, 5E33 (See Ch. 5E3)
Models 5E38, 5E39 (See Ch. 5E3)
Models 5F11, 5F12 (See Ch. 5F1)
Models 5G21, 5G21/15, 5G22, 5G22/15, 5G23, 5G23/15 (See Ch. 5G2)
Models 5J21, 5J22, 5J23 (See Ch. 5J2)
Models 5K11, 5K12, 5K13, 5K14 (See Ch. 5K1)
Models 5L21, 5L22, 5L23 (See Ch. 5L2)
Models 5M21, 5M22 (See Ch. 5M2)
Models 5M36, 5M37 (See Ch. 5M3)
Model 5R10 (See Ch. 5R1)
Models 5R11, 5R12, 5R13, 5R14 (See Ch. 5R1)
Models 5R32, 5R33 (See Ch. 5R3)
Models 5R35, 5R36, 5R37, 5R38 (See Ch. 5R3)
Model 5S21AN (See Ch. 5C3)
Model 5S22AN (See Ch. 5C3)
Model 5S23AN (See Ch. 5C3)
Models 5S32, 5S33, 5S34, 5S35, 5S38 (See Ch. 5S3)
Model 5T12 (See Ch. 5T1)
Models 5T31, 5T32, 5T33, 5T34 (See Ch. 5T3)
Model 5T38 (See Ch. 5T3)
Models 5W11, 5W12 (See Ch. 5W1)
Models 5X11, 5X12, 5X13, 5X14 (See Ch. 5X1)
Models 5X21, 5X22, 5X23 (See Ch. 5X2)
Model 5Y22 (See Ch. 5Y2)
Models 6A21, 6A22, 6A23 (See Ch. 6A2)
Model 6C11 (See Ch. 6C1)
Models 6C22, A, 6C23, A (See Ch. 6C2, A)
Model 6C71 (See Ch. 10A1)
Models 6J21, 6J22 (See Ch. 6J2)
Model 6M22 (See Ch. 6M2)

Set Folder No. No.

ADMIRAL—Cont.

Models 6N25, 6N26, 6N27 (See Ch. 5R2)
Model 6P32 (See Ch. 6E1, 6E1N)
Models 6Q11, 6Q12, 6Q13, 6Q14 (See Ch. 6Q1)
Model 6R11 (See Ch. 6R1)
Model 6RP48, 6RP49, 6RP50 (See Ch. 3A1)
Models 6RT41, 6RT42, 6RT43 (See Ch. 5B1 Phono)
Models 6RT41A, 6RT42A, 6RT43A (See Ch. 5B1A)
Model 6RT44 (See Ch. 7B1)
Models 6S11, 6S12 (See Ch. 6S1)
Model 6T01 1—19
Model 6T02, 6T04 1—20
Model 6T05 1—19
Model 6T06, 6T07 (See Ch. 4A1)
Model 6T11 (See Model 6T02—Set 1-20)
Model 6T12 (See Ch. 4A1)
Model 6T44A (See Ch. 7B1)
Models 6V11, 6V12 (See Ch. 6V1)
Models 6W11, 6W12 (See Ch. 6W1)
Models 6Y18, 6Y19 (See Ch. 6Y1)
Models 7C60B, 7C60M, 7C60W (See Ch. 6B1)
Models 7C61, 7C62, 7C62-UL (See Ch. 6M1)
Model 7C62A (See Ch. 6M1)
Models 7C63, 7C63-UL (See Ch. 7C1)
Model 7C63A (See Ch. 7C1)
Models 7C65B, 7C65M, 7C65W (See Ch. 7E1)
Model 7C73 (See Ch. 9A1)
Models 7G11, 7G12, 7G14, 7G15, 7G16 (See Ch. 7G1)
Models 7P32, 7P33, 7P34, 7P35 (See Ch. 5H1)
Model 7RT41, 7RT42, 7RT43 (See Ch. 6L1)
Models 7T01, 7T01M-UL, 7T04, 7T04-UL (See Ch. 5N1)
Model 7T06 (See Ch. 4B1)
Model 7T10 (See Ch. 5K1)
Model 7T12 (See Ch. 4B1)
Models 7T14, 7T15 (See Ch. 5K1)
●Models 8C11, 8C12, 8C13 (See Ch. 30A1 and Ch. 8C1)
Models 8C14, 8C15, 8C16, 8C17 (See Ch. 8C1)
Models 8D15, 8D16 (See Ch. 8D1)
Model 8RP46 (See Ch. 3A1)
Models 9B14, 9B15, 9B16 (See Ch. 9B1)
Models 9E15, 9E16, 9E17 (See Ch. 9E1)
●Models 12X11, 12X12 (See Ch. 20Z1)
●Models 14R11, 14R12 (See Ch. 20T1)
●Model 14R16 (See Ch. 20T1)
●Model 15K21 (See Ch. 20T1)
●Model 16M12 (See Ch. 21X1)
●Models 16R11, 16R12 (See Ch. 21B1)
●Models 17DX10, 17DX11, 17DX12 (See Ch. 19B1)
●Models 17K11, 17K12 (See Ch. 21F1)
●Model 17K16 (See Ch. 21F1)
●Models 17K21, 17K22 (See Ch. 21F1)
●Models 17M15, 17M16, 17M17 (See Ch. 21F1)
●Models 17UDX11, 17UDX12 (See Ch. 19S1)
●Models 19A11S, SN, 19A12S, SN (See Ch. 19A1)
●Models 19A15S, SN (See Ch. 19A1)
●Models 20X11, 20X12 (See Ch. 20X1)
●Model 20X122 (See Ch. 20X1)
●Model 20X136 (See Ch. 20Y1)
●Models 20X145, 20X146, 20X147 (See Ch. 20Y1)
●Model 22X12 (See Ch. 20Z1)
●Models 22X25, 22X26, 22X27 (See Ch. 20Z1)
●Models 24A11, 24A12 (See Ch. 20A1)
●Model 24A125 (See Ch. 20A1)
●Model 24A125AN (See Ch. 20X1)
●Models 24A126, 24A127 (See Ch. 20A1)
●Models 24C15, 24C16, 24C17 (See Ch. 20B1)
●Models 24R11, 24R12 (See Ch. 20T1)
●Models 24X15, S, 24X16, S, 24X17S (See Ch. 20X1)
●Models 25A15, 25A16, 25A17 (See Ch. 20A1)
●Models 26R11, 26R12 (See Ch. 21B1)
●Model 26R25 (See Ch. 24H1)
●Model 26R25A (See Ch. 21B1)
●Model 26R26 (See Ch. 24H1)
●Model 26R26A (See Ch. 21B1)
●Model 26R35 (See Ch. 24H1)
●Model 26R35A (See Ch. 21B1)
●Model 26R36 (See Ch. 24H1)
●Model 26R36A (See Ch. 21B1)
●Model 26R37 (See Ch. 24H1)
●Model 26R37A (See Ch. 21B1)
●Models 26X35, 26X36 (See Ch. 24D1)
●Models 26X36AS, S (See Ch. 21E1)
●Model 26X37 (See Ch. 24D1)
●Models 26X45, 26X46 (See Ch. 24H1)
●Models 26X55, 26X56, 26X57 (See Ch. 24D1)
●Models 26X55A, 26X56A, 26X57A (See Ch. 21D1)

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

ADMIRAL—Cont.

●Models 26X65, 26X66, 26X67 (See Ch. 24D1)
●Models 26X65A, 26X66A, 26X67A (See Ch. 21D1)
●Models 26X75, 26X76 (See Ch. 24D1)
●Models 26X75A, 26X76A (See Ch. 21D1)
●Models 27K12 (See Ch. 21F1)
●Models 27K15, A, B, 27K16, A, B, 27K17, A, B (See Ch. 21F1)
●Models 27K25, A, B, 27K26, A, B, 27K27, A, B (See Ch. 21F1)
●Models 27K35, A, B, 27K36, A, B (See Ch. 21F1)
●Models 27K46, A, B (See Ch. 21F1)
●Models 27K85, 27K86, 27K87 (See Ch. 21F1)
●Model 27M12 (See Ch. 21X2)
●Models 27M25, 27M26, 27M27 (See Ch. 21F1)
●Models 27M35, 27M36 (See Ch. 21F1)
●Models 29X15, 29X16, 29X17 (See Ch. 24F1)
●Model 29X25 (See Ch. 24F1)
●Model 29X25A (See Ch. 21H1)
●Model 29X26 (See Ch. 24F1)
●Model 29X26A (See Ch. 21H1)
●Model 29X27 (See Ch. 24F1)
●Models 30A12, 30A13 (S or SN) (See Ch. 30A1)
●Models 30A14, 30A15, 30A16 (See Ch. 30A1)
●Models 30B15S, SN, 30B16S, SN, 30B17S, SN (See Ch. 30B1)
●Models 30C15S, SN, 30C16S, SN, 30C17S, SN (See Ch. 30C1)
●Models 30F15, A, 30F16, A, 30F17, A (See Ch. 20A1)
●Models 32X15, 32X16 (See Ch. 20Z1)
●Models 32X26, 32X27 (See Ch. 20Z1)
●Models 32X35, 32X36 (See Ch. 20Z1)
●Models 34R15, A, 34R16, A (See Ch. 20V1)
●Model 36R37 (See Ch. 21C1)
●Models 36R45, 36R46 (See Ch. 21C1)
●Models 36X35, 36X36, 36X37 (See Ch. 24E1 and Ch. 5B2)
●Models 36X35A, 37X36A, 36X37A (See Ch. 24E1 and Ch. 5D2)
●Models 37F15, A, B, 37F16, A, B (See Ch. 21G1 or Ch. 21Q1 and Ch. 5D2)
●Models 37F27, A, B, 37F28, A, B (See Ch. 21G1 or 21Q1 and Ch. 5D2)
●Models 37F35, A, B, 37F36, A, B (See Ch. 21G1 or 21Q1 and Ch. 5D2)
●Models 37F55, 37F56, 37F57 (See Ch. 21G1 or 21Q1 and Ch. 5D2)
●Models 37K15, A, B, 37K16, A, B (See Ch. 21G1 or 21Q1 and Ch. 3C1)
●Models 37K27, A, B, 37K28, A, B (See Ch. 21G1 or 21Q1 and Ch. 3C1)
●Models 37K35, A, B, 37K36, A, B (See Ch. 21G1 or 21Q1 and Ch. 3C1)
●Models 37K55, 37K56, 37K57 (See Ch. 21G1 or 21Q1 and Ch. 3C1)
●Models 37M15, 37M16 (See Ch. 21G1 or 21Q1 and Ch. 3C1)
●Models 37M25, 37M26, 37M27 (See Ch. 21Z1)
●Models 39X16, A, 39X17, A (See Ch. 24G1 and Ch. 5B2)
●Models 39X16B, 39X17B (See Ch. 24G1 and Ch. 5D2)
●Model 39X17C (See Ch. 21J1)
●Models 39X25, 39X26 (See Ch. 24F1 and Ch. 5D2)
●Models 39X25A, 39X26A (See Ch. 21J1)
●Models 39X35, 39X36, 39X37 (See Ch. 21J1 and Ch. 3C1)
●Models 47M15, A, 47M16, 47M17 (See Ch. 21W1)
●Models 47M35, 47M36, 47M37 (See Ch. 21Z1)
●Models 52M15, 52M16, 52M17 (See Ch. 21Y1)
●Models 57M10, 57M11, 57M12 (See Ch. 21Z1A)
●Model 121DX10 (See Ch. 19C1)
●Model 121DX11 (See Ch. 19F1A)
●Model 121DX12 (See Ch. 19C1)
●Model 121DX12A (See Ch. 19C1 or 19F1)
●Model 121DX16 (See Ch. 19C1)
●Model 121DX16A (See Ch. 19C1 or 19F1)
●Model 121DX16L (See Ch. 19K1)
●Model 121DX17 (See Ch. 19C1)
●Model 121DX17A (See Ch. 19C1 or 19F1)
●Model 121DX17L (See Ch. 19K1)
●Models 121K15, 121K16, 121K17 (See Ch. 21M1)
●Models 121K15A, 121K16A, 121K17A (See Ch. 22M1)
●Model 121M10 (See Ch. 22M1)
●Models 121M11, 121M12 (See Ch. 21M1)
●Models 121M11A, 121M12A (See Ch. 22M1)
●Model 121UDX12 (See Ch. 19J1)
●Models 121UDX16L, 121UDX17L (See Ch. 19L1)
●Model 122DX12 (See Ch. 22F2)
●Model 122UDX12 (See Ch. 22G2)
●Model 221DX15 (See Ch. 19C1)
●Model 221DX15A (See Ch. 19C1 or 19F1)
●Model 221DX15L (See Ch. 19K1)
●Model 221DX16 (See Ch. 19C1)
●Model 221DX16A (See Ch. 19C1 or 19F1)
●Model 221DX16L (See Ch. 19K1)
●Model 221DX17 (See Ch. 19C1)
●Model 221DX17A (See Ch. 19C1 or 19F1)
●Model 221DX17L (See Ch. 19K1)

ADMIRAL—Cont.

●Model 221DX26 (See Ch. 19C1)
●Model 221DX26A (See Ch. 19F1)
●Model 221DX26L (See Ch. 19K1)
●Model 221DX38 (See Ch. 19C1)
●Model 221DX38A (See Ch. 19C1 or 19F1)
●Models 221K16, A (See Ch. 21K1)
●Model 221K26 (See Ch. 21K1)
●Model 221K28 (See Ch. 21K1)
●Models 221K35, 221K36 (See Ch. 21K1)
●Models 221K45, 221K46, 221K47 (See Ch. 21M1)
●Models 221K45A, 221K46A, 221K47A (See Ch. 22M1)
●Models 221M26, 221M27 (See Ch. 21K1)
●Models 221UDX15L, 221UDX16L, 221UDX17L (See Ch. 19L1)
●Model 221UDX26L (See Ch. 19L1)
●Model 222DX15 (See Ch. 19H1)
●Model 222DX15B (See Ch. 22M2)
●Model 222DX15S (See Ch. 22C2)
●Model 222DX16 (See Ch. 22C2)
●Model 222DX16B (See Ch. 22M2)
●Model 222DX17 (See Ch. 22C2)
●Model 222DX17B (See Ch. 22M2)
●Models 222DX26, 222DX27 (See Ch. 22C2)
●Model 222DX27B (See Ch. 22M2)
●Models 222DX48, 222DX49 (See Ch. 22C2)
●Models 222UDX15, 222UDX16, 222UDX17 (See Ch. 22N2)
●Models 228DX16, 228DX17 (See Ch. 23A1)
●Model 320R17 (See Ch. 21J1)
●Models 320R25, 320R26 (See Ch. 21J1)
●Models 321DX15, 321DX16, 321DX17 (See Ch. 19E1)
●Models 321DX15A, 321DX16A, 321DX17A (See Ch. 19E1 or Ch. 19G1)
●Models 321DX15L, 321DX16L, 321DX17L (See Ch. 19N1)
●Model 321DX25B (See Ch. 19E1 or Ch. 19G1)
●Model 321DX26 (See Ch. 19E1)
●Model 321DX26B (See Ch. 19E1 or Ch. 19G1)
●Model 321DX27B (See Ch. 19E1 or Ch. 19G1)
●Models 321F15, 321F16 (See Ch. 21L1 and Ch. 5D2)
●Model 321F18 (See Ch. 21L1 and Ch. 5D2)
●Model 321F27 (See Ch. 21L1 and Ch. 5D2)
●Models 321F35, 321F36 (See Ch. 21L1 and Ch. 5D2)
●Models 321F46, 321F47 (See Ch. 21L1 and Ch. 5D2)
●Model 321F49 (See Ch. 21L1 and Ch. 5D2)
●Models 321F65, 321F66, 321F67 (See Ch. 21N1 and Ch. 5D2)
●Models 321K15, 321K16 (See Ch. 21L1 and Ch. 3C1)
●Model 321K18 (See Ch. 21L1 and Ch. 3C1)
●Model 321K27 (See Ch. 21L1 and Ch. 3C1)
●Models 321K35, 321K36 (See Ch. 21L1 and Ch. 3C1)
●Models 321K46, 321K47 (See Ch. 21L1 and Ch. 3C1)
●Model 321K49 (See Ch. 21L1 and Ch. 3C1)
●Models 321K65, 321K66, 321K67 (See Ch. 21N1 and 3C1)
●Models 321M25, 321M26, 321M27 (See Ch. 21Y1)
●Models 321M25A, 321M26A, 321M27A (See Ch. 22Y1)
●Models 321UDX15L, 321UDX16L (See Ch. 19P1)
●Model 322DX16 (See Ch. 22E2)
●Model 322DX16A (See Ch. 22P2)
●Model 322UDX16 (See Ch. 22R2)
●Models 421M15, 421M16 (See Ch. 21Y1)
●Models 421M15A, 421M16A (See Ch. 22Y1)
●Models 421M35, 421M36, 421M37 (See Ch. 22Y1)
●Models 520M11, 520M12 (See Ch. 22A2A)
●Models 520M15, 520M16, 520M17 (See Ch. 22A2)
●Models 521M15, 521M16, 521M17 (See Ch. 21Y1)
●Models 521M15A, 521M16A, 521M17A (See Ch. 22Y1)

AERMOTIVE

181-AD . . . . . **12**—1

AERO (See Record Changer Listing)

AIMCEE (See AMC)

AIRADIO

SU-41D . . . . . **11**—1
SU-52A, B, C (Receiver) . . . **13**—2
TRA-1A, B, C (Transmitter) . . . **13**—1
3100 . . . . . **37**—1

AIRCASTLE

C-300 . . . . . **136**—3
DM-700 . . . . . **85**—1
EV-760 . . . . . **85**—1
G-516, G-518 . . . . . **48**—3
G-521 . . . . . **54**—3
G-724 . . . . . **52**—25
G-725 . . . . . **50**—1
K1 . . . . . **93**—1
OA-358VM (See Model 358VM—Set **127**-3)
06-F, 06-L . . . . . **135**—3
P-20 . . . . . **71**—3
P-22 . . . . . **87**—1
PAM-4 . . . . . **101**—1
PC-8, PC-358 . . . . . **99**—1
PM-78 . . . . . **100**—2
PM-358 . . . . . **98**—1
PX **13**-35
REV248 . . . . . **127**—2

AIRCASTLE—Cont.

RZU248 (See Model REV248—Set **127**-2)
SC-448 . . . . . **62**—2
TD-6 . . . . . **103**—3
WEU-262 . . . . . **91**—1
WRA1-A . . . . . **47**—1
WRA-4M . . . . . **60**—1
●XB702, XB703 . . . . . **93A**—1
●XL750, XP775 . . . . . **93A**—1
7B . . . . . **52**—1
9 . . . . . **50**—2
●10C, 10T (See Model 14C—Set **140**-3)
●12C, 12T (See Model 14C—Set **140**-3)
●14C, 14T . . . . . **140**—3
15 . . . . . **67**—2
●16C, 16T (See Model 14C—Set **140**-3)
●17C, 17T . . . . . **140**—3
●20XUT . . . . . **185**—3
79A . . . . . **137**—3
88, 88W . . . . . **142**—2
101 . . . . . **86**—1
102B . . . . . **98**—2
106B . . . . . **13**—3
150, 153 . . . . . **126**—2
171, 172 . . . . . **96**—1
198 . . . . . **83**—1
200 . . . . . **139**—3
201 . . . . . **81**—1
211 . . . . . **65**—1
212 . . . . . **68**—3
213 . . . . . **63**—1
227I, 227W . . . . . **84**—1
●312 (See Model 14C—Set **140**-3)
●316 (See Model 14C—Set **140**-3)
350 . . . . . **136**—4
358VM . . . . . **127**—3
●412 (See Model 14C—Set **140**-3)
●416 (See Model 14C—Set **140**-3)
472.JP24, 472.JP25 (See Model 472.MP25—Set **168**-1)
472.MP24 (See Model 472.MP25—Set **168**-1)
472.MP25 . . . . . **168**—1
472-053VM . . . . . **163**—2
●472.17XUCM, 472.XUCM.1 (Ch. 317-B) . . . . . **223**—2
●472.17XUCM.2, 472.XUCM.3, 472.17XUCM.4, 472.17XUCM.5 (Ch. 317-D) . . . . . **223**—2
●472.17XUCO, 472.17XUCO.1 (Ch. 317-B) . . . . . **223**—2
●472.17XUT, 472.17XUT.1, 472.XUT.2, 472.XUT.3 (Ch. 217B) (See Model 20XUT—Set **185**-3)
●472.17XUT.4, 472.17XUT.5 (Ch. 317-B) . . . . . **223**—2
●472.17XUT.6, 472.17XUT.7, 472.17XUT.8 (Ch. 317-D) . . . **223**—2
●472.20XUC (Ch. 220B) (See Model 20XUT—Set **185**-3)
●472.20XUT, 472.20XUT.1, 472.20XUT.2 (Ch. 220B) (See Model 20XUT—Set **185**-3)
●472.21XUCM (Ch. 321-B) . . **223**—2
●472.21XUCO (Ch. 321-B) . . **223**—2
●472.21XUCO.1, 472.21XUCO.2 (Ch. 321-D) . . . . . **223**—2
●472.21XUT, 472.21XUT.1 (Ch. 321-B) . . . . . **223**—2
●472.21XUT.2 (Ch. 321-D) . **223**—2
●472.217C, 472.217C.1 (Ch. 317-D) . . . . . **223**—2
●472.217T, 472.217T.1 (Ch. 317-D) . . . . . **223**—2
●472.221XC (Ch. 321-D) . . . **223**—2
●472.221XT, 472.221XT.1 (Ch. 321-D) . . . . . **223**—2
472.254 . . . . . **215**—2
568 . . . . . **14**—1
568.205 . . . . . **141**—2
568.205-1 (See Model 200—Set **139**-3)
568.305 . . . . . **141**—2
572 . . . . . **55**—1
594-935 (See Model 935—Set **128**-2)
602-182144 . . . . . **114**—2
603-PR-8.1 . . . . . **133**—2
603.880 . . . . . **230**—2
604 . . . . . **53**—2
606-400WB . . . . . **119**—2
607.299 . . . . . **177**—3
607-314, 607-315 . . . . . **122**—2
607.316, -1, 607.317, -1 . . **138**—2
610.A67 . . . . . **247**—2
610.C351 . . . . . **174**—2
610.CL152B, M . . . . . **208**—1
610.CM-333 (Similar to Chassis) . . . . . **230**—3
610.PM-236 (Similar to Chassis) . . . . . **226**—2
610.D200 . . . . . **142**—3
610.F100 . . . . . **138**—3
610.F151 . . . . . **172**—2
610.FE153 . . . . . **244**—2
610.H400 . . . . . **178**—2
610.P-651.1 . . . . . **179**—2
610.S500 . . . . . **184**—2
610.W-100 . . . . . **249**—2
621 (Ch. FJ-91) . . . . . **14**—2
626 . . . . . **18**—3
641 . . . . . **17**—1
651 . . . . . **15**—1
652.A25, 652.A35 . . . . . **169**—2
552.3A65.1 . . . . . **268**—2
652.3S1 . . . . . **231**—2
652.5C1M, V . . . . . **260**—3
652.5T3M, V . . . . . **246**—1
652.5T5E, V . . . . . **260**—4
652.5X5 . . . . . **286**—2
652.6T1E, V . . . . . **205**—2
652. 8TF1 . . . . . **254**—1
652.327SA . . . . . **210**—3
652.487S . . . . . **211**—3
652.505 . . . . . **168**—2
659.511, 659.513 . . . . . **167**—2
659.520E, I . . . . . **185**—4
738.B5400, UL . . . . . **250**—2
782.FM-99-AC . . . . . **290**—2
782.5C1, 782.5R1 . . . . . **287**—2
9151, W . . . . . **129**—2
935 . . . . . **128**—2
9651, W, 965K1, W (See Model 9151—Set **129**-2)
●1400C, 1400T . . . . . **140**—3
●1700C, 1700T . . . . . **140**—3

AIRCASTLE—Cont.

●2000C . . . . . 140—3
●3170 (For TV Ch. See Set **140**-3, for Radio Ch. See Model 150—Set **126**-2)
●4170 (For TV Ch. See Set **140**-3, for Radio Ch. See Model 350—Set **136**-4)
5000, 5001 . . . . . **16**—2
5002 . . . . . **19**—1
5003, 5004, 5005, 5006 . . **20**—1
5008, 5009 . . . . . **46**—1
5010, 5011, 5012 (Ch. 110) **13**—4
5015.1 . . . . . **118**—3
5020 . . . . . **16**—3
5022 . . . . . **123**—2
5024 . . . . . **45**—1
5025 . . . . . **24**—2
5027 . . . . . **49**—3
5028 . . . . . **44**—1
5029 . . . . . **51**—1
5035 . . . . . **46**—2
5036 . . . . . **72**—2
5044 . . . . . **121**—2
5050 . . . . . **48**—4
5052 . . . . . **45**—2
5056-A . . . . . **120**—2
6042 . . . . . **61**—1
6050 . . . . . **74**—1
6053 . . . . . **97**—1
6514 . . . . . **18**—4
6541 . . . . . **17**—2
6544 (See Model 6541—Set **17**-2)
6547 . . . . . **17**—2
6611, 6612, 6613, 6630, 6631, 6632, 6634, 6635 . . . . . **15**—2
7000, 7001 . . . . . **14**—3
7004 . . . . . **19**—2
7014, 7015 . . . . . **57**—3
7015 Early . . . . . **47**—2
7553 . . . . . **45**—3
9008I, 9008W . . . . . **99**—2
9009I, 9009W . . . . . **97**—2
9012I, 9012W . . . . . **94**—1
10002 . . . . . **54**—1
10003-1 . . . . . **46**—2
10005 . . . . . **62**—3
10021-1, 10022-1 . . . . . **59**—3
10023 . . . . . **58**—1
10024-1 . . . . . **58**—2
108014, 108504 . . . . . **57**—4
121104 . . . . . **73**—1
121124 . . . . . **61**—2
127084 . . . . . **55**—2
131504 . . . . . **60**—2
132564 . . . . . **69**—1
138104 . . . . . **54**—3
138124 . . . . . **64**—1
139114 (See Model 139144—Set **59**-4)
139144 . . . . . **59**—4
147114 . . . . . **56**—3
149654 . . . . . **71**—4
150084 . . . . . **71**—4
159144 (See Model 139144—Set **59**-4)
Ch. 217B (See Model 472.17XUT)
Ch. 220B (See Model 472.20XUC)
Ch. 317-B (See Model 472.17XUCM)
Ch. 317-D (See Model 472.17-XUCM.2)
Ch. 321-B (See Model 472.21XUT)
Ch. 321-D (See Model 472.21XUT.2)

AIR CHIEF (See Firestone)

AIR KING

A-400 (Ch. 470) . . . . . **23**—1
A-403 . . . . . **20**—2
A-410 . . . . . **34**—1
A-410 (Revised) . . . . . **40**—1
A-426 . . . . . **43**—1
A-501, A-502 (Ch. 465-4) . **31**—3
A-510 . . . . . **24**—3
A-511, A-512 . . . . . **30**—2
A-520 . . . . . **49**—4
A-600 . . . . . **26**—3
A-604 . . . . . **81**—2
A-625 . . . . . **50**—3
A-650 . . . . . **45**—4
●A-1000, A-1001 . . . . . **58**—3
●A1001A . . . . . **75**—2
●A1016 . . . . . **91**—2
●A2000, A2001 . . . . . **75**—2
●2002 (See Model A2000—Set **75**-2)
●A2010 . . . . . **75**—2
●A2012 (See Model A1001A—Set **75**-2)
●12C1 (Ch. 700) (See Model 16C1—Set **121**-3)
●12T1, 12T2 (Ch. 700) (See Model 16C1—Set **121**-3)
●14T1 (Ch. 700-30) (See Model 16C1—Set **121**-3)
●16C1, 16C2, 16C3 (Ch. 700-1, 10) . . . . . **121**—3
●16C5 (Ch. 700-10) (See Model 16C1—Set **121**-3)
●16M1 (Ch. 700-1 . . . . . **121**—3
●16T1 (Ch. 700-1, -10) . . . . **121**—3
●16T1B (Ch. 700-1, -10) (See Model 16C1—Set **121**-3)
●16T1B (See Model 16C1 — Set **121**-3)
●17C2 (Ch. 700-96) . . . . . **151**—2
●17C5, B (Ch. 700-96) . . . . **151**—2
●17C7 (Ch. 700-96) . . . . . **151**—2
●17K1 (Ch. 700-96) . . . . . **151**—2
●17K1C (Ch. 700.110, 700.130) . . . . . **150**—2
●17M1 (Ch. 700-96) . . . . . **151**—2
●17T1 (Ch. 700-96) . . . . . **151**—2
●19C1 (Ch. 700-40) . . . . . **121**—3
●20C1, 20C2 (Ch. 700-93) . **151**—2
●20K1 (Ch. 700-95) . . . . . **151**—2
●20M1 (Ch. 700-93) . . . . . **151**—2
●718R . . . . . **121**—3
800 . . . . . **66**—1
●2017R . . . . . **111**—2
4601 (See Model 4609—Set **11**-2)
4603 3-26
4604 . . . . . 4 25
4704D (See Model 4604—Set 4 25)
4607, 4608 . . . . . 3—1
4609, 4610 (Early) (See Model 4607—Set 3-1)
4609, 4610 (Late) . . . . . **11**—2
4625 . . . . . **13**—8
4700 . . . . . **39**—1
4704 . . . . . **12**—2

AIR KING—Cont.

4705, 4706 . . . . . **9**—1
4708 (See Model 4704—Set **12**-2)
Ch. 465-4 (See Model A-501)
Ch. 470 (See Model A-400)
Ch. 700 (See Model 12T1)
Ch. 700-1 (See Model 16C1)
Ch. 700-10 (See Model 16T1)
Ch. 700-30 (See Model 14T1)
Ch. 700-40 (See Model 19C1)
Ch. 700-93 (See Model 20C1)
Ch. 700-95 (See Model 20K1)
Ch. 700-96 (See Model 17C2)
Ch. 700.110 (See Model 17K1C)
Ch. 700.130 (See Model 17K1C)

AIR KNIGHT (SKY KNIGHT)

CA-500 . . . . . **17**—4
CB-500P . . . . . **17**—31
N5-RD291 . . . . . **17**—3

AIRLINE

●BR-3082A, BR-3084A (See Model 35BR-3158A—Set **221**-2)
●BR-3091A (See Model 35BR-3158A—Set **221**-2)
●BR-3182A (See Model 35BR-3158A—Set **221**-2)
●BR-4000A, BR-4001A, BR-4003A, BR-4005A (Also See PCB 125—Set 282-1) . . . . . **270**—2
FJB-6590A . . . . . **303**—1
GSE-1077A, GSE-1078A . . **250**—1
GSE-1606A, GSE-1607A . . **292**—2
●GSE-3176A, B (See PCB 102—Set 248-1 and Model 35GSE-3076A—Set **238**-3)
●GSE-3178A, B (See PCB 102—Set 248-1 and Model 35GSE-3078A—Set **238**-3)
●GSE-3195A (See PCB 102—Set 248-1 and Model 35GSE-3095—Set **238**-3)
●GSE-3197A (See PCB 102—Set 248-1 and Model 35GSE-3097—Set **238**-3)
●GSE-4004A, GSE-4006A . . **294**—3
●GSE-4104A . . . . . **294**—3
●GSE-5001A . . . . . **269**—2
●GSE-5004A . . . . . **269**—2
●GSE-5101A . . . . . **269**—2
●GSE-5104A . . . . . **269**—2
GSL-1079-A . . . . . **294**—2
GSL-1581A, GSL-1582A . . **280**—3
GSL-1614A, GSL-1615A, GSL-1616A, GSL-1617A . . . . **289**—2
●GSL-3064C, D (See PCB 116—Set 268-1 and Model 35GSL-3064A—Set **218**-3)
●GSL-3083C, D (See PCB 116—Set 268-1 and Model 35GSL-3083A—Set **218**-3)
●GSL-3164A, B, C . . . . . **272**—2
●GSL-3183A, B, C . . . . . **272**—2
WG-1572C . . . . . **251**—1
WG-2767A . . . . . **241**—2
●WG-3071E, F, WG-3073 E, F, WG-3075D, E, WG-3077D, E, WG-3079D, E (See PCB 95—Set 240-1 and Model 25WG-3066A—Set **206**-2)
●WG-3180A (For TV Ch. only See Model 35WG-3171A—Set **222**-3)
●WG-3190A (For TV Ch. only See Model 35WG-3171A—Set **222**-3)
●WG-5000 A, B, C, D, E, F, G . . . . . **289**—3
●WG-5002A . . . . . **273**—2
●WG-5002B, WG-5003B . . . **284**—4
●WG-5002C, WC-5003C . . . **290**—3
●WG-5100A, B . . . . . **280**—4
●WG-5102A, WG-5103A . . **299**—2
●WG-5102B, WG-5103B . . . **290**—3
●05BR-3021B . . . . . **150**—3
●05BR-3024B . . . . . **150**—3
●05BR-3027A . . . . . **150**—3
●05BR-3041A **145**-1A
05GAA-992A . . . . . **125**—2
05GCB-1540A, 05GCB-1541A . . . . . **131**—2
●05GCB-3019A . . . . . **116**—2
05GCD-3658A . . . . . **151**—3
05GHM-934A . . . . . **167**—3
05GHM-1061A . . . . . **133**—3
●05GSE-3020A, B, C (Also see PCB 36—Set 166-1) . . . . . **117**—3
●05GSE-3037A . . . . . **117**—3
●05GSE-3042A (Also see PCB 36—Set 166-1) . . . . . **117**—3
●05WG-1811B (See Model 94WG-1811A—Set 99-4)
05WG-1813A . . . . . **127**—4
05WG-2748C, D, E (See Model 94WG-2748A—Set **90**-1)
05WG-2748F . . . . . **139**—4
05WG-2749D . . . . . **129**—3
05WG-2752 . . . . . **100**—3
05WG-3016A, B (See Set 100-2 and Model 94WG-3006A—Set 72-4)
●05WG-3030A . . . . . **119**—3
●05WG-3030C . . . . . **148**—2
●05WG-3031A . . . . . **109**—1
●05WG-3036A, B . . . . . **148**—2
●05WG-3038A . . . . . **129**—4
●05WG-3039A, B . . . . . **148**—2
●05WG-3045A . . . . . **129**—4
15BR-1536B, 15BR-1537B . **146**—2
15BR-1543A, B, 15BR-1544A, B . . . . . **145**—2
15BR-1547A . . . . . **143**—3
15BR-1548A, 15BR-1549A . **191**—3
15BR-2756B, 15BR-2757A . **148**—3
●15BR-3035A . . . . . **155**—2
●15BR-3053A, B . . . . . **149**—2
15GAA-995A . . . . . **168**—3
15GHM-934A . . . . . **167**—3
15GHM-935 . . . . . **166**—3
15GHM-936A, 15GHM-937A . . . . . **134**—2
15GHM-1070A . . . . . **184**—3
15GSE-2764A . . . . . **165**—4
15GSL-1564A, B, 15GSL-1565A, B, 15GSL-1566A, B, 15GSL-1567A, B . . . . . **169**—3
15WG-1545A, B, 15WG-1546A, B . . . . . **158**—2
15WG-2745C . . . . . **130**—2
15WG-2749E, F . . . . . **151**—4
15WG-2752D, E . . . . . **151**—4

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250.

● Denotes Television Receiver.
5 Denotes Schematic Coverage Only.

AIRLINE—ARTONE

AIRLINE—Cont.

15WG-2758A . . . . **144—2**
15WG-2758B (See PCB 65—Set 202-1 and Model 15WG-2758A—Set 144-2)
15WG-2759A (See PCB 65—Set 202-1 and Model 15WG-2758A—Set 144-2)
15WG-2761A (See Model 15WG-2758A—Set 144-2)
15WG-2765A, B (See Model 15WG-2745C—Set 130-2)
● 15WG-3046A, B, C . . . . **142—4**
● 15WG-3049A, B . . . . **164—2**
● 15WG-3050A, B . . . . **145—3**
● 15WG-3051A, B, C . . . . . . **142—4**
● 15WG-3059A . . . . **164—2**
25BR-1542A . . . . **203—3**
25BR-1548A, 25BR-1549B . **191—3**
● 25BR-3058A, B . . . . **200—1**
● 25BR-3061A . . . . **200—1**
● 25BR-3067A, B . . . . **200—1**
● 25BR-3068A, B . . . . **200—1**
● 25BR-3069A . . . . **200—1**
25GAA-935B . . . . **181—2**
25GAA-994B . . . . **170—3**
25GAA-996A . . . . **182—2**
25GDC-994A . . . . **167—4**
25GHM-938A . . . . **250—4**
25GHM-940B . . . . **252—4**
25GHM-941B, C . . . . **252—4**
25GHM-1073A . . . . **242—2**
25GHM-2012A . . . . **256—4**
25GSE-1555A . . . . **174—3**
25GSE-1555B (See Model 25GSE-1555A—Set 174-3)
25GSE-1556A . . . . **174—3**
25GSE-1556B (See Model 25GSE-1556A—Set 174-3)
25GSE-1557B (See Model 25GSE-1556A—Set 174-3)
● 25GSE-3062A, 25GSE-3063A (Also see PCB 72—Set 212-1) . **195—2**
● 25GSE-3065A . . . . **193—2**
● 25GSE-3081A (Also see PCB 72—Set 212-1) . . . . **195—2**
25GSE-3087A (See Model 25GSE-3062A—Set 195-2)
25GSG-2016A . . . . **225—2**
25GSL-1560A, 25GSL-1561A . . . . **189—2**
25GSL-1814A . . . . **198—1**
25GSL-2000A . . . . **199—1**
25WG-1570A, B, C, 25WG-1571A, B, 25WG-1572A, B . . . . **177—4**
25WG-1573A . . . . **196—2**
25WG-2758B (See PCB 65—Set 202-1 and Model 15WG-2758A—Set 144-2)
25WG-2758C, D . . . . **195—3**
25WG-2761B (See Model 15WG-2745C—Set 130-2)
25WG-2765D, E (See Model 15WG-2745C—Set 130-2)
25WG-2766A, B . . . . **195—3**
● 25WG-3049B (See Model 15WG-3049A—Set 164-2)
● 25WG-3056A . . . . **192—2**
● 25WG-3059A (See Model 15WG-3049A—Set 164-2)
● 25WG-3060A . . . . **212—2**
● 25WG-3066A, B, C . . . . . . **206—2**
● 25WG-3070A . . . . **212—2**
● 25WG-3071A, B, C . . . . . . **206—2**
● 25WG-3071D (See PCB 95—Set 240-1 and Model 25WG-3071A—Set 206-2)
● 25WG-3072A, B, C . . . . . . **206—2**
● 25WG-3073A, B, C . . . . . . **206—2**
● 25WG-3073D (See PCB 96—Set 240-1 and Model 25WG-3073A—Set 206-2)
● 25WG-3075A, B, C . . . . . . **206—2**
● 25WG-3077A, B, C . . . . . . **206—2**
● 25WG-3079A, B, C . . . . . . **206—2**
35BR-1557A, 35BR-1558A, 35BR-1559A . . . . **251—2**
● 35BR-3158A . . . . **221—2**
● 35BR-3167A, 35BR-3168A, 35BR-3169A . . . . **221—2**
35BR-6796A . . . . **238—2**
35GAA-944A, 35GAA-945A, 35GAA-946A . . . . **255—2**
35GAA-970A . . . . **253—2**
35GAA-3969A . . . . **227—1**
35GDC-998A, B . . . . **259—1**
35GHM-938A . . . . **250—4**
35GHM-941C . . . . **252—4**
35GHM-1073B, C . . . . **242—2**
35GHM-1074A . . . . **243—2**
35GHM-2012A . . . . **256—4**
35GHM-2020A . . . . **256—4**
35GMD-3309A (Early Version) Tel. UHF Conv. (Similar to Chassis) . . . . **194—7**
35GMD-3309A (Late Version) Tel. UHF Conv. (Similar to Chassis) . . . . **194—8**
35GSE-1555C (See Model 25GSE-1555A—Set 174-3)
35GSE-1556C (See Model 25GSE-1556A—Set 174-3)
● 35GSE-3074A (See PCB 72—Set 212-1 and Model 25GSE-3063A—Set 195-2)
● 35GSE-3076A . . . . **238—3**
● 35GSE-3078A . . . . **238—3**
● 35GSE-3085A (See PCB 72—Set 212-1 and Model 25GSE-3063A—Set 195-2)
● 35GSE-3087A (See PCB 72—Set 212-1 and Model 25GSE-3063A—Set 195-2)
● 35GSE-3095A . . . . **238—3**
● 35GSE-3097A . . . . **238—3**
35GSG-2016A (See Model 35GSG-2016B—Set 225-2)
35GSG-2016B . . . . **225—2**
35GSL-2770A . . . . **249—3**
● 35GSL-3064A, B . . . . **218—3**
● 35GSL-3083A, B . . . . **218—3**
35WG-1570B, C, 35WG-1571B, 35WG-1572B (See Model 25WG-1570A—Set 177-4)
35WG-1573B . . . . **228—1**
35WG-2761C, D (See Model 15WG-2745C—Set 130-2)
35WG-2765F, G (See Model 15WG-2745C—Set 130-2)

AIRLINE—Cont.

● 35WG-3060B (See PCB 92—Set 237-1 and Model 25WG-3060A—Set 212-2)
● 35WG-3070B (See PCB 92—Set 237-1 and Model 25WG-3070A—Set 212-2)
● 35WG-3071D, E, F (See PCB 96—Set 240-1 and Model 25WG-3071A—Set 206-2)
● 35WG-3073D, E, F (See PCB 96—Set 240-1 and Model 25WG-3073A—Set 206-2)
● 35WG-3171A, B . . . . **222—3**
● 35WG-3173A, B . . . . **222—3**
● 35WG-3175A . . . . **222—3**
● 35WG-3177A . . . . **222—3**
● 35WG-3179A . . . . **222—3**
● 45BR-3186A . . . . **256—5**
54BR-1501A, 54BR-1502A . 2—26
54BR-1503A, B, C, 54BR-1504A, B, C . . . . 3—4
54BR-1505A, B, 54BR-1506A, B . . . . 2—34
54KP-1209A, B . . . . 8—1
54WG-1801A, 54WG-1801B 4—33
54WG-2500A, 54WG-2700A 4—15
61-6780 (Similar to Chassis) . . . . **147—2**
61-6781 (Similar to Chassis) . . . . **148—4**
61-6782 (Similar to Chassis) . . . . **146—3**
61-6783 (Similar to Chassis) . . . . **173—4**
61-6784 (Similar to Chassis) . . . . **174—4**
61-6787 . . . . **256—6**
61-6788 . . . . **264—2**
61-6789 . . . . **260—5**
61-6792 . . . . **237—2**
61-6793 . . . . **236—2**
61-6794 . . . . **232—1**
61-6795 . . . . **242—3**
61-12601 . . . . **241—3**
64BR-916A . . . . 3—34
64BR-916B (See Model 74BR-916B—Set 17-5)
64BR-917A . . . . 10—1
64BR-917B (See Model 64BR-917A—Set 10-1)
64BR-1051A . . . . 2—32
64BR-1051B (See Model 64BR-1051A—Set 2-32)
64BR-1205A, 64BR-1206A . 10—3
64BR-1208A . . . . 16—4
64BR-1503B, 64BR-1504B (See Model 54BR-1503A—Set 3-4)
64BR-1513A, B, 64BR-1514A, B . . . . 24—4
64BR-1808A . . . . 16—5
64BR-2200A . . . . 16—4
64BR-7000A . . . . 51—2
64BR-7100A, 64BR-7110A, 64BR-7120A . . . . 57—5
64BR-7300A, 64BR-7310A, 64BR-7320A . . . . 54—4
64BR-7810A, 64BR-7820A . 53—3
64WG-1050A . . . . 10—2
64WG-1050B, C, D (See Model 64WG-1050A—Set 10-2)
64WG-1052A . . . . 9—2
64WG-1052B (See Model 64WG-1052A—Set 9-2)
64WG-1207B . . . . 18—5
64WG-1511A, 64WG-1511B, 64WG-1512A, 64WG-1512B 5—5
64WG-1801C . . . . 4—33
64WG-1804A, B . . . . 4—27
64WG-1804C (See Model 64WG-1804A—Set 4-27)
64WG-1807A, 64WG-1807B 5—4
64WG-1809A, B . . . . 5—5
64WG-2007A, 64WG-2007B 5—6
64WG-2009A, 64WG-2009B 6—2
64WG-2010B . . . . 18—6
64WG-2500A (See Model 54WG-2500A—Set 4-15)
64WG-2700A, B (See Model 54WG-2500A—Set 4-15)
74BR-916B . . . . 17—5
74BR-1513B, 74BR-1514B . 24—4
74BR-1812A (See Model 74BR-1812B—Set 22-2)
74BR-1812B . . . . 22—2
74BR-2001A (See Model 74BR-2001B—Set 23-2)
74BR-2001B . . . . 23—2
74BR-2701A . . . . 24—5
74BR-2702A (See Model 74BR-2702B—Set 25-3)
74BR-2702B . . . . 25—3
74GSG-8400A, 74GSG-8700A . . . . 60—3
74GSG-8810A, 74GSG-8820A . . . . 52—2
74HA-8200A . . . . 58—4
74KR-1210A . . . . 41—1
74KR-2706B . . . . 35—1
74KR-2713A . . . . 43—2
74WG-925A . . . . 24—6
74WG-1050C, D (See Model 64WG-1050A—Set 10-2)
74WG-1052B (See Model 64WG-1052A, B—Set 9-2)
74WG-1054A . . . . 22—1
74WG-1054B (See Model 74WG-1054A—Set 22-1)
74WG-1056A . . . . 29—1
74WG-1057A . . . . 32—2
74WG-1207B . . . . 18—5
74WG-1509A, 74WG-1510A 27—1
74WG-1511B, 74WG-1512B (See Model 64WG-1511A—Set 5-5)
74WG-1802A . . . . 25—4
74WG-1803A (See Model 74WG-1802A—Set 25-4)
74WG-1804C (See Model 64WG-1804A—Set 4-27)
74WG-1807A, B (See Model 64WG-1807A—Set 5-4)
74WG-2002A . . . . 26—4
74WG-2004A . . . . 27—2
74WG-2007B, 74WG-2007C 5—6
74WG-2009B (See Model 64WG-2009A—Set 6-2)
74WG-2010A (See Model 74WG-2010B—Set 18-6)
74WG-2010B . . . . 18—6

AIRLINE—Cont.

74WG-2500A (See Model 54WG-2500A—Set 4-15)
74WG-2504A . . . . 28—1
74WG-2504B, C (See Model 74WG-2504A—Set 28-1)
74WG-2505A . . . . 18—7
74WG-2700A, B (See Model 54WG-2500A—Set 4-15)
74WG-2704A . . . . 28—1
74WG-2704B, C (See Model 74WG-2704A—Set 28-1)
74WG-2705A, B (See Model 74WG-2505—Set 18-7)
74WG-2709A . . . . 26—5
74WG-2711A (See Model 74WG-2505A—Set 18-7)
84BR-1815B, 84BR-1816B . 55—3
84GAA-3967A . . . . 91—3
84GCB-1062A . . . . 52—26
84GDC-963B . . . . 51—3
84GDC-987A . . . . 53—4
84GHM-926B . . . . 55—4
84GSE-2730A, 84GSE-2731A 70—1
● 84GSE-3011A . . . . 82—1
84HA-1527A, 84HA-1528A (See Model 94HA-1527C—Set 67-3)
84HA-1529A, 84HA-1530A 85—2
84HA-1810A (See Model 84HA-1810C—Set 69-2)
84HA-1810C . . . . 69—2
● 84HA-3002A, 84HA-3002B 99—3
● 84HA-3010A, B, C (Also see PCB 11—Set 118-1) . . . . 94—2
84KR-1520A . . . . 56—4
84KR-2511A . . . . 68—4
84WG-1060A . . . . 42—1
84WG-1060C (See Model 84WG-1060A—Set 42-1)
84WG-2015A . . . . 38—1
84WG-2506 (See Model 84WG-2721A—Set 46-3)
84WG-2506B . . . . 58—5
84WG-2712A . . . . 43—3
84WG-2712B (See Model 84WG-2712A—Set 43-3)
84WG-2714A . . . . 36—2
84WG-2714F, G, H, J . . . . 56—5
84WG-2718A, 84WG-2718B, 84WG-2720A . . . . 45—5
84WG-2721A, B . . . . 46—3
84WG-2724A . . . . 45—5
84WG-2728A (See Model 84WG-2718A—Set 45-5)
84WG-2732A, B (See Model 84WG-2712A—Set 43-3)
84WG-2734A (See Model 84WG-2718A—Set 45-5)
● 84WG-3006, 84WG-3008, 84WG-3009 (See Model 94WG-3006A—Set 72-4)
94BR-1533A . . . . 88—1
94BR-2740A, 94BR-2741A, B 89—1
● 94BR3004, C, 94BR3005, C 91A—3
● 94BR-3017A . . . . 89—2
● 94BR-3017B (See PCB 7—Set 110-1 and Model 94BR-3017A — Set 89-2)
94GAA-3654A . . . . 95—1
94GCB-1064A . . . . 96—2
● 94GCB-3023A, B, C . . . . . **116—2**
94GHM-934A . . . . **167—3**
94GSE-2735A, 94GSE-2736A 72—3
94GSE-3011, B (See Model 84GSE-3011A—Set 82-1)
● 94GSE-3015A . . . . **107—2**
● 94GSE-3018A . . . . **93A—2**
94HA-1527C, 94HA-1528C 67—3
94HA-1529A, 94HA-1530A 85—2
94WG-1059A . . . . 75—3
94WG-1804D . . . . 86—2
94WG-1811A . . . . 99—4
94WG-2742A, C, D . . . . . . 71—5
94WG-2745A . . . . 76—4
94WG-2746A, B, 94WG-2747A . . . . 71—5
94WG-2748A, 94WG-2749A 90—1
94WG-2748C (See Model 94WG-2748A—Set 90-1)
● 94WG-3006A . . . . 72—4
● 94WG-3006B . . . . 85—3
● 94WG-3008A, 94WG-3009A 72—4
● 94WG-3009B . . . . 85—3
● 94WG-3016A, B, C (See Set 110-2 and Model 94WG-9006A—Set 72-4)
● 94WG-3022 . . . . 85—3
● 94WG-3026A . . . . 85—3
● 94WG-3028A (See Model 94WG-3006A—Set 72-4)
● 94WG-3029A . . . . 85—3

ALDENS

● 114G, 116G, 117G, 120G (Similar to Chassis) . . . . **162—7**

ALGENE

AR5U . . . . 22—3
AR6U . . . . 22—4

ALLIANCE

AB-3 (TV Booster) . . . . **254—2**
BB2 (TV Booster) . . . . **253—3**

ALLSTATE

6240 (Ch. 528.62400) . . . . **275—3**
6263 (Ch. 528.6263) . . . . . **269—3**
6263-2 (Ch. 528.6263-2) (See Model 6263—Set 269-3)
6264 (Ch. 528.6264) . . . . . **282—3**
6263-1 (Ch. 528.6264-1) (See Model 6264—Set 282-3)
6266 (Ch. 528.6266) . . . . . **282—3**
6266-1 (Ch. 528.6266-1) (See Model 6266—Set 282-3)
6284 (Ch. 528.6284) . . . . . **228—2**
6286-2 (Ch. 528.6286-2) (See PCB 119—Set 273-1 and Model 6286-4—Set 225-3)
6286-3 (Ch. 528.6286-3) (See PCB 119—Set 273-1 and Model 6286-4—Set 225-3)
6286-4 (Ch. 528.6286-4) . . **225—3**
6286-5 (Ch. 528.6286-5) (See PCB 119—Set 273-1 and Model 6286-4—Set 225-3)
6287-2 (Ch. 528.6287-2) (See PCB 119—Set 273-1 and Model 6287-4—Set 225-3)

ALLSTATE—Cont.

6287-3 (Ch. 528.6287-3) (See PCB 119—Set 273-1 and Model 6287-4—Set 225-3)
6287-4 (Ch. 528.6287-4) . . **225—3**
6287-5 (Ch. 528.6287-5) (See PCB 119—Set 273-1 and Model 6287-4—Set 225-3)
6295-6 (Ch. 528.6295-6) . . **229—2**
6330 (Ch. 528.63300) . . . . **287—3**

ALTEC LANSING

ALC-101 . . . . 84—2
● ALC-205, ALC-206 . . . . . . **105—3**
A323B . . . . 66—2
A323C . . . . 84—2
A-333A . . . . **165—5**
A-339A . . . . **274—3**
A-340A . . . . **295—1**
A-433A . . . . **165—5**
303A . . . . **166—4**

AMBASSADOR

● AM17C, CB, CIM, PT, TIM **171—2**
● AM20C, T . . . . **171—2**
● A17CS, A17TS (See Model 20PC—Set 178-3)
● A20CS (See Model 20PC — Set 178-3)
● A21CLO, A21CV . . . . **296—2**
● A21QDCS (See Model 20PC—Set 178-3)
● A21TV . . . . **296—2**
● A24QDCS (See Model 20PC—Set 178-3)
● A-9121-A, -AX (See Model 21C2A—Set 191-4)
● CD2020 . . . . **175—2**
● C1720 . . . . **175—2**
● C2020 . . . . **175—2**
● C2050 (See Model C1720—Set 175-2)
● C2052 (See Model T1853—Set 197-3)
● C2150 (See Model C1720—Set 175-2)
● C2152, A (See Model T1853—Set 197-3)
● C2155 (See Model T1853—Set 197-3)
● C2420 . . . . **175—2**
● PL17CB, CG, PG, TM . . . . **171—2**
● T1720 . . . . **175—2**
● T2020 . . . . **175—2**
● 14MC, MT . . . . **162—2**
● 14MT (2nd Prod.), 14MTS . . **173—2**
● 16MC, MT, MXC, MXCS, MXT, MXTS . . . . **162—2**
● 16MT (2nd Prod.), MTS . . . . **173—2**
● 17MC, MT, MXC, MXCS, MXT, MXTS . . . . **162—2**
● 17MC (2nd Prod.), MCS, MT (2nd Prod.), MTS . . . . **173—2**
● 17PC, 17PCS (See Model 20PC—Set 178-3)
● 17PT, 17PTS (See Model 20PC—Set 178-3)
● 20C . . . . **171—2**
● 20MC, MCS, MT, MTS . . . . **173—2**
● 20PC, 20PCS, 20PCS2 . . . . **178—3**
● 20PT, 20PTR, 20PTS (See Model 20PC—Set 178-3)
● 21CD2A, B (See Model 21C2A—Set 191-4)
● 21C2A, 21C2ALO . . . . **191—4**
● 23P . . . . **171—2**
● 921 (See Model 21C2A—Set 191-4)
● 9120, LO . . . . **191—4**
● 9121, M, LO, XB (See Model 21C2A—Set 191-4)
● 9820, LO, 9821, LO . . . . . . **191—4**

AMC (AIMCEE)

● 1C23 (Similar to Chassis) . . **139—11**
● 1C72 (Similar to Chassis) . . **126—8**
● 1T71 (Similar to Chassis) . . **126—8**
● 17C, CB (Similar to Chassis) **126—8**
● 17CG, 17C3 (Similar to Chassis) . . . . **149—13**
● 17T (Similar to Chassis) . . . **126—8**
● 17TG (Similar to Chassis) . . **149—13**
● 17T20 (Similar to Chassis) . **139—11**
● 20CD (Similar to Chassis) . . **149—13**
● 20CD2A, -1 . . . . **188—3**
● 20CD2B (Early) (See Model 20C2A—Set 188-3)
● 20CD2B (Late) . . . . **252—2**
● 20C1 (Similar to Chassis) . . **149—13**
● 20C2A, -1 . . . . **188—3**
● 20C2B (Early) (See Model 20C2A—Set 188-3)
● 20C2B (Late) . . . . **252—2**
● 20C22 (Similar to Chassis) . **139—11**
● 20D, DB (Similar to Chassis) **139—11**
● 20TG (Similar to Chassis) . . **149—13**
● 20T2A, -1 . . . . **188—3**
● 20T2B (Early) (See Model 20C2A—Set 188-3)
● 20T2B (Late) . . . . **252—2**
● 20T21 (Similar to Chassis) . **139—11**
● 21CD2A (Early) (See Model 20C2A—Set 188-3)
● 21CD2A (Late) . . . . **252—2**
● 21C2A (Early) (See Model 20C2A—Set 188-3)
● 21C2A (Late) . . . . **252—2**
● 24T2A, -1 . . . . **188—3**
● 54CL021, 54CM21, 54TW21 **291—3**
● 114C, 114T (Similar to Chassis) . . . . **111—3**
● 116C, 116CD, 116T (Similar to Chassis) . . . . **111—3**
125P . . . . 3—27
126 . . . . 16—1

AMERICAN COMMUNICATIONS (See Liberty)

AMPEX (See Recorder Listing)

AMPLIFIER CORP. OF AMERICA

ACA-100DC, ACA-100GE . **63—2**

AMPLIPHONE

10 . . . . 21—1
20 . . . . 21—12

AMPRO (See Recorder Listing)

ANDREA

● BC-VL17 (Ch. VL17) (See Model C-VL17—Set 152-1)
BT-VK12 . . . . 76—5
● BT-VL17 (Ch. VL17) (See Model C-VL17—Set 152-1)
CO-U15 . . . . 27—3
● CO-VK15, COVK16 (Ch. VK1516) (Also see PCB 8—Set 112-1) . . . . **103—4**
● COVK-125 . . . . 76—5
● COVL-16 (Ch. VL16) . . . . **125—3**
● CO-VL19 (Ch. VL19) . . . . **168—4**
● CO-VM21 (Ch. VM21) . . . . **204—3**
● C-VK19 (See PCB 8—Set 112-1 and Model COVK15—Set 103-4)
● CVK-126 . . . . 76—5
● CVL-16 (Ch. VL16) . . . . . **125—3**
● C-VL17 (Ch. VL17) . . . . . **152—1**
● C-VM21 (Ch. VM-21) . . . . **204—3**
● C-VN21 (Ch. VN21) . . . . . **246—2**
P-163 (Ch. 163) . . . . 18—8
T16 . . . . 21—2
T-U15 . . . . 24—7
T-U16 . . . . 21—3
● T-VK12 . . . . 76—5
● TVK-127B, M . . . . 76—5
● TVL-12 . . . . **123—3**
● TVL-16 (Ch. VL-16) . . . . . **125—3**
● T-VL17 (Ch. VL17) . . . . . **152—1**
● T-VM21 (Ch. VM21) . . . . **204—3**
● 2C-VL17 (Ch. VL17) . . . . **152—1**
● 2C-VL20 (Ch. VL-20) . . . . **175—3**
● 2C-VM21 (Ch. VM21) . . . . **204—3**
● 2C-VN21 (Ch. VN21) . . . . **246—2**
Ch. VK1516 (See Model CO-VK15)
Ch. VL16 (See Model COVL-16)
Ch. VL17 (See Model C-VL17)
Ch. VL19 (See Model CO-VL19)
Ch. VL20 (See Model 2C-VL20)
Ch. VM21 (See Model C-VM21)
Ch. VN21 (See Model C-VN21)

ANSLEY

32 5-27
41 (Paneltone) . . . . 4—38
53 . . . . 24—8
● 701 . . . . 71—6

APEX

4B5 . . . . 37—2
192A . . . . 17—6
● 817, 920, 924 . . . . **181—3**
● 9120, 9121 . . . . **181—3**
● 9820, 9820B, 9821 . . . . . . **181—3**

APPROVED ELECTRONIC INSTRUMENT CORP.

FM Tuner . . . . 41—2
A-600AC . . . . **175—4**
A710 . . . . **177—5**
A-800 . . . . **176—2**
A-850 . . . . **175—5**

ARC

601 . . . . 25—5

ARCADIA

37D14-600 . . . . 9—3

ARIA

554-1-61A . . . . 7—2

ARLINGTON

● 30T14A-056 (Similar to Chassis) . . . . **119—3**
● 38T12A-058 (Similar to Chassis) . . . . **109—1**
● 317T3 (Similar to Chassis) . 72—4
● 318T4 (Similar to Chassis) . 85—3
● 318T4S (Similar to Chassis) 85—3
● 318T4-872 (Similar to Chassis) . . . . 85—3
● 318T6A (Similar to Chassis) 85—3
● 318T6A-950 (Similar to Chassis) . . . . 85—3
● 318T9A-900 (Similar to Chassis) . . . . 78—4
● 321MS31C (Similar to Chassis) . . . . **182—5**
● 321MS39A (Similar to Chassis) . . . . **226—11**
● 518T6A (Similar to Chassis) 85—3
● 518T9A-918 (Similar to Chassis) . . . . 78—4
● 518T10A-916 (Similar to Chassis) . . . . 78—4
● 2318T6A-954 (Similar to Chassis) . . . . 85—3
● 2318T9A-912 (Similar to Chassis) . . . . 78—4
● 2321MS39A (Similar to Chassis) . . . . **226—11**

ARTHUR ANSLEY

HF7 . . . . **263—2**
LP-2, LP-3 . . . . 62—4
LP-4A . . . . 82—2
LP-5 (See Model P-5—Set 108-4)
LP-6, LP6-S . . . . **136—5**
LP-7 . . . . **134—3**
P-5 . . . . **108—4**
R-1 . . . . **200—2**
SP-1 . . . . 60—4
TP-1 . . . . **173—3**

ARTONE

● AR14L, AR17L . . . . **172—3**
● AP21 . . . . **205—3**
● AP71 . . . . **205—3**
● AP-27TV-1 . . . . 80—1
APC21 . . . . **205—3**
ARC71 . . . . **205—3**
APD21 . . . . **205—3**
● MST12, MST14 . . . . **170—4**
● 14TR, 14TR . . . . **170—4**
● 17CD (1st Prod.) . . . . **170—4**
● 17CD (2nd Prod.) . . . . . . **172—3**
● 17CPP (1st Prod.) . . . . . . **170—4**
● 17CPP (2nd Prod.) . . . . . . **172—3**
● 17POG (1st Prod.) . . . . . . **170—4**
● 17POG (2nd Prod.) . . . . . . **172—3**
● 20CD (1st Prod.) . . . . **170—4**
● 20CD (2nd Prod.) . . . . . . **172—3**
● 20TR . . . . **170—4**
● 112X . . . . **170—4**
● 203D (1st Prod.) . . . . **170—4**
● 203D (2nd Prod.) . . . . . . **172—3**

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250. ● Denotes Television Receiver. S Denotes Schematic Coverage Only.

ARTONE—Cont.

●312 ..... 170—4
524 ..... 76—7
●819 ..... 170—4
●1000, 1001 ..... 172—3
●3163CR ..... 170—4
●8163CR, 8193CM ..... 170—4

ARVIN

●15-550KB-UHF ..... 262—2
●21-550KB, 21-551TB, TM, 21-552-KB, KM, 21-553TB, TM (Ch. TE-382, TE-382-1) (Also See PCB 127—Set 286-1) ..... 266—2
●21-550KBU, KMU, 21-551TBU, TMU, 21-552KBU, KMU, 21-553TBU, TMU (Ch. TE-379, TE-379-1) (Also See PCB 127—Set 286-1) 266—2
●21-554KM, KMU (Ch. TE383 "E" Series, TE386-UHF "E" Series) ..... 264—3
●21-555TG, TGU, TM, TMU (Ch. TE-383 "E" Series, TE-386-UHF "E" Series) ..... 264—3
●21-557TM, TMU (Ch. TE-383 "E" Series, TE-386-UHF "E" Series) ..... 264—3
140P (Ch. RE-209) ..... 25—6
150-TC, 151-TC (Ch. RE-228) ..... 25—7
150TC, 151TC (Ch. RE-228-1) Late ..... 39—2
152T (Ch. RE-233) ..... 33—1
153T (See Model 152T—Set 33-1)
160T, 161T (Ch. RE-232) .. 49—5
182TFM (Ch. RE-237) ..... 32—3
240-P (Ch. RE-243) ..... 42—2
241P (Ch. RE-244, RE-254, RE-255, RE-256, RE-259) ..... 47—3
242T, 243T (Ch. RE-251) .. 52—3
244P (Ch. RT-244, RE-254, RE-255, RE-256, RE-259) ..... 47—3
250-P (Ch. RE 248) ..... 43—4
253T, 254T, 255T, 256T (Ch. RE-252) ..... 53—5
264T, 265T (Ch. RE-265) .. 64—2
280TFM, 281TFM (Ch. RE-253) ..... 44—2
341T (Ch. RE-274) ..... 84—3
350P (Ch. RE-267) ..... 69—3
350-PB (Ch. RE-267-1) ..... 100—4
350PL (Ch. RE-277-2) ..... 100—4
351P (Ch. RE-267) ..... 69—3
351-PB (Ch. RE-267-1) ..... 100—4
351-PL (Ch. RE-267-2) ..... 100—4
352-PL, 353-PL (Ch. RE-267-2) ..... 100—4
355T (Ch. RE-213) (See Model 356T—Set 78-2)
356T, 357T (Ch. RE-273) .. 78—2
358T (Ch. RE-233) (See Model 152T—Set 33-1)
360TFM, 361TFM (Ch. RE-260) ..... 70—2
440T (Ch. RE-278) ..... 96—3
441T (Ch. RE-278) (See Model 440T—Set 96-3)
442 (Ch. RE-91) ..... 34—2
444, 444A (Ch. RE-200) ..... 1—3
444AM, 444M (Ch. RE-200M) 23—3
446P (Ch. RE-280) ..... 106—2
450T, 451T (Ch. RE-281) .. 110—3
460T, 461T (Ch. RE-284) .. 107—3
462-CB, 462-CM (Ch. RE-287-1) ..... 116—3
480TFM, 481TFM (Ch. RE-277, RE-277-1) ..... 107—4
482CFB, 482CFM (Ch. RE-288-1) ..... 117—4
540T (Ch. RE-278) ..... 143—4
542T (See Model 440T—Set 96-3)
544, 544A (Ch. RE-201) ..... 1—7
544AR, 544R (Ch. RE-201) (See Model 544—Set 1-7)
547A (Ch. RE-242) ..... 42—3
551T (Ch. RE-297) ..... 154—2
552AN, 552N (Ch. RE-231) 13—9
553 (Ch. RE-308) ..... 159—4
554CCB, 554CCM (Ch. RE-306) ..... 155—3
555, A (Ch. RE-202) ..... 13—9
558 (Ch. RE-204) ..... 3—16
580TFM (Ch. RE-313) ..... 152—2
581TFM (Ch. RE-333) ..... 227—2
582CFB, 582CFM (Ch. RE-310) ..... 156—4
652-P (Ch. RE292) (See Model 650-P—Set 175-6)
654-P (Ch. RE-292) (See Model 650-P—Set 175-6)
650-P (Ch. RE292) ..... 175—6
651T (Ch. RE-323) ..... 251—3
655 SWT (Ch. RE327) ..... 187—2
657-T (Ch. RE307) ..... 168—5
664, 664A (Ch. RE-206) ..... 3—23
664, 664A (Ch. RE-206-1). 29—2
665 (Ch. RE-229) ..... 18—10
740T (Ch. RE-278) (See Model 540T—Set 143-4)
741T (Ch. RE352) ..... 225—4
746P, 747P (Ch. RE347) .. 225—5
751TB (See Model 551T—Set 154-2)
753T (Ch. RE-348) ..... 220—2
758T (Ch. RE-350) ..... 221—3
760T (Ch. RE-342) ..... 223—3
780TFM (Ch. RE333) ..... 227—2
840T (Ch. RE-278-1) ..... 263—3
848T, 849T (Ch. RE-369) .. 259—2
850T (Ch. RE-375) ..... 262—3
851T (Ch. RE-377) ..... 266—3
852P (Ch. RE-372) ..... 258—3
853T (Ch. RE-375) ..... 262—3
854P (Ch. RE-372) ..... 258—3
855T (Ch. RE-377) ..... 266—3
857T (Ch. RE378) ..... 275—4
858T, 859T (Ch. RE-374) .. 261—2
950T, 951T (Ch. RE391) .. 295—3
952P, 954P (Ch. RE389) .. 300—2
●2120CM (Ch. TE289-2, TE289-3) (Also See PCB 20—Set 134-1) ..... 120—3
●2121TM (Ch. TE289-2, TE-289-3) (Also see PCB 20—Set 134-1) ..... 120—3
●2122TM (Ch. TE-289) ..... 97A—1
●2123TM (Ch. TE-289-2, TE289-3) (Also see PCB 20—Set 134-1) ..... 120—3

ARVIN—Cont.

●2124CCM (Ch. TE289-2, TE289-3) (Also see PCB 20—Set 134-1) ..... 120—3
●2126CM (Ch. TE289-2, TE-289-3) (Also see PCB 20—Set 134-1) ..... 120—3
●2160, 2161, 2162, 2164 (Ch. TE-290) ..... 126—3
2410P (Ch. RE-244, RE-254, RE-255, RE-256, RE-259) ..... 47—3
●3100TB, 3100TM, 3101CM, 3120-TM, 3121TM (Ch. TE-272-1, TE-272-2) ..... 80—2
●3160CM (Ch. TE-276) ..... 93—2
●4080T (Ch. TE282) ..... 104—2
●4081T (See Model 4080T—Set 104-2)
●4162CM (Ch. TE-286) ..... 130—3
●5170CB, CM, 5171TM, 5172CB, CM (Ch. TE-302, -1, -2, -3, -4, -5A, -6) (Also see PCB 50—Set 184-1) ..... 142—5
●5173TM (Ch. TE-302) (See Model 5170CB)
●5175, 5176 (Ch. TE320) ... 179—3
●5176CM-E (Ch. TE-320-1) (See PCB 126—Set 284-1 and Model 5176—Set 179-3)
●5204CM, 5206CM (Ch. TE-300) ..... 149—3
●5210, 5211, 5212 (Ch. TE-315, -1, -2, -3, -4, -5) (Also see PCB 37—Set 166-1 and PCB 50—Set 184-1) ..... 151—5
●5213TM (Ch. TE334) ..... 191—5
●6173TM (Ch. TE331-3, -4, -5) (See PCB 66—Set 203-1, PCB 92—Set 237-1 and Model 6175TM—Set 181-4)
●6173TM-UHF (Ch. TE332, -1, -2, -3, -4) (Also see PCB 88—Set 231-1) ..... 208—2
●6175TM (Ch. TE-331, -1, -2, -3, -4) (Also see PCB 66—Set 203-1) ..... 181—4
●6175TM-A (Ch. TE331-5) See PCB 66—Set 203-1, PCB 92—Set 237-1 and Model 6175TM—Set 181-4)
●6179TM (Ch. TE-331, -1, -2, -3, -4) (Also see PCB 66—Set 203-1) ..... 181—4
●6213TB (Ch. TE-319, -1, -2) (See PCB 67—Set 204-1 and Model 6213TM—Set 195-4)
●6213TB-UHF (Ch. TE330, -1, -2, -3, -4, -5, -6) (Also see PCB 88—Set 231-1) ..... 208—2
●6213TM (Ch. TE-319, -1, -2) (Also see PCB 67—Set 204-1) .. 195—4
●6213TM-UHF (Ch. TE330, -1, -2, -3, -4, -5, -6) (Also see PCB 88—Set 231-1) ..... 208—2
●6215CB (Ch. TE-319, -1, -2) (Also see PCB 67—Set 204-1) . 195—4
●6215CB-UHF (Ch. TE330, -1, -2, -3, -4, -5, -6) (Also see PCB 88—Set 231-1) ..... 208—2
●6215CM (Ch. TE-319, -1, -2) (Also see PCB 67—Set 204-1) .. 195—4
●6215CM-UHF (Ch. TE330, -1, -2, -3, -4, -5, -6) (Also see PCB 88—Set 231-1) ..... 208—2
6640 (Ch. RE-206-2) ..... 29—2
●7210CB (Ch. TE337, -1, -2, -3, -4, -31) (Also see PCB 93—Set 238-1) ..... 189—3
●7210CB-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63 Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7210CM (Ch. TE337, -1, -2, -3, -4, -31) (Also see PCB 93—Set 238-1) ..... 189—3
●7210CM-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63—Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7212CFP (Ch. TE337, -1, -2, -3, -4, -31) (See PCB 93—Set 238-1 and Model 7210CM—Set 189-3)
●7212CFP-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63—Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7212MEA-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63—Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7214CM (Ch. TE337, -1, -2, -3, -4, -31) (Also see PCB 93—Set 238-1) ..... 189—3
●7214CM-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63—Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7216CB (Ch. TE-337-1) (See Model 7210CM—Set 189-3)
●7216CB-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63—Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7218CB (Ch. TE337, -1, -2, -3, -4, -31) (Also see PCB 93—Set 238-1) ..... 189—3
●7218CB-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63—Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7218CM (Ch. TE337, -1, -2, -3, -4, -31) (Also see PCB 93—Set 238-1) ..... 189—3
●7218CM-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63—Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7219CM-UHF (Ch. TE341, -1, -2, -3, -4, -5, -6, -41) (Also see PCB 63—Set 197-1 and PCB 94—Set 239-1) ..... 188—4
●7276CB-UHF (Ch. TE340, -1, -2) ..... 231—3
●7279CM-UHF (Ch. TE340, -1, -2) ..... 231—3
●8171TM (Ch. TE331-6) (See PCB 66—Set 203-1, PCB 92—Set 237-1 and Model 6175TM—Set 181-4)

ARVIN—Cont.

●8171TM-UHF (Ch. TE332-5) (See PCB 88—Set 231-1 and Model 6173TM-UHF—Set 208-2)
●8179TM (Ch. TE331-5) (See PCB 66—Set 203-1, PCB 92—Set 237-1 and Model 6175TM—Set 181-4)
●8179TM-UHF (Ch. TE332-4) (See PCB 88—Set 231-1 and Model 6173TM-UHF—Set 208-2)
●8211TB (Ch. TE319-3) (See PCB 67—Set 204-1, PCB 89—Set 233-1 and Model 6213TM—Set 195-4)
●8211TB-UHF (Ch. TE330-7) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8211TM (Ch. TE319-3) (See PCB 67—Set 204-1, PCB 89—Set 233-1 and Model 6213TM—Set 195-4)
●8211TM-UHF (Ch. TE330-7) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8213TM (Ch. TE319-2) (See PCB 67—Set 204-1, PCB 89—Set 233-1 and Model 6213TM—Set 195-4)
●8213TM-UHF (Ch. TE330-6) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8213TMA (Ch. TE319-21) (See PCB 67—Set 204-1, PCB 89—Set 233-1 and Model 6213—Set 195-1)
●8213TMA-UHF (Ch. TE330-61) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8215CB-UHF (Ch. TE330-6) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8215CBA (Ch. TE319-21) (See PCB 67—Set 204-1, PCB 89—Set 233-1 and Model 6213TM—Set 195-4)
●8215CBA-UHF (Ch. TE330-61) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8215CM (Ch. TE319-2) (See PCB-67—Set 204-1, PCB 89—Set 233-1 and Model 6213TM—Set 195-4)
●8215CM-UHF (Ch. TE330-6) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8215CMA (Ch. TE319-21) (See PCB 67—Set 204-1, PCB 89—Set 233-1 and Model 6213TM—Set 195-4)
●8215CMA-UHF (Ch. TE330-61) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8218CB (Ch. TE319-3) (See PCB 67—Set 204-1, PCB 89—Set 233-1 and Model 6213TM—Set 195-4)
●8218CB-UHF (Ch. TE330-7) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●8218CM (Ch. TE319-3) (See PCB 67—Set 204-1, PCB 89—Set 233-1 and Model 6213TM—Set 195-4)
●8218CM-UHF (Ch. TE330-7) (See PCB 88—Set 231-1 and Model 6213TB-UHF—Set 208-2)
●9210CB (Ch. TE358, -1, -2, -3) ..... 238—4
●9210CB-UHF (Ch. TE-363, -1, -2, -3) ..... 238—4
●9210CM (Ch. TE358, -1, -2, -3) ..... 238—4
●9210CM-UHF (Ch. TE363, -1, -2, -3) ..... 238—4
●9211TM (Ch. TE355) ..... 248—2
●9211TM-UHF (Ch. TE-362) 248—2
●9212CFP (Ch. TE358, -1, -2, -3) ..... 238—4
●9212CFP-UHF (Ch. TE363, -1, -2, -3) ..... 238—4
●9212MEA (Ch. TE358, -1, -2, -3) ..... 238—4
●9212MEA-UHF (Ch. TE363, -1, -2, -3) ..... 238—4
●9213TM (Ch. TE-355) ..... 248—2
●9213TM-UHF (Ch. TE-362) 248—2
●9215CM (Ch. TE-355) ..... 248—2
●9215CM-UHF (Ch. TE-362) 248—2
●9216CB (Ch. TE358, -1, -2, -3) ..... 238—4
●9216CB-UHF (Ch. TE363, -1, -2, -3) ..... 238—4
●9218CB (Ch. TE358, -1, -2, -3) ..... 238—4
●9218CB-UHF (Ch. TE363-1, -2, -3) ..... 238—4
●9218CM (Ch. TE358, -1, -2, -3) ..... 238—4
●9218CM-UHF (Ch. TE363, -1, -2, -3) ..... 238—4
●9219CM (Ch. TE358, -1, -2, -3) ..... 238—4
●9219CM-UHF (Ch. TE363, -1, -2, -3) ..... 238—4
●9240CB (Ch. TE364, -1) ..... 235—2
●9240CB-UHF (Ch. TE359, -1) ..... 235—2
●9240CM (Ch. TE364, -1) .. 235—2
●9240CM-UHF (Ch. TE359, -1) ..... 235—2
●9245CM-UHF (Ch. TE373) .. 247—3
Ch. RE-91 (See Model 442)
Ch. RE-200 (See Model 444)
Ch. RE-200M (See Model 444M)
Ch. RE-201 (See Model 544)
Ch. RE-202 (See Model 555)
Ch. RE-204 (See Model 558)
Ch. RE-206 (See Model 664)
Ch. RE-206-1, 206-2 (See Model 664 Late)
Ch. RE-209 (See Model 140P)
Ch. RE-228 (See Model 150TC)
Ch. RE-228-1 (See Model 150TC Late)
Ch. RE-229 (See Model 665)
Ch. RE-231 (See Model 552AN)
Ch. RE-232 (See Model 160T)
Ch. RE-233 (See Model 152T)
Ch. RE-237 (See Model 182TFM)
Ch. RE-242 (See Model 547A)
Ch. RE-243 (See Model 240P)
Ch. RE-244 (See Model 241P)
Ch. RE-248 (See Model 250P)

ARVIN—Cont.

Ch. RE-251 (See Model 242T)
Ch. RE-252 (See Model 253T)
Ch. RE-253 (See Model 280TFM)
Ch. RE-254, 255, 256, 259 (See Model 241P)
Ch. RE-260 (See Model 360TFM)
Ch. RE-265 (See Model 264T)
Ch. RE-267 (See Model 350P)
Ch. RE-267-1, RE-267-2 (See Model 350-PB)
Ch. RE-273 (See Model 356T)
Ch. RE-274 (See Model 341T)
Ch. RE-277, RE-277-1 (See Model 480TFM)
Ch. RE-278 (See Model 540T)
Ch. RE-278-1 (See Model 840T)
Ch. RE-280 (See Model 446P)
Ch. RE-281 (See Model 450T)
Ch. RE-284 (See Model 460T)
Ch. RE-287-1 (See Model 462-CB)
Ch. RE-288-1 (See Model 482CFB)
Ch. RE-292 (See Model 650-P)
Ch. RE-297 (See Model 551T)
Ch. RE-306 (See Model 554CCB)
Ch. RE-307 (See Model 657T)
Ch. RE-308 (See Model 553)
Ch. RE-310 (See Model 582CFB)
Ch. RE-313 (See Model 580TFM)
Ch. RE-323 (See Model 651T)
Ch. RE-327 (See Model 655SWT)
Ch. RE-333 (See Model 581TFM)
Ch. RE-342 (See Model 760T)
Ch. RE-347 (See Model 746P)
Ch. RE-348 (See Model 753T)
Ch. RE-350 (See Model 758T)
Ch. RE-352 (See Model 741T)
Ch. RE-369 (See Model 848T)
Ch. RE-372 (See Model 852P)
Ch. RE-374 (See Model 858T)
Ch. RE-375 (See Model 850T)
Ch. RE-377 (See Model 851T)
Ch. RE-378 (See Model 857T)
Ch. RE-389 (See Model 952P)
Ch. RE391 (See Model 950T)
Ch. TE-272-1, -2 (See Model 3100TB)
Ch. TE-276 (See Model 3160CM)
Ch. TE282 (See Model 4080T)
Ch. TE-286 (See Model 4162CM)
Ch. TE-289 (See Model 2122TM)
Ch. TE-289-2, TE-289-3 (See Model 2120CM)
Ch. TE-290 (See Model 2160)
Ch. TE-300 (See Model 5204)
Ch. TE-302, -1, -2, -3, -4, -5, -5A, -6 (See Model 5170CB)
Ch. TE-315, -1, -2, -3, -4, -5, -5A, -6 (See Model 5210)
Ch. TE-319, -1, -2 (See Model 6213TM)
Ch. TE-319-3 (See Model 8211TB)
Ch. TE319-21 (See Model 8213TMA)
Ch. TE-320 (See Models 5175, 5176)
Ch. TE-320-1 (See Model 5176CM-E)
Ch. TE330, -1, -2, -3, -4, -5, -6 (See Model 6213TB-UHF)
Ch. TE330-6 (See Model 8213TM-UHF)
Ch. TE330-7 (See Model 8211TB-UHF)
Ch. TE330-61 (See Model 8215CBA-UHF)
Ch. TE-331, -1, -2, -3, -4 (See Model 6175TM)
Ch. TE 331-5 (See Model 6173TM)
Ch. TE 331-6 (See Model 8171TM)
Ch. TE332, -1, -2, -3, -4 (See Model 6173TM-UHF)
Ch. TE332-5 (See Model 8171TB-UHF)
Ch. TE-334 (See Model 5213TM)
Ch. TE 337-1, -2, -3, -4, -31 (See Model 7210CB)
Ch. TE340, -1, -2 (See Model 7276CB-UHF)
Ch. TE 341, -1, -2, -3, -4, -5, -6, -41 (See Model 7210CB-UHF)
Ch. TE355 (See Model 9211TM)
Ch. TE-358, -1, -2, -3 (See Model 9210CB)
Ch. TE 359-1 (See Model 9240CB-UHF)
Ch. TE362 (See Model 9211TM-UHF)
Ch. TE 363, -1, -2, -3 (See Model 9210CB-UHF)
Ch. TE 364, -1 (See Model 9240CB)
Ch. TE373 (See Model 9245CM-UHF)
Ch. TE-379, TE-379-1 (See Model 21-550KBU)
Ch. TE-382, TE-382-1 (See Model 21-550KB)
Ch. TE-383 "E" Series (See Model 21-554KM)
Ch. TE-386-UHF "E" Series (See Model 21-554KMU)

ASTATIC

CB-1 Tel. UHF Conv.-Booster 224—3
UHF (Tel. UHF Conv.) ..... 264—4

ASTORIA

●A-21, A-72, A-73L (Similar to Chassis) ..... 182—3

ASTRASONIC (Also see Pentron)

T-3 ..... 121—4
748 ..... 53—6

ATLAS

AB-45 ..... 14—5

AUDAR

AV-7T ..... 166—6
MAS-4 "Bingo Amp" ..... 26—6
P-1A ..... 5—10
P-4A ..... 19—3
P-5 ..... 5—11
P-7 ..... 44—3
PR-6 ..... 13—10
PR-6A ..... 19—4
RE-8A ..... 25—8
Telvar BM-25, BMP-25 ..... 62—5
Telvar FMC-12 ..... 35—2
Telvar RER-9 ..... 65—2
WC-7T ..... 166—6

AUDIO DEVELOPMENT (ADC)

71-F ..... 128—3

AUTOMATIC

Tom Boy ..... 27—4
Tom Thumb Buddy ..... 53—7
Tom Thumb Camera-Radio . 49—6
Tom Thumb Jr. ..... 26—7
Tom Thumb Personal ATTP. 23—4
B-44 ..... 60—5
C51 ..... 178—4
C-54 ..... 186—2
C60 ..... 5—20
C-60X ..... 24—10
C 65X (See Model C-60X—Set 24-10)
C300 ..... 102—1
C-351 ..... 148—4
CL-152B, M ..... 192—3
CL-164B ..... 192—3
CM-333 ..... 230—3
D200 ..... 104—3
D-251 ..... 174—4
DM-132 ..... 228—3
F-100 ..... 103—6
F-151 ..... 147—2
F-790 ..... 23—5
M-86 ..... 34—3
M-90 ..... 67—4
MM-430 ..... 229—3
P-651 ..... 173—4
PM-236 ..... 226—2
S-551 ..... 146—3
TR-12 ..... 228—4
●TV-P490 ..... 81—3
●TV-707, TV-709, TV-710 .. 60—6
●TV-712 (See Model TV-707—Set 60-6)
●TV-1205 (See PCB 5—Set 106-1 and Model TV-1249—Set 103-5)
●TV-1249, TV-1250 ..... 103—5
●TV-1294 (See PCB 5—Set 106-1 and Model TV-1249—Set 103-5)
●TV-1605 (See Model TV-1249—Set 103-5)
●TV-1615 (See Model TV-1249—Set 103-5)
●TV-1649, TV-1650, TV-1651 143—5
●TV-1694 (See Model TV-1249—Set 103-5)
●TV-5006 ..... 145—4
●TV-5020 ..... 134—4
●TV-5061 ..... 145—4
●TV-5077 ..... 145—4
●TV-5116R ..... 134—4
●TV-5160 ..... 134—4
●TVX313 (See Model TV-707—Set 60-6)
●TVX404 (See Model TV-707—Set 60-6)
601, 602 (Series A) ..... 13—11
601, 602 (Series B) ..... 22—5
612X ..... 1—34
613X (See Model 612X—Set 1-34)
614X, 616X ..... 8—2
620 ..... 12—3
640, Series B ..... 10—4
660, 662, 666 ..... 22—6
677 ..... 22—7
720 ..... 21—4

AVIOLA (Also see Record Changer Listing)

509 ..... 7—3
601 ..... 15—3
608 ..... 16—6
612 ..... 15—3
618 ..... 16—6

BELL-AIR

●PL17C (Similar to Chassis) 149—13
●PL20C (Similar to Chassis) 149—13

BELL SOUND SYSTEMS

B-23 ..... 75—4
PA3710A-P3 (Above Serial No. 78000) ..... 225—6
PA3715-B ..... 249—4
PA3725-B ..... 244—3
PA3750-B ..... 250—5
RC-47 (RE-CORD-O-FONE) 30—3
RT-65 ..... 130—4
RT-65, B ..... 171—3
3D ..... 256—7
350 ..... 148—5
352 ..... 149—4
374SS ..... 151—6
420 ..... 150—4
440L, 440S "Belfone" ..... 25—9
2075 ..... 10—5
2122 ..... 77—3
2122A, 2122AR ..... 153—1
2122B ..... 199—2
2122C ..... 278—1
2122R ..... 76—7
2145, A ..... 161—2
2150, 2150R ..... 256—8
2195, 2195MG ..... 234—1
2199 ..... 228—5
2199B ..... 285—2
2200 ..... 207—1
2210 ..... 269—4
2255 ..... 276—2
2256 ..... 277—2
3706-M ..... 227—3
3710A (Above Serial No. 78000) ..... 225—6
3715 ..... 22—8
3715-B ..... 249—4
3717-MB, 3717MB3 ..... 238—5
3723-MB, -MB3 ..... 224—4
3725 ..... 22—9
3725-B ..... 244—3
3728M ..... 24—11
3728MB ..... 235—3
3750 ..... 31—5
3750-B ..... 250—5

BELLTONE

500 ..... 5—33

BELMONT (Also see Raytheon)

A-6D110 ..... 17—7
3AW7 ..... 10—7
4B17 ..... 2—27
4B112, 4B113 (Series A) .. 10—6
5D110 ..... 22—10
5D128 (Series A) ..... 9—4
5F19 (Series A) ..... 9—5
5P113 "Boulevard" ..... 28—2
6D111 ..... 2—33

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

CAPEHART—Cont.

●14W214-1 (Ch. CT-124) (Ch. Series CX-37-1) (For TV Ch. only See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●15W214 (Ch. CT-122) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●15W214-1 (Ch. CT-124) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●15W214BD-1 (Ch. CT-134) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●15W214MD-1 (Ch. CT-134) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
16PH55B, F, M (Ch. CA-156) .... **284**—5
●16T244 (Ch. CT-95) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244-1 (Ch. CT-112) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244BS (Ch. CT-130) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244BS-1 (Ch. CT-131) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244ES (Ch. CT-130) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244ES-1 (Ch. CT-131) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244M (Ch. CT-95) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244M-1 (Ch. CT-112) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244MS (Ch. CT-130) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244MS-1 (Ch. CT-131) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244S (Ch. CT-130) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●16T244S-1 (Ch. CT-131) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-77—Set **203**-4)
17RPQ155F (Ch. CR-200 & CA-199) .... **294**—4
●18C215B-4, -5 (Ch. CT-171, -172) (Ch. Series CX-38) ...... **288**—2
●18C215M-4, -5 (Ch. CT-171, -172) (Ch. Series CX-38) ...... **288**—2
●18W214FD-1 (Ch. CT-134) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●19C214M (Ch. CT-143) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●19C214M-1 (Ch. CT-144) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●19C214MD (Ch. CT-145) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●19C214MD-1 (Ch. CT-146) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
19N4, 21P4 .... **65**—3
●21T214ES (Ch. CT-143) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●21T214ES-1 (Ch. CT-144) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●21T215BD-4, -5 (Ch. Series CX-38C-4, -5) .... **302**—3
●21T215MD-4, -5 (Ch. Series CX-38C-4, -5) .... **302**—3
●22C215BD-4, -5 (Ch. Series CX-38C-4, -5) .... **302**—3
●22C215MD-4, -5 (Ch. Series CX-38C-4, -5) .... **302**—3
●23C214B (Ch. CT-143) (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●23C214B-1 (Ch. CT-144) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●23C214M (Ch. CT-143) (Ch. Series CX-37) See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●23C214M-1 (Ch. CT-144) (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●23T215BD-4, -5 (Ch. Series CX-38C-4, -5) .... **302**—3
●23T215MD-4, -5 (Ch. Series CX-38C-4, -5) .... **302**—3
23TP35BNL .... **285**—5
24N4, 24P4 .... **65**—3
●24T215BNL-6 (Ch. Series CX-38C-6) .... **302**—3
26N4 .... **65**—3
29P4, 30P4, 31N4, 31P4 ... **65**—3
32P9, 33P9 .... **64**—3
34P10 (See Model 32P9—Set **64**-3)
35P7 (Ch. P7) .... **135**—4
114N4 .... **65**—3
115P2 .... **67**—6
116N4, 116P4, 118P4 .... **65**—3
●319 (Ch. C-298) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●319AX (Ch. CT-27) (Ch. CX-33DX) (See Ch. CT-27—Set **160**-2)
●320 (Ch. C-289) (Ch. Series CX-33L) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●320BX, MX (Ch. CT-27) (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●321 (Ch. C-281) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24

CAPEHART—Cont.

—Set 142-1 and Model 323M—Set **112**-3)
●321A (Ch. C-298) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●321AX (Ch. CT-27) (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●322B, M (Ch. C-281) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●322RAB, RAM (Ch. C-298) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●322RA-X (Ch. CT-27) (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●322RB, RM (Ch. C-281) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●323M (Ch. C-286) (Ch. Series CX-33F) (Also see PCB 13—Set 122-1 and PCB 24—Set 142-1) **112**—3
●324B, M (Ch. C-298) (Ch. Series CX-33) (Also See PCB 13—Set 122-1 and PCB 24—Set 142-1 .... **112**—3
●324BX (Ch. CT-27) (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●325AF (Ch. C-298) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●325AFX (CT-27) (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●325F (Ch. C-281) (Ch. Series CX-33) (Also see PCB 13—Set 122-1 and PCB 24—Set 142-1) **112**—3
●326-M (Ch. C-298) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●326MX (Ch. CT-27) (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●327M (Ch. C-285) (Ch. Series CX-33) (For TV Ch. only see PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●328 (Ch. C-299) (Ch. Series CX-33) (For TV Ch. only see PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●328CX, X (Ch. CT-37) (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●331B, M (Ch. C-303) (Ch. Series X-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-2)
●331BX, MX (Ch. CT-38) (Ch. Series CX-33DX) (See Ch. CT-38—Set **160**-2)
●332B, M (Ch. C-286, C-204) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●333M (Ch. C-286) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●334M, 335B, M (Ch. C-303) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●335BX, MX (Ch. CT-38) (Ch. Series CX-33DX) (See Ch. CT-38—Set **160**-2)
●336C (Ch. C-296) (Ch. Series CX-33) (See PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●336CX, FX (Ch. CT-38) (Ch. Series CX-33DX) (See Ch. CT-38—Set **160**-2)
●337CMX (Ch. CT-47) (Ch. Series CX-33DX) (For TV Ch. only see Ch. CT-27—Set **160**-2)
●337M (Ch. C-292) (Ch. Series CX-33K) (For TV Ch. only see PCB 13—Set 122-1, PCB 24—Set 142-1 and Model 323M—Set **112**-3)
●337RACMX (Ch. CT-39) (Ch. Series CX-33DX) (For TV Ch. only see Ch. CT-27—Set **160**-2)
●337RCMX (Ch. CT-47) (Ch. Series CX-33DX) (For TV Ch. only see Ch. CT-27—Set **160**-2)
●337RM (Ch. CT-39) (Ch. Series CX-33DX) (For TV Ch. only see Ch. CT-27—Set **160**-2)
●338X (Ch. CT-45) (Ch. Series CX-33DX) (See Ch. CT-45—Set **160**-2)
●339MX (Ch. CT-38) (Ch. Series CX-33DX) (See Ch. CT-38—Set **160**-2)
●340X, 341X (Ch. CT-45) (Ch. Series CX-33DX) (See Ch. CT-45—Set **160**-2)
413P, 414P .... **67**—6
●461P, 462P12 .... **87**—2
●501P, 502P, 504P (For TV Ch. see Model 461P—Set 87-2, for Radio Ch. see Model 35P7—Set 135-4)
●610P, 651P, 661P .... **95A**—1
1002F, 1003M, 1004B (Ch. P-8) .... **135**—4
1005B, M, W (Ch. C-296) .. **132**—5
1006B, M, W (Ch. C-287) .. **132**—5
1007AM (Ch. C-318) ...... **150**—5
●3001, 3002 (Ch. C-272) (Ch. Series CX-30) .... **99A**—1
●3001, 3002 (Ch. C-272) (Ch. Series CX-30A-2) .... **99A**—2
●3004-M (Ch. C-268) (Ch. Series CX-31) (See Ch. CX-31—Set **93A**-5)
●3005 (Ch. C-268) (Ch. Series CX-32) (See Ch. CX-32—Set 93A-5)
●3006-M (Ch. C-274) (Ch. Series CX-31) (See Ch. CX-31—Set **93A**-5)

CAPEHART—Cont.

●3007 (Ch. C-276) (Ch. Series CX-30) .... **99A**—2
●3008 (Ch. C-279) (Ch. Series CX-32) (See Ch. CX-32—Set **93A**-5)
●3011B, M, 3012B, M (Ch. C-281) (Ch. Series CX-33) ..... **112**—3
●4001-M (Ch. C-268) (Ch. Series CX-31) (See Ch. CX-31—Set **93A**-5)
●4002-M (Ch. C-274) (Ch. Series CX-31) (See Ch. CX-31—Set **93A**-5)
Ch. C-268 (See Model 3004-M)
Ch. C-272 (See Model 3001)
Ch. C-274 (See Model 3006-M)
Ch. C-276 (See Model 3007)
Ch. C-279 (See Model 3008)
Ch. C-281 (See Model 321)
Ch. C-285 (See Model 327M)
Ch. C-286 (See Model 323M)
Ch. C-287 (See Model 1006B)
Ch. C-289 (See Model 320)
Ch. C-292 (See Model 337M)
Ch. C-296 (See Model 336C)
Ch. C-297 (See Model TC-20)
Ch. C-298 (See Model 1T17M)
Ch. C-299 (See Model 328)
Ch. C-303 (See Model 2T20)
Ch. C-312 (See Model 10)
Ch. C-318 (See Model 1007AM)
Ch. CA-135 (See Model RP-154B)
Ch. CA-156 (See Model 4PH55B)
Ch. CA-161 (See Model 6TP45M)
Ch. CA-199 (See Model 17RPQ155F)
Ch. CR-36 (See Model TC-101)
Ch. CR-71 (See Model TC-62)
Ch. CR-76 (See Model T-522)
Ch. CR-79 (See Model RP153)
Ch. CR-85 (See Model P-213)
Ch. CR-93 (See Model C-14)
Ch. CR-129 (See Model RP-154B)
Ch. CR-147 (See Model RP254)
Ch. CR-148 (See Model 1P55)
Ch. CR-150 (See Model 3T55E)
Ch. CR-154 (See Model 2T55)
Ch. CR-200 (See Model 17RPQ155F)
●Ch. CT-27 (Ch. Series CX-33DX) .... **160**—2
●Ch. CT-37 (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●Ch. CT-38 (Ch. Series CX-33DX) .... **160**—2
●Ch. CT-39 (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●Ch. CT-45 (Ch. Series CX-33DX) .... **160**—2
●Ch. CT-47 (Ch. Series CX-33DX) (See Ch. CT-27—Set **160**-2)
●Ch. CT-52 (Ch. Series CX-36) (See Model 1T172M)
●Ch. CT57 (Ch. Series CX-36) (See Model 3C212B)
●Ch. CT-58 (Ch. Series CX-36) (See Model 11W212M)
●Ch. CT-74 (See Model 12F272M)
●Ch. CT-75 (Ch. Series CX-37) (Also See PCB 113—Set 264-1) **203**—4
●Ch. CT-77 (Ch. Series CX-37) (Also See PCB 113—Set 264-1) **203**—4
●Ch. CT-81 (Ch. Series CX-37) (Also See PCB 113—Set 264-1) **203**—4
●Ch. CT-95 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-99 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-108 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-109 (Ch. Series CX-38) .... **288**—2
●Ch. CT-110 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-112 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-115 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-116 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-121 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-122 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-123 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-124 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-125 (Ch. Series CX-38) (See Ch. CT-109—Set **288**-2)
●Ch. CT-126 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-127 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-128 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-129 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-130 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-131 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-134 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-139, -140 (Ch. Series CX-38) (See Ch. CT-109—Set **288**-2)
●Ch. CT-143 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)

CAPEHART—Cont.

●Ch. CT-144 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-145 (Ch. Series CX-37) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-146 (Ch. Series CX-37-1) (See PCB 113—Set 264-1 and Ch. CT-75—Set **203**-4)
●Ch. CT-157, -158 (Ch. Series CX-38) (See Ch. CT-109—Set **288**-2)
●Ch. CT-171, 172 (Ch. Series CX-38) (See Ch. CT-109—Set **288**-2)
●Ch. CTR-68 (See Model 10W212M)
Ch. P-7 (See Model 35P7)
Ch. P-8 (See Model 1002F)
●Ch. Series CX-30, A (See Model 3001)
●Ch. Series CX-30-A-2 (See Model 3001)
●Ch. Series CX-31 (See Model 3004-M)
●Ch. Series CX-32 (See Model 3005)
●Ch. Series CX-33 (See Model 325F)
●Ch. Series CX-33F (See Model 323M)
●Ch. Series CX-33L (See Model 326-M)
●Ch. Series CX-33DX (See Ch. CT-27)
●Ch. Series CX-36 (See Model 1T172M)
●Ch. Series CX-37 (See Ch. CT-75)
●Ch. Series CX-38 (See Ch. CT-109)
●Ch. Series CX-38C (See Model 21T215BD)

CAPITOL

D-17 .... **30**—4
T-13 .... **28**—5
U-24 .... **29**—6

CARDWELL, ALLEN D.

CE-26 .... **14**—6
ES-1 (Tel. UHF Conv.) .... **263**—5

CAVENDISH (See Bell Air)

CAVALIER

4CL4 .... **273**—4
4P3 .... **266**—4
5AT1 .... **241**—4
5B1 .... **238**—6
5C1 .... **242**—4
5R1 .... **265**—4
6A2 .... **265**—5

CBS-COLUMBIA (Also see Air King)

●17C18 (Ch. 817, -1) ..... **188**—5
●17C18 (Ch. 817-2) (See Model 18C18—Set **214**-2)
●17M06 (Ch. 750-3) (See Model 18C18—Set **214**-2)
●17M18 (Ch. 817, -1) ..... **188**—5
●17M18 (Ch. 817-2) (See Model 18C18—Set **214**-2)
●17T18 (Ch. 817, -1) ..... **188**—5
●17T18 (Ch. 817-2) (See Model 18C18—Set **214**-2)
●18C18 Ch. 817-6) ...... **214**—2
●18L18 (Ch. 817-2) (See Model 18C18—Set **214**-2)
●18L18 (Ch. 817-6) .... **214**—2
●18M08 (Ch. 817-2) (See Model 18C18—Set **214**-2)
●18M08 (Ch. 817-6) ...... **214**—2
●18M18 (Ch. 817-6) ...... **214**—2
●18M28 (Ch. 817-6) (See Model 18C18—Set **214**-2)
●18M28 (Ch. 817-46, -86) . **255**—3
●18M38 (Ch. 817-6) (See Model 18C18—Set **214**-2)
●18M38 (Ch. 817-46, -86).. **255**—3
●18T18 (Ch. 817-6) .... **214**—2
●18T28 (Ch. 817-6) (See Model 18C18—Set **214**-2)
●18T28 (Ch. 817-46, -86) .. **255**—3
●20M18 (Ch. 820, -1) ..... **188**—5
●20M18 (Ch. 820-2) (See Model 18C18—Set **214**-2)
●20M28 (Ch. 820, -1) ..... **188**—5
●20M28 (Ch. 820-2) (See Model 18C18—Set **214**-2)
●20T18 (Ch. 820, -1) ...... **188**—5
●20T18 (Ch. 820-2) (See Model 18C18—Set **214**-2)
●21C11, B (Ch. 1021) ..... **199**—4
●21C18 (Ch. 821) (See Model 17C18—Set **188**-5)
●21C21 (Ch. 1021) .... **199**—4
●21C31B (Ch. 1021) ...... **199**—4
●21C41 (Ch. 1021) .... **199**—4
●21T11 (Ch. 1021) .... **199**—4
●22C05 (Ch. 921-12)...... **283**—2
●22C06 (Ch. 751-3) (See Model 18C18—Set **214**-2)
●22C07, B, M (Ch. 921-12). **283**—2
●22C08 (Ch. 821-6, -6A) .. **214**—2
●22C11, B (Ch. 1021) (See Model 21C11—Set **199**-4)
●22C18 (Ch. 821-6, -6A) .. **214**—2
●22C21 (Ch. 1021) (See Model 21C11—Set **199**-4)
●22C28 (Ch. 821-6, -6A) .. **214**—2
●22C31B (Ch. 1021) (See Model 21C11—Set **199**-4)
●22C38 (Ch. 751-3) (See Model 18C18—Set **214**-2)
●22C38 (Ch. 821-3) (See Model 18C18—Set **214**-2)
●22C38 (Ch. 822-1, -2, -3, -4, -10) .... **255**—3
●22C41 (Ch. 1021) (See Model 21C11—Set **199**-4)
●22C48, B (Ch. 821-4) (See Model 18C18—Set **214**-2)
●22C48, B (Ch. 822-1, -2, -3, -4, -10) .... **255**—3
●22C58 (Ch. 822-1, -2, -3, -4, -10) .... **255**—3
●22C58 (Ch. 821-4) (See Model 18C18—Set **214**-2)
●22C61B (Ch. 1021-2)..... **230**—5
●22C68, B (Ch. 822-1, -2, -3, -4, -10) .... **255**—3
●22C68, B (Ch. 821-4) (See Model 18C18—Set **214**-2)

CBS-COLUMBIA—Cont.

●22C78, B (Ch. 822-1, -2, -3, -4, -10) .... **255**—3
●22C78, B (Ch. 821-4) (See Model 18C18—Set **214**-2)
●22C88, B (Ch. 822-1, -2, -3, -4, -10, ... **255**—3
●22CX1, 22CX2 (Ch. 1601).. **295**—4
●22CX3, 22CX4 (Ch. 1602).. **295**—4
●22K38 (Ch. 821-20 and Radio Ch. 2A1) .... **225**—8
●22L18 (Ch. 821-6, -6A)... **214**—2
●22M08, 22M18 (Ch. 821-6, -6A) .... **214**—2
●22M28 (Ch. 821-4) (See Model 18C18—Set **214**-2)
●22M28 (Ch. 822-1 -2, -3, -4, -10) .... **255**—3
●22M38 (Ch. 821-4) (See Model 18C18—Set **214**-2)
●22M38 (Ch. 822-1, -2, -3, -4, -10, ... **255**—3
●22T09, B, EB (Ch. 921-12). **283**—2
●22T11 (Ch. 1021) (See Model 21C11—Set **199**-4)
●22T18 (Ch. 821-6, -6A).. **214**—2
●22T28, B (Ch. 821-4) (See Model 18C18—Set **214**-2)
●22T28, B (Ch. 822-1, -2, -3, -4, -10) .... **255**—3
●22T38, B (Ch. 822-1, -2, -3, -4, -10) .... **255**—3
●22TX1, 22TX2 (Ch. 1601).. **295**—4
●23C49L, LB, S, SB, SM (Ch. 921-94) .... **292**—3
●23C59, B (Ch. 921-94).... **292**—3
●27C31 (Ch. 1027-1)...... **231**—4
●205C1, 205C2 .... **293**—2
515A, 516A, 517A....... **223**—4
525, 526 .... **222**—4
540, 541 .... **211**—4
545, 546 (See Model 540—Set **211**-4)
2001 Tel. UHF Conv....... **207**—2
5220 .... **261**—5
Ch. 2A1 (See Model 22K38)
Ch. 750-3 (See Model 17M06)
Ch. 751-3 (See Model 22C06)
Ch. 817, -1 (See Model 17C18)
Ch. 817-2 (See Model 17C18)
Ch. 817-6 (See Model 18C18)
Ch. 817-46 (See Model 18M28)
Ch. 817-86 (See Model 18M28)
Ch. 820, 820-1 (See Model 20M18)
Ch. 820-2 (See Model 20M18)
Ch. 821 (See Model 21C18)
Ch. 821-3 (See Model 22C38)
Ch. 821-4 (See Model 22C48)
Ch. 821-6, -6A (See Model 22C08)
Ch. 821-20 (See Model 22K38)
Ch. 822-1, -2, -3, -4 (See Model 22C38)
Ch. 822-10 (See Model 22C38)
Ch. 921-12 (See Model 22C05)
Ch. 921-94 (See Model 23C49L)
Ch. 1021 (See Model 21C11)
Ch. 1021-2 (See Model 22C61B)
Ch. 1027-1 (See Model 27C31)
Ch. 1601 (See Model 22CX1)
Ch. 1602 (See Model 22CX3)

CENTURY (Also see Industrial Television)

●226, 326 (Ch. IT-26R, IT-35R, IT-39R, IT-46R) .... **99A**—7
●721, 821, 921, 1021 (Ch. IT-21R) .... **97A**—8

CENTURY (20th)

100X, 101, 104.......... **12**—5
200 .... **21**—5
300 .... **21**—6

CHALLENGER

CC8 .... **63**—4
CC18 .... **67**—7
CC30 .... **68**—6
CC60 .... **70**—3
CC618 .... **66**—4
CD6 .... **65**—4
HF8 .... **257**—3
20R .... **69**—5
60R .... **62**—7
200 .... **69**—5
600 .... **62**—7

CHANCELLOR (Also see Radionic)

35P .... **30**—25

CHEVROLET

985792 .... **6**—5
985793 .... **19**—6
986067 .... **90**—2
986146 .... **28**—6
986240 .... **75**—5
986241 .... **58**—7
986388 .... **104**—5
986443 .... **189**—4
986515 .... **149**—5
986516 .... **150**—6
986668 .... **219**—2
986669 .... **224**—6
986771 .... **262**—4
987086 .... **276**—3
987087 .... **284**—6
987088 .... **278**—3
987187 .... **302**—4

CHRYSLER (See Mopar)

CISCO

1A5 .... **37**—4
9A5 .... **20**—3

CLARION

C100 .... **1**—5
C101 .... **5**—9
C102 .... **9**—6
C103 .... **6**—6
C104 .... **1**—4
C105 (See Model C-104—Set **1**-4)
C105A .... **6**—7
C108 (Ch. 101).......... **5**—8
11011 .... **17**—8
11305 .... **18**—11
11411-N .... **30**—5
11801 .... **23**—6
11802V-M (See Model 11801—Set **23**-6)

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

CLARION—Cont.
- 12110M .... 54—5
- 12310-W .... 31—6
- 12708 .... 41—5
- 12801 .... 61—5
- 13101 .... 46—7
- 13201, 13203 .... 62—8
- 14601 .... 60—9
- 14965 .... 66—5
- 16703 .... 102—2

CLARK
- PA-10 .... 12—6
- PA-10A 18–12
- PA-20 13–12
- PA-20A 18–13
- PA-30 .... 19—7

CLEARSONIC (See U. S. Television)

COLLINS AUDIO PRODUCTS
- FMA-6 .... 99—6
- 45-D .... 72—6

COLLINS RADIO
- 51J-3 .... 260—6
- 75A-1 .... 34—4
- 75A-2 .... 171—4

COLUMBIA RECORDS
- 200 .... 294—5
- 202 .... 219—3
- 312 .... 287—4
- 318 .... 281—1
- 324 .... 279—2
- 326 .... 275—5
- 340 .... 296—3
- 360 Series "B" .... 215—5

COMMANDER INDUSTRIES
- Commander 3 Tube Record Player 17–10
- CD61P .... 19—9

CONCERTONE (See Recorder Listing)

CONCORD
- 1N434, 1N435, 1N436 (Similar to Chassis) .... 98—5
- 1N437 (Similar to Chassis). 121—2
- 1N549 (Similar to Chassis). 38—5
- 1N551 (Similar to Chassis). 38—6
- 1N554, 1N555 (Similar to Chassis) 55–10
- 1N556, 1N557 (Similar to Chassis) .... 109—7
- 1N559 (Similar to Chassis). 90—7
- 1N560 (Similar to Chassis). 109—7
- 1N561, 1N562 (Similar to Chassis) .... 97—8
- 1N563 (Similar to Chassis). 136–10
- 1N819 (Similar to Chassis). 69—7
- 6C51B .... 19—8
- 6C51W .... 19—8
- 6E51B .... 20—4
- 6F26W 19–10
- 6R3ARC .... 21—7
- 6T61W 22–11
- 7G26C .... 20—5
- 7R3APW .... 21—7
- 1-402, 1-403 .... 45—6
- 1-411 .... 48—5
- 1-501 (See Model 6E51B—Set 20-4)
- 1-504 .... 55—6
- 1-509, 1-510 (See Model 6C51B—Set 19-8)
- 1-516, 1-517 .... 49—7
- 1-601, 1-602, 1-603 (See Model 7G26C—Set 20-5)
- 1-606 .... 45—7
- 1-608 (See Model 6F26W—Set 19–10)
- 1-609 (See Model 6T61W—Set 22-11)
- 1-611 .... 46—8
- 1-1201 .... 55—7
- 2-105 (See Model 315WL—Set 53-8)
- 2-106 .... 54—6
- 2-200, 2-201, 2-218, 2-219, 2-232, 2-235, 2-236, 2-237, 2-238, 2-239, 2-240 .... 62—9
- 315WL, 315 WM .... 53—8
- 325WL, 325 WN (See Model 2-106—Set 54-6)

CONRAC
- ●10-M-36, 10-W-36 (Ch. 36) (See Ch. 36)
- ●11-B-36 (Ch. 36) (See Ch. 36)
- ●12-M-36, 12-W-36 (Ch. 36) (See Ch. 36)
- ●13-B-36 (Ch. 36) (See Ch. 36)
- ●14-M-36, 14-W-36 (Ch. 36) (See Ch. 36)
- ●15-P-36 (Ch. 36) (See Ch. 36)
- ●16-B-36 (Ch. 36) (See Ch. 36)
- ●17-P-39 (Ch. 39) (See Ch. 39)
- ●18-M-39, 18-W-39 (Ch. 39) (See Ch. 39)
- ●20-M-39, 20-W-39 (Ch. 39) (See Ch. 39)
- ●21-B-39 (Ch. 39) (See Ch. 39)
- ●22-P-39 (Ch. 39) (See Ch. 39)
- ●23-M-390, 23-W-390 (Ch. 39) (See Ch. 39)
- ●24-M-36 (Ch. 36) (See Ch. 36)
- ●25-W-36 (Ch. 36) (See Ch. 36)
- ●26-B-36 (Ch. 36) (See Ch. 36)
- ●27-M-40, 27-W-40 (Ch. 40) (See Ch. 40)
- ●28-B-40 (Ch. 40) (See Ch. 40)
- ●29-P-40 (Ch. 40) (See Ch. 40)
- ●30-M-40, 30-W-40 (Ch. 40) (See Ch. 40)
- ●31-P-40 (Ch. 40) (See Ch. 40)
- ●32-M-44, 32-W-44 (Ch. 44) (See Ch. 44)
- ●33-B-44 (Ch. 44) (See Ch. 44)
- ●34-P-44 (Ch. 44) (See Ch. 44)
- ●35-M-61, 35-W-61 (Ch. 61) (See Ch. 61)
- ●36-B-61 (Ch. 61) (See Ch. 61)
- ●37-P-61 (Ch. 61) (See Ch. 61)
- ●38-B-61, 38-M-61 (Ch. 61) (See Ch. 61)
- ●39-M-61 (Ch. 61) (See Ch. 61)
- ●40-M-64, 40-W-64 (Ch. 64) (See Ch. 64)

CONRAC—Cont.
- ●41-B-64 (Ch. 64) (See Ch. 64)
- ●42-P-64 (Ch. 64) (See Ch. 64)
- ●43-B-64, 43-M-64 (Ch. 64) (See Ch. 64)
- ●Ch. 36 .... 110—4
- ●Ch. 39 .... 110—4
- ●Ch. 40 Series .... 140—4
- ●Ch. 44 (See PCB 27—Set 148-1 and Ch. 40—Set 140-4)
- ●Ch. 61, 64 Series .... 185—5

CONTINENTAL ELECTRONICS (See Skyweight)

CONVERSA-FONE
- MS-5 (Master Station) SS-5 (Sub-Station) .... 16—7

CO-OP
- 6AWC2, 6AWC3, 6A47WCR, 6A47-WT, 6A47WTR .... S6—8

CORONADO
- ●FA43-8965 (See Model 43-8965—Set 86-3)
- ●K-21 (43-9041) .... 182—3
- ●K-72 (43-9031) .... 182—3
- ●K-73L (43-9030) .... 182—3
- RA37-9856D .... 264—5
- RA37-43-9240A .... 282—4
- RA37-43-9855 .... 227—5
- RA42-9850A .... 274—4
- RA-44-8140A, RA44-8141A 301—2
- ●TV1-9017A, B (Also See PCB 130—Set 289-1) .... 276—5
- ●TV1-9135A, B, TV1-9137A, B, TV1-9139A, B (Also See PCB 130—Set 289-1) .... 276—5
- ●TV2-9155A .... 287—5
- ●TV2-9157A .... 285—7
- ●TV2-9159A, TV2-9160A, TV2-9161A, TV2-9162A .... 285—7
- 05RA1-43-7755A, 05RA1-43-7755B .... 101—2
- 05RA1-43-7901A .... 115—2
- 05RA2-43-8230A .... 162—3
- 05RA2-43-8515A .... 110—5
- 05RA4-43-9876A .... 103—7
- 05RA33-43-8120A .... 110—6
- 05RA33-43-8135 (See Model 94RA-33-43-8130C—Set 82-3)
- 05RA37-43-8360A .... 102—3
- ●05TV1-43-8945A .... 145—5
- ●05TV1-43-9005A, 05TV1-43-9006A, B .... 145—5
- ●05TV1-43-9014A .... 128—4
- ●05TV2-43-8950A .... 141—4
- ●05TV2-43-9010A .... 146—5
- ●05TV2-43-9010B .... 153—2
- 15RA1-43-7654A .... 147—3
- 15RA1-43-7902A .... 134—6
- 15RA2-43-8230A .... 162—3
- 15RA4-43-9876C, 15RA4-43-9877 (See Model 05RA4-43-9876A—Set 103-7)
- 15RA33-43-8245A, 15RA33-43-8246A .... 174—5
- 15RA33-43-8365 .... 169—4
- 15RA37-43-9230A .... 173—5
- ●15TV1-43-8957A, B .... 162—4
- ●15TV1-43-8958A, B (Also see PCB 34—Set 162-1) .... 161—3
- ●15TV1-43-9015A, B, 15TV1-43-9016A, B .... 162—4
- ●15TV1-43-9020A, B 15TV1-43-9021A, B (Also see PCB 34—Set 162-1) .... 161—3
- ●15TV2-43-9025A, B, 15TV2-43-9026A, B .... 144—3
- ●15TV2-43-9101A, 15TV2-43-9102A .... 152—4
- ●15TV4-43-8948A, 15TV4-43-8949A .... 175—7
- ●25TV2-43-9022A .... 183—4
- ●25TV2-43-9022B (See PCB 65—Set 202-1 and Model 25TV2-43-9022A—Set 183-4)
- ●25TV2-43-9022C (See PCB 65—Set 202-1, PCB 72—Set 212-1 and Model 25TV2-43-9022A — Set 183-4)
- ●25TV2-43-9045A, B .... 199—5
- ●25TV2-43-9045C (See PCB 68—Set 205-1 and Model 25TV2-43-9045A—Set 199-5)
- ●25TV2-43-9060A .... 199—5
- ●25TV2-43-9060B (See PCB 68—Set 205-1 and Model 25TV2-43-9060A—Set 199-5)
- 35RA2-43-5101A .... 214—3
- 35RA4-43-9856A .... 221—4
- 35RA33-43-8125 .... 217—5
- 35RA33-43-8145 .... 224—7
- 35RA33-43-8225 .... 219—4
- 35RA37-43-8355 .... 225—9
- 35RA40-43-8247A .... 236—3
- ●35TV2-43-9022C (See PCB 65—Set 202-1, PCB 72—Set 212-1 and Model 25TV2-43-9022A — Set 183-4)
- ●35TV2-43-9023A .... 234—4
- ●35TV2-43-9045D (See PCB 68—Set 205-1, PCB 71—Set 211-1 and Model 25TV2-43-9045B — Set 199-5)
- ●35TV2-43-9045E (See Model 35-TV2-43-9045D)
- ●35TV2-43-9050A .... 237—5
- ●35TV2-43-9060C (See PCB 66—Set 205-1, PCB 71—Set 211-1 and Model 25TV2-43-9060A — Set 199-5)
- ●35TV2-43-9060D (See Model 35-TV2-43-9060C)
- ●35TV2-43-9061A .... 237—5
- 43—2027 .... 11—3
- 43—5005 28–36
- 43-6301 .... 7—4
- 43-6451 10–10
- 43-6485 .... 46—9
- 43-6730 (See Model 43-8685—Set 11-4)
- 43-7601 (See Model 43-7601B—Set 10-11)
- 43-7601B 10–11
- 43-7602 (See Model 43-7601B—Set 10-11)
- 43-7651 .... 9—7

CORONADO—Cont.
- 43-7652 (See Model 43-7651—Set 9-7)
- 43-7851 .... 47—5
- 43-7852 (See Model 43-7851—Set 47-5)
- 43-8101 (See Model 94RA31-43-8115A—Set 81-5)
- 43-8130C, 43-8131C (See Model 94RA33-43-8130C—Set 82-3)
- 43-8160 .... 12—7
- 43-8177 (See Model 43-8178—Set 21-8)
- 43-8178 .... 21—8
- 43-8180 10–12
- 43-8190 19–11
- 43-8201 (See Model 43-8178—Set 21-8)
- 43-8213 .... 7—5
- 43-8240, 43-8241 .... 12—8
- 43-8305 .... 8—3
- 43-8312A .... 8—4
- 43-8330 19–12
- 43-8351, 43-8352 .... 12—9
- 43-8353, 43-8354 .... 28—7
- 43-8420 24–13
- 43-8470 .... 8—3
- 43-8471 .... 8—4
- 43-8576B .... 9—8
- 43-8685 .... 11—4
- ●43-8965 .... 86—3
- ●43-9030 .... 182—3
- ●43-9031 .... 182—3
- ●43-9041 .... 182—3
- 43-9196 .... 14—35
- 43-9201 24–14
- 43-9841A (See Model 94RA31-43-9841A—Set 79-3)
- 45RA1-43-7666A .... 232—3
- 45RA1-43-7910A, 45RA1-43-7911-A (See Model 15RA1-43-7902A—Set 134-6)
- 45RA33-43-8126 (See Model 35-RA33-43-8125—Set 217-5)
- 45RA33-43-8146 (See Model 35-RA33-43-8145—Set 224-7)
- 45RA33-43-8225, 45RA33-43-8226, 45RA33-43-8227, 45RA33-43-8228 (See Model 35RA33-43-8225—Set 219-4)
- 45RA33-43-8355 (See Model 35-RA37-43-8356A—Set 225-9)
- 45RA37-43-8356 (See Model 35-RA37-43-8355—Set 225-9)
- ●45TV2-43-9023B .... 234—4
- ●45TV2-43-9045F (See Model 35TV2-43-9045D
- ●45TV2-43-9050B (See Model 35TV2-43-9050A—Set 237-5)
- ●45TV2-43-9060E (See Model 35TV2-43-9045D)
- ●45TV2-43-9061B .... 237—5
- ●45TV2-43-9064A .... 237—5
- ●45TV11-43-9027A, 45TV11-43-9028A (Series XT-100) .. 262—5
- ●45TV11-43-9085A, 45TV11-43-9086A, 45TV11-43-9088A, 45-TV11-43-9089A, 45TV11-43-9090A, 45TV11-43-9091A, 45-TV11-43-9092A, 45TV11-43-9093A, 45TV11-43-9094A, 45-TV11-43-9095A, 45TV11-43-9096A, 45TV11-43-9097A, 45-TV11-43-9098A (Series XT-100) .... 262—5
- ●45TV11-43-9130A, 45TV11-43-91-31A (Series XT-100) .... 262—5
- ●45TV13-43-9038A .... 252—5
- ●45TV13-43-9081A .... 252—5
- 94RA1-43-6945A .... 69—6
- 94RA1-43-7605A .... 65—5
- 94RA1-43-7656A, 94RA1-43-7657-A .... 73—2
- 94RA1-43-7751A .... 87—3
- 94RA1-43-8510A, 94RA1-43-8511-A .... 71—7
- 94RA1-43-8510B, 94RA1-43-8511-B .... 75—6
- 94RA2-43-8230A .... 162—3
- 94RA4-43-8129A 94RA4-43-8130-A, 94RA4-43-8130B, 94RA4-43-8131A, 94RA4-43-8131B. 62–10
- 94RA4-43-8132A (See Model 94-RA4-43-8129A—Set 62–10)
- 94RA31-43-8115A, B 94RA31-43-8116A .... 81—5
- 94RA31-43-9841A .... 79—3
- 94RA33-43-8130C, 94RA33-43-8131C .... 82—3
- ●94TV2-43-8970A, 94TV2-43-8971-A, 94TV2-43-8972A, 94TV2-43-8973A, 94TV2-43-8985A, 94TV-2-43-8986A, 94TV2-43-8987A, 94TV2-43-8993A, 94TV2-43-8994A, 94TV2-43-8995A. 78—4
- ●94TV6-43-8953A .... 106—3
- 165 (See Model 94RA31-43-8115A—Set 81-5)
- 197, U (See Model 94RA31-43-8115A—Set 81-5)
- 2027 (See Model 43-2027—Set 11-3)
- 5005 (See Model 43-5005—Set 28-36)
- 5101A (See Model 35RA2-43-5101A—Set 214-3)
- 6301 (See Model 43-6301—Set 7-4)
- 6451 (See Model 43-6451—Set 10-10)
- 6485 (See Model 43-6485—Set 46-9)
- 6730 (See Model 43-8685—Set 11-4)
- 6945A (See Model 94RA1-43-6945A—Set 69-6)
- 7601, B, 7602 (See Model 43-7601B—Set 10-11)
- 7605A (See Model 94RA1-43-7605A—Set 65-5)
- 7651, 1652 (See Model 43-7651—Set 9-7)
- 7654A (See Model 15RA1-43-7654A—Set 147-3)
- 7656A, 7657A (See Model 94RA1-43-7656A—Set 73-2)
- 7666A (See Model 45RA1-43-7666A—Set 232-3)

CORONADO—Cont.
- 7751 (See Model 94RA1-43-7751A—Set 87-3)
- 7755A, B (See Model 05RA1-43-7755A—Set 101-2)
- 7851 (See Model 43-7851—Set 47-5)
- 7901A (See Model 05RA1-43-7901A—Set 115-2)
- 7902A (See Model 15RA1-43-7902A—Set 134-6)
- 7910A, 7911A (See Model 15RA1-43-7902A—Set 134-6)
- 8101 (See Model 94RA31-43-8115A—Set 81-5)
- 8115A, B, 8116A (See Model 94RA31-43-8115A—Set 81-5)
- 8120A (See Model 05RA33-43-8120A—Set 110-6)
- 8125 (See Model 35RA33-43-8125—Set 217-5)
- 8129A, 8130 A, B, 8131A, B (See Model 94RA-43-8129A—Set 62-10)
- 8130C, 8131C (See Model 94RA33-43-8130C—Set 82-3)
- 8145 (See Model 35RA33-43-8145—Set 224-7)
- 8160 (See Model 43-8160—Set 12-7)
- 8177, 8178 (See Model 43-8178—Set 21-8)
- 8180 (See Model 43-8180—Set 10-12)
- 8190 (See Model 43-8190—Set 19-11)
- 8201 (See Model 43-8178—Set 21-8)
- 8213 (See Model 43-8213—Set 7-5)
- 8225 (See Model 35RA33-43-8225—Set 219-4)
- 8230A (See Model 05RA2-43-8230-A—Set 162-3)
- 8240, 8241 (See Model 43-8240—Set 12-8)
- 8245A, 8246A (See Model 15RA33-43-8245A—Set 174-5)
- 8247A (See Model 35RA40-8247A—Set 236 3)
- 8305 (See Model 43-8305—Set 8-3)
- 8312A (See Model 43-8312A—Set 8-4)
- 8330 (See Model 43-8330—Set 19-12)
- 8351, 8352 (See Model 43-8351—Set 12-9)
- 8353, 8354 (See Model 43-8353—Set 28-7)
- 8355 (See Model 34RA37-43-8355—Set 225-9)
- 8360A (See Model 05RA37-43-8360A—Set 102-3)
- 8365 (See Model 15RA33-43-8365—Set 169-4)
- 8420 (See Model 43-8420—Set 24-13)
- 8470 (See Model 43-8305—Set 8-3)
- 8471 (See Model 43-8312A—Set 8-4)
- 8510A, 8511A (See Model 94RA1-43-8510A—Set 71-7)
- 8510B, 8511B (See Model 94RA1-43-8510B—Set 75-6)
- 8515 (See Model 05RA2-43-8515A Set 110-5)
- 8576B (See Model 43-8576B—Set 9-8)
- 8685 (See Model 43-8685—Set 11-4)
- ●8945A (See Model 05TV1-43-8945A—Set 145-5)
- ●8948A, 8949A (See Model 15TV4-43-8948A—Set 175-7)
- ●8950A (See Model 05TV2-43-9010-A—Set 146-5)
- ●8953A (See Model 94TV6-43-8953-A—Set 106-3)
- ●8957A (See Model 15TV1-43-8957-A—Set 62-4)
- ●8958A, B (See PCB 34—Set 162-1 and Model 15TV1-43-8958A—Set 161-3)
- ●8965 (See Model 43-8965—Set 86-3)
- ●8970A, 8971A, 8972A, 8973A (See Model 94TV2-43-8970A — Set 78-4)
- ●8985A, 8986A, 8987A (See Model 94TV2-43-8970A—Set 78-4)
- ●8993A, 8994A, 8995A (See Model 94TV-43-8970A—Set 78-4)
- ●9005A, 9006A (See Model 05TV1-43-8945A—Set 145-5)
- ●9010A (See Model 05TV2-43-9010A Set 146-5)
- ●9010B (See Model 05TV2-43-9010B—Set 153-2)
- ●9014A (See Model 05TV1-43-9014A—Set 128-4)
- ●9015A, B, 9016A, B (See Model 15TV1-43-8957A—Set 162-4)
- ●9020A, B, 9021A, B (See PCB 34—Set 162-1 and Model 15TV1-43-8958A—Set 161-3)
- ●9022A (See Model 25TV2-43-9022A—Set 183-4)
- ●9022B (See PCB 65—Set 202-1 and Model 25TV2-43-9022A — Set 183-4)
- ●9022C (See PCB 65—Set 205-1 and PCB 72—Set 212-1 and Model 25TV2-43-9022A—Set 183-4)
- ●9023A (See Model 35TV2-43-9023A—Set 234-4)
- ●9023B (See Model 45TV2-43-9023B—Set 234-4)
- ●9025A, B, 9026A, B (See Model 15TV2-43-9025A—Set 144-3)
- ●9027A, 9028A (See Model 45TV11-43-9027A—Set 262-5)
- ●9030 (See Model K-73L [43-9031]—Set 182-3)
- ●9031 (See Model K-72 [43-9031]—Set 182-3)
- ●9038A (See Model 45TV13-43-9038A—Set 252-5)
- ●9041 (See Model K-21 [43-9041]—Set 182-1)

CORONADO—Cont.
- ●9045A, B (See Model 25-TV2-43-9045A—Set 199-5)
- ●9045C (See PCB 68—Set 205-1 and Model 25TV2-43-9045A — Set 199-5)
- ●9045D, E, F (See PCB 68—Set 205-1, PCB 71—Set 211-1 and Model 25TV2-43-9045A — Set 199-5)
- ●9050A (See Model 35TV2-43-9050A—Set 237-5)
- ●9060A (See Model 25TV2-43-9060A—Set 199-5)
- ●9060B (See PCB 68—Set 205-1 and Model 25TV2-43-9060A — Set 199-5)
- ●9060C, D, E (See PCB 66—Set 205-1, PCB 71—Set 211-1 and Model 25TV2-43-9060A — Set 199-5)
- ●9061A (See Model 35TV2-43-9061A—Set 237-5)
- ●9061B (See Model 45TV2-43-9061B—Set 237-5)
- ●9064A (See Model 45TV2-43-9064A—Set 237-5)
- ●9081A (See Model 45TV13-43-9081A—Set 252-5)
- ●9085A, 9086A, 9087A, 9088A, 9089A, 9090A, 9091A, 9092A, 9093A, 9094A, 9095A, 9096A, 9097A, 9098A (See Model 45TV11-43-9085A—Set 262-5)
- ●9101A, 9102A (See Model 15TV2-43-9101A—Set 152-4)
- ●9130A, 9131A (See Model 45TV11-43-9130A—Set 262-5)
- 9169 (See Model 43-9196—Set 14-35)
- 9201 (See Model 43-9201—Set 24-14)
- 9230A (See Model 15RA37-43-9230A—Set 173-5)
- 9841A (See Model 94RA31-43-9841A—Set 79-3)
- 9855 (See Model RA37-43-9855—Set 227-5)
- 9856A (See Model 35RA4-43-9856A—Set 221-4)
- 9856D (See Model RA33-9856D—Set 264-5)
- 9876A (See Model 05RA4-43-9876A—Set 103-7)

CORONET
- C2 .... 6—8

CRAFTSMEN (Also see Radio Craftsmen)
- ●C210 (Ch. C210P, C210V) 251—4
- C250 "Solitaire" .... 296—4
- C-350 .... 272—4
- C375 293–10
- C-550 .... 271—2
- C900 .... 253—4
- C1000 .... 286—4
- 500A .... 239—2

CRESCENT (Also see Changer and Recorder Listings)
- H-16A1 .... 76—8
- 452A .... 272—5
- 600 .... 285—8

CREST
- 10A, 10B Tel. UHF Conv... 239—4

CRESTWOOD (See Recorder Listing)

CROMWELL (Mercantile Stores)
- 1010 .... 88—2
- 1020 .... 89—5

CROSLEY
- ●DU-17CDB, CDM, CHB, CHM, CHN (Ch. 356-1, -2) .... 168—6
- ●DU-17CDB, CDM (Ch. 1-356-3, -4) (See PCB 58—Set 192-1 and Model DU-17CDB—Set 168-6)
- ●DU-17CHN1 (Ch. 356, -1, -2, -3, -4) (See PCB 58—Set 192-1 and Model DU-17CDB—Set 168-6)
- ●DU-17COB, COM (Ch. 356-1, -2) .... 168—6
- ●DU-17COL, COM (Ch. 356-3, -4) (See PCB 58—Set 192-1 and Model DU-17CDB—Set 168-6)
- ●DU-17PDB, PDM, PHB, PHM, PHN, PHN1 (Ch. 359 and Radio Ch. 360, 361) .... 163—4
- ●DU-17TOB, TOL (Ch. 356-1, -2) .... 168—6
- ●DU-17TOL1 (Ch. 356-1, -2) (See Model DU-17TOL—Set 168-6)
- ●DU-17TOM (Ch. 356-1, -2) 168—6
- ●DU-20CDM, CHB, CHM, COB, COM (Ch. 357) .... 175—8
- ●DU-21CDM1, CDN, CHM, COB, COL, COLB, COM (Ch. 357-1) .... 175—8
- D-25BE, CE, GN, MN, TN, WE (Ch. 311, 311-1) .... 202—2
- E10BE, CT, RD, WE (Ch. 10E, 10E-1) .... 203—6
- E15BE, CE, SL, TN, WE (Ch. 15-20E) .... 201—3
- E20GN, GY, MN, TN (Ch. 15-20E) .... 201—3
- E30BE, GN, MN, TN (Ch. 30E, 30E-1) .... 206—3
- E-75, CE, GN, RD, TN (Ch. 75E) .... 217—3
- E-85, CE, GN, RD, TN (Ch. 85E) .... 217—3
- E-90BK, CE, GY, RD, WE (Ch. 90E) .... 217—4
- ●EU-17COL, COLB (Ch. 385) (Also See PCB 73—Set 214-1) .. 193—3
- ●EU-17 COM (Ch. 380, 383) 186—3
- ●EU-17COLBU, COLU (Ch. 396) (See PCB 73—Set 214-1 and Model EU-17COL—Set 193-3)
- ●EU-17TOB (Ch. 380, 383) 186—3
- ●EU-17TOLa, TOLB (Ch. 385) (Also see PCB 73—Set 214-1) . 193—3

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

DETROLA—Cont.
571, 571A, 571B, 571L, 571AL, 571BL .... 10—16
571X, 571AX, 571BX .... 9—11
572-220-226A .... 8—6
577-1-6A .... 8—7
579 .... 7—9
579-2-58B (See Model 579—Set 7-9)
582 .... 19—14
610-A .... 55—8
611-A .... 50—6
626 Series .... 11—5
7156 .... 48—6
7270 .... 16—8

DEWALD
A500 .... 4—22
A5001 (See Model A500—Set 4-22)
A500W (See Model A500 — Set 4-22)
A501, A502, A503 .... 4—22
A504, A505 .... 16—9
A-507 .... 26—10
A-509 .... 31—9
A-514 .... 27—6
A602, A605 .... 16—10
A608 (See Model A602—Set 16-10)
B-400 .... 35—3
B-401 .... 34—6
B-402 .... 45—8
B-403 .... 52—7
B-504 .... 43—9
B-506 .... 38—5
B-510 .... 34—7
B-512 .... 35—4
B-515 .... 63—6
B-612 .... 42—9
B-614 .... 56—9
●BT-100, BT-101 .... 79—6
C-516 .... 64—4
C-800 .... 69—7
●CT-101 .... 79—6
●CT-102, CT-103, CT-104 .. 82—5
D-E517A .... 167—5
D-508 .... 106—5
D508A (See Model D-508—Set 106-5)
D-517 .... 131—4
D-518 .... 100—5
D519 (See Model B-506—Set 38-5)
D-616 .... 102—5
●DT-120, DT-122 .... 100—6
●DT-160 .... 82—5
●DT-161 .... 100—6
●DT-162, DT-163 .... 118—5
●DT-162R, DT-163A, R (Also see PCB 58—Set 192-1) .... 136—7
●DT-190 .... 118—5
●DT-190D (Also see PCB 58—Set 192-1) .... 136—7
●DT-1020, DT-1020A .... 100—6
●DT-1030, DT-1030A .... 100—6
●DT-X-160 .... 100—6
E-520 .... 274—6
E-522 .... 141—5
●ET-140, ET-141 .... 118—5
●ET-140R, ET-141R (Also see PCB 58—Set 192-1) .... 136—7
●E-170, ET-171 (Also see PCB 58—Set 192-1) .... 136—7
●ET-171-20 .... 208—3
●ET-172 (Also see PCB 58—Set 192-1) .... 136—7
●ET-190D, R (Also see PCB 58—Set 192-1) .... 136—7
●ET-190D (Revised) .... 208—3
F-404 .... 181—5
F-405 .... 198—5
F-523 .... 170—5
●FT-200 (See PCB 58—Set 192-1 and Model DT-162R—Set 136-7)
●FT-200 (Revised) .... 208—3
●FT-201 (See PCB 58—Set 192-1 and Model DT-162R—Set 136-7)
●G-174 .... 208—3
●G-201 .... 208—3
●G-210, G-211 .... 208—3
G-408 .... 220—3
H-300 UHF Conv. .... 250—7
H-410 .... 264—6
H-527 .... 239—5
H-528 .... 234—7
H-533 .... 248—4
H-537 .... 269—5
511 .... 71—9

DODGE (See Mopar)

DORN'S (See Bell Air)

DOUGLAS
●327 (Ch. S-103, T-103) ... 246—4

DREXEL
(Mutual Buying Syndicate)
●17CG1, 17TW (Similar to Chassis) .... 149—13

DUKANE
1A45-A .... 184—5
1A300, 1B300 .... 189—6
1U325 .... 185—6
4A100 .... 186—5
4B100 (See Model 4A100—Set 186-5)
4C25 Flexiphone .... 187—4
4C100 .... 200—4

DUMONT
●RA-103 (Also see PCB 6—Set 108-1) .... 90—3
●RA-103D (Also see PCB 9—Set 114-1) .... 93—4
●RA-104A (Also see PCB 9—Set 114-1 .... 93—4
●RA-105 (Also see PCB 6—Set 108-1) .... 72—8
●RA-105B .... 95—3
●RA-106 (Supp. to RA-105, Set 72) (Also see PCB 6—Set 108-1) .... 99A—4
●RA-108A .... 95—3
●RA-109A-FAS (See PCB 54—Set 188-1 and Model RA-109—Set 110-7)
●RA-109-A1, -A2, -A3, -A5, -A6, -A7 (Also see PCB 14—Set 124-1) .... 110—7
●RA-110A (Also see PCB 9—Set 114-1) .... 93—4

DUMONT—Cont.
●RA-111-A1, -A2, -A4, -A5 106—6
●RA-112-A1, -A2, -A3, -A4, -A5, -A6 (Also see PCB 38—Set 170-1) .... 119—5
●RA-113-B1, -B2, -B3, -B4, -B5, -B6, -B7, -B8 (Also see PCB 38—Set 170-1) .... 119—5
●RA-117-A1, -A3, -A5, -A6, -A7 .... 131—5
●RA-119A .... 156—5
●RA-120 (See PCB 51—Set 185-1 and Model RA-113—Set 119-5)
●RA-130A (See PCB 54—Set 188-1 and Model RA-109—Set 110-7)
●RA-147A (See PCB 49—Set 183-1 and Model RA-117A—Set 131-5)
●RA-160, -A1 (Also see PCB 55—Set 189-1) .... 179—4
●RA-162, -B1, -B4, -B5, -B6, -B7, -B21 through 26 (Also see PCB 55—Set 189-1) .... 179—4
●RA-164, -A1 (Also see PCB 60—Set 194-1 and PCB 69—Set 206-1) .... 189—7
●RA-165, -B1, -B2, -B3, -B6, -B7, -B21 through -B26 (Also see PCB 60—Set 194-1 and PCB 69—Set 206-1 .... 189—7
●RA-166, RA-167, RA-168, RA-169, RA-170, RA-171 .... 216—2
●RA-301, RA-301-A1, RA-302 .... 270—4
●RA-306, RA-307 .... 241—6
●RA-312, RA-313 .... 302—5
●RA-321, RA-322 .... 287—6
Andover (See RA-117A)
Andover (See RA-147A)
Ardmore (See RA-112A)
Bonbury (See RA-162)
Borton (See RA-312)
Baylor (See RA-312)
Belvidere (See RA-312)
Beverly (See RA-165)
Bradford (See RA-108A)
Bradford (See RA-306)
Brodley (See RA-312)
Bristol (See RA-306)
Brookville (See RA-113)
Burlingame (See RA-113)
Canterbury (See RA-103)
Carlton (See RA-117A)
Chotham (See RA-103)
Chatham (See RA-166)
Chatham (See RA-168)
Chester (See RA-147A)
Clifford (See RA-312)
Clinton (See RA-164)
Club 20 (See RA-106A)
Colony (See RA-105A)
Dellwood (See RA-312)
Devon (See RA-160)
Dynasty (See RA-162)
Essex (See RA-167)
Fairfield (See RA-110A)
Flanders (See RA-162)
Glendole (See RA-321)
Guilford (See RA-111A)
Hamilton (See RA-312)
Hampton (See RA-306)
Honover (See RA-109A)
Hanover (See RA-109A-FAS)
Honover (See RA-162)
Hanover 11 (See RA-170)
Honover 11 (See RA-171)
Hartford (See RA-306)
Hastings (See RA-104A)
Lynwood (See RA-167)
Lynwood (See RA-169)
Monchu (See RA-106A)
Mansfield (See RA-108A)
Meadowbrook (See RA-103)
Meadowbrook (See RA-147A)
Milford (See RA-165)
Mt. Vernon (See RA-112A)
Newbury (See RA-162)
Newbury 11 (See RA-170)
Newbury 11 (See RA-171)
Newport (See RA-306)
New Yorker (See RA-312)
Oxford (See RA-167)
Parklane (See RA-117A)
Parklane (See RA-147A)
Putnam (See RA-111A)
Revere (See RA-113)
Richfield (See RA-312)
Ridgewood (See RA-165)
Ridgewood "41" (See RA-167)
Royal Sovereign (See RA-119A)
Rumson (See RA-103D)
Rutland (See RA-306)
Savoy (See RA-103)
Sheffield (See RA-103D)
Sheffield (See RA-306)
Shelburne (See RA-165)
Sherbrooke (See RA-109A)
Sherbrooke (See RA-109A-FAS)
Sherbrooke (See RA-130A)
Somerset (See RA-162)
Somerset 11 (See RA-170)
Somerset 11 (See RA-171)
Strotford (See RA-105A)
Strathmore (See RA-117A)
Sumter (See RA-117A)
Sussex (See RA-105B)
Sutton (See RA-103)
Torrytown (See RA-113)
Torrytown (See RA-120)
Wakefield (See RA-164)
Wakefield "41" (See A-167)
Warren (See RA-307)
Warwick (See RA-306)
Wellington (See RA-104A)
Westbrook (See RA-306)
Westbury (See RA-105A)
Westbury 11 (See RA-109A-FAS)
Westerly (See RA-112A)
Westwood (See RA-110A)
Whitehall (See RA-105A)
Whitehall 11 (See RA-130A)
Whitehall 11 (See RA-162)
Wickford (See RA-162)
Wimbledon (See RA-162)
Windsor (See RA-306)
Winslow (See RA-109A-FAS)
Winslow (See RA-109A)
Winsted (See RA-312)
Winthrop (See RA-103)

DUOSONIC
K1, K2 .... 19—15
K3, K4 .... 19—16

DYNAVOX
AP-514 (Ch. AT) .... 28—9
M-510 .... 15—8
Swingmaster .... 27—7
3-P-801 .... 36—3

ECA
101 (Ch. AA) .... 1—25
102 .... 14—7
104 .... 13—14
105 .... 16—11
106 .... 7—10
108 .... 3—6
121 .... 13—15
131 .... 16—12
132 .... 45—9
201 .... 15—9
204 .... 32—5

ECHOPHONE
(Also see Hallicrafters)
EC-113 .... 3—13
EC-306 .... 14—8
EC-403, EC-404 .... 22—14
TC-600 .... 4—18
EX-102, EX-103 .... 64—5
EX-306 (See Model EC-306—Set 14-8)

EDWARDS
Fidelotuner .... 33—4

EICOR
(Also see Recorder Listing)
15 .... 135—6

EKOTAPE
(See Recorder Listing)

ELCAR
602 .... 5—19

ELECTONE
T5TS3 .... 12—34

ELECTRO
B-20 .... 14—9

ELECTROMATIC
APH301-A, APH301-C .... 7—11
606A, 607A .... 5—32

ELECTRO-TONE
555 .... 13—17
706, 712 (See Model 555—Set 13-16)

ELECTRO-VOICE
A-20C .... 285—10
A30 .... 293—4
3300 Tel. UHF Conv. .... 222—5

ELECTRONIC CORP. OF AMERICA (See ECA)

ELECTRONIC SPECIALTY CO. (See Ranger)

E/L (ELECTRONIC LABS.)
75 (Sub-Station) .... 20—6
76E, K, M, W (See Model 2701—Set 4-28)
76RU ("Radio-Utilphone") 20—6
710B, 710M, 710T, 710W, Orthosonic (Ch. 2875) .... 20—7
710PB, 710PC Orthosonic (Ch. 2887) .... 24—16
2660 "Master Utiliphone". 8—8
2701 .... 4—28
3000 Orthosonic .... 31—10

EMERSON
501, 502 (Ch. 120000, 120029) .... 2—1
503 (Ch. 120000, 120029) 1—18
504 (Ch. 120000, 120029) 2—1
505 (Ch. 120002) .... 8—9
505 (Ch. 120041) (See Model 523—Set 5-27)
506 .... 6—9
507 .... 8—10
508 (Ch. 120008) .... 7—12
509 .... 8—10
510, 510A (Ch. 120000, 120029) .... 5—36
511 .... 8—10
511 (Ch. 120010) (See Model 541—Set 16-23)
512 (Ch. 120006) .... 9—12
512 (Ch. 120056) .... 26—11
514 (Ch. 120007) .... 27—8
515, 516 .... 12—11
515, 516 (Ch. 120056).... 26—11
517 (Ch. 120010) (See Model 541—Set 16-13)
518 .... 8—10
519 (Ch. 120030) .... 30—7
520 (Ch. 120000, 120029) 2—1
521 (Ch. 120013, 120031) 7—13
522 .... 8—10
523 .... 5—37
524 .... 17—12
525 .... 20—8
528 (Ch. 120038) .... 21—13
529, 529-9 (Ch. 120028).. 18—15
530 (Ch. 120006, Ch. 120056) .... 32—6
531, 532, 533.......... 11—6
534 (Ch. 120007).......... 27—8
535 .... 20—9
536 (Ch. 120036).......... 21—14
536A .... 24—17
537 .... 23—7
538 (Ch. 120051) (See Model 549—Set 26-12)
539 .... 9—13
540A (Ch. 120042).......... 20—10
541 .... 16—13
542 (See Model 521—Set 7-13)
543, 544 (Ch. 120046).... 19—30
●545 (Ch. 120047) Photofact Servicer 82
546 (Ch. 120049).......... 21—15
547A (Ch. 120050).......... 25—13
548 (Ch. 120051).......... 30—8
549 (Ch. 120051).......... 26—12

EMERSON—Cont.
550 (Ch. 120006) (See Model 512—Set 9-12)
550 (Ch. 120056).......... 26—11
551A .... 24—17
552 .... 20—8
553A .... 24—17
556, 557 (Ch. 120018B).. 70—4
557B (Ch. 120048B).......... 43—10
558 (Ch. 120058).......... 31—11
559A (Ch. 120059).......... 31—12
560 (Ch. 120016).......... 25—14
561 (Ch. 120001B).......... 63—7
563 (Ch. 120063B).......... 73—4
564 (Ch. 120027) (See Model 540A—Set 20-10)
565 (Ch. 120018B).......... 70—4
566 (Ch. 120051) (See Model 549—Set 26-12)
567 (Ch. 120016) (See Model 560 Set 25-14)
567 (Ch. 120042) (See Model 540A—Set 20-10)
568A (Ch. 120070A).......... 58—9
569A (Ch. 120062A).......... 42—10
570 (Ch. 120064).......... 97—3
●571 (Ch. 120066).......... 46—25
●571 (Ch. 120086B).......... 76—11
572 (Ch. 120065) (See Model 540A—Set 20-10)
573B (Ch. 120039B).......... 42—11
574 (Ch. 120064).......... 97—3
575 (Ch. 120068A, 120068B) .... 85—6
576A (Ch. 120069A).......... 40—5
577B (Ch. 120012B).......... 41—6
578 (Ch. 120050) (See Model 547A—Set 25-13)
579A (Ch. 120034A).......... 61—6
580 (Ch. 120064).......... 97—3
581 (Ch. 120014A, B) .... 68—7
582 (See Model 548—Set 30-8)
583 (See Model 573B—Set 42-11)
584 (See Model 558—Set 31-11)
●585 (Ch. 120025B) .... 61—7
586 (Ch. 120023B, 120083B) 72—9
587 (Ch. 120033A, B) .... 71—10
588 (See Model 547A—Set 25-13)
590 (Ch. 120101A, B).... 87—5
591 (Ch. 120055A).......... 67—9
593 (Ch. 120063B).......... 73—4
594, 595 (Ch. 120071A).. 68—7
596 .... 61—6
597 (Ch. 120073B3) .... 90—5
599 (Ch. 120075B).......... 69—8
●600 (Ch. 120103-B) (Also see PCB 9—Set 114-1) .... 87—6
601 (Ch. 120075B).......... 69—8
602 (Ch. 120072A, 120082A .... 56—10
603 (Ch. 120063B).......... 73—4
604A (See Model 576A—Set 40-5)
605 (Ch. 120076B).......... 66—8
●606 (Ch. 120066).......... 46—25
●606 (Ch. 120086B-D) .... 76—11
●606 (Ch. 120086B).......... 76—11
607 (Ch. 120074A).......... 90—5
●608A (Ch. 120089B).......... 84—6
●609 (Ch. 120084-B).......... 90—6
610 (Ch. 120100A, B)...... 71—10
●611, 612 (Ch. 120087B-D) 76—11
613A (Ch. 120085A, B).. 79—7
●614, B, BC, C (Ch. 120110, B, BC, C) .... 97—4
●614D (Ch. 120095-B).... 95A—3
615 (Ch. 120001B).......... 63—7
616 (Ch. 120100A, B).... 71—10
●619 (Ch. 120092D).......... 76—11
●620 (Ch. 120091D-QD).... 76—11
●621 (Ch. 120098B) .... 108—5
●622 (Ch. 120098P).......... 108—5
623 (Ch. 120101A, B).... 87—5
●624 (Ch. 120087B-D).... 76—11
625 (Ch. 120105B).......... 103—8
●626 (Ch. 120104B, 120104BJ) .... 84—6
●627 (Ch. 120107B).......... 76—11
●628 (Ch. 120098B).......... 108—5
●629 (Ch. 120114B) (See Model 631—Set 93A-6)
●629B, 629C (Ch. 120120). 119—6
●629D (Ch. 120124B).......... 116—5
●630 (Ch. 120099B .... 108—5
●631 (Ch. 120109).......... 93A—6
●632 (Ch. 120096B).......... 93A—7
●633 (Ch. 120114).......... 93A—6
634B (Ch. 120097B).......... 111—4
635 (Ch. 120108).......... 92—1
636A (Ch. 120106A) .... 99—7
●637, B, BC, C (Ch. 120110, B, BC, C) .... 97—4
●637A (Ch. 120095-B).... 95A—3
●638 (Ch. 120087D) (See Model 571—Set 76-11)
●639 (Ch. 120103B) (Also see PCB 9—Set 114-1) .... 87—6
640 (Ch. 120112).......... 93—5
641B (Ch. 120125B).......... 120—5
642 (Ch. 120117A).......... 98—3
643A (Ch. 120111A).......... 91—4
●644, B, BC, C, (Ch. 120113, B, BC, C) .... 97—4
645 (Ch. 120115).......... 94—4
646A (Ch. 120121A).......... 102—6
646B (Ch. 120121B).......... 102—6
●647, B, BC, C (Ch. 120113, B, BC, C) .... 97—4
●648B (Ch. 120134B, G, H) (See PCB 48—Set 182-1 and Model 661B—Set 137-4)
●649A (Ch. 120094A).......... 106—7
●650 (Ch. 120113C) (See Model 614—Set 97-4)
●650 (Ch. 120118B).......... 113—2
●650B (Ch. 120118B) (See Model 650—Set 113-2)
●650D (Ch. 120123-B) (Also see PCB 48—Set 182-1) .... 109—3
●650F (Ch. 120138-B).......... 133-1A
●651B (Ch. 120120).......... 119—6
●651C (Ch. 120109).......... 93A—6
●651C (Ch. 120124).......... 116—5
●651D (Ch. 120124, B).... 116—5
652 (Ch. 120032B).......... 98—3
653 (Ch. 120080B).......... 98—3
653B (Ch. 120136-B).......... 159—5
●654 (Ch. 120118B).......... 113—2
●654B (Ch. 120118B) (See Model 654—Set 113-2)

EMERSON—Cont.
●654D (Ch. 120123B) (Also see PCB 48—Set 182-1) .... 109—3
●654F (Ch. 120138B) 133-1A
●655B (Ch. 120123-B).......... 109—3
●655D (Ch. 120123B) (See Model 650D—Set 109-3)
●655F (Ch. 120138-B) 133-1A
656B, 657B (Ch. 120122B). 111—5
●658B (Ch. 120124, B) .... 116—5
●658C (Ch. 120124) (See Model 629D—Set 116-5)
●660B (Ch. 120133B).......... 131—6
●661B (Ch. 120134B, G, H) (Also see PCB 48—Set 182-1). 137—4
●662B (Ch. 120127-B) (Also see PCB 18—Set 130-1) .... 125—6
●663B (Ch. 120128-B) (Also see PCB 18—Set 130-1) .... 125—6
●664B (Ch. 120133-B).......... 131—6
●665B (Ch. 120131-B and Radio Ch. 120130-B) .... 146—6
●666B (Ch. 120135B, G, H, and Radio Ch. 120132B) (Also see PCB 27—Set 148-1) .... 133—5
●667B, 668B (Ch. 120134B, G, H) (Also see PCB 48—Set 182-1) .... 137—4
●669B (Ch. 120129B, D) (Also see PCB 24—Set 142-1 and PCB 47—Set 181-1) .... 126—5
671B (Ch. 120137-B).......... 118—6
671D (Ch. 120137D) (See Model 671B—Set 118-6)
672B (Ch. 120097B).......... 131—7
●673B (Ch. 120133-B).......... 131—6
●674B (Ch. 120134B, G, H) (Also see PCB 48—Set 182-1).. 137—4
●675B (Ch. 120129B, D) (Also see PCB 24—Set 142-1 and PCB 47—Set 181-1) .... 126—5
●676B (Ch. 120140B).......... 128—6
●676D (Ch. 120144B, G, H) (Also see PCB 48—Set 182-1).. 138—4
●676F (Ch. 120143B) (Also see PCB 50—Set 184-1) .... 148—6
●677B, 678B (Ch. 120134B, G, H) (Also see PCB 48—Set 182-1) .... 137—4
679B (Ch. 130116-B).......... 142—7
●680B (Ch. 120144-B, G, H) (Also see PCB 48—Set 182-1).. 138—4
●680D (Ch. 120140B) .... 128—6
●680D (Ch. 120144B, G, H) (See PCB 48—Set 182-1 and Model 676D—Set 138-4)
●681B (Ch. 120140B).......... 128—6
●681D (Ch. 120144B, G, H) (Also see PCB 48—Set 182-1).. 138—4
●681F (Ch. 120143B, H) (Also see PCB 50—Set 184-1).... 148—6
●684B, 685B (Ch. 120134B, G, H) .... 137—4
●686B (Ch. 120144B, G, H) (Also see PCB 48—Set 182-1). 138—4
●686D (Ch. 120140B).......... 128—6
●686F (Ch. 120143B, H) (Also see PCB 50—Set 184-1) .... 148—6
●686L (Ch. 120142B) (Also see PCB 50—Set 184-1) .... 148—6
●687B (Ch. 120144B, G, H) (Also see PCB 48—Set 182-1). 138—4
●687D (Ch. 120140B) (See Model 676B—Set 128-6)
●687F (Ch. 120143B, H) (Also see PCB 50—Set 184-1).... 148—6
●687L (Ch. 120142B) (Also see PCB 50—Set 184-1) .... 148—6
●688B, 689B, 690B (Ch. 120129B) (Also see PCB 24—Set 142-1 and PCB 47—Set 181-1).... 126—5
691B (Ch. 120145-B).......... 160—3
●692B, 693B, 694B (Ch. 120129B, D) (See PCB 24—Set 142-1, PCB 47—Set 181-1 and Model 669-B—Set 126-5)
695B (Ch. 120146-B).......... 162—5
●696B (Ch. 120144B, G, H) (See PCB 48—Set 182-1 and Model 676D—Set 138-4)
●696F (Ch. 120143B, H) (Also see PCB 50—Set 184-1).... 148—6
●696L (Ch. 120142B) (Also see PCB 50—Set 184-1).... 148—6
●697B (Ch. 120129B, D) (See PCB 24—Set 142-1, PCB 47 — Set 181-1 and Model 669B — Set 126-5)
●698B (Ch. 120127B) (See PCB 18—Set 130-1 and Model 662B—Set 125-6)
●699D (Ch. 120160-B).......... 165-1A
●700B Ch. 120153-B).......... 169—6
●700D (Ch. 120158-B).......... 166—9
●701B (Ch. 120153-B) .... 169—6
●701D (Ch. 120158-B).......... 166—9
●701F (Ch. 120143B) (See PCB 50 Set 184-1 and Model 676F—Set 148-6)
702B (Ch. 120136-B).......... 159—5
703B (Ch. 120097-B).......... 160—4
704 (Ch. 120154-B).......... 184—6
705A, B (Ch. 120155A ,B). 208—4
706B, 707B (Ch. 120156-B). 178—5
708B (Ch. 120165-B) (See Model 706B—Set 178-5)
●709A (Ch. 120162-A).......... 167—6
710B (Ch. 120146-B) (See Model 695B—Set 162-5)
●711B (Ch. 120164-B).......... 183—6
●711F (Ch. 120169-B) .... 206—4
●712B (Ch. 120164B).......... 183—6
●712F (Ch. 120169B).......... 206—4
713B (Ch. 120156-B) (See Model 706B—Set 176-5)
●714B (Ch. 120153-B) (See Model 700B—Set 169-6)
●716D (Ch. 120163-D)..... 190—2
●716F (Ch. 120168-D) (See PCB 61—Set 195-1, PCB 71—Set 211-1 and Model 716D—Set 190-2)
●717D (Ch. 120163-D)..... 190—2
●717F (Ch. 120168-D) (See PCB 61—Set 195-1,PCB 71—Set 211-1 and Model 716D—Set 190-2)
718B (Ch. 120150-B) .... 191—7
●719D (Ch. 120163-D).......... 190—2
●719F (Ch. 120168-D) (See PCB 61—Set 195-1, PCB 71—Set 211-1 and Model 716D—Set 190-2)

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250
● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250.
● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

GENERAL ELECTRIC—Cont.

- ●21C208-UHF (For TV Ch. see PCB 64—Set 201-1 and Model 21C208—Set 194-2, for UHF Conv. see Model UHF-103—Set 209-5)
- ●21C208U (See PCB 64—Set 201-1 and Model 21C208—Set 194-2)
- ●21C208U-UHF (For TV Ch. see PCB 64—Set 201-1, and Model 21C208—Set 194-2, for UHF Conv. see Model UHF-103—Set 209-5)
- ●21C210 (See PCB 64—Set 201-1 and Model 21C201—Set 194-2)
- ●21C210-UHF (For TV Ch. see PCB 64—Set 201-1 and Model 21C201—Set 194-2, for UHF Conv. see Model UHF-103—Set 209-5)
- ●21C214 (Also see PCB 64—Set 201-1) .... 194—2
- ●21C214-UHF (For TV Ch. see PCB 64—Set 201-1 and Model 21C214—Set 194-2, for UHF Conv. see Model UHF-103—Set 209-5)
- ●21C225, 21C226, 21C227, 21C228, 21C229, 21C230, 21C231, 21C232, 21C233 .... 237—7
- ●21C238 ("K" Line) .... 293—7
- ●21C240, -UHF, 21C241, -UHF, 21C242, -UHF, 21C243, -UHF, 21C244, -UHF .... 264—7
- ●21C347, 21C348, 21C349, 21C350, 21C351 ("J" Line) .... 275—8
- ●21T1 (Also see PCB 64—Set 201-1) .... 194—2
- ●21T1-UHF (For TV Ch. see PCB 64—Set 201-1 and Model 21T1—Set 194-2, for UHF Conv. see Model UHF-103—Set 209-5)
- ●21T1U (See PCB 64—Set 201-1 and Model 21T1—Set 194-2)
- ●21T1U-UHF (For TV Ch. see PCB 64—Set 201-1 and Model 21T1—Set 194-2, for UHF Conv. see Model UHF-103—Set 209-5)
- ●21T2 .... 196—3
- ●21T3 (See Model 21T1—Set 194-2)
- ●21T3-UHF (For TV Ch. see PCB 64—Set 201-1 and Model 21T1—Set 194-2, for UHF Conv. see Model UHF-103—Set 209-5)
- ●21T4, 21T5 .... 184—8
- ●21T6 (See Model 21T1—Set 194-2)
- ●21T6-UHF (For TV Ch. see PCB 64—Set 201-1 and Model 21T1—Set 194-2, for UHF Conv. see Model UHF-103—Set 209-5)
- ●21T7, 21T8 225-10
- ●21T10, 21T11, 21T12 ("F" Line) (See PCB 97—Set 242-1 and Model 21C115—Set 229-7)
- ●21T14 ("F" Line) (Also See PCB 97—Set 242-1) .... 229—7
- ●21T15 ("F" Line) (See PCB 97—Set 242-1 and Model 21C115—Set 229-7)
- ●21T17, 21T18 ("K" Line) .... 293—7
- ●21T19 ("F" Line) (See PCB 97—Set 242-1 and Model 21C115—Set 229-7)
- ●21T20, 21T21 .... 237—7
- ●21T22, 21T23, 21T24, 21T25 .... 265—6
- ●21T26, -UHF, 21T27, -UHF 264—7
- ●21T28 ("K" Line) .... 293—7
- ●21T30, 21T31 ("J" Line) .... 275—8
- ●21T32, 21T33 ("N" Line) .... 297—2
- ●21T34 (See Model 17T20—Set 265-6)
- ●21T36, 21T37 ("N" Line) .... 297—2
- ●24C101 .... 152—8
- 24C245 (See Model 21C240—Set 264-7)
- 41, 42, 43, 44, 45 .... 32—8
- 50 7-16
- 60, 62 .... 36—9
- 64, 65 .... 98—4
- 66, 67 76-12
- 100, 101 6-13
- 102, 102W .... 41—8
- 103, 105 6-13
- 106 8-14
- 107, 107W .... 41—8
- 113 .... 51—7
- 114, 114W, 115, 115W .... 41—8
- 118, 119M, 119W .... 39—5
- 123, 124 .... 97—7
- 131 (See Model 118—Set 39-5)
- 135, 136 .... 81—8
- 140 30-10
- 143 .... 75—9
- 145 60-13
- 150 56-11
- 160 56-12
- 165 .... 89—7
- 180 20-11
- 186-4 .... 57—7
- 200, 201, 202, 203, 205, 205M 8-15
- 210, 211, 212 .... 51—8
- 218, 218 "H" .... 121—5
- 219, 220, 221 .... 4—1
- 226 .... 91—5
- 230 (See Kaiser-Frazier Model 200001—Set 35-13)
- 250 4-13
- 254 .... 32—9
- 260 15-13
- 280 23-10
- 303 18-19
- 304 32-10
- 321 3-26
- 324 .... 64—7
- 326, 327 30-11
- 328 .... 64—7
- 329, 330 (See Model 324—Set 64-7)
- 354, 355 .... 33—9
- 356, 357, 358 .... 37—6
- 376, 377, 378 45-11
- 400, 401 .... 118—8
- 404, 405 .... 121—6
- 408 .... 116—6
- 409 .... 176—4
- 410 .... 121—6
- 411 .... 118—8
- 412 .... 189—9
- 412F .... 211—6
- 414 175-11

GENERAL ELECTRIC—Cont.

- 414F .... 211—6
- 415 175-11
- 415F .... 211—6
- 416 175-11
- 416F .... 211—6
- 417 16-15
- 419 .... 231—8
- 422, 423 .... 154—5
- 424, 425 .... 233—2
- 427, 428, 429 .... 270—5
- 430 175-11
- 431 .... 241—9
- 431A (See Model 431—Set 241-9)
- 432 .... 241—9
- 432A (See Model 432—Set 241-9)
- 440 .... 246—6
- 442, 443, 444 .... 270—5
- 446, 447, 448 .... 271—4
- 450, 451, 452 (See Model 424—Set 233-2)
- 455, A, 456, 457 .... 287—9
- 480 .... 300—5
- 500, 501 .... 98—4
- 502 .... 35—9
- 505, 506, 507, 508, 509 .... 98—4
- 510 .... 120—7
- 510F .... 143—7
- 511 .... 120—7
- 511F, 512F, 513F .... 143—7
- 514 .... 198—7
- 515F, 516F, 517F, 518F .... 143—7
- 521, 522 .... 114—5
- 521F, 522F .... 143—7
- 530 .... 98—4
- 535 .... 151—7
- 542, 543 .... 198—7
- 546, 547, 548, 549 .... 191—9
- 551, 552 .... 201—4
- 555, 555G, 556 250-11
- 557, 558, 559 (See Model 560—Set 249-7)
- 560, 561 .... 249—7
- 564, 565, 566 .... 251—7
- 572, 573, 574, 575 .... 274—9
- 577, 578 .... 278—4
- 580, 581, 582 .... 270—6
- 590 .... 279—6
- 600 .... 109—6
- 601, 603, 604 .... 115—3
- 605, 606 .... 145—6
- 607, 608 (See Model 605—Set 145-6)
- 610, 611 .... 147—7
- 612, 613 .... 231—9
- 614, 615 .... 199—6
- 620, 621, 622 .... 262—9
- 625, 626 (See Model 612—Set 231-9)
- 630, 631, 632 .... 261—7
- 635, 636, 637 .... 301—6
- 640, 641 (See Model 614—Set 199-6)
- 645, 646, 647, 648 .... 298—5
- 650 .... 101—3
- 741 .... 157—6
- 752, 753 .... 123—5
- 754 .... 167—8
- 755 .... 130—6
- 756 .... 167—8
- 757 (See Model 755—Set 130-6)
- ●800A, B, C, D (See Model 805—Set 78-7)
- ●801 Photofact Servicer 78
- ●802 .... 97A—7
- ●803 .... 97A—4
- ●805, 806, 807, 809 Series 78—7
- ●810 53-12
- ●811 .... 63—9
- ●814 .... 69—9
- ●815 .... 97A—5
- ●817 .... 78—7
- ●818 .... 95A—7
- ●821 .... 78—7
- ●830 Early .... 81—9
- ●835 Early .... 81—9
- ●840 .... 81—9
- ●901 .... 97A—5
- ●910 .... 97A—5

GENERAL IMPLEMENT

- 9A5 .... 37—7

GENERAL INDUSTRIES (See Changer and Recorder Listings)

GENERAL INSTRUMENT (Also see Record Changer Listing)

- 63A, 64 Tel. UHF Conv. .... 232—7

GENERAL MOTORS CORP. (GMC)

- 2233029 .... 93—6

GENERAL TELEVISION

- 1A5, 2A5, 3A5, 5A5 (Ch. 1-1) 1-21
- 4B5 27-11
- 5B5G, 5B5Y 27-12
- 9A5 .... 39—6
- 9B6P 36-10
- 14A4F 3-21
- 15A5 (Ch. 1-1) 1-21
- 17A5 5-22
- 19A5 (Ch. 1-1) 1-21
- 21A4 12-14
- 22A5C 13-19
- 23A6 14-14
- 24B6 .... 37—8
- 25B5 26-15
- 26B5 29-11
- 27C5 36-11

GILFILLAN

- 56A, 56B 1-27
- 56BC1, 56BCR (See Model 56A—Set 1-27)
- 56C, 56D 1-27
- 56E (See Model 56A—Set 1-27)
- 58M, 58W 45-12
- 66A, 66AM 8-16
- 66B "The Overland" 8-17
- 66D, 66DM 8-16
- 66P, 66PM "The El Dorado" 9-15
- 68B-D 46-10
- 68F 46-11
- 68-48 61-10
- 86C, 86P, 86U (86 Series) 26-16
- 108-48 59-10

GLOBE

- 5BP1 18-20
- 6AP1 20-12
- 6D1 20-13
- 6P1 20-12
- 6U1 20-13
- 7CP-1 28-14
- 51 19-18
- 62C 19-19
- 85 .... 49—9
- 454 .... 41—9
- 456 .... 40—7
- 457 .... 39—7
- 500 21-18
- 517 21-17
- 551 16-16
- 552 27-13
- 553 28-15
- 559 .... 50—8

GODFREY

- 6AD 28-17
- 6SM 28-17

GONSET

- 3-30 Meter Converter 61-11
- 10-11 Meter Converter .... 37—9

GOODELL

- ATB-3 .... 70—5
- NSA-20 .... 73—6

B. F. GOODRICH (Also see Mantola)

- 92-523, 92-524, 92-525, 92-526, 92-527, 92-528 .... 148—7

GOTHAM

- ●319 .... 209—6
- ●323 .... 251—8

GRANCO

- CTU UHF Conv. .... 217—6
- LCU UHF Conv. .... 251—9
- MTU (Tel. UHF Conv.) .... 265—7
- 610 .... 283—6
- 720 .... 297—3

W. T. GRANT (See Grantline)

GRANTLINE

- 300 (Series B) 9-16
- 500, 501 (Series A) 9-17
- 501-7 35-10
- 504-7 21-19
- 508-7 .... 34—8
- 510-A 24-19
- 605, 606 2-17
- 641 12-15
- 651 .... 11—9
- 5610 35-11
- 6547 11-10

GROMMES

- LJ-2 .... 194—3
- LJ-3 .... 277—6
- 50PG, 51PG .... 163—6
- 50PG2 .... 206—6
- 55PG .... 279—7
- 100BA 189-10
- 117PS .... 190—3
- 205PA 191-10
- 206PA 262-10
- 210PA .... 190—3
- 215BA .... 198—8

HALLICRAFTERS (Also see Echophone)

- A-84 (Run 1) .... 209—7
- ATCL-9, -10, -11 (Run 1) 225-11
- B-55 (See Model TW-55)
- CA-2, CA-2A 30-12
- CA-4 36-13
- S-38 .... 3—7
- S-38B .... 121—7
- S-38C (Run 2) .... 190—4
- S-40 2-19
- S-40A 33-10
- S-40B .... 122—4
- S-41G, S-41W 10-19
- S-47 46-12
- S-51 .... 40—8
- S-52 .... 48—9
- S-53 .... 39—8
- S53A, AU .... 171—5
- S-55, S-56 .... 55—9
- S-58 .... 57—8
- S-59 58-10
- S-72 .... 82—6
- S-72L .... 173—6
- S-76, S-76U .... 143—9
- S-77 .... 146—7
- S-78 .... 124—5
- S-78A (Run 1) .... 180—6
- S-80 .... 162—6
- S-81 166-11
- S-82 .... 167—9
- S-93 (See PCB 133—Set 292-1 and Model TW-500—Set 251-10)
- ST-74 .... 125—8
- ST-83 .... 218—5
- SX-42 .... 44—6
- SX-43 45-13
- SX-62 61-12
- SX-71 .... 111—6
- ●T-54 (Early) 48-10
- ●T-54 (Late) .... 91—6
- ●T-60 63-10
- ●T-61, T-64, T-67 (Also see PCB 32—Set 158-1) .... 65—7
- ●T-68 63-10
- TW-25 (Runs 1 and 2) .... 224—9
- TW-55 and B-55 (Run 1) .... 284—7
- TW-500, TW-600 (Also See PCB 133—Set 292-1) 521-10
- TW-1000 (Run 1) .... 221—5
- TW-2000 (Run 1) .... 273—7
- 3HFP-1, 3HFP-2 (Run 1) .... 288—4
- 5R10 .... 130—7
- 5R10A (Run 1) .... 155—7
- 5R10A (Run 4) (See Model 5R10A (Run 1)—Set 155-7)
- 5R11, 5R12, 5R13, 5R14 .... 129—7
- 5R18, 5R19, 5R20, 5R21, 5R22 (See Model 5R11—Set 129-7)
- 5R24 .... 168—7
- 5R30, A, 5R31, A, 5R32, A, 5R33, A, 5R34, A .... 170—8
- 5R50, 5R51, 5R52 .... 179—6

HALLICRAFTERS—Cont.

- 5R60, 5R61 .... 283—7
- 5R100A (Run 4) (See Model 5R10A (Run 1)—Set 155-7)
- 5R230, 5R231, 5R232 (Run 1) .... 227—8
- 8R40, 8R40C .... 181—7
- ●17T310B, M, W (Ch. A1600D) (Also See PCB 122—Set 276-1) 253—7
- ●21K330B, M (Ch. B1600D) .... 298—6
- ●21K331B, M (Ch. A1700D) (Runs 1, 2, 2A, 3, 3A) .... 290—4
- ●21K340B, M (Ch. E1600D) .... 298—6
- ●21K341B, M (Ch. A1700D) (Runs 1, 2, 2A, 3, 3A) .... 290—4
- ●21T320B, M, W (Ch. B1600D) .... 298—6
- ●21T321B, M, W (Ch. A1700D) (Runs 1, 2, 2A, 3, 3A) .... 290—4
- ●24K240B, M (Ch. D1400D) .... 300—6
- ●24K241B, M (Ch. C1400D) .... 300—6
- ●27K250B, M (Ch. D1400D) .... 300—6
- ●27K251B, M (Ch. C1400D) .... 300—6
- 400, 406, 409, 410, 411, 412 .... 52—9
- ●505 (Early) 48-10
- ●505 (Late) (See Model T-54 (Late)—Set 91-6)
- ●506 (Early) (See Model 505 (Early)—Set 48-10)
- ●506 (Late) .... 91—6
- ●509, 510 (Also see PCB 32—Set 158-1) .... 65—7
- ●511 .... 96—5
- ●512C, 513 .... 80—7
- ●514 .... 91—6
- ●515 .... 80—7
- ●518, 519, 520 .... 92—3
- ●520E .... 80—7
- ●521 .... 92—3
- ●521E .... 80—7
- ●524 .... 80—7
- ●600, 601, 602, 603, 604 .... 92—3
- ●605, 606 .... 107—5
- 611, 612 250-12
- 621, 622 .... 271—5
- ●680, 681 .... 113—3
- ●690 .... 113—3
- ●715, A .... 113—3
- ●716 (See Model 680—Set 113-3)
- ●730, 731 (Run 1) (See Model 680—Set 113-3)
- ●740, 741 (Run 1) (See Model 680—Set 113-3)
- ●745 .... 105—4
- ●750, 751 .... 105—4
- ●760, 761 .... 105—4
- ●805, 806 .... 136—9
- ●810 .... 136—9
- ●810A .... 124—6
- ●810C (See Model 805—Set 136-9)
- ●811 .... 124—6
- ●815 .... 124—6
- ●818, 820 .... 124—6
- ●821 (See Model 810A—Set 124-6)
- ●822 .... 124—6
- ●832, 833 .... 121-1A
- ●860, 861 .... 124—6
- ●870, 871 (See Model 810A—Set 124-6)
- ●880 (See Model 810A—Set 124-6)
- ●1000 (Ch. W1000D) .... 180—7
- ●1001 (Ch. F1100D) (See Model 1002—Set 169-7)
- ●1002, 1003, 1004 (Ch. F1100D) .... 169—7
- ●1005, 1006 (Ch. A1100D) 177—8
- ●1007 (Ch. F1100D) .... 169—7
- ●1008 (Ch. X1000D) .... 180—7
- ●1010P (Ch. A-1200D, K1200D, W1200D) .... 188—6
- ●1012P (Ch. A-1200D, K1200D, W1200D) .... 188—6
- ●1013C (Ch. F1200D) .... 188—6
- ●1015, 1016, 1017, 1018, 1019 (Ch. A1100D) .... 177—8
- ●1019 (Ch. Z1000D) .... 180—7
- ●1021P (Ch. D1200D, L1200D, X1200D) .... 188—6
- ●1022C (Ch. G1200D) .... 188—6
- ●1025 (Ch. C1000D) .... 172—4
- ●1026P (Ch. D1200D, L1200D, X1200D) .... 188—6
- ●1027C (Ch. G1200D) .... 188—6
- ●1050, A (Ch. AL1200D) (Also see PCB 81—Set 222-1) .... 211—7
- ●1051P, 1052P (Ch. P1200D) (See PCB 75—Set 216-1 and Model 1010P—Set 188-6)
- ●1053P, 1054P (Ch. R1200D) (See PCB 75—Set 216-1 and Model 1010P—Set 188-6)
- ●1055C, 1056C (Ch. T1200D) (See PCB 75—Set 216-1 and Model 1010P—Set 188-6)
- ●1060C, 1061C (Ch. T1200D) (See PCB 75—Set 216-1 and Model 1010P—Set 188-6)
- ●1062C, 1063C (Ch. J1200D) (See PCB 75—Set 216-1 and Model 1010P—Set 188-6)
- ●1072 (Ch. AG1200D) .... 211—7
- ●1072A (Ch. AR1200D) .... 211—7
- ●1074 (Ch. AG1200D) .... 211—7
- ●1074A (Ch. AR1200D) .... 211—7
- ●1074AT (Ch. AY1200D) (Also see PCB 81—Set 222-1) .... 211—7
- ●1075 (Ch. AG1200D) .... 211—7
- ●1075A (Ch. AR1200D) .... 211—7
- ●1075AT (Ch. AY1200D) (Also see PCB 81—Set 222-1) .... 211—7
- ●1077 (Ch. AH1200D) .... 211—7
- ●1078 (Ch. AG1200D) .... 211—7
- ●1078A (Ch. AR1200D) .... 211—7
- ●1078AT (Ch. AY1200D) (Also see PCB 81—Set 222-1) .... 211—7
- ●1081, A (Ch. AJ1200D) (Also see PCB 81—Set 222-1) .... 211—7
- ●1081B (Ch. AZ1200D (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1081C (Ch. BA1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1081D (Ch. AZ1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1081E (Ch. BA1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)

HALLICRAFTERS—Cont.

- ●1085A (Ch. AJ1200D) (Also see PCB 81—Set 222-1) .... 211—7
- ●1085B (Ch. AZ1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1085C (Ch. BA1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1085D (Ch. AZ1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1085E (Ch. BA1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1088A (Ch. AJ1200D) (Also see PCB 81—Set 222-1) .... 211—7
- ●1088B (Ch. AZ1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1088C (Ch. BA1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1088D (Ch. AZ1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1092 (Ch. AX1200D) (See PCB 81—Set 222-1 and Model 1050—Set 211-7)
- ●1111P (Ch. A1200D) .... 188—6
- ●1113P (Ch. D1200D) .... 188—6
- 1621, 1622 (Run 1) .... 253—8
- ●14808 (Ch. R900D) 167-10
- ●17804C .... 155—8
- ●17810M .... 152—9
- ●17811-H .... 156—6
- ●17812, 17813, 17814, 17815-H .... 155—8
- ●17816, 17817 .... 156—6
- ●17819 .... 155—8
- ●17824 .... 155—8
- ●17824-A .... 165—6
- ●17825 (See Model 17804C—Set 155-8)
- ●17829 (Ch. F1100D) (See Model 1002—Set 169-7)
- ●17838 .... 155—8
- ●17848, 17849, 17850 .... 155—8
- ●17860-H, 17861-H .... 156—6
- ●17905 (See Model 17810-M—Set 152-9)
- ●17906 .... 165—6
- ●17908 (See Model 17824-A—Set 165-6)
- ●17922 (See Model 17824-A—Set 165-6)
- ●17930, 17931, 17932, 17933, 17934 .... 165—6
- ●20823 (Ch. M900D) 167-10
- ●20823B (Ch. L900D) 167-10
- ●20823C .... 165—6
- ●20882 .... 155—8
- ●20990, 20990S, 20994 .... 154—6
- ●21923 .... 165—6
- ●21928 .... 165—6
- ●21940 .... 165—6
- ●21980 .... 165—6
- Ch. A1100D (See Model 1005)
- Ch. A1200D (See Model 1010P)
- Ch. A1600D (See Model 17T310B)
- Ch. A1700D (See Model 21K331B)
- Ch. AG1200D (See Model 1072)
- Ch. AH1200D (See Model 1077)
- Ch. AJ1200D (See Model 1081)
- Ch. AL1200D (See Model 1050)
- Ch. AR1200D (See Model 1072A)
- Ch. AX1200D (See Model 1092)
- Ch. AY1200D (See Model 1074AT)
- Ch. AZ1200D (See Model 1081B)
- Ch. B1600D (See Model 21K330B)
- Ch. BA1200D (See Model 1081C)
- Ch. C1400D (See Model 24K241B)
- Ch. D1200D (See Model 1021P)
- Ch. D1400D (See Model 24K240B)
- Ch. E1600D (See Model 21K340B)
- Ch. F1100D (See Model 17829)
- Ch. F1200D (See Model 1013C)
- Ch. G1200D (See Model 1022C)
- Ch. J1200D (See Model 1062C)
- Ch. K1200D (See Model 1010P)
- Ch. L900D (See Model 20823B)
- Ch. L1200D (See Model 1021P)
- Ch. M900D (See Model 20823B)
- Ch. P1200D (See Model 1051P)
- Ch. R1200D (See Model 1053P)
- Ch. T1200D (See Model 1055C)
- Ch. W1000D (See Model 1000)
- Ch. W1200D (See Model 1010P)
- Ch. X1000D (See Model 1008)
- Ch. X1200D (See Model 1021P)
- Ch. Z1000D (See Model 1019)

HAMILTON ELECTRONICS

- H-15-S 16-17
- H-50-2S 16-18

HAMILTON RADIO CORP. (See Olympic)

HAMMARLUND

- HQ-129-X 8-18
- SP-400-X 10-20

HARVEY-WELLS

- AT-3B-6, AT-3B-12 32-11
- ATR-3-6, ATR-3-12 36-14

HEATH

- HBR-5 24-20

HOFFMAN

- A-200 (Ch. 103) 4-23
- A-202 (Ch. 119) 11-11
- A-300 4-11
- A-309 (Ch. 119) 11-11
- A-401 (Ch. 102) 11-12
- A-500 (Ch. 107) 4-34
- A-501 (Ch. 108ST) 3-35
- A-700 (Ch. 110S) 12-16
- B-400 17-17
- B-1000 20-14
- C-501 48-11
- C-502 .... 51—9
- C-503 .... 50—9
- C-504 (Ch. 123) 47-10
- C-506, C-507 49-10
- C-511 48-11
- C-512 .... 51—9
- C-513 .... 50—9

NOTE: PCB Denotes Production Change Bulletin.

Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

HOFFMAN—Cont.

C-514 .... 47—10
C-518 .... 61—13
C1006, C1007 .... 54—9
●CT-800, CT-801, CT-900, CT-901 .... 63—11
●7B104 (Ch. 190, B) .... 201—5
●7B110B (Ch. 210, M) .... 205—5
●7B113 (Ch. [illegible]) .... 205—5
●7B113B (Ch. [illegible]2, M) .... 194—4
●7B128 (Ch. 212) (See Model 7B113B—Set 194-4)
●7B141, U (Ch. 300-17) (Also see PCB 108—Set 256-1) .... 236—6
●7B157, U (Ch. 301-17) .... 254—6
●7B303 (Ch. 190, B) .... 201—5
●7M103 (Ch. 190, B) .... 201—5
●7M109 (Ch. 200) .... 205—5
●7M109B (Ch. 210, M) .... 205—5
●7M112 (Ch. 202) .... 205—5
●7M112B (Ch. 212, M) .... 194—4
●7M127 (Ch. 212) (See Model 7B113B—Set 194-4)
●7M140, U (Ch. 300-17) (Also see PCB 108—Set 256-1) .... 236—6
●7M156, U (Ch. 301-17) .... 254—6
●7M302 (Ch. 190, B) .... 201—5
●7P105 (Ch. 190, B) .... 201—5
●7P111B (Ch. 210, M) .... 205—5
●7P114B (Ch. 212, M) (See Model 7B113B—Set 194-4)
●7P304 (Ch. 190, B) .... 201—5
●20B102 (Ch. 183T) .... 168—8
●20B102F (Ch. 194) .... 201—5
●20B501 (Ch. 183T) .... 168—8
●20M101 (Ch. 183T) .... 168—8
●20M101F (Ch. 194) .... 201—5
●20M500 (Ch. 183T) .... 168—8
●20P502 (Ch. 183T) .... 168—8
●21B107 (Ch. 191, B) .... 201—5
●21B116 (Ch. 196, M) .... 195—8
●21B122 (Ch. 211, M) .... 194—4
●21B134 (Ch. 211) (See Model 21B122—Set 194-4)
●21B137 (Ch. 196) (See Model 21B116—Set 195-8)
●21B137U (Ch. 196, M) (See PCB 124—Set 280-1 and Model 21B116—Set 195-8)
●21B144, U (Ch. 300-21) (Also see PCB 108—Set 256-1) .... 236—6
●21B147, U (Ch. 401-21) .... 249—8
●21B154, U (Ch. 301-21) .... 254—6
●21B161, U (Ch. 406-21) .... 250—13
●21B161A, U (Ch. 406-21) (See Model 21B161—250-13)
●21B164, U (Ch. 301-21) .... 254—6
●21B164X, U (Ch. 301X-21) (See Model 21B154—Set 254-6)
●21B167, U (Ch. 302) .... 254—6
●21B167A, U (Ch. 302) (See Model 21B167—Set 254—6)
●21B179, L, LU, N, NU, U (Ch. 407-21, L, N) .... 284—8
●21B301 (Ch. 191, B) .... 201—5
●21B306B (Ch. 211, M) .... 194—4
●21B309 (Ch. 196M, T) .... 195—8
●21B309U (Ch. 196M, T) (See PCB 124—Set 280-1 and Model 21B309—Set 195-8)
●21B315 (Ch. 211T) (See Model 21B122—Set 194-4)
●21B318, U (Ch. 300-21) (Also see PCB 108—Set 256-1) .... 236—6
●21B321, U (Ch. 400-21) .... 249—8
●21B331, U (Ch. 405-21) .... 250—13
●21B334, U (Ch. 405-21) .... 250—13
●21B337, U (Ch. 301-21) .... 254—6
●21B337P, U (Ch. 302) .... 254—6
●21B339, U (Ch. 406-21) (See Model 21B161—Set 250-13)
●21B346, U (Ch. 407-21) .... 284—8
●21B352, U (Ch. 408-21) .... 277—7
●21B352L, LU (Ch. 408-21L) 277—7
●21B352N, NU (Ch. 408-21N) .... 277—7
●21B504 (Ch. 191, B) .... 201—5
●21B507 (Ch. 211, M) .... 194—4
●21B510, T (Ch. 196) (See Model 21B116—Set 195-8)
●21B510TU, U (Ch. 196) (See PCB 124 — Set 280-1 and Model 21B116—Set 195-8)
●21B701 (Ch. 191, B) .... 201—5
●21B701 (Ch. 196M, T) .... 195—8
●21B701TU, U (Ch. 196M, T) (See PCB 124—Set 280-1 and Model 21B701—Set 195-8)
●21B716 (Ch. 211T) (See Model 21B122—Set 194-4)
●21B719, U (Ch. 300-21) (Also see PCB 108—Set 256-1) .... 236—6
●21B723, U (Ch. 400-21) .... 249—8
●21B729U (Ch. 408-21) .... 277—7
●21B901 (Ch. 192) (TV Ch. only) .... 201—5
●21B904 (Ch. 213, M) .... 211—8
●21B907 (Ch. 199, M, T and Radio Ch. 182) .... 221—6
●21B911 (Ch. 375-21) (See PCB 108—Set 256-1 and Model 21B144—Set 236-6)
●21M106 (Ch. 191, B) .... 201—5
●21M115 (Ch. 196, M) .... 195—8
●21M121 (Ch. 211, M) .... 194—4
●21M133 (Ch. 211) (See Model 21B122—Set 194-4)
●21M136 (Ch. 196) (See Model 21B116—Set 195-8)
●21M136U (Ch. 196) (See PCB 124—Set 280-1 and Model 21B116—Set 195-8)
●21M143, U (Ch. 300-21) (Also see PCB 108—Set 256-1) .... 236—6
●21M146, U (Ch. 401-21) .... 249—8
●21M153, U (Ch. 301-21) .... 254—6
●21M160, U (Ch. 406-21) .... 250—13
●21M160A, U (Ch. 406-21) (See Model 21M160—Set 250-13)
●21M163, U (Ch. 301-21) (See Model 21B154—Set 254-6)
●21M163X, U (Ch. 301X-21) (See Model 21B154—Set 254-6)
●21M166, U (Ch. 302) .... 254—6
●21M166A, U (Ch. 302) (See Model 21M166—Set 254-6)
●21M178, L, LU, N, NU, U (Ch. 407-21, L, N) .... 284—8
●21M300 (Ch. 191, B) .... 201—5
●21M305 (Ch. 201) .... 205—5
●21M305B (Ch. 211, M) .... 194—4
●21M308 (Ch. 196M, T) .... 195—8
●21M308U (Ch. 196M, T) (See PCB 124 — Set 280-1 and Model 21M308—Set 195-8)
●21M314 (Ch. 211T) (See Model 21B122—Set 194-4)
●21M317, U (Ch. 300-21) (Also see PCB 108—Set 256-1) .... 236—6
●21M320, U (Ch. 400-21) .... 249—8
●21M330, U (Ch. 406-21) .... 250—13
●21M333, U (Ch. 406-21) .... 250—13
●21M336, U (Ch. 301-21) .... 254—6
●21M336P, U (Ch. 302) .... 254—6
●21M339, U (Ch. 406-21) (See Model 21B161—Set 250-13)
●21M345, U (Ch. 407-21) .... 284—8
●21M351, U (Ch. 408-21) .... 277—7
●21M351L, LU (Ch. 408-21L) 277—7
●21M351N, NU (Ch. 408-21N) .... 277—7
●21M503 (Ch. 191, B) .... 201—5
●21M506 (Ch. 211, M) .... 194—4
●21M509 (Ch. 196) (See Model 21B116—Set 195-8)
●21M509TU, U (Ch. 196) (See PCB 124 — Set 280-1 and Model 21B116—Set 195-8)
●21M700 (Ch. 191, B) .... 201—5
●21M700 (Ch. 196M, T) .... 195—8
●21M700TU, U (Ch. 196M, T) (See PCB 124—Set 280-1 and Model 21M700—Set 195-8)
●21M715 (Ch. 211T) (See Model 21B122—Set 194-4)
●21M718, U (Ch. 300-21) (Also see PCB 108—Set 256-1) .... 236—6
●21M721, U, 21M722, U (Ch. 400-21) .... 249—8
●21M728L, LU (Ch. 408-21L) 277—7
●21M728N, NU (Ch. 408-21N) .... 277—7
●21M728U (Ch. 408-21) .... 277—7
●21M900 (Ch. 192) (TV Ch. only) .... 201—5
●21M903 (Ch. 213, M) .... 211—8
●21M906 (Ch. 199, M, T and Radio Ch. 182) .... 221—6
●21M910 (Ch. 375-21) (See PCB 108—Set 256-1 and Model 21B144—Set 236-6)
●21P108 (Ch. 191, B) .... 201—5
●21P117 (Ch. 196, M) .... 195—8
●21P123 (Ch. 211, M) .... 194—4
●21P145, U (Ch. 300-21) (Also see PCB 108—Set 256-1) .... 236—6
●21P148, U (Ch. 401-21) .... 249—8
●21P168, U (Ch. 302) .... 254—6
●21P180, L, LU, N, NU, U (Ch. 207-21, L, N) .... 284—8
●21P307B (Ch. 211, M) .... 194—4
●21P310 (Ch. 196M, T) .... 195—8
●21P310U (Ch. 196M, T) (See PCB 124 — Set 280-1 and Model 21P310—Set 195-8)
●21P322, U (Ch. 400-21) .... 249—8
●21P332, U (Ch. 405-21) .... 250—13
●21P338P, U (Ch. 302) .... 254—6
●21P353, U (Ch. 408-21) .... 277—7
●21P353L, LU (Ch. 408-21L) 277—7
●21P353N, NU (Ch. 408-21N) .... 277—7
●21P505 (Ch. 191, B) .... 201—5
●21P508 (Ch. 211, M) .... 194—4
●21P511 (Ch. 196) (See Model 21B116—Set 195-8)
●21P702 (Ch. 191, B) .... 201—5
●21P702 (Ch. 196M, T) .... 195—8
●21P717 (Ch. 211T) (See Model 21B122—Set 194-4)
●21P720, U (Ch. 300-21) (Also see PCB 108—Set 256-1) .... 236—6
●21P724, U (Ch. 400-21) .... 249—8
●21P730, U (Ch. 408-21) .... 277—7
●21P731, U (Ch. 408-21) .... 277—7
●21P731L, LU (Ch. 408-21L) 277—7
●21P731N, NU (Ch. 408-21N) .... 277—7
●21P902 (Ch. 192) (TV Ch. only) .... 201—5
●21P905 (Ch. 213, M) .... 211—8
●21P908 (Ch. 199, M, T and Radio Ch. 182) .... 221—6
●21P912 (Ch. 375-21) (Also see PCB 108—Set 256-1) .... 236—6
●21U208, U (Ch. 408-21B) .... 277—7
●21U208N, NU (Ch. 408-21N) .... 277—7
●24B151, U (Ch. 402-24) .... 257—7
●24B197, U, U2 (Ch. 413-24) 303—4
●24B371, U, U2 (Ch. 413-24) 303—4
●24B707 (Ch. 187, B, C) .... 159—6
●24B726, U (Ch. 402-24) .... 257—7
●24B732, U (Ch. 410-24) .... 277—7
●24B732S, U, U2 (Ch. 414-24) .... 303—4
●24M150, U (Ch. 402-24) .... 257—7
●24M196, U, U2 (Ch. 413-24) .... 303—4
●24M354, U (Ch. 410-24) .... 277—7
●24M370, U, U2 (Ch. 413-24) .... 303—4
●24M708 (Ch. 187, B, C) .... 159—6
●24M725, U (Ch. 403-24) .... 257—7
●24P152, U (Ch. 402-24) .... 257—7
●24P356, U (Ch. 410-24) .... 277—7
●24P372, U, U2 (Ch. 413-24) .... 303—4
●24P727, U (Ch. 403-24) .... 257—7
●24P733, U (Ch. 410-24) .... 277—7
●24P733S, U, U2 (Ch. 414-24) .... 303—4
●24U-211, U (Ch. 410-24B) 277—7
●24U211-5, U, U2 (Ch. 414-24) .... 303—4
●24W196, U, U2 (Ch. 413-24) .... 303—4
●24W370, U, U2 (Ch. 413-24) .... 303—4
●27M709 (Ch. 197) .... 219—6
●600 (Ch. 154) .... 95A—8
●601 (Ch. 155) .... 95A—8
●610 (Ch. 140) .... 97A—6
●612 (Ch. 142) .... 97A—6
●613 (Ch. 149) .... 97A—6
●630, 631 (Ch. 170) .... 150—7
●632, 633, 634, 635 (Ch. 171) .... 150—7
●634A, 635A (Ch. 173) .... 150—7
●636, 637 (Ch. 183) .... 141—7
●636B, 637B (Ch. 183 B) .... 168—8
●638, 639 (Ch. 180) .... 144—5
●826, 827, 828 (Ch. 143) .... 95A—8
●830, 831 (Ch. 151) .... 97A—6
●832 (Ch. 151) (See Model 830—Set 97A-6)
●836, 837 (Ch. 153) .... 93A—8
●840 (Ch. 153) .... 93A—8
●846 (Ch. 151) (See Model 830—Set 97A-6)
●847, 848, 849 (Ch. 156) .... 97A—7
●860, 861, 862 (Ch. 157) .... 97A—7
●866, A, 867, A, 868, A (Ch. 173) .... 150—7
●870, 871, 872 (Ch. 170) .... 150—7
●876, 877, 878 (Ch. 171) .... 150—7
●876A, 877A, 878A (Ch. 173) .... 150—7
●880, 881, 882, 883, 884, 885, 886, 887 (Ch. 183) .... 141—7
●886B, 887B (Ch. 183B) .... 168—8
●890, 891, 892 (Ch. 175) .... 150—7
●893, 894, 895, 896, 897 (Ch. 185) .... 141—7
●896B, 897B (Ch. 183T) .... 168—8
●912, 913 (Ch. 147) .... 95A—8
●914, 915 (Ch. 150) .... 97A—6
●917, 918 (Ch. 152) .... 97A—6
●920 (Ch. 152) (See Model 830—Set 97A-6)
●946, 947, 948 (Ch. 164) .... 97A—7
●950, 951, 952 (Ch. 172), 950A, 951A, 952A (Ch. 174) .... 127—6
●953, 954, 955 (Ch. 184) .... 141—7
●960, 961, 962 (Ch. 176) .... 127—6
●963, 964, 965 (Ch. 186) .... 141—7
Ch. 102 (See Model A401)
Ch. 103 (See Model A200)
Ch. 107 (See Model A500)
Ch. 108ST (See Model A501)
Ch. 110S (See Model A700)
Ch. 114 (See Model B1000)
Ch. 119 (See Model A202)
Ch. 123 (See Model C504)
Ch. 140 (See Model 610)
Ch. 142 (See Model 612)
Ch. 143 (See Model 826)
Ch. 147 (See Model 826)
Ch. 149 (See Model 613)
Ch. 150 (See Model 914)
Ch. 151 (See Model 830)
Ch. 152 (See Model 917)
Ch. 153 (See Model 836)
Ch. 154 (See Model 600)
Ch. 155 (See Model 601)
Ch. 156 (See Model 847)
Ch. 157 (See Model 860)
Ch. 164 (See Model 946)
Ch. 170, 171 (See Model 630)
Ch. 172 (See Model 950)
Ch. 173 (See Model 634A)
Ch. 174 (See Model 950A)
Ch. 175 (See Model 890)
Ch. 176 (See Model 960)
Ch. 182 (See Model 21M907)
Ch. 183 (See Model 636)
Ch. 183B, 183M, 183T (See Model 636B)
Ch. 184 (See Model 953)
Ch. 186 (See Model 963)
Ch. 187, B, C (See Model 24B707)
Ch. 190, B (See Model 7B104)
Ch. 191, B (See Model 21B107)
Ch. 192 (See Model 21B901)
Ch. 194 (See Model 20B102F)
Ch. 196, M (See Model 21B116)
Ch. 196T (See Model 21B701)
Ch. 197 (See Model 27M709)
Ch. 199 (See Model 21B907)
Ch. 200 (See Model 7B110B)
Ch. 201 (See Model 21M305)
Ch. 202 (See Model 7B113)
Ch. 210, M (See Model 7M109B)
Ch. 211, M (See Model 21B122)
Ch. 211T (See Model 21B315)
Ch. 212, M (See Model 7B113B)
Ch. 213, M (See Model 21B904)
Ch. 300-17 (See Model 7B141, U)
Ch. 300-21 (See Model 21B144, U)
Ch. 301-17 (See Model 7B157)
Ch. 301-21 (See Model 21B154)
Ch. 301X-21 (See Model 21B164X)
Ch. 302 (See Model 21B167)
Ch. 375-21 (See Model 21B911)
Ch. 400-21 (See Model 21B321)
Ch. 401-21 (See Model 21B147)
Ch. 402-24 (See Model 24B151)
Ch. 403-24 (See Model 24B726)
Ch. 405-21 (See Model 21B331)
Ch. 406-21 (See Model 21B161)
Ch. 407-21, L, N (See Model 21B179)
Ch. 408-21, B, L, N (See Model 21B352)
Ch. 410-24, B (See Model 24B732)
Ch. 413-24 (See Model 24B197)
Ch. 414-24 (See Model 24B732S)

HOWARD

472AC, 472AF, 472C, 472F 31—14
474 .... 32—12
●475TV Photofact Servicer .. 84
481B, 481C, 481M .... 67—11
482, 482A .... 48—12
901A-E, -H, -I, -M, -W (See Model 901A Series—Set 1-8)
901A Series .... 1—8
901AP .... 10—21
906, 906C .... 17—18
909M .... 25—15
920 .... 5—7

HUDSON (Auto Radio)

DB47 (Fact. No. 6MH089). 25—16
DB848 (Fact. No. 6MH889) 39—9
225908 (Early) .... 149—6
225908 (Late) (Ch. 749-1). 167—11
229403 (Ch. 749-2) .... 167—11
236476 (SH759) .... 215—8
236486 (SH758) .... 214—4
238060 (SH758) .... 214—4

HUDSON (Dept. Stores)

●30T14A-056 (Similar to Chassis) .... 119—3
●38T12A-058 (Similar to Chassis) .... 109—1
●317T3 (Similar to Chassis) . 72—4
●318T4 (Similar to Chassis) . 85—3
●318T45 (Similar to Chassis) 85—3
●318T4-872 (Similar to Chassis) .... 85—3
●318T6A (Similar to Chassis) 85—3
●318T6A-950 (Similar to Chassis) .... 85—3
●318T9A-900 (Similar to Chassis) .... 78—4
●321MS31C-A (Similar to Chassis) .... 182—5
●321MS39A (Similar to Chassis) .... 226—11
●518T6A (Similar to Chassis) 85—3
●518T9A-918 (Similar to Chassis) .... 78—4
●518T10A-916 (Similar to Chassis) .... 78—4
●2318T6A-954 (Similar to Chassis) .... 85—3
●2318T9A-912 (Similar to Chassis) .... 78—4
●2321MS39A (Similar to Chassis) .... 226—11

HUDSON ELECTRONICS

RPM-71 .... 186—6
3W .... 191—11
11 .... 194—5
39HB .... 186—7
310R .... 190—5
312H .... 194—5
324H .... 198—9
332H .... 123—6
347BL .... 121—8
350 .... 126—6
374H .... 188—7
388 .... 191—12

HYDE PARK

●AR14L .... 169—8
●AR17L .... 169—8
●MST12, MST14 .... 168—9
●14TR, 16TR .... 168—9
●17CD (1st Prod.) .... 168—9
●17CD (2nd Prod.) .... 169—8
●17CRR (1st Prod.) .... 168—9
●17CRR (2nd Prod.) .... 169—8
●17ROG (1st Prod.) .... 168—9
●17ROG (2nd Prod.) .... 169—8
●20CD (1st Prod.) .... 168—9
●20CD (2nd Prod.) .... 169—8
●20TR .... 168—9
●112X .... 168—9
●203D (1st Prod.) .... 168—9
●203D (2nd Prod.) .... 169—8
●312 .... 168—9
●819 .... 168—9
●1000, 1001 .... 169—8
●3163CR .... 168—9
●8163CR .... 168—9
●8193CM .... 168—9

INDUSTRIAL ELECTRONIC CORP. (See Simplon)

INDUSTRIAL TELEVISION (Also see Century)

●IT-40R, IT-42R (Ch. IT-26R, IT-35R, IT-39R, IT-46R) .... 99A—7
●721, 821, 921, 1021 (Ch. IT-21R) .... 97A—8

INTERNATIONAL ELECTRONICS (See Recorder Listing)

JACKSON

DP-51 .... 156—7
JP-20 .... 173—7
JP-30 .... 153—7
JP-50 .... 155—9
JP-200 .... 171—6
JP-300 .... 174—7
JP-400 .... 171—6
●10C, 10T .... 132—8
●12C, 12T .... 132—8
●14C, 14T .... 132—8
●16C, 16T .... 132—8
●17XC, 17XT (See Model 10C—Set 132-8)
●20XC, 20XT (See Model 10C—Set 132-8)
150 .... 130—8
153 (See Model 150—Set 130-8)
●214A, 217A, B, C, 220A, B, 221A, B .... 171—7
254 .... 173—8
255 .... 179—7
●312 .... 132—8
●316 .... 132—8
350 .... 131—9
●412 .... 132—8
●416 .... 132—8
●1400T (See Model 10C—Set 132-8)
●1700, T (See Model 10C—Set 132-8)
●2000C (See Model 10C—Set 132-8)
●5000, 5050 .... 88—5
●5200, 5250 .... 88—5
●5600, 5650 .... 88—5
●Ch. 114H .... 162—7
●Ch. 116H, 117H .... 162—7
●Ch. 120H .... 162—7
●Ch. 317-B, -D .... 226—3
●Ch. 321-B, -D .... 226—3

JEFFERSON-TRAVIS

MR-28 .... 10—22
MR3 .... 17—19

JEWEL

●17C9, 17T9, 17TW7 .... 187—7
●21C9, 21T9 .... 187—7
300 .... 23—11
304 .... 35—12
500A, B, C; 501A, B, C; 502A, B, C; 503A, B, C; 504A, B, C; 505A, B, C .... 15—14
505 "Pin-Up" .... 18—21
801 (Trixie) .... 45—14
814 .... 51—10
910 .... 99—8
915 .... 99—8
920A .... 55—10

JEWEL—Cont.

921 (See Model 920—Set 55-10)
935, 936 (See Model 920—Set 55-10)
949 .... 105—5
955 .... 98—5
956 .... 144—6
960 .... 97—8
960U, 961 (See Model 960—Set 97-8)
985 .... 99—8
5007 .... 183—7
5010 .... 111—7
5020 .... 136—10
5020U (See Model 5020—Set 136-10)
5040 .... 160—5
5050 .... 128—7
5057U .... 109—7
5100, E, U .... 159—7
5125U .... 217—7
5200 .... 194—6
5205 .... 196—4
5250 .... 206—7
5310 .... 225—12

KAISER-FRAZER

100170 .... 128—8
100205 .... 139—6
100330 (See Model 100170—Set 128-8)
200001 .... 35—13
200002 .... 56—13

KAPPLER

102T .... 54—10

KARADIO

M80B .... 233—3
80C .... 66—10
1275, 1275A .... 85—7
1276 .... 115—4

KAYE-HALBERT

●C-024 (Ch. 253) (For TV Ch. only See PCB 63—Set 197-1 and Model 014—Set 146-8)
●012 (Ch. 243) .... 169—9
●014 (Ch. 253) (Also see PCB 63—Set 197-1) .... 146—8
●024 (Ch. 253) (Also see PCB 63—Set 197-1) .... 146—8
●033, 034, 035, 036, 037 (Ch. 242) .... 139—7
●044, 045, 046 (Ch. 253) (Also see PCB 63—Set 197-1) .... 146—8
●074, 076, 077 (Ch. 253) (Also see PCB 63—Set 197-1) .... 146—8
●104, 114 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012—Set 169-9)
●104 (Ch. 243) (See Model 012—Set 169-9)
●114 (Ch. 243) (See Model 012—Set 169-9)
●114DX (Ch. 253DX) (Also see PCB 45—Set 179-1) .... 170—9
●122 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set 169-9)
●122 (Ch. 243) (See Model 012—Set 169-9)
●124 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set 169-9)
●124 (Ch. 243) (See Model 012—Set 169-9)
●138 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set 169-9)
●138 (Ch. 243) (See Model 012—Set 169-9)
●144, 145, 146 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012—Set 169-9)
●144, 145, 146 (Ch. 243) (See Model 012—Set 169-9)
●146 (Ch. 253) (See Model 014—Set 146-8)
●146 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set 170-9)
●154, 164 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012—Set 169-9)
●154 (Ch. 243) (See Model 012—Set 169-9)
●164 (Ch. 243) (See Model 012—Set 169-9)
●174 (Ch. 243) (See Model 012—Set 169-9)
●231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241 (Ch. 231, 242) .... 139—7
●314 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set 169-9)
●314 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set 170-9)
●322 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012—Set 169-9)
●322 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set 170-9)
●324 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set 169-9)
●324 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set 170-9)
●338 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set 169-9)
●338 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX — Set 170-9)
●344 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set 169-9)
●344 (Ch. 253DX (See PCB 45—Set 179-1 and Model 114DX—Set 170-9)
●354 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set 169-9)
●354 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set 170-9)

NOTE: PCB Denotes **P**roduction **C**hange **B**ulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200; Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

KAYE-HALBERT—Cont.

●356 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012—Set **169-9**)
●356 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set **170-9**)
●385 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set **169-9**)
●385 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set **170-9**)
●394, 395, 396 (Ch. 263) (See Ch. 263—Set **217-8**)
●424, 425, 426 (Ch. 253) (Also see PCB 63—Set 197-1) .... **146—8**
●425, 426 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set **170-9**)
●426 (Ch. F-243) (See PCB 96—Set 241-1 and Model 012 — Set **169-9**)
●426 (Ch. 243) (See Model 012—Set **169-9**)
●428 (Ch. 253DX) (See PCB 45—Set 179-1 and Model 114DX—Set **170-9**)
●714 (Ch. 253) (Also see PCB 63—Set 197-1) .... **146—8**
●724 (Ch. 253) (Also see PCB 63—Set 197-1) .... **146—8**
●731, 733 (Ch. 231, 242) .. **139—7**
●734, 735, 736, 737 (Ch. 242) .... **139—7**
●744, 745 (Ch. 253) (Also see PCB 63—Set 197-1) .... **146—8**
●777 (Ch. 253) (Also see PCB 63—Set 197-1) .... **146—8**
●914 (Ch. 253) (Also see PCB 63—Set 197-1) .... **146—8**
●924 (Ch. 253) (See PCB 63—Set 197-1 and Model 014 — Set **146-8**)
Ch. F-243 (See Model 104)
Ch. 231 (See Model 231)
Ch. 242 (See Model 033)
Ch. 243 (See Model 012)
Ch. 253 (See Model 014)
Ch. 253DX (See Model 114DX)
●Ch. 263 .... **217—8**

KAY MUSICAL INSTRUMENT CO.

77 .... **42—13**

KEENEY (J. H.) (See Croydon)

KITCHENAIRE

5 Tube Radio .... **6—14**

KNIGHT (Also see Recorder Listing)

SX8L727 .... **244—6**
SX10L722 (See Model 722—Set **240-4**)
SX11L719 .... **246—7**
SX14L721 .... **252—9**
SX19L720 .... **248—8**
4D-450 .... **40—9**
4G-420 .... **88—6**
5A150, 5A152, 5A154 .... **12—17**
5A-190 .... **14—15**
5B-160 .... **20—15**
5B-175, 5B-176 .... **20—16**
5B-185 .... **22—17**
5C-290 .... **30—13**
5D-250, 5D-251 .... **55—11**
5D-455 .... **34—9**
5E-250, 5E-251 (Similar to Chassis) .... **36—25**
5E-457 (Similar to Chassis) **53—23**
5F-525, 5F-526 .... **53—13**
5F-565 .... **55—12**
5G-563 (Similar to Chassis) **97—1**
5H-570 .... **143—10**
5H-571 (See Model 5H-570—Set **143-10**)
5H-605 .... **131—10**
5H-607, 5H-608 (Similar to Chassis) .... **97—15**
5H-678, 5H-679 (Similar to Chassis) .... **109—7**
5H-700 .... **123—7**
5J-705 .... **174—8**
5K715 .... **215—9**
6A-122 .... **9—18**
6A-127 .... **9—19**
6A-195 .... **16—19**
6B-122 (See Model 6A-122—Set **9-18**)
6B-127 (See Model 6A-127—Set **9-19**)
6C-225 .... **30—14**
6D-225, 6D-226 (See Model 6C-225—Set **30-14**)
6D-235 .... **54—11**
6D-360 .... **39—10**
6G-400 (See Model 449—Set **83-5**)
6H-580 .... **126—7**
6K718 .... **217—9**
7B-220 .... **27—14**
7D-405 .... **39—11**
8B-210 .... **20—17**
8D-340 .... **46—13**
8G-200, 8G-201 .... **128—9**
●9V-101 .... **78—8**
10B-249 .... **42—14**
11C-300 .... **29—12**
11D-302 .... **57—9**
12H-610 .... **176—5**
14F-490, 14F-495, 14F-496. **63—12**
15H-609 (See Model 511B—Set **125-9**)
19F492, 19F497, 19F498 .. **58—11**
20H611 .... **164—4**
93SX312 .... **288—5**
93SX315 .... **293—8**
93SX321 .... **255—7**
93-017 .... **31—15**
93-024 .... **32—13**
93-103 .... **31—16**
93-146 .... **36—15**
93-155 .... **37—10**
93-191 .... **38—8**
93-320 .... **74—5**
93-330 .... **99—9**
93-350 .... **76—13**
93-360 .... **79—9**

KNIGHT—Cont.

93-370 .... **75—10**
93-380 .... **90—8**
93-431 .... **157—12**
945445 .... **287—10**
94SX728 .... **289—5**
96-279 .... **150—6**
96-326 .... **137—5**
96-354 (Similar to Chassis) **139—15**
97-870 .... **78—9**
449 .... **83—5**
511B .... **125—9**

LAFAYETTE

FA15W, FA15Y .... **15—15**
J62, J62C .... **16—21**
MC10B, MC10Y .... **14—16**
MC11 .... **28—18**
MC12 .... **27—15**
MC13 .... **15—16**
MC16 .... **27—16**
P564 (Similar to Chassis).. **38—5**
IN434, IN435, IN436 (Similar to Chassis) .... **98—5**
IN437 (Similar to Chassis). **121—2**
IN549 (Similar to Chassis). **38—5**
IN551 (Similar to Chassis). **38—6**
IN554, IN555 (Similar to Chassis) .... **55—10**
IN556, IN557 (Similar to Chassis) .... **109—7**
IN559 (Similar to Chassis). **90—7**
IN560 (Similar to Chassis). **109—7**
IN561, IN562 (Similar to Chassis) .... **97—8**
IN819 (Similar to Chassis). **69—7**
●1P184 (Similar to Chassis). **149—13**
●1P185, 1P186 (Similar to Chassis) .... **149—13**
●17BM1 (Similar to Chassis). **149—13**
●20CP (Similar to Chassis). **149—13**
●27BM1 (Similar to Chassis). **149—13**

LAMCO

1000 .... **16—20**

LEAK

TL/12 .... **166—12**
RC/PA/U .... **166—12**

LEAR (See Record Changer Listing)

LEARADIO

RM-402C (Learavian) .... **42—15**
561, 562, 563 .... **1—26**
563, 565BL, 566, 567, 568 **9—20**
1281-PC (Ch. 7B) .... **49—11**
6610PC, 6611PC, 6612PC. **9—21**
6614, 6615, 6616, 6619.. **3—18**
6617PC .... **16—22**
Chassis R-971 .... **51—11**

LEE (See Royal)

LEE TONE

AP-100 .... **16—23**

LEWYT

615A .... **11—13**
711 .... **42—16**

LEXINGTON

6545 .... **13—20**

LIBERTY

A6K, A6P, 6K .... **20—18**
507A .... **20—19**

LINCOLN (Auto Radio)

FAA-18805 .... **167—7**
FAG-18805-A .... **214—5**
FDD-18805-A, -B .... **246—8**
FDH-18805-C, -D .... **294—7**
GL892 (OL-18805-A) (See PCB 105—Set 252-1 and Ford Model GF890 (OA-18805-B) — Set **109-5**)
1CH748 (1H-18805) (See Ford Model 1CF743—Set **133-7**)
1CH748-1 (1H-18805) .... **158—5**
1H-18805 (See Model 1CH748 or 1CH748-1)
2CH753 (FAA-18805-A) .. **167—7**
3SH756 (FAG-18805-A) .. **214—5**
4SH764 (FDD-18805-A), 4SH766 (FDD-18805-B) .... **246—8**
5BH (FDL-18805-C, -D) .... **294—7**
5EH-18805-A .... **66—11**
5EH-18805-B .... **66—11**
7ML080 (5EH-18805-A), 7ML081 (5EH18805-B) .... **66—11**
8H-18805 .... **83—4**
8H-18805-A (See Model 8ML882Z—Set 44-7 or 8ML985Z—Set **83-4**)
8L-18805-A (See Model 8ML882—Set 44-7 or 8ML985—Set **83-4**)
8L-18805-B .... **83—4**
8ML882 (8L-18805-A), 8ML882Z (8H-18805-A) (Ch. 8E82) **44—7**
8ML985 (8L-18805-A), 8ML985E (8L-18805-B), 8ML985Z (8H-18805-A), 8ML985ZE (8H-18805) .... **83—4**

LINCOLN

S13L-B .... **2—10**

LINCOLN (Allied Radio Corp.)

5A-110 .... **5—34**

LINDEX CORP. (See Swank)

LIPAN (See Supreme)

LULLABY (See Mitchell)

LYMAN

CM10, CM20 .... **44—8**

LYRIC (Also see Rauland)

546T, 546TY, 546TW ..... **7—17**

MAGIC TONE

500, 501 .... **5—40**
504 (Bottle Receiver) .... **22—18**
508 (Keg Radio) .... **38—9**
510 .... **52—10**
900 .... **38—9**

MAGNAVOX

CP251M (Chassis AMP-128A, B, AMP-129) .... **254—7**
TP251MA .... **297—4**

MAGNAVOX—Cont.

252M (Chassis CR700 and AMP132) .... **260—9**
●104 Series (Ch. CT301 thru CT314) .... **161—4**
●108, 108A Series .... **239—6**
●108B Series .... **240—5**
●250 Series .... **278—5**
●300 Series .... **263—9**
●300 Series .... **287—11**
●350 Series .... **291—8**
Chassis AMP-101A, AMP-101B .... **43—12**
Chassis AMP-108A, AMP-108B .... **41—10**
Chassis AMP-111A, B, C.. **68—10**
Chassis AMP-128A, B ..... **254—7**
Chassis AMP-129 .... **254—7**
Chassis AMP-131A, B .... **249—9**
Chassis AMP132 .... **260—9**
Chassis AMP-135 .... **288—6**
Chassis AMP-144AB .... **303—5**
●Chassis CMU401AA, CMU402AA, CMU403AA, CMU404AA, CMU405AA, CMU406AA, CMU407AA, 108, 108A Series) .... **239—6**
●Chassis CMU410AA, (108, 108A Series) .... **239—6**
●Chassis CMU413AA, (108, 108A Series) .... **239—6**
●Chassis CMU418AA, CMU419AA, CMU420AA (108, 108A Series) .... **239—6**
●Chassis CMUA401BB, CMUA402BB, CMUA403BB, CMUA404BB, CMUA405BB, CMUA406BB, CMUA407BB (108B Series) .... **240—5**
●Chassis CMUA410BB (108B Series) .... **240—5**
●Chassis CMUA413BB (108B Series) .... **240—5**
●Chassis CMUA418BB, CMUA419BB, CMUA420BB (108B Series) .... **240—5**
●Chassis CMUA427CE (300 Series) .... **287—11**
●Chassis CMUA435AA, CMUA436AA (Series 250) .... **278—5**
●Chassis CMUA455AA, CMUA456AA (350 Series) .... **291—8**
●Chassis CMUB422BC (300 Series) .... **263—9**
●Chassis CMUD426CE (300 Series) .... **287—11**
CP251M (Chassis AMP-128A, B, AMP-129) .... **254—7**
Chassis CR-18B (155B Regency Symphony) .... **18—22**
Chassis CR190A, CR190B.. **46—14**
Chassis CR-192A, CR-192B. **41—11**
Chassis CR-197C .... **37—11**
Chassis CR-198A, B, C (Hepplewhite, Modern Symphony) **17—20**
Chassis CR-199 .... **63—13**
Chassis CR-200A, B, C, D, E, F .... **44—9**
Chassis CR-207A, B, C, D. **41—12**
Chassis CR-208A, CR-208B **43—13**
Chassis CR-210A, CR-210B. **52—11**
Chassis CR-211A, B .... **68—10**
Chassis CR300AA-1 .... **268—8**
Chassis CR700 .... **260—9**
Chassis CR-702A, B (260M Series) .... **271—6**
●Chassis CT-214, CT-218 ... **62—13**
●Chassis CT-219, CT-220 ... **82—7**
●Chassis CT-221 .... **62—13**
●Chassis CT-222 .... **82—7**
●Chassis CT-224 .... **97A—8**
●Chassis CT-232 .... **93A—9**
●Chassis CT-235 .... **97A—8**
●Chassis CT-236 .... **93A—9**
●Chassis CT-237, CT-238 (See Set 95A-9 and Ch. CT219—Set **82-7**)
●Chassis CT239 .... **93A—9**
●Chassis CT244, CT245, CT246 .... **93A—9**
●Chassis CT250, CT251 ... **135—1A**
●Chassis CT252, CT253 .... **95A—9**
●Chassis CT257, CT258, CT259, CT260 .... **119—1A**
●Chassis CT262, CT263, CT264, CT265 .... **155—10**
●Chassis CT266, CT267, CT269 .... **131—1A**
●Chassis CT-270, CT-271, CT-272, CT-273, CT-274, CT-275, CT-276, CT-277, CT-278, CT-279, CT-280, CT-281, CT-282 .... **148—8**
●Chassis CT283 .... **155—10**
●Chassis CT284, CT285 .... **131—1A**
●Chassis CT286 .... **155—10**
●Chassis CT287, CT288 .... **131—1A**
●Chassis CT289 .... **155—10**
●Chassis CT290 .... **131—1A**
●Chassis CT291, CT293 .... **155—10**
●Chassis CT294 .... **131—1A**
●Chassis CT297 .... **155—10**
●Chassis CT301 thru CT314 . **161—4**
●Chassis CT331 thru CT349 (105 Series) .... **168—10**
●Chassis CT350 thru 357 (105 Series) (See Ch. CT331—Set **168-10**)
●Chassis CT358 (107 Series) **226—4**
Chassis CT358AA, AB, BA, BB, CB, DC (107 Series) (See Ch. CT358—Set **226-4**)
●Chassis CT359AA, AB, BA, BB, CB (107 Series) (See Ch. CT358—Set **226-4**)
●Chassis CT362, CT363 (105L, M Series) .... **205—6**
●Chassis CT372, CT373 (105L, M, N Series) .... **205—6**
●Chassis CT374 (105N Series) .... **205—6**
●Chassis CT385AA, AB, BA, BB, CB (107 Series) (See Ch. CT-358—Set **226-4**)
●Chassis CT385CB, DC (107 Series) (See Ch. CT358—Set **226-4**)
●Chassis CT386AA, AB, BA, BB, CB (107 Series) (See Ch. CT358—Set **226-4**)
●Chassis CT401AA, CT402AA, CT403AA, CT404AA, CT405AA, CT406AA, CT407AA (108, 108B Series) .... **239—6**

MAGNAVOX—Cont.

●Chassis CT410AA (108, 108B Series) .... **239—6**
●Chassis CT418AA, CT419AA, CT420AA (108, 108A Series) .... **239—6**
●Chassis CTA401BB, CTA402BB, CTA403BB, CTA404BB, CTA405BB, CTA406BB, CTA407BB (108B Series) .... **240—5**
●Chassis CTA410BB (108B Series) .... **240—5**
●Chassis CTA413BB (108B Series) .... **240—5**
●Chassis CTA418BB, CTA419BB, CTA420BB (108B Series). **240—5**
●Chassis CTA427CE (300 Series) .... **287—11**
●Chassis CTA435AA, CTA436AA (Series 250) .... **278—5**
●Chassis CTA455AA, CTA456AA (350 Series) .... **291—8**
●Chassis CTB422BC (300 Series) .... **263—9**
●Chassis CTD426CE (300 Series) .... **287—11**
●Chassis CU401AA, CU402AA, CU403AA, CU404AA, CU405AA, CU406AA, CU407AA (108, 108A Series) .... **239—6**
●Chassis CU410AA (108, 108A Series) .... **239—6**
●Chassis CU413AA (108, 108A Series) .... **239—6**
●Chassis CU418AA, CU419AA, CU420AA (108, 108A Series) .... **239—6**
●Chassis CUA401BB, CUA402BB, CUA403BB, CUA404BB, CUA405BB, CUA406BB, CUA407BB (108B Series) **240—5**
●Chassis CUA410BB (108B Series) .... **240—5**
●Chassis CUA413BB (108B Series) .... **240—5**
●Chassis CUA418BB, CUA419BB, CUA420BB (108B Series). **240—5**
●Chassis MCT228 .... **95A—9**

MAGNECORD (See Recorder Listing)

MAGUIRE (Also see Record Changer Listing)

500BI, 500BW, 500DI, 500DW .... **6—15**
561BI, 561BW, 561DI, 561DW .... **6—16**
571 .... **44—10**
661, 661A .... **12—18**
700A .... **7—18**
700E .... **15—17**

MAJESTIC

●G-414 .... **133—8**
●G-614 .... **133—8**
●G-624 .... **133—8**
●G-914 .... **133—8**
4L1 .... **270—7**
4P1 .... **276—6**
5A410 (Ch. 4501), 5A430 (Ch. 4504) .... **1—30**
5A445, 5A445R .... **23—12**
5AK711 .... **27—17**
5AK731, 5AK780 (Ch. 5B05A) .... **28—19**
5C-2, 5C-3 .... **169—10**
5LA5, 5LA6 .... **130—9**
5LA7, 5LA8 .... **132—9**
5M1 .... **270—8**
6FM714 (Ch. 6B02D) ..... **50—10**
6FM773 (Ch. 6B11D) ..... **57—10**
7BK758 (See Model 7J777R—Set **27-18**)
7C432 (Ch. 4706) .... **14—17**
7C447 (Ch. 4707) (See Model 7C432—Set **14-17**)
7FM877, 7FM888 (Ch. 7C11D) .... **56—14**
7JK777R (Ch. 4708R) ..... **27—18**
7JL866 (Ch. 7C25A) ..... **60—14**
7P420 (Ch. 4705) .... **26—17**
7S433, 7S450, 7S470 (Ch. 4702, 4703) .... **22—19**
7YR752 (Ch. 7B04A) ..... **29—13**
7YR753 (Ch. 7B09A-1), 7YR772 (Ch. 7B09A) .... **42—17**
8FM744 (Ch. 8B06D) ..... **30—15**
8FM775 (Ch. 8B08D), 8FM776 (Ch. 8B07D) .... **29—14**
8FM889 (Ch. 8C07D) ..... **54—12**
8JL885 (Ch. 4810B) .... **47—11**
8S452, 8S473 (Ch. 4810).. **8—19**
10FM891 (Ch. 10C23E) (See Model 10FM981—Set **65-8**)
●12C4, 12C5 .... **108—7**
12FM475, 12FM778, 12FM779 (Ch. 41201) .... **28—20**
12FM895 (Ch. 12C22E) .... **59—11**
●12T2, 12T3 .... **108—7**
●12T6 (See Model 12C4—Set **108-7**)
●14C4 (See Model 12C4—Set **108-7**)
●14CT4 .... **133—8**
●14T2 (See Model 12C4—Set **108-7**)
●16C4, 16C5 .... **108—7**
●16CT4, 16CT5 .... **133—8**
●16T2, 16T3 .... **108—7**
●17C42, 17C43 (Series 112, 112-2) (See Series 112—Set **233-4**)
●17C62, 17C64, 17C65 (Series 106) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●17DA (Ch. 101) .... **127—7**
●17GA, 17HA (Ch. 101) .. **127—7**
●17T6A1, 17T6B1 (Series 106) (See Model 70—Set **153-8** and PCB 43—Set **177-1**)
●17T40, 17T41 (Series 112, 112-2) (See Series 112—Set **233-4**)
●17T62 (Series 106) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●19C6, 19C7 .... **133—8**
●20C82, 20C83, 20C84 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●20FP88, 20FP89 (Series 109) .... **170—10**

MAJESTIC—Cont.

●20F82, 20F83 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●20F85, 20F86, 20F87 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●20F811 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●20T8A1 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●20T82, 20T83, 20T84 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●21C30, 21C31 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●21C36, 21C37, 21C38, 21C39 (Series 116) .... **280—5**
●21D40, 21D41 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●21D50, 21D51 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●21D56, 21D57, 21D58, 21D59 (Series 116) .... **280—5**
●21F86, 21F87 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●21F88, 21F89 (Series 108-5) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●21P62, 21P63 (Series 110, 111) .... **221—7**
●21T20, 21T21 (Series 108) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●21T22, 21T23 (Series 116). **280—5**
●22 thru 35 Series 106-5) (See PCB 43—Set 177-1 and Model 70—Set **153-8**)
●70, 72, 73 (Series 106) (Also see PCB 43—Set 177-1) .... **153—8**
80FMP2 .... **137—6**
●120, 121, 121B (Ch. 99) (Also see PCB 37—Set 166-2) .... **127—7**
●141, 141B (Ch. 100), 141C (Ch. 101), 142, 142B (Ch. 100) .... **127—7**
●143 (See PCB 37—Set 166-2 and Model 17DA—Set **127-7**)
●160, 160B, 162, 163 (Ch. 101) .... **127—7**
●170 (Ch. 101) .... **127—7**
●173 (See PCB 37—Set 166-2 and Model 17DA—Set **127-7**)
●700, 701 (Series 106) (Also see PCB 43—Set 177-1) .... **153—8**
●712, 715, 717, 718, 719 (Series 106) (Also see PCB 43—Set 177-1) .... **153—8**
●800, 801, 802, 803, 804 (Series 108) (Also see PCB 43—Set 177-1) .... **153—8**
●902, 903 (Ch. 103) .... **127—7**
●910, 911 (Ch. 103) .... **127—7**
●1042, G, GU, T (See Model 12C4—Set **108-7**)
●1043, G, GU, T (See Model 12C4—Set **108-7**)
●1142, 1143 (See Model 12C4—Set **108-7**)
●1244, G, GU, T, TX (See Model 12C4—Set **108-7**)
●1245, G, GU, T, TX (See Model 12C4—Set **108-7**)
●1348 (See Model 12C4—Set **108-7**)
●1400, B (Ch. 100) .... **127—7**
●1401 (Ch. 105) (Also see PCB 37—Set 166-2) .... **127—7**
●1546, G, GU, T (See Model 12C4—Set **108-7**)
●1547, G, GU, T (See Model 12C4—Set **108-7**)
●1548, G, GU, T (See Model 12C4—Set **108-7**)
●1549, G, GU, T (See Model 12C4—Set **108-7**)
●1600, 1600B (Ch. 101) ... **127—7**
●1605, 1605B (Ch. 102) .... **127—7**
●1610, 1610B (Ch. 102) ... **127—7**
●1646, 1647, 1648, 1649 (See Model 12C4—Set **108-7**)
●1671, 1672, 1673, 1674, 1675 .... **133—8**
●1700C (See PCB 37—Set 166-2 and Model 17DA—Set **127-7**)
●1710 ((Ch. 101) .... **127—7**
●1710C (Ch. 101) (See PCB 37—Set 166-2 and Model 17DA—Set **127-7**)
●1720, 1721 (See PCB 37—Set 166-2 and Model 17DA—Set **127-7**)
●1900 .... **95A—10**
●1974, 1975 .... **133—8**
●2042T, 2043T (See Model 12C4—Set **108-7**)
●2546T, 2547T, 2549T (See Model 12C4—Set **108-7**)
Ch. 5B01A (See Model 5AK711)
Ch. 5B05A (See Model 5AK731)
Ch. 6B02D (See Model 6FM714)
Ch. 6B11D (See Model 6FM773)
Ch. 7B04A (See Model 7YR752)
Ch. 7B09A (See Model 7YR772)
Ch. 7B09A1 (See Model 7YR753)
Ch. 7C11D (See Model 7FM887)
Ch. 7C25A (See Model 7JL866)
Ch. 8B06D (See Model 8FM744)
Ch. 8B07D (See Model 8FM776)
Ch. 8B08D (See Model 8FM775)
Ch. 8C07D (See Model 8FM889)
Ch. 10C23E (See Model 10FM891)
Ch. 12B26E (See Model 12FM475)
Ch. 12C22E (See Model 12FM895)
Ch. 99 (See Model 120)
Ch. 100 (See Model 141)
Ch. 101 (See Model 17DA)
Ch. 4501 (See Model 5A410)
Ch. 4504 (See Model 5A430)
Ch. 4506 (See Model 5A445)
Ch. 4702, 4703 (See Model 7S433)
Ch. 4705 (See Model 7P420)
Ch. 4706 (See Model 7C432)
Ch. 4707 (See Model 7C447)

MAJESTIC—Cont.

- Ch. 4708R (See Model 7JK777R)
- Ch. 4810 (See Model 8S452)
- Ch. 4810B (See Model 8JL885)
- Ch. 41201 (See Model 12FM475)
- ●Series 106 (See Model 70—Set 153-8)
- ●Series 106-5 (See PCB 43—Set 177-1 and Model 70—Set 153-8)
- ●Series 108, 108-5 (See PCB 43—Set 177-1 and Model 70—Set 153-8)
- ●Series 109 (See Model 20FP88—Set 170-10)
- ●Series 110, 111 (See Model 21P62—Set 221-7)
- ●Series 112, 112-2, 113 ... 233—4
- ●Series 116 (See Model 21C36—Set 280-5)

MALLORY

- TV-101 (Below Serial No. 200,000) Tel. UHF Conv. ... 194—7
- TV-101 (Serial No. 200,000 and Above) Tel. UHF Conv. ... 194—8

MANTOLA (B. F. Goodrich Co.)

- R630-RP ... 3-22
- R643-PM (See Model R643W—Set 4-29)
- R643W ... 4-29
- R652, R652N ... 9-22
- R654 PM, R654-PV ... 3-5
- R655W (Ch. No. 501APH) ... 8-20
- R662, R662N ... 3-33
- R664, R664-PV, R664 W ... 23-13
- R743W (See Model R643W—Set 4-29)
- R-7543 ... 18-23
- R-75143 ... 39-12
- R-75152 ... 38-10
- R-75343 ... 39-12
- R-76163 (See Model 24B6—Set 25-17)
- R-76162 ... 40-10
- R76262 (Fact. No. 7160-17) ... 51-12
- R-78162 ... 43-11
- 2486 ... 25-17
- 92-502 (See Model R643W—Set 4-29)
- 92-503, 92-504 (See Model R654PM—Set 3-5)
- 92-505, 92-506 (See Model R664PM—Set 23-13)
- 92-520, 92-521, 92-522 ... 68-11
- 92-529 ... 150—8

MARANTZ

- "Audio Consolette" ... 296—8

MARKEL (See Record Changer Listing)

MARK SIMPSON (See Masco)

MARTIN

- 352A ... 264—8
- 352CA ... 264—9

MASCO (Also see Recorder Listing)

- AC-12, AC-24 ... 222—7
- ACL ... 222—7
- ACS, ACS-6 ... 222—7
- CAM-5 ... 269—8
- CAM-10 ... 269—8
- CM-8 ... 266—8
- CM-10 ... 255—8
- CM-20 ... 218—6
- CS-6P-3 ... 284—9
- EMM-6 ... 216—3
- IM-5 ... 41-13
- IM-10 ... 186—8
- JM-5 (Master Station), JR (Sub-Station) ... 42-18
- JM-10 ... 187—8
- JMP-6 ... 147—7
- JMP-12 ... 147—7
- JMR ... 31-17
- MA-8N ... 119—8
- MA10EX ... 113—4
- MA-10HF ... 112—4
- MA-12HF ... 51-13
- MA-17 ... 14-32
- MA-17N ... 50-11
- MA-17P ... 14-32
- MA-17PN ... 50-11
- MA-20HF ... 28-21
- MA-25 ... 16-24
- MA-25EX ... 60-15
- MA-25HF ... 54-13
- MA-25N ... 43-14
- MA-25NR ... 49-12
- MA-25P ... 16-24
- MA-25PN (See Model MA-25N—Set 43-14)
- MA-35 ... 21-20
- MA-35N ... 44-11
- MA-35RC ... 21-20
- MA-50 ... 30-16
- MA-50N ... 45-15
- MA-50NR ... 53-14
- MA-60 ... 119—9
- MA-75 ... 28-22
- MA-75N ... 52-27
- MA-77, MA-77R ... 190—7
- MA-121 ... 24-21
- MA-125 ... 188—8
- MA-808 ... 26-18
- MAP-15 ... 26-19
- MAP-18 ... 59-12
- MAP-105 ... 25-18
- MAP-105N ... 52-12
- MAP-120 ... 21-21
- MAP-120N ... 46-15
- MB-8N ... 196—5
- MB-50N ... 58-12
- MB-60 ... 127—8
- MB-60 (Late) ... 148-10
- MB-75 ... 61-15
- MB-77 ... 206—8
- MB-125 ... 211—9
- MC-10 ... 47-12
- MC-25, MC-25P ... 17-21
- MC-25N, MC-25PC, MC-25PN, MC-25RC ... 57-11
- MC-126, MC-126P ... 111—8
- MCR-5 ... 15-18
- ME-8 ... 152-10
- ME-18, ME-18P ... 151—8

MASCO—Cont.

- ME-27 ... 155-11
- ME-27 (Revised) ... 270—9
- ME-27P-3 ... 270—9
- ME-36, ME-36R ... 154—7
- ME-52 ... 149—7
- MF-5 ... 264-10
- MF-10 ... 264-10
- MHP-110 ... 114—6
- MHP-110X ... 115—5
- Midgetalk ... 116—7
- MM-27P ... 153—9
- MPA-3, MPT-4 ... 16-25
- MSD-16 ... 150—9
- MU-5 ... 117—6
- MU-17 ... 185—8
- PR-1 ... 218—6
- RK-5 (Early) ... 33-11
- RK-5, RK-5L, RK-5M, RK-5ML, RK-5SL ... 168-11
- RK-5SLR ... 177—9
- RK6, RK6R ... 244—7
- ST-2 (ST-M, ST-R) ... 267—5
- ST-5 ... 272—7
- T-16 ... 123—8
- TD-16 ... 120—8
- TP-16A ... 30-17
- TVB (TV Booster) ... 254—8
- WF-1A ... 209—8
- 76, 711 ... 20-20
- 86, 811 ... 20-21

MASON

- 45-1A ... 14-18
- 45-1B, 45-1P, 45-3, 45-4, 45-5 (See Model 45-1A—Set 14-18)

MATTISON

- ●630DXM (Series 26000) ... 243—7
- ●630DXM (Series 27000) (See PCB 105 — Set 252-1 and Model 630DXM—Set 243-7)
- ●630MDXL (Series 26000) ... 243—7
- ●630MDXL (Series 27000) (See PCB 105 — Set 252-1 and Model 630MDXL 243-7)
- ●630-6A ... 218—7
- ●630-6AB ... 218—7

MAYFAIR

- 510, 510W, 520, 520W, 530, 530W ... 25-20
- 550, 550W ... 24-22

McGOHAN (Don)

- MG-7 ... 195—7
- MG-10B ... 190—8
- MG-18B ... 191—6
- MG-20-B ... 189—5
- MG-25B ... 280—6
- MG-30-B ... 188—9
- MG60 ... 260-10
- WA-310 ... 289—6
- WA-312 ... 227—9
- WA-325 ... 292—8

McGRADE

- M-100 ... 16-27

McINTOSH

- A-116 ... 257—8
- C104 ... 231-10
- C-108 ... 252-10
- MC-30 ... 275—9

MECK (Trail Blazer-Plymouth)

- CD-500 (PX-5CS-EW-19) ... 33-12
- CE-500 (5CS-P12) ... 34-10
- CM-500 (5D7-W18) ... 34-11
- CR-500 ... 38-11
- CW-500 ... 40-11
- CX-500 ... 48-13
- DA601, DB6021 ... 81-10
- EC720 ... 85—8
- EF-730, EG-731 (Ch. 10003) ... 89—8
- EV-760 ... 104—7
- ●JM717C (Ch. 9021) ... 148-11
- ●JM717C (Ch. 9032) ... 186—9
- ●JM717C (Ch. 9040) ... 220—4
- ●JM717CU (Ch. 9021) ... 148-11
- ●JM717T (Ch. 9021) ... 148-11
- ●JM717T (Ch. 9032) ... 186—9
- ●JM717T (Ch. 9040) ... 220—4
- ●JM717TU (Ch. 9021) ... 148-11
- ●JM720C, CU (Ch. 9021) ... 148-11
- ●JM720C (Ch. 9032) ... 186—9
- ●JM720T (Ch. 9021) ... 148-11
- ●JM720T (Ch. 9032) ... 186—9
- ●JM720TU (Ch. 9021) ... 148-11
- ●JM721C, CD (Ch. 9032) ... 186—9
- ●JM721C, D, T (Ch. 9040) ... 220—4
- ●M616C, T (Ch. 9023) (See Model JM717C—Set 148-11)
- ●M620C, T (Ch. 9023) (See Model JM717C—Set 148-11)
- ●MM510T, MM512T, MM516C, MM516T ... 110—9
- ●MM614C, T (Ch. 9018) (Also see PCB 12—Set 120-1) ... 117—8
- ●MM616C, T (Ch. 9018) (Also see PCB 12—Set 120-1) ... 117—8
- ●MM617C, T (Ch. 9032) (See Model JM717C—Set 186-9)
- ●MM617T (Ch. 9040) ... 220—4
- ●MM619C (Ch. 9018) (Also see PCB 12—Set 120-1) ... 117—8
- ●MM-620C, T (Ch. 9032) (See Model JM-717C—Set 186-9)
- ●MM621C (Ch. 9040) ... 220—4
- ●MM621RPT, RBTB, T (Ch. 9040) ... 220—4
- PM-5CS-DW10 ... 2-4
- PM-5CS-PW10 ... 21-19
- RC-5C5-P ... 1-9
- RC-6A7-P6 ... 31-18
- SA-10, SA-20 ... 101—4
- ●XA-701 ... 61-16
- ●XE-705 (See Model XA-701 — Set 61-16)
- ●XF-777 ... 101—5
- ●XL750 ... 76-14
- ●XN-752 ... 101—5
- ●XOB ... 110—9
- ●XP-775 ... 101—5
- XQ-776 ... 101—5
- ●XQA ... 110—9
- ●XQA-776 ... 101—5
- ●XQR ... 110—9

MECK—Cont.

- ●XR-778 ... 101—5
- XRA, XRPT ... 110—9
- ●XS-786 ... 101—5
- ●XSA ... 110—9
- ●XSB (Ch. 9018) (Also see PCB 12—Set 120-1) ... 117—8
- ●XSC, XSD (Ch. 9018) (See Model MM614C—Set 117-8 and PCB 12—Set 120-1)
- ●XSPT ... 110—9
- ●XT-785 ... 101—5
- ●XTA, XTR ... 110—9
- ●XX900 ... 110—9
- 4C7 ... 35-14
- 5A7-P11, 5A7-PB11 ... 31-18
- 5D7/WL18 ... 21-22
- 6A6-W4 ... 16-26
- ●514C, T (Ch. 9018) (See PCB 12—Set 120-1 and Model MM614C—Set 117-8)
- ●614C, 614TL (Ch. 9022) (See Model JM717C—Set 148-11)
- ●616C, T (Ch. 9018) (See PCB 12—Set 120-1 and Model MM614C—Set 117-8)
- ●617C, 617TL (Ch. 9022) (See Model JM717C—Set 148-11)
- ●619C, T (Ch. 9018) (See PCB 12—Set 120-1 and Model MM614C—Set 117-8)
- 9030 ... 228-11
- Ch. 9018 (See Model MM614C)
- Ch. 9021 (See Model JM717C)
- Ch. 9022 (See Model 614C)
- Ch. 9023 (See Model M616T)
- Ch. 9032 (See Model JM717C)
- Ch. 9040 (See Model JM717C)

MEDCO (See Telesonic)

MEISSNER

- ●TV-1 (Ch. 24TV) ... 56-15
- 4E ... 172—5
- 5A (See Maguire Model 571—Set 44-10)
- 6H (See Maguire Model 661—Set 12-18)
- 8BT ... 161—5
- 8C ... 37-12
- 9AJ ... 123—9
- 9-1065 ... 3-15
- 9-1091A, 9-1091B ... 35-15
- 9-1091C ... 116—8
- 9-1093 ... 55-13
- 9-1160 ... 257—9
- 16A ... 105—6
- ●24TV (See Model TV1—Set 56-15)
- 574 (See Maguire Model 571—Set 44-10)
- 661 (See Maguire Model 661—Set 12-18)
- 2961 Series ... 27-19

MERCURY (Automobile)

- FAB-18805-A ... 167—7
- FAF-18805-A ... 214—5
- FDC-18805-A ... 246—8
- GM891 (OM-18805-A) [See PCB 105—Set 252-1 and Ford Model GF890 (OA-18805-B) — Set 109-5]
- OM-18805-A (See Model GM891)
- 1CM747-1 (1M-18805) (See Ford Model 1CF743—Set 133-7)
- 1CM747-1 (1M-18805) ... 158—5
- 1M-18805 (See Model 1CM747 or 1CM747-1)
- 2CM752 (FAB-18805-A) ... 167—7
- 3SM757 (FAF-18805-A) ... 214—5
- 4SM767 (FDC-18805-A) ... 246—8
- 6MM790 (59A-18805-A1) ... 62-12
- 6MM790-E (59AF-18805) ... 62-12
- 8MM890 (Ch. 8E90) (8M-18805-B) ... 49-13
- 8MM990 (8M-18805-B) ... 69-10
- 8MM991 (8M-18805-B), 8MM991-E, (8M-18805) ... 83—4
- 8M-18805-B (See Model 8MM890 or 8MM990 or 8MM991)
- 59AF-18805 ... 62-12
- 59A-18805-A1 ... 62-12

MERCURY (Pacific-Mercury)

- ●2013 (Ch. 150-2) (Also see PCB 57—Set 191-1) ... 172—6
- ●2080 (Ch. 150-2) (See PCB 57—Set 191-1 and Model 2013—Set 172-6)
- ●2081 (Ch. 150-4 and Radio Ch. 155) ... 198-11
- ●2113, 2115 (Ch. 150-11, -81) (Also see PCB 57—Set 191-1) ... 172—6
- ●2116, 2117 (Ch. 150-8) (See PCB 57—Set 191-1 and Model 2013—Set 172-6)
- ●2181 (Ch. 150-31, -61 and Radio Ch. 155) ... 198-11
- ●2217, 2218, X (Ch. 200-11) ... 216—8
- ●2224 (Ch. 200-11) ... 216—8
- ●2284 (Ch. 200-11) ... 216—8
- ●2401 (Ch. 150-5, -51) (Also see PCB 57—Set 191-1) ... 172—6
- ●2424 (Ch. 201-34) ... 254—9
- ●2701 (Ch. 201-553, Audio Amp. Ch. 159-1 and Radio Ch. 160-1) ... 254—9
- ●4120 (Ch. 150-2) (Also see PCB 57—Set 191-1) ... 172—6
- ●4220 (Ch. 150) (Also see PCB 57—Set 191-1) ... 172—6
- ●4317 (Ch. 150-9) ... 172—6
- ●4320 (Ch. 150-2, -15) Also see PCB 57—Set 191-1) ... 172—6
- ●4421 (Ch. 150-81) (See PCB 57—Set 191-1 and Model 2013—Set 172-6)
- Ch. 150-2 (See Model 2013)
- Ch. 150-4 (See Model 2081)
- Ch. 150-5 (See Model 2401)
- Ch. 150-9 (See Model 4317)
- Ch. 150-11 (Se Model 2113)
- Ch. 150-12 (See Model 4317)
- Ch. 150-15 (See Model 4320)
- Ch. 150-31 (See Model 2181)
- Ch. 150-51 (See Model 2401)
- Ch. 150-61 (See Model 2181)
- Ch. 150-81 (See Model 2113)
- Ch. 155 (See Model 2081)

MERCURY—Cont.

- Ch. 159-1 (See Model 2701)
- Ch. 160-1 (See Model 2701)
- Ch. 200-11 (See Model 2217)
- Ch. 201-34 (See Model 2424)
- Ch. 201-553 (See Model 2701)

METEOR

- ●PC-4103 (Ch. 456.34700) (See Model 4103A—Set 293-9)
- ●PC-4109 (Ch. 456.34800) (See Model 4109A—Set 293-9)
- ●4103A (Ch. 528.34700, 528.34701) ... 293—9
- ●4104 (Ch. 528.37000) ... 298—7
- ●4109A (Ch. 528.34800, 528.34801) ... 293—9
- ●4121 (Ch. 528.37100) ... 298—7
- Ch. 456.34700 (See Model PC-4103)
- Ch. 456.34800 (See Model PC-4109)
- Ch. 528.34700, 528.34701) (See Model 4103A)
- Ch. 528.34800, 528.34801 (See Model 4109A))
- Ch. 528.37000 (See Model 4104)
- Ch. 528.37100 (See Model 4121)

MIDLAND

- M6B ... 2-30

MIDWEST

- P6, PB-6 ... 14-19
- R-12, RG-12, RT-12 (Ch. RGL-12) ... 44-12
- R-12, RG-12, RT-12 (Ch. RGT-12) ... 44-13
- R-16, RG-16, RT-16 (Ch. RGT-16) ... 45-16
- S8, ST-8 (Ch. STM-8) ... 15-19
- S-12, SG-12, ST-12 (Ch. SGT-12) ... 21-23
- S-16, SG-16, ST-16 (Ch. SGT-16) ... 21-24
- TM-8 (Ch. STM-8) ... 15-19
- 716, A (See Model S-16—Set 21-24)
- Ch. KD-16 ... 263-10
- Ch. RN-16 ... 263-10

MILWAUKEE ERWOOD (See Record Changer Listing)

MINERVA

- L-702 ... 12-20
- L-728 ... 11-15
- W-117, Tropic Master ... 6-17
- W-117-3 ... 11-14
- W-702B ... 12-20
- W710, W710A (W119) ... 5-25
- W-728 ... 11-15
- 410, 411 ... 41-14
- 702H, 702H-1 ... 30-18
- 729 (Portapal) ... 23-14

MIRRORTONE (Also see Meck)

- ●A-17C, T (Ch. 9040) ... 216—4
- ●A-21C, CB, T, TB, X, Z (Ch. 9040) ... 216—4
- ●A24C (Ch. 9049, 9051) ... 247—6
- ●14MTS ... 163—7
- ●16MC, MT, 17MC, MT, MZ-C, MZ-T ... 163—7
- ●17PC (Ch. 9025) (Series "P") (See Model 20PC—Set 175-12)
- ●17PCSB, 17PCW ... 204—5
- ●17PT (Ch. 9025) (Series "P") (See Model 20PC—Set 175-12)
- ●17PTE ... 204—5
- ●20MC, MT, MZ-C, MZ-T ... 163—7
- ●20PC ... 175-12
- ●20PCSB, 20PCW ... 204—5
- ●20PT (See Model 20PC—Set 175-12)
- ●20PTE, 20PTS, 20PTSB, 20PTW ... 204—5
- ●20PRSB ... 204—5
- ●21PCS ... 204—5
- ●21QDCS ... 204—5
- ●24QDCS ... 204—5
- ●Ch. 9033, 9034A (See Model 17PCSB)
- Ch. 9040 (See Model A-17C)
- ●Ch. 9047 ... 251-11
- ●Ch. 9048 ... 250-14
- ●Ch. 9049 ... 247—6
- ●Ch. 9050 ... 250-14
- ●Ch. 9051 ... 247—6
- ●Ch. 9053, 9054 ... 250-14
- ●Ch. 9055 ... 251-11

MITCHELL

- ●T16-B, -M, T16-2KB, T16-2KM, T17-B, -M ... 154—8
- ●T172B, T-172M ... 189-11
- ●T212-B, -M ... 190—9
- 3D ... 251-12
- 1250, 1251 ... 55-14
- 1252, 1253 ... 155-12
- 1254, 1255 ... 159—8
- 1256 ... 156—8
- 1258, 1259 ... 264-11
- 1261, 1262 ... 259—8
- 1263, A, 1264, A ... 259—9
- 1266 ... 264-11
- 1267 ... 158—7
- 1268R ... 127—9
- 1271, 1272, 1273 ... 260-11
- 1274, 1275 ... 257-10
- 1276, 1277 ... 250-15
- 1278 ... 265—8
- 1279, 1280 ... 270-10
- 1281 ... 264-11
- 1283, 1284 ... 263-11
- 1287 ... 267—6

MOLDED INSULATION CO. (Also see Viz)

- MR-6 (Wiretone) ... 41-15

MONITOR

- M-403 (Fact. No. 470-2) ... 22-20
- M-500 (Fact. No. 475) ... 28-23
- M-510 (Fact. No. 472) ... 23-15
- M-3070 ... 29-15
- RA-50 ... 24-23
- TA56M, TW56M ... 6-18

MONITORADIO (Radio Apparatus)

- AR-1 ... 164—5
- AR-3 ... 175-13

MONITORADIO—Cont.

- AR-5 (See Model AR-3)—Set 175-13)
- DRS-1 ... 261—8
- DR-200 ... 261—8
- MR-32 ... 233—5
- M-51A ... 162—8
- M-101 ... 159—9

MONTGOMERY WARD (See Airline)

MOPAR

- 602 (671A) ... 19-20
- 603 ... 65—9
- 604 ... 106—9
- 606 ... 133—9
- 607 ... 170-11
- 608 ... 207—4
- 609 ... 201—6
- 610T ... 220—5
- 611T (See Model 610T—Set 220-5)
- 612 (See Model 609—Set 201-6)
- 613, 614 ... 283—8
- 802 (C-4608) ... 18-24
- 802 (C-4608) (Revised) ... 42-19
- 803 (PD-4908) ... 66-12
- 804 ... 67-12
- 805 (C-4908) ... 71-11
- 806, 807 (See Model 803—Set 66-12)
- 808 ... 107—6
- 809 (C-5009) (See Model 805—Set 71-11)
- 810 (C-5010) (See Model 805—Set 71-11)
- 812 (P-5106) ... 139—8
- 813 (D5107) ... 139—8
- 814 ... 137—7
- 815 (C-5109) ... 139—8
- 816 (C-5110) ... 139—8
- 817 (C-5111) ... 139—8
- 819 (P-5206) ... 202—3
- 820 (D-5207) ... 202—3
- 821 ... 204—6
- 824 (C-5209) ... 202—3
- 828 (D-5407) (See Model 820—Set 202-3)
- 829 ... 247—7
- 830 (C-5409) ... 249-10
- 831 (See Model 830—Set 249-10)
- 832 (P-5506) ... 284-10
- 833, 834, 836 ... 281—5
- 835 (C-5509) ... 284-10
- 900, 901 ... 282—8
- 902 (C-5595) ... 279—8
- 903 (C-5596) ... 279—8

MOTOROLA (Also see Record Changer Listing)

- AR-96-23 (M-5) ... 11-16
- BKO-A (See Ch. 10A—Set 106-10)
- BK2A (Ch. 2A and P6-2 or P8-2) ... 197—7
- BK2M (Ch. 2M and P6-2 or P8-2) ... 197—7
- BK3A6 (Ch. R-15A6 and P6-2 or P8-2) ... 256-10
- BK-6 ... 10-23
- BK8, X (See Ch. 8A—Set 46-16)
- BK53A6 (Ch. R17A6 and P6-2 or P8-2) ... 263-13
- CR-6 ... 20-24
- CR-76 ... 25-21
- CTA3 ... 230—7
- CTA4 ... 302—6
- CTM3 ... 255—9
- CTO (See Model CT-9—Set 82-8)
- CT1 (See Ch. 1A—Set 134-8)
- CT1M ... 143-11
- CT2A (Ch. 2A and P6-2 or P8-2) ... 197—7
- CT2A6 (Ch. R-15A6 and P6-2 or P8-2) ... 256-10
- CT2M (Ch. 2M and P6-2 or P8-2) ... 197—7
- CT-6 ... 8-21
- CT8 (See Ch. 8A—Set 46-16)
- CT8-A (See Ch. 10A—Set 106-10)
- CT9 ... 82—8
- CT52M6 (Ch. R16M6 and P6-2 or P8-2) ... 271—7
- FD-6 ... 7-20
- FD7 (See Model FD-6—Set 7-20)
- FD8 (See Ch. 8A—Set 46-16)
- GM9T (See Ch. 8A—Set 46-16)
- GM9T-A (See Ch. 10A—Set 106-10)
- GMOT (See Ch. 10A—Set 106-10)
- GMT2A (Ch. 2A and P6-2 or P8-2) ... 197—7
- GMT2M (Ch. 2M and P6-2 or P8-2) ... 197—7
- GMT3A6 (Ch. R-15A6 and P6-2 or P8-2) ... 256-10
- GMT53A6 (Ch. R17A6 and P6-2 or P8-2) ... 263-13
- HJ2A (Ch. 2A and P6-2 or P8-2) ... 197—7
- HJ2M (Ch. 2M and P6-2 or P8-2) ... 197—7
- HJ3A6 (Ch. R-15A6 and P6-2 or P8-2) ... 256-10
- HN2A (Ch. 2A and P6-2 or P8-2) ... 197—7
- HN2A6 (Ch. R-15A6 and P6-2 or P8-2) ... 256-10
- HN2M (Ch. 2M and P6-2 or P8-2) ... 197—7
- HN3A6 (Ch. R-15A6 and P6-2 or P8-2) ... 256-10
- HN4A6 (Ch. R17A6 and P6-2 or P8-2) ... 263-13
- HN4M6 (Ch. R16M6 and P6-2 or P8-2) ... 271—7
- HN8, HN9 (See Ch. 8A—Set 46-16)
- HN53M6 (Ch. R16M6 and P6-2 or P8-2) ... 271—7
- HNO (See Ch. 10A—Set 106-10)
- HT3A6 (Ch. R-15A6 and P6-2 or P8-2) ... 256-10
- 1LOTC (See Ch. 10—Set 106-10)
- 1L2TC (See Ch. 1A—Set 134-8)
- 1L2T2 (See Ch. 1A—Set 134-8)
- 1L3TC, 1L3TC-12 (See PCB 133—Set 292-1 and Ch. 1A—Set 134-8)
- 1L5TC, 1L5TC-12 (See PCB 133—Set 292-1 and Ch. 1A—Set 134-8)

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250.

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

MOTOROLA—Cont.

KR1 (See Ch. 1A—Set **134**-8)
KR2A (Ch. 2A and P6-2 or P8-2) .... **197**—7
KR2M (Ch. 2M and P6-2 or P8-2) .... **197**—7
KR3A6 (Ch. R-15A6 and P6-2 or P8-2) **256**–10
KR8, KR9 (See Ch. 8A—Set **46**-16)
KR9A (See Ch. 10A—Set **106**-10)
NH1C .... **139**—9
NH2AC (See Nash Model AC-152—Set **184**-9)
NH3C (See Nash Model NH3C—Set **216**-6)
NH4AC (See Nash Model AC-154—Set **264**-13)
NH5AC (See Nash Model AC-154—Set **264**-13)
NH6 9–24
NH8 (See Ch. 8A—Set **46**-16)
OEO (See Ch. 10A—Set **106**-10)
OE2 (See Ch. 8A—Set **46**-16)
OE2A (Ch. 2A and P6-2 or P8-2) .... **197**—7
OE2A6 (Ch. R-15A6 and P6-2 or P8-2) **256**–10
OE2M (Ch. 2M and P6-2 or P8-2) .... **197**—7
OE6 8–21
OE8, OE9 (See Ch. 8A—Set **46**-16)
PCO (See Ch. 10A—Set **106**-10)
PC2 (See Ch. 8A—Set **46**-16)
PC2A (Ch. 2A and P6-2 or P8-2) .... **197**—7
PC2A6 (Ch. R-15A6 and P6-2 or P8-2) **256**–10
PC2M (Ch. 2M and P6-2 or P8-2) .... **197**—7
PC6 8–21
PC8, PC9 (See Ch. 8A—Set **46**-16)
PC9-A (See Ch. 10A—Set **106**-10)
PD2A (Ch. 2A and P6-2 or P8-2) .... **197**—7
PD3A6 (Ch. R-15A6 and P6-2 or P8-2) **256**–10
PD2M (Ch. 2M and P6-2 or P8-2) .... **197**—7
SROB (Ch. OB) .... **105**—7
SR1B (See Ch. 1B—Set **136**-11)
SR2A (Ch. 2A and P6-2 or P8-2) .... **197**—7
SR2A6 (Ch. R-15A6 and P6-2 or P8-2) **256**–10
SR2M (Ch. 2M and P6-2 or P8-2) .... **197**—7
SR3A6 (Ch. R-15A6 and P6-2 or P8-2) **256**–10
SR6, SR8, SR9 (See Ch. 8A—Set **46**-16)
SR9A (See Ch. 10A—Set **106**-10)
SR52A6 (Ch. R17A6 and P6-2 or P8-2) **263**–13
SR52M6 (Ch. R16M6 and P6-2 or P8-2) .... **271**—7
TC-101, B Tel. UHF Conv. .... **196**—6
TK-17M Tel. UHF Conv. .... **193**—5
TK19M Tel. UHF Conv. .... **193**—5
TK-19ME Tel. UHF Conv. (See Model TK17M—Set **193**-5)
TK-20M Tel. UHF Conv. .... **193**—5
TK-22M Tel. UHF Conv. .... **193**—5
TK-23M Tel. UHF Conv. .... **193**—5
TK-24M Tel. UHF Conv. .... **193**—5
TK-24ME Tel. UHF Conv. (See Model TK17M—Set **193**-5)
TK-31M Tel. UHF Conv. (See Model TK17M—Set **193**-5)
TK-33M Tel. UHF Conv. (See Model TK17M—Set **193**-5)
●VF102, A, C (Ch. TS-7 and Radio Ch. HS-317) **51**–14
●VF103, VF103M (Ch. TS-8) .... **73**—8
●VK101, B, M (Ch. TS-5 and Radio Ch. HS-108) **51**–14
●VK106 (Ch. TS-9D) Photofact Servicer **82**
●VK106, B, M (Ch. TS-9, A, B, C) **67**–13
●VK106, VK107 (Ch. TS-9E, TS-9E1) .... **77**—6
●VT71B, M-A (Ch. 4B through J) **55**–16
●VT-73, VT-73A (Chassis TS-4J Late) **71**–12
●VT101 (Ch. TS-3) **51**–14
●VT105 (Ch. TS-9D) Photofact Servicer **82**
●VT105, VT105M (Ch. TS-9, TS-9A, TS-9B, TS-9C) **67**–13
●VT107 (Ch. TS-9D) Photofact Servicer **82**
●VT107, B, M (Ch. TS-9, A, B, C) **67**–13
●VT121 (Ch. TS-15) .... **91A**—9
VTK-17M, ME Tel. UHF Conv. (See Model TK17M—Set **193**-5)
WR6 (Ch. HS-18) .... **5**—2
WR7, WR8 (See Model WR6—Set **5**-2)
WS1C (See Willys Model 677012—Set **156**-14)
WS2C (See Willys Model 679517—Set **172**-12)
●Y17K17, A, AB, B (Ch. TS-402Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y17T15A, AE (Ch. VTS-402Y) (Also see PCB 106—Set 253-1) **237**—8
●Y17T16, B, W (Ch. TS-402Y) (Also see PCB 106—Set 253-1) **237**—8
●Y17T20 (Ch. TS-418Y) (Also See PCB 124—Set 280-1) .... **269**—9
●Y17T20B, E, M (Ch. VTS-418Y) (Also See PCB 124—Set 280-1) .... **269**—9
●Y17T21 (Ch. TS-418Y) (See PCB 124 — Set 280-1 and Model Y17T20—Set **269**-9)
●Y17T22B, E (Ch. VTS-418Y) (See PCB 124—Set 280-1 and Model Y17T20B—Set **269**-9)
●Y17T23, B (Ch. TS-418Y) (See PCB 124 — Set 280-1 and Model Y17T20—Set **269**-9)
●Y19CK1, B, Y19CK2, B (Ch. TS-902AY-03, -04 and BP-902A-01) .... **283**—9
●Y19CT1, B (Ch. TS-902AY-03, 04 and BP-902A-01) .... **283**—9

MOTOROLA—Cont.

●Y21C2 (Ch. TS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21C2A, AB (Ch. WTS-502Y) (See PCB 106—Set 253-1 and Model Y17K17—Set **237**-8)
●Y21C2B (Ch. TS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21C3, B (Ch. TS-528Y) .... **278**—7
●Y21F5, B (Ch. TS-502Y, QTS-502Y and Radio Ch. HS-409) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K12A, AB, AW (Ch. WTS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K12C, CB, CW, D, DB, DW (Ch. WTS-502Y) (See PCB 106—Set 253-1 and Model Y17K17—Set **237**-8)
●Y21K12G (Ch. RTS-502Y) (See PCB 106 — Set 253-1 and Model Y17K17—Set **237**-8)
●Y21K13 (Ch. TS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K13A, AB (Ch. RTS-502Y) (See PCB 106—Set 253-1 and Model Y17K17—Set **237**-8)
●Y21K13B (Ch. TS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K14 (Ch. TS-502Y, QTS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K14A, AB (Ch. RTS-502Y) (See PCB 106—Set 253-1 and Model Y17K17—Set **237**-8)
●Y21K14B (Ch. TS-502Y, QTS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K15 (Ch. TS-502Y, QTS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K15A (Ch. RTS-502Y) (See PCB 106 — Set 253-1 and Model Y17K17—Set **237**-8)
●Y21K16 (Ch. TS-502Y, QTS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●21K16AB, AW (Ch. RTS-502Y) (See PCB 106—Set 253-1 and Model Y17K17—Set **237**-8)
●Y21K16W (Ch. TS-502Y, QTS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K17 (Ch. TS-502Y) (Also see PCB 106—Set 253-1) .... **237**—8
●Y21K17A (Ch. WTS-502Y) (See PCB 106 — Set 253-1 and Model Y17K17—Set **237**-8)
●Y21K18, B (Ch. PTS-502Y) (See PCB 106 — Set 253-1 and Model Y17K17—Set **237**-8)
●Y21K19, B (Ch. WTS-518Y) (Also See PCB 124—Set 280-1) **269**—9
●Y21K20, B (Ch. WTS-525Y, A-00, A-01, A-02, A-03) .... **272**—8
●Y21K21, B, Y21K22, Y21K23, B, Y21K24 (Ch. TS-528Y) .... **278**—7
●Y21K26, B (Ch. VTS-518Y) (See PCB 124—Set 280-1 and Model Y21T17—Set **269**-9)
●Y21K29, B, W (Ch. WTS-531Y) .... **295**—8
●Y21K30, B, W (Ch. TS-531Y) .... **295**—8
●Y21K31, B (Ch. TTS-525Y) (See Model Y21K20—Set **272**-8)
●Y21K32A, BA (Ch. WTS-525Y) (See Model Y21K20—Set **272**-8)
●Y21K33E (Ch. WTS-531Y) .... **295**—8
●Y21T8A, AE (Ch. TTS-502Y) (Also see PCB 106—Set 253-1) **237**—8
●Y21T10 (Ch. VTS-505Y) (See PCB 106 — Set 253-1 and Model Y17K17—Set **237**-8)
●Y21T11, B, W (Ch. VTS-502Y) (Also see PCB 106—Set 253-1) **237**—6
●Y21T13, B (Ch. TS-524Y) (See PCB 106 — Set 253-1 and Model Y17K17—Set **237**-8)
●Y21T14E (Ch. TS-507Y) (See PCB 106 — Set 253-1 and Model Y17K17—Set **237**-8)
●Y21T15 (Ch. WTS-518YA-02) (Also See PCB 124—Set 280-1) **269**—9
●Y21T16, B, E (Ch. WTS-518Y) (Also See PCB 124—Set 280-1) **269**—9
●Y21T17, B (Ch. VTS-518Y) (Also See PCB 124—Set 280-1) **269**—9
●Y21T18, B (Ch. RTS-525Y, A-00, A-01, A-02, A-03) .... **272**—8
●Y21T19, B (Ch. TS-528Y) .... **278**—7
●Y21T21, B, E (Ch. WTS-531Y) .... **295**—8
●Y21T22, B (Ch. TS-531Y) .... **295**—8
5M, 5M-12 .... **295**—7
●Y21T23, B (Ch. TTS-525Y) (See Model Y21K20—Set **272**-8)
●Y24K1, B, Y24K2, B, Y24K3 W (Ch. TS-602Y) .... **233**—6
●Y24K4, B, Y24K5, B (Ch. TS-603Y) .... **233**—6
●Y24T2, B (Ch. TS-609Y) .... **302**—7
●Y27K2, B, Y27K3 (Ch. TS-602Y) .... **278**—7
2MF (See Ford Model 2MF—Set **175**-10)
3MF (See Ford Model 3MF—Set **206**-5)
3MFT (See Ford Model 3MFT—Set **215**-7)
5A1 (Ch. HS-6) **2**–11
5A5 (Ch. HS-15) **2**–11
5A7 (Ch. HS-62), 5A7A (Ch. HS-62A) **29**–16
5C1 (Ch. HS-228) .... **116**—9
5C2 (Ch. HS-258) .... **116**—9
5C3 (Ch. HS-262) .... **116**—9
5C4 (Ch. HS-270) .... **116**—9
5C5 (Ch. HS-271) (See Model 5C1—Set **116**-9)
5C6 (Ch. HS-272) (See Model 5C1—Set **116**-9)
5H11U, 5H12U, 5H13U (Ch. HS-224) .... **117**—9
5J1 (Ch. HS-250), 5J1U (Ch. HS-224 .... **100**—7
5J2 (Ch. HS-250) (See Model 5J1—Set **100**-7)
5J2U (Ch. HS-224) (See Model 5J1—Set **100**-7)

MOTOROLA—Cont.

5L1 (Ch. HS-250), 5L1U (Ch. HS-224) .... **100**—7
5L2 (Ch. HS-250) (See Model 5J1—Set **100**-7)
5L2U (Ch. HS-224) (See Model 5J1—Set **100**-7)
5M, 5M-12 .... **295**—7
5M1, 5M1U, 5M2, 5M2U (Ch. HS-249, HS-223) .... **101**—7
5R11A, 5R12A, 5R13A, 5R14A, 5R15A, 5R16A (Ch. HS-280) (See Model 5R11U—Set **115**-6)
5R11U, 5R12U, 5R13U, 5R14U, 5R15U, 5R16U, (Ch. HS-242) .... **115**—6
5X11U, 5X12U, 5X13U (Ch. HS-243) .... **114**—7
5X21U, 5X22U, 5X23U (Ch. HS-259) .... **120**—9
6F11, 6F11B (Ch. HS-264) **117**–10
6L1, 6L2 (Ch. HS-226) .... **102**—7
6X11U, 6X12U (Ch. HS-245) .... **112**—5
7F11, 7F11B (Ch. HS-265) .... **113**—5
●7VT1, 7VT2, 7VT5 (Ch. TS-18) .... **83**—6
●FDT (See Ch. 8A—Set **46**-16)
8FM21, 8FM21B (Ch. HS-247) .... **121**—9
8GMT (See Ch. 8A—Set **46**-16)
9FM21, 9FM21B (Ch. HS-246) .... **114**—8
●9T1 (Ch. TS-18, A) (See Model 7VT1—Set **83**-6)
●9VT1, 9VT5 (Ch. TS-18, A) **83**—6
●10T2 (Ch. TS-14B) .... **92**—4
●10VK9 (Ch. TS-9E, TS-9E1) **77**—6
●10VK12 (Ch. TS-14, A, B) . **92**—4
●10VK22 (Ch. TS14, A, B) .. **92**—4
●10VT3 (Ch. TS-9E, TS-9E1) **77**—6
●10VT10 (Ch. TS14, A, B) .. **92**—4
●10VT24 (Ch. TS14, A, B) .. **92**—4
●12K1, B (Ch. TS-23B) .... **92**—4
●12K1, B (Ch. TS-53) (See Model 12K2—Set **115**-7)
●12K2, B (Ch. TS-23B) .... **92**—4
●12K2, B (Ch. TS-53) .... **115**—7
●12K3, B (Ch. TS-53) (See Model 12K2—Set **115**-7)
●12T1, B (Ch. TS-23B) .... **92**—4
●12T1, B, 12T2, B (Ch. TS-53) (See Model 12T3—Set **115**-7)
●12T3 (Ch. TS-53) .... **115**—7
●12VF4B, R, R-C (Ch. TS-23, A and Radio Ch. HS-190) .... **92**—4
●12VF26B, B-C, R, R-C (Ch. TS-23A, B and Radio Ch. HS-190A) **92**—4
●12VK11 (Ch. TS-23, A, B) . **92**—4
●12VK15 (Ch. TS-30, A) (Also see PCB 5—Set 106-1) .... **93**—7
●12VK18B, 12VK18R (Ch. TS-15C, TS-15C1) .... **77**—6
●12VT13 (Ch. TS-23, A, B) .. **92**—4
●12VT13B, R (Ch. TS-23, A, B) (See Model 12VT13—Set **92**-4)
●12VT16, 12VT16B, 12VT16R (Ch. TS-15C, TS-15C1) .... **77**—6
●14K1, B (Ch. TS-88) .... **112**—6
●14K1BH, 14K1H (Ch. TS-115) **121**–10
●14P1B (Ch. TS-216) (See Model 14T4—Set **158**-8)
●14P2, 14P2U (Ch. TS-275) . **174**—9
●14T1, B (Ch. TS-88) .... **112**—6
●14T3 (Ch. TS-114) **121**–10
●14T3X1 (Ch. TS-114A) (See Model 14T3—Set **121**-10)
●14T4, B (Ch. TS-216) .... **158**—8
●16F1 (Ch. TS-60 and Radio Ch. HS-234) .... **102**—8
●16F1BH, 16F1H (Ch. TS-89 and Radio Ch. HS-324) (For TV Ch. see Set **121**-10, for Radio Ch. see Model 16F1—Set **102**-8)
●16K2 (Ch. TS-74) .... **102**—8
●16K2BH, 16K2H (Ch. TS-94) **121**–10
●16K2L, L-B (Ch. TS-52) .. **93A**–10
●16T1 (Ch. TS-60) .... **102**—8
●16T1BH, 16T1H (Ch. TS-89) **121**–10
●16VF8B, R (Ch. TS-16, -A and Radio Ch. HS-211) (For TV Ch. see Set **93**-7, for Radio Ch. see Model S9FM21R—Set **80**-10)
●16VK1 (Ch. TS-52) **93A**–10
●16VK7 (Ch. TS-16, A) (Also PCB 5—Set 106-1) .... **93**—7
●17F1 (Ch. TS-118 and Radio Ch. HS-253) **121**–10
●17F1A (Ch. TS-89 and Radio Ch. HS-253) **121**–10
●17F1B (Ch. TS-118 and Radio Ch. HS-253) **121**–10
●17F1BA (Ch. TS-89 and Radio Ch. HS-253) **121**–10
●17F2W (Ch. TS-118 and Radio Ch. HS-253) **121**–10
●17F2WA (Ch. TS-89 and Radio Ch. HS-253) **121**–10
●17F3, B (Ch. TS-118 and Radio Ch. HS-253) **121**–10
●17F3BA (Ch. TS-89 and Radio Ch. HS-253) **121**–10
●17F4 (Ch. TS-118 and Radio Ch. HS-253) (See Model 14K1BH) **121**–10
●17F4A (Ch. TS-89 and Radio Ch. HS-253) **121**–10
●17F5 (Ch. TS-118 and Radio Ch. HS-261) **121**–10
●17F5A, 17F5BA (Ch. TS-89 and Radio Ch. HS-261) **121**–10
●17F5B (Ch. TS-118 and Radio Ch. HS-261) **121**–10
●17F6, B (Ch. TS-118 and Radio Ch. HS-253) (See Model 14K1BH—Set **121**-10)
●17F6BC, C (Ch. TS-174 and Radio Ch. HS-253) (See Model 14K1BH—Set **121**-10)
●17F7B (Ch. TS-118) (See Model 14K1BH—Set **121**-10)
●17F7BC (Ch. TS-174 and Radio Ch. HS-253) (See Model 14K1BH—Set **121**-10)
●17F8 (Ch. TS-118) (See Model 14K1BH—Set **121**-10)
●17F8C (Ch. TS-174) (See Model 14K1BH—Set **121**-10)

MOTOROLA—Cont.

●17F9, B (Ch. TS-118) (See Model 14K1BH—Set **121**-10)
●17F9BC, C (Ch. TS-174 and Radio Ch. HS-261) (See Model 14K1BH—Set **121**-10)
●17F11 (Ch. TS-228 and Radio Ch. HS-302) .... **165**—7
●17F12, A, B, BA (Ch. TS-325, A, 326, A, and Radio Ch. HS-319) .... **171**—8
●17F12D (Ch. TS-401) (For TV Ch. only see PCB 49—Set 183-1 and Model 21F1—Set **173**-9)
●17F13, B (Ch. TS-395A, 02 and Radio Ch. HS-319) (For TV Ch. see Set **192**-6, and Radio Ch. see Model 17F12—Set **171**-8)
●17F13BC (Ch. TS-408A and Radio Ch. HS-319) (For TV Ch. see Model 21C1—Set **191**-13, for Radio Ch. see Model 17F12—Set **171**-8)
●17F13C (Ch. TS-408A and Radio Ch. HS-319) (For TV Ch. see Model 21C1—Set **191**-13, for Radio Ch. see Model 17F12—Set **171**-8)
●17K1A, 17K1BA (Ch. TS-95) **121**–10
●17K1BE, E (Ch. TS-172) (See Model 14K1BH—Set **121**-10)
●17K2BE, E (Ch. TS-172) (See Model 14K1BH—Set **121**-10)
●17K3, 17K3B (Ch. TS-118 . **121**–10
●17K3A, 17K3BA (Ch. TS-89) **121**–10
●17K4A (Ch. TS-95) **121**–10
●17K4E (Ch. TS-172) (See Model 14K1BH—Set **121**-10)
●17K5 (Ch. TS-118) (See Model 14K1BH—Set **121**-10)
●17K5C (Ch. TS-174) (See Model 14K1BH—Set **121**-10)
●17K5E (Ch. TS-221A) **159**–10
●17K6 (Ch. TS-118) (See Model 14K1BH—Set **121**-10)
●17K6C (Ch. TS-174) (See Model 14K1BH—Set **121**–10)
●17K7, B (Ch. TS-118) (See Model 14K1BH—Set **121**-10)
●17K7BC, C (Ch. TS-174) (See Model 14K1BH—Set **121**-10)
●17K8, B (Ch. TS-236) **152**-4A
●17K8A, BA (Ch. TS-228) .. **165**—7
●17K9, B (Ch. TS-220) **159**–10
●17K9A, BA (Ch. TS-228) .. **165**—7
●17K9BC (Ch. TS-221, -A) .. **159**–10
●17K10, M (Ch. TS-228) .... **165**—7
●17K10A (Ch. TS-174) (See Model 14K1BH—Set **121**-10)
●17K10E (Ch. TS-314A, B) .. **167**–13
●17K11, B, C (Ch. TS-236) **152**-4A
●17K11A, BA (Ch. TS-228) .. **165**—7
●17K12, A, B, BA, W, WA (Ch. TS-325, A, TS-326, A) .. **171**—8
●17K13A (Ch. TS-326A, B) (See Model 17F12—Set **171**-8)
●17K13D (Ch. TS-401) (See PCB 49—Set 183-1 and Model 21F1—Set **173**-9)
●17K14, A, B (Ch. TS-395, 02) .... **192**—6
●17K14BC (Ch. TS-408A) (See Model 21C1—Set **191**-13)
●17K14C (Ch. TS-408A) (See Model 21C1—Set **191**-13)
●17K14W (Ch. TS-395, -02) **192**—6
●17K14WC (Ch. TS-408A) (See Model 21C1—Set **191**-13)
●17K15, B (Ch. TS-395A, -02) .... **192**—6
●17K15BC (Ch. TS-408A) (See Model 21C1—Set **191**-13)
●17K15C (Ch. TS-408) (See Model 21C1—Set **191**-13)
●17K16 (Ch. TS-395A, -02) **192**—6
●17K16C (Ch. TS-408A) (See Model 21C1—Set **191**-13)
●17K17, A, AB, B (Ch. TS-402) (Also see PCB 106—Set 253-1) **237**—8
●17T1, 17T1B (Ch. TS-118) **121**–10
●17T1A, 17T1BA (Ch. TS-89) **121**–10
●17T2A, 17T2BA (Ch. TS-89) **121**–10
●17T2, 17T2B (Ch. TS-118) **121**–10
●17T3 (Ch. TS-118) **121**–10
●17T3A (Ch. TS-89) **121**–10
●17T3G (Ch. TS-221, -A) .. **159**–10
●17T3X1 (Ch. TS-118A, B) (See Model 14K1BH—Set **121**-10)
●17T4 (Ch. TS-118) (See Model 14K1BH—Set **121**-10)
●17T4C (Ch. TS-174) (See Model 14K1BH—Set **121**-10)
●17T4E (Ch. TS-221, -A) ... **159**–10
●17T5A (Ch. TS-214) .... **165**—7
●17T5C (Ch. TS-228) .... **165**—7
●17T5D (Ch. TS-236) **152**-4A
●17T5E, F (Ch. TS-314A, B, TS-315A, B) **167**–13
●17T6BD, C, D (Ch. TS-236) **152**-4A
●17T6BF, F (Ch. TS-228) ... **165**—7
●17T6G (Ch. TS-314A, B) .. **167**–13
●17T7, A (Ch. TS-325, TS-326) .... **171**—8
●17T8, A, B, BA (Ch. TS-325, TS-326) .... **171**—8
●17T9 (Ch. TS-325A, B) (See Model 17F12—Set **171**-8)
●17T9A (Ch. TS-326A, B) (See Model 17F12—Set **171**-8)
●17T9E (Ch. TS-325A, B) (See Model 17F12—Set **171**-8)
●17T9EF (Ch. TS-401) (See PCB 49—Set 183-1 and Model 21F1—Set **173**-9)
●17T10 (Ch. TS-325B) (See Model 17F12—Set **171**-8)
●17T10A (Ch. TS-326A, B) (See Model 17F12—Set **171**-8)
●17T10D (Ch. TS-401) (See PCB 49—Set 183-1 and Model 21F1—Set **173**-9)
●17T11 (Ch. TS-395, -02) .. **192**—6
●17T11C (Ch. TS-408A) (See Model 21C1—Set **191**-13)
●17T11E (Ch. TS-400A) .... **194**—9
●17T11EC (Ch. TS-408A) (See Model 21C1—Set **191**-13)

MOTOROLA—Cont.

●17T12, B (Ch. TS-395A, -02) .... **192**—6
●17T12C (Ch. TS-408A) (See Model 21C1—Set **191**-13)
●17T12W (Ch. TS-395A, -02) .... **192**—6
●17T12WC (Ch. TS-408A) (See Model 21C1—Set **191**-13)
●17T13 (Ch. TS-410A) (Also see PCB 76—Set 217-1) .... **194**—9
●17T13Y (Ch. TS-410Y) (See PCB 76—Set 217-1 and Model 17T13—Set **194**-9)
●17T14 (Ch. VTS-410A) (See PCB 76—Set 217-1 and Model 17T13—Set **194**-9)
●17T14Y (Ch. VTS-410Y) (See PCB 76—Set 217-1 and Model 17T13—Set **194** 9)
●17T15A, AE (Ch. VTS-402) (Also see PCB 106—Set 253-1) **237**—8
●17T16, B, W (Ch. TS-402) (Also see PCB 106—Set 253-1) .... **237**—8
●17T20 (Ch. TS-418) (Also See PCB 124—Set 280-1) .... **269**—9
●17T20B, E, M (Ch. VTS-418) (Also See PCB 124—Set 280-1) **269**—9
●17T21 (Ch. TS-418) (See PCB 124—Set 280-1 and Model 17T20—Set **269**-9)
●17T22B, E (Ch. VTS-418) (See PCB 124 — Set 280-1 and Model 17T20B—Set **269**-9)
●17T23, B (Ch. TS-418) (See PCB 124—Set 280-1 and Model 17T20—Set **269**-9)
●19CK1, B, 19CK2, B (Ch. TS-902A-03, -04 and BP-902A-01) **283**—9
●19CT1, B (Ch. TS-902A-03, -04 and BP-902A-01) .... **283**—9
●19F1 (Ch. TS-67, A and Radio Ch. HS-230) .... **111**—9
●19K1 (Ch. TS-67, -A) .... **111**—9
●19K2, 19K2B (Ch. TS-101) **122**—5
●19K2E, BE (Ch. TS-119, A) (See PCB 53—Set 187-1 and Model 19K2—Set **122**-5)
●19K3, 19K4, 19K4B (Ch. TS-101) .... **122**—5
●20F1, B (Ch. TS-119, A and Radio Ch. HS-230) (Also see PCB 53—Set 187-1) .... **122**—5
●20F2, B (Ch. TS-119B, C) (See PCB 53—Set 187-1 and Model 19K2—Set **122**-5)
●20K1, B, 20K2 (Ch. TS-119B, C) (See PCB 53—Set 187-1 and Model 19K2—Set **122**-5)
●20K3, B, 20K4, B (Ch. TS-119C, C1, D) (See PCB 53—Set 187-1 and Model 19K2—Set **122**-5)
●20K6, 20K6B (Ch. TS-307) **183**—9
●20T1, B, 20T2 (Ch. TS-119B, C) (See PCB 53—Set 187-1 and Model 19K3—Set **122**-5)
●20T2A, 20T2AB (Ch. TS-307) .... **183**—9
●20T2B (Ch. TS-119B, C) (See PCB 53—Set 187-1 and Model 19K2—Set **122**-5)
●20T3, 20T3B (Ch. TS-307) **183**—9
●21C1, B (Ch. TS-292A, B, C) (Also see PCB 63—Set 197-1 and PCB 73—Set 214-1) **191**–13
●21C1BD, BDY (Ch. WTS-292A, AY, B, BY, C, CY) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21C1BY (Ch. TS-292AY, BY, CY) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21C1D, DY (Ch. WTS-292A, AY, B, BY, C, CY) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21C1Y (Ch. TS-292AY, BY, CY) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21C2 (Ch. TS-502) (Also see PCB 106—Set 253-1) .... **237**—8
●21C2A, AB (Ch. WTS-502) (See PCB 106—Set 253-1 and Model 17K17—Set **237**-8)
●21C2B (Ch. TS-502) (Also see PCB 106—Set 253-1) .... **237**—8
●21C3, B (Ch. TS-528) .... **278**—7
●21C4, B (Ch. TS-533) ... **303**–18–S
●21F1, B (Ch. TS-351, A and Radio Ch. HS-316) .... **173**—9
●21F2, B (Ch. TS-292A, B, C and Radio Ch. HS-316A) (Also see PCB 63—Set 197-1 and PCB 73—Set 214-1) **191**–13
●21F2BY, 21F2F, FB, FBY, FY (Ch. WTS-292A, AY, B, BY, C, CY and Radio Ch. HS-316A) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—**191**-13)
●21F2Y (Ch. TS-292AY, BY, CY and Radio Ch. HS-316A) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21F3, B (Ch. TS-292A, B, C) (Also see PCB 63—Set 197-1 and PCB 73—Set 214-1) **191**–13
●21F3BD, BDY (Ch. WTS-292A, AY, B, BY, C, CY and Radio Ch. HS-316A) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21F3BY (Ch. TS-292AY, BY, CY and Radio Ch. HS-316A) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21F3D, DY (Ch. WTS-292A, AY, B, BY, C, CY and Radio Ch. HS-316A) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21F3Y (Ch. TS-292AY, BY, CY and Radio Ch. HS-316A) (See PCB 63—Set 197-1, PCB 73—Set 214-1 and Model 21C1—Set **191**-13)
●21F5, B (Ch. TS-502, QTS-502 and Radio Ch. HS-409) (Also See PCB 106—Set 253-1) .. **237**—8

NOTE: PCB Denotes **Production Change Bulletin.**

Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

MOTOROLA—Cont.

MOTOROLA—Cont.

MOTOROLA—Cont.

MOTOROLA—Cont.

MOTOROLA—Cont.

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

MOTOROLA—Cont.

Ch. TS-221, -A (See Model 17K5E)
Ch. TS-228 (See Model 17F11)
Ch. TS-236 (See Model 17K8)
Ch. TS-275 (See Model 14P2)
Ch. TS-292A, B, C (See Model 21C1)
Ch. TS-292AY, BY, CY (See Model 21C1Y)
Ch. TS-307 (See Model 20K6)
Ch. TS-314A, B, TS-315A, B (See Model 17K10E)
Ch. TS-324, A, B (See Model 21T4A)
Ch. TS-324AY, BY (See Models 21T4A and TK-19M)
Ch. TS-325, A, TS-326, A (See Model 17F12)
Ch. TS-326Y (See Models 17F12 and VTK-17M)
Ch. TS-351, A (See Model 21F1)
Ch. TS-395, -02 (See Model 17F13)
Ch. TS-400A (See Model 17T11E)
Ch. TS-401 (See Model 17F12D)
Ch. TS-402 (See Model 17K17)
Ch. TS-402Y (See Model Y17K17)
Ch. TS-408A (See Model 17F13C)
Ch. TS-408Y (See Models 17F13C and TK-19M)
Ch. TS-410A (See Model 17T13)
Ch. TS-410Y (See Model 17T13Y)
Ch. TS-418 (See Model 17T20)
Ch. TS-418Y (See Model Y17T20)
Ch. TS-501A (See Model 21T3)
Ch. TS-501Y (See Models 21T3 and TK-24M)
Ch. TS-502 (See Model 21C2)
Ch. TS-502Y (See Model Y21C2)
Ch. TS-507 (See Model 21T14E)
Ch. TS-507Y (See Model Y21T14E)
Ch. TS-524 (See Model 21T13)
Ch. TS-524Y (See Model Y21T13)
Ch. TS-528 (See Model 21C3)
Ch. TS-528Y (See Model Y21C3)
Ch. TS-531 (See Model 21K30)
Ch. TS-531Y (See Model Y21K30)
Ch. TS-533 (See Model 21C4)
Ch. TS-534 (See Model 21T26B)
Ch. TS-602 (See Model 24K1)
Ch. TS-602Y (See Model Y24K1)
Ch. TS-603 (See Model 24K4)
Ch. TS-603Y (See Model Y24K4)
Ch. TS-609 (See Model 24T2)
Ch. TS-609Y (See Model Y24T2)
Ch. TS-902A-03, -04 and BP-902A-01 (See Model 19CK1)
Ch. TS-902AY-03, 04 and BP-902A-01 (See Model Y19CK1)
Ch. TTS-502 (See Model 21T8A)
Ch. TTS-502Y (See Model Y21T8A)
Ch. TTS-525, Y (See Model 21K20, Y)
Ch. VTS-292A, AY, B, BY, C, CY (See Model 21K10, Y)
Ch. VTS-402 (See Model 17T15A)
Ch. VTS-402Y (See Model Y17T15A)
Ch. VTS-410 (See Model 17T14)
Ch. VTS-410Y (See Model 17T14Y)
Ch. VTS-418 (See Model 17T20B)
Ch. VTS-418Y (See Model Y17T20B)
Ch. VTS-502 (See Model 21T11)
Ch. VTS-502Y (See Model Y21T11)
Ch. VTS-505 (See Model 21T10)
Ch. VTS-505Y (See Model Y21T10)
Ch. VTS-518 (See Model 21T17)
Ch. VTS-518Y (See Model Y21T17)
Ch. WTS-292A, AY, B, BY, C, CY (See Model 21C1BD, BDY)
Ch. WTS-402Y (See Model Y21K12A)
Ch. WTS-502 (See Model 21K12A)
Ch. WTS-518 (See Model 21K19)
Ch. WTS-518Y (See Model Y21K19)
Ch. WTS-525, A-00, A-01, A-02, A-03 (See Model 21K20)
Ch. WTS-525Y, A-00, A-01, A-02, A-03 (See Model Y21K20)
Ch. WTS-531 (See Model 21K29)
Ch. WTS-531Y (See Model Y21K29)
Ch. 1A ..... 134—8
Ch. 1B ..... 136—11
Ch. 2A ..... 197—7
Ch. 2M ..... 197—7
Ch. 8A 46-16
Ch. 10A 106-10

MUNTZ

●M30 (Ch. TV-16A1) ..... 108—8
●M31 (Ch. TV-16A2) ..... 108—8
●M31 (Ch. TV17A2) 116-10
●M31R (Ch. TV17A3) (See Model M32 (Ch. TV17A3)—Set 116-10)
●M31R, M32 (Ch. TV-16A3) 108—8
●M32 (Ch. TV17A2) 116-10
●M32 (Ch. TV17A3) 116-10
●M32R (Ch. TV17A3) (See Model M32 (Ch. TV17A3)—Set 116-10)
●M33 (Ch. TV17A4) 116-10
●M34 (Ch. TV17A4) (For TV Ch. only see Model M33—Set 116-10)
●M41, M42 (Ch. TV17A3A) (See Model 1750)
●M46 (Ch. TV17A7) (See Model 2053)
●M49 (Ch. TV17A7) (See Model 2053)
●M-158 ..... 97A-10
●M-159 ..... 97A-10
●M159A, B 97A-10
●M-169 ..... 96—6
●317T1 (Ch. 37C4) ..... 236—9
●317T2 (Ch. 37A2) (See Model 2055—Set 207-5)
●321C1 (Ch. 37A4) ..... 236—9
●321D1 (Ch. 37A4) ..... 236—9
●321T1, 321T2 (Ch. 17B2) (See Model 2055—Set 207-5)
●321T3 (Ch. 37B4) ..... 236—9
●321T4 (Ch. 37A4) ..... 236—9
●321T5 (Ch. 37B4) ..... 236—9
●324T2 (Ch. 17B8, Above Serial No. 374500) (See PCB 87—Set 230-1 and Model 2763A—Set 208-7)
●327T1 (Ch. 17B8, Above Serial No. 374500) (See PCB 87—Set 230-1 and Model 2763A—Set 208-7)
●421T1, 421T1N, 421T2 (Ch. 47A4) 274-10

MOTOROLA—Cont.

●1750, 1751, 1752 (Ch. 17A3A) (See PCB 33—Set 159-3 and Model M31—Set 116-10)
●2053 (Ch. 17A7) (See PCB 33—Set 159-3 and Model M31—Set 116-10)
●2053-A (Ch. 17B1, 17B2) (See Ch. 17B1—Set 163-8)
●2054 (Ch. 17A7) (See PCB 33—Set 159-3 and Model M31—Set 116-10)
●2054-A (Ch. 17B1, 17B2) (For TV Ch. only see Ch. 17B1—Set 163-8)
●2055 (Ch. 17A7) (See PCB 33—Set 159-3 and Model M31—Set 116-10)
●2055 (Ch. 17B2, Above Serial No. 369500 or Ch. 17B6, Above Serial No. 3619500) ..... 207—5
●2055-A (Ch. 17B1, 17B2) (See Ch. 17B1—Set 163-8)
●2055A, AU (Ch. 17B2, Above Serial No. 369500 or Ch. 17B6, Above Serial No. 3619200) ..... 207—5
●2055-B (Ch. 17B2) (See Ch. 17B2—Set 163-8)
●2055B (Ch. 17B2, Above Serial No. 369500 or Ch. 17B6, Above Serial No. 3619500) ..... 207—5
●2056 (Ch. 17A7) (See PCB 33—Set 159-3 and Model M31—Set 116-10)
●2056-A (Ch. 17B1, 17B2) (See Ch. 17B1—Set 163-8)
●2060 ..... 164—6
●2066 (Ch. 17B2, Above Serial No. 369500 or Ch. 17B6, Above Serial No. 3619500) ..... 207—5
●2158A (Ch. 17B2, Above Serial No. 369500 or Ch. 17B6, Above Serial No. 3619500) ..... 207—5
●2158-A (Ch. 17B5, 17B6) (See Ch. 17B5—Set 163-8)
●2159A (Ch. 17B2, Above Serial No. 369500 or Ch. 17B6, Above Serial No. 3619500) ..... 207—5
●2159-A (Ch. 17B5, 17B6) (See Ch. 17B5—Set 163-8)
●2162 (Ch. 17B2, Above Serial No. 369500 or Ch. 17B6, Above Serial No. 3619500) ..... 207—5
●2162-A (Ch. 17B5, 17B6) (See Ch. 17B5—Set 163-8)
●2457-A (Ch. 17B3, 17B4) (See Ch. 17B3—Set 163-8)
●2461-A (Ch. 17B3, 17B4) (See Ch. 17B3—Set 163-8)
●2763A, 2764A, 2765A (Ch. 17B8, Above Serial No. 374500) (Also See PCB 76—Set 230-1) .. 208—7
●Ch. 17B1, 17B2 ..... 163—8
●Ch. 17B2 (Above Serial No. 369-500) (See Model 2055)
●Ch. 17B3, 17B4, 17B5, 17B6 ..... 163—8
Ch. 17B6 (Above Serial No. 3619-500) (See Model 2055)
Ch. 17B8 (Above Serial No. 374500) (See Model 2763A)
Ch. 37A2 (See Model 317T2)
Ch. 37A4 (See Model 321C1)
Ch. 37B4 (See Model 321T3)
Ch. 37C4 (See Model 317T1)
Ch. 47A4 (See Model 421T1)

MURPHY

112 ..... 2—15
113 ..... 2—2
122 (See Model 112—Set 2-15)

MUSITRON

PT-10 ..... 15—20
PX 16-28
SRC-3 ..... 13—21
101 "Piccolo" ..... 13—21
103 "Piccolo" ..... 15—21
105 ..... 21—26
202 ..... 21—27

MUTUAL BUYING SYNDICATE (See Drexel or General)

NASH

AC-152 (NH2AC) ..... 184—9
AC-154 (NH4AC) ..... 264—13
NH3C ..... 215—6
6MN082 ..... 9—25

NATIONAL CO.

Criterion ..... 263—9
Horizon 5 ..... 267—10
Horizon 10 (Also See PCB 134—Set 293-1 ..... 268—10
Horizon 20, 20A (Also See PCB 134—Set 293-1 ..... 273—11
HFS ..... 62—14
HRO-7R, HRO-7T ..... 50—12
HRO-50 ..... 112—7
HRO-50R1, HRO-50T1 ..... 169—11
HRO-60 ..... 202—4
NC-2-40DR, NC-2-40DT ..... 41—16
NC-33 ..... 47—14
NC-46 ..... 9—26
NC-57 ..... 48—14
NC-88 ..... 233—7
NC-98 ..... 264—14
NC-108R, NC-108T ..... 47—15
NC-125 ..... 139—10
NC-173R, NC-173T ..... 40—13
NC-183R, NC-183T ..... 49—15
●NC-TV7, NC-TV7M, NC-TV7W ..... 67—14
●NC-TV-10C, T, W (Also see PCB 1—Set 103-19) ..... 94—5
●NC-TV-12C, W (Also see PCB 1—Set 103-19) ..... 94—5
●NC-TV-1001 (Also see PCB 1—Set 103-19) ..... 94—5
●NC-TV-1025 (Also see PCB 1—Set 103-19) ..... 94—5
●NC-TV-1201, NC-TV-1202 (Also see PCB 1—Set 103-19) ..... 94—5
●NC-TV-1225, NC-TV-1226 (Also see PCB 1—Set 103-19) ..... 94—5
SW-54 ..... 141—9
●TV-1201 ..... 119—10
●TV-1226 ..... 119—10

NATIONAL—Cont.

●TV-1601 ..... 119—10
●TV-1625 ..... 119—10
●TV-1701, TV-1702 ..... 145—7
●TV-1725, TV-1727 ..... 145—7
●TV-1729, TV-1730, TV-1731, TV-1732 ..... 145—7
●T-2029, TV-2030 ..... 145—7

NATIONAL UNION

G-613 "Commuter" ..... 19—23
G-619 ..... 11—35
571, 571A, 571B ..... 17—22

NEWCOMB

A-104R ..... 196—8
D-10 ..... 303—7
D-12 ..... 302—8
H-10 ..... 14—20
H-14 15-22
KX-30 ..... 15—23

NOBLITT SPARKS (See Arvin)

NORDIC

501F55 ..... 297—5

NORELCO

●PT200, PT300 ..... 155—13
●588A ..... 164—7
●1200A (See Model 588A—Set 164-7)

OAK
(See Record Changer Listing)

OLDSMOBILE

982375 ..... 20—25
982399 ..... 59—14
982420 ..... 57—12
982421 ..... 87—7
982454 ..... 60—16
982543 ..... 157—7
982544, 982573 ..... 96—7
982579 ..... 157—7
982697, 982698 (See Model 982544—Set 96-7)
982699, 982700 ..... 150—10
982990 ..... 225—13
983004 ..... 235—8
983090 ..... 267—7
983091 ..... 261—10
983204 (See PCB 123—Set 277-1 and Model 983090—Set 267-7)
983205 (See PCB 122—Set 277-1 and Model 983091—Set 261-1)

OLYMPIC

●DX-214, DX-215, DX-216 ..... 106—11
●DX-619, DX-620, DX-621, DX-622 ..... 106—11
●DX-931, DX-932 ..... 106—11
●DX-950 ..... 106—11
HF500 ..... 256—11
RTU-3H (Duplicator) ..... 62—15
●TV-104, TV-105 ..... 67—15
●TV-106, TV-107, TV-108 (See Model TV-104—Set 67-15)
●TV-246 (See Model TV-946—Set 67-15)
●TV-247 (See Model TV-947—Set 85-10)
●TV-248 (See Model TV-948—Set 67-15)
●TV-922 ..... 58—14
●TV-922L ..... 67—15
●TV-928 (See Model TV-922—Set 58-14)
●TV-944, TV-945 ..... 67—15
●TV-946 (See Model TV-104—Set 67-15)
●TV-947 ..... 85—10
●TV-948 (See Model TV-104—Set 67-15)
●TV-949, TV-950 ..... 85—10
●XL-210, XL-211 ..... 109—8
●XL-612, XL-613 ..... 109—8
6-501, 6-502, 6-502-P, 6-503 4—10
6-501V-U (See Model 6-501W-U—Set 3-20)
6-501W-U, 6-502-U ..... 3—20
6-504, 6-504L ..... 3—25
6-601W, 6-601V, 6-602 ..... 8—24
6-604 Series ..... 22—21
6-604V-110, 6-604V-220, 6-604W-110, 6-604W-150, 6-604-220 (See Model 6-604 Series—Set 22-21)
6-606 ..... 4—36
6-606-A ..... 11—17
6-606-U ..... 11—18
6-617 ..... 4—7
6-617U (See Model 6-617—Set 4-7)
7-421V, 7-421W, 7-421X .. 57—13
7-435V, 7-435W ..... 34—13
7-526 ..... 30—21
7-532W, 7-532V ..... 32—15
7-537 ..... 37—13
7-622, 7-638 ..... 34—14
7-724 ..... 29—19
7-728 (See Model 7-724—Set 29-19)
7-925, 7-934, 7-936, 7-939 31—22
8-451 ..... 48—15
8-533V, 8-533W ..... 57—14
8-618 ..... 35—16
8-925, 8-934, 8-936 ..... 45—19
9-435V, 9-435W ..... 152—11
●14TD30, 14TD31, 14TD52, 14TD53 (Ch. "AD") ..... 290—5
●17C (See Model 752—Set 126-8)
●17C24 ..... 182—7
●17C44 (Ch. TK17) ..... 196—9
●17C57 (Ch. TM-17) ..... 216—7
●17CR20 (Ch. "R") ..... 267—8
●17D (See Model 752—Set 126-8)
●17K31, 17K32 ..... 182—6
●17K41, 17K42 (Ch. TK17) . 196—9
●17K50 (Ch. TK17) ..... 196—9
●17K55 (Ch. TM-17) ..... 216—7
●17KE65, 17KE66 (Ch. "AE") ..... 290—5
●17T20 ..... 182—6
●17T33 ..... 182—6
●17T40 (Ch. TK17) ..... 196—9
●17T48 (Ch. TK17) ..... 196—9
●17T56 (Ch. TM-17) ..... 216—7
●17T71 (Ch. TM-17) (See Model 17C57—Set 216-7)

OLYMPIC—Cont.

●17T75 (Ch. TM-17) (See Model 17C57—Set 216-7)
●17T83 (Ch. TM-17) (See Model 17C57—Set 216-7)
●17T85 (Ch. TM-17) (See Model 17C57—Set 216-7)
●17TE37, 17TE38 (Ch. "AE") ..... 290—5
●17TR10, 17TR19 (Ch. "R") 267—8
●17TW27 (Ch. W) ..... 288—7
●20C22 (See Model 967—Set 139-11)
●20C45 (Ch. TL20) ..... 196—9
●20C52, 20C53 (Ch. TL20) 196—9
●20D (See Model 967—Set 139-11)
●20D49 (Ch. TL20) ..... 196—9
●20K43 (Ch. TL20) ..... 196—9
●20K51 (Ch. TL20) ..... 196—9
●20T21 (See Model 967—Set 139-11)
●20T46, 20T47 (Ch. TL20) .. 196—9
●21C28 ..... 182—7
●21C65, 21C68 (Ch. TN-21) 214—7
●21C72, 21C73 (Ch. TN-21) 214—7
●21C80, 21C81, 21C82 (Ch. TN-21) (See Model 21C65—Set 214-7)
●21C89, 21C90, 21C91, 21C92 (Ch. TN-21) (See Model 21C65—Set 214—7)
●21CF61, 21CF63 (Ch. "AF") ..... 303—8
●21CH59 (Ch. "AH") ..... 303—8
●21CL81 (Ch. "AL") ..... 303—8
●21CS12, 21CS18 (Ch. "S") 267—8
●21CU15, 21CU16 (Ch. "U") ..... 267—8
●21CX29 (Ch. X) ..... 288—7
●21CZ57, 21CZ72 (Ch. "Z") 297—6
●21D29 ..... 182—7
●21D60, 21D64 (Ch. TN-21) 214—7
●21DZ73 (Ch. "Z") ..... 297—6
●21K26 ..... 182—7
●21K61, 21K62, 21K63B (Ch. TN-21) ..... 214—7
●21K101 (Ch. TN-21) (See Model 21C65—Set 214-7)
●21KS22 (Ch. "S") ..... 267—8
●21KZ23, 21KZ25 (Ch. "Z") 297—6
●21KZ39 (Ch. "Z") ..... 297—6
●21T27 ..... 182—7
●21T58 (Ch. TN-21) ..... 214—7
●21T69, 21T70 (Ch. TN-21) 214—7
●21T74 (Ch. TN-21) ..... 214—7
●21T86 (Ch. TN-21) (See Model 21C65—Set 214-7)
●21TF60, 21TF62 (Ch. "AF") 303—8
●21TL80 (Ch. "AL") ..... 303—8
●21TS11, 21TS17 (Ch. "S") 267—8
●21TU14 (Ch. "U") ..... 267—8
●21TX28 (Ch. X) ..... 288—7
●21TZ56 (Ch. "Z") ..... 297—6
●22D100 through 22D109 (Ch. TN-21) (See Model 21C65—Set 214-7)
●22D111 (Ch. TN-21) (See Model 21C65—Set 214-7)
●22D113 through 22D117 (Ch. TN-21) (See Model 21C65—Set 214-7)
●22DZ101, 22DZ116 (Ch. "Z") ..... 297—6
●22DZ120, 22DZ121, 22DZ122, 22DZ123, 22DZ124 (Ch. "Z") ..... 297—6
S1-421W ..... 151—9
51-435-W (See Model 9-435V—Set 152-11)
402 ..... 284—8
445 ..... 264—15
489 ..... 154—9
505, 505B ..... 259—10
572B, M ..... 257—11
●752, 752U, 753, 753U ... 126—8
●754 (See Model 752—Set 126-8)
●755, 755U ..... 126—8
●757 (See Model 752—Set 126-8)
●758 (See Model 752—Set 126-8)
●762 ..... 139—11
●764, 764U ..... 126—8
●765, 766 (See Model 752—Set 126-8)
●767 ..... 126—8
●768, 769, 773 (See Model 752—Set 126-8)
●783 ..... 139—11
●785 (See Model 762—Set 139-11)
●791, 792 (See Model 752—Set 126-8)
●967, 968, 970 ..... 139—11
971, 972, 973 (See Model 967—Set 139-11)
Ch. "AD" (See Model 14TD30)
Ch. "AE" (See Model 17KE65)
Ch. "AF" (See Model 21CF61)
Ch. "AH" (See Model 21CH59)
Ch. "AL" (See Model 21CL81)
Ch. "R" (See Model 17CR20)
Ch. "S" (See Model 21CS12)
Ch. "W" (See Model 17TW27)
Ch. "U" (See Model 21CU15)
Ch. "X" (See Model 21CX29)
Ch. "Z" (See Model 21CZ57)
Ch. TK17 (See Model 17T40)
Ch. TL20 (See Model 20C45)
Ch. TM-17 (See Model 17C57)
Ch. TN-21 (See Model 21C65)

OPERADIO

1A30 ..... 34—15
1A35 ..... 33—15
1A45 ..... 48—16
1A65 ..... 52—14
1A70-A ..... 47—16
1A140 ..... 46—17
4A25-E ..... 101—8
4A30-A ..... 102—9
4A35 ..... 100—9
4A50-A, 4A51-A ..... 102—9
4A55 ..... 100—9
4M25C ..... 99—11
11A55 ..... 113—6
530, 531, 1335 "Soundcaster" 37-14

ORTHOSONIC
(See Electronic Labs.)

PACIFIC MERCURY
(See Mercury)

PACKARD

PA-382042 ..... 20—26
PA-393607 ..... 57—15
416387 ..... 160—7
416394 ..... 145—8
439279 (See PCB 104—Set 250-1 and Model 416387—Set 160-7)
439310 (See PCB 104—Set 250-1 and Model 416387—Set 160-7)
439338, 439339 ..... 229—8
439661 (See PCB 104—Set 250-1 and Model 416387—Set 160-7)
439663 (See PCB 101—Set 247-1 and Model 439338—Set 229-8)
439665 (See PCB 104—Set 250-1 and Model 416387—Set 160-7)
439666 (See PCB 101—Set 247-1 and Model 439338—Set 229-8)
472046 ..... 300—7
472047, 472048 ..... 299—6

PACKARD-BELL

C1362 ..... 12—21
C1461 ..... 12—22
5DA ..... 16—29
5D8 ..... 44—15
5FP ..... 1—29
100 ..... 53—16
261 ..... 21—28
471 ..... 30—22
531 ..... 231—11
532 ..... 232—4
541 ..... 270—12
543 ..... 270—12
551 ..... 2—7
551-D (See Model 551—Set 2-7)
561 ..... 2—35
563 (See Model 561—Set 2-35)
576 (See Model 551—Set 2-7)
568 ..... 19—24
571 (See Model 572—Set 22-22)
572 ..... 22—22
581 (See Model 5DB—Set 44-15)
621 ..... 181—8
631 ..... 256—12
632 ..... 266—11
651 ..... 4—42
661 ..... 8—25
662 ..... 13—22
673A, 673B ..... 46—18
682 ..... 54—16
771 ..... 44—16
861 ..... 17—23
872 ..... 31—23
880, 880A ..... 46—16
881-A, 881-B ..... 47—17
884, 892 ..... 74—7
1052, 1052A ..... 8—26
1054B ..... 13—23
1063 ..... 18—25
1181, 1181A ..... 75—12
1273 ..... 46—19
1472 ..... 48—17
●1841, 1842 (Ch. 1840) ... 260—12
●1941, 1942 (Ch. 1840) ... 260—12
●2001TV, 2002TV ..... 98—8
●2041, 2042, 2043, 2044 (Ch. 2040) ..... 233—8
●2101, 2102 ..... 123—10
●2105, 2105A ..... 123—10
●2115, 2116 (Ch. 2115-2) . 195—9
●2117 (Ch. 2117) ..... 195—9
●2118 ..... 204—7
●2141, 2142, 2133, 2144 (Ch. 2040) ..... 233—8
●2202, 2204 ..... 123—10
●2291TV, 2292TV, 2293TV, 2294TV, 2295TV, 2296TV ..... 82—10
●2297-TV De Luxe, 2297-TV Standard ..... 82—10
●2298-TV ..... 82—10
●2301-TV ..... 126—9
●2302 (See Model 2301—Set 126-9)
●2311 ..... 161—6
●2421, 2422, 2423 ..... 187—9
●2601-TV ..... 122—6
●2602 ..... 123—10
●2621, 2622 (Ch. 2621-2) .. 196—10
●2692-TV ..... 122—7
●2721, 2722 (Ch. 2720) ... 207—6
●2723, 2724 (Ch. 2710) ... 207—6
●2742, 2743 (Ch. 2740) ... 238—10
●2801-TV, 2801A-TV ..... 126—9
●2803TV ..... 129—8
●2811A ..... 161—6
●2841 (Ch. 2840) ..... 242—7
●2842, 2843, 2844 (Ch. 2740) ..... 238—10
●2846, 2847 (Ch. 2840) (See Model 2841—Set 242-7)
●2921, 2922 ..... 213—4
●2941 (Ch. 2940-1) ..... 238—10
●2942 (Ch. 2840) ..... 242—7
●2946, 2947 (Ch. 2840) (See Model 2841—Set 242—7)
●2991TV ..... 94—6
●3041 (Ch. 2940-1) ..... 238—10
●3042 (Ch. 3040-1) ..... 242—7
●3142 (Ch. 3040-1) ..... 242—7
●17101, 17104, U (Ch. T-10) (Also See PCB 132—Set 291-1) 274—11
●21102, U (Ch. T-10) (Also See PCB 132—Set 291-1) ..... 274—11
●21103, U (Ch. T-1) (Also See PCB 136—Set 296-1) ..... 282—11
●21201, U (Ch. T-10) (Also See PCB 132—Set 291-1) ..... 274—11
●21202, U (Ch. T-1) (Also See PCB 136—Set 296-1) ..... 282—11
●21204, U (Ch. T-10) (Also See PCB 132—Set 291-1) ..... 274—11
●21206, U (Ch. T-10) (See PCB 132—Set 291-1 and Model 17101—Set 274-11)
●21401, U (Ch. T-1 (Also See PCB 136—Set 296-1) ..... 282—11
●21402, U (Ch. T-10) (See PCB 132—Set 291-1 and Model 17101—Set 274-11)
●24203, U, 24205, U (Ch. T-20) ..... 302—9
Ch. T-1 (See Model 21103)
Ch. T-10 (See Model 17101)
Ch. T-20 (See Model 24203)
Ch. 1840 (See Model 1841)
Ch. 2040 (See Model 2041)
Ch. 2115-2 (See Model 2115)
Ch. 2117 (See Model 2117)
Ch. 2621-2 (See Model 2621)

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

PACKARD-BELL—Cont.

Ch. 2710 (See Model 2723)
Ch. 2720 (See Model 2721)
Ch. 2740 (See Model 2742)
Ch. 2840 (See Model 2841)
Ch. 2940-1 (See Model 2941)
Ch. 3040-1 (See Model 3042)

PARKVIEW

● 17X ....185—9

PATHE

● 17-N25, 17-RPC, 17-RPT (Ch. TAP) (Similar to Chassis) ....127—12

PEDERSEN

PCP-20 ....289—7
PRT-1B, PRT-1LC ....290—6
W-30 ....290—7

PENTRON
(Also see Recorder Listing)

AFM ....264—16
AM-T ....183—11
F-100 ....184—10
HFP-1 ....253—10
MM4 ....178—8

PHILCO (Also see Record Changer Listing)

● A-T1814, A-T1816, L (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T1816 (Code 129) (Ch. 81A, D-81) (Also See PCB 115—Set 267-1) ....227—10
● A-T1817, HM (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T1818 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-T1856, HM, L, W (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T1856W (Code 129) (Ch. 81A, D-81) (Also See PCB 115—Set 267-1) ....227—10
● A-T1858 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-T2230, L (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T2230 (Code 129) (Ch. 81A, D-81) (Also See PCB 115—Set 267-1) ....227—10
● A-T2232 (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T2233, A-T2234 (Code 128) (Ch. 91, A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-T2262HM (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T2266, L, A-T2271HM (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-T2272, L (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T2272 (Code 129) (Ch. 81A, D-81) (Also See PCB 115—Set 267-1) ....227—10
● A-2274, W (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T2274S (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-T2275S (Code 129) (Ch. 81A, D-81) (Also See PCB 115—Set 267-1) ....227—10
● A-T2277, L (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T2277S (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-T2279 (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T2280, A-T2281 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-T2288, HM (Code 123) (Ch. 81, H-1, H-1A) (See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7)
● A-T2288HMS, S, A-T2289 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-T2292, L (Code 128) (Ch. 94, A, J-5 and Radio Ch. RT-10) (For TV Ch. Only See PCB 85—Set 226-1 and Model 53-T2285—Set 213-5)
● A-T2294 (Code 128) (Ch. 94, J-5 and Radio Ch. RT-11) (For TV Ch. Only See PCB 85—Set 226-1 and Model 53-T2285—Set 213-5)
● A-UT1816, L, A-UT1817 (Code 123) (Ch. 81, H-1, H-1A) (For TV Ch. See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7, For UHF Tuner See Model UT21B—Set 223-9)
● A-UT1818 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T-1853—Set 185-10)

PHILCO—Cont.

● A-UT1856, HM, L, W (Code 123) (Ch. 81, H-1, H-1A) (For TV Ch. see PCB 83—Set 224-1 and Model 53-T1824—Set 201-7, for UHF Tuner see Model UT21B—Set 223-9)
● A-UT1858 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-UT2230, A-UT2232 (Code 123) (Ch. 81, H-1, H-1A) (For TV Ch. See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7, For UHF Tuner See Model UT21B—Set 223-9)
● A-UT2233, A-UT2234, A-UT2266 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-UT2272 (Code 123) (Ch. 81, H-1, H-1A) (For TV Ch. see PCB 83—Set 224-1 and Model 53-T1824—Set 201-7, for UHF Tuner see Model UT21B—Set 223-9)
● A-UT2272 (Code 129) (Ch. 81A, D-81) (Also See PCB 115—Set 267-1) ....227—10
● A-UT2274, W (Code 123) (Ch. 81, H-1, H-1A) (For TV Ch. see PCB 83—Set 224-1 and Model 53-T1824—Set 201-7, for UHF Tuner see Model UT21B—Set 223-9)
● A-UT2277, A-UT2279 (Code 123) (Ch. 81, H-1, H-1A) (For TV Ch. See PCB 83—Set 224-1 and Model 53-T1824—Set 201-7, For UHF Tuner See Model UT21B—Set 223-9)
● A-UT2280, A-UT2281 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1 and Model 53-T1853—Set 185-10)
● A-UT2288 (Code 123) (Ch. 81, H-1, H-1A) (For TV Ch. see PCB 83—Set 224-1 and Model 53-T1824—Set 201-7, for UHF Tuner see Model UT21B—Set 223-9)
● A-UT2289 (Code 128) (Ch. 91A, J-2) (See PCB 66—Set 203-1, PCB 82—Set 223-1, and Model 53-T1853—Set 185-10)
● A-UT2292L (Code 128) (Ch. 94A, J-5 and Radio Ch. RT-10) (For TV Ch. Only See PCB 85—Set 226-1 and Model 53-T2285—Set 213-5)

B569 (Code 121) ....261—11
B570 (Code 121) ....228—13
B570 (Codes 122, 124) ....257—12
B572 (Code 121) (See Model B570—Set 228-13)
B572 (Code 122) ....257—12
B574 (Code 121) ....229—9
B649 (See Model B650—Set 226-5)
B650 ....226—5
B651 (See Model 52-640—Set 153-12)
B-652 ....234—10
B656 (See Model 53-656—Set 187-10)
B710 ....223—8
B711 (Code 121) (See Model B710—Set 223-8)
B712 (Code 121) (See Model 53-701—Set 193-6)
B714 (Codes 121, 123) ....229—10
B714X (Code 121) ....229—10
BB04 (See Model 53-804—Set 210-4)
B-956 ....218—8
B1349 ....259—11
B1350 (See Model 53-1350—Set 203-7)
B-1352 ....235—9
B1750 (See Model 53-1750—Set 203-7)
B1752, B1753 ....240—6
B1754 (See Model 53-1754—Set 214-8)
B1756 ....241—10
C-570 (Codes 124,126) ....272—9
C-579, C-580 ....272—10
C-583, C-584, C-587 (Codes 124, 126) ....272—9
C-660 (Code 121) ....271—8
C-663 ....271—9
C-666 (Codes 121, 125)....294—9
C-667 (Code 121)...........279—9
C-710 (Codes 124, 126) ...272—9
C-716, C-718, C-720 ....272—10
C-721, C-722, C-723, C-724 (Codes 124, 126) ....272—9
C-1332 (Code 121) ....275—10
C-1334 ....285—11
C-1340, C-1341, C-1342, C-1343 ....285—11
C-1347 ....279—10
C-1348 ....259—11
C-1755 ....279—10
C-1758 (See Model B-1756—Set 241-10)
C-4608 (Code 121) (See Mopar Model 802—Set 18-24)
C-4608 (Code 122) (See Mopar Model 802 Revised—Set 42-19)
C-4908 (See Mopar Model 805—Set 71-11)
C-5009 (See Mopar Model 809—Set 71-11)
C-5010 (See Mopar Model 805—Set 71-11)
C-5109 (See Mopar Model 815—Set 139-8)
C-5110 (See Mopar Model 816—Set 139-8)
C-5111 (See Mopar Model 817—Set 139-8)
C-5209 (See Mopar Model 824—Set 202-3)
C-5409 (See Mopar Model 830—Set 249-10)
C-5509 (See Mopar Model 835—Set 284-10)
C-5595 (See Mopar Model 902—Set 279-8)
C-5596 (See Mopar Model 903—Set 279-8)

PHILCO—Cont.

CR-2 ....35—17
CR-4, CR-6 ....33—17
CR-8 ....38—13
CR-9 ....44—17
CR-9R (See Model CR-9—Set 44-17)
CR-12 ....39—16
CR-501 ....142—9
CR-503 ....128—10
CR-505 ....130—10
D-1347 (See Model C-1347—Set 279-10)
D-1757 (See Model C-1347)—Set 279-10)
D-5107 (See Mopar Model 813—Set 139-8)
D-5207 (See Mopar Model 820—Set 202-3)
D-5407 (See Mopar Model 820—Set 202-3)
P-4635 (See Packard Model PA-382042—Set 20-26)
P-4735 (See Packard Model PA-393607—Set 57-15)
P-5106 (See Mopar Model 812—Set 139-8)
P-5206 (See Mopar Model 819—Set 202-3)
P-5506 (See Mopar Model 832—Set 284-10)
PD-4908 (See Mopar Model 803—Set 66-12)
S-4624, S-4625 (See Studebaker Model S-4624—Set 21-32)
S-4626, S-4627 (See Studebaker Model S-4627—Set 19-32)
S-5123 (See Studebaker Model AC2113—Set 172-11)
S-5127 (See Studebaker Model AC-2111—Set 166-15)
S-5323 (See Studebaker Model AC-2301—Set 213-8)
S-5327 (See Studebaker Model AC-2300—Set 229-14)
S-5524 (See Studebaker Model AC-2301—Set 213-8)
S-5528, S-5529 (See Studebaker Model AC-2300—Set 229-14)
UN6-100 ....19—26
UN6-400 ....30—23
UN6-450 ....18—26
UN6-500 ....17—24
UN6-550 ....31—24
UT20A, B Tel. UHF Tuner (See PCB 82—Set 223-1)
UT20D Tel. UHF Tuner (See PCB 111—Set 260-1)
UT21 Tel. UHF Tuner (See PCB 115—Set 267-1)
UT-21A, B Tel. UHF Tuner 223—9
UT21C Tel. UHF Tuner (See Model A-UT2272—Set 227-10)
UT21D Tel. UHF Tuner (See Model 18BU3000—Set 227-10)
UT25 Tel. UHF Tuner (See PCB 115—Set 267-1)
● 18B 3000 (Code 130) (Ch. R-181, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 18B 3001 (Code 130) (Ch. R-181, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 18B3002 (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 18B 3100, HM, L (Code 130) (Ch. R-181, D-181) (Also See PCB 115—Set 267-L) ....227—10
● 18B3100W (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 18B3100—Set 227-10)
● 18B3102, L (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 18B3103 (Code 140) Ch. R-191, D-191) (See PCB 111—Set 260-1 and Model 18B3002—Set 231-12)
● 18B3104 (Code 150) (Ch. R-201, D-201) ....241—11
● 18BU3000 (Code 130) (Ch. R-181U, D-181) (Also see PCB 115—Set 267-1) ....227—10
● 18BU3001 (Code 130) (Ch. R-181U, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 18BU3002 (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 18BU3100, HM, L (Code 130) (Ch. R-181U, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 18BU3100W (Code 130) (Ch. R-181U, D-181) (See PCB 115—Set 267-1 and Model 18BU3100—Set 227-10)
● 18BU3102, L (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 18BU3102, L (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 18B3002—Set 231-12)
● 18BU3103 (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 18B3002—Set 231-12)
● 18BU3104 (Code 150) (Ch. R-201, D-201) ....241—11
● 18C3010, E, L, M (Ch. TV-300, TV-301A, W) (See PCB 139—Set 299-1 and Model 22C4011—Set 276-7)
● 22B4000 (Code 130) (Ch. R-181, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22B4000X, XD (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22B4001, E, L (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22B4002 (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4002G (Code 140) (Ch. R-191, D-191) (See PCB 111—Set 260-1 and Model 22B4002—Set 231-12)

PHILCO—Cont.

● 22B4002L (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4003 (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22B4004 (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4005, L (Code 140) (Ch. R-191, D-191) (See Model 18B3002—Set 231-12)
● 22B4007, L (Code 140) (Ch. R-191, D-191) (See Model 18B3002—Set 231-12)
● 22B4008, 22B4009 (Code 150) (Ch. R-201, D-201) ....241—11
● 22B4100 (Code 130) (Ch. R-181, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22B4100A (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4100—Set 227-10)
● 22B4100L (Code 130) (Ch. R-181, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22B4100X (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4100—Set 227-10)
● 22B4101 (Code 129) (Ch. R-81B, D-81) (Also See PCB 115—Set 267-1) ....227—10
● 22B4101 (Code 130) (Ch. R-181, D-181) ....227—10
● 22B4102, L (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4103, L (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4100—Set 227-10)
● 22B4105, L (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4100—Set 227-10)
● 22B4106 (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4107, L (Code 140) (Ch. R-191, D-191) (See Model 18B3002—Set 231-12)
● 22B4108 (Code 150) (Ch. R-201, D-201) ....241—11
● 22B4109HM (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4110, L (Code 150) (Ch. R-201, D-201) ....241—11
● 22B4112, L (Code 140) (Ch. R-191, D-191) (See Model 18B3002—Set 231-12)
● 22B4150 (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4150L (Code 140) (Ch. R-191, D-191) (See PCB 111—Set 260-1 and Model 22B4150—Set 231-12)
● 22B4301 (Code 130) (Ch. R-181, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22B4302 (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4303 (Code 130) (Ch. R-181, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22B4304 (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4306, L (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4307HM (Code 140) (Ch. R-191, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22B4308 (Code 150) (Ch. R-201, D-201) ....241—11
● 22BU4000 (Code 130) (Ch. R-181U, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22BU4000X, XD (Code 130) (Ch. R-181U, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22BU4001, E, L (Code 130) (Ch. R-181U, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22BU4002, L (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22BU4002, L (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4002—Set 231-12)
● 22BU4003 (Code 130) (Ch. R-181U, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22BU4004 (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22BU4004 (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4004—Set 231-12)
● 22BU4008, 22BU4009 (Code 150) (Ch. R-201, D-201) ....241—11
● 22BU4100 (Code 130) (Ch. R-181U, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22BU4100A (Code 130) (Ch. R-181U, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22BU4100L (Code 130) (Ch. R-181U, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22BU4100X (Code 130) (Ch. R-181U, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22BU4101 (Code 129) (Ch. R-81B, D-81) (Also See PCB 115—Set 267-1) ....227—10
● 22BU4101 (Code 130) (Ch. R-181U, D-181) ....227—10

PHILCO—Cont.

● 22BU4102, L (Code 140) (Ch. R-191U, D-191) (Also see PCB 111 Set 260-1) ....231—12
● 22BU4102, L (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4102—Set 231-12)
● 22BU4103, L (Code 130) (Ch. R-181U, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22BU4105, L (Code 130) (Ch. R-181U, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22BU4106 (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22BU4106 (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4106—Set 231-12)
● 22BU4108 (Code 150) (Ch. R-201, D-201) ....241—11
● 22BU4109HM (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22BU4109HM (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4109HM—Set 231-12)
● 22BU4110, L (Code 150) (Ch. R-201, D-201) ....241—11
● 22BU4150, L (Code 140) (Ch. R-191U, D-191) (See PCB 111—Set 260-1 and Model 18BU3002—Set 231-12)
● 22BU4150, L (Code 141) Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 18BU3002—Set 231-12)
● 22BU4302 (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22BU4302 (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4302—Set 231-12)
● 22BU4303 (Code 130) (Ch. R-181U, D-181) (Also See PCB 115—Set 267-1) ....227—10
● 22BU4304 (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22BU4304 (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4304—Set 231-12)
● 22BU4306, L (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22BU4306, L (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4306—Set 231-12)
● 22BU4307HM (Code 140) (Ch. R-191U, D-191) (Also see PCB 111—Set 260-1) ....231—12
● 22BU4307HM (Code 141) (Ch. R-192U, D-191) (See PCB 111—Set 260-1 and Model 22BU4307HM—Set 231-12)
● 22BU4308 (Code 150) (Ch. R-201, D-201) ....241—11
● 22C4006 (Ch. TV-301, A) (See PCB 139—Set 299-1 and Model 22C4011—Set 276-7)
● 22C4010, L (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22C4010, L (Code 131) (Ch. R-181, D-182) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22C4011, X, XL, XW (Ch. TV-300, TV-301A) (Also See PCB 139—Set 299-1) ....276—7
● 22C4012 (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22C4012 (Code 131) (Ch. R-181, D-182) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22C4013, L, X (Ch. TV-300, TV-301) (Also See PCB 139—Set 299-1) ....276—7
● 22C4014 (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22C4014 (Code 131) (Ch. R-181, D-182) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22C4015 (Ch. TV-300, TV-301) (Also See PCB 139—Set 299-1) ....276—7
● 22C4016, L (Ch. TV350)..278—8
● 22C4018 (Ch. TV-300, TV-301) (See PCB 139—Set 299-1 and Model 22C4011—Set 276-7)
● 22C4020 (Ch. TV400)....280—8
● 22C4113, L (Ch. TV-301, A) (See PCB 139—Set 299-1 and Model 22C4011—Set 276-7)
● 22C4117, 22C4118, 22C4119, X, 22C4120, L, X, 22C4121, L (Ch. TV-301, TV-301A) (Also See PCB 139—Set 299-1) ....276—7
● 22C4122 (Code 130) (Ch. R-181, D-181) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22C4122 (Code 131) (Ch. R-181, D-182) (See PCB 115—Set 267-1 and Model 22B4000—Set 227-10)
● 22C4123, 22C4124, L, S (Ch. TV-300, TV-301) (Also See PCB 139—Set 299-1) ....276—7
● 22C4124, L (Ch. TV350)..278—8
● 22C4125, HM (Ch. TV-300, TV-301) (See PCB 139—Set 299-1 and Model 22C4011—Set 276-7)
● 22C4126, L (Ch. TV350)..278—8
● 22C4127 (Ch. TV-301, A) (Also See PCB 139—Set 299-1)....276—7
● 22C4128M (Ch. TV400)....280—8
● 22C4129 (Ch. TV350)....278—8
● 22C4130, L (Ch. TV-301, A) (Also See PCB 139—Set 299-1) 276—7
● 22C4132L (Ch. TV400)....280—8

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250. ● Denotes Television Receiver. S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

RCA VICTOR—Cont.

9W101, 9W102, 9W103 (Ch. RC-618B), 9W105 (Ch. RC-618C) .... 73—10
9W106 (Ch. RC-622) .... 97—12
9X561 (Ch. RC-1079B) 9X562 (Ch. RC-1079C) .... 101—9
9X571 (Ch. RC-1079), 9X572 (Ch. RC-1079A) .... 107—7
9X641 (Ch. RC-1080), 9X642 (Ch. RC-1080A) .... 87—9
9X651 (Ch. RC-1085), 9X652 (Ch. RC-1085A) .... 104—9
9Y7 (Ch. 1057B) .... 75—13
9Y51 (Ch. RC-1077) .... 98—11
9Y510 (Ch. RC1077A), 9Y511 (Ch. RC1077B) .... 131—13
●16T152 (Ch. KCS47E) .... 160—10
●17H2D, E (See PCB 101—Set 247-1 and Model 17S349—Set 228-15)
●17S349 (Ch. KCS78F) .... 228—15
●17S349G, GU (Ch. KCS78L, M) (See PCB 101—Set 247-1 and Model 17S349—Set 228-15)
●17S349U (Ch. KCS78H) .... 228—15
●17S350 (Ch. KCS78F) .... 228—15
●17S350G, GU (Ch. KCS78L, M) (See PCB 101—Set 247-1 and Model 17S350—Set 228-15)
●17S350U (Ch. KCS78H) .... 228—15
●17S351, U (Ch. KCS78F, H) 228—15
●17S360, U (Ch. KCS78F, H) 228—15
●17S450 (Ch. KCS87 or KCS87X) .... 277—10
●17S450R, RU (Ch. KCS93, A) .... 294—10
●17S450U (Ch. KCS87A) .... 277—10
●17S451 (Ch. KCS87) .... 277—10
●17S451R, RU (Ch. KCS93, A) .... 294—10
●17S451U (Ch. KCS87A) .... 277—10
●17S453 (Ch. KCS87) .... 277—10
●17S453R, RU (Ch. KCS93, A) .... 294—10
●17S453U (Ch. KCS87A) .... 277—10
●17T150, 17T151 (Ch. KCS66C) .... 169—13
●17T153 (Ch. KCS66) .... 158—11
●17T154 (Ch. KCS66) (See Model 17T153—Set 158-11)
●17T155 (Ch. KCS66) .... 158—11
●17T160 (Ch. KCS66) .... 158—11
●17T162 (Ch. KCS66A) (See Model 17T153—Set 158-11)
●17T163 (Ch. KCS66C) .... 169—13
●17T172, 17T173 (Ch. KCS66A) (See Model 17T153—Set 158-11)
●17T172K, 17T173K, 17T174K (Ch. KCS66D) .... 169—13
●17T174 (Ch. KCS66A) .... 158—11
●17T200, 17T201, 17T202 (Ch. KCS72) (Also see PCB 59—Set 193-1) .... 184—12
●17T211 (Ch. KCS72) (Also see PCB 59—Set 193-1) .... 184—12
●17T220 (Ch. KCS72) (Also see PCB 59—Set 193-1) .... 184—12
●17T250DE (Ch. KCS74) .... 193—8
●17T250DE (Ch. KCS74M1) (See Model 17T250DE—Set 193-8)
●17T261DE (Ch. KCS74) .... 193—8
●17T261DE (Ch. KCS74M1) (See Model 17T250DE—Set 193-8)
●17T301, U, 17T302, U (Ch. KCS78, A, B) (Also see PCB 102—Set 248-1) .... 206—10
●17T310 (Ch. KCS78, A, B) (Also see PCB 102—Set 248-1) .... 206—10
●17T352U (Ch. KCS78J) .... 228—15
●17T361, U (Ch. KCS78F, J) 228—15
●21CT55 (Ch. CTC2B and CTC3A) .... 300—
●21D305, U (Ch. KCS81, A, B) (Also See PCB 114—Set 265-1) 208—8
●21D317 (Ch. KCS81, A, B) (Also See PCB 114—Set 265-1) 208—8
●21D326, U, 21D327, U, 21D328, U, 21D329, U, 21D330, U (Ch. KCS81, A, B) (Also See PCB 114—Set 265-1) .... 208—8
●21D346, U (Ch. KCS81D, E, Radio Ch. RC1111A and Audio Amp RS-141A) (Also See PCB 116—Set 268-1) .... 219—7
●21D358, U (Ch. KCS81F, J) 230—8
●21D368, U (Ch. KCS81F, J) 230—8
●21D376, U, 21D377, U, 21D378, U, 21D379, U, 21D380, U (Ch. KCS81F, J) .... 230—8
●21D395, U (Ch. KCS81H, K, Radio Ch. RC-1111A and Audio Amp. Ch. RS-141E) (See PCB 141—Set 301-1 and Model 21D346—Set 219-7)
●21D527, U (Ch. KCS90, A) 269—12
●21S348 (Ch. KCS83PJ) .... 242—8
●21S348G (Ch. KCS83PJ, PL) .... 242—8
●21S348GU (Ch. KCS83PM) 242—8
●21S348K (Ch. KCS88A) .... 258—10
●21S348KU (Ch. KCS88H) .... 258—10
●21S353 (Ch. KCS83C) .... 242—8
●21S353G (Ch. KCS83C, PC-"G", PK) .... 242—8
●21S353GU (Ch. KCS83D, PD-"GU") .... 242—8
●21S353U (Ch. KCS83D) .... 242—8
●21S354 (Ch. KCS83C) .... 242—8
●21S354G (Ch. KCS83C, PC-"G", PK) .... 242—8
●21S354GU (Ch. KCS83D, PD-"GU") .... 242—8
●21S354U (Ch. KCS83D) .... 242—8
●21S355 (Ch. KCS83C) .... 242—8
●21S355G (Ch. KCS83C, PC-"G", PK) .... 242—8
●21S355GU (Ch. KCS83D, PD-"GU") .... 242—8
●21S355K (Ch. KCS88) .... 258—10
●21S355KU (Ch. KCS88F) .... 258—10
●21S355U (Ch. KCS83D) .... 242—8
●21S357G (Ch. KCS83C, PC-"G", PK) .... 242—8
●21S357GU (Ch. KCS83D, PD-"GU") .... 242—8
●21S357K (Ch. KCS88) .... 258—10
●21S357KU (Ch. KCS88F) .... 258—10

RCA VICTOR—Cont.

●21S359G (Ch. KCS83C, PC-"G", PK) .... 242—8
●21S359GU (Ch. KCS83D, PD-"GU") .... 242—8
●21S362G (Ch. KCS83C, PC-"G", PK) .... 242—8
●21S362GU (Ch. KCS83D, PD-"GU") .... 242—8
●21S362K (Ch. KCS88) .... 258—10
●21S362KU (Ch. KCS88F) .... 258—10
●21S362M (Ch. KCS83) .... 242—8
●21S362MU (Ch. KCS83A) .... 242—8
●21S367 (Ch. KCS83) .... 242—8
●21S367G (Ch. KCS83C, PC-"G", PK) .... 242—8
●21S367GU (Ch. KCS83D, D-"GU") .... 242—8
●21S367K (Ch. KCS88) .... 258—10
●21S367KU (Ch. KCS88F) .... 258—10
●21S367U (Ch. KCS83A) .... 245—8
●21S369G (Ch. KCS83C, PC-"G", PK) .... 242—8
●21S369GU (Ch. KCS83D, PD-"GU") .... 242—8
●21S369K (Ch. KCS88) .... 258—10
●21S369KU (Ch. KCS88F) .... 258—10
●21S500 (Ch. KCS87C) .... 277—10
●21S500R, RU (Ch. KCS93B, C) .... 294—10
●21S500U (Ch. KCS87D) .... 277—10
●21S501 (Ch. KCS88C, CX) .272—11
●21S501U (Ch. KCS88K, KX) 272—11
●21S502 (Ch. KCS88C, CX) .. 272—11
●21S502U (Ch. KCS88K, KX) .... 272—11
●21S503 (Ch. KCS88B, BX) .. 272—11
●21S503N (Ch. KCS92, X) .. 282—13
●21S503NU (Ch. KCS92D, DX) .... 282—13
●21S503U (Ch. KCS88J, JX) 272—11
●21S504 (Ch. KCS88B, BX) 272—11
●21S504N (Ch. KCS92, X) .. 282—13
●21S504NU (Ch. KCS92D, DX) .... 282—13
●21S504U (Ch. KCS88J, JX) .. 272—11
●21S505 (Ch. KCS88B, BX) 272—11
●21S505N (Ch. KCS92, X) .. 282—13
●21S505NU (Ch. KCS92D, DX) .... 282—13
●21S505U (Ch. KCS88J, JX) 272—11
●21S506 (Ch. KCS88B, BX) 272—11
●21S506N (Ch. KCS92, X) .. 282—13
●21S506NU (Ch. KCS92D, DX) .... 282—13
●21S506U (Ch. KCS88J, JX) 272—11
●21S507N (Ch. KCS92, X) .. 282—13
●21S507NU (Ch. KCS92D, DX) .... 282—13
●21S510N (Ch. KCS92A, AX) 282—13
●21S510NU (Ch. KCS92E, EX) .... 282—13
●21S511N (Ch. KCS92A, AX) 282—13
●21S511NU (Ch. KCS92E, EX) .... 282—13
●21S516N (Ch. KCS92A, AX) 282—13
●21S516NU (Ch. KCS92E, EX) .... 282—13
●21S517 (Ch. KCS88B, BX) 272—11
●21S517U (Ch. KCS88J, JX) 272—11
●21S518 (Ch. KCS88C, CX) 272—11
●21S518U (Ch. KCS88K, KX) 272—11
●21S519 (Ch. KCS88B, BX) .. 272—11
●21S519N (Ch. KCS92, X) .. 282—13
●21S519NU (Ch. KCS92D, DX) .... 282—13
●21S519U (Ch. KCS88J, JX) 272—11
●21S521 (Ch. KCS88B, BX) 272—11
●21S521N (Ch. KCS92, X) .. 282—13
●21S521NU (Ch. KCS92D, DX) .... 282—13
●21S521U (Ch. KCS88J, JX) 272—11
●21S522 (Ch. KCS88B, BX) 272—11
●21S522N (Ch. KCS92, X) .. 282—13
●21S522NU (Ch. KCS92D, DX) .... 282—13
●21S522U (Ch. KCS88J, JX) 272—11
●21S523 (Ch. KCS88V, VX) 272—11
●21S523N (Ch. KCS92L, LX) 282—13
●21S523NU (Ch. KCS92M, MX) .... 282—13
●21S523U (Ch. KCS88VA, VAX) .... 272—11
●21S525 (Ch. KCS88B, BX) 272—11
●21S525U (Ch. KCS88J, JX) 272—11
●21S526 (Ch. KCS88E, EX) .272—11
●21S526N (Ch. KCS92C, CX) 282—13
●21S526NU (Ch. KCS92H, HX) .... 282—13
●21S526U (Ch. KCS88M, MX) .... 272—11
●21S537 (Ch. KCS88D, DX) 272—11
●21S537N (Ch. KCS92B, BX) 282—13
●21S537NU (Ch. KCS92F, FX) .... 282—13
●21S537U (Ch. KCS88L, LX) 272—11
●21S548, U (Ch. KCS88N, P and Radio Tuner Ch. RK-191) 279—13
●21S548N, NU (Ch. KCS92J, K and Radio Tuner Ch. RK-191) 289—9
●21S5022 (Ch. KCS88C, CX) 272—11
●21S5022U (Ch. KCS88K, KX) .... 272—11
●21S5251 (Ch. KCS88B, BX) 272—11
●21S5251U (Ch. KCS88J, JX) 272—11
●21S5252 (Ch. KCS88B, BX) 272—11
●21S5252U (Ch. KCS88J, JX) 272—11
●21T159 (Ch. KCS68C, E) (See PCB 56—Set 190-1 and Model 21T176—Set 157-8)
●21T159DE (Ch. KCS68F) .. 197—9
●21T165 (Ch. KCS68C, E) (See PCB 56—Set 190-1 and Model 21T176—Set 157-8)
●21T166DE (Ch. KCS68F) (See Model 21T159DE—Set 197-9)
●21T174DE (Ch. KCS68F) .... 197—9
●21T175DE (Ch. KCS68F) (See Model 21T159DE—Set 197-9)
●21T176, 21T177, 21T178, 21T179 (Ch. KCS68C) (Also see PCB 56—Set 190-1) .... 157—8
●21T178DE (Ch. KCS68F) .... 197—9
●21T179 (Ch. KCS68C) (Also see PCB 56—Set 190-1) .... 157—8
●21T179DE (Ch. KCS68F) .. 197—9
●21T197DE (Ch. KCS68H, Radio Ch. RC1111A and Audio Ch. RS141A) .... 209—10

RCA VICTOR—Cont.

●21T207, G (Ch. KCS72A) (See PCB 59—Set 193-1 and Model 17T200—Set 184-12)
●21T208 (Ch. KCS72A) (Also see PCB 59—Set 193-1) .... 184—12
●21T217, 21T218 (Ch. KCS72A) (Also see PCB 59—Set 193-1) . 184—12
●21T227, 21T228, 21T229 (Ch. KCS-72A) (Also see PCB 59—Set 193-1) .... 184—12
●21T242 (Ch. KCS72D-1 and Radio Ch. RC1117B) .... 202—6
●21T244 (Ch. KCS72D-2, Radio Ch. RC1111B, and Audio Ch. RS141C) .... 202—6
●21T303, U (Ch. KCS82, A, B) (Also see PCB 110—Set 258-1) 207—7
●21T313, G, GU, U (Ch. KCS82, A, B) (Also see PCB 110—Set 258-1) .... 207—7
●21T314, G, GU, U (Ch. KCS82, A, B) (Also see PCB 110—Set 258-1) .... 207—7
●21T315, U (Ch. KCS82, A, B) (Also see PCB 110—Set 258-1) 207—7
●21T316, U (Ch. KCS82, A, B) (Also see PCB 110—Set 258-1) 207—7
●21T322, U (Ch. KCS82, A, B) (Also see PCB 110—Set 258-1) 207—7
●21T323, U (Ch. KCS82, A, B) (Also see PCB 110—Set 258-1) 207—7
●21T324, U (Ch. KCS82, A, B) (Also see PCB 110—Set 258-1) 207—7
●21T342, U (Ch. KCS82D, E and Radio Ch. RC1117B) (For TV Ch. see Model 21T303, U—Set 207-7, For Radio Ch. see Model 21T242—Set 202-6)
●21T344, U (Ch. KCS82D, E, Radio Ch. RC1111C and Audio Amp. RS141D) (For TV Ch. See Model 21T303, U—Set 207-7, For Radio Ch. See Model 21D346—Set 219-7)
●21T356U (Ch. KCS83E) .... 232—5
●21T363 (Ch. KCS83) .... 232—5
●21T363G, GU (Ch. KCS83C, E) (See Model 21T363, U—Set 232-5)
●21T363U (Ch. KCS83B) .... 232—5
●21T364 (Ch. KCS83) .... 232—5
●21T364G, GU (Ch. KCS83C, E) (See Model 21T364, U—Set 232-5)
●21T364U (Ch. KCS83B) .... 232—5
●21T365, U (Ch. KCS83, B) 232—5
●21T372, U, 21T373, U, 21T374, U (Ch. KCS83, B) .... 232—5
●21T375 (Ch. KCS83) .... 232—5
●21T375G, GU (Ch. KCS83C, E) (See Model 21T375, U—Set 232-5)
●21T375U (Ch. KCS83B) .... 232—5
●21T392, U (Ch. KCS83F, H & Radio Ch. RC 1117B) (For TV Ch. See Model 21S348—Set 242-8, For Radio Ch. See Model 21T242—Set 202-6)
●21T393, U (Ch. KCS83F, H, Radio Ch. RC-1111C and Audio Amp RS 141D) (For TV Ch. See Model 21S348—Set 242-8, For Radio Ch. See Model 21D346—Set 219-7)
●21T6082, U, 21T6083, U (Ch. KCS96, A) .... 303—17—S
●21T6114, U, 21T6115, U, 21T6117, U (Ch. KCS96B, C) ... 303—17—S
●21T6225, U, 21T6227, U (Ch. KCS96D, E) .... 303—17—S
●21T6255, U, 21T6256, U, 21T6257, U (Ch. KCS96D, E) .... 303—17—S
●24D542 (Ch. KCS89) .... 273—12
●24D542U (Ch. KCS89A) .. 273 12
●24D543 (Ch. KCS89) .... 273—12
●24D543U (Ch. KCS89A) .. 273—12
●24D544 (Ch. KCS89B) .... 273—12
●24D544U (Ch. KCS89C) .. 273—12
●24S512 (Ch. KCS84F) .... 268—11
●24S512U (Ch. KCS84H) .... 268—11
●24S513 (KCS84F) .... 268—11
●24S513U (Ch. KCS84H) .... 268—11
●24S514 (Ch. KCS84F) .... 268—11
●24S514U (Ch. KCS84H) .... 268—11
●24S529 (Ch. KCS84F) .... 268—11
●24S529U (Ch. KCS84H) .... 268—11
●24S531 (Ch. KCS84J) .... 268—11
●24S531U (Ch. KCS84K) .... 268—11
●24S532 (Ch. KCS84F) .... 268—11
●24S532U (Ch. KCS84H) .... 268—11
●24T420, U (Ch. KCS84C, E) 245—5
●24T435, U (Ch. KCS84C, E) 245—5
●27D382 (Ch. KCS77F) .... 235—10
●27D382U (Ch. KCS77H) .. 235—10
●27D383 (Ch. KCS77C) .... 235—10
●27D383U (Ch. KCS77D) .... 235—10
●27D384 (Ch. KCS77C) .... 235—10
●27D384U (Ch. KCS77D) .... 235—10
45EY1 (Ch. RS-132F) .... 135—11
45EY2 (Ch. RS-138, A, H) 165—9
45EY3 .... 126—11
45EY4 (Ch. RS140) .... 173—11
45EY15 (Ch. RS-132H) .... 135—11
45EY26 (Ch. RS-138L, M) .. 197—10
45HY4 (Ch. RS-140B) .... 275—13
45W10 (Ch. RC1096A) .... 138—8
54B1, 54B1-N, 54B2, 54B3 (Ch. RC589) .... 7—22
54B5 (Ch. RC1047) .... 17—25
55AU (Ch. RC1017) .... 2—16
55U (Ch. RC1017) .... 2—16
55F (Ch. RC-1004E) .... 4—6
55FA (See Model 55F—Set 4-6)
56X, 56X2, 56X3 (Ch. RC-1011) .... 1—16
56X5 (See Model 56X10—Set 1-12)
56X10 (Ch. RC-1023B) .... 1—12
58AV, 58V (Ch. RC-604) .... 1—32
59AV1, 59V1 (Ch. RC-605) 6—25
63E (Ch. RS-127) .... 28—28
64F7, 64F2 (Ch. RC1037), 64F3 (Ch. RC1037A) .... 4—16
65BR9 (Ch. RC-1045) .... 23—16
65F (See Model 55F—Set 4-6)
65AU, 65U (Ch. RC-1017A) 14—23
65U-1 (See Model 65AU—Set 14-23)
65X1, 65X2 (Ch. RC-1034). 4—30
65X1, 65X2 (Ch. RC-1064). 31—26

RCA VICTOR—Cont.

65X8, 65X9 (See Model 65X1—Set 4-30)
66BX (Ch. RC-1040, RC-1040A) .... 14—24
66E (Ch. RS-126) .... 17—26
66X1, 66X2, 66X3, 66X4... 7—23
66X7, 66X8 (See Model 66X1—Set 7-23)
66X9 .... 7—23
66X11 (Ch. RC-1046A, 66X12 (Ch. RC-1046), 66X13, 66X14, 66X15 (Ch. RC-1046B) .... 27—20
67V1, 67AV1 (Ch. RC-606) 9—27
68R1, 68R2, 68R3, 68R4 (Ch. RC-608) .... 23—17
75X11, 75X12 (Ch. RC-1050) 33—21
75X14, 75X15 (Ch. RC-1050) (See Model 75X11—Set 33-21)
75X16, 75X17, 75X18, 75X19 (Ch. RC-1050B) (See Model 75X11—Set 33-21)
77U (Ch. RC-1057A) .... 38—17
77V1 (Ch. RC-615) .... 38—18
77V2 (Ch. RC-606-C) .... 39—18
610V1 (Ch. RC-610C), 610V2 (Ch. RC-610) .... 31—27
612V1, 612V2, 612V3 (Ch. RK-121, RS-123) .... 17—27
612V4 (See Model 612V1—Set 17-27)
●621TS Photofact Servicer 78
●630TCS (Ch. KCS20B) .... 54—18
●630TS (Ch. KCS20A) .... 54—18
●641TV (Ch. KCS25A1-1, KCS25C-2, RK117A, RS-123A) .... 91A—11
●648PTK (Ch. KCS24-1, KRK-1, KRS20-1, KRS21A-1, RK-121A, RS-123A) .... 90—9
●648PV (Ch. KCS24A-1, KRK-1A, KRS20-1, KRS21A, RK-121A, RS-123B) .... 90—9
710V2 (Ch. RC-613A) .... 40—15
711V1 (See Model 711V2—Set 22-24)
711V2, 711V3 (Ch. RK-117 and RS-123) .... 22—24
711V3 (See Model 711V2—Set 22-24)
●721TCS (Ch. KCS26A-1, -2) (See Similar Model 730TV1—Set 70-7)
●721TS (Ch. KCS26-1, -2) (See Similar Model 730TV1—Set 70-7)
●730TV1 (Ch. KCS27-1, -2 and Radio Ch. RC610A) .... 70—7
●730TV2 (Ch. KCS27-1, -2 and Radio Ch. RC610B) .... 70—7
●741PCS (Ch. KCS24B-1, KRK1A-1, KRS20A-1, KRS21A-1, RS-123C) .... 90—9
Ch. CTC2 (See Model CT-100)
Ch. CTC2B and CTC3A (See Model 21CT55)
Ch. KCS20A (See Model 630TS)
Ch. KCS20B-1 (See Model 630TCS)
Ch. KCS20J-1 (See Model 8TS30)
Ch. KCS24-1 (See Model 648PTK)
Ch. KCS24A-1 (See Model 648PV)
Ch. KCS24B-1 (See Model 8PCS41)
Ch. KCS24C-1 (See Model 8PCS41)
Ch. KCS24D (See Model 9PC41A)
Ch. KCS25A-1 (See Model 641TV)
Ch. KCS25C-2 (See Model 641TV)
Ch. KCS25D-1 (See Model 8TV41)
Ch. KCS25E-2 (See Model 8TV41)
Ch. KCS26-1, -2 (See Model 721TS)
Ch. KCS27 (See Model 730TV1)
Ch. KCS28, A, B, C (See Model 8T241)
Ch. KCS29, KCS29A (See Model 8T270)
Ch. KCS29C (See Model 9TC272)
Ch. KCS30-1 (See Model 8TV241)
Ch. KCS31-1 (See Model S1000)
Ch. KCS32, KCS32A, KCS32B, KCS-32C (See Model 8TK29)
Ch. KCS33A-1 (See Model 8TK320)
Ch. KCS34, B, C (See Model T120)
Ch. KCS-38-C (See Model T100)
Ch. KCS40, A, B (See Model T164)
Ch. KCS41A-1 (See Model TA-129)
Ch. KCS42A (See Model TA-128)
Ch. KCS43 (See Model TA169)
Ch. KCS45, A (See Model 2T51)
Ch. KCS46 (See Model 2T81)
Ch. KCS47, A, AT, T (See Model 6T54)
Ch. KCS47B, C (See Model 7T103)
Ch. KCS47D (See Model 7T132)
Ch. KCS47E (See Model 16T152)
Ch. KCS47GF-2 (See Model 7T111B)
Ch. KCS48 (See Model 6T84)
Ch. KCS48A (See Model 7T143)
Ch. KCS49, A, AT, T (See Model 9T57)
Ch. KCS49B, C (See Model 9T105)
Ch. KCS49BF (See Model 9T105)
Ch. KCS49CF (See Model 9T105)
Ch. KCS60, T (See Model 9T89)
Ch. KCS60A (See Model 9T147)
Ch. KCS61 (See Model 4T101)
Ch. KCS62 (See Model 4T141)
Ch. KCS66, A (See Model 17T153)
Ch. KCS66C (See Model 17T150)
Ch. KCS66D (See Model 17T172K)
Ch. KCS68A (See Model 21T197DE)
Ch. KCS68C, CB (See Model 21T-176)
Ch. KCS68E (See Model 21T159)
Ch. KCS68F (See Model 21T159DE)
Ch. KCS70 (See Model U70)
Ch. KCS72 (See Model 17T200)
Ch. KCS72A (See Model 21T208)
Ch. KCS72D-1 (See Model 21T242)
Ch. KCS72D-2 (See Model 21T244)
Ch. KCS74, KCS74M1 (See Model 17T250DE)
Ch. KCS77C (See Model 27D383)
Ch. KCS77D (See Model 27D383U)
Ch. KCS77F (See Model 27D382)
Ch. KCS77H (See Model 27D382U)
Ch. KCS78, B (See Model 17T301, U)
Ch. KCS78F, H (See Model 17S349, U)
Ch. KCS78J (See Model 17T352U)
Ch. KCS78L (See Model 17S349GU)
Ch. KCS78M (See Model 17S349G)
Ch. KCS79 (See Model U2)

RCA VICTOR—Cont.

Ch. KCS81, A, B (See Model 21D305, U)
Ch. KCS81D, E (See Model 21-D-346, U)
Ch. KCS81F (See Model 21D358)
Ch. KCS81H (See Model 21D395)
Ch. KCS81J (See Model 21D358)
Ch. KCS81K (See Model 21D395U)
Ch. KCS82, A, B (See Model 21T303)
Ch. KCS82D, E (See Model 21T342)
Ch. KCS83 (See Model 21S362M or 21T363)
Ch. KCS83A (See Model 21S362MU)
Ch. KCS83B (See Model 21T363U)
Ch. KCS83C (See Model 21S353 or 21T363G)
Ch. KCS83D (See Model 21S353U)
Ch. KCS83E (See Model 21T356U)
Ch. KCS83F (See Model 21T392)
Ch. KCS83H (See Model 21T392U)
Ch. KCS83 PC-"G" (See Model 21S353G)
Ch. KCS83 PD-"GU" (See Model 21S353GU)
Ch. KCS83 PJ (See Model 21S348)
Ch. KCS83 PK (See Model 21S353G)
Ch. KCS83 PL (See Model 21S348G)
Ch. KCS83 PM (See Model 21S348GU)
Ch. KCS84C, E (See Model 24T420, U)
Ch. KCS84F (See Model 24S512)
Ch. KCS84H (See Model 24S512U)
Ch. KCS84SJ (See Model 24S531)
Ch. KCS84K (See Model 24S531U)
Ch. KCS87 (See Model 17S450)
Ch. KCS87A (See Model 17S450U)
Ch. KCS87C (See Model 21S500)
Ch. KCS87D (See Model 21S500U)
Ch. KCS87X (See Model 17S450)
Ch. KCS88 (See Model 21S355K)
Ch. KCS88A (See Model 21S348K)
Ch. KCS88B, BX (See Model 21S503)
Ch. KCS88C, CX (See Model 21S501)
Ch. KCS88D, DX (See Model 21S537)
Ch. KCS88E, EX (See Model 21S526)
Ch. KCS88F (See Model 21S355KU)
Ch. KCS88H (See Model 21S348KU)
Ch. KCS88J, JX (See Model 21S503U)
Ch. KCS88K, KX (See Model 21S501U)
Ch. KCS88L, LX (See Model 21S537U)
Ch. KCS88M, MX (See Model 21S526U)
Ch. KCS88N, P (See Model 21S548)
Ch. KCS88V, VX (See Model 21S523)
Ch. KCS88VA, VAX (See Model 21S523U)
Ch. KCS89 (See Model 24D542)
Ch. KCS89A (See Model 24D542U)
Ch. KCS89B (See Model 24D544)
Ch. KCS89C (See Model 24D544U)
Ch. KCS90, A (See Model 21D527, U)
Ch. KCS92 (See Model 21S503)
Ch. KCS92A, AX (See Model 21S510N)
Ch. KCS92B, BX (See Model 21S537N)
Ch. KCS92C, CX (See Model 21S526N)
Ch. KCS92D, DX (See Model 21S503NU)
Ch. KCS92E, EX (See Model 21S510NU)
Ch. KCS92F, FX (See Model 21S537NU)
Ch. KCS92H, HX (See Model 21S526NU)
Ch. KCS92J, K (See Model 21S548N)
Ch. KCS92L, LX (See Model 21S523N)
Ch. KCS92M, MX (See Model 21S523NU)
Ch. KCS92X (See Model 21S503N)
Ch. KCS93, A (See Model 17S450R)
Ch. KCS93B, C (See Model 21S500R)
Ch. KCS96, A (See Model 21T6082)
Ch. KCS96B, C (See Model 21T6114)
Ch. KCS96D, E (See Model 21T6225)
Ch. KRK-1 (See Model 648PTK)
Ch. KRK-1A (See Model 648PV)
Ch. KRK1A-1 (See Model 8PCS41)
Ch. KRK4 (See Model 9PC41A)
Ch. KRK-19, A (See Model U1A)
Ch. KRS20-1 (See Model 628PTK)
Ch. KRS20A-1 (See Model 8PCS41)
Ch. KRS20B-1 (See Model 9PC41A)
Ch. KRS21A-1 (See Model 8PCS41)
Ch. RC-150 (See Model 6HF5)
Ch. RC-589 (See Model 54B1)
Ch. RC-604 (See Model 58AV)
Ch. RC-605 (See Model 59AV1)
Ch. RC-606 (See Model 67V1)
Ch. RC-606C (See Model 77V2)
Ch. RC-608 (See Model 68R1)
Ch. RC-610 (See Model 610V1)
Ch. RC610A, RC610B (See Model 730TV1)
Ch. RC610C (See Model 610V1)
Ch. RC613A (See Model 710V2)
Ch. RC-615 (See Model 77V1)
Ch. RC-616 (See Model 8V111)
Ch. RC-616A, RC-616H (See Model 8V91)
Ch. RC616B, C, J, K (See Model 8TV321)
Ch. RC-616N (See Model 9TW333)
Ch. RC617A, B (See Model S1000)
Ch. RC-618, RC-618A (See Model 8V90)
Ch. RC-618, B, C (See Model 9W101)
Ch. RC-622 (See Model A106)
Ch. RC-1004E (See Model 55F)
Ch. RC-1011 (See Model 56X)
Ch. RC-1017 (See Model 55AU)
Ch. RC-1017A (See Model 65AU)
Ch. RC-1023B (See Model 56X10)
Ch. RC-1034 (See Model 65X1)

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes **P**roduction **C**hange **B**ulletin.
Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250
● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

SILVERTONE—Cont.

- ●PC-5136 (Ch. 456.34300, 456.34400) (See Model 5132A—Set 292-10)
- ●PC-5137 (Ch. 456.33400, 456.33500) (See Model 5133A—Set 292-10)
- ●PC-5190 (Ch. 456.31800) (See Model 5114—Set 264-17)
- ●PC-5190A (Ch. 456.32900) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●PC-5191 (Ch. 456.31600) (See Model 5101—Set 279-14)
- ●PC-5191A (Ch. 456.33900) (See Model 5101—Set 279-14)
- ●PC-5192 (Ch. 456.31800) (See Model 5114—Set 264-17)
- ●PC-5192A (Ch. 456.32900) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●PC-5266 (Ch. 456.33100) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●PC-5270 (Ch. 456.34503) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●PC-41102 (Ch. 456.32800) (See Model 5126A—Set 264-17)
- ●PC-41122 (Ch. 456.33900) (See Model 5101—Set 279-14)
- ●PC-41282A (Ch. 456.32900) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●PC-41292A (Ch. 456.33900) (See Model 5101—Set 279-14)
- ●PC-41302A (Ch. 456.32900) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●PC-41312A (Ch. 456.33900) (See Model 5101—Set 279-14)
- 1 (Ch. 132.878) 101–10
- 1 (Ch. 132.878-1) (See Model 1—Set 101-10)
- 2 (Ch. 132.878) 101–10
- 2 (Ch. 132.878-1) (See Model 2—Set 101-10)
- 5, 6 (Ch. 132.881) 144–10
- 10, 11 (Ch. 132.896) 144–11
- 15, 16 (Ch. 132.884, -1, -2) 141–12
- 18 (Ch. 132.877) 140–11
- 20 (Ch. 132.877) 140–11
- 25, 27 (Ch. 478.238) .... 161—8
- 33 (Ch. 548.363) 111–13
- 41, 41A (Ch. 135.245) 101–11
- 43, A (Ch. 135.245) (See Model 41—Set 101-11)
- 51, 53 (Ch. 132.887) .... 112—8
- 54, 56 (Ch. 132.888) 115–10
- ●57PC78X, 57PC79X (Ch. 456.200-21) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●57PC143M, W (Ch. 456.200-21) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●57PC177, 57PC178 (Ch. 456.150-22 and Radio Ch. 456.155-1) (See PCB 118—Set 270-1 and Model 3276—Set 230-10)
- 64, 65 (Ch. 101.859-2) .... 113—8
- 67 (Ch. 101.859-1, -2) (See Model 64—Set 113-8)
- 67B (Ch. 101.859-2) (See Model 64—Set 113-8)
- 69 (Ch. 100.201) 162–10
- 72 (Ch. 134.111) 142–11
- ●101 (Ch. 549.100) 102–12
- ●101A (Ch. 549.100-1) 102–12
- ●102A (Ch. 549.100-3, -7) .... 161—9
- ●106, 107 (Ch. 132.889-2) 149–12
- ●108 (Ch. 549.100) 102–12
- ●110, A (Ch. 478.303, A) (See Model 125—Set 104-10)
- ●112 (Ch. 478.289) .... 118—9
- ●114 (Ch. 478.302) (See Model 125—Set 104-10)
- ●116, 116A (Ch. 110.700-1, -10) 139–13
- ●120 (Ch. 478.311) 115–11
- ●125 (Ch. 478.257) 104–10
- ●131, 131A (Ch. 110.700-1, -10) 139–13
- ●132 (Ch. 110.499-1) (See Model 9123—Set 79-16)
- ●133 (Ch. 100.107 and Radio Ch. 100.043) 156–12
- ●137 (Ch. 549.100-1 and Radio Ch. 101.831-1) (For TV Ch. See Model 101—Set 102-12, for Radio Ch. see Model 8127—Set 41-20)
- ●138 (Ch. 549.100-3 and Radio Ch. 101.831-1) (For TV Ch. see Model 102A—Set 161-9, for Radio Ch. see Model 8127—Set 41-20)
- ●141 (Ch. 132.889-2) 149–12
- ●143 (See Model 143A—Set 121-12)
- ●143A (Ch. 100.111) 121–12
- ●144 (Ch. 478.312 and Radio Ch. 478.240) 160–11
- ●149 (Ch. 100.107-1) (See Model 133—Set 156-12)
- ●150-14 (Ch. 478.338) 142–12
- ●159 (Ch. 478.309) 115–11
- ●160-12 (Ch. 549.100-4) 97A–12
- ●161-16 (Ch. 100.112) 99A–10
- ●162-17 (Ch. 110.700-10) 139–13
- ●163-16 (Ch. 478.319) 157–10
- ●165-16 (Ch. 100.120) 144–12
- ●168-16 (Ch. 549.100-3) .... 161—9
- ●173-16 (Ch. 110.700-10) 139–13
- ●175-16, A (Ch. 549.100-5, -8, -9) .... 161—9
- ●176-19 (Ch. 549.100-6) .... 161—9
- ●177-19 (Ch. 110.700-40) 139–13
- ●179-16, 180-16 (Ch. 132.890) 130–12
- ●187-16, 188-16 (Ch. 110.700-10) (See Model 116—Set 139-13)
- ●189-16 (Ch. 110.700-1, -10) 139–13
- ●194-16, 195-16 (Ch. 132.890) 130–12
- 210 (Ch. 132.880) 109–12
- 215 (Ch. 528.174) 117–13
- 217, 218 (Ch. 528.174) (See Model 215—Set 117-13)

SILVERTONE—Cont.

- 220 (Ch. 528.173) 110–13
- 222, 223, 224 (Ch. 528.173) (See Model 220—Set 110-13)
- 225 (Ch. 528.171-1) .... 107—8
- 237 (Ch. 488.237) 145–10
- 238 (Ch. 548.360-1, 548.361) (See Model 239—Set 115-12)
- 239 (Ch. 548.360-1, 548.361) 115–12
- 245 (Ch. 548.358-1) .... 107—9
- 246 (Ch. 137.906) 111–14
- 249 (Ch. 548.360-1, 548.361) 115–12
- 1017, 1018 (Ch. 528.210, -1, -2) 182–11
- 1032 (Ch. 528.196) 183–15
- 1035, A (Ch. 528.195, -1, -2) 215–12
- 1038 (Ch. 528.219) (See Model 1040—Set 181-12)
- 1040, 1045 (Ch. 528.194) 181–12
- 1040A (Ch. 528.194-1) (See Model 1040—Set 181-12)
- 1045A (Ch. 528.194-1) (See Model 1040—Set 181-12)
- 1052 (Ch. 132.011) 174–10
- 1052A (Ch. 132.011-1) (See Model 1052—Set 174-10)
- 1053 (Ch. 132.011) 174–10
- 1053A (Ch. 132.011-1) (See Model 1053—Set 174-10)
- 1054 (Ch. 132.012) 173–12
- 1054A (Ch. 132.012-1) (See Model 1054—Set 173-12)
- 1055 (Ch. 132.012) 173–12
- 1055A (Ch. 132.012-1) (See Model 1055—Set 173-12)
- 1058, 1059 (Ch. 101.860) 162–11
- 1062, 1063 (Ch. 101.860) 162–11
- 1066 (Ch. 100.202) 162–10
- ●1117-17 (Ch. 110, 700-100, -104) .... 201—8
- ●1130-17, 1130A-17 (Ch. 110.700-100, -104) .... 201—8
- ●1141-20 (Ch. 110.700-120) 201—8
- ●1145-20 (Ch. 110.700-140) 201—8
- ●1161-17 (Ch. 110.702-10) 205–10
- ●1162-17 (Ch. 110.700-100, -104) .... 201—8
- ●1171-17 (Ch. 110.702-10, -50) 205–10
- ●1172-17 (Ch. 110.700-100, -104) .... 201—8
- ●1173-20 (Ch. 110.700-140) 201—8
- ●1176-21 (Ch. 100.208) 165–12
- ●1181-20 (Ch. 110.700-120) 201—8
- ●1183-21 (Ch. 110.700-150) 201—8
- ●1184-20 (Ch. 528.631, -1) 181–13
- ●1186-21 (Ch. 100.208) 165–12
- ●1188-20 (Ch. 110.700-140) 201—8
- 1239 (Ch. 488.237) (See Model 237—Set 145-10)
- ●1260 (Ch. 456.150, -2, -6, -15) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●1261 (Ch. 456.150, -2, -21) (See PCB 118—Set 270-1 and Model 2276—See 230-10)
- ●1266 (Ch. 456.150, -2, -6, -15) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●1268 (Ch. 456.150, -1, -11, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●1270, 1271 (Ch. 456.150-1, -11) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●1272 (Ch. 456.150-1, -11, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●1273, 1274, 1275 (Ch. 456.150-1, -11) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●1297, 1298 (Ch. 456.150-3) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●1299 (Ch. 456.150-7, -9, -17) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- 1300 (Ch. 319.200), 1300-1 (Ch. 319.200-1) 90–10
- 1301 (Ch. 319.190) 91–11
- 2001, 2002 (Ch. 132.878) (See Model 1—Set 101-10)
- 2003, 2004, 2005, 2006 (Ch. 757.110) 211–13
- 2007 (Ch. 757.100) 198–12
- 2009, 2010, 2011, 2012, 2013 (Ch. 132.022) 196–14
- 2014, 2015, 2016 (Ch. 132.021) 196–15
- 2018, 2019 (Ch. 757.100-1) 266–14
- 2022 (Ch. 132.027) 197–11
- 2023, 2024, 2025, 2026, 2027 (Ch. 132.896-1) (See Model 10—Set 144-11)
- 2028 (Ch. 528.230) .... 203—8
- 2035A (Ch. 528.195, -1, -2) 215–12
- 2041 (Ch. 528.235) 208–11
- 2041 (Ch. 528.235-1) (See Model 2041—Set 208-11)
- 2056 (Ch. 132.026-3) .... 207—9
- 2060, 2061 (Ch. 101.861, -1) .... 203—9
- 2063, 2064 (Ch. 101.860, -1) (See Model 1058—Set 162-11)
- 2068 (Ch. 100.202) (See Model 1066—Set 162-10)
- ●2100 (Ch. 110.700-100, -104) .... 201—8
- ●2100A (Ch. 110.817-1) 217–15
- ●2105 (Ch. 132.024, -1, -2) 198–13
- ●2105A (Ch. 132.024-3, -31) 198–13
- ●2110A, 2111 (Ch. 528.631, -1, Ch. 528.632, -1, -2, -3, -4, -5, Ch. 528.632A, -1, -2, -3, -5) 212—7
- ●2115B (Ch. 528.631, -1, Ch. 528.632, -1, -2, -3, -4, -5, Ch. 528.632A, -1, -2, -3, -5) .... 212—7
- ●2130 (Ch. 100.210, -1, -3) 207–10
- ●2140 (Ch. 110.817-1) 217–15
- ●2145 (Ch. 132.024, -1, -2) 198–13
- ●2145A (Ch. 132.024-3, -31) 198–13

SILVERTONE—Cont.

- ●2145B (Ch. 132.024-4) 198–13
- ●2150 (Ch. 110.700-140) .... 201—8
- ●2150A (Ch. 110.820-1) 217–15
- ●2150B (Ch. 528.631, -1, Ch. 528.632, -1, -2, -3, -4, -5, Ch. 528.632A, -1, -2, -3, -5) .... 212—7
- ●2160, 2162 (Ch. 528.631, -1, Ch. 528.632, -1, -2, -3, -4, -5, Ch. 528.632A, -1, -2, -3, -5) 212—7
- ●2170-C (Ch. 100.209) 193–10
- ●2170-D, -E (Ch. 100.210, -1, -3) 207–10
- ●2172 (Ch. 100.210, -1, -3) 207–10
- ●2174 (Ch. 132.035) (See PCB 79—Set 220-1 and Model 3174—Set 206-11)
- ●2195-21 (Ch. 100.208-1 and Radio Ch. 100.202-1) (See PCB 59—Set 193-1 and Model 1176-21—Set 165-12 for TV Ch. and Model 1066—Set 162-10 for Radio Ch.)
- 2200, 2202, 2203 (Ch. 528.229) .... 201—9
- 2210 (Ch. 132.880) (See Model 210—Set 109-12)
- 2215, 2217, 2218 (Ch. 528.238) .... 219—9
- 2225 (Ch. 528.233) 208–12
- 2243 (Ch. 137.914, -1, -2, -3) .... 230—9
- 2246 (Ch. 137.914, -1, -2, -3) .... 230—9
- 2249, 2250 (Ch. 137.915) 269–14
- ●2260 (Ch. 456.150-6, -15) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●2264, 2265, 2266 (Ch. 456.150-11, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●2276, 2277 (Ch. 456.150-8, -14, -18 and Radio Ch. 456.155) (Also See PCB 118—Set 270-1) 230–10
- ●2278, 2279 (Ch. 456.150-11, -81 and Radio Ch. 456.860-1) (For TV Ch. See PCB 118—Set 270-1 and Model 2276—Set 230-10, For Radio Ch. See Model 1058—Set 162-11)
- ●2280 (Ch. 456.150-6, -13) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●2286, 2287 (Ch. 456.150-6, -15) (See PCB 118—Set 270—1 and Model 2276—Set 230-10)
- ●2289 (Ch. 456.150-9, -12, -17) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●2290 (Ch. 456.150-9, -17) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●2297, 2298 (Ch. 456.150-81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- 3001, 3002 (Ch. 132.054) 239—9
- 3004 (Ch. 757.130) 231–15
- 3007, 3008, 3009 (Ch. 757.120) .... 226—9
- 3025, 3026, 3027 (Ch. 132.066) 249–15
- 3032 (Ch. 528.252) 219–10
- 3035A (Ch. 528.195, -1, -2) 215–12
- 3040 (Ch. 528.253) .... 221—9
- 3040A (Ch. 528.311) 270–13
- 3041 (Ch. 528.235-1) (See Model 2041—Set 208-11)
- 3045, 3046 (Ch. 528.254) 216–10
- 3052, 3053 (Ch. 132.053) 225–15
- 3054, 3055 (Ch. 132.056) 250–18
- 3058, 3059 (Ch. 101.860-3) .... 240—8
- 3061, 3062 (Ch. 101.861-1) (See Model 2060—Set 203-9)
- 3063, 3064 (Ch. 101.860-3) .... 240—8
- 3067 (Ch. 101.860-3) .... 240—8
- 3068 (Ch. 100.174) 270–14
- ●3100 (Ch. 110.817-1) (See Model 2100A—Set 217-15)
- 3100A (Ch. 110.817-1, -3) (See Model 2100A—Set 217-15)
- ●3101 (Ch. 110.817-3) (See Model 2100A—Set 217-15)
- ●3102X (Ch. 528.271, -1, -2, -3, -4, -5) (See Model 4108—Set 245-6)
- ●3103A (Ch. 528.290-2) 253–12
- ●3104A (Ch. 528.271-3, -4) 245—6
- ●3105 (Ch. 132.024-5, -6, -7, -8) (Also See PCB 117—Set 269-1) 198–13
- ●3106 (Ch. 132.045, -1, -2, -3, -4, -5) (Also see PCB 90—Set 235-1) 199–11
- ●3109 (Ch. 528.264) 227–12
- ●3110 (Ch. 528.248, -1, -2) 220—7
- ●3110A (Ch. 528.242, -1, -2) .... 220—7
- ●3110B (Ch. 528.264-1, 2) 227–12
- ●3112A (Ch. 528.256) (See Model 3112B—Set 227-12)
- ●3112B (Ch. 528.263, -1, -2) 227–12
- ●3112C (Ch. 528.258) 247–10
- ●3112X (Ch. 528.292, -1, -2, -3, -4) (See Model 4113A—Set 245-6)
- ●3115 (Ch. 528.248, -1, -2) 220—7
- ●3115A (Ch. 528.242, -1, -2) .... 220—7
- ●3127 (Ch. 100,210, -1, -3) 207–10
- ●3136 (Ch. 100.425-2, -4, -6, -8) .... 281—6
- ●3140 (Ch. 110.817-1, -3) (See Model 2100A—Set 217-15)
- ●3145 (Ch. 132.024-5, -6, -7, -8) (Also See PCB 117—Set 269-11) 198–13
- ●3146 (Ch. 132.045-2, -3, -4, -5) (See PCB 90—Set 235-1 and Model 3106—Set 199-11)
- ●3150 (Ch. 110.820-1, -3) (See Model 2100A—Set 217-15)
- ●3150L (Ch. 528.264, -1, -2) 227–12
- ●3151A (Ch. 528.256) (See Model 3151B—Set 227-12)
- ●3151B, C (Ch. 528.263, -1, -2) 227–12

SILVERTONE—Cont.

- ●3160 (Ch. 528.248, -1, -2) 220—7
- ●3160A (Ch. 528.242, -1, -2) .... 220—7
- ●3170-B (Ch. 100.210, -1, -3) 207–10
- ●3170C (Ch. 528.249, -1) 218–11
- ●3170D (Ch. 528.261) 227–12
- ●3171A (Ch. 528.247, -1) 217–16
- ●3174 (Ch. 132.035-2) 206–11
- ●3175 (Ch. 132.044) 203–10
- ●3177 (Ch. 100.210, -1, -3) 207–10
- ●3177A, (Ch. 100.400) 244–10
- ●3181, 3185 (Ch. 100.425-2, -4, -6, -8) .... 281—6
- ●3187 (Ch. 100.210, -1, -3) 207–10
- ●3187A (Ch. 100.400) 244–10
- ●3195 (Ch. 100.210-2 and Radio Ch. 100.202-1) (See PCB 91—Set 236-1 and Model 2130—Set 207-10 for TV Ch. and Model 1066—Set 162-10 for Radio Ch.)
- 3200 (Ch. 528.259) 224–12
- 3202, 3203 (Ch. 528.259) 224–12
- 3210 (Ch. 528.241) .... 220—8
- 3215 (Ch. 528.265) (See Model 3217—Set 227-13)
- 3217 (Ch. 528.265) 227–13
- 3218 (Ch. 528.265) (See Model 3217—Set 227-13)
- 3246 (Ch. 137.914, -1, -2, -3) (See Model 2243—Set 230-9)
- 3247 (Ch. 548.400, -1) .... 281—7
- 3249 (Ch. 137.915) (See Model 2249—Set 269-14)
- ●3260, 3261 (Ch. 456.150-19, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●3263 (456.150-16) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●3268 (Ch. 456.150-19, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●3271, 3272, 3273, 3274, 3275 (Ch. 456.150-19, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●3276, 3277 (Ch. 456.150-22, -61 and Radio Ch. 456.155) (Also See PCB 118—Set 270-1) 230–10
- ●3280 (Ch. 456.150-19, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●3289, 3290 (Ch. 456.150-16) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●3295, 3296, 3297 (Ch. 456.150-19, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●3298, 3299 (Ch. 456.150-16) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●3360, 3361 (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3364, 3365, 3366 (Ch. 456.200-43) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3368 (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3371, 3372, 3373, 3374, 3375 (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3371A, 3372A, 3374A, 3375A (Ch. 456.200-21) (See PCB 109—Set 257-1 and Model 3376 — Set 225–16)
- ●3376, 3377 (Ch. 456.200-111, 112, -113, -114, -115, -121, 122, -123, -124, -125) 225–16
- ●3378, 3379 (Ch. 456.200-21) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3380 (Ch. 456, 200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3389 (Ch. 456.200-1, -2, -3) (See PCB 109—Set 257-1 and Model 3376—Set 225-16) 16)
- ●3390 (Ch. 456.200-1) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3391, 3392, 3393 (Ch. 456.200-43) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3395, A, 3396, A, 3397, 3398 (Ch. 456.200-1, -2, -3) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●3399 (Ch. 456.200-1, -2, -3) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- 4016, 4017 (Ch. 757.150) 267–11
- 4025, 4026 (Ch. 528.306) 262–12
- 4032 (Ch. 757.300) 267–12
- 4035 (Ch. 528.305) 266–15
- 4041, B (Ch. 528.304, -1) 268–12
- 4045A, B, C, 4046A, B, C (Ch. 528.312, -1) 270–15
- 4056, 4057 (Ch. 132.026-6) 255–12
- 4068A (Ch. 100.176) 271–12
- ●4103 (Ch. 528.34700) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●4107 (Ch. 528.290, -1) 253–12
- ●4107A (Ch. 528.290-1, -2) 253–12
- ●4108 (Ch. 456.200-1, -2, -3) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4108 (Ch. 528.271) .... 245—6
- ●4108A (Ch. 528.271, -1, -2, -3, -4) .... 245—6
- ●4109 (Ch. 528.34800) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●4109A (Ch. 528.34801) (See PCB 122—Set 276-1 and Model 5100—Set 264-17)
- ●4110 (Ch. 528.302) 253–12
- ●4110B (Ch. 132.08400) 271–13
- ●4111 (Ch. 528.264-1, -2) 227–12

SILVERTONE—Cont.

- ●4111A (Ch. 528.291, -1, -2) 253–12
- ●4112 (Ch. 528.303, -1) .... 245—6
- ●4112B (Ch. 132.08500) 271–13
- ●4113 (Ch. 528.263-1, -2) 227–12
- ●4113A (Ch. 528.292-1) .... 245—6
- ●4113B (Ch. 528.303, -1) .... 245—6
- ●4114 (Ch. 528.264-2) 227–12
- ●4114A (Ch. 528.291) 253–12
- ●4114B (Ch. 528.291-1, -2) 253–12
- ●4114C (Ch. 528.302) 253–12
- ●4114W (Ch. 456.150-19, -81) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●4115 (Ch. 528.270) 227–12
- ●4116 (Ch. 528.266) 227–12
- ●4116W (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4117 (Ch. 528.266) 227–12
- ●4117W (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4118 (Ch. 528.263-1, -2) 227–12
- ●4118B (Ch. 528.292-1, -2 -3) .... 245—6
- ●4118C (Ch. 528.303, -1) .... 245—6
- ●4118W (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4119 (Ch. 528.263-2) 227–12
- ●4119A (Ch. 528.303, -1) .... 245—6
- ●4119W (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225–16)
- ●4120 (Ch. 456.150-2) (See PCB 118—Set 270-1 and Model 2276—Set 230-10)
- ●4124 (Ch. 528.290-1, -2) 253–12
- ●4125 (Ch. 528.271-1, -2, -3, -4) .... 245—6
- ●4126 (Ch. 528.264-1, -2) 227–12
- ●4126A (Ch. 528.297) 253–12
- ●4126B (Ch. 528.291-1, -2) 253–12
- ●4126D (Ch. 528.302) 253–12
- ●4127 (Ch. 528.263-1, -2) 227–12
- ●4127 (Ch. 456.200-21) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4127A (Ch. 528.268) 247–10
- ●4127C (Ch. 528.292, -1) .... 245—6
- ●4127D (Ch. 528.303, -1) .... 245—6
- ●4127W (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4128 (Ch. 528.264-2) 227–12
- ●4128A (Ch. 528.291) 253–12
- ●4128B (Ch. 528.302) 253–12
- ●4129 (Ch. 528.263-2) 227–12
- ●4129A (Ch. 528.292, -1) .... 245—6
- ●4129A (Ch. 456.200-21) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4129B (Ch. 528.303, -1) .... 245—6
- ●4129W (Ch. 456.200-11, -12, -13, -21, -22, -23) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4131 (Ch. 528.263-1) 227–12
- ●4132 (Ch. 528.291-2) 253–12
- ●4132B (Ch. 528.291-3) (See Model 4111A—Set 253-12)
- ●4133 (Ch. 528.292-2, -3) 245—6
- ●4133B (Ch. 528.292, -1, -2, -3, -4) (See Model 4118B—Set 245-6)
- ●4135 (Ch. 528.292, -1, -3) 245—6
- ●4135B (Ch. 528.292, -1, -2, -3, -4) (See Model 4113A—Set 245-6)
- ●4139 (Ch. 528.270) 227–12
- ●4139A (Ch. 528.299, -1, -2) 253–12
- ●4140 (Ch. 528.247, -1) 217–16
- ●4140D (Ch. 528.266-1) 227–12
- ●4140E (Ch. 528.300, -1, -2, -3) .... 245—6
- ●4142 (Ch. 528.299-2, -3) 253–12
- ●4142H (Ch. 528.32000, 528.32001) (Also See PCB 124—Set 280-1) 267–13
- ●4143 (Ch. 528.247, -1) 217–16
- ●4143D (Ch. 528.266-1) 227–12
- ●4143H (Ch. 528.32201) 282–14
- 4144 (Ch. 528.299-2, -3) 253–12
- ●4145 (Ch. 528.247, -1) 217–16
- ●4145D (Ch. 528.266-1) 227–12
- ●4149 (Ch. 528.270) 227–12
- ●4149E (Ch. 528.299-2, -3) 253–12
- ●4149H (Ch. 528.32000, 528.32001) (Also See PCB 124—Set 280-1) 267–13
- ●4150 (Ch. 528.247, -1) 217–16
- ●4150D (Ch. 528.286) 227–12
- ●4150E (Ch. 528.300-2, -3) 245—6
- ●4150H (Ch. 528.32200) 282–14
- ●4152H (Ch. 528.32001) (Also See PCB 124—Set 280-1) 267–13
- ●4153 (Ch. 528.247, -1) 217–16
- ●4153D (Ch. 528.286) 227–12
- ●4153E (Ch. 528.300-3) (See Model 4140E—Set 245-6)
- ●4153H (Ch. 528.32200) 282–14
- ●4155 (Ch. 528.247, -1) 217–16
- ●4155D (Ch. 528.286) 227–12
- ●4155E (Ch. 528.300-2, -3) 245—6
- 4200 (Ch. 757.140) 262–13
- 4204 (Ch. 132.067) 255–13
- 4206 (Ch. 132.067) 255–13
- 4210 (Ch. 528.308) 272–14
- 4212 (Ch. 757.421) 275–15
- 4225 (Ch. 528.307) 268–13
- 4242 (Ch. 548.401-1) 258–11
- ●4155H (Ch. 528.32201) 282–14
- 4243 (Ch. 488.22000) 278–12
- 4246 (Ch. 137.914, -1, -2, -3) (See Model 2243—Set 230-9)
- 4247 (Ch. 548.400-1) .... 281—7
- ●4283 (Ch. 456.200-21) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)
- ●4285 (Ch. 456.200-21) (See PCB 109—Set 257-1 and Model 3376—Set 225-16)

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250.

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin.

Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

SILVERTONE—Cont.

Ch. 456.150-15 (See Model 1260)
Ch. 456.150-16 (See Model 3263)
Ch. 456.150-17 (See Model 1299)
Ch. 456.150-18 (See Model 2276)
Ch. 456.150-19 (See Model 3260)
Ch. 456.150-21 (See Model 1261)
Ch. 456.150-22 (See Model 3276)
Ch. 456.150-61 (See Model 3276)
Ch. 456.150-81 (See Model 1268)
Ch. 456.200-1, -2, -3 (See Model 3389)
Ch. 456.200-11, -12, -13 (See Model 3360)
Ch. 456.200-21, -22, -23 (See Model 3360)
Ch. 456.200-43 (See Model 3364)
Ch. 456.200-111, -112, -113, -114, -115, -121, -122, -123, -124, -125 (See Model 3376)
Ch. 456.31300 (See Model PC-5100)
Ch. 456.31400 (See Model PC-5110)
Ch. 456.31500 (See Model PC-5101)
Ch. 456.31600 (See Model PC-5112)
Ch. 456.31700 (See Model PC-5106)
Ch. 456.31800 (See Model PC-5114)
Ch. 456.32800 (See Model PC-5126A)
Ch. 456.32900 (See Model PC-5114B)
Ch. 456.33000 (See Model PC-5100A)
Ch. 456.33100 (See Model PC-5106A)
Ch. 456.33400, 456.33500 (See Model PC-5119A)
Ch. 456.33800 (See Model PC-5101A)
Ch. 456.33900 (See Model PC-5112A)
Ch. 456.34100 (See Model PC-5110CX)
Ch. 456.34200 (See Model PC-5112CX)
Ch. 456.34300, 456.34400 (See Model PC-5118A)
Ch. 456.34500, 456.34501, 456.34502, 456.34503 (See Model PC-5114C, D)
Ch. 456.34600, 456,34601, 456.34602, 456.34603 (See Model PC-5115C, D)
Ch. 463.155 (See Model 8155)
Ch. 478.206-1 (See Model 8024)
Ch. 478.210 (See Model 9131)
Ch. 478.221 (See Model 9116)
Ch. 478.224 (See Model 9115)
Ch. 478.238 (See Model 25)
Ch. 478.240 (See Model 144)
Ch. 478.253 (See Model 9125A)
Ch. 478.257 (See Model 125)
Ch. 478.289 (See Model 112)
Ch. 478.302 (See Model 114)
Ch. 478.303, A (See Model 110)
Ch. 478.309 (See Model 159)
Ch. 478.311 (See Model 120)
Ch. 478.312 (See Model 144)
Ch. 478.319 (See Model 163-16)
Ch. 478.338 (See Model 150-14)
Ch. 488.237 (See Model 237)
Ch. 488.22000 (See Model 4243)
Ch. 528.168 (See Model 9280)
Ch. 528.171-1 (See Model 225)
Ch. 528.173 (See Model 220)
Ch. 528.174 (See Model 215)
Ch. 528.194 (See Model 1040)
Ch. 528.195, -1, -2 (See Model 1035)
Ch. 528.196 (See Model 1032)
Ch. 528.210, -1 (See Model 1017)
Ch. 528.219 (See Model 1038)
Ch. 528.229 (See Model 2200)
Ch. 528.230 (See Model 2028)
Ch. 528.233 (See Model 2225)
Ch. 528.235 (See Model 2041)
Ch. 528.238 (See Model 2215)
Ch. 528.241 (See Model 3210)
Ch. 528.242, -1, -2 (See Model 3110A)
Ch. 528.247, -1, -2 (See Model 3171A)
Ch. 528.247, -1 (See Model 3171A)
Ch. 528.248, -1, -2 (See Model 3110)
Ch. 528.249, -1 (See Model 3170C)
Ch. 528.252 (See Model 3032)
Ch. 528.253 (See Model 3040)
Ch. 528.254 (See Model 3045)
Ch. 528.256 (See Model 3112A)
Ch. 528.258 (See Model 3112C)
Ch. 528.259 (See Model 3200)
Ch. 528.261 (See Model 3170D)
Ch. 528.263, -1, -2 (See Model 3112B)
Ch. 528.264 (See Model 3109)
Ch. 528.264-1, -2 (See Model 3110B)
Ch. 528.265 (See Model 3217)
Ch. 528.266 (See Model 4115)
Ch. 528.266-1 (See Model 4140D)
Ch. 528.268 (See Model 4127A)
Ch. 528.270 (See Model 4115)
Ch. 528.271, -1, -2, -3, -4 (See Model 4108A)
Ch. 528.286 (See Model 4150D)
Ch. 528.290, -1 (See Model 4107)
Ch. 528.290-2 (See Model 3103A)
Ch. 528.291, -1, -2 (See Model 4111A)
Ch. 528.292, -1, -2, -3 (See Model 4118B)
Ch. 528.297 (See Model 4126A)
Ch. 528.299-3 (See Model 4136A)
Ch. 528.300, -1, -2, -3, -4 (See Model 4140E)
Ch. 528.303, -1 (See Model 4112)
Ch. 528.304, -1, -2 (See Model 4041, B)
Ch. 528.305 (See Model 4035)
Ch. 528.306, -1, -2 (See Model 4025)
Ch. 528.307, -1 (See Model 4225)
Ch. 528.308 (See Model 4210)

SILVERTONE—Cont.

Ch. 528.311 (See Model 3040A)
Ch. 528.312, -1 (See Model 4045A)
Ch. 528.631 (See Model 1184-20)
Ch. 528.631, -1 (See Model 2110A)
Ch. 528.632, -1, -2, -3, -4, -5) (See Model 2110A)
Ch. 528.632A, -1, -2, -3, -5 (See Model 2110A)
Ch. 528.6286, -1, -3 (See Model 6286)
Ch. 528.6287, -1, -3 (See Model 6287)
Ch. 528.6293-2 (See Model 6293)
Ch. 528.6295 (See Model 6295)
Ch. 528.31300, 528.31301 (See Model 5100)
528.31400, 528.31401 (See Model 5110)
Ch. 528.31500 (See Model 5101)
Ch. 528.31600 (See Model 5112)
Ch. 528.31700, 528.31701 (See Model 5106)
Ch. 528.31800, 528.31801 (See Model 5114)
Ch. 528.31900, 528.31901 (See Model 5118)
Ch. 528.32000, 528.32001 (See Model 4142H)
Ch. 528.32100, 528.32101, 528.32102 (See Model 5119)
Ch. 528.32200 (See Model 4150H)
Ch. 528.32201 (See Model 5155)
Ch. 528.32202 (See Model 5150)
Ch. 528.32800 (See Model 5126A)
Ch. 528.32900 (See Model 5114B)
Ch. 528.33000 (See Model 5100A)
Ch. 528.33001 (See Model 5100A)
Ch. 528.33100 (See Model 5106A)
Ch. 528.33101 (See Model 5106A)
Ch. 528.33200 (See Model 5227)
Ch. 528.33300 (See Model 6217)
Ch. 528.33400, 528,33500, 528.33501 (See Model 5133A)
Ch. 528.33800 (See Model 5101A)
Ch. 528.33900 (See Model 5112A)
Ch. 528.34000 (See Model 5114B)
Ch. 528.34001 (See Model 5114B)
Ch. 528.34100 (See Model 5110C)
Ch. 528.34101 (See Model 5110C)
Ch. 528.34200 (See Model 5112C)
Ch. 528.34300, 528.34301, 528.34400 (See Model 5132A)
Ch. 528.34500, 528.34501, 528.-34502, 528.34503, 528.34504 (See Model 5114C)
Ch. 528.34600 (See Model 5115C)
Ch. 528.34601 (See Model 5115D)
Ch. 528.34602, 528.34603 (See Model 5115C)
Ch. 528.34700 (See Model 4103)
Ch. 528.34800, 528.34801 (See Model 4109)
Ch. 528.34900 (See Model 5045)
Ch. 528.40500 (See Model 6056A)
Ch. 547.245 (See Model 9270)
Ch. 548.358 (See Model 9161)
Ch. 548.358-1 (See Model 245)
Ch. 548.360-1 (See Model 739)
Ch. 548.361 (See Model 239)
Ch. 548.363 (See Model 33)
Ch. 548.400, -1 (See Model 3247)
Ch. 548.401-1 (See Model 4242)
Ch. 549.100 (See Model 101)
Ch. 549.100-1 (See Model 101A)
Ch. 549.100-3 (See Model 102A)
Ch. 549.100-4 (See Model 160-12)
Ch. 549.100-5, -6, -7, -8, -9 (See Model 175-16)
Ch. 549.16000, 549.16001, 549.-16002, 549.16003, 549.16004 (See Model 5106-2)
Ch. 549.16100 (See Model 5160-2)
Ch. 725.101-1 (See Model 6950)
Ch. 757.100 (See Model 2007)
Ch. 757.100-1 (See Model 2018)
Ch. 757.110 (See Model 2003)
Ch. 757.120 (See Model 3007)
Ch. 757.130 (See Model 3004)
Ch. 757.140 (See Model 4200)
Ch. 757.150 (See Model 4016)
Ch. 757.300 (See Model 4032)
Ch. 757.421 (See Model 4212)
Ch. 757.80000 (See Model 5032)

SIMPLON

CA-5 22–27
WVV2 17–30

SKY KNIGHT (See Air Knight)

SKYRIDER (See Hallicrafters)

SKYROVER

N5-RD-250 (9022-N), N5-RD-251 (9022-H) 6–31
N5-RD295 (Ch. 5A7) 21–30

SKY WEIGHT

81B 20–30
82 13–13

SONOGRAPH

BL100 122–10
BW100 (See Model BL100—Set 122-10)

SONORA

RBU-176 5–31
RB-207 (See Model RBU-176—Set 5-31)
RCU-208 . . . . S–30
RDU-209 3–29
RET-210 24–24
RGMF-212, RGMF-230 27–26
RKRU-215 (Ch. RKRU) 9–31
RMR-219 19–28
RMR-220, RMR-245 (See Model RMR-219—Set 19-28)
RQU-222 8–23
RWFU-238 23–24
RX-223 19–29
WAU-243 27–27
WBRU-239 32–23
WCU-246 36–22
WDU-233 25–27
WDU-249 37–20
WEU-262 33–28
WGFU-241, WGFU-242 24–25

SONORA—Cont.

WJU-252 36–23
WKRU-254A 34–20
WLRU-219A 37–21
WLRU-220A (See Model WLRU-219A—Set 37-21)
WLRU-245A (See Model WLRU-219A—Set 37-21)
YB-299 112–9
100 41–21
101 48–24
102 53–23
171 109–13
172 (See Model 171—Set 109-13)
●302, 303 . . . . 97A–13
●305 174–11
306 108–11
314, 315 253–13
●323, 324, 325 174–11
327A, 328A 249–16
●332 174–11
335, 336 250–19
341 251–16
348A 249–16
349 251–16
●350, 351 173–13
●352 182–12
356 251–16
366A 249–16
379 253–13
389, 390 . . . . 245—7
401 47–21
402A (See Model RMR-219)—Set 19-28)
402F (See Model WLRU-219A—Set 37-21)
●413, 414, 415, 416 (For TV Ch. Only See Model 421—Set 221-10)
●421, 422, 423, 424, 425, 426, 428, 429 221–10
441, 442 253–13
458, 459 253–14
464, 465, 466 249–17
467 254–10
470A 249–16
477, 478 253–13

SOUND, INC.

"Intersound" 7–27
MB6P3, MB6P6, MB6P30, MB6R4 35–21
MB7E3 28–31
MB7E8 26–24
5R2 28–32

SPARKS-WITHINGTON (See Sparton)

SPARTON (Also see Record Changer Listing)

4AW17 (Ch. 417) 50–18
4AW17-A (Ch. 417A) 49–22
5A116 (Ch. 5-16) 30–29
5AH06. 5A106 (See Model 5AW06—Set 4-17)
5AM26-PS (Ch. 5-26-PS) 5–17
5AW06 (Ch. 5-06) 4–17
5AW16 (Ch. 5-16) 30–29
6AM06 (Ch. 6-06) 34–21
6AM26 (See Model 6AW26PA—Set 15-33)
6AW26PA (Ch. PC5-6-26) 15–33
6-66A (Ch. 666A) 51–21
7AM46 (Ch. 7-46) 1–31
7AM46PA, 7BM46PA, 7BW46PA (See Model 7AM46—Set 1-31)
8AM46 (Ch. 8-46) 1–31
10AB76-PA, 10AM76-PA, 10BM76-PA (See Model 10BW76-PA—Set 15–34)
10BW76-PA (Ch. 10-76PA) 15–34
●10T201 (Ch. 22V174) (See PCB 138—Set 298-1 and Model 11T201—Set 255-14)
●11T209 (Ch. 22V214) (See PCB 138—Set 298-1 and Model 11T201—Set 255-14)
●11T210 (Ch. 23U214) 255–14
●11T309 (Ch. 22V214) (See PCB 138—Set 298-1 and Model 11T201—Set 255-14)
●12A203 (Ch. 22V214) (See PCB 138—Set 298-1 and Model 11T201—Set 255-14)
●12A204 (Ch. 23U214) 255–14
●12A209 (Ch. 22V214) (See PCB 138—Set 298-1 and Model 11T201—Set 255-14)
●12A210 (Ch. 23U214) 255–14
●12A309 (Ch. 22V214) (See PCB 138—Set 298-1 and Model 11T201—Set 255-14)
●13C505 (Ch. 22V244B) 296–10
●13C506 (Ch. 23U244B) 296–10
●14A203 (Ch. 22V214) (See PCB 138—Set 298-1 and Model 11T201—Set 255-14)
●14A204 (Ch. 23U214) 255–14
●16A211 (Ch. CTV-2) . . . . 299—9
●17A203, 17A204 (Ch. 22V214B, 23U214B) . . . . 288—9
●18A203, 18A204 (Ch. 22V214B, 23U214B) . . . . 288—9
●19A203, 19A204 (Ch. 22V214B, 23U214B) . . . . 288—9
●19A209, 19A210 (Ch. 22V214B, 23U214B) . . . . 288—9
●20T203, 20T204 (Ch. 22V214B, 23U214B) . . . . 288—9
●20T209, 20T210 (Ch. 22V214B, 23U214B) . . . . 288—9
●20T403, 20T404 (Ch. 22V214B, 23U214B) . . . . 288—9
●21T203, 21T204 (Ch. 22V214B, 23U214B) . . . . 288—9
●22A403, 22A404 (Ch. 22V214B, 23U214B) . . . . 288—9
●23A205, B (Ch. 22V244B) 296–10
●23A206 (Ch. 23U244B) 296–10
●24T201, 24T202 (Ch. 22V174B, 23U174B) . . . . 288—9
●24T301 (Ch. 22V174B) . . . . 288—9
100, 101 (Ch. 5A7) 38–23
102, 103, 104 (See Model 100—Set 38-23)
121 (Ch. 8L9) 57–19
122 (See Model 121—Set 57-19)
130, 132, 135, 139 (Ch. 5A10) 94–10

SPARTON—Cont.

141 (See Model 121—Set 57-19)
141A (Ch 8L10) . . . . 92—6
141XX, 142XX (Ch. 8W10) . 126–12
142 (See Model 121—Set 57-19)
150, 151, 152, 155 (Ch. 4E10) 91–12
230 (Ch. 5A10, A) 210–10
232 (Ch. 5A10, A) 210–10
329 (Ch. 5A10, A) 210–10
301, 305, 309 (Ch. 4E3) . . 222–13
320C, 321C (Ch. 5B3C) . . . 237–10
325C (Ch. 5B3C) 237–10
329C (Ch. 5B3C) 237–10
342, 345, 347 (Ch. 5C3) . . 220—9
350, 351 (Ch. 6L3) 197–12
1000, 1001, 1003 (Ch. 12L7) 60–18
1005, 1006, 1007, 1008 (Ch. 8-57) 29–25
1010 (Ch. 7J7) 35–22
1015 (See Model 10BW76PA—Set 15-34)
1020, 1021, 1023 60–18
1030, 1030A (Ch. 6L8) 37–22
1031, A (See Model 1030—Set 37-22)
1035, 1035A, 1036, 1036A, 1037, 1037A, 1039, 1040, 1041 (Ch. 9L8) 62–19
1040XX, 1041XX (Ch. 8W10) 126–12
1051, 1052 (Ch. 6B9) 58–21
1058, 1059, 1060, 1061, 1064 (Ch. 8L9) 57–19
1071 (See Model 121—Set 57-19)
1072 (Ch. 8L9) 57–19
1080 (Ch. 9L8A) (See Model 4900-TV—Set 64-11)
1080A (Ch. 8L10) (See Model 141A—Set 92-6)
1081 (Ch. 9L8A) (See Model 4900-TV—Set 64-11)
1081A (Ch. 8L10) (See Model 141A—Set 92-6)
1085, 1086 (Ch. 8W10) . . . 126–12
1090, 1091 (Ch. 8W10) . . . 126–12
1210, 1211 (Ch. 8W10) (See Model 141XX—Set 126-12)
1300, 1301 (Ch. 6L3) 197–12
●4900TV (Ch. 24TV9C, 3TV9C, 9L8A) 64–11
●4916, 4917, 4918 (Ch. 24TL10, 3TL10, 6S10) . . . . 164—9
●4920, 4921, 4922 (Ch. 24TM10) . . . . 164—9
●4935 (Ch. 23TC10) 133-1A
●4939TV, 4940TV, 4941TV (Ch. 24TV9, 3TV9) 64–11
●4942 (Ch. 23TC10) 133-1A
●4944, 4945 (Ch. 3TB10, 24TB10) 86–10
●4951, 4952 (See Model 4900TV—Set 64-11)
●4954 (Ch. 23TC10) 133-1A
●4960 (Ch. 23TC10) 133-1A
●4964, 4965 (Ch. 23TB10) . . 157–11
4970, 4971, 4972 (Ch. 8S10) 92—6
●5002, 5003 (Ch. 23TD10) . 102–13
●5006, 5007 (Ch. 23TD10) . . 102–13
●5006X (Ch. 25TK10A) 121–13
●5007X (Ch. 25TK10A) 121–13
●5010, 5011 (Ch. 19TS10, A) 104–11
●5014, 5015 (Ch. 19TS10, A) 104–11
●5025 (Ch. 26SS160) 128–13
●5025BA See PCB 22—Set 138-1 and Model 5025—Set 128-13)
●5026 128–13
●5029, 5030 (Ch. 26SD160) . 128–13
●5035, 5036, 5037 (Ch. 26SS160L) 128–13
●5052 (Ch. 24TR10, 3TR10) . 97A–13
●5056, 5057 (Ch. 19TS10, A) 104–11
●5064, 5065 (Ch. 23TB10) . . 157–11
●5068, 5069 (Ch. 24TV9C) (See Model 4900TV—Set 64-11)
●5071, 5072 (Ch. 19TS10, A) 104–11
●5075BA (See PCB 22—Set 138-1 and Model 5025—Set 128-13)
●5076 (Ch. 26SS160, B) 128–13
●5076BA (See PCB 22—Set 138-1 and Model 5076—Set 128-13)
●5076BB 128–13
●5077 128–13
●5077BA (See PCB 22—Set 138-1 and Model 5077—Set 128-13)
●5078B 128–13
●5079 128–13
●5079B (See PCB 22—Set 138-1 and Model 5079—Set 128-13)
●5080 128–13
●5080C (See PCB 22—Set 138-1 and Model 5080—Set 128-13)
●5082, 5083 (Ch. 26SD160, 26SD-170) (For TV Ch. see Set 128-13, for Radio Ch. see Model 141XX—Set 126-12)
●5082, 5083 (Ch. 26SD170X, XP) (For TV Ch. see PCB 22—Set 138-1 and Model 5082—Set 128-13, for Radio Ch. see Model 141-XX—Set 126-12)
●5085, 5086 (Ch. 2RD190, 25RD190) 139–14
●5088, 5089, 5090 (Ch. 26SD160, 26SD170 and Radio Ch. 8W10) (For TV Ch. see Set 128-13, for Radio Ch. see Model 141XX—Set 126-12)
●5101, 5102, 5103 (Ch. 26SS170, P) (See PCB 22—Set 138-1 and Model 5025—Set 128-13)
●5104, 5105 (Ch. 26SS170D, P) (See PCB 22—Set 138-1 and Model 5025—Set 128-13)
●5152, 5153, 5154 (Ch. 26SS170, P) (See PCB 22 — Set 138-1 and Model 5025—Set 128-13)
●5155, 5156, 5157 (Ch. 26SD170X, XP) (See PCB 22—Set 138-1 and Model 5025—Set 128-13)
●5158 (Ch. 26SD170, P) (See PCB 22—Set 138-1 and Model 5025—Set 128-13
●5165X, 5166X (Ch. 26SD171) 166–13
●5170, 5171 (Ch. 25SD201, 2SD-201) 147–11

SPARTON—Cont.

●5175X (Ch. 26SD171) 166–13
●5178X (Ch. 26SD171) 166–13
●5182, 5183, 5188, 5189 (Ch. 26SD-170, P and Radio Ch. 8W10) (For TV Ch. see PCB 22—Set 138-1 and Model 5025—Set 128-13, for Radio Ch. see Model 141XX—Set 126-12)
●5191, 5192 (Ch. 25SD201, 2SD201) (See Model 5170—Set 147-11)
●5207, 5208 (Ch. 26SS172, A) 167–14
●5210 (Ch. 26SS172B) 167–14
●5212 (Ch. 21S172) 174–12
●5220 (Ch. 26SD172C) 167–14
●5225, 5226 (Ch. 26SD172C) 167–14
●5240, 5241 (Ch. 21S212) . . 201–10
●5250, 5252, 5253 (Ch. 21S172) 174–12
●5262, 5263 (Ch. 26SS172, A) 167–14
●5265 (Ch. 26SD172, A) . . . 167–14
●5267, 5268 (Ch. 26SD172, A) 167–14
●5270 (Ch. 26SD172C) 167–14
●5271 (Ch. 26SD172C) (See Model 5207—Set 167-14)
●5272, 5273 (Ch. 26SD172C) 167–14
●5280, 5281 (Ch. 21S212) . . 201–10
●5288, 5289 (Ch. 25CD202) . 178–11
●5291, 5292, 5293, 5294, 5295 (Ch. 25CD202) 178–11
●5296A, 5297A (Ch. 25CD202) 178–11
●5298 (Ch. 25CD202) 178–11
●5299 (Ch. 25CD202) (See Model 5298—Set 178-11)
●5301 (Ch. 21S173-D) 201–10
●5325 (Ch. 25D173A) 222–14
●5325A (Ch. 27D173) 222–14
●5326 (Ch. 25D173A) 222–14
●5326A (Ch. 27D173) 222–14
●5340, 5341 (Ch. 21S213) . . 201–10
●5342 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●5342A (Ch. 27D213) 210–11
●5343 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●5343A (Ch. 27D213) 210–11
●5362 (Ch. 25D173A) 222–14
●5362A (Ch. 27D173) 222–14
●5363 (Ch. 25D173A) 222–14
●5363A (Ch. 27D173) 222–14
●5380, 5381 (Ch. 21S213) . . 201–10
●5382 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●5382A (Ch. 27D213) 210–11
●5382B (Ch. 27D213-A) 210–11
●5383 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●5383A (Ch. 27D213) 210–11
●5383B (Ch. 27D213A) (See Model 5382B—Set 210-11)
●5384 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●5384A (Ch. 27D213) 210-11
●5385 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●5386 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●5386A (Ch. 27D213) 210–11
●5386B (Ch. 27D213A) (See Model 5382B—Set 210-11)
●5387B (Ch. 27D213A) (See Model 5382B—Set 210-11)
●5390 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●5391 (Ch. 25D213) (See PCB 104—Set 250-1 and Model 5342A—Set 210-11)
●10352 (Ch. 27D213 and Radio Ch. 8W10) (For TV Ch. see Set 210-11, for Radio Ch. see Model 141-XX—Set 126-12)
●10352A (Ch. 27D213A and Radio Ch. 8W10) (For TV Ch. see Model 5382B—Set 210-11, for Radio Ch. see Model 141XX—Set 126-12)
●10353 (Ch. 27D213 and Radio Ch. 8W10) (For TV Ch. see Set 210-11, for Radio Ch. see Model 141XX—Set 126-12)
●10353A (Ch. 27D213A and Radio Ch. 8W10) (For TV Ch. see Model 5382B—Set 210-11, for Radio Ch. see Model 141XX—Set 126-12)
●11322, 11324 (Ch. 21S213A) (See Model 5240—Set 201-10)
●14342 (Ch. 27D213A and Radio Ch. 8W10) (For TV Ch. see Model 5382B—Set 210-11, for Radio Ch. see Model 141XX—Set 126-12)
●15312, 15314 (Ch. 21S213A) (See Model 5240—Set 201-10)
●22312, 22313 (Ch. 29U213) 232—8
●23322, 23323 (Ch. 29U213) 232—8
●24542 (Ch. 29U273) 224–13
●25544 (Ch. 29U273) 224–13
●26542 (Ch. 27D273) 224–13
●26544 (Ch. 27D273) 224–13
Ch. CTV-2 (See Model 16A211)
Ch. PC-5-6-26 (See Model 6AW26-PA)
Ch. 2RD190 (See Model 5085)
Ch. 2SD201 (See Model 5170)
Ch. 3TB10 (See Model 4944)
Ch. 3TL10 (See Model 4916)
3AR1 217–17
Ch. 3TR10 (See Model 5052)
Ch. 3TV9, 3TV9C (See Model 4900-TV)
Ch. 4E3 (See Model 301)
Ch. 4E10 (See Model 150)
Ch. 5A7 (See Model 100)
Ch. 5-06 (See Model 3AW06)
Ch. 5A10 (See Model 130)

NOTE: PCB Denotes Production Change Bulletin.

Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

SPARTON—Cont.

Ch. 5A10, A (See Model 230)
Ch. 5B3C (See Model 320C)
Ch. 5C3 (See Model 342)
Ch. 5-16 (See Model 5A116)
Ch. 5-26PS (See Model 5AM26PS)
Ch. 6B9 (See Model 1051)
Ch. 6L3 (See Model 350)
Ch. 6L8 (See Model 1030)
Ch. 6-06 (See Model 6AM06)
Ch. 7L7 (See Model 1010)
Ch. 7-46 (See Model 7AM46)
Ch. 8L9 (See Model 121)
Ch. 8L10 (See Model 141A)
Ch. 8S10 (See Model 4970)
Ch. 8W10 (See Model 141XX)
Ch. 8-46 (See Model 8AM46)
Ch. 8-57 (See Model 1005)
Ch. 9L8 (See Model 1035)
Ch. 9L8A (See Model 4900TV)
Ch. 10-77PA (See Model 10BW76PA)
Ch. 12L7 (See Model 1000)
Ch. 19TS10, 19TS10A (See Model 5010)
Ch. 21S172 (See Model 5212)
Ch. 21S173-D (See Model 5301)
Ch. 21S212 (See Model 5240)
Ch. 21S213 (See Model 5340)
Ch. 21S213A (See Model 11322)
Ch. 22V174 (See Model 10T201)
Ch. 22V174B (See Model 24T201)
Ch. 22V214 (See Model 11T209)
Ch. 22V214B (See Model 17A203)
Ch. 22V244B (See Model 13C505)
Ch. 23TB10 (See Model 4964)
Ch. 23TC10 (See Model 4935)
Ch. 23TD10 (See Model 5002)
Ch. 23U174B (See Model 24T202)
Ch. 23U214 (See Model 11T210)
Ch. 23U214B (See Model 17A204)
Ch. 23U244B (See Model 13C506)
Ch. 24TB10 (See Model 4944)
Ch. 24TL10 (See Model 4916)
Ch. 24TM10 (See Model 4920)
Ch. 24TR10 (See Model 5052)
Ch. 24TV9 (See Model 4939TV)
Ch. 24TV9C (See Model 4900TV)
Ch. 25D173A (See Model 5325)
Ch. 25D213 (See Model 5342)
Ch. 25RD190 (See Model 5085)
Ch. 25SD201 (See Model 5170)
Ch. 25TK10A (See Model 5006X)
Ch. 26SD160 (See Model 5025)
Ch. 26SD170 (See Model 5082)
Ch. 26SD170P (See Model 5182)
Ch. 26SD170X, XP (See Model 5082)
Ch. 26SD171 (See Model 5165X)
Ch. 26SD172, A (See Model 5267)
Ch. 26SD172C (See Model 5220)
Ch. 26SS160, B (See Model 5076)
Ch. 26SS160L (See Model 5035)
Ch. 26SS170 (See Model 5101)
Ch. 26SS170D, P (See Model 5140)
Ch. 26SS172, A, B (See Model 5207)
Ch. 27D173 (See Model 5325A)
Ch. 27D213 (See Model 5342A)
Ch. 27D213-A (See Model 53828)
Ch. 27D273 (See Model 26542)
Ch. 29U213 (See Model 22312)
Ch. 29U273 (See Model 24542)
Ch. 417 (See Model 4AW17)
Ch. 417A (See Model 5AW17A)
Ch. 666A (See Model 6-66A)

SPIEGEL (See Aircastle)

STARK

410 40–22
1010 .... 88—2
1020 .... 89—5

STARRETT

● Gotham 101–12
● Henry Hudson, Henry Parks .. 92—7
● John Hancock 96–10
● Nathan Hale 87–12
● Robert E. Lee .... 92—7
● A17CG-1 (Ch. 17S1) (See Ch. 17S1—Set 165-2A)
● A17TG-1 (Ch. 17S1) (See Ch. 17S1—Set 165-2A)
● A20C-2 (Ch. 18S1) (See Ch. 18S1—Set 165-2A)
● A20CD-1 (Ch. 18S1) (See Ch. 18S1—Set 165-2A)
● A20TG (Ch. 18S1) (See Ch. 18S1—Set 165-2A)
● 17BM1 (Ch. 12S1) 149–13
● 20BM1 (Ch. 15S1) 149–13
● 27BM1 (Ch. 12S1) 149–13
● 29AM1 (Ch. 14S1) 149–13
● 30BM1 (Ch. 15S1) 149–13
● 37BB1 (Ch. 12S1) 149–13
● 39AM1 (Ch. 14S1) 149–13
Ch. 12S1 (See Model 17BM1)
Ch. 14S1 (See Model 29AM1)
Ch. 15S1 (See Model 20BM1)
Ch. 17S1 .... 165-2A
Ch. 18S1 .... 165-2A

STEELMAN

AF1100 .... 180—9
BE-20, BE-21, BE-22 247–11
1S2 257–15
3A2 250–20
3A4 253–15
3A5 244–11
3AR1 217–17
3AR3 243–10
3D2 211–14
3D3T (See Model 3D5—Set 245-8)
3D5, 3D6 .... 245—8
3E1 251–17
3RP1 210–12
3RP3 238–13
3S2 247–11
102 184–14
107 178–12
151M 223–11
200 23–25
215 165–13
303 19–31
327 182–13
330 186–12
350, 351 21–31
351 (Late) 227–14

STEELMAN—Cont.

357 178–13
450, 451 178–14
487 182–14
517 179–12
595 164–10
597 183–16
601 177–12
602 185–13
4000 176–12
5000 186–13
5101 162–12
6000 163–11

STEWART-WARNER

A51T1 (Code 9020-A), A51T2 (Code 9020-B), A51T3 (Code 9020-C), A51T4 (Code 9020-D) 17–32
A61CR1 (Code 9034-C), A61CR2 (Code 9034-D), A61CR3 (Code 9034-E), A61CR4 (Code 9034-F) 39–25
A61P1 (Code 9036-A), A61P2 (Code 9036-B), A61P3 (Code 9036-C) 42–23
A72T1 (Code 9026-A), A72T2 (Code 9026-B), A72T3 (Code 9026-C), A72T4 (Code 9026D) 32–24
A92CR3, A92CR3S (Code 9028-C), A92CR6, A92CR6S (Code 9028-F) 29–26
● AVC1 (Code 9054B), AVC2 (Code 9054C), AVT1 (Code 9054A) 54–12
B51T1, B51T2, B51T3 (Code 9044A, B, C) 58–22
B61T1, B61T2 (Code 9046A, B) 59–19
B72CR1 (Code 903BA) 47–22
B92CR1, B92CR2, B92CR3, B92CR4, B92CR8, B92CR9, B92CR10 (Codes 9043A, B, C, D, K, L, M) 55–14
C51T1 (Code 9054-A), C51T2 (Code 9054-B) 41–22
● T-711 (Code 9031-A) 95A–12
● T-711M (Code 9031-AM) .. 95A–12
● T-712 (Code 9031-B) 95A–12
● TRC-721 (Code 9037-A) 95A–12
● 17T-9380A .... 245—9
● 17T-9620A, B 244–14
● 21C-9210C (Series "A, B, C, D, E") .... 192—8
● 21C-9211D, E, F, G (Series A, B, C) .... 200—9
● 21C-9300E, F, G, K, KB, L, LB, M, MB, P (Series A thru T) .. 223–12
● 21C-9325F, G 258–12
● 21C-9340E, K, KB, L, LB, M, MB, P 258–12
● 21C-9600K, KB, L, LB, M, MB, P 277–11
● 21C-9630C, CB, D 284–14
● 21C-9700W, WB, X, XB ... 302–11
● 21T-9210A (Series "A, B, C, D, E") .... 192—8
● 21T-9211B (Series A, B) .. 200—9
● 21T-9211C (Series A, B, C). 200—9
● 21T-9300A, AA, B, D, H, HA, R, RB, S, T (Series A thru T) 223–12
● 21T-9340A, B, D, R, RB, S, T 258–12
● 21T-9600A, B, D 277–11
● 21T-9630A, AB 284–14
● 21T-9700R, RB 302–11
● 24C-9360A, AB (Series A, AB) 254–11
● 24C-9370A, AB (Series A, AB) 254–11
● 27C-9212A (Series A, B, C) 211–15
● 27C-9310A, AB (Series A, AB) 254–11
● 27C-9350A, AB (Series A, AB) 254–11
51T46 (Code 9024B), 51T56 (Code 9024-C) 39–24
51T126 (Code 9018-C), 51T136 (Code 9018-F), 51T146 (Code 9018-H), 51T176 (Code 9018-B) 15–35
61T16 (Code 9022-A), 61T26 (Code 9022-B) .... 1—6
62T16 (Code 9023-C), 62T16 (Code 9023-D), 62T26 (Code 9073-E) 62TC36 (Code 9023-F) .. 2–21
72CR16, 72CR26 13–28
9000-B 11–22
9001-C, D, E, F 3–29
9002-A, 9002-B, 9002-P, 9002-R 33–24
9005-A, B 13–31
9007-A, F, G 10–30
● 9100A, 9100B, 9100C, 9100D, 9100E, 9100F, 9100G, 9100H 75–15
● 9103-B, -C, 9104-A, -B, -C. 105–10
● 9106A, B 114–10
● 9108A, B, 9109A, B 113–10
● 9113A 114–10
● 9120-A, -B, -C, -D, -E, -F. 137–11
● 9121-A, 9121-B, 9122-A .. 138—9
● 9125 (TV Ch. only see Model 9120—Set 137-11)
● 9126-A, -B (See PCB 51—Set 185-1 and Model 9120-A—Set 137-11)
● 9127-A 162–13
● 9132-A 199–13
9150-B, 9150-D, 9150-DZ. 140–12
9151-A 106–14
9152-A, -B, -C 107–12
9153-A 108–12
9154-C, 9154-CZ 142–13
9160 AU, BU, CU, DU, EU. 171–10
9161A, B, C 170–12
9162A, B 168–13
9164-A, -B (See Model 9162A—Set 168-13)
9165A, -B 193–11
9170-B, -C, -D 230–11
9175-B, BU, G, GU, H, HU. 249–18
9178-C .... 290—8
9180B, H 243–11
9181A, C, D, E, F 245–10
9182-C, -H, -J 255–15
9186A, B 266–16
9187-B, -E, -J 257–16
● 9200-A, -C, -D, -FA, -G .. 132–13
● 9200-A, -B (Thru Series "B" (See Model 9202-C (Series "B")—Set 158-12)

STEWART-WARNER—Cont.

● 9202-A, -B (Thru Series "H") .... 172—9
● 9202-A, -B (Series "M") (See PCB 60—Set 194-1 and Model 9202-A (Series "H")—Set 172-9)
● 9202-C, -DA, -DB, -DD, -E, -F (Thru Series "B" 158–12
● 9202-C, -DA, -DB, -DD, -DDA, -E, -F (Thru Series "H") .... 172—9
● 9202-C, -DA, -DB, -DD, -DDA, -E, -F (Series "M") (See PCB 60—Set 194-1 and Model 9202-A (Series "H"—Set 172-9)
● 9202-FA (Thru Series "B") (See Model 9202-C (Series "B")—Set 158-12)
● 9202-FA (Thru Series "H") 172—9
● 9202-FA (Series "M") (See PCB 60 Set 194-1 and Model 9202-A (Series "H")—Set 172-9)
● 9203-A 166–14
● 9204-A 164–11
● 9209-A, AW, B, C, D (Series A, B, C, D, E) 181–14
● 9210-C (Series "A, B, C, D, E") .... 192—8

ST. GEORGE
(See Recorder Listing)

STRATFORD

● 916, 917, 920, 921, 1016, 1017, 1020, 1021 (Ch. 6353, C). 219–11

STRATOVOX

579-58A 6–32

STROMBERG-CARLSON

AM-43 129–11
AM-48, AM-49 131–14
AP-50 130–13
AP-60 273–14
AR-37 128–14
AR-37A 173–15
AR-410 194–12
AR-420 (Series 104) 301–10
AR-425 199–12
AU-29 125–11
AU-32 133–12
AU-33 134–10
AU-34 128–15
AU-35 138–10
AU-36 132–14
AU-42 137–12
AU-58 274–12
AV-38, AV-39 126–13
BP-1 259–14
C-1 153–14
C-3 271–14
C-5 (Deluxe) 283–13
EP-2 270–16
Hi Fi Et 263–14
● K-1 265–13
SR-401 191–18
SR-405 (Series 103) 237–11
T-4 268–14
● TC-10 (Also see PCB 1—Set 103-19) 79–17
● TC-19 97–17
● TC-125 .... 95A–13
● TS-10 (See Model TV-12—Set 68-16)
● TS-15, TS-16, TS-125 Series 72–12
● TV-11L Series 10 Photofact Servicer 88
● TV-12 (See Model TV-125 — Set 68-16)
● TV-12M5M (For TV Ch. See Model TV-125—Set 68-16, For Radio Ch. See Model 1220—Set 50-19)
● TV-12P Series 11 Photofact Servicer 88
● TV-12PGM (For TV Ch. See Model TV-125—Set 68-16, For Radio Ch. See Model 1220—Set 50-19)
● TV-12LM (See Model TV-125—Set 68-16)
● TV-125 (Ch. 12) 68–16
● 1X1P21, 1X1P22 (See PCB 125—Set 282-1 and Model 21TM—Set 258-13)
● 1X21, 1X22 (See PCB 125—Set 282-1 and Model 21TM—Set 258-13)
● 1XP21, 1XP22 (See PCB 125—Set 282-1 and Model 21TM—Set 258-13)
● 16 Series 135–12
● 17 Series 135–12
● 21TM, TQ, 22TM, TQ (Also See PCB 125—Set 282-1) 258–13
● 24 Series 138–11
32 11–23
● 116 Series 135–12
● 117 Series (See Model 119CDM—Set 130-14)
● 119C (See PCB 43—Set 177-1 and Model 119CDM—Set 130-14)
● 119CDM, 119CM 130–14
● 119M5A, D, G, I, M, R ... 130–14
● 119RPM2 130–14
● 317RPM, 317TM 146–10
● 321CD2M, 321CD20, 321CF, 321-C2M 165–14
● 324CDM, 324C5M (Series 324) 172–10
● 417C5-M, 417C5-O, 417C5-Dec., 417TX (Series 417) 178–15
● 421 Series (Revised) 198–14
● 421CDM, CM, TX (Also see PCB 47—Set 181-1) 170–13
● 521CDM, CM, CO, C5D ... 224–14
● 521C5G, 521C5I, 521C5M, 521C5O. 521C5R (See Model 521CDM—Set 224-14)
● 521TM, TO 224–14
● 621ACDM, ACDO, ACM, ACO, AC5E, AC5I, AC5M, AC5O, AC5R, ATM, ATO 236–13
● 621CDM, CDO, CM, CO, C5E, C5I, C5M, C5O, C5R, TM, TO. 235–12
● 622CDM, CDO, CM, CO, C5E, C5I, C5M, C5O, C5R, TM, TO. 236–13
● 624CDM, CDO, CM, RPM, RPO .... 240—9
● 625CDM, CDO, CM, RPM, RPO .... 240—9
1020 (See Model 1220 Series—Set 50-19)

STROMBERG-CARLSON—Cont.

1100-H, 1100-HI 20–31
1101-HB, 1101-HI (Ch. 112002), 1101-HM, 1101-HW, 1101-HY Ch. 112001) .... 2—9
1101-HM, -HW, -HY (Ch. 112001) .... 2—9
1101-HPW 41–23
1105 (Series 10-11) 18–29
1110-HW, 1110-PTW (Series 10) 18–30
1120 (See Model 1220 Series—Set 50-19)
1121-HW, LW, M1-0, M2-W, M2-Y, PFM, PFW, PGM, PGW, PLM, PLW, PSM (Series 10-11-12) 10–31
1135-PFM, 1135-PLM, 1135-PLW (Series 10-11) 23–26
1200 57–20
1202 (Series 10) 55–21
1204 (Ch. 112021) 34–22
1210M2-M, 1210M2-W, 1210M2-Y, 1210PGM, 1210PLM, 1210PGW (Series 10-11) 37–23
1220 Series 50–19
1235 Series 49–23
1400 57–20
1407PFM, 1407 PLM 58–23
1409M2-M, 1409M2-Y, 1409M2-W, 1409M3-A, 1409M3-M, 1409PG-M, 1409PG-W 62–10
1500 132–15
1507 133–13
1608 150–12

STUDEBAKER

AC2111 (S5127) 166–15
AC2113 (S5123) 172–11
AC-2300 (S-5327) 229–14
AC-2301 (S-5323) .... 213—8
AC-2686 (S-5528) (See Model AC-2300—Set 229-14)
AC-2687 (S-5524) (See Model AC-2301—Set 213-8)
AC-2721 (S-5529) (See Model AC-2300—Set 229-14)
S-4624, S-4625 21–32
S-4626, S-4627 19–32

SUPREME (Lipan)

711 68–17
712S 63–17
733 60–19
738LP 64–13
750 55–22

SUTCO (Sutton)

21-A Tel. UHF Conv. 201–11
37A UHF Conv. 250–21

SWANK

5 Tube Radio-phono (DU101) 5–21
ER61 17–33

SYLVANIA

C33M Tel. UHF Conv. 199–13
SH758 (See Hudson Model 236486—Set 214-4)
SH759 (See Hudson Model 236476—Set 215-8)
● 1-075 (Ch. 1-139) (Also see PCB 48—Set 182-1) .... 92—8
● 1-076 (Ch. 1-108) (Also see PCB 2—Set 103-20 and PCB 49—Set 183-1) 96–11
● 1-090 (Ch. 1-168) (Also see PCB 49—Set 183-1) 99–17
● 1-113, 1-114 (Also see PCB 48—Set 182-1) .... 92—8
● 1-124, 1-125 (Also see PCB 48—Set 182-1) .... 92—8
● 1-125-1 (Ch. 1-186) (Also see PCB 49—Set 183-1) .... 113—9
● 1-128 (Ch. 1-108) (Also see PCB 2—Set 103-20 and PCB 49—Set 183-1) 96–11
● 1-177 (Ch. 1-186) (Also see PCB 48—Set 182-1) .... 92—8
● 1-197 (Ch. 1-139) (See PCB 48—Set 182-1 and Model 1-075—Set 92-8)
● 1-197-1 (Ch. 1-186) (Also see PCB 49—Set 183-1) .... 113—9
● 1-210 (Ch. 1-139) (See PCB 48—Set 182-1 and Model 1-075—Set 92-8)
● 1-245, 1-246 (Ch. 1-139) (See PCB 48—Set 182-1 and Model 1-075—Set 92-8)
● 1-245-1, 1-246-1 (Ch. 1-186) (Also see PCB 49—Set 183-1) 113—9
● 1-247 (Ch. 1-168) (Also see PCB 49—Set 183-1) 99–17
1-250, 1-251, 1-252 (Ch. 1-215) 103–16
● 21C401 Series (Ch. 1-532-1, -2) 302–14–S
● 21C402 Series (Ch. 1-526-5) 300–10
● 21C402 "U" Series (Ch. 1-526-6) 300–10
● 21C403 Series (Ch. 1-532-1, -2) 302–14–S
● 21T101, 21T102 Series (Ch. 1-532-1, 2) 302–14–S
● 21T103 Series (Ch. 1-526-3) 300–10
● 21T103 "U" Series (Ch. 1-526-4) 300–10
● 228-11 (Ch. 1-507-1) 174–13
● 22M (Ch. 1-387) (See Model 2221M—Set 137-13)
● 22M-1, -2 (Ch. 1-387-1) (Also see PCB 41—Set 174-1) 154–12
● 22M-11 (Ch. 1-507-1) 174–13
● 23B, B-1, M, M-1 (Ch. 1-387-1) (Also see PCB 41—Set 174-1) 154–12
● 23B-11 (Ch. 1-507-1) 174–13
● 23M-11 (Ch. 1-507-1) 174–13
● 24C602 (Ch. 1-522-1, -2,) (See Model 596B—Set 281-8)
● 24M (Ch. 1-462-1) 154–12
● 24M-1 (Ch. 1-387-1) (Also see PCB 41—Set 174-1) 154–12
● 24M-3 (Ch. 1-387-1) (See PCB 41—Set 174-1 and Model 24M-1—Set 154-12)

SYLVANIA—Cont.

● 24T101 Series (Ch. 1-532-1, -2) 302–14–S
● 25M, 25M-1 (Ch. 1-387-1 and Radio Ch. 1-603-1) (For TV Ch. see PCB 41—Set 174-1 and Model 22M-1—Set 154-12, for Radio Ch. see Model 1788—Set 192-9)
● 71M (Ch. 1-441) (See Model 7110XB)
● 71M-1 (Ch. 1-502-1) (Also see PCB 42—Set 176-1) 163–12
● 72B (Ch. 1-366) (See PCB 55—Set 189-1 and Model 7110X—Set 124-10)
● 72B-1 (Ch. 1-502-1) (Also see PCB 42—Set 176-1) 163–12
● 72B-11 (Ch. 1-502-3) (See PCB 42—Set 176-1 and Model 71M-1—Set 163-12)
● 72M (Ch. 1-366) (See PCB 55—Set 189-1 and Model 7110X—Set 124-10)
● 72M-1 (Ch. 1-502-1) (Also see PCB 42—Set 176-1) 163–12
● 72M-2 (Ch. 1-437-3) (See Model 73B-5)
● 72M-11 (Ch. 1-502-3) (See PCB 42—Set 176-1 and Model 71M-1—Set 163-12)
● 73B (Ch. 1-366) (See PCB 55—Set 189-1 and Model 7110X—Set 124-10)
● 73B-5 (Ch. 1-437-3) (See PCB 41—Set 174-1 and Model 7140MA—Set 131-15)
● 73B-11 (Ch. 1-502-3) (See PCB 42—Set 176-1 and Model 71M-1—Set 163-12)
● 73M (Ch. 1-366) (See PCB 55—Set 189-1 and Model 7110X—Set 124-10)
● 73M-1, 73M-2 (Ch. 1-502-2) (Also see PCB 42—Set 176-1) . 163–12
● 73M-3, -5, -6 (Ch. 1-437-3) (See PCB 41—Set 174-1 and Model 7140MA—Set 131-15)
● 73M-11 (Ch. 1-502-3) (See PCB 42—Set 176-1 and Model 71M-1—Set 163-12)
● 74B (Ch. 1-356) (See PCB 55—Set 189-1 and Model 6140M—Set 120-10)
● 74B-1 (Ch. 1-437-1) (See PCB 41—Set 174-1 and Model 7140MA—Set 131-15)
● 74B-2 (Ch. 1-437-2) (See PCB 41—Set 174-1 and Model 7140MA—Set 131-15)
● 74M (Ch. 1-356) (See PCB 55—Set 189-1 and Model 6140 M—Set 120-10)
● 74M-1 (Ch. 1-437-1) (See PCB 41—Set 174-1 and Model 7140MA—Set 131-15)
● 74M-2 (Ch. 1-437-2) (See PCB 41—Set 174-1 and Model 7140 MA—Set 131-15)
● 74M-3 (Ch. 1-437-2) (See Model 74M-2)
● 75B, M, M-1 (Ch. 1-437-1 and Radio Ch. 1-603-1) (For TV Ch. see Model 5150M—Set 131, for Radio Ch. see Model 1788—Set 192-9)
● 105B (Ch. 1-504-1) .... 212—8
● 105BU (Ch. 1-504-2, -4) .. 212—8
● 105M (Ch. 1-504-1) .... 212—8
● 105MU (Ch. 1-504-2, -4) . 212—8
● 105-14 Series (Ch. 1-514-1, -3) (Also See PCB 100—Set 245-1) 234–13
● 105-14 "U" Series (Ch. 1-514-4) (Also See PCB 100—Set 245-1) 234–13
● 120B (Ch. 1-510-1) .... 212—8
● 120BU (Ch. 1-510-2, -4) .. 212—8
● 120M (Ch. 1-510-1) .... 212—8
● 120MU (Ch. 1-510-2, -4) . 212—8
● 120-20 Series (Ch. 1-520-1, -3) (Also See PCB 100—Set 245-1) 234–13
● 120-20 "U" Series (Ch. 1-520-4) (Also See PCB 100—Set 245-1) 234–13
● 126B (Ch. 1-510-1) .... 212—8
● 126BU (Ch. 1-510-2, -4) .. 212—8
● 126L (Ch. 1-510-1) .... 212—8
● 126LU (Ch. 1-510-2, -4) .. 212—8
● 126M (Ch. 1-510-1) .... 212—8
● 126MU (Ch. 1-510-2, -4) . 212—8
● 150A, L (Ch. 1-437-3) (Codes CO6 and up) 187–11
● 155A, L, M (Ch. 1-437-3) (Codes CO6 and up) 187–11
● 172K (Ch. 1-508-1, -3) (Also see PCB 70—Set 210-1) .... 192—9
● 172KU (Ch. 1-508-2) (Also see PCB 70—Set 210-1) .... 192—9
● 172M (Ch. 1-508-1, -3) (Also see PCB 70—Set 210-1) .... 192—9
● 172MU (Ch. 1-508-2) (Also see PCB 70—Set 210-1) .... 192—9
● 175B (Ch. 1-508-1, -3) (Also see PCB 70—Set 210-1) .... 192—9
● 175BU (Ch. 1-508-2) (Also see PCB 70—Set 210-1) .... 192—9
● 175L, M (Ch. 1-508-1, -3) (Also see PCB 70—Set 210-1) .... 192—9
● 175MU (Ch. 1-508-2) (Also see PCB 70—Set 210-1) .... 192—9
● 175-18 Series (Ch. 1-518-1, -3) (Also See PCB 107—Set 255-1) 229–15
● 175-18 "U" Series (Ch. 1-518-2) (Also See PCB 107—Set 255-1) 229–15
● 176B (Ch. 1-508-1, -3) (Also see PCB 70—Set 210-1) .... 192—9
● 176BU (Ch. 1-508-2) (Also see PCB 70—Set 210-1) .... 192—9
● 176L, M (Ch. 1-508-1, -3) (Also see PCB 70—Set 210-1) .... 192—9
● 176MU (Ch. 1-508-2) (Also see PCB 70—Set 210-1) .... 192—9
● 177B (Ch. 1-508-1, -3) (Also see PCB 70—Set 210-1) .... 192—9
● 177BU (Ch. 1-508-2) (Also see PCB 70—Set 210-1) .... 192—9

NOTE: PCB Denotes Production Change Bulletin.

Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin.
Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250
● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

NOTE: PCB Denotes Production Change Bulletin.

Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250

● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

ION MASTER—Cont.

C, 16MT, 16MXC, 16MXCS, 6MXT, 16MXTS (Similar to Chassis) ....117—8
●17MC, 17MT, 17MXC, 17MXCS, 17MXT, 17MXTS (Similar to Chassis) ....117—8

VIZ

RS-1 ....14—31

VOCATRON

CC-20 (D) ....246—11
CC-45 ....247—15

VOGUE

532 A-P ....11—33
Ch. Models 533R, 554R ....8—32

WALSCO

●PC-9 ....295—11
2000 (Tel. UHF Conv.) ....261—16

WARWICK (See Clarion)

WATTERSON

ARC-4591A ....16—36
PA-4585, APA-4587 ....3—2
RC-4581 ....16—35
4581 ....3—32
4582 ....6—34
4782 ....24—31
4790 ....16—34
4800 ....43—23

WAVEFORMS

A-20 ....191—20
C-5 ....191—20

WEBCOR
(See Webster-Chicago)

WEBSTER-CHICAGO (Also see Changer and Recorder Listings)

B-123-1 ....204—12
B-124-1 ....203—16
B-134-1 ....205—12
B-135-1 ....210—14
B-136-1 ....207—12
D-300-1 ....255—16
F-123-1 ....204—12
F-134-1 ....205—12
F-136-1 ....207—12
T-136-1 ....207—12
66-1A ....34—26
100-608 ....121—14
100-621 ....113—11
129-1, 129-2 ....215—13
130 ....119—13
161-1 ....55—23
166 ....159—16
181-1R ....221—13
288 ....117—14
333-1, 333-2 ....250—22
362 ....105—12
760 ....112—12
762 ....105—12
1024 (See Model B-124-1—Set 203-16)
1034 (See Model B-134-1—Set 205-12)
1035 (See Model B-135-1—Set 210-14)
1036 (See Model B-136-1—Set 207-12)

WEBSTER ELECTRIC
(Also see Recorder Listing)

RFM-1, -2, -3 ....263—17
WCM1-1, WCS1-1 ....268—15
81-15, 81-15A ....142—15
82-25, 82-25A, 83-25 ....143—15
84-25 ....145—12
85-25 ....144—14
96-10 ....299—10
97-0 ....297—9
605M, S, 606M, S ....260—17
610M, S ....260—17
906 ....231—18
1105M ....226—10

WEBSTER (Telehome)

W606M ....56—24
604M ....57—23

WELLS-GARDNER

WG-30A8-A-496 ....246—12
●317GS34C-218 (Also See PCB 84—Set 225-1) ....195—12
●317GS34C-220 (Also See PCB 84—Set 225-1) ....195—12
●317CS34C-278 (Also See PCB 84—Set 225-1) ....195—12
●321AM49-A-436 ....278—13
●321AM49-A-470 ....278—13
●321AM51-A-432, 321AM51-A-486 ....288—11
●321AM55-A-432-1, 321AM55-A-486-2, 321AM56-A-432-1, 321-AM56-A-486-2 ....297—10
●321AM57-A-436-1 (See PCB 132—Set 291-1 and Model 321AM49-A-436—Set 278-13)
●321AM57-A-470-1 (See PCB 132—Set 291-1 and Model 321AM49-A-436—Set 278-13)
●321AS57-A-436-1 (See PCB 132—Set 291-1 and Model 321AM49-A-436—Set 278-13)
●321AS57-A-470-1 (See PCB 132—Set 291-1 and Model 321AM49-A-436—Set 278-13)
●321GM44-A-462, -464, 321GM44-B-462, -464 ....266—18
●321GM47-486 ....268—16
●321MS31C-222, -224 ....194—14
●321MS31C-272, -274, -276 194—14
●321MS31C-280, -282, -284 194—14
●321MS39-322 ....226—11
●321MS39-372-2 ....226—11
●321MS39-376-1 ....226—11
●1321MS31C-296 ....194—14
●2321AM49-A-438 ....278—13
●2321AM49-A-494 ....278—13
●2321AM51-A-488 ....288—11
●2321AM55-A-488-2, 2321AM56-A-488-2 ....297—10
●2321AM57-A-438-1 (See PCB 132—Set 291-1 and Model 321AM49-A-436—Set 278-13)

WELLS-GARDNER—Cont.

●2321AM57-A-494-1 (See PCB 132—Set 291-1 and Model 321AM49-A-436—Set 278-13)
●2321AS57-A-438-1 (See PCB 132—Set 291-1 and Model 321AM49-A-436—Set 278-13)
●2321AS57-A-494-1 (See PCB 132—Set 291-1 and Model 321AM49-A-436—Set 278-13)
●2321GM47-488 ....268—16
●2321MS39-324 ....226—11
●2321MS39-370 ....226—11
●2321MS39-396-1 ....226—11

WESTERN AUTO (See Truetone)

WESTINGHOUSE (Also see Record Changer Listing)

H-104, H-105 ....4—11
H-104A, H-105A, H-107A, H-108A (See Set 21-36 and Model H-104—Set 4-11)
H-107, H-108, H-110, H-111 4—19
H-113, H-114, H-116 (See Model H-117—Set 11-34)
H-117, H-119 ....11—34
H-122 ....6—35
H-122A, B (See Model H-122—Set 6-35)
H-125, H-126 ....3—19
H-130 ....6—35
H-133 ....14—34
H-137 (See Model H-138—Set 6-36)
H-138 ....6—36
H-147 ....31—33
H-148 ....15—37
H-148A (See Model H-148—Set 15-37)
H-153, H-153A (Ch. V-2103) 35—25
H-154 (See Set 21-36 and Model H-104—Set 4-11)
H-155 ....35—25
H-156 (See Model H-153—Set 35-25)
H-157 (Ch. V-2122) ....33—31
H-161 (Ch. V-2118) ....34—27
H-162 (See Model H-117—Set 11-34)
H-164 (Ch. V-2119-1) ....36—28
H-165 ....32—29
H-166, H-167 ....36—28
H-168, H-168A, H-168B (Ch. V-2118) ....34—27
H-169 (Ch. V-2124-1) ....37—24
H-171 (Ch. V-2103) ....35—25
H-171A, C (Ch. V-2103) (See Model H-153—Set 35-25)
H-178 (Ch. V-2123) ....35—26
H-182 (Ch. V-2128, V-2128-1) ....53—25
H-183, H-183A ....48—26
H-184 (See Model H-153—Set 35-25)
H-185 (Ch. V-2131, V-2131-1) ....54—20
H-186M, H-187 (Ch. V-2132) 60—21
H-188 (Ch. V-2133) ....51—25
H-190, H-191, H-191A (Ch. V-2134) ....59—23
H-195 (Ch. V-2131, -1) ....54—20
●H-196 ....65—17
●H-196A (Ch. V-2130-1) (See Model H-196—Set 65-17)
●H-196A (DX) (Ch. V-2130-11DX or V-2130-12DX) ....84—13
H-198 (Ch. V-2137-2) ....73—15
H-199 (Ch. V-2137-1) ....69—16
H-202 (Ch. V-2128-2) ....50—22
H-203 (Ch. V-2137) ....62—21
H-204 ....50—22
●H-207A (Ch. V-2130-1, V-2137) ....65—17
●H-207A (DX) (Ch. V-2130-11DX or V-2130-12DX and Radio Ch. V-2137) ....84—13
●H-207B (DX) (Ch. V-2130-21DX or V-2130-22DX and Radio Ch. V-2137) ....84—13
H-210, H-211 (Ch. V-2144, V-2144-1) ....61—20
H-212 (Ch. V-2137) ....62—21
H-214, H-214A (Ch. V-2103-3) ....75—16
●H-216, H-216A (Ch. V-2146-05, V-2146-45, V-2149-1) ..97A—14
●H-217, A (Ch. V-2146-11DX, V-2137, V-2149) (See Set 99A-14 and Model H-217B—Set 91-14)
●H-217B (Ch. V-2146-35DX, V-2137, V-2149) ....91—14
H-220 ....59—23
●H-223 (Ch. V-2150-01, V-2150-02) ....78—14
●H-225 (DX) (Ch. V-2130-31DX or V-2130-32DX) ....84—17
●H-226 (Ch. V-2146-21DX, -25DX, V-2149) (See Model H-217B—Set 91-14)
●H-231 (Ch. V-2150-51 and V-2137-3 or V-2137-3S, V-2149-2) ....99A—14
●H-242 (Ch. V-2150-31) ....97A—14
●H-251 (Ch. V-2150-81, -82, -84) (See 99A-14 and Model H-609T10—Set 95-7)
H-300T5, H-301T5 (Ch. V-2148) ....88—14
H-302P5 (Ch. V-2151-1) ....91—15
H-303P4, H-304P4 (Ch. V2153) ....89—16
H-307T7, H-308T7 (Ch. V-2136) ....100—13
H-309P5, H-309P5U (Ch. V-2156) ....101—16
H-310T5, H-310T5U, H-311T5, H-311T5U (Ch. V-2161, V-2161U) ....99—18
H-312P4, H-312P4U, H-313P4, H-313P4U, H-314P4, H-314P4U, H-315P4, H-315P4U (Ch. V-2153-1) ....98—13
H-316C7 (Ch. V-2136-1) ..112—13
H-317C7 (Ch. V-2136-1) (See Model H-316C7—Set 112-13)
H-318T5, U (Ch. V-2157, U) ....117—15
H-320T5, U (Ch. V-2157, U) ....117—15

WESTINGHOUSE—Cont.

H-321T5, U, H-322T5, U (Ch. V-2157-1, U) ....117—15
H-323T5, U (Ch. V-2157-2, U) ....117—15
H-324T7, U, H-325T7, U (Ch. V-2136, -2) ....113—13
H-326C7 (See Model H-316C7—Set 112-13)
H-327T6U (Ch. V-2157-3U) 126—14
H-328C7, U (Ch. V-2136-4) 137—15
H-331P4, U (Ch. V-2164, U) (Also see PCB 52—Set 186-1) .171—12
H-332P4 (See Model H-331P4U—Set 171-12)
H-333P4, U (Ch. V-2164, U) (Also see PCB 52—Set 187-1) .171—12
H-334T7U, H-335T7U (Ch. V-2136-5U) ....142—16
H-334T7UR (Ch. V-2136-5R) 149—14
H-336T5U, H-337T5U (Ch. V-2157U) ....134—12
H-338T5U (Ch. V-2157-4U) 140—13
H-341T5U (Ch. V-2157-4U) 140—13
H-342P5U, H-343P5U (Ch. V-2156-1U) ....138—13
H-345T5, H346T5 (Ch. V-2157-4U) (See Model H-338T5U—Set 140-13)
H-348P5, H-349P5 (Ch. V-2156-1U) (See Model H-342P5U—Set 138-13)
H-350T7, H-351T7 (Ch. V-2180-1, V-2180-7, V-2180-7S) (Also See PCB 135—Set 294-1) ....154—14
H-354C7 (Ch. V-2180-2) ..158—13
H-355T5, H-356T5 (Ch. V-2157-5) ....161—11
H-357C10 (Ch. V-2180-5) .161—12
H-359T5, H-360T5 (Ch. V-2157-6) ....191—21
H-361T6 (Ch. V-2181-1) ..186—15
H-365T5, H-366T5 (Ch. V-2157-7) ....185—15
H-367T5 (Ch. V-2157-8) ..189—17
H-368P5, H-369P5 (Ch. V-2156-1U) (See Model H-342P5U—Set 138-13)
H-370T7, H-371T7 (Ch. V-2180-8) ....186—16
H-372P4, H-373P4, Ch. V-2182-1 and H-377 Optional Pwr. Supply ....188—14
H-374T5, H-375T5 (Ch. V-2157-9) ....189—17
H-376P4 (Ch. V-2182-1 and H-377 Optional Power Supply) .188—14
H-377 (Power Supply) (See Set 188-14 or Set 233-12)
H-378T5, H-379T5, H-380T5, H-381T5 (Ch. V-2184-1) ..211—17
H-382T5, H-383T5 (Ch. V-2157-10) ....215—14
H-384T5 (Ch. V-2157-10) (See Model H-382T5—Set 215-14)
H-385T5, H-386T5 (Ch. V-2157-11) ....204—13
H-387T5 (Ch. V-2157-11) (See Model H-385T5—Set 204-13)
H-388T5 (Ch. V-2157-12) .215—15
H-391T5, H-392T5 (Ch. V-2157-14) ....231—14
H-393T6 (Ch. V-2181-2) ..210—15
H-394T5 (Ch. V-2157-14) (See Model H-391T5—Set 231-19)
H-397T5, H-398T5 (Ch. V-2184-2) ....232—10
H-400P4, H-401P4, H-402P4, H-403P4 (Ch. V-2164-2) ..205—13
H-405P5, H-406P5 (Ch. V-2156-2) ....266—19
H-405T5 (Ch. V-2157-14) (See Model H-391T5—Set 231-19)
H-409P4, H-410P4, H-411P4 (Ch. V-2185-1 and H-377 Optional Power Supply) ....233—12
H-414P4, H-415P4 (Ch. V-2182-2) ....257—19
H-417T5, H-418T5 (Ch. V2186-1) ....239—11
H-420T5, H-421T5 (Ch. V-2157-13) ....264—18
H-422P4, H-423P4, H-424P4, H-425P4 (Ch. V-2188-1) 245—11
H-434T5, H-435T5, H-436T5, H-437T5, H-438T5 (Ch. V-2189-2) ....281—9
H-440T5 (Ch. V-2189-2) (See Model H-434T5—Set 281-9)
H-443T5, H-444T5, A, H-445T5, A, H-446T5, A (Ch. V-2189-4) ....277—12
H-447T4, H-448T4, H-449T4 (Ch. V-2184-4) ....274—15
H-451T5, H-452T5, H-453T5, H-454T5 (Ch. V-2184-1) (See Model H-378T5—Set 211-17)
H-457T6, H-458T6, H-459T6, H-460T6 (Ch. V-2229-1) .269—16
H-461P4, H-462P4, H-463P4, H-464P4 (Ch. V-2182-2) .257—19
H-465R6, H-466R6 (Ch. V-2229-2) ....269—16
H-467R6, H-468R6 (Ch. V-2229-3) ....269—16
H-469R12, H-470R12 (Ch. V-2180-13 and V-2235-1) ....271—17
H-471T5, H-472T5, H-473T5, H-474T5 (Ch. V-2184-5) ..279—15
H-475T5, H-476T5, H-477T5, H-478T5 (Ch. V-2236-1) 266—20
H-479P4 (Ch. V-2182-2) ..257—19
H-480C12 (Ch. V-2180-13 and V-2235-1) ....271—17
H-482PR5 (Ch. V-2229-5) ..286—12
H-486T5, H-487T5, H-488T5, H-489T5 (Ch. V-2236-2) ..282—16
H-494P4, H-495P4, H-496P4 (Ch. V-2185-2) ....292—11
H-499T5 (Ch. V-2184-6) ..283—15
H-499T5A (Ch. V-2238-1) ..299—11
H-500T5 (Ch. V-2184-6) ..283—15
H-500T5A (Ch. V-2238-1) ..299—11
H-501T5, H-502T5, H-503T5 (Ch. V-2184-6) ....283—15
H-511P4, H-512P4 (Ch. V-2237-2) ....298—13

WESTINGHOUSE—Cont.

H-519P4, H-520P4, H-521P4 (Ch. V-2188-2) (See Model H-422P4—Set 245-11)
H-523T4, H-524T4, H-525T4 (Ch. V-2239-1) ....301—14
H-538T4, A, H-539T4, A, H-540T4, A (Ch. V-2239-2) ....301—14
●H-600T16 (Ch. V-2150-61, A, B) ....98—14
●H-601K12, H-602K12 (Ch. V-2150-41) ....98—14
●H-603C12 (Ch. V-2152-01 and V-2149-3) ....100—14
●H-604T10, A (Ch. V-2150-91A, -94, -94A) (See Set 99A-14 and Model H-609T10—Set 95-7)
●H-605T12 (Ch. V-2150-101) 97—19
●H-606K12 (Ch. V-2150-111, A) ....120—12
●H-607K12 (Ch. V-2150-111, A) ....120—12
●H-608C12 (Ch. V-2152-01, V-2149-3) (See Model H-603C-12—Set 100-14)
●H-609T10 (Ch. V-2150-94C) 95—7
●H-610T12 (Ch. V-2150-136) 105—13
●H-611C12 (Ch. V-2152-16) 112—14
●H-613K16 (Ch. V-2150-146) 107—12
●H-614T12 (Ch. V-2150-136) 105—13
●H-615C12 (Ch. V-2152-16) 112—14
●H-617T12 (Ch. V-2150-176, U, -177U) (Also see PCB 10—Set 116-1) ....103—17
●H-618T16 (Ch. V-2150-186, A, C, CA) (Also see PCB 10—Set 116-1) ....103—17
●H-619T12, U (Ch. V-2150-176, U, -177U) (Also see PCB 10—Set 116-1) ....103—17
●H-620K16 (Ch. V-2150-186, A, C, CA) (Also see PCB 10—Set 116-1) ....103—17
●H-622K16 (Ch. V-2150-186, A, C, CA) (See PCB 10—Set 116-1 and Model H-617T12—Set 103-17)
●H-625T12 (Ch. V-2150-197) 114—11
●H-626T16 (Ch. V-2172) ....116—13
●H-627K16 (Ch. V-2171) ....116—13
●H-628K16, H-629K16 (Ch. V-2171) ....116—13
●H-630T14 (Ch. V-2176) ....116—13
●H-633C17, H-634C17 (Ch. V-2173) ....122—11
●H-636T17 (Ch. V-2175) ....116—13
●H-637T14 (Ch. V-2177) ....116—13
●H-638K20 (Ch. V-2178) ....129—13
●H-639T17 (Ch. V-2192, -1) 133—15
●H-640T17 (Ch. V-2175-3, -4), H-640T17A (Ch. V-2192, -1, -2, -3, -4, -5, -6) (Also see PCB 28—Set 150-1) ....133—15
●H-641K17 (Ch. V-2175-1, -5), H-641K17A (Ch. V-2192, -1, -2, -3, -4, -5, -6) (Also see PCB 28—Set 150-1) ....133—15
●H-642K20 (Ch. V-2178-1, -3) ....129—13
●H-642K20A (Ch. V-2194, V-2194A, V-2194-1) ....137—16
●H-643K16 (Ch. V-2179, V-2179-1) ....127—13
●H-646K17 (Ch. V-2192) ....133—15
●H-647K17 (Ch. V-2175-3) ..133—15
●H-648T20 (Ch. V-2201-1) (Also see PCB 42—Set 176-1) ....154—15
●H-649T17 (Ch. V-2200-1) (Also see PCB 42—Set 176-1) ....154—15
●H-649T17 (Ch. V-2192-4) (See Model H-639T17—Set 133-15)
●H-650K21 (Ch. V-2192-4) (See Model H-639T17—Set 133-15)
●H-650T17 (Ch. V-2192-4) (See Model H-640T17—Set 133-15)
●H-650T17 (Ch. V-2200-1) (Also see PCB 42—Set 176-1) ....154—15
●H-651K17 (Ch. V-2192) (See Model H-639T17—Set 133-15)
●H-651K17 (Ch. V-2200-1) (Also see PCB 42—Set 176-1) ....154—15
●H-652K20 (Ch. V-2194-2, -3) (See PCB 31—Set 157-3 and Model H-642K20A—Set 137-16)
●H-652K20 (Ch. V-2201-1) (Also see PCB 42—Set 176-1) ....154—15
●H-653K24 (Ch. V-2202-2, V-2210-1) (Also see PCB 35—Set 164-1) ....160—13
●H-654T17 (Ch. V-2175-3, -4, V-2192, -1) ....133—15
●H-655K17 (Ch. V-2192 -4, -5, -6) (See PCB 28—Set 150-1 and Model H-640T17—Set 133-15)
●H-655K17, H-656K17, H-657K17 (Ch. V-2200-1) (Also see PCB 42—Set 176-1) ....154—15
●H-657K17 (Ch. V-2192-4, -5, -6) (See PCB 28—Set 150-1 and Model H-639T17—Set 133-15)
●H-658T17 (Ch. V-2192, -1) (See PCB 28—Set 150-1 and Model H-639T17—Set 133-15)
●H-659T17 (Ch. V-2204-1) (Also see PCB 42—Set 176-1) ....154—15
●H-660C17, H-661C17 (Ch. V-2203-1 and Radio Ch. V-2180-3) (Also see PCB 46—Set 180-1) ..157—12
●H-662K20 (Ch. V-2201-1) (Also see PCB 42—Set 176-1) ....154—15
●H-663T17 (Ch. V-2192-2) (See PCB 28—Set 150-1 and Model H-639T17—Set 133-15)
●H-663T17 (Ch. V-2204) (Also see PCB 42—Set 177-1) ....154—15
●H-664K17 (Ch. V-2200-1) (Also see PCB 42—Set 176-1) ....154—15
●H-665T16 (Ch. V-2206-1) (See PCB 42—Set 176-1 and Model H-648T20—Set 154-15)
●H-667T17, H-668T17 (Ch. V-2216-1) (Also see PCB 40—Set 172-1) ....167—15
●H-673K21 (Ch. V-2217-1) (See Model H-667T17—Set 167-15)
●H-676T21 (Ch. V-2217-1) (See Model H-667T17—Set 167-15)
●H-678K17, H-679K17 (Ch. V-2216-1, -2, -3) (Also see PCB 40—Set 172-1, PCB 45—Set 179-1 and PCB 52—Set 186-1) ....167—15

WESTINGHOUSE—Cont.

●H-681T17 (Ch. V-2215-1) (See PCB 45—Set 179-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-688K24 (Ch. V-2219-1) (Also see PCB 52—Set 186-1) ....174—14
●H-689T16 (Ch. V-2214-1) (See PCB 40—Set 172-1, PCB 58—Set 192-1 and Model H-667T17—Set 167-15)
●H-690K21, H-691K21 (Ch. V-2217-1) (See Model H-667T17—Set 167-15)
●H-692T21 (Ch. V-2217-2, -3) (See PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-695K21 (Ch. V-2217-2, -3) (See PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-699K17 (Ch. V-2216-2, -3) (See PCB 40—Set 172-1, PCB 45—Set 179-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-700T17, H701T17 (Ch. V-2216-2, -3) (See PCB 40—Set 172-1, PCB 45—Set 179-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-701K21 (Ch. V-2217-2) (See PCB 43—Set 177-1 and Model H-667T17—Set 167-15)
●H-702K17, H-703K17 (Ch. V-2216-2, -3) (See PCB 40—Set 172-1, PCB 45—Set 179-1, PCB 52—Set 186-1 and Model H-767T17—Set 167-15)
●H-704T17 (Ch. V-2216-2) (See PCB 40—Set 172-1, PCB 45—Set 179-1, PCB 51—Set 185-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-704T17 (Ch. V-2216-4, -5) ....202—10
●H-705K17 (Ch. V-2216-2, -3) (See PCB 40—Set 172-1, PCB 45—Set 179-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-706T16 (Ch. V-2207-1) ..193—12
●H-708T20 (Ch. V-2220-1, -3, -11) ....193—12
●H-710T21 (Ch. V-2217-2, -3) (See PCB 40—Set 172-1, PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-710T21 (Ch. V-2217-4, -5) ....202—10
●H-711T21 (Ch. V-2217-2, -3) (See PCB 40—Set 172-1, PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-711T21 (Ch. V-2217-4, -5) ....202—10
●H-713K21 (Ch. V-2217-2, -3) (See PCB 40—Set 172-1, PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-714K21 (Ch. V-2217-2, -3) (See PCB 40—Set 172-1, PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-714K21 (Ch. V-2217-4, -5) ....202—10
●H-715K21 (Ch. V-2217-2, -3) (See PCB 40—Set 172-1, PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-715K21 (Ch. V-2217-4, -5) ....202—10
●H-718K20 (Ch. V-2220-2) .193—12
●H-720K21 (Ch. V-2217-2, -3) (See PCB 40—Set 172-1, PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-720K21 (Ch. V-2217-4, -5) ....202—10
●H-721K21 (Ch. V-2217-2, -3) (See PCB 40—Set 172-1, PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-721K21 (Ch. V-2217-4, -5) ....202—10
●H-722K21 (Ch. V-2217-2, -3) (See PCB 40—Set 172-1, PCB 43—Set 177-1, PCB 52—Set 186-1 and Model H-667T17—Set 167-15)
●H-722K21 (Ch. V-2217-4, -5) ....202—10
●H-723K21 (Ch. V-2217-5) .202—10
●H-724T20, H-725T20 (Ch. V2220-2) ....193—12
●H-730C21 (Ch. V-2218-1 and Radio Ch. V-2180-9, -10) ....190—16
●H-730C21 (Ch. V-2218-2 and Radio Ch. V-2180-9, -10) (Also see PCB 59—Set 193-1 and PCB 68—Set 205-1) ....190—16
●H-730C21 (Ch. V-2218-11 and Radio Ch. V-2180-9, -10) (Also see PCB 59—Set 193-1) ....190—16
●H-732C21 (Ch. V-2218-1 and Radio Ch. V-2180-9, -10) ....190—16
●H-732C21 (Ch. V-2218-11 and Radio Ch. V-2180-9, -10) (Also see PCB 59—Set 193-1) ....190—16
●H-733C21 (Ch. V-2218-1 and Radio Ch. V-2180-9, -10) ....190—16
●H-733C21 (Ch. V-2218-11 and Radio Ch. V-2180-9, -10) (Also see PCB 59—Set 193-1) ....190—16
●H-736T17 (Ch. V-2227-1) (Also see PCB 89—Set 233-1) ....214—10
●H-737T17 (Ch. V-2216-5) .202—10
●H-737T17 (Ch. V-2232-2) .212—9
●H-738T17 (Ch. V-2227-1) (Also see PCB 89—Set 233-1) ....214—10
●H-739T17, H-739TU17 (Ch. V-2227-2) ....214—10
●H-740T21, H-742K21, H-743K21 (Ch. V-2233-1) (Also See PCB 99—Set 244-1) ....212—9
●H-746K21, H-746KU21, H-747K21, H-747KU21 (Ch. V-2233-4) ....215—16
●H-750T21 (Ch. V-2233-3) .212—9
●H-751T21 (Ch. V-2217-4, -5) ....202—10

NOTE: PCB Denotes **P**roduction **C**hange **B**ulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250.
● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

WESTINGHOUSE—Cont.

●H-751T21 (Ch. V-2233-2) .212—9
●H-752T21 (Ch. V-2233-2) .212—9
●H-753K21 (Ch. V-2233-3) .212—9
●H-754K21 (Ch. V-2217-4, -5) 202-10
●H-754K21 (Ch. V-2233-2) .212—9
●H-755K21 (Ch. V-2233-2) .212—9
●H-756K21 (Ch. V-2217-4, -5) 202-10
●H-756K21 (Ch. V-2233-2) .212—9
●H-757K21 (Ch. V-2217-4, -5) 202-10
●H-757K21 (Ch. V-2233-2) .212—9
●H-758K21 (Ch. V-2217-4, -5) 202-10
●H-758K21 (Ch. V-2233-2) .212—9
●H-759K21 (Ch. V-2217-4, -5) 202-10
●H-759K21 (Ch. V-2233-2) .212—9
●H-760T21 (Ch. V-2233-2) .212—9
●H-760TU21 (Ch. V-2233-2) 212—9
●H-761T21 (Ch. V-2233-2) .212—9
●H-761TU21 (Ch. V-2233-2) 212—9
●H-769T21 (Ch. V-2263-12, -14) 253-17
●H-769TU21 (Ch. V-2273-122) 253-17
●H-770T21A (Ch. V-2263-12) 253—17
●H-770TU21A (Ch. V-2273-122) .....253—17
●H-771T21A (Ch. V-2263-12) 253—17
●H-771TU21A (Ch. V-2273-122) .....253—17
●H-786K21 (Ch. V-2263-12) 253—17
●H-786KU21 (Ch. V-2273-122) .....253—17
●H-787K21 (Ch. V-2263-12) 253—17
●H-787KU21 (Ch. V-2273-122) .....253—17
●H-795T27, H-795TU27 (Ch. V-2250-1) (Also see PCB 105—Set 252-1) .....241—12
●H-798T17 (Ch. V-2260-12, -14) 255-17
●H-798TU17 (Ch. V-2270-122, -124) 255-17
●H-799T17 (Ch. V-2260-12, -14) .....255—17
●H-799T17, B (Ch. V-2310).281—10
●H-799TU17 (Ch. V-2270-122, -124) .....255—17
●H-799TU17, B (Ch. V-2320) 281—10
H-802 (Ch. V-11900-1, -2, -3, -4, -5, V-11213) Tel. UHF Conv. .....209—13
●H-815T24, H-815TU24 (Ch. V-2250-1, -4) (Also see PCB 105—Set 252-1) .....241—12
●H-817K24, H-817KU24 (Ch. V-2250-1, -4) (Also see PCB 105—Set 252-1) .....241—12
●H-822K21 (Ch. V-2263-12) 253—17
●H-822KU21 (Ch. V-2273-122) .....253—17
●H-823K21 (Ch. V-2263-12) 253—17
●H-823KU21 (Ch. V-2273-122) .....253—17
●H-827T21 (Ch. V-2263-12, -13, -14, -15) .....253—17
●H-827TU21 (Ch. V-2273-122, -134) .....253—17
●H-828T21 (Ch. V-2263-12, -13, -14, -15) 253-17
●H-828TU21 (Ch. V-2273-122, -134) .....253—17
●H-829T21 (Ch. V-2263-12, -13, -14, -15) .....253—17
●H-829TU21 (Ch. V-2273-122, -134) .....253—17
●H-830K21 (Ch. V-2263-11, -12, -13, -14) .....253—17
●H-830KU21 (Ch. V-2273-111, -122, -124, -132, -134) .....253—17
●H-831K21 (Ch. V-2263-11, -12, -13, -14) .....253—17
●H-831KU21 (Ch. V-2273-111, -122, -124, -132, -134) .....253—17
●H-834K21 (Ch. V-2263-22) 253—17
●H-834KU21 (Ch. V-2273-222) .....253—17
●H-835K21 (Ch. V-2263-22) 253—17
●H-835KU21 (Ch. V-2273-222) .....253—17
●H-836T21 (Ch. V-2263-35) 253—17
●H-836TU21 (Ch. V-2273-322) .....253—17
●H-838K21 (Ch. V-2263-15) 253—17
●H-838K21A (Ch. V-2263-15) (See Model H-769T21—Set 253-17)
●H-838K21B (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-838KU21 (Ch. V-2273-122) 253-17
●H-838KU21A (Ch. V-2273-124) (See Model H-769TU21—Set 253-17)
●H-838KU21B (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-839K21 (Ch. V-2263-15) 253—17
●H-839KU21 (Ch. V-2273-122) .....253—17
●H-840CK15 (Ch. V-2284-15) 259—15
●H-841T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-841TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-842T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-842TU21 (Ch. V2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-843K21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-843KU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-844K21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-844KU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18

WESTINGHOUSE—Cont.

●H-847K21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) 270-18
●H-847KU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-848K21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-848KU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) 270-18
●H-853K24 (Ch. V-2314-15, -25) .....274—16
●H-853K24A (S), (V) (Ch. V-2318-11, -15, -21, -25) 296-11
●H-853KU24 (Ch. V-2324-203) 274-16
●H-853KU24A (Ch. V-2328-101, -201) .....296—11
●H-854K24 (Ch. V-2314-15, -25) .....274—16
●H-854K24A (S), (V) (Ch. V-2318-11, -15, -21, -25) .....296—11
●H-854KU24 (Ch. V-2324-203) .....274—16
●H-854KU24A (Ch. V-2328-101, -201) .....296—11
●H-861T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-861TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) 270-18
●H-862T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-862TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-863T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-863T21A (Ch. V-2263-35) (See Model H-769T21—Set 253-17)
●H-863TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-863TU21A (Ch. V-2273-324) (See Model H-769TU21—Set 253-17)
●H-864T21 (Ch. V-2313-15, -25, -35) 270-18
●H-864T21A (Ch. V-2263-35) (See Model H-769T21—Set 253-17)
●H-864T21, B (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) 270-18
●H-864TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-864TU21A (Ch. V-2273-324) (See Model H-769TU21—Set 253-17)
●H-864TU21B (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) 270-18
●H-865T21 (Ch. V-2313-15, -25, -35) .....270—18
●H-865T21A (Ch. V-2263-35) (See Model H-769T21—Set 253-17)
●H-865T21, B (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-865TU21A (Ch. V-2273-324) (See Model H-769TU21—Set 253-17)
●H-865TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-865TU21B (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-866T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-866T21A (Ch. V-2263-35) (See Model H-769T21—Set 253-17)
●H-866T21B (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-866TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-866TU21A (Ch. V-2273-324) (See Model H-769TU21—Set 253-17)
●H-866TU21B (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-867T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) 270-18
●H-867T21, B (Ch. V-2312).281—10
●H-867TU21, A (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1).....270-18
●H-867TU21, B (Ch. V-2322) 281—10
●H-868T21 (Ch. V-2312)......281—10
●H-868T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-868TU21 (Ch. V-2322)..281—10
●H-868TU21, A (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1).....270-18
●H-869K24 (Ch. V-2314-15, -25) .....274—16
●H-869K24A (S), (V) (Ch. V-2318-11, -15, -21, -25) .....296—11
●H-869KU24 (Ch. V-2324-203) .....274—16
●H-869KU24A (Ch. V-2328-101, -201) .....296—11
●H-870K24 (Ch. V-2314-15, -25) 274-16
●H-870K24A (S), (V) (Ch. V-2318-11, -15, -21, -25) .....296—11
●H-870KU24 (Ch. V-2324-203) .....274—16
●H-870KU24A (Ch. V-2328-101, -201) .....296—11
●H-871T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18
●H-871TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-872T21 (Ch. V-2313-15, -25, -35) (Also See PCB 127—Set 286-1) .....270—18

WESTINGHOUSE—Cont.

●H-872TU21 (Ch. V-2323-101, -122, -124, -201, -301) (Also See PCB 127—Set 286-1) .....270—18
●H-873T21 (Ch. V-2313-15, -25, -35 (See Model H-838K21B — Set 270-18)
●H-873T21A (Ch. V-2263-35) (See Model H-769T21—Set 253-17)
●H-873TU21 (Ch. V-2323-101, -122, -124, -201, -301) (See Model H-838KU21B—Set 270-18)
●H-873TU21A (Ch. V-2273-324) (See Model H-769TU21—Set 253-17)
●H-875T24, A, C (Ch. V-2314-15, -25) .....274—16
●H-875T24B (S), (V) (Ch. V-2318-11, -15, -21, -25) 296-11
●H-875TU24, C (Ch. V-2324-203) 274-16
●H-875TU24B (Ch. V-2328-101, -201) 296-11
●H-876T24 (Ch. V-2314-15, -25) 274-16
●H-876T24B (S), (V) (Ch. V-2318-11, -15, -21, -25) .....296—11
●H-876TU24, A (Ch. V-2314-15, -25) .....274—16
●H-876TU24B (Ch. V-2328-101, -201) .....296—11
●H-877T24, A (Ch. V-2314-15, -25) .....274—16
●H-877T24B (S), (V) (Ch. V-2318-11, -15, -21, -25) .....296—11
●H-877TU24, A (Ch. V-2324-203) .....274—16
●H-877TU24B (Ch. V-2328-101, -201) .....296—11
●H-878K24, B (Ch. V-2314-15, -25) .....274—16
●H-878KU24, B (Ch. V-2324-203) .....274—16
●H-879T21 (S), (V) (Ch. V-2312) .....281—10
●H-879TU21 (Ch. V-2322)..281—10
●H-880T21 (S), (V) (Ch. V-2312) .....281—10
●H-880TU21 (Ch. V-2322)..281—10
●H-881K24 (Ch. V-2314-15, -25) .....274—16
●H-881K24A (S), (V) (Ch. V-2318-11, -15, -21, -25) .....296—11
●H-881KU24 (Ch. V-2324-203) .....274—16
●H-881KU24A (Ch. V-2328-101, -201) 296-11
●H-882T21 (S), (V) (Ch. V-2315-11, -15, -21, -25) .....294—11
●H-882TU21 (Ch. V-2325-101, -201) .....294—11
●H-883T21 (S), (V) (Ch. V-2315-11, -15, -21, -25) .....294—11
●H-883TU21 (Ch. V-2325-101, -201) 294-11
●H-884K21 (S), (V) (Ch. V-2315-11, -15, -21, -25) .....294—11
●H-884KU21 (Ch. V-2325-101, -201) .....294—11
●H-885K21 (S), (V) (Ch. V-2315-11, -15, -21, -25) .....294—11
●H-885KU21 (Ch. V-2325-101, -201) .....294—11
●H-886K21 (S), (V) (Ch. V-2315-11, -15, -21, -25) .....294—11
●H-886KU21 (Ch. V-2325-101, -201) .....294—11
●H-887K21 (S), (V) (Ch. V-2315-11, -15, -21, -25) .....294—11
●H-887KU21 (Ch. V-2325-101, -201) .....294—11
●H-888C24 (S), (V) (Ch. V-2318-31, -35, -41, -45 and Radio Ch. V-2189-6) .....296—11
●H-888CU24 (Ch. V-2328-301, -401 and Radio Ch. V-2189-6) 296—11
●H-889C24 (S), (V) (Ch. V-2318-31, -35, -41, -45 and Radio Ch. V-2189-6) .....296—11
●H-889CU24 (Ch. V-2328-301, -401 and Radio Ch. V-2189-6) 296—11
●H-892T17 (V), (S) (Ch. V-2316-11, -12) .....290—12
●H-892T17A (V) (Ch. V-2316) (See Model H-892T17 (V), (S)—Set 290-12)
●H-892TU17 (Ch. V-2326-101) .....290—12
●H-892TU17A (Ch. V-2326) (See Model H-892TU17—Set 290-12)
●H-894T17 (V), (S) (Ch. V-2316-11, -12) .....290—12
●H-894T17A (V) (Ch. V-2316) (See Model H-892T17 (V), (S)—Set 290-12)
●H-894TU17 (Ch. V-2326-101) .....290—12
●H-894TU17A (Ch. V-2326) (See Model H-892TU17—Set 290-12)
●H-896T21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-896TU21 (Ch. V-2327-601) .....290—12
●H-898T21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-898TU21 (Ch. V-2327-601) .....290—12
●H-899T21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-899TU21 (Ch. V-2327-601) .....290—12
●H-900C21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-900CU21 (Ch. V-2327-601) .....290—12
●H-901C21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-901CU21 (Ch. V-2327-601) .....290—12
●H-902K21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-902KU21 (Ch. 2327-601) 290—12
●H-903K21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-903KU21 (Ch. V-2327-601) .....290—12
●H-904K21 (V), (S) (Ch. V-2317-61, -62) .....290—12

WESTINGHOUSE—Cont.

●H-904KU21 (Ch. V-2327-601) .....290—12
●H-905K21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-905KU21 (Ch. V-2327-601) .....290—12
●H-906K21 (S), (V) (Ch. V-2315-11, -15, -21, -25) .....294—11
●H-906KU21 (Ch. V-2325-101, -201) .....294—11
●H-907K21 (S), (V) (Ch. V-2315-11, -15, -21, -25) .....294—11
●H-907KU21 (Ch. V-2325-101, -201) .....294—11
●H-908T17 (V), (S) (Ch. V-2316-11, -12) .....290—12
●H-908T17A (V), (Ch. V-2316) (See Model H-892T17 (V), (S)—Set 290-12)
●H-908TU17 Ch. V-2326-101) .....290—12
●H-908TU17A (Ch. V-2326) (See Model H-892TU17—Set 290-12)
●H-909T17 (V), (S) (Ch. V-2316-11, -12) .....290—12
●H-909T17A (V) (Ch. V-2316 (See Model H-892T17 (V), (S)—Set 290-12)
●H-909TU17 (Ch. V-2326-101) .....290—12
●H-909TU17A (Ch. V-2326) (See Model H-892TU17—Set 290-12)
●H-910T17 (V), (S) (Ch. V-2316-11, -12) .....290—12
●H910T17A (V) (Ch. V-2316) (See Model H-892T17 (V), (S)—Set 290-12)
●H-910TU17 (Ch. V-2326-101) .....290—12
●H-910TU17A (Ch. V-2326) (See Model H-892TU17—Set 292—12)
●H-912T21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-912TU21 (Ch. V-2327-601) .....290—12
●H-913T21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-913TU21 (Ch. V-2327-601) .....290—12
●H-914T21 (V), (S) (Ch. V-2317-61, -62) .....290—12
●H-914TU21 (Ch. V-2327-601) .....290—12
●H-916T17 (Ch. V-2316) (See Model H-892T17 (V)—Set 290-12)
●H-916T17A (Ch. V-2340) 302—14—S
●H-916TU17 (Ch. V-2326) (See Model H-892TU17—Set 290-12)
●H-916TU17A (Ch. V-2350) 302—14—S
●H-919T17 (Ch. V-2316) (See Model H-892T17 (V)—Set 290-12)
●H-919T17A (Ch. V-2340) 302—14—S
●H-919TU17 (Ch. V-2326) (See Model H-892TU17—Set 290-12)
●H-919TU17A (Ch. V-2350) 302—14—S
●H-920T17 (Ch. V-2316) (See Model H-892T17 (V)—Set 290-12)
●H-920T17A (Ch. V-2340) 302—14—S
●H-920TU17 (Ch. V-2326) (See Model H-892TU17—Set 290-12)
●H-920TU17A (Ch. V-2350) 302—14—S
●H-921T17 (Ch. V-2316) (See Model H-892T17 (V)—Set 290-12)
●H-921T17A (Ch. V-2340) 302—14—S
●H-921TU17 (Ch. V-2326) (See Model H-892TU17—Set 290-12)
●H-921TU17A (Ch. V-2350) 302—14—S
●H-924T21 (Ch. V-2317) (See Model H-896T21 (V)—Set 290-12)
●H-924T21A, C (Ch. V-2341) .....302—14—S
●H-924TU21 (Ch. V-2327) (See Model H-896TU21—Set 290-12)
●H-924TU21C (Ch. V-2351) 302—14—S
●H-927T21 (Ch. V-2317) (See Model H-896T21 (V)—Set 290-12)
●H-927T21C (Ch. V-2341) 302—14—S
●H-927TU21 (Ch. V-2327) (See Model H-896TU21—Set 290-12)
●H-927TU21C (Ch. V-2351) 302—14—S
●H-928T21 (Ch. V-2317) (See Model H-896T21 (V)—Set 290-12)
●H-928T21C (Ch. V-2341) 302—14—S
●H-928TU21 (Ch. V-2327) (See Model H-896TU21—Set 290-12)
●H-928TU21C (Ch. V-2351) 302—14—S
●H-929T21 (Ch. V-2317) (See Model H-896T21 (V)—Set 290-12)
●H-929T21C (Ch. V-2341) 302—14—S
●H-929TU21 (Ch. V-2327) (See Model H-896TU21—Set 290-12)
●H-929TU21C (Ch. V-2351) 302—14—S
●H-965K21 (Ch. V-2317) (See Model H-896T21 (V)—Set 290-12)
●H-965K21C (Ch. V-2341) 302—14—S
●H-965KU21 (Ch. V-2327) (See Model H-896TU21—Set 290-12)
●H-965KU21C (Ch. V-2351) 302—14—S
●H-966K21 (Ch. V-2317) (See Model H-896T21 (V)—Set 290-12)
●H-966K21C (Ch. V-2341) 302—14—S
●H-966KU21 (Ch. V-2327) (See Model H-896TU21—Set 290-12)
●H-966KU21C (Ch. V-2351) 302—14—S
●H-974T21, H-974TU21 (Ch. V-2341, V-2351) .....302—14—S
●H-975T21, H-975TU21 (Ch. V-2341, V-2351) .....302—14—S
●H-976T21, H-976TU21 (Ch. V-2341, V-2351) .....302—14—S
●H-978T17, H-978TU17 (Ch. V-2340, V-2350) .....302—14—S
●H-979T17, H-979TU17 (Ch. V-2340, V-2350) .....302—14—S
●H-980T17, H-980TU17 (Ch. V-2340, V-2350) .....302—14—S
H-1251 .....3—19
Ch. V-2102 (See Model H-104)
Ch. V-2102-1 (See Model H-138)
Ch. V-2103 (See Model H-153)
Ch. V-2103-3 (See Model H-214)
Ch. V-2107 (See Model H-133)
Ch. V-2118 (See Model H-161)
Ch. V-2119-1 (See Model H-164)
Ch. V-2120 (See Model H-165)
Ch. V-2122 (See Model H-157)
Ch. V-2123 (See Model H-178)

WESTINGHOUSE—Cont.

Ch. V-2124-1 (See Model H-169)
Ch. V-2127 (See Model H-183)
Ch. V-2128, V-2128-1 (See Model H-182)
Ch. V-2128-2 (See Model H-202)
Ch. V-2130-1 (See Model H-196)
Ch. V-2130-11DX, -12DX (See Model H-196A (DX))
Ch. V-2130-21DX, -22DX (See Model H-207A (DX))
Ch. V-2130-31DX, -32DX (See Model H-225 (DX))
Ch. V-2131, V-2131-1 (See Model H-185)
Ch. V-2132 (See Model H-186M)
Ch. V-2133 (See Model H-188)
Ch. V-2134 (See Model H-190)
Ch. V-2136 (See Model H-307T7)
Ch. V-2136-1 (See Model H-316C7)
Ch. V-2136-2 (See Model H-324T7)
Ch. V-2136-4 (See Model H-328C7)
Ch. V-2136-5R (See Model H-334T7UR)
Ch. V-2137-5U (See Model H-334T7U)
Ch. V-2137 (See Model H-203)
Ch. V-2137-1 (See Model H-199)
Ch. V-2137-2 (See Model H-198)
Ch. V-2137-3, V-2137-3S (See Model H-231)
Ch. V-2144, V-2144-1 (See Model H-210)
Ch. V-2146-05 (See Model H-216)
Ch. V-2146-11DX (See Model H-217)
Ch. V-2146-21DX, -25DX (See Model H-226)
Ch. V-2146-35DX (See Model H-217B)
Ch. V-2146-45 (See Model H-216)
Ch. V-2148 (See Model H300T5)
Ch. V-2149 (See Model H-217B)
Ch. V-2149-1 (See Model H-216)
Ch. V-2149-2 (See Model H-231)
Ch. V-2149-3 (See Model H-603C-12)
Ch. V-2150-01, V-2150-02 (See Model H-223)
Ch. V-2150-31 (See Model H-242)
Ch. V-2150-41 (See Model H-601K-12)
Ch. V-2150-51 (See Model H-231)
Ch. V-2150-61, A, B (See Model H-600T16)
Ch. V-2150-81, -82, -84 (See Model H-251)
Ch. V-2150-91A (See Model H-604-T10)
Ch. V-2150-94 (See Model H-604-T10, A)
Ch. V-2150-94C (See Model H-609T10)
Ch. V-2150-101 (See Model H-605T12)
Ch. V-2150-111, A (See Model H-606K12)
Ch. V-2150-136 (See Model H-610T12)
Ch. V-2150-146 (See Model H-613K16)
Ch. V-2150-176, U (See Model H-617T12)
Ch. V-2150-177U (See Model H-617T12)
Ch. V-2150-186, A, C, CA (See Model H-618T16)
Ch. V-2150-197 (See Model H-625T12)
Ch. V-2151-1 (See Model H-302P5)
Ch. V-2152-01 (See Model H-603-C12)
Ch. V-2152-16 (See Model H-611C12)
Ch. V-2153 (See Model H303P4)
Ch. V-2153-1 (See Model H-312P4)
Ch. V-2156 (See Model H-309P5)
Ch. V-2156-1U (See Model H-342-P5U)
Ch. V-2156-2 (See Model H-405P5)
Ch. V-2157, U (See Model H-318T5)
Ch. V-2157-1, -1U (See Model H-321T5)
Ch. V-2157-2, -2U (See Model H-323T5)
Ch. V-2157-3U (See Model H-327T6U)
Ch. V-2157-4U (See Model H338-T5U)
Ch. V-2157-5 (See Model H-355T5)
Ch. V-2157-6 (See Model H-359T5)
Ch. V-2157-8 (See Model H-367T5)
Ch. V-2157-9 (See Model H-374T5)
Ch. V-2157-10 (See Model H-382T5)
Ch. V-2157-11 (See Model H-385T5)
Ch. V-2157-12 (See Model H-388T5)
Ch. V-2157-13 (See Model H-420T5)
Ch. V-2157-14 (See Model H-391T5)
Ch. V-2161, V-2161U (See Model H-310T5)
Ch. V-2164, U (See Model H-331P4)
Ch. V-2164-2 (See Model H-400P4)
Ch. V-2171 (See Model H-627K16)
Ch. V-2172 (See Model H-626T16)
Ch. V-2173 (See Model H-633C17)
Ch. V-2175 (See Model H-636T17)
Ch. V-2175-1 (See Model H-641-K17)
Ch. V-2175-3, -4 (See Model H-640T17)
Ch. V-2175-5 (See Model H-641K17)
Ch. V-2176 (See Model H-630T14)
Ch. V-2177 (See Model H-637T14)
Ch. V-2178, -1, -3 (See Model H-638K20)
Ch. V-2180-1 (See Model H350T7)
Ch. V-2180-2 (See Model H-354C7)
Ch. V-2180-3 (See Model H-660C17)
Ch. V-2180-5 (See Model H-357C10)
Ch. V-2180-8 (See Model H-370T7)
Ch. V-2180-9, -10 (See Model H-730C21)
Ch. V-2180-13 (See Model H-469R12)
Ch. V-2181-1 (See Model H-361T6)
Ch. V-2181-2 (See Model H-393T6)
Ch. V-2182-2 (See Model H-414P4)
Ch. V-2184-1 (See Model H-378T5)

NOTE: PCB Denotes **P**roduction **C**hange **B**ulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250.
● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

TINGHOUSE—Cont.

-2184-2 (See Model H-397T5)
-2184-4 (See Model H-447T4)
Ch. V-2184-5 (See Model H-471T5)
Ch. V-2184-6 (See Model H-499T5)
Ch. V-2185-1 (See Model H-409P4)
Ch. V-2185-2 (See Model H-494P4)
Ch. V-2186-1 (See Model H-417T5)
Ch. V-2188-1 (See Model H-422P4)
Ch. V-2189-2 (See Model H-434T5)
Ch. V-2189-4 (See Model H-443T5)
Ch. V-2189-6 (See Model H-888CU24)
Ch. V-2192, -1 (See Model H-639T17)
Ch. V-2192, -3, -4, -5, -6 (See Model H-640T17A)
Ch. V-2194, V-2194A, V-2194-1 (See Model H-642K20A)
Ch. V-2194-2, -3 (See Model H-652K20)
Ch. V-2200-1 (See Model H-651-K17)
Ch. V-2201-1 (See Model H-652-K20)
Ch. V-2202-2 (See Model H-653K24)
Ch. V-2203-1 (See Model H-660C17)
Ch. V-2204-1 (See Model H-659T17)
Ch. V-2206-1 (See Model H-665T16)
Ch. V-2207-1 (See Model H-706T16)
Ch. V-2210-1 (See Model H-653K24)
Ch. V-2214-1 (See Model H-689T16)
Ch. V-2215-1 (See Model H-681T17)
Ch. V-2216-1 (See Model H-667T17)
Ch. V-2216-2, -3 (See Model H-678K17)
Ch. V-2216-4, -5 (See Model H-704T17)
Ch. V-2217-1 (See Model H-673K21)
Ch. V-2217-2, -3 (See Model H-692T21)
Ch. V-2217-4, -5 (See Model H-710T21)
Ch. V-2218-1, -2, 11 (See Model H-730C21)
Ch. V-2219-1 (See Model H-688K24)
Ch. V-2220-1 (See Model H-708T20)
Ch. V-2220-2 (See Model H-718K20)
Ch. V-2220-3, -11 (See Model H-708T20)
Ch. V-2227-1 (See Model H-736T17)
Ch. V-2227-2 (See Model H-739T17)
Ch. V-2229-5 (See Model H-482PR5)
Ch. V-2232-2 (See Model H-737T17)
Ch. V-2233-1 (See Model H-740T21)
Ch. V-2233-2 (See Model H-751T21)
Ch. V-2233-3 (See Model H-750T21)
Ch. V-2233-4 (See Model H-746K21)
Ch. V-2235-1 (See Model H-469R12)
Ch. V-2236-1 (See Model H-475T5)
Ch. V-2236-2 (See Model H-486T5)
Ch. V-2237-2 (See Model H-511P4)
Ch. V-2238-1 (See Model H-499T5A)
Ch. V-2239-1 (See Model H-523T4)
Ch. V-2239-2 (See Model H-538T4)
Ch. V-2250-1 (See Model H-795T17)
Ch. V-2250-4 (See Model H-815T24)
Ch. V-2263-11, -12, -13, -14 (See Model H-830K21)
Ch. V-2263-15 (See Model H-827T21)
Ch. V-2263-22 (See Model H-834K21)
Ch. V-2263-35 (See Model H-836T21)
Ch. V-2273-111, -122, -124, -132, -134 (See Model H-830KU21)
Ch. V-2273-222 (See Model H-834KU21)
Ch. V-2273-322 (See Model H-836TU21)
Ch. V-2273-324 (See Model H-833TU21A)
Ch. V-2284-15 (See Model H-840CK15)
Ch. V-2310 (See Model H-799T17)
Ch. V-2312 (See Model H-867T21)
Ch. V-2313-15, -25, -35 (See Model H-838K21B)
Ch. V-2314-15, -25 (See Model H-853K24)
Ch. V-2315-11, -15, -21, -25 (See Model H-882T21 (S), (V))
Ch. V-2316-11, -12 (See Model H-892T17 (V))
Ch. V-2317-61, -62 (See Model H-896T21 (V))
Ch. V-2318-11, -15, -21, -25 (See Model H-854K24A (S), (V))
Ch. V-2318-31, -35, -41, -45 (See Model H-888C24 (S), (V))
Ch. V-2320 (See Model H-799TU17)
Ch. V-2322 (See Model H-867TU21)
Ch. V-2323-101, -122, -124, -201, -301 (See Model H-838KU21B)
Ch. V-2324-203 (See Model H-853KU24)
Ch. V-2325-101, -201 (See Model H-882TU21)
Ch. V-2326-101 (See Model H-892TU17)
Ch. V-2327-601 (See Model H-896TU21)
Ch. V-2328-101, -201 (See Model H-853KU24A)
Ch. V-2328-301, -401 (See Model H-888CU24)

WESTINGHOUSE—Cont.

Ch. V-2340 (See Model H-916T17A)
Ch. V-2341 (See Model H-924T21A)
Ch. V-2350 (See Model H-916TU17A)
Ch. V-2351 (See Model H-924TU21C)
Ch. V-11213 (See Model H-802)
Ch. V-11900-1, -2, -3, -4, -5 (See Model H-802)

WILCOX-GAY
(Also see Majestic)
(Also see Recordio)

●G-306, G-402, G-403, G-404 (See Majestic Model 12T2—Set 108-7)
●G-414 (See Majestic Model G-414—Set 133-8)
●G-426, G-427 (See Majestic Model 12T2—Set 108-7)
●G-614, G-624 (See Majestic Model G-414—Set 133-8)
●G-914 (See Majestic Model G-414—Set 133-8)
●OD-446M (OD Series) 101–17
●OF439-1-C (Ch. OF Series) 98–15
OD Series (See Model OD-446M)
400A, B, C 242–12

WILLYS-OVERLAND

8030 (670777) 50–23
670777 (See Model 8030—Set 50-23)
677012 156–14
679517 172–12

WILMAK

W-446 "DENchum" 21–11

WIRE RECORDING CORP.
(See Recorder Listing)

WOOLAROC

3-1A (Ch. 6-9022-J), 3-2A (Ch. 6-9022-K) 6–37
3-3A (Code 7-9003-D).... 6–38
3-5A 22–32
3-6A/5 24–32
3-9A, 3-10A 7–30
3-11A (Ch. 56A76) 8–33
3-12/3 23–33
3-13A, 3-14A, 3-15A, 3-16A 34–28
3-17A, 3-18A 34–29
3-20A 24–33
3-29A 7–31
3-61A (See Model 3-71A—Set 36-29)
3-70A 31–34
3-71A 36–29

ZENITH (Also see Record Changer Listing)

G500 (Ch. 5G40) 83–16
G503 (Ch. 5G41) 99–19
G510, G510Y (Ch. 5GO2). 84–14
G511, G511W, G511Y (Ch. 5G01) 85–14
G516 (Ch. 5G03) 109–15
G615, G615W, G615Y (Ch. 6G05) 86–14
G660, G663, G665 (Ch. 6G01) 96–12
G723 (Ch. 7G04) 104–13
G724 (Ch. 7G02) 103–16
G725 (Ch. 7G01) 101–18
G881, G882, G883, G884, G885 (Ch. 8G20) 98–16
●G-2322 (Ch. 23G22) 98–17
●G2322Z (Ch. 23G24) (See Ch. 23G24—Set 91A-13)
●G2322Z1 (Ch. 23G24Z1) (See Ch. 23G24—Set 91A-13)
●G-2327Z (Ch. 23G24) (See Ch. 23G24—Set 91A-13)
●G-2340, R (Ch. 23G22) ... 98–17
●G2340RZ, Z (Ch. 23G24) (See Ch. 23G24—Set 91A-13)
●G2340Z1, G2340RZ1 (Ch. 23G24Z1) (See Ch. 23G24—Set 91A-13)
●G2346R (Ch. 23G22) 98–17
●G2346RZ (Ch. 23G24) (See Ch. 23G24—Set 91A-13)
●G2350RZ, Z (Ch. 23G24) (See Ch. 23G24—Set 91A-13)
●G2353, E (Ch. 23G22) (See Model G2322—Set 98-17)
●G2353EZ (Ch. 23G24) (See Ch. 23G24—Set 91A-13)
●G2353EZ1 (Ch. 23G24Z1) (See Ch. 23G24—Set 91A-13)
●G2355EZ, E-Z1, RZ (Ch. 23G24Z1) (See Ch. 23G24—Set 91A-13)
●G2356EZ (Ch. 23G24) (See Ch. 23G24—Set 91A-13)
●G2420E (Ch. 24G20)...... 93–11
●G2420-EOX (Ch. 24G20-OX) 93–11
●G2420R (Ch. 24G20) 93–11
●G2420-ROX (Ch. 24G20-OX) 93–11
●G2437RZ, G2438RZ, Z, G2439RZ (Ch. 24G26 (See Ch. 24G26—Set 91A-12)
●G2441 (Ch. 24G24) 98–17
●G2441R (Ch. 24G22/24) .. 98–17
●G2441RZ, Z (Ch. 24G26) (See Ch. 24G26—Set 91A-12)
●G2441Z1, G2441RZ1 (Ch. 24G26-Z1) (See Ch. 24G26—Set 91A-12)
●G2442E, R (Ch. 24G22/24) 98–17
●G2442RZ (Ch. 24G26) (See Ch. 24G26—Set 91A-12)
●G2442EZ1, G2442RZ1 (Ch. 24G-26Z1) (See Ch. 24G26—Set 91A-12)
●G2448R (Ch. 24G22/24) .. 98–17
●G2448RZ (Ch. 24G26) (See Ch. 24G26—Set 91A-12)
●G2448RZ1 (Ch. 24G26Z1) (See Ch. 24G26—Set 91A-12)
●G2454R (Ch. 24G21) 93–11
●G-2454-ROX (Ch. 24G21-OX) 93–11
●G2854R-OX (Ch. 28F20) (See Model 28T960—Set 64-15)
●G2951, R, OX, ROX, G2952, R, ROX (Ch. 29G20, -OX) .. 95–8
●G2957, R (Ch. 23G23 and Radio Ch. 6G20) 98–17

ZENITH—Cont.

●G2958R (Ch. 23G23 and Radio Ch. 6G20) 98–17
●G-3059R (Ch. 24G23/25 and Radio Ch. 6G20) 98–17
●G3062 (Ch. 24G23/25 and Radio Ch. 6G20) 98–17
●G3157RZ, Z (Ch. 23G24 and Radio Ch. 8G20/22) (See Ch. 23G24 and Ch. 8G20/22—Set 91A-13)
●G3157Z1, G3157RZ1 (Ch. 23G24Z1 and Radio Ch. 8G22) (See Ch. 23G24 and Ch. 8G20/22—Set 91A-13)
●G3158RZ (Ch. 23G24 and Radio Ch. 8G20/22) (See Ch. 23G24 and Ch. 8G20/22—Set 91A-13)
●G3158RZ1 (Ch. 23G24Z1 and Radio Ch. 8G22) (See Ch. 23G24 and Ch. 8G20/22—Set 91A-13)
●G3173RZ, Z, G-3174RZ (Ch. 23G24 and Radio Ch. 8G20/22) (See Ch. 23G24 and Ch. 8G20/22—Set 91A-13)
●G3259RZ (Ch. 24G26 and Radio Ch. 8G20/22) (For TV Ch. see Ch. 24G26—Set 91A-12, For Radio Ch. see Ch. 8G20/22—Set 91A-13)
●G3259RZ1 (Ch. 24G26Z1 and Radio Ch. 8G22) (For TV Ch. see Ch. 24G26—Set 91A-12, for Radio Ch. see Ch. 8G20/22—Set 91A-13)
●G3262Z (Ch. 24G26 and Radio Ch. 8G20/22) (For TV Ch. see Ch. 24G26—Set 91A-12, for Radio Ch. see Ch. 8G20/22—Set 91A-13)
●G3262Z1 (Ch. 24G26Z1 and Radio Ch. 8G22) (For TV Ch. see Ch. 24G26—Set 91A-12, for Radio Ch. see Ch. 8G20/22—Set 91A-13)
●G3275RZ (Ch. 24G26 and Radio Ch. 8G20/22) (For TV Ch. see Ch. 24G26—Set 91A-12, for Radio Ch. see Ch. 8G20/22—Set 91A-13)
●G3276Z (Ch. 24G26 and Radio Ch. 8G20/22) (For TV Ch. see Ch. 24G26—Set 91A-12, for Radio Ch. see Ch. 8G20/22—Set 91A-13)
H401, G (Ch. 4H40) 156–15
H500 (Ch. 5H40) 152–12
H503, Y (Ch. 5H41) 151–12
H511, H511W, H511Y (Ch. 5H01) 147–13
H615 (Ch. 6G05) 140–14
H615Z1 (Ch. 6G05Z1).... 178–16
H661E, H661R (Ch. 6H01). 125–13
H664 (Ch. 6H02) 149–15
H665, R, RZ, Z (Ch. 6H01). 125–13
H723 (Ch. 7H04) 122–12
H723Z (Ch. 7H04Z) 134–14
H723Z1 (Ch. 7H04Z1) (See Model H724Z1—Set 163-14)
H723Z2 (Ch. 7H04Z2) 178–17
H724 (Ch. 7H02) 126–15
H724Z (Ch. 7H02Z) (See Model H723Z—Set 134-14)
H724Z1 (Ch. 7H02Z1) 163–14
H724Z2 (Ch. 7H02Z2) 178–17
H725 (Ch. 7G01Z) 135–15
H880, H880R (Ch. 8H20 Revised) 127–14
H880RZ (Ch. 8H20) 114–12
H1083E (Ch. 10H20) (See Model H3467R—Set 120-13)
H1086R, H-1087R (Ch. 10H20) (See Model H3467R—Set 120-13)
●H2029R, H2030E, H2030R (Ch. 20H20) 144–15
●H2041R (Ch. 20H20) 144–15
●H-2052R, H2053E (Ch. 20H20) 144–15
●H2226E, R, H2227E, H2227R (Ch. 22H20) 114–13
●H2229R, H2230E, R (Ch. 22H21) 151–13
●H2241R (Ch. 22H21) 151–13
●H2242E, R (Ch. 22H22) .. 151–13
●H2250R (Ch. 22H20)...... 114–13
●H2252R, H2253E (Ch. 22H21) 151–13
●H2254R (Ch. 22H22) 151–13
●H2255E (Ch. 22H20) 114–13
●H2262 (Ch. 22H20) (See Model H2226E—Set 114-13)
●H2328E, EZ, R, RZ (Ch. 23H22, Z) 118–11
●H2329R, RZ (Ch. 23H22, Z) (See Model H2328EZ—Set 118-11)
●H2330E, R (Ch. 23H22) (See Model H2328E—Set 118-11)
●H2341R (Ch. 23H22) (See Model H2328E—Set 118-11)
●H2352R, RZ, H2353E, EZ Ch. 23H22, Z) 118–11
●H2436Q (Ch. 24H21) (See Model H3477R—Set 120-13)
●H2437E, R, H-2438R, H-2439R (Ch. 24H20) 120–13
●H2443R (Ch. 24H20) (See Model H2437E—Set 120-13)
●H2445R (Ch. 24H21) 120–13
●H2447R (Ch. 24H21) 120–13
●H2449E (Ch. 24H20) 120–13
●H2475R (Ch. 24H21) (See Model H2447R—Set 120-13)
●H2868 (Ch. 20H20 and Radio Ch. 8H20Z) (For TV Ch. see Model H-2029R—Set 144-15, for Radio Ch. see Model J880—Set 168-14)
●H3068R (Ch. 22H21 and Radio Ch. 8H20Z) (For TV Ch. see Model H2229R—Set 151-13, for Radio Ch. see Model J880—Set 168-14)
●H-3073E, H3074 (Ch. 20H20 and Radio Ch. 10H20Z) (For TV Ch. See Model H2029R—Set 144-12, For Radio Ch. See Model H2229R—Set 151-13)
●H3168R (Ch. 23H22 and Radio Ch. 8H20) (For TV Ch. see Model H2328E—Set 118-11, for Radio Ch. see Model H880RZ—Set 114-12)

ZENITH—Cont.

●H3267, R (Ch. 24H20 and Radio Ch. 8H20) (For TV Ch. see Set 120-13, for Radio Ch. see Model H800RZ—Set 114-12)
●H3273E, H3274R (Ch. 22H21 and Radio Ch. 10H20Z) 151–13
●H3284R (Ch. 22H22 and Radio Ch. 10H20Z) 151–13
●H3373E (Ch. 23H22) (See Model H2328E—Set 118-11)
●H3374R (Ch. 24H20) (See Model H2449E—Set 120-13)
●H3467R (Ch. 24H20 and Radio Ch. 10H20) 120–13
●H3469E (Ch. 24H20 and Radio Ch. 10H20) (See Model H3467R—Set 120-13)
●H3475R (Ch. 24H20 and Radio Ch. 10H20) 120–13
●H3477R (Ch. 24H21 and Radio Ch. 10H20) 120–13
●H3478E (Ch. 24H21 and Radio Ch. 10H20) 120–13
●H3490EQ (Ch. 24H21 and Radio Ch. 10H20Z) (For TV Ch. see Model H2445R—Set 120-13, for Radio Ch. see Model H3273E—Set 151-13)
HF14, E (Ch. 3M02) 270–19
HF15E, R (Ch. 3M02) 270–19
HFM1184E (Ch. 11M20) 267–15
HFM1190R (Ch. 11M20) 267–15
HFR14, E (Ch. 3M02) 270–19
HFR15, E (Ch. 3M02) 270–19
HFR-20E (Ch. 5R20) 272–16
HFR-21R (Ch. 5R20) 272–16
HFR845R, HFR846E, H (Ch. 8R21) 297–11
HFR1283E (Ch. 12R20).... 281–11
HFR1284E (Ch. 12R21).... 281–11
HFR1286R (Ch. 12R20).... 281–11
HFR1290R (Ch. 12R21).... 281–11
J402 (Ch. 4J40) 178–18
J420T (Ch. 4J60T) 185–16
J504, Y (Ch. 5J41) 219–12
J514 (Ch. 5J03) 176–14
J615, F, G, W, Y (Ch. 6J05) 182–16
J616 (Ch. 6J03) 179–14
J664, J665E, R (Ch. 6J02). 172–13
J733, G, R, Y (Ch. 7J03).. 186–17
J880, J880R (Ch. 8H20Z).. 168–14
J1083E, EZ (Ch. 10H20Z) (See Model H3273E—Set 151-13)
J1086, R, RZ (Ch. 10H20Z) (See Model H3273E—Set 151-13)
J1087, Z (Ch. 10H20Z) (See Model H3273E—Set 151-13)
●J2026R (Ch. 20J21) 159–18
●J2027E, R, J2029E, R, J2030E, R (Ch. 20J21) 159–18
●J2031R (Ch. 20J21) (See Model J2026R—Set 159-18)
●J2032R (Ch. 20J22) (See Model J2051E—Set 159-18)
●J2040E, J2042R, J2043R, J2044E, R (Ch. 20J21) 159–18
●J2046R (Ch. 20J21) (See Model J2026R—Set 159-18)
●J2049R (Ch. 20J21) (See Model J2027E—Set 159-18)
●J2050R (Ch. 20J21) (See Model J2027E—Set 159-18)
●J2051E (Ch. 20J22)........ 159–18
●J2052R (Ch. 20J22) (See Model J2051E—Set 159-18)
●J2053R, J2054R, J2055R (Ch. 20J22) 159–18
●J2056R (Ch. 20J22) (See Model J2051E—Set 159-18)
●J2126R (Ch. 21J21) 159–18
●J2127E, R, J2129E, R, J2130E, R (Ch. 21J20) 159–18
●J2140E, J2142R, J2143R, J2144E, R (Ch. 21J20) 159–18
●J2151E, J2153R, J2154R, J2155R (Ch. 21J21) 159–18
●J2766R (Ch. 20J21) (See Model J2066R—Set 159-18)
●J2868R (Ch. 20J21 and Radio Ch. 8H20Z) (For TV Ch. see Set 159-18, for Radio Ch. see Model J880—Set 168-14)
●J2968R (Ch. 21J20 and Radio Ch. 8H20Z) (For TV Ch. see Set 159-18, for Radio Ch. see Model J880—Set 168-14)
●J3069E (Ch. 20J21 and Radio Ch. 10H20Z) (For TV Ch. see Set 159-18, for Radio Ch. see Model H3273E—Set 151-13)
●J3169E (Ch. 21J20 and Radio Ch. 10H20Z) (For TV Ch. see Set 159-18, for Radio Ch. see Model H3273E—Set 151-13)
K401 (Ch. 4K40) 230–14
K412G, R, W, Y (Ch. 4K01) 195–13
K510, K510W, K510Y (Ch. 5K02) 181–15
K515 (Ch. 5K03) (See Model J514 Set 176-14)
K518 (Ch. 5J03) (See Model J514—Set 176-14)
K526, W, Y (Ch. 5K04).... 215–18
K622, F, G, W (Ch. 6K03) 203–17
K666R (Ch. 6K02) 203–18
K725, F, G (Ch. 7K01).... 212–10
K777E, R (Ch. 7K20) 190–17
K880, R (Ch. 8H20Z) (See Model J880—Set 168-14)
K1083E, K1086, R, K1087, Z (Ch. 10H20Z) (See Model H3273E—Set 151-13)
●K1812E (Ch. 19K22)...... 184–15
●K1812E-3 (Ch. 19K22-3).. 214–11
●K1812R (Ch. 19K22)...... 184–15
●K1812R-3 (Ch. 19K22-3).. 214–11
●K1814 (Ch. 19K20) (See Model K1815E—Set 184-15)
●K1815E, R (Ch. 19K20)... 184–15
●K1820E (Ch. 19K20)...... 184–15
●K1820E-3 (Ch. 19K20-3).. 219–13
●K1820R (Ch. 19K20)...... 184–15
●K1820R-3 (Ch. 19K20-3)... 219–13
●K1846E (Ch. 19K20)...... 184–15
●K1846E-3 (Ch. 19K20-3)... 219–13
●K1846R (Ch. 19K20)...... 184–15

ZENITH—Cont.

●K1846R-3 (Ch. 19K20-3)... 219–13
●K1850E, R (Ch. 19K20).... 184–15
●K1880R (Ch. 19K20)...... 184–15
●K1880R-3 (Ch. 19K20-3 and Radio Ch. 8H20Z) (For TV Ch. see Set 219-13, for Radio Ch. see Model J880—Set 168-14)
●K2229E (Ch. 19K24) (See Model K1812E—Set 184-15)
●K2229E-3 (Ch. 19K24-3).. 214–11
●K2229R (Ch. 19K23)...... 184–15
●K2229R-3 (Ch. 19K24-3).. 214–11
●K2230E, R (Ch. 21K20)... 187–14
●K2235E (Ch. 19K23) (See Model K1812E—Set 184-15)
●K2235E-3 (Ch. 19K23-3).. 219–13
●K2235R (Ch. 19K23) (See Model K1812E—Set 184-15)
●K2235R-3 (Ch. 19K23-3).. 219–13
●K2240E, R (Ch. 21K20).... 187–14
●K2258E (Ch. 19K23) (See Model K2258R—Set 184-15)
●K2258E-3 (Ch. 19K23-3).... 219–13
●K2258R (Ch. 19K23).... 184–15
●K2258R-3 (Ch. 19K23-3).. 219–13
●K2260R (Ch. 21K20)...... 187–14
●K2260R-3 (Ch. 21K20-3).. 220–12
●K2262R (Ch. 19K23) (See Model K2229R—Set 184-15)
●K2262R-3 (Ch. 19K23-3).. 219–13
●K2263E (Ch. 21K20)...... 187–14
●K2263E-3 (Ch. 21K20-3).. 220–12
●K2266, R (Ch. 21K20).... 187–14
●K-2266R-3 (Ch. 21K20-3).. 220–12
●K2267E (Ch. 21K20)...... 187–14
●K2267E-3 (Ch. 21K20-3).. 220–12
●K2268R (Ch. 21K20)...... 187–14
●K2270H, R (Ch. 21K20)... 187–14
●K2271H (Ch. 21K20) (See Model K2230E—Set 187-14)
●K2271H-3 (Ch. 21K20-3).. 220–12
●K2286R (Ch. 19K23)...... 184–15
●K2286R-3 (Ch. 19K23-3 and Radio Ch. 7K21) (TV Ch. only). 219–13
●K2287R (Ch. 21K20 and Radio Ch. 8H20Z) (For TV Ch. see Set 187-14, for Radio Ch. see Model J880—Set 168-14)
●K2287R-3 (Ch. 21K20-3).. 220–12
●K2288E (Ch. 19K23)...... 184–15
●K2290R, K2291E (Ch. 21K20 and Radio Ch. 10H20Z) (For TV Ch. see Set 187-14, for Radio Ch. see Model H3273E—Set 151-13)
●K2291E-3 (Ch. 21K20 and Radio Ch. 10H20Z) (For TV Ch. see Set 220-12, for Radio Ch. see Model H3273E—Set 151-13)
●K2872R, K2873E (Ch. 28K20) 215–19
L401 (Ch. 4L40).......... 230–14
L403F, G, R, Y (Ch. 4L41). 221–14
L406R (Ch. 4L42).......... 220–13
L505F, R, Y (Ch. 5L41).... 224–18
L507 (Ch. 5L42).......... 229–18
L515 (Ch. 5L06).......... 238–15
L518, F, G, W, Y (Ch. 5L03) 217–18
L520 (Ch. 5L07).......... 238–15
L565E, R (Ch. 5L09)...... 242–13
L566 (Ch. 5L08) 245–12
L600 (Ch. 6L40) 254–13
L622, F, G, W (Ch. 6L03) 222–16
L677E, R (Ch. 6L20) 241–13
L721 (Ch. 7L05) 226–12
L845R, L846E, H (Ch. 8L21) 234–14
L880 (Ch. 8L20) 234–14
L1083E (Ch. 10L20) 233–13
L1086R (Ch. 10L20) 233–13
●L1800R, RU (Ch. 19L34, U) (For TV Ch. See Model L1812E—Set 223-14 For UHF Tuner See Model L2571RU—Set 227-16)
●L1812E (Ch. 19L26) 223–14
●L1812EU (Ch. 19L26U) (For TV Ch. See Model L1812E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L1812R (Ch. 19L26) 223–14
●L1812RU (Ch. 19L26U) (For TV Ch. See Model L1812R—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L1820E (Ch. 19L26) 223–14
●L1820EU (Ch. 19L26U) (For TV Ch. See Model L1820E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L1820R (Ch. 19L26) 223–14
●L1820RU (Ch. 19L26U) (For TV Ch. See Model L1820R—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L1846E, EU, R, RU (Ch. 19L25, U) 232–11
●L1846E, EU, R, RU (Ch. 19L28, U) (For TV Ch. See Model L2229E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L2228 R, RU (Ch. 19L33, U) (For TV Ch. See Model L2229E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L2229E (Ch. 19L28)...... 223–14
●L2229EU (Ch. 19L28U) (For TV Ch. See Model L2229E—Set 223-14, for UHF Tuner see Model L2571RU—Set 227-16)
●L2229R (Ch. 19L28)...... 223–14
●L2229RU (Ch. 19L28U) (For TV Ch. See Model L2229R—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L2235E (Ch. 19L28) 223–14
●L2235EU (Ch. 19L28U) (For TV Ch. See Model L2235E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L2235R (Ch. 19L28) 223–14
●L2235RU (Ch. 19L28U) (For TV Ch. See Model 2235R—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L2236E, EU, R, RU (Ch. 19L27, U) 232–11
●L2237E, R (Ch. 19L27) (See Model L2236E—Set 232-11)

NOTE: PCB Denotes Production Change Bulletin. Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200. Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250. ● Denotes Television Receiver. S Denotes Schematic Coverage Only.

ZENITH—Cont.

●L2237E, R (Ch. 19L28) (See Model L2229E—Set 223-14)
●L2237EU, RU (Ch. 19L27U) (See Model L2236E—Set 232-11)
●L2237EU, RU (Ch. 19L30U) (For TV Ch. See Model L2229E—Set 223-14 For UHF Tuner See Model L2571RU—Set 227-16)
●L2250, E, R (Ch. 19L27) (See Model L2236E—Set 232-11)
●L2250, E, R (Ch. 19L28) (See Model L2229E—Set 223-14)
●L2250EU, RU, U (Ch. 19L27U) (See Model L2236E—Set 232-11)
●L2250EU, RU, U (Ch. 19L30U) (For TV Ch. See Model L2229E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L2258E, EU, R, RU (Ch. 19L27, U) 232-11
●L2258E, EU, R, RU (Ch. 19L28, U) (For TV Ch. See Model L2229E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●L2259E, EU, R, RU, L2260R, RU, L2261E, EU, H, HU (Ch. 21L21, U) 239-12
●L2262C, CU, R, RU (Ch. 19L27, U) 232-11
●L2262C, CU, R, RU (Ch. 19L28, U) (For TV Ch. See Model L2229E—Set 223-14 For UHF Tuner See Model L2571RU—Set 227-16)
●L2266R, RU, L2267E, EU, H, HU (Ch. 21L21, U) 239-12
●L2270, U (Ch. 21L21, U) ..239-12
●L2281, E, EU, R, RU, U (Ch. 19L27, U and Radio Ch. 4L03) .232-11
●L2281, E, EU, R, RU (Ch. 19L28, U and Radio Ch. 4L03) (For TV Ch. See Model L2229E—Set 223-14, For Radio Ch. and UHF Tuner See Model L2281EU—Set 232-11)
●L2285R, RU (Ch. 19L27, U and Radio Ch. 8L20) 232-11
●L2285R, RU (Ch. 19L28 and Radio Ch. 8L20) (For TV Ch. See Model L2229E—Set 223-14, For Radio Ch. and UHF Tuner See Model L2285RU—Set 232-11)
●L2287R, RU (Ch. 21L21, U and Radio Ch. 10L20) 239-12
●L2571R, RU (Ch. 22L20, U) 227-16
●L2572R, RU (Ch. 22L20, U) 227-16
●L2573E, EU (Ch. 22L20, U) 227-16
●L2574R, RU (Ch. 22L20, U) 227-16
●L2575E, EU (Ch. 22L20, U) 227-16
●L2575Y, YU (Ch. 22L20, U) (See Model L2575E—Set 227-16)
●L2592R, RU (Ch. 22L20, U and Radio Ch. 10L20) 227-16
●L2593H, HU (Ch. 22L20, U and Radio Ch. 10L20) 227-16
●L2876E, EU, R, RU (Ch. 22L20, U) 227-16
●L2878R, RU (Ch. 22L20, U) 227-16
●L2879E, EU (Ch. 22L20, U) 227-16
●L2894HU (Ch. 22L20U and Radio Ch. 10L20) 227-16
M403G, L, R, V, W, Y (Ch. 4L41) (See Model L403F—Set 221-14)
M505F, R, Y (Ch. 5L41) (See Model L505F—Set 224-18)
M510G, R, W, Y (Ch. 5M02) 265-16
●M1800E (Ch. 19M20) 259-16
●M1800EU (Ch. 19M20U) ..259-16
●M1800EZ (Ch. 19M20Z) ...259-16
●M1800R (Ch. 19M20) 259-16
●M1800RU (Ch. 19M20U) ..259-16
●M1800RZ (Ch. 19M20Z) ...259-16
●M1800RZ1, RUZ1 (Ch. 19L34, U) (For TV Ch. See Model L1812E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●M2228R (Ch. 19M21) 259-16
●M2228RU (Ch. 19M21U) ..259-16
●M2228RZ (Ch. 19M21Z) ...259-16
●M2229E (Ch. 19M21) 259-16
●M2229E (Ch. 19M21U) ...259-16
●M2229EZ (Ch. 19M21Z) ...259-16
●M2229R (Ch. 19M21) 259-16
●M2229RU (Ch. 19M21U) ..259-16
●M2229RZ (Ch. 19M21Z) ...259-16
●M2230E (Ch. 19M21) 259-16
●M2230EU (Ch. 19M21U) ..259-16
●M2230R (Ch. 19M21)......259-16
●M2230RU (Ch. 19M21U) ..259-16
●M2230RZ (Ch. 19M21Z) ...259-16
●M2230RZ2 (Ch. 19M21) ...259-16
●M2237EU (Ch. 20M20U) ..261-17
●M2237EZ (Ch. 20M20Z) ...261-17
●M2237R (Ch. 20M20) 261-17
●M2237RU (Ch. 20M20U) ..261-17
●M2237RZ (Ch. 20M20Z) ...261-17
●M2249E (Ch. 19M21) 259-16
●M2249EU (Ch. 19M21U) ..259-16
●M2249EZ (Ch. 19M21Z) ...259-16
●M2249R (Ch. 19M21) 259-16
●M2249RU (Ch. 19M21U) ..259-16
●M2249RZ (Ch. 19M217)...259-16
●M2250E (Ch. 19M21) 259-16
●M2250EU (Ch. 19M21U) ..259-16
●M2250EZ (Ch. 19M21Z) ...259-16
●M2250R (Ch. 19M21) 259-16
●M2250RU (Ch. 19M21U) ..259-16
●M2250RUZ (Ch. 19M21UZ) 259-16
●M2250RZ (Ch. 19M21Z) ...259-16
●M2251EUZ1, RUZ1 (Ch. 19L30U) (For TV Ch. See Model L1812E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●M2251RZ1, Z1 (Ch. 19L28) (See Model L2229E—Set 223-14)
●M2252E (Ch. 19M21) 259-16
●M2252EU (Ch. 19M21U) ..259-16
●M2252EZ (Ch. 19M21Z) ...259-16
●M2252R (Ch. 19M21) 259-16
●M2252RU (Ch. 19M21U) ..259-16
●M2252RZ (Ch. 19M21Z) ...259-16
●M2258RZ1 (Ch. 19L28) (See Model L2229E—Set 223-14)
●M2258RUZ1 (Ch. 19L30U) (For TV Ch. See Model L2229E—Set 223-14, For UHF Tuner See Model L2571RU—Set 227-16)
●M2260R (Ch. 20M20) 261-17
●M2260RU (Ch. 20M20U) ..261-17
●M2260RUZ (Ch. 20M20UZ) 261-17
●M2260RZ (Ch. 20M20Z) ...261-17
●M2261E (Ch. 20M20) 261-17
●M2261EU (Ch. 20M20U) ..261-17
●M2261EZ (Ch. 20M20Z) ...261-17
●M2267Y (Ch. 20M20) 261-17
●M2267YU (Ch. 20M20U) ..261-17
●M2267YZ (Ch. 20M20Z) ...261-17
●M2570R (Ch. 20M21) 273-15
●M2570RUZ (Ch. 20M21ZU) 273-15
●M2570RZ (Ch. 20M21Z) ...273-15
●M2570U (Ch. 20M21U) ...273-15
R509F, R, V, W, Y (Ch. 5R05) 273-16
R510Z1 (Ch. 5M02Z1)....294-12
R511F, R, V, W (Ch. 5R01) 269-17
R512F, R, V, W (Ch. 5R10) 277-13
R514, F, V, W (Ch. 5L06) (See Model L515—Set 238-15)
R519R, W (Ch. 5R07)......293-12
R521F, G, R, W, Y (Ch. 5R03) 293-12
R600, L (See Model L600—Set 254-13)
R623F, G, R, W, Y (Ch. 6R03) 274-17
●R1800E, EU (Ch. 19R20, U) 267-16
●R1800EUZ (Ch. 19M20U) ..259-16
●R1800EZ (Ch. 19M20) 259-16
●R1800R, RU (Ch. 19R20, U) 267-16
●R1800RUZ (Ch. 19M20U) ..259-16
●R1800RZ (Ch. 19M20) 259-16
●R1812E, EU (Ch. 19R20, U) 267-16
●R1812EUZ (Ch. 19M20U) ..259-16
●R1812EZ (Ch. 19M20) 259-16
●R1812R, RU (Ch. 19R20, U) 267-16
●R1812RUZ (Ch. 19M20U) ..259-16
●R1812RZ (Ch. 19M20) 259-16
●R2229E, EU (Ch. 19R21, U) 267-16
●R2229EUZ (Ch. 19M21U) ..259-16
●R2229EZ (Ch. 19M21) 259-16
●R2229R, RU (Ch. 19R21, U) 267-16
●R2229RUZ (Ch. 19M21U) ..259-16
●R2229RZ (Ch. 19M21) 259-16
●R2230E, EU (Ch. 19R21, U) 267-16
●R2230EUZ (Ch. 19M21U) ..259-16
●R2230EZ (Ch. 19M21) 259-16
●R2230R, RU (Ch. 19R21, U) 267-16
●R2230RUZ (Ch. 19M21U) ..259-16
●R2230RZ (Ch. 19M21) 259-16
●R2249E, EU (Ch. 19R21, U) 267-16
●R2249EUZ (Ch. 19M21U) ..259-16
●R2249EZ (Ch. 19M21) 259-16
●R2249R, RU (Ch. 19R21, U) 267-16
●R2249RUZ (Ch. 19M21U) ..259-16
●R2249RZ (Ch. 19M21) 259-16
●R2250E, EU (Ch. 19R21, U) 267-16
●R2250EUZ (Ch. 19M21U) ..259-16
●R2250EZ (Ch. 19M21) 259-16
●R2250R, RU (Ch. 19R21, U) 267-16
●R2250RUZ (Ch. 19M21U) ..259-16
●R2250RZ (Ch. 19M21) 259-16
●R2253M, MU (Ch. 19R21, U) 267-16
●R2257E, EU (Ch. 19R22, U) 267-16
●R2257EUZ (Ch. 19M21U) .259-16
●R2257EZ (Ch. 19M21) 259-16
●R2257R, RU (Ch. 19R22, U) 267-16
●R2257RUZ (Ch. 19M21U) ..259-16
●R2257RZ (Ch. 19M21) 259-16
●R2258E, EU (Ch. 19R21, U) 267-16
●R2258EUZ (Ch. 19M21U) .259-16
●R2258EZ (Ch. 19M21) 259-16
●R2258R, RU (Ch. 19R21, U) 267-16
●R2258RUZ (Ch. 19M21U)..259-16
●R2258RZ (Ch. 19M21) 259-16
●R2337E, EU, R, RU (Ch. 22R2G, U) 276-10
●R2359E, EU, R, RU (Ch. 22R20, U) 276-10
●R2360R, RU (Ch. 22R20, U) 276-10
●R2367E, EU, Y, YU (Ch. 22R20, U) 276-10
●R2368R, RU (Ch. 22R20, U) 276-10
●R2387R, RU (Ch. 22R20, U and Radio Ch. 10L20) (For Radio Ch. See PFF 227-16 or 233-13) .276-10
●R2391E, EU (Ch. 22R20, U and Radio Ch. 10L20) (For Radio Ch. See PFF 227-16 or 233-13) 276-10
●R2671E (Ch. 22R21) 274-18
●R2671EU (Ch. 22R21U) ...274-18
●R2671R (Ch. 22R21) 274-18
●R2671RU (Ch. 22R21U) ...274-18
●R2975R (Ch. 22R21) 274-18
●R2975RU (Ch. 22R21U) ...274-18
●R2976E (Ch. 22R21) 274-18
●R2976EU (Ch. 22R21U) ...274-18
●R2979E (Ch. 22R21) 274-18
●R2979EU (Ch. 22R21U) ...274-18
●R2994EU, HU (Ch. 22R21U and Radio Ch. 12R21) (For TV Ch. see Model R2671EU—Set 274-18, For Radio Ch. see Model HFR 1284E—Set 281-11)
S-9010 (Ch. 4L02) 230-15
S-9011, S-9012 (Ch. 3L01).247-16
S-9013 (Ch. 3M01) 257-20
T402F, V, Y (Ch. 4T42)...294-13
T404F, L, P, V, W, 2405F, L, P, V, W (Ch. 4T40, 4T41)...296-12
T521F, G, R, W, Y (Ch. 5T03) 303-16
T522F, G, R, V, W (Ch. 5R07) 293-12
T522F, G, R, W, V (Ch. 5T06) (See PCB 130—Set 289-1 and Model L-515—Set 238-15)
T524R, V, W (Ch. 5L07)...293-12
T545 (Ch. 5T04)......298-14
T600, T600L (Ch. 6T40, 6T41) (See Model L600—Set 254-13)
T825F, G, R (Ch. 8T01)....287-17
●T1814R, T1816B, E, L, R (Ch. 16T20) 292-12
●T2220R, RU (Ch. 17T20, U) 286-13
●T2222B, BU, E, EU, L, LU, R, RU (Ch. 17T20, U)......286-13
●T2224E, EU, R, RU (Ch. 17T20, U) 286-13
●T2229E, R, Y (Ch. 19R21) (See Model R2253M—Set 267-16)
●T2230E, R (Ch. 19R21) (See Model R2253M—Set 267-16)
●T2250E, R (Ch. 19R21) (See Model R2253M—Set 267-16)
●T2253M (Ch. 19R22) (See Model R2257E—Set 267-16)
●T2256E, R (Ch. 19R21) (See Model R2253M—Set 267-16)
●T2257E, R (Ch. 19R22) (See Model R2257E—Set 267-16)
●T2261 E, H, R, Y (Ch. 19R22) (See Model R2257E—Set 267-16)
●T2262E, R (Ch. 19R22) (See Model R2257E—Set 267-16)
●T2670E, EU, R, RU (Ch. 19T23) 301-15
4G800 (Ch. 4E41) 35-27
4G800WZ, 4G800YZ, 4G800Z (Ch. 4E41Z) 52-23
4G903, 4G903Y (Ch. 4F40) 76-20
4K016 (Ch. 4C52) 6-39
4K035 (Ch. 4C53) 6-40
5D011, 5D027 (Ch. 5C01, 5C01Z) 3-17
5D810 (Ch. 5E02) 54-21
5G003 (Ch. 5C40) 17-35
5G003Z (Ch. 5C40Z, 25G003ZZ (Ch. 5C40ZZ) 30-31
5G036 (Ch. 5C51) 30-32
5R080-5R086 (Ch. 5C02, 5C04) 4-4
6D014, 6D014W (Ch. 6C01) 9-35
6D015, 6D015Y (Ch. 6C05, 6C05Z) 3-24
6D029, 6D029G (Ch. 6C01) 9-35
6D030 (Ch. 6C05, 6C05Z)... 3-24
6D815, 6D815W, 6D815Y (Ch. 6E05) 55-24
6G001, 6G001Y (Ch. 6C40) 3-14
6G001YZ1 (See Model 6G001—Set 3-14)
6G004Y (Ch. 6C41) 20-35
6G038 (Ch. 6C50) 32-30
6G801 (Ch. 6E40) 53-26
6R084 (Ch. 6C21) 20-36
6R087 (Ch. 6C22) 7-32
7R886 (Ch. 6E02) 34-30
7H820, 7H820W (Ch. 7E01) [illegible]-24
7H822 (Ch. 7E02), 7H822WZ, 7H822Z (Ch. 7E02Z) 55-25
7H918 (Ch. 7F03) 75-18
7H920, 7H920W (Ch. 7F01) 77-13
7H921 (Ch. 7F04) 73-16
7H922 (Ch. 7F02) 87-15
7R070 (Ch. 6C06) 37-25
7R887 (Ch. 7E22) 54-22
8G005Y (Ch. 8C40) 7-33
8G005YT (Z1) (Ch. 8C40T) (Z1), 8G005YT (Z2) (Ch. 8C40T) (Z2) 53-27
8H023 (Ch. 8C01) 4-40
8H032, 8H033 (Ch. 8C20). 1-33
8H034 4-40
8H050, 8H051, 8H052, 8H061 1-33
8H832, 8H861 (Ch. 8E20). 52-24
9H079, 9H079E, 9H079R, 9H081, 9H082R, 9H085R, 9H088R (Ch. 8C21) 7-34
9H881, 9H882R, 9H885, 9H888R (Ch. 9E21) 43-25
9H984, 9H984LP (Ch. 9F22) 64-14
9H995 (Ch. 9E21Z) 74-12
12H090, 12H091, 12H092, 12H093, 12H094 (Ch. 11C21) 2-20
14H789 (Ch. 13D22) 41-24
●27T965R (Ch. 27F20) 95-8
●28T925, E, R (Ch. 28F22) . 64-15
●28T926E, R (Ch. 28F25) (See Model 28T925—Set 64-15)
●28T960E (Ch. 28F20) (See Model 28T960—Set 64-15)
●28T960E-Z (Ch. 28F20Z) (See Model 28T960—Set 64-15)
●28T960-GO, 28T960K (Ch. 28F20) (See Model 28T960—Set 64-15)
●28T961E, 28T961-GO (Ch. 28F21) (See Model 28T961—Set 64-15)
●28T962E (Ch. 28F20) (See Model 28T962—Set 64-15)
●28T962R-Z (Ch. 28F20Z) (See Model 28T962—Set 64-15)
●28T963 (Ch. 28F21) 64-15
●28T964R (Ch. 28F23) 74-13
●37T996RLP (Ch. 28F23 and Radio Ch. 9E21Z) (For TV Ch. see Model 42T999RLP—Set 74-13, for Radio Ch. see Model 9H995—Set 74-12)
●37T998RLPU (Ch. 28F20 and Radio Ch. 9E21Z) (For TV Ch. see Model 28T960—Set 64-15, for Radio Ch. see Model 9H995—Set 74-12)
●42T999RLP (Ch. 28F23, Radio Ch. 13D22) (See Model 28T964R—Set 74-13)
Ch. 3L01 (See Model S-9011)
Ch. 3M01 (See Model S-9013)
Ch. 3M02 (See Model HF14)
Ch. 4C52 (See Model 4K016)
Ch. 4C53 (See Model 4K035)
Ch. 4E41 (See Model 4G800)
Ch. 4E41Z (See Model 4G800Z)
Ch. 4F40 (See Model 4G903)
Ch. 4H40 (See Model H-401)
Ch. 4J40 (See Model J402)
Ch. 4J60T (See Model J420T)
Ch. 4K01 (See Model K412G)
Ch. 4K40 (See Model K401)
Ch. 4L02 (See Model S-9010)
Ch. 4L03 (See Model L2281)
Ch. 4L40 (See Model L401)
Ch. 4L41 (See Model L403F)
Ch. 4L42 (See Model L406R)
Ch. 4T40, 4T41 (See Model T404F)
Ch. 4T42 (See Model T402F)
Ch. 5C01, 5C01Z (See Model 5D011)
Ch. 5C02, 5C02Z (See Model 5R080)
Ch. 5C04 (See Model 5R080)
Ch. 5C40 (See Model 5G003)
Ch. 5C40Z (See Model 5G003Z)
Ch. 5C40ZZ (See Model 5G003ZZ)
Ch. 5C51 (See Model 5G036)
Ch. 5E02 (See Model 5D810)
Ch. 5G01 (See Model G511)
Ch. 5G02 (See Model G510)
Ch. 5G03 (See Model G516)
Ch. 5G40 (See Model G500)
Ch. 5G41 (See Model G503)
Ch. 5H01 (See Model H511)
Ch. 5H40 (See Model H500)
Ch. 5H41 (See Model H503)
Ch. 5J03 (See Model J514)
Ch. 5J41 (See Model J504)
Ch. 5K02 (See Model K510)
Ch. 5K03 (See Model K518)
Ch. 5K04 (See Model K526)
Ch. 5L03 (See Model L518)
Ch. 5L06 (See Model L515)
Ch. 5L07 (See Model L520)
Ch. 5L08 (See Model L566)
Ch. 5L09 (See Model L565E)
Ch. 5L41 (See Model L505F)
Ch. 5L42 (See Model L507)
Ch. 5M02 (See Model M510G)
Ch. 5M02Z1 (See Model R510Z1)
Ch. 5R01 (See Model R511F)
Ch. 5R03 (See Model 521F)
Ch. 5R05 (See Model R509F)
Ch. 5R07 (See Model T522G)
Ch. 5R10 (See Model R512F)
Ch. 5R20 (See Model HFR-20E)
Ch. 5T03 (See Model T521F)
Ch. 5T04 (See Model T545)
Ch. 5T06 (See Model T522F)
Ch. 6C01 (See Model 6D014)
Ch. 6C05, Z (See Model 6D015)
Ch. 6C06 (See Model 7R070)
Ch. 6C21 (See Model 6R084)
Ch. 6C22 (See Model 6R087)
Ch. 6C40 (See Model 6G001)
Ch. 6C41 (See Model 6G004Y)
Ch. 6C50 (See Model 6G038)
Ch. 6E02 (See Model 6R886)
Ch. 6E05 (See Model 6D815)
Ch. 6E40 (See Model 6G801)
Ch. 6G01 (See Model G660)
Ch. 6G05 (See Model G615)
Ch. 6G05Z1 (See Model H615Z1)
Ch. 6G20 (See Model G2957)
Ch. 6H01 (See Model H661E)
Ch. 6H02 (See Model H664)
Ch. 6J02 (See Model J644)
Ch. 6J03 (See Model J616)
Ch. 6J05 (See Model J615)
Ch. 6K02 (See Model K666R)
Ch. 6K03 (See Model K622)
Ch. 6L03 (See Model L622)
Ch. 6L20 (See Model L677E)
Ch. 6L40 (See Model L600)
Ch. 6R03 (See Model R623F)
Ch. 6T40, 6T41 (See Model T600)
Ch. 6R40, 6R41 (See Model L600)
Ch. 7E01 (See Model 7H820)
Ch. 7E02 (See Model 7H822)
Ch. 7E02Z (See Model 7H822WZ)
Ch. 7E22 (See Model 7R887)
Ch. 7F01 (See Model 7H920)
Ch. 7F02 (See Model 7H922)
Ch. 7F03 (See Model 7H918)
Ch. 7F04 (See Model 7H921)
Ch. 7G01 (See Model G725)
Ch. 7G01Z (See Model H725)
Ch. 7G02 (See Model G724)
Ch. 7G04 (See Model G723)
Ch. 7H02 (See Model H724)
Ch. 7H02Z (See Model H724Z)
Ch. 7H02Z1 (See Model H724Z1)
Ch. 7H02Z2 (See Model H724Z2)
Ch. 7H04 (See Model H723)
Ch. 7H04Z (See Model H723Z)
Ch. 7H04Z1 (See Model H723Z1)
Ch. 7H04Z2 (See Model H723Z2)
Ch. 7J03 (See Model J733)
Ch. 7K01 (See Model K725)
Ch. 7K20 (See Model K777E)
Ch. 7L05 (See Model L721)
Ch. 8C01 (See Model 8H023)
Ch. 8C20 (See Model 8H032)
Ch. 8C21 (See Model 9H079)
Ch. 8C40 (See Model 8G005Y)
Ch. 8C40T(Z1) [See Model 8G005-YT (Z1)]
Ch. 8C40T (Z2) [See Model 8G005-YT (Z2)]
Ch. 8E20 (See Model 8H832)
Ch. 8G20 (See Model G881)
Ch. 8G20/22 ......91A-13
Ch. 8H20 (See Model H880RZ)
Ch. 8H20 Revised (See Model H880)
Ch. 8H20Z (See Model J880)
Ch. 8L20 (See Model L880 or L2285R)
Ch. 8L21 (See Model L845R)
Ch. 8R21 (See Model HFR845R)
Ch. 8T01 (See Model T825F)
Ch. 9E21 (See Model 9H881)
Ch. 9E21Z (See Model 9H995)
Ch. 9F22 (See Model 9H984)
Ch. 10H20 (See Model H3467R)
Ch. 10H20Z (See Model H3273E)
Ch. 10L20 (See Model L1083E or L2592R)
Ch. 11C21 (See Model 12H090)
Ch. 11M20 (See Model HFM1184E)
Ch. 13D22 (See Model 14H789)
Ch. 16T20 (See Model T1814R)
Ch. 17T20, U (See Model T2220R)
Ch. 19K20 (See Model K1815E)
Ch. 19K20-3 (See Model K1820E-3)
Ch. 19K22 (See Model K1812E)
Ch. 19K22-3 (See Model K1812E-3)
Ch. 19K23 (See Model K2229R)
Ch. 19K23-3 (See Model K2235E-3)
Ch. 19K24 (See Model K2229E)
Ch. 19K24-3 (See Model K2229E-3)
Ch. 19L25, U (See Model L1846E, EU)
Ch. 19L26, U (See Model L1812E, EU)
Ch. 19L27, U (See Model L2236E, EU)
Ch. 19L28, U (See Model L2229E, EU)
Ch. 19L30, U (See Model L2250EU)
Ch. 19L33, U (See Model L2228R, RU)
Ch. 19L34, U (See Model L1800R, RU)
Ch. 19M20 (See Model M1800E)
Ch. 19M20U (See Model M1800EU)
Ch. 19M20Z (See Model M1800EZ)
Ch. 19M21 (See Model M2228R)
Ch. 19M21U (See Model M2228RU)
Ch. 19M21UZ (See Model M2250-RUZ)
Ch. 19M21Z (See Model M2228RZ)
Ch. 19R20, U (See Model R1800E, EU)
Ch. 19R21, U (See Model R2229E, EU)
Ch. 19R22, U (See Model R2257E, EU)
Ch. 19T23 (See Model T2670E)
Ch. 20H20 (See Model H2029R)
Ch. 20J21 (See Model J2027E)
Ch. 20J22 (See Model J2026R)
Ch. 20M20 (See Model M2237R)
Ch. 20M20U (See Model M2237EU)
Ch. 20M20Z (See Model M2237EZ)
Ch. 20M21 (See Model M2570R)
Ch. 20M21U (See Model M2570U)
Ch. 20M21Z (See Model M2570RZ)
Ch. 20M21ZU (See Model M2570RUZ)
Ch. 21J20 (See Model J2127E)
Ch. 21J21 (See Model J2127R)
Ch. 21K20 (See Model K-2230E)
Ch. 21K20-3 (See Model K2260R-3)
Ch. 21L21, U (See Model L2259E, EU)
Ch. 22H20 (See Model H2226R)
Ch. 22H21 (See Model H2229R)
Ch. 22H22 (See Model H2242E)
Ch. 22L20, U (See Model L2571R, RU)
Ch. 22R20, U (See Model R2237E)
Ch. 22R21 (See Model R2671E)
Ch. 22R21U (See Model R2671EU)
Ch. 23G22 (See Model G2322)
Ch. 23G23 (See Model G2957)
Ch. 23G24 ......91A-13
Ch. 23G24Z1 (See Model G2322Z1)
Ch. 23H22, 23H22Z (See Model H-2328E)
Ch. 24G20 (See Model G2420E)
Ch. 24G20-OX (See Model G2420-EOX)
Ch. 24G21 (See Model G2454R)
Ch. 24G21-OX (See Model G2454-ROX)
Ch. 24G22/24 (See Model G2441R)
Ch. 24G23/25 (See Model G3059R)
Ch. 24G24 (See Model G2441)
Ch. 24G26 ......91A-12
Ch. 24G26Z1 (See Model G2441Z1)
Ch. 24H20 (See Model H2437E)
Ch. 24H21 (See Model H2445R)
Ch. 27F20 (See Model 27T965R)
Ch. 28F20 (See Model 28T960E)
Ch. 28F20Z (See Model 28T960E-Z)
Ch. 28F21 (See Model 28T961E)
Ch. 28F22 (See Model 28T925E)
Ch. 28F23 (See Model 28T964R)
Ch. 28F25 (See Model 28T926E)
Ch. 28K20 (See Model K2872R)
Ch. 29G20 (See Model G2951)

NOTE: PCB Denotes Production Change Bulletin.
Production Change Bulletin Nos. 1 Through 63 Are All Contained in Set No. A-200
Production Change Bulletin Nos. 64 Through 104 Are All Contained in Set No. A-250
● Denotes Television Receiver.
S Denotes Schematic Coverage Only.

RECORD CHANGERS

(CM-1) indicates service data *also* available in Howard W. Sams 1947 Record Changer Manual. (CM-2) indicates service data available in Howard W. Sams 1948 Record Changer Manual. (CM-3) indicates service data available in Howard W. Sams 1949, 1950 Record Changer Manual. (CM-4) indicates service data available in Howard W. Sams 1951, 1952 Record Changer Manual. (CM-5) indicates service data available in Howard W. Sams 1953 Record Changer Manual. (CM-6) indicates service data available in Howard W. Sams 1953, 1954 Record Changer Manual.

ADMIRAL
RC-150 ....(CM-1) 26–31
RC160, RC160A, RC161, RC-161A [See Model RC200—Set 9 and Model RC-160—Set 21-37]
RC-170, RC-170A ..(CM-1) 31—2
RC-180, RC-181 ...(CM-2) 76—1
RC-182 [See Model RC-181—Set 76-1 and Supplement—Set 76-2] (CM-2)
RC-200 ....(CM-1) 9
RC-210, RC211, RC212 (CM-3) ....72—1
RC-220, RC-221, RC-222, RC-320, RC-321, RC-322 [See Set 79-1 and Changes in Set 108-2 (CM-3)]
RC400 ....(CM-4) 104—1
RC500 ....(CM-4) 132—2
RC-550 [See Model RC-500—Set 132-2 (CM-4) and Model RC-550—Set 185-2 (CM-5)]
RC600 ....(CM-5) 218—2

AERO
46A ....(CM-1) 19–34
47A ....(CM-2) 77—2

AVIOLA
100 ....(CM-1) 33–32

BELMONT
C-9 ....(CM-2) 34–21

COLLARO
RC54 ....285—6
RC.521, RC.522 ...(CM-5) 205—4
3RC.521, 3RC.522 .(CM-5) 205—4
3RC-531, 3RC-532 (CM-6) 237—4

COLUMBIA RECORDS
104 ....124—2
950-274 ....276—4

CRESCENT
C-200 ....(CM-1) 20–37
6 Series ....(CM-3) 89—4

CRESCENT—Cont.
250 Series ....(CM-2) 78—5
350 Series ....(CM-2) 80—3
500 Series ....(CM-5) 197—4

ELAC (MIRACORD)
XA-100 ....298—2

ELECTROCUSTIC (See Elac)

FARNSWORTH
P-51, P56 ....(CM-1) 13–36
P-72, P73 ....(CM-2) 75—8

GARRARD
RC-60 ....(CM-2) 81—7
RC-80 ....(CM-4) 157—5
RC-90 ....(CM-6) 258—8

GENERAL ELECTRIC
P6 ....(CM-2) 79—8

GENERAL INDUSTRIES
RC130L ....(CM-1) 22-33

GENERAL INSTRUMENT
204 ....(CM-1) 23–34
205 ....(CM-1) 10

LEAR
PC-206A ....(CM-1) 18–33

MAGUIRE
ARC-1 ....(CM-1) 7

MARKEL
70, 71 ....(CM-2) 84—8
74, 75 [See Set 91-7 (CM-3) and Supplement—Set 131-11]

MILWAUKEE ERWOOD
10700 ....(CM-1) 16–37
11200 ....(CM-2) 86—6
11600 ....(CM-3) 73—7
12300 ....(CM-4) 138—5

MOTOROLA
B24RC, B25RC, B27RC, B28RC ....(CM-1) 12–35
RC30 ....(CM-2) 80—9
RC36, A ....(CM-4) 147—8

MOTOROLA—Cont.
RC36C (See Model RC36—Set 147-8)
RC37 ....(CM-4) 141—8
RC40 [See Model RC37—Set 141-8 (CM-4)]

OAK
6666 ....(CM-1) 19–35
9201 ....(CM-3) 111–10

PHILCO
D10, D10A ....(CM-1) 14–21
M-4 ....(CM-1) 25–30
M-7 ....(CM-1) 28–35
M-8 ....(CM-2) 83—7
M-9C ....(CM-2) 74—7
M-12C ....(CM-3) 109—9
M-20 ....(CM-3) 103–11
M-22 ....(CM-4) 140—6

RCA
R-198-1, -2 ....273—9
RP168 ....(CM-3) 72–10
RP-176 ....(CM-1) 25–31
RP-177 ....(CM-2) 44–27
RP-178 ....(CM-2) 79–12
RP-190 Series ....(CM-4) 144—7
RP-197-1, -6, B-1 ....273—9
RP-199 ....289—8

SEEBURG
K ....(CM-1) 11–36
L ....(CM-1) 24–34
M ....(CM-1) 32–19
S, SQ ....(CM-2) 78–12

SILVERTONE
101.761-2, 101.762-2 ....(CM-2) 77–10
101.761-3, 101.762-3 ....(CM-2) 83–11
101.762, 101.763 ....(CM-2) 88–11
488.218 ....243—9
488.219 (late) ....(CM-6) 244—9

SPARTON
C48 ....(CM-2) 87–11

THORENS
CD-40 ....(CM-1) 39–29
CD43 ....(CM-6) 222–15

TRAV-LER
A ....(CM-3) 72–13

UNIVERSAL CAMERA
100 ....(CM-1) 36–30

UTAH
550 ....(CM-1) 8
650 ....(CM-1) 22–34
7000 ....(CM-1) 27–31
7001 ....(CM-2) 83–15

V-M
200-B ....(CM-1) 15–36
400 ....(CM-1) 26–33
400 (Late) ....(CM-2) 90–13
402, 400C ....(CM-2) 82–12
402D, 400D ....(CM-2) 87–14
404 [See Model 405—Set 73-14 (CM-3)]
405 ....(CM-3) 73–14
406, 407 ....(CM-3) 102–16
800 ....(CM-1) 21–38
800-D ....(CM-2) 84–12
802 ....(CM-3) 77–12
910 ....(CM-3) 115–14
935, 936 ....(CM-6) 252–13
950 [See Set 107-13 (CM-3) and Supplement—Set 131-17]
950, 951 (Late) ...(CM-5) 216–11
954B 302–12
1200 290–11

WEBSTER-CHICAGO
50 ....(CM-1) 24–35
56 ....(CM-1) 17–36
70 ....(CM-1) 29–28
77 ....(CM-4) 137–14
100 ....(CM-4) 135–14
106 ....(CM-4) 146–12
121, 122 ....(CM-5) 206–12

WEBSTER-CHICAGO—Cont.
126, 127, 129 ....(CM-5) 208–13
133 ....(CM-2) 82–13
148 ....(CM-2) 86–12
246 ....(CM-2) 74–11
256 ....(CM-2) 88–13
346 ....(CM-3) 100–12
356, 357 ....(CM-3) 106–16
1121 [See Model 121—Set 206-12 or CM-5]
1126, 1127 [See Model 126—Set 208-13 or CM-5]

WESTINGHOUSE
V4914 ....(CM-2) 47–26
V4944 ....(CM-2) 86–13
V6235 134–13
V6676 136–15

ZENITH
S11468 ....(CM-1) 23–35
Series 700R ....(CM-2) 91—8
S11680 ....(CM-1) 27–32
S14001 ....(CM-2) 75–17
S13675, S-14002, S14006, S14008 ....(CM-2) 85–15
S14004, S14007 ..(CM-2) 79–18
S14012, S14014 ..(CM-3) 110–14
S14022 ....(CM-3) 112–15
S14023 ....(CM-3) 105–14
S14024, S14025 ..(CM-3) 112–15
S14026 ....(CM-3) 105–14
S14027 ....(CM-3) 112–15
S-14028, S-14029, S-14030, S-14031 ....(CM-4) 145–13
S-14036 ....(CM-4) 145–13
S-14053, S-14054, S-14056, S-14057 ....(CM-6) 226–13
S-14053, S-14054, S-14056, S-14057 ....(CM-6) 226–13

MISCELLANEOUS
Series 700F ....(CM-2) 89—9
Series 700F 33/45 .(CM-3) 75–11
Series 700FLP ....(CM-2) 101—6
Series 700FS ....(CM-2) 104—8
Series 700R (CM-2) ....91—8

RECORDERS

AMPEX
400A, 401A ......(CM-5) 213—1

AMPRO
730 ....(CM-4) 133—4
731 [For electrical unit see Folder 166-5; for mechanical unit see Folder 133-4]
731-R [See Model 731]
755, 756 ....(CM-6) 262—1
757, 757-A ....295—2

BRUSH SOUND MIRROR
BK-401 ....(CM-1) 42–25
BK-403 ....(CM-2) 78—3
BK-416 ....(CM-2) 81—4
BK-437, BK-437S, BK-441, BK-442, BK-443P ....(CM-5) 164—3
BK-455P ....(CM-6) 245—2

BRUSH MAIL-A-VOICE
BK-501, BK-502, BK-503 ...(CM-1)

COLUMBIA-BELL & HOWELL
350 ....272—3
355 ....292—4

CONCERTONE
1401 (401) ......(CM-4) 155—4

CRESCENT
H-1A ....(CM-4) 130—5
H-2A1 Series ......(CM-3) 119—4
H-19 Series "Steno" ....(CM-4) 122—3
H-20A1 [See Model H22A1—Set 125-4]
H-22A1 ....125—4
H2000 Series ....(CM-4) 120—4
M-2001 Series ...(CM-4) 120—4
M-2500 Series ...(CM-4) 120—4
M-3000 Series ...(CM-4) 120—4

CRESCENT—Cont.
M-3001 Series ...(CM-4) 120—4
M-3500 Series ...(CM-4) 120—4
900 Series ....(CM-6) 239—3
1000 Series ....(CM-2)
1000 Series Revised (CM-3) 77—4
2900 ....281—2
9037 ....281—2

CRESTWOOD
CP-201 ....(CM-3) 118—4
400 Series (401, 402) (CM-6) ....251—5

DUKANE
11A55FF, 11B55 ..(CM-5) 187—5
11A75 ....(CM-6) 248—5
11A200 ....303—2

EICOR
230 ....(CM-6) 223—6
400 ....(CM-6) 235—4
1000 ....(CM-3) 90—4

EKOTAPE (WEBSTER-ELECTRIC)
101-4, 5, 102-4, 5, 103-4, 5, 104-4, 5 ....(CM-3) 116–12
101-8, 101-9, 102-9, 103-8 ....(CM-5) 170—6
109, 110, 111, 112 (CM-4) 152—5
114, 115, 116, 117 (CM-5) 189—8
205, 206 ....(CM-6) 228—8
212 ....301—4

FEDERAL
37-B ....(CM-6) 259—6

GENERAL INDUSTRIES
R70, R90 ....(CM-1) 35–28
R90L [See Model R90—Set 35-28 (CM-1)]
250 ....(CM-4) 143—8

INTERNATIONAL ELECTRONICS
PT3 ....(CM-2) 88—4

KNIGHT
96-144 ....(CM-4) 158—6
96-485 ....(CM-5) 183—8
96-499 ....(CM-4) 158—6
96-590 ....(CM-6) 240—3
96RX635 ....296—7
96RX6?5 ....269—7

LEAR DYNAPORT
WC-311-D ....(CM-2) 80—8

MAGNECORD
AD-1R "AudiAd" ..(CM-2) 84—7
M30 Series ....278—6
PT6, A, AH, AHX, AX ....(CM-5) 190—6
PT63-A, AH, AHX, AX ....(CM-5) 190—6

MASCO
DC37R ....(CM-4) 148—9
D37 ....(CM-4) 148—9
D37R ....(CM-4) 148—9
LD37, LD37R ......(CM-4) 148—9
52, 52C, 52CR, 52L, 52LR, 52R ....(CM-5) 214—6
375 ....(CM-3) 117—7

MITCHELL
1290 ....(CM-6) 263–12

PENTRON
CT-1 ....294—8
HT-225, TR-4 ....267—9
PB-A2, PB-1 ......(CM-5) 184–11
W-449 [For Electrical Unit See Folder 53-6; for Mechanical Unit See Folder 77-4]
9T-3 ....(CM-4) 153–10
9T-3C ....(CM-4) 162—9

RCA
MI-12875 ....(CM-2) 85–12
SRT-301 (MI-15910) (CM-6) 224–11

RECORDIO (See Wilcox Gay)

REELEST
C1A ....(CM-4) 123–13

REVERE
T-100 ....(CM-4) 149–11
T-500 [See Model T-100—Set 149-11 (CM-4)]
T-900, T-1100, T-1400 291–10
T-70153, T-70157, T-70163, T-70167, T-70253, T-70257, T-70263, T-70267, T-77153, T-77157, T-77163, T-77167, T-77253, T-77257, T-77263, T-77267 ....(CM-5) 193—9
TR-200, TR-600 [For Electrical Unit See Folder 165-10; for Mechanical Unit See Folder 149-11]
TR-1000, TR-1200, TRS-1005, TRS-1025, TRS-1026, TRS-1205, TRS-1225, TRS-1226, TS-905, TS-925, TS-926, TS-1105, TS-1125, TS-1126, TS-1405, TS-1425, TS-1426 291–10

SENTINEL
10 284–13

SILVERTONE
70 (Ch. 567.230, 577.231) ....(CM-4) 121–11
771 ....(CM-1) 26–32
101.774-2, 101.774-4 ....(CM-3) 114–10
4072 (Ch. 567.34000 and Amp. Ch. 567.35000), 6072 (Ch. 567.34003 and Amp. Ch. 567.35002) ....297—8

ST. GEORGE
1100 Series ......(CM-1) 40–24

TAPE MASTER
PT-121 ....(CM-5) 186–14
PT-125 ....(CM-5) 198–15
PT-150 [For Mechanical Unit Only See Model PT-125—Set 198-15 (CM-5)]

TELECTRO-TAPE
A 254–12

TDC
130 (Stereotone) ..(CM-6) 256–13

V-M
700 288–10

WEBSTER-CHICAGO
79-80 ....(CM-1) 37–26
178 ....(CM-3) 113–12
210 ....(CM-4) 159–17
228 ....(CM-4) 156–13
2010 [See Model 210—Set 159-17 (CM-4)]

WEBSTER ELECTRIC
(See Ekotape)

WILCOX GAY
2A10, 2A10B, 2A11, 2A11B 180–10
3A10, 3A11 ......(CM-5) 200–13
3C10 ....(CM-5) 215–17
3F10 ....(CM-5) 220–11
4A10 ....(CM-6) 255–18
4B10 280–12
4F10 280–12

WIRE RECORDING CORP.
WP ....(CM-2) 76–19

ADDITIONAL PHOTOFACT BENEFITS

From time to time, PHOTOFACT Folder Sets include valuable "bonus" aids, as well as useful data of a special nature. The following materials are extra benefits incorporated in the PHOTOFACT Folder Sets indicated, at no additional cost.

	Set No.
1—RETMA Production Source Code (Jan. 1, 1955)	286
2—TRADE DIRECTORY—Parts Manufacturers	12
3—National Electrical Code on Antennas	88
4—Record Changer Cross Reference by Manufacturer and Model	118
5—Mica Capacitor Color Codes	48
6—Ion Trap Alignment	62
7—"Let's Look at the Sync Pulses"	64
8—Replacement of Disc & Plate Type Ceramic Capacitors	68
9—Certificate entitling subscriber to PHOTOFACT Volume Labels for Vols. 1-10	62
10—Certificate entitling subscriber to PHOTOFACT Volume Labels for Vols. 11-20	102
11—Certificate Entitling Subscriber to Photofact Volume Labels for Vols. 21-30	250
12—Alliance Model ATR Rotator	216
13—Alliance Model DIR Rotator	240
14—Alliance Model F-4 Rotator	250
15—Alliance Model HIR Rotator	242
16—Alliance Model T-10 Rotator	254
17—Alliance Model U-83 Rotator	256
18—Photofact Television Course	
19—CR Tube Dimension Chart	112
20—CR Electromagnetic Tube	
21—CR Tube Interchangeability Chart	112
22—NPA maintenance and repair	
23—General Electric Clock Data	160
24—CDR TR-2 Rotator	272
25—CDR TR-4 Rotator	280
26—CDR TR-11, TR-12 Rotator	290