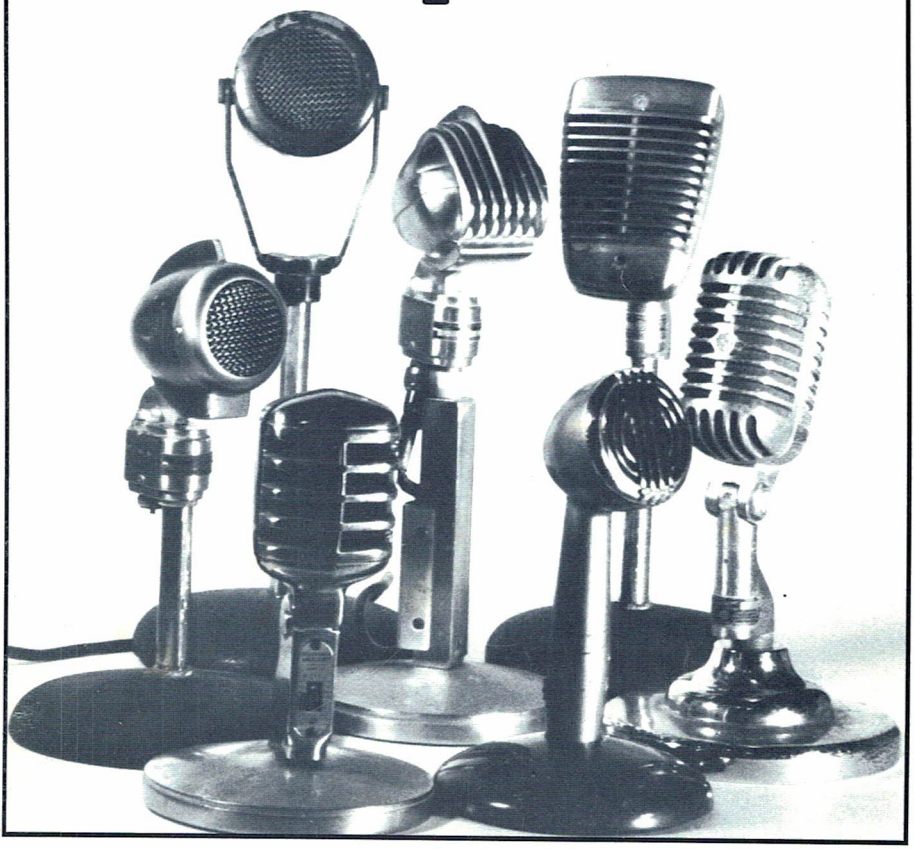
ANTIQUE RADIO CLASSIFIED

VOLUME 9 JANUARY 1992 NUMBER 1

Vintage Microphones



THE NATIONAL PUBLICATION FOR BUYERS AND SELLERS OF OLD RADIOS AND RELATED ITEMS - PUBLISHED MONTHLY

ANTIQUE RADIO CLASSIFIED

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The deadline is the first of the month for display and business card ad artwork, payment and repeat requests.

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Photos should be at an 85 line screen; otherwise, add $10.00 per photo for screening. **Do not cut or trim photos or glue photos to artwork; submit separately.**

If you are confused by these requirements and terms, please contact A.R.C. before beginning to prepare your ad. We will be happy to advise you on your ad ideas, estimate how much the ad will cost, recommend an ad size, etc.

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Page	ARTWORK SIZE (SEND IN THIS SIZE) H x W (inches)	As Printed (size in magazine) H x W (inches)	Cost for 1-month	Cost for 3-months	Cost for 6-months	One-time Cost for A.R.C. to make up Ad (if requested)
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1/2 V	12 3/16 (or 11 13/16) x 3 9/16	7 7/16 x 2 1/4	85.00	230.00	399.00	28.00
1/4	5 1/4 x 3 9/16	3 5/16 x 2 1/4	43.00	116.00	199.00	14.00
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Business Card	2 x 3 3/4	1 1/4 x 2 3/8	not avail.	31.00	55.00	5.00

EDITOR'S COMMENTS

Vintage microphones are the subject of this month's feature article by Fred Geer. Although voice radio transmissions were crudely transmitted on spark equipment before 1910, it was not until after World War I that radio matured and broadcasting as we know it today began. The microphone made radio broadcasting possible. Since Fred's article introduces us to only a few of the microphones used in early broadcasting, we invite readers to add to his discussion.

Amrad set collectors will be pleased to see our "From the Pages of" article which describes the Amrad "double decker" Model 2596/2634. Since a collector rarely finds a manual for Amrad sets, the operating and battery hook-up instructions will be quite useful. In this case the tapped B battery unexpectedly connects to terminals marked "-", "A+" and "D+."

Wally Worth's restoration of a Knight cathedral might inspire some of you to take on that near-basket case as a project. Wally describes not only the complete restoration of the cabinet, which was in pieces, but also the removal of most of the chassis components necessary for the chassis restoration. Not many of us would take on both of these tasks.

We complete our two-part story on the Gonset Company this month. Tom Marcellino describes the later years of the company when Gonset ventured into general amateur equipment, commercial equipment, and television accessories. Tom also includes a 128-item listing of Gonset equipment. We welcome additional information on Gonset and other amateur manufacturers for inclusion in future issues of A.R.C.

Ray Chase reports on a couple of fall 1991 auctions, and Mark Land reports on novelty radio prices he observed at a toy show. Next month we will have a report on the meet and auction held in November 1991 by the Vintage Radio and Phonograph Society in Dallas.

A short piece is contributed by Robert Enemark this month on Western Union clocks often seen in telegraph offices and schools. These clocks are self-winding and reset by remote control.

We print the first of two articles by Richard Foster on cabinet repair and refinishing. Richard continues to emphasize that complete refinishing should be done only when the finish on a radio cabinet is beyond recovery. Richard adapted these articles from his presentation at the New England Antique Radio Club Seminar Day in June 1991.

The *Photo Review* this month includes a variety of radios plus an interesting comparison of early and late RCA tube boxes.

Carl Shirley has contributed a review of Michael Schiffer's book, *The Portable Radio in American Life,* which is now available. Carl reports that in addition to the heavy "portables" from the 1920s, Schiffer covers that period so popular with collectors — from the mid-1930s to 1955. Carl concludes that Schiffer's book is a "valuable resource for collectors [and] nostalgia buffs..."

Display Ad Rate Moderated. Good news! A sharpened pencil on our budget for 1992 has resulted in a moderation of the announced increase in display advertising — from about 25% to about 16%. The new rates are shown on the opposite page. Realizing that hard economic times have hit us all, including A.R.C.'s advertisers, we will be making efforts to hold down our costs while still publishing the best magazine in the antique radio community.

Earlier Boxed and Photo Ad Deadline. The deadline for photo and boxed ads has been moved forward five days to the first of the month. In order to mail A.R.C. before the end of the month, we must complete these ads ahead of time. We then spend the final days on the classifieds, since more than half arrive the week before the deadline.

Empire of the Air. Remember to watch this Public Television special based on Tom Lewis' book *The Empire of the Air: The Men Who Made Radio*, which covers the lives of de Forest, Armstrong and Sarnoff. The program will air on January 29, 1991 at 9 P.M. (local date and time may vary). Lewis' book was reviewed by Alan Douglas in the December 1991 issue of A.R.C. I have seen an advance showing of the program and highly recommend it to all interested in old radios and radio history.

May all of you have a happy and successful new year of collecting.

John V. Terrey

ON THE COVER

Our cover points to our lead article on vintage microphones by Fred Geer. The microphones pictured on the cover are (clockwise from the tall one on the upper left) Turner U9S, Turner 33D, Shure 51, Shure Unidine 55-S, Astatic VDH, Electro-Voice Mercury 611 and Turner 22D.

VINTAGE MICROPHONES

Early Microphones

BY FRED GEER

Dot... dash... was all radio could say until a microphone put the spoken word on the air. Remember, a mike is just a sound transducer or a speaker hooked to the input of an audio system. Yet, this marvelous device, so small yet so frightening to the first-time user, ushered in "Radio for the Millions."

During the early 20th century, microphones weren't in widespread use outside radio studios, except as telephone transmitters. But, by 1926, microphones were found in recording studios, auditoriums, and motion picture studios. Home recording units put a microphone in many living rooms where the spoken word was scribed on a disk.

Shure's Model 5B, shown in Figure 1, has that classic look typical of the 1920s. It is a double-button, carbon-type microphone suspended by springs. Isolation springs cut carbon granular vibration, effectively relieving background roar. Because I found it on a neighborhood trash pile in 1953, I can say little about this mike's past. Who knows? It may have been used in an early radio station.

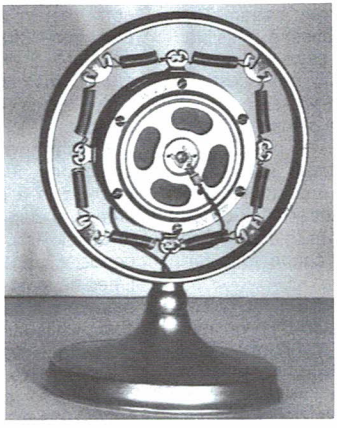


Figure 1. The Shure Model 5B

During the 1930s, *Popular Science Magazine* and other publications ran ads describing the fun of a toy microphone hooked to the family radio. "Pilot's Miracle Mike," shown in Figure 2, is an example. The advertisement on the box describes all of this mike's advantages — "Enjoy radio's newest thrill! Hear your own voice over your radio with the Pilot Mike. Entertain, sing, talk, be your own announcer. Loads of fun, your friends will be amazed! Easy to attach to your radio."

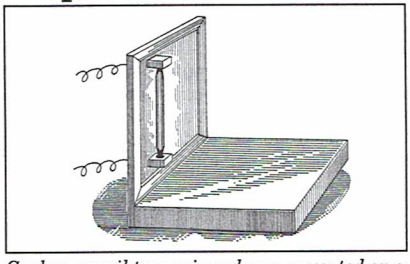
Other toy examples, shown in Figure 3 and Figure 4, are

The Term "Microphone"

The first microphone — a device for converting the mechanical energy of sound waves into electrical energy with similar vibrational characteristics — was the telephone transmitter, invented by Alexander Graham Bell in 1876. However, the term "microphone" was "apparently coined and first used by Wheatstone in 1827 for a purely acoustic device which he had developed to amplify weak sounds."

The term was revived in 1878 by D.E. Hughes of London, who published an account of his experiments with loose contacts between different materials. He described how "a microphone may be made of three nails, one resting on the other two, the loose contacts being highly sensitive to any vibrations either of their support or of the air. Following these ideas, models of sharpened pencils of carbon mounted on a vibrating support were developed. These inertia transmitters were extremely sensitive and were termed 'microphones.'"

"For years, the term was used only to refer to sensitive loose contacts of the type used by Hughes. It was not applied to telephone transmitters generally, although multiple carbon pencil microphone devices were found in commercial telephone systems for many years. ...In the early part of the 20th century, the term became more widely used, particularly in radio broadcast, public address and motion picture work, for any device which converts from sound to corresponding electric currents."



Carbon pencil type microphone, mounted on a sounding board, demonstrated by Hughes in 1878. Illustration from Goucher, F. S., "The Carbon Microphone," Bell Telephone System Technical Publications, Monograph B-785, p.6.

Frederick, H. A., "The Development of the Microphone," Bell Telephone Systems Technical Publication, Monograph B-585, September, 1931, pp. 8-10.

Figure 2. Pilot Miracle Mike.

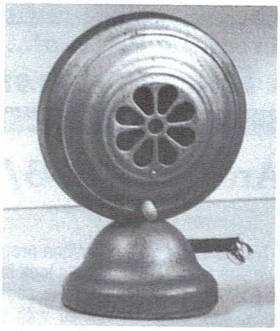


Figure 3. Philmore Microphone.

Figure 4. Unknown Microphone.

nothing more than an earphone in a pressed metal case. All three of these toy mikes have metallic sound reproduction.

American Microphone Co. used a decal to identify its products. However, time has destroyed the model number on the mike that screams ART DECO, shown in Figure 5. What we do know is that it was priced at $42 to $45 in 1939. Inside is a stack of two moving coil elements — one open, the other baffled. This configuration provides smooth frequency response over the whole vocal range from 50 to 10,000 Hz.

Shure's Model CR20SLT ultra-streamlined desk mike, shown in Figure 6, looks as though it could do 300 miles per hour. Popular with the hams in the '40s and '50s, it has a controlled reluctance element and came in olive green or metallic blue with brushed chrome.

Figure 5. American microphone, model unknown.

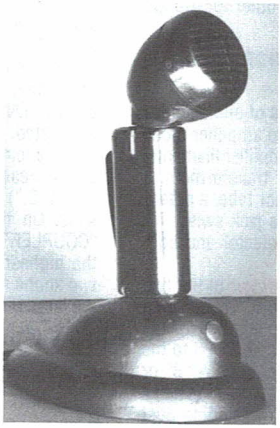


Figure 6. Shure Model CR20SLT is ultra-streamlined.

American, Astatic, Electro-Voice, Shure Brothers, and Turner made many eye-appealing styles. Some are grouped and identified in Figure 7. Electro-Voice and Shure specialized in broadcast quality mikes and superb public address system mikes. Astatic's Model VDH sold for a low $5.95 in 1955 and was popular with the home recording gang.

Surprisingly, most of the mikes pictured still function. Even today, a collection of mikes still creates the same aura of mystery and reverence as when microphones first taught radio how to speak.

Many thanks to Carl J. Hoyt, Kurt Thompson, Floyd V. Bernauer, and Bob Paquette for their help in preparing this article.

Figure 7. These early vintage microphones are from left to right: Electro-Voice Mercury Model 611, Astatic Model VHD, Turner Model 22D, Shure Unidine 55-S, Turner Model 33D and Turner Model U9S.

References:
"Radio and Television News," March 1955, pp. 125, 136.
"Service Magazine," 1939, pp. 123-126.

(Fred Geer, 6042 Brookridge Rd., Jacksonville, FL 32210)

Fred Geer's collecting began in 1953 with a Shure microphone and an RCA R-32. In addition to his radio collection, he owns around 2,000 old-time radio programs, which he can broadcast to any radio in the house. Fred's articles help others with various aspects of collecting and radio history.

From the Pages of...
Radio Digest Illustrated

The Amrad 2596/2634

This is an article from an excellent "Radio Digest Illustrated" series showing how to hook up and operate popular sets of the 1920s. This article is adapted from the May 20, 1922 issue. Previous articles published were the "Westinghouse RC, RA and DA," which appeared in the June 1991 issue, and the "Grebe CR-8 and RORK," which appeared in the November 1991 issue. (Editor)

The receiving set shown on the opposite page is the Amrad Detector 2-Stage Amplifier 2634 and Short Wave Tuner 2596 with range of from 150 meters up, depending on the loading coils and condensers used. The set is connected for short wave reception. The set is made up of two units — one being the tuner, consisting of two variometers with vernier adjustments, and a variocoupler. The primary of the latter is tapped with two switches, one for single turn and the other for groups of turns control.

DESCRIPTION OF DETECTOR AND CONNECTIONS

The detector/amplifier unit consists of one detector tube and filament control rheostat, two amplifier tubes and one rheostat controlling the two amplifier filaments. Also inside are two audio frequency transformers, a grid leak and condenser for the detector tube, a potentiometer control for "B" battery and a jack switch for power off, for detector only, or for detector and both stages of amplification.

Connections are shown in the rear view of the two units (lower right hand, opposite page). The binding post marked "FIL+" is attached to the positive terminal, and the binding post marked "FIL–" is attached to the negative terminal of a 6-volt storage battery. A "B" or high voltage battery, arranged so that taps can be taken off at 18 and 60 volts, is necessary. The binding post marked "–", below and to the right of the one marked "A+", is connected to the negative terminal of the high voltage battery. The binding post marked "A+" goes to the 60-volt positive tap of the same battery, while the post marked "D+" is connected to the 18-volt, positive tap of the battery.

The two terminals of the telephone receivers or loud speaker are connected to the binding posts marked "TEL.2.S." and "TEL.1.S." respectively. This completes the connections to the detector unit.

AERIAL AND GROUND CONNECTIONS

The only connections to be made to the tuner unit of the Amrad set for short wave work are those of aerial and ground. The aerial is connected to the post on the back of the unit marked "A" and the ground to the post marked "G". Care should be taken not to reverse these connections as the effect of the shielding plate on the inside of the tuner would be lost.

When properly connected, the rear of the two units should look just like the picture of the rear given on the opposite page. The short connectors or jumpers furnished with the two units should be in their proper places according to the photo diagram. The connections when completed make the set a short wave tuner and vacuum tube detector with two stages of audio frequency amplification.

The receiving antenna or aerial should be from 75 to 150 feet long, single wire, preferably at least 40 feet from the ground, and with connections well soldered. The ground may be made satisfactorily by clamping a wire to a water (preferably) or steam pipe.

HOW TO TUNE

After having made the described connections, the set is ready for reception. First, set dial marked "DET.FIL." at 0, then snap the control jack to the position marked "DET." Turn the dial to "DET.FIL." and the dial "POTENTIOMETER" to about 50 or until the tube hisses or sings. The filament of the detector tube should be burning bright, but not too bright. Decrease reading on "POTENTIOMETER" dial until hissing or singing is eliminated.

Advancing dials on the tuner (lower unit) in every case increases the wavelength. The two switches ("L.S." and "S.S.") when up, give the longest wavelength possible. On the dial controlling the coupling (marked "COUPLER"), 0 represents the closest coupling and 50 the highest degree of loose coupling attainable. The two knobs marked "VERNIER" are fine adjustments for the large dials closest to them, the "GRID" and "GRIDLOAD" variometers. In this circuit, the "GRIDLOAD" dial and its "VERNIER" adjustment can be disregarded, as they are shunted or cut off and are not in use.

AMPLIFIER NOW CUT IN

After manipulating the dials marked "COUPLER," "GRID" and "VERNIER," and the switches marked "S.S." and "L.S." until the signals being received come in the loudest without interference from other stations' signals, throw the jack (mentioned before) to the right (toward "AMP."). Be sure it is all the way over to the right. Now adjust the current (or brightness) of the two amplifier tube filaments by means of the dial at the upper right of the set, marked "AMP.FIL." A larger reading on the "POTENTIOMETER" dial may be necessary before the signals being received come in at their best.

TUNING DETAILS EXPLAINED

In tuning this circuit, the dial marked "GRID" should be at 0 to start. The "COUPLER" dial should also be at 0, and the switches at either side as far down as they will go. Tuning is accomplished by first turning the right-hand switch up one tap, then advancing the left switch up tap by tap until it reaches the top. If desired

Radio Receiving Sets

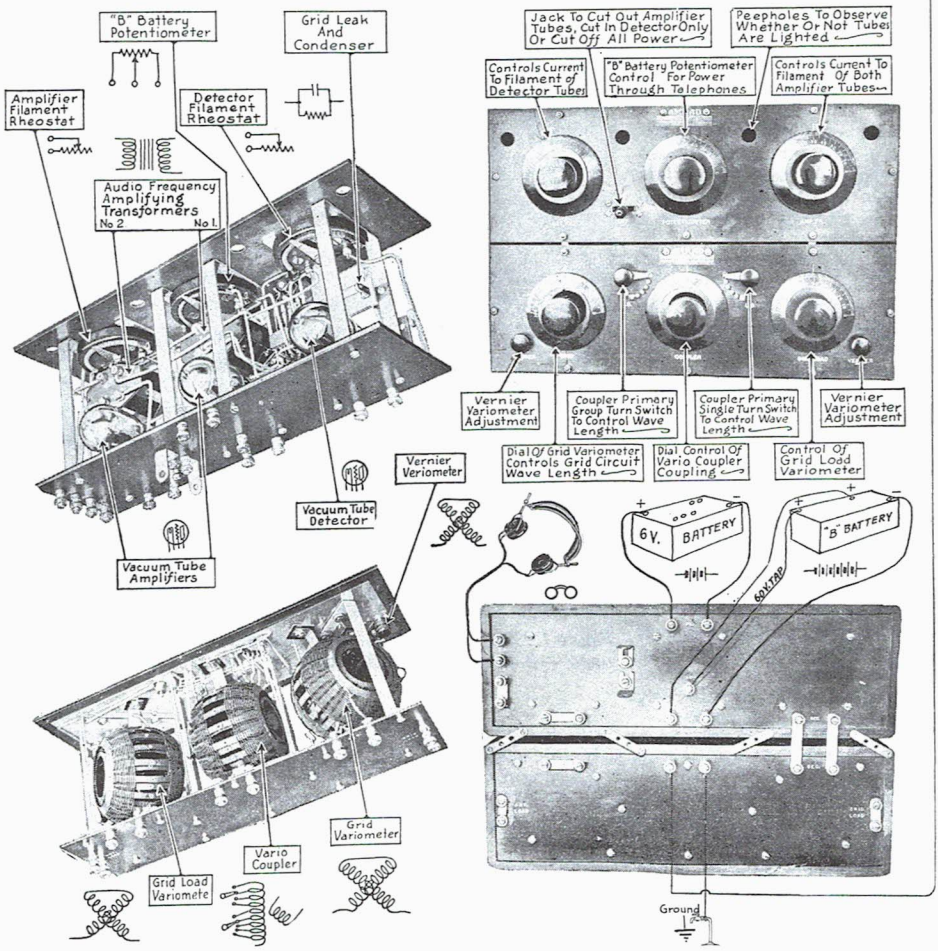
The What and Why of Amrad Receiver

To give the Radio beginner every possible help in obtaining the best results from his investment in apparatus, RADIO DIGEST gives here the fourth chart on standard receiving sets. On page four, first column, will be found the explanation of the operation of the set here described.

The front, back and interior views of the Amrad short wave tuner 2596 and detector 2-stage amplifier 2634 are given below. The set is manufactured by the American Radio & Research Corporation, Medford Hillside, Mass.

Although the beginner may not possess the particular make of set shown, it will undoubtedly pay him to read this page carefully. Points explained in the following chart and in the article on page four are applicable to many other types of receivers. An understanding of one type of set will aid the novice in understanding sets of other makes.

Antenna



signals have not been picked up, the left switch is again rotated to the lowest tap. The right switch is advanced another tap, and the foregoing is repeated. Leave the switches where the signals come in best, and increase the "GRID" dial to the position where the signals are increased most in loudness. The "VERNIER" knob is used for very fine adjustment. Next, turn the "COUPLER" dial to the point where interference of other stations' signals, if any, are obviated.

Finer adjustments on the detector and amplifier unit (upper panel) are now made.

The set can be used for many other circuits and for long wave reception when changes of jumpers on the back are made, load inductances and condensers inserted, etc., in accordance with directions accompanying the set. The method of catching the 360 meter broadcasts, however, is that described in this article.

WITH THE COLLECTORS

Restoring a Knight Cathedral

BY WALTER V. WORTH

Wally Worth, a frequent contributor to A.R.C., details another impressive "before & after" project. His efforts are bound to motivate other collectors to preserve such basket cases for radio history. (Editor)

This is a story of the restoration of a Knight cathedral radio thought to be past saving. It is written to illustrate how much can be done to restore such a fine artifact.

A few months ago, I purchased a radio described as "falling apart and in terrible shape" by its Wisconsin collector-owner. In addition to his frank description of the radio's defects, he stated that if the radio could be restored, it would be a fine cathedral of imposing dimensions. This honest appraisal of the set's condition intrigued me, and I forthwith sent him my check for the "remains."

When the set arrived, I concluded that he had described it accurately, but in no way was I discouraged. As I opened the box, out came three pieces of the cabinet — the bottom floor, the frontpiece and the top/sides piece. The chassis he had wisely packed in a separate box.

Figure 1. The Knight cathedral in found condition with the case in three parts — bottom, front and top/sides.

The radio is a Knight 8-tube cathedral in a stately cabinet of burl walnut set off by fine moldings and grille. The tube line-up is Types 80-2A5-56-56-56-57-58-58. Made in 1933 by Allied Radio Corp. of Chicago, it is 18" high, 15 1/4" wide, and 11 1/2" deep.

The original condition of the cabinet, with the parts leaning against each other, is shown in Figure 1. As you can see, the grille cloth and the speaker cone were torn. The veneer was scratched all over and missing completely around the top front. A piece of molding was also gone. Oh yes, the arch support in the back was separated from the top as well.

Figures 2 and 3 show views of the chassis, which the seller described as very rusty but complete. When I saw the chassis rust, I thought the power transformer must be shorted out, since the radio looked as if it had been in a very damp place. However, I later found that the transformer was OK after hanging the chassis overnight in front of my furnace. This removed the moisture from the windings.

Figure 4 shows the cabinet "in traction," as I call it, in order to clamp the veneer to the rim of the frontpiece. In this photo the sides and front have already been glued together on the base, and the arch support on the back has been reglued. The small piece of molding on the left front just above the column also has been carved and glued on. The speaker as well as the grille cloth had already been removed (more on this later), and minor regluing had been done on the sides and interior. It is important to let the cabinet stand for many hours after extensive gluing like this, to allow it to "relax" from the tensions of clamps and glue.

Meanwhile, I had removed the chassis to assess the amount of rust and dirt and to determine

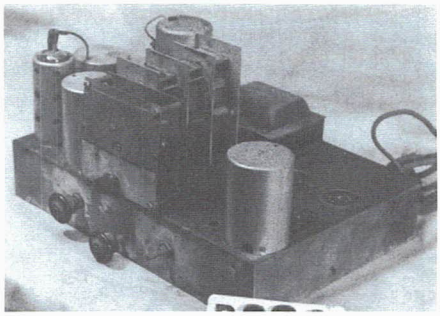


Figure 2. Front view of the unrestored Knight 8-tube chassis.

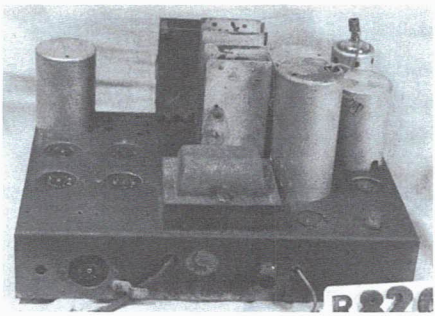


Figure 3. Rear view of the unrestored Knight 8-tube chassis.

the extent of cleaning to be done. I concluded that a total stripping of parts from the top of the chassis was the best and easiest way to attack the rust. This would allow me to use sandpaper and brushes more efficiently and thus do a better job.

I removed all four aluminum cans over the coils by taking off the nuts below the chassis. The front dial mechanism came off with the removal of two set-screws and one through bolt to the variable condenser. After removing all tubes and tube shields, I was left with only the transformer and variable condenser. These I decided to leave there because of the many connections that would have to be disturbed.

The coil covers and tube shields were burnished (with jewelers' rouge) on the buffing wheel and then waxed. The chassis was then scraped, sandpapered, and polished with steel wool and wire brushes to remove the rust. Several sizes of brushes were used to get under and around the obstructions left on the chassis. Then I used my "secret method" of "painting" the chassis silver described below.

Take a piece of sheeting, roll it up into a ball, and then spray silver paint on the ball until it is wet. Quickly rub the paint all over the chassis before the paint dries out of the cloth. This leaves a finish that is hard to describe — better than brushing it on, a lot better than spraying it on — a finish that creates a dull sheen looking much like a plated chassis that has been vigorously cleaned. It takes a little artistry to work around the sockets without leaving a telltale smudge on them, and you may have to wrap the cloth around a flat stick to get in some places. Paint the transformer black at the last minute so you don't have to be careful there, except to cover the crevices completely.

The results of about six hours of cleaning and painting are shown in Figure 5 (front view) and Figure 6 (rear view). Notice the gleam on the chassis which reminds me of a well-kept surface and not of the glare of paint.

The speaker was next and proved to be a real problem. The smashed cone was reinforced, and the cone lip was coated with rubber cement to enable it to withstand the vibrations better.

When I tried the coils for continuity, the field coil was OK, as was the output transformer. Later, when I fired it up, after replacing condensers, etc., there was not a sound! I checked the secondary of the output transformer this time, and that checked OK too. Then I remembered that the voice coil was in parallel with the secondary, so I unsoldered the voice coil wires and checked them individually. The voice coil was open!

I then carefully removed the complete cone and voice coil from the speaker frame and inspected it under a magnifying glass. I finally spotted two tiny discontinuities in the very fine wire from the cone "terminals" to the voice coil. In trying to solder these fine wires without damaging the cone or coil, I spent twenty minutes without success, but finally I got a connection made. After reinforcing the area around the cone terminals where I had been working, I reinstalled the cone on the speaker frame with rubber cement to allow me time to center the voice coil properly. The radio worked fine.

I then started stripping the case to refinish it totally. Most of the time I prefer to scrape the surface delicately with sharp blades as this leaves

(Continued on following page)

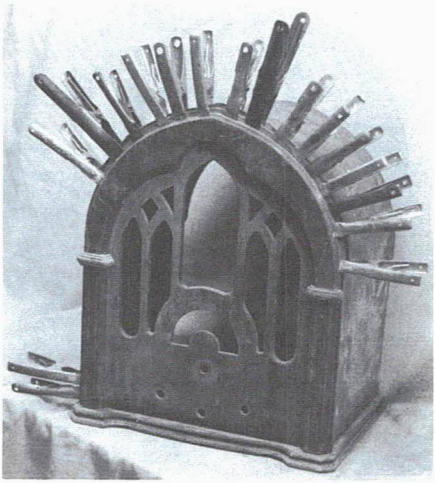


Figure 4. The Knight case "in traction" while being restored.

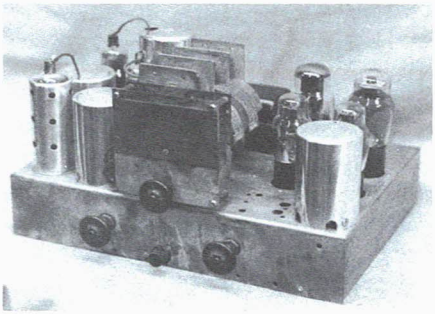


Figure 5. Front view of the Knight 8-tube chassis after restoration.

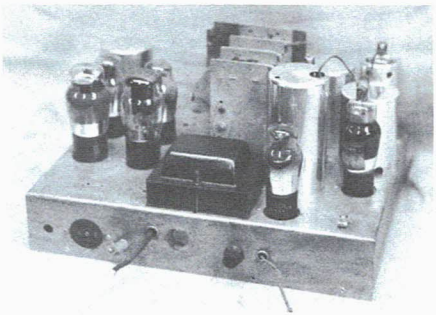


Figure 6. Rear view of the Knight 8-tube chassis after cleaning and painting.

(Restoring a Knight, continued)

no residue in the wood grain and helps to achieve a glossier finish. However, I had to use chemical stripper on a few parts of the molding and in the grille area.

After staining with American walnut stain, restaining the darker parts to give a two-tone effect, and finally polishing with a dry towel, I was ready to apply the protective lacquer. I prefer to use four to eight coats of lacquer, with steel wool between coats, to build up the final coat. I always finish with four-aught steel wool to tone down the final gloss. Figure 7 (front view) and Figure 8 (rear view) show the final result of about 22 hours of work.

This Knight superhet was made in 1933. Since the Allied Radio Company only started making sets in 1932, this model represents one of its earliest products. I think Allied can be complimented on the design and construction of the set, as it truly is a fine radio when it is restored, just as my friend in Wisconsin had said.

I suppose many collectors would not undertake a project of this size or complexity, but to me the challenge to make a fine set of a wreck is very compelling. Practically no set is too far gone to restore if you have the time and interest to follow it through, especially on a striking set like this.

I hope this story will convince others to undertake restorations of interesting radios, even if they look hopeless at first.

(Walter V. Worth, 2 West Elm Ave., Wollaston, MA 02170)

At age fifteen, Walter Worth began saving his paper route money to buy parts for one-tube sets. Then in 1986, fifty years later, he started to collect anything that needed cabinet work. A former sales engineer in power transmission equipment, retired now for five years, he enjoys working on radios in his shop. His diverse collecting tastes range from crystal sets and 1920 battery to AC sets, transistor sets, multiband sets, and even novelty radios. He also collects early tubes and both horn and cone speakers.

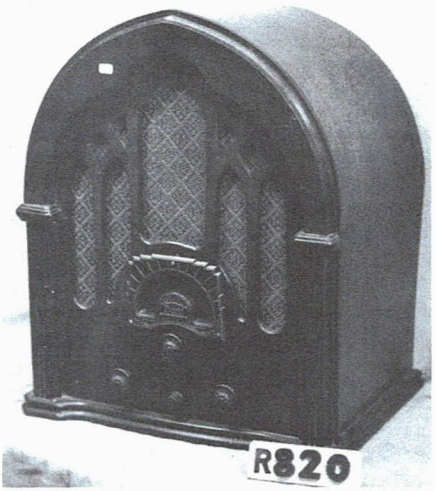


Figure 7. Knight 8-tube superhet cathedral, 1933, restored.

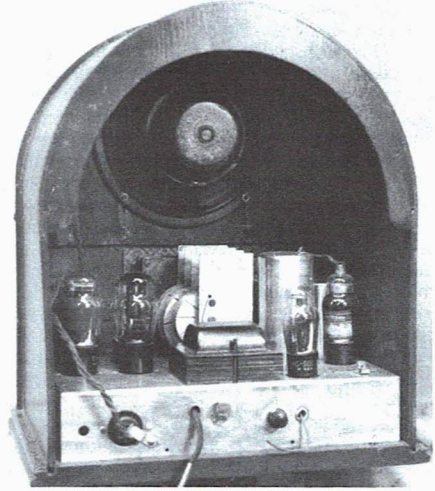


Figure 8. Interior of the totally restored Knight 1933 cathedral.

AUCTION REPORT

Loskot Estate Auction

Washington, New Jersey — October 12 and 13, 1991

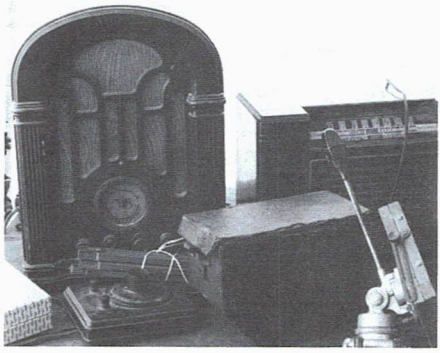
REPORTED BY RAY CHASE

The estate of Alexander J. Loskot was auctioned at Washington, New Jersey, on Saturday and Sunday, October 12 and 13, 1991. The auctioneer was Col. Dale E. Blazure.

Among the items of interest to radio collectors were the following:

e=excellent, vg=very good, g=good, f=fair, p=poor, unk=condition unknown

Admiral, red plastic table radio, portable .$12.50
AK Model 206 cathedral, g 140.00
Emerson 456 wood table radio, AM/SW, 4 knobs 17.50
Philco T905-124 early transistor AM/FM portable, made in Germany 7.00
Stromberg-Carlson Model 1A horn driver only, no horn, wood case with paper label on bottom ..62.50
Zeigler upright volt ampere meter, old 17.50
Zenith chairside, g 110.00



Atwater Kent Model 206 cathedral, Emerson Model 456 table model, Stromberg-Carlson Model 1A driver, minus horn.

(Ray Chase, 1350 Marlborough Ave., Plainfield, N.J. 07060)

General Auction

Ridgewood, New Jersey — September 12, 1991

REPORTED BY RAY CHASE

Several radios were advertised at a general auction on Thursday, September 12, 1991, at the Ridgewood Elks Club, Maple Ave., Ridgewood, New Jersey. There was no buyer's premium at this auction. The auctioneer was Jerry Krawitz.

e=excellent, vg=very good, g=good, f=fair, p=poor, unk=condition unknown

Air King cathedral, e $70
Box of coils, parts, and 5 variometers, f.....20
CISCO Model 9A5 (City Service Oil Co.), white plastic, 2 knobs, f.....12.50
GE Musicone, brown plastic, 3 knobs, vg 5
Grebe Synchrophase w/tubes and original cardboard shipping carton, N.I.B. 200
Home brew, no case, 3 BB TT 201s, dirty 40
Kylor Radio Labs, Chicago, 3-dialer w/tubes, g 40
Majestic B eliminator (BH tube) 10
Malone Lemmon 3-dialer, looks like relabled Apex w/5 good 201 tubes, vg 40

(Ray Chase, 1350 Marlborough Ave., Plainfield, N.J. 07060)

Novelty Radio Prices at Toy Shows

REPORTED BY MARK LAND

I have found that toy shows are an excellent source of novelty radios. The following is a list of radios and prices that were found at a recent toy show in Rochester, N. Y. Plate number (#) references are to Robert Breed's book *Novelty Radios* published by L-W Book Sales.

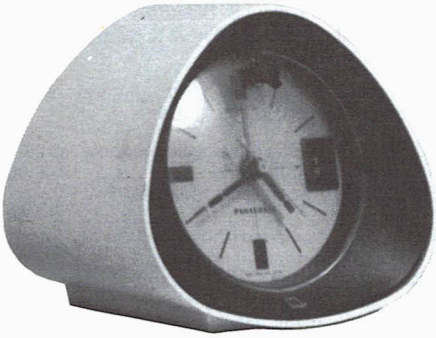
Annie and Sandy, logo from musical, #67 .....$6
Cabbage Patch Kids, #82 6
Coca Cola Cooler, later small AM.....25
Coke Vending Machine, later AM/FM, #389 15
Jimmy Carter Peanut, #183 38
Marlboro Cigarette Pack, flip top, #274 35
Masters of the Universe, He-Man/Skeletor, #96 .10
Pepsi Vending Machine, later AM/FM, #397 ..15
Scooby Do, #103 50
Smurf Radio, #158 5
Tandy Flying Saucer, blue & white 35
Tony the Tiger, N.I.B., #317.....12
Tony the Tiger, as above except no box, #317 10
Toy Gun Radio, w/earphone 65

(Mark Land, 288 Dartmouth St., Rochester, N.Y. 14607)

PHOTO REVIEW

This column presents in pictorial form many of the more unusual radios, speakers, tubes, advertising, and other old radio-related items from our readers' collections. The photos are meant to help increase awareness of what's available in the radio collecting hobby. Send in any size photos from your collection. Photos must be sharp in detail, contain a single item, and preferably have a light-colored background. A short, descriptive paragraph **MUST** be included with each photo. Please note that receipt of photos is not acknowledged, publishing is not guaranteed, and photos are not returned.

WARD'S AIRLINE EXPLORER - This 3-dial battery set, using four 201A tubes and one Musselman 5VA tube, was manufactured by H. L. Schroeder & Co., Chicago, Ill. It was purchased by the original owner in 1925. *(Lee Ragsdale - Columbus, IN)*

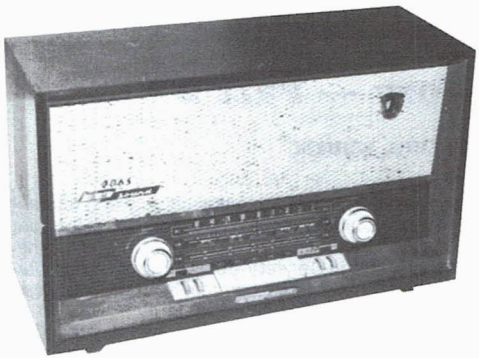


PANASONIC RC 1091 - This all-transistor clock/radio in an ivory and black case with a rounded triangular shape is a good example of a 1968 Japanese design. *(Fred Geer - Jacksonville, FL)*

SPARKS ENSEMBLE - Made about 1930, this Art Deco radio/phonograph even has a record changer with Art Deco style castings to hold records and the tone arm. The changer plays 20 records and puts them in a bin. The tube types are 81, 50, and 484. *(Don Robertson - South Bend, IN)*

J.B. CLARA RADIO - This cathedral radio says "J.B. Clara" on the escutcheon, but it uses an Erla chassis. It has an unusual mahogany finish. *(Jim Clark - Okemos, MI)*

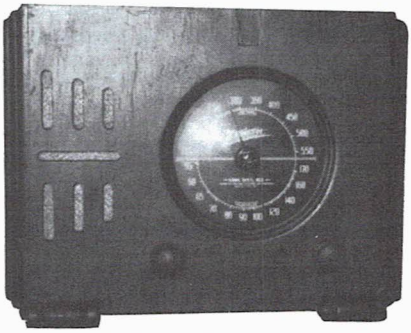
PHOTO REVIEW



GRUNDIG MODEL 2065 - This three-band radio has a magic tuning eye. Note the "piano key" push buttons, typical of German-made sets. *(C. C. Trissell - Lincoln, NE)*

PHILCO JR. MODEL 80 - This 1932 cathedral is fully restored, but the grille cloth may not be original. Although this is only a four-tube set, it plays well. *(Bob Piekarz - La Grange Park, IL)*

RCA VICTOR 28 - I am new to the hobby, and this is my first restoration. The cabinet was very poor, and the radio did not work. I brought the radio to life after a month's work, and a friend replaced the top veneer. The rest of the cabinet is original. *(R. Morrison - Comox, B.C., Canada)*



ZENITH TABLE MODEL - Although this is a relatively small upright table model, it still features the large classic Zenith black dial of the late 1930s. This particular model has only the broadcast band. Note the small wooden feet at the base of the cabinet, and the minimal, simple design of the speaker grille. *(Dave & Terry Masterson - Cheshire, CT)*

RCA TUBE BOXES - A display of the various designs used by RCA to package tubes over the years. Note the early 1920s UX-201-A box on the left and the modern logo on the box on the right. *(C. C. Trissell - Lincoln, NB)*

COMMUNICATION RECEIVERS

The Gonset Story — Part 2

BY F. T. MARCELLINO, W3BYM

F. T. (Tom) Marcellino continues his story of The Gonset Company and the father and son team that made it one of the great contributors to the electronics industry in general and amateur radio equipment in particular. Robert R. and Faust R. Gonsett were true entrepreneurs whose ingenuity and business acumen epitomize the American Dream. Part 1 was in the December 1991 issue of A.R.C. (Editor)

OTHER GONSET AMATEUR EQUIPMENT

An interesting installation of Gonset equipment was described in a 1954 issue of *CQ*. Dr. Jose Polak, XE1VA, Vice President of Foreign Relations for the League of Mexican Radio Experimenters (LMRE) wrote about the official amateur radio station at its XXII Annual Convention. This complete Gonset station was housed in a special leather travel case with folding legs, and the operating position was located in the rear seat of a 1953 Cadillac. The station consisted of a Commander HF transmitter, shown in Figure 14; a Super 6 and a Super-ceiver receiver, shown in Figure 15; and a 2-meter communicator. Station power consisted of a 110 VAC Leece-Neville alternator for the communicator and a separate dynamotor/filter that supplied DC to the remaining equipment.

Gonset equipment made radio history one cold night in January 1958. Rev. Daniel Linehan, S.J., W1HWK, of Boston College, operating KC4USC from a point 800 miles from the South Pole, made contact with KL7FLA, operating from an ice survey station 312 miles from the North Pole. A pole to pole contact! A truly remarkable feat since Father Linehan was running only 40 watts of power on AM from a Gonset HF Model G-77 transmitter, shown in Figure 16, into a 2-element beam antenna. His receiver was a Gonset Model G-66B.

During the era of the G-66, it was not uncommon for Gonset to use parts made in Japan. Faust made frequent visits to that country and returned with suitcases filled with components. If the components were judged to be of high quality, they were used in Gonset products. Panel meters were probably the most commonly used Japanese-made parts in Gonset radios.

In the early 1960s, Gonset produced the Sidewinder series of VHF radios. *73* magazine reviewed the 6-meter model in the July 1965 issue and described what a pleasure it was to operate. The set featured four 1 MHz tuning ranges between 50 and 54 MHz. Tuning was easy and had a solid feel. But the panel configuration and controls left much to be desired. For example, the RF gain control had a push-pull switch for controlling the filaments of the three transmitting tubes. The microphone gain control had a similar switch that placed the transmitter in the tune position. Remembering the switch functions and positions

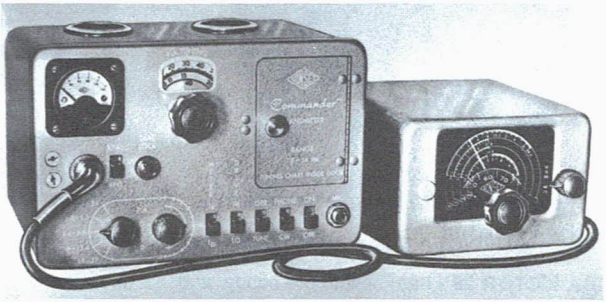


Figure 14. The Commander HF transmitter for 1.7 to 54 MHz.

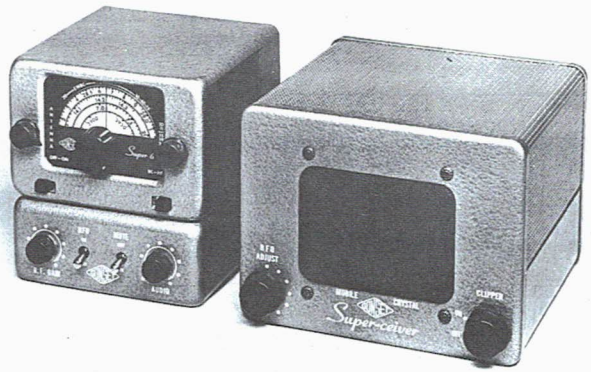


Figure 15. The Super 6 and Super-ceiver receiver.

Figure 16. The Gonset HF transmitter, Model G-77.

could be difficult.

On the plus side, the rig came with both AC and DC power supplies, which were housed in a separate enclosure along with the speaker. But to connect the antenna, it was necessary to feed the transmission line and connector through the power supply enclosure before the power supply could be attached to the transceiver. The Sidewinder was capable of operation on AM, SSB and CW modes. A 2-meter version was available also.

COMMERCIAL APPLICATIONS

The Gonset Company built a reputation for producing high quality amateur radio equipment. Its amateur product line included not only converters, receivers, transmitters, transceivers and linear amplifiers, but also accessories such as code monitors, modulation indicators, VFOs, code-practice oscillators and noise clippers.

Although it may be best remembered for its amateur equipment, in terms of dollar value, Gonset's sales of military equipment far exceeded that of amateur equipment. Even more surprising is that its sales of TV antennas surpassed that of amateur equipment also. For many years, Gonset was the manufacturer of television antennas for the Sears Roebuck Company and was the largest selling line west of Chicago. In Figure 17, a forklift operator is shown moving "Rocket" TV antennas in the Gonset plant shipping room. Other TV-related products included high-gain UHF TV antennas, shown in Figure 18, and a remote control unit for TV sets, shown in Figure 19.

Figure 17. Loading "Rocket" TV antennas in the Gonset Company shipping room.

Gonset was a highly automated manufacturer. The plant used machines for wire-stripping, aluminum tubing rolling, sheet metal forming, and the manufacture of open-wire line. Figure 20 provides a view of the antenna-manufacturing work area.

The machine used to fabricate open-wire TV line was designed by R.R. Gonsett, and its production rate exceeded by far the rate at which other manufacturers could produce the line manually. Furthermore, Gonset was able to produce a higher quality product.

The company also produced communicators for industrial use. One of these units is pictured in Figure 21. Note its similarity to the amateur radio version. These transceivers had the basic features of their amateur radio counterpart but operated at low power in the 152 to 172 MHz range.

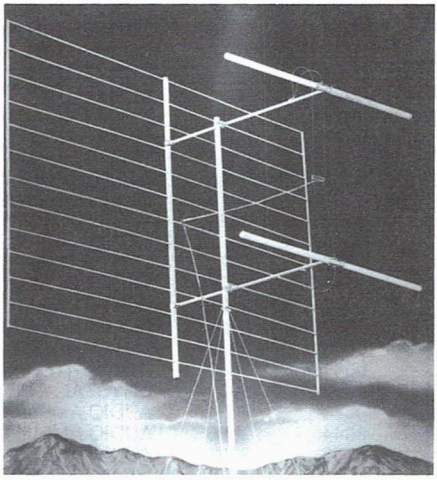


Figure 18. The Gonset high-gain UHF TV antenna.

Single-channel communicators were also designed to operate on the Air Traffic Control frequencies. Amazingly, these vacuum tube units are still operational in some control towers — a true tribute to Faust Gonsett in these days of miniscule solid-state devices.

Gonset was also the supplier of Citizens Band radios to Sears Roebuck. In 1959, CB radios, Models G-11 and G-12, were produced in Burbank, after Gonset had become a division of Young, Spring and Wire.

A complete listing of general equipment is included on the following pages.

(Continued on page 18)

GONSET EQUIPMENT CATALOG

ITEM	MODEL	NAME/DESCRIPTION	COST
0001	900A	TRANSCEIVER, SIDEWINDER, 2MTR	$399.50
0002	901A	AC POWER SUPPLY FOR 900A	73.50
0003	902A	DC POWER SUPPLY FOR 900A	79.50
0004	903A	LINEAR AMPLIFIER	299.00
0005	N/A	TRANSCEIVER, SIDEWINDER, 6MTR	399.00
0006	913A	LINEAR AMPLIFIER	299.00
0007	N/A	LINEAR AMPLIFIER, COMTROM	299.00
0008	1523	ANTENNA, 4 ELEMENT, 6MTR	24.50
0009	1553 (BB-20)	ANTENNA, 20MTR, BANTAM BEAM	59.50
0010	1554	ANTENNA, 15MTR, BANTAM BEAM	59.50
0011	1560	ANTENNA, TWIN SIX BEAM STANDARD	29.50
0012	1560V	ANTENNA, TWIN SIX BEAM DELUXE	34.50
0013	3000	CLIPPER/SQUELCH	24.50
0014	3001B	CLIPPER/SQUELCH	9.25
0015	3001C	CLIPPER/SQUELCH	9.25
0016	3002	CONVERTER, SW 3 - 30MHZ	44.75
0017	3003-6-12	CONVERTER, POLICE/MARINE	46.00
0018	N/A	COMMUNICATOR I	189.00
0019	N/A	CONVERTER, SW, PUSH BUTTON	29.95
0020	3006	STEERING POST BRACKET	3.90
0021	3008	CONVERTER, 2MTR	44.50
0022	3009-6-12	CONVERTER, 30-40 MHZ FM	69.50
0023	3009	CONVERTER, 30-40 MHZ AM	69.50
0024	3010-6-12	CONVERTER, 40-50 MHZ FM	69.50
0025	3010	CONVERTER, 40-50 MHZ AM	69.50
0026	3011-6-12	CONVERTER, 88-108 MHZ FM	69.50
0027	3012	CONVERTER, 152-162 MHZ FM	69.50
0028	3013	CONVERTER, 162-174 MHZ FM	69.50
0029	3014	VHF AIRCRAFT ADAPTOR	69.50
0030	3015	VHF AIRCRAFT ADAPTOR	79.50
0031	N/A	TUNER, 40-50 MHZ	69.50
0032	3016	COMMANDER TRANSMITTER	124.50
0033	3018	500W LINEAR AMPLIFIER	339.00
0034	3020	VFO FOR COMMANDER TRANSMITTER	29.95
0035	3022	MONOTONE	19.50
0036	3023	ZIPPER BAG FOR ALL COMMUNICATORS	22.50
0037	3024	VFO - PREAMPLIFIER, 2MTR	84.50
0038	3025	COMMUNICATOR, DELUXE, 2MTR, 6V	229.50
0039	3026	COMMUNICATOR, STANDARD	209.50
0040	3029	TUNER, VHF, CRYSTAL CONTROL	125.00
0041	3030	CONVERTER, SUPER SIX	52.50
0042	3031	CRYSTAL, SPECIAL CAP 148.14 MHZ	7.50
0043	3034	AUDIO AMPLIFIER, 6V	N/A
0044	3035	AUDIO AMPLIFIER, 12V	N/A
0045	3036	AUDIO AMPLIFIER, 115VAC	N/A
0046	N/A	MODULATION INDICATOR	19.95
0047	3037	TUNER, 2MTR	89.50
0048	3038	TUNER, 2MTR, DELUXE	99.50
0049	3040	SUPER-CEIVER	119.00
0050	3041-6-12	SUPER-CEIVER	119.00
0051	3042	COMMUNICATOR, INDUSTRIAL	350.00
0052	3045	TUNING KNOB KIT, ALL COMMUNICATORS	1.50
0053	3046	COMMUNICATOR, DELUXE	229.50
0054	3047	MICROPHONE/PTT	25.00
0055	3049	COMMUNICATOR, 6MTR, 6V	229.50
0056	3056	COMMUNICATOR, DELUXE	229.50
0057	3057	COMMUNICATOR, 2MTR, 12V	229.50
0058	3058	COMMUNICATOR, 6MTR, 12V	229.50
0059	3059	MICROPHONE.CORD AND PLUG	22.50
0060	3062	CIVIL AIR PATROL KIT	49.50
0061	3063	LINEAR AMPLIFIER, 2MTR	149.50
0062	3065	LINEAR AMPLIFIER, 6MTR, COMM2	N/A
0063	3066	CONVERTER, 6MTR	52.50
0064	3067	COMMUNICATOR, 150-174 MHZ	N/A
0065	3069-6-12	POWER SUPPLY, 3 WAY FOR G66	49.50

GONSET EQUIPMENT CATALOG (Continued)

ITEM	MODEL	NAME/DESCRIPTION	COST
0066	3077	COMMUNICATOR, CIVIL DEFENSE, 2MTR	$209.95
0067	3077	COMMUNICATOR, CIVIL DEFENSE, 6MTR	209.95
0068	3079	COMMUNICATOR, CIVIL DEFENSE, 6MTR	209.95
0069	3087	COMMUNICATOR, CIVIL DEFENSE, 2MTR	209.95
0070	3088	COMMUNICATOR, CIVIL DEFENSE, 6MTR	209.95
0071	3089	LINEAR AMPLIFIER, 2MTR	189.00
0072	3090	LINEAR AMPLIFIER, 6MTR	189.00
0073	3098	POWER SUPPLY FOR G66 6/12V	29.50
0074	N/A	COMMUNICATOR II, 6MTR	289.50
0075	3133	COMMUNICATOR II, 2MTR	289.50
0076	3136	COMMUNICATOR III, 6MTR	289.50
0077	N/A	COMMUNICATOR III, 2MTR	289.50
0078	3155	RECEIVER, 30-50 MHZ FM	79.50
0079	3156	RECEIVER, 112-132 MHZ AM	79.50
0080	3157	RECEIVER, 132-152 MHZ AM	79.50
0081	3158	RECEIVER, 152-174 MHZ FM	79.50
0082	3163	CONVERTER, 1.6-3.0 MHZ MARINE	N/A
0083	N/A	CONVERTER, 1.6-4.O MHZ	N/A
0084	N/A	CONVERTER, 1.6-6.0 MHZ	N/A
0085	3203	TRANSMITTER, G77A	299.00
0086	3204	COMMUNICATOR, G-28	299.50
0087	3211	LINEAR AMPLIFIER, 2MTR	169.50
0088	3212	LINEAR AMPLIFIER, 6MTR	169.50
0089	3213	RECEIVER, G66B	259.00
0090	3214	RECEIVER/POWER SUPPLY	239.00
0091	3221	COMMUNICATOR, CIVIL DEFENSE G-50 6MTR	389.50
0092	3222	RECEIVER, G-33	89.50
0093	3226	VFO, 2 AND 6 MTR	69.50
0094	3233	TRANSMITTER, GSB-100	479.50
0095	3239	CONVERTER, 88-108 MHZ FM	84.50
0096	3241	RECEIVER, G-43	N/A
0097	3260	RECEIVER, G-63	N/A
0098	3261	CONVERTER, SUPER 12	N/A
0099	3262	LINEAR AMPLIFIER, GSB-101	439.50
0100	3269	CALIBRATOR, 100 kHZ	N/A
0101	3273	PHONE PATCH, HYBRID, GPP-1	N/A
0102	3275	CONVERTER, 6MTR, 12V	N/A
0103	3300	COMMUNICATOR, CIVIL DEFENSE G-50 6MTR	389.50
0104	3303	CB RADIO, G-11, AC	124.50
0105	3304	CB RADIO, G-11, DC	124.50
0106	N/A	CB RADIO, G-12	149.95
0107	N/A	CB RADIO, G-14	N/A
0108	3340	LINEAR AMPLIFIER, GSB201 MK4	345.00
0109	3341	COMMUNICATOR IV, 2MTR	409.95
0110	3342	COMMUNICATOR IV, 6MTR	409.95
0111	N/A	COMMUNICATOR IV, 220 MHZ	N/A
0112	3350	MICROPHONE, CERAMIC	13.60
0113	3357	VFO, 2,6,1.25 MTR	89.95
0114	3363	COMMUNICATOR IV CANVAS BAG	14.50
0115	3362	CIVIL AIR PATROL KIT	49.50
0116	3365	MOBILE MOUNTING BRACKET	14.26
0117	3409	CIVIL AIR PATROL KIT, MODEL IV	69.95
0118	3428	CB RADIO G-15	N/A
0119	3442	TRANSCEIVER, AIRCRAFT, GA 118	N/A
0120	3448	ATTENUATOR, 5DB	10.79
0121	3449	ATTENUATOR, 10DB	10.79
0122	3450	ATTENUATOR, 15DB	10.79
0123	N/A	RECEIVER, GR-212	69.50
0124	N/A	COMMUNICATOR, GC-105, 2MTR	249.00
0125	N/A	TRANSCEIVER, AIRCRAFT, GR-138	489.95
0126	N/A	TRANSCEIVER, AIRCRAFT, AR-1	289.00
0127	N/A	TRANSCEIVER, MOBILE, 80-10 MSB1	N/A
0128	N/A	COMMUNICATOR, FM, G-151	N/A

GONSET'S ASSOCIATES

Several associates became important to the Gonset Company's success. One was Woody Smith, a former publisher and editor of a ham magazine, for which Faust had worked as a staff writer. Smith joined the Gonset Company and became its Chief Engineer. Among the stories Smith has recounted is that of a request by the government to "militarize" the Communicator line. Smith told them that, since the equipment already used the best materials available, militarizing would be a waste of taxpayers' money. As a result, a military version of the Communicator was never built.

Figure 20. The Gonset Company antenna manufacturing work area.

Another significant contributor to the Gonset success story was Sam Lewis. Sam was responsible for designing the FM adapter that enabled the communicators to be converted from AM to FM operation. It is not clear whether Lewis was a ham or not, but he was a versatile technician with a side interest in TV repair. He left Gonset and formed his own company to design and produce small electronic devices.

THE LATER YEARS

Prior to the acquisition of the Gonset Company by Altec Lansing in 1960, Faust had sold it to Young, Spring and Wire Corporation. He stayed with Young during the transition period, which lasted a few years. After the sale to Young, the Gonset Company began a steady decline. Product quality deteriorated, and the number of new products dropped. Later, the company was sold to AMECO. With each successive sale, the company grew smaller and eventually disappeared.

After retirement in his early forties, Faust and his family moved to Rancho San Fe, California. However, his retirement was short-lived. He acquired the Minitron Company, a producer of printed circuit boards, and proceeded to modernize and revitalize the operation. His accomplishments at Minitron were impressive.

Later, he sold the successful Minitron business to Farrington Manufacturing in Massachusetts, who operated the plant under the Electralab name in Encinitas, California.

Faust saw the great potential in single sideband (SSB) and formed another company, Sideband Engineers. That company produced the SB-33. This transceiver of advanced design used transistors instead of tubes. Again Faust sold out. This time to Raytheon.

Recently, Bob Gonsett had an opportunity to visit the neighborhood in Burbank where the Gonset plant had been located. Much to his amazement, some of the original buildings were still there, although a new subdivision had been built nearby. Both the main building and the sheet metal building were empty, and the main building was for sale. When Bob viewed the main building, it was not apparent that it had been rebuilt after the original structure had burned down. The main building had been rebuilt by a subsequent owner to resemble the original structure.

Faust Gonsett, or "Mister G" as he was frequently called, was a man of strength and vision. His ability to establish businesses and guide them

Figure 19. The Gonset TV remote control unit.

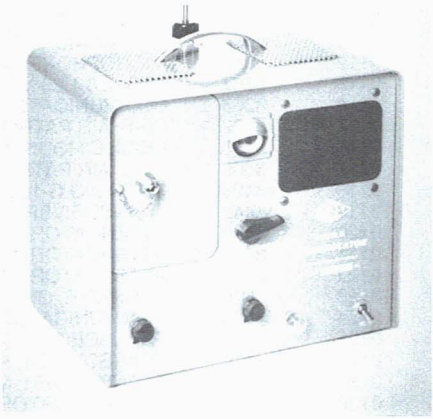


Figure 21. The Gonset Industrial Communicator.

into very successful operations was legendary.

Always in close touch with his employees, Faust was regarded as a gentle and compassionate man. However, he could be forceful when necessary, and he dealt with problems skillfully. An innovator and a very effective manager, Faust had little tolerance for timidity. "Do something" — "Get going" were phrases he spoke frequently. He is quoted as saying "If we are wrong, we'll learn from our mistakes and do something else, but we cannot do nothing."

Faust Gonsett will be remembered for his pioneering work in the fields of amateur and mobile two-way communications, as well as his numerous contributions to military electronics during World War II.

A TRIBUTE

On November 3rd, 1963, amateur radio operators mourned the death at age 47 of one of its great personalities — Faust R. Gonsett, W6VR, President and co-founder of the Gonset Company, Burbank, California.

The members of the Amateur Radio Club of the Douglas Space Systems Center installed a plaque in memory of Faust Gonsett at the Space Center in Huntington Beach.

(F. T. Marcellino, 13806 Parkland Dr., Rockville, MD 20853)

A.R.C. is grateful to Robert F. Gonsett for supplying most of the photographs for this article. We apologize for the quality of some, as photocopies were the only ones available.

References and Consultants:
ARRL Handbooks, 1940 through 1960
CQ Magazine, Nov. 1952
CQ Magazine, 1954
Robert F. Gonsett, Fallbrook, CA
Mickey McDaniel, San Diego, CA
73 Magazine, April 1965
73 Magazine, July 1965

F.T. (Tom) Marcellino, a Senior Test Engineer, has been involved with component screening and inspection of high reliability space electronics for the past 30 years. A licensed amateur for 36 years, he holds an Extra Class ticket. Since 1980, Tom has been collecting and restoring antique radios, specializing in vintage communication receivers. He has contributed many amateur radio construction articles to magazines.

Self-Winding Clocks

BY ROBERT B. ENEMARK

Using a mechanism patented in 1891, the Self Winding Clock Co. of New York City produced clocks, which use a Type B, 120 beat, lead weighted pendulum and escapement. These clocks wind themselves each hour and can be set to exact time with a pulse of six volts or more from a telegraph line.

A Western Union self-winding clock is shown in Figure 1. The company probably leased these clocks and provided their users with time correction signals hourly, synchronized to Naval Observatory time. Self-winding clocks were often used in pre-World War II classrooms, offices, and train stations.

Self-winding clocks are wound with a vibrating ratchet that is operated at high speed by the low-mass armature of an electromagnetic interrupter. This process causes a fine-toothed pawl to wind the coiled spring motor through step-down gears. About once each hour, a pin on the motor gears makes contact to start the vibrating ratchet for rewinding the spring until it is fully wound. Two #6 dry cells will keep this clock rewound for more than a year.

Correct time is set by transmitting a signal which activates a low-voltage solenoid. The solenoid pushes a yoked arm down onto a mating cam on the minute shaft, thus resetting the minute hand. Resetting must be done only a few minutes each side of the exact hour to avoid large corrections that could damage the mechanism. The pendulum must be set so that the

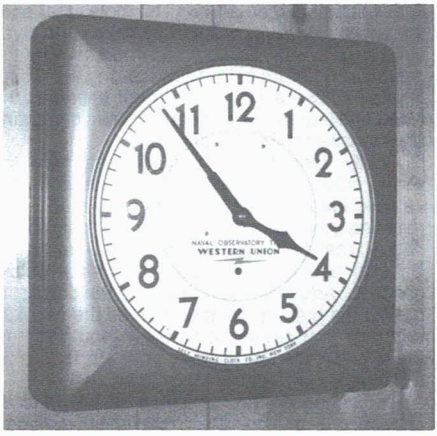


Figure 1. Western Union self-winding clock.

clock does not gain or lose more than 50 minutes between daily resettings, a goal that is easily achieved since the pendulum can be adjusted to within a minute, or better, per week.

The particular clock shown in Figure 1 is 19 inches square, and it has been running for six months on two alkaline D cells. It is fun to watch.

(Robert B. Enemark, W1EC, Box 1607, Duxbury, MA 02331)

RESTORATION TOPICS

Cabinet Refinishing and Repair the Right Way
Part I — Cabinet Refinishing

BY RICHARD FOSTER

A letter from a collector asking for information on cabinet repair and refinishing prompted Richard Foster to prepare a two-part outline of his technique. This outline became the basis of his presentation at the New England Antique Radio Club's first Radio Seminar Day on June 1, 1991, at Nashua, New Hampshire. Part I on cabinet refinishing is presented here, while Part II on cabinet repair will appear in a later issue. (Editor)

A common, four-step approach to refinishing a radio cabinet, which I do not recommend, is to strip off the old finish with a commercial stripper, sand the cabinet down, restain it with a red or brown stain from the hardware store, and put on several coats of tung oil varnish. This approach creates problems that make it a second-choice method.

The first problem is that stripper removes the filler from the pores of the wood, leaving the final finish pockmarked with little holes that spoil the luster. Second, stripper removes the dyes used to color the filler and the wood, leaving the cabinet a different color from the original. Third, oil stains have a cloudy look that obscures the wood and leaves the color dull instead of glowing and translucent like the original.

Finally, tung oil and polyurethane have the wrong color and texture, and, in fact, were developed long after these radios were made. The resulting product comes out looking "refinished," having the same appearance as a repainted Bakelite cabinet or a used car with a quicky paint job. Add the final indignity to the cabinet of buffing the antique bronze finish off the escutcheon, and you get about as far as you can from the original. It's like painting your Model A Ford sky blue.

Depending on the condition of the cabinet, choose one of two better refinishing methods. The first choice assumes that the cabinet is good and the original finish is intact but has dings and scratches. In this case, no stripping is required. The second choice can be illustrated by the treatment needed for my favorite "horror," the Philco 70 cathedral that was painted bright orange and had a purple grille cloth with colored lozenges all through it. In this case, stripping is a must.

RESTORATION OF ORIGINAL FINISH

Step One: Use mild soap and water to clean the dirt off the cabinet. Be sure to clean the corners. Grade 0000 steel wool will help; just don't rub too hard. Some people have reported excellent results using commercial hand cleaners — the kind mechanics and painters use, like Go-Jo. I am a bit leery of the oil residues left behind by these products, but they give excellent results.

Step Two: Since most of the finishes we encounter are lacquer or shellac based, something that will dissolve the surface without stripping is needed. If, after cleaning the dirt off, we find that the finish is in relatively good condition, it can usually be restored to original brilliance with minimal effort by sparingly using a product like an amalgamator of one of the commercial brands, such as Formby's. An amalgamator softens and blends the original finish.

A good substitute can also be made up from about 60% denatured alcohol, 25% lacquer thinner and 15% acetone. I mix my own because it is a lot cheaper than the commercial products. The acetone is a strong solvent that softens finishes easily. But, be careful to use it in the open air to minimize the inhalation of fumes. All finishes contain solvents that can be absorbed through the skin, so be sure to wear neoprene gloves.

Step Three: Make a polishing pad. The pros use thick felt. You can make layers of cloth squares about 4" x 4". Lay a stack of them in the middle of a lint-free cloth about 10" x 10". When you pick up the corners, you get a thing like a ball of socks, which you can grasp in your fist and which allows you to squeeze or press, and then rub the finish.

Step Four: In the middle of the rubbing surface of the pad, put *one or two drops* of linseed oil. Too much oil gives a false shine that goes dull overnight. (You must store this pad in a tightly sealed glass jar with a plastic lid to avoid a fire hazard.) Then, dip the pad in your amalgamator to dampen it but not soak it. The idea is to get enough in the pad so you can squeeze some out to the surface of the pad when you want it, but not have it drip all over everything.

Step Five: Rub the finish with your pad in a small area until you notice the finish starting to soften. You'll soon get the hang of it. You might want to practice on some old junker. At this point, if you let up the pressure and don't squeeze the pad too hard, the pad mysteriously polishes up the surface, and the solvents make scratches disappear. If the pad begins to stick, *one drop* of linseed oil will lubricate it, but you shouldn't need

to do this more than two or three times.

Proceed by small areas until the whole cabinet is done. This will leave some swirls and circular marks, which can be taken out by rubbing with the grain in long and very gentle strokes. The effect is almost miraculous. Remember, if the worst happens, you can always strip off the finish.

Step Six: A fresh polishing pad with a drop of oil, just enough plain alcohol to feel cool to the touch, and three or four drops of shellac rubbed with the grain will give a finish just like the original. Rub very lightly.

Step Seven: Apply a coat of wax, such as Pledge. Skip the waxes containing the oils that look like a shine or the lemon oils that penetrate any imperfections and cause staining beneath.

COMPLETE REFINISHING

To deal with something in the condition of the orange Philco 70 "horror" is another story. You have to strip it. I usually use alcohol and acetone 50/50 as a stripper instead of the wax and the methyl chloride solvent found in commercial strippers. (Use neoprene gloves to keep the solvent out of your liver.) When you're done, wipe down the cabinet with lacquer thinner to remove the wax that gives your stripper its body. Be aware that some Philcos and Zeniths in the late thirties had photographic finishes that imitated wood grains and that, when stripped, will lose all their wood grain appearance forever.

Step One: If your cabinet is sound, proceed with the refinishing process. If not, fix it. (Look for Richard Foster's article on radio cabinet repair in a future A.R.C. issue.)

StepTwo: Fill those little pores. There are many commercial wood fillers on the market. They are available in art/paint supply stores and in the good paint/wallpaper stores. They also can be ordered from Constantine's, Mohawk, and other big suppliers who advertise in woodworking magazines. I've even used plaster of Paris and pumice rubbed well into the pores.

The point is to rub a filler well into the pores, leaving enough behind so that they are filled a tad above the surface. Then, use very fine sandpaper to sand them down level so that the whole surface is smooth. The directions are on the container and usually say rub with the grain to fill and across the grain to build up. Allow the filler to cure for a given time and sand down lightly.

Step Three: To duplicate the colors you want, choose aniline dyes. They are available from many places that supply woodworkers, including Constantine's. They are best mixed, allowed to stand for a couple of days, and then strained into a new jar through a coffee filter. The alcohol soluble dyes will also mix with finishes based on shellac or lacquer.

I usually use medium brown walnut, and if darker colors are needed, add a bit of dark brown walnut. Once in a while, a touch of red mahogany is needed, but most AC radios are in walnut veneer cabinets. Mahogany was used on some battery radios in the twenties. If in doubt, get a wood identification kit, or consult a knowledgeable antique dealer or restoration shop. To even out the color, I wipe on a coat of dye, which is fairly diluted so as not to leave powder behind. Under a finish, the dye comes alive.

Step Four: Seal the filler so that it doesn't absorb your finish and leave the surface uneven. There are two good sealers — one, a wash coat of shellac diluted 50/50 with alcohol; the other, a commercial vinyl sealer from large supply houses. Grade 0000 steel wool will smooth that all out when dry.

Step Five: For the finish, the best choice is lacquer from the spray gun. You may not have a spray booth in which to exhaust the spray mist, but many furniture restoration shops have one. Your local body shop man might be willing to help you, too. Lacquer called "padding lacquer" (with retarders to avoid too rapid drying) can be used. Spray cans can be used, but the buildup takes forever, for the cans contain so much vehicle and so little lacquer.

For real authenticity, I mix some strained dye into the lacquer, and the finish looks "factory." A good second choice is a padding or brushing lacquer. Be careful not to repeat the application of lacquer because it also acts like a stripper.

Lacquer can be tinted with the dye from your little packet. One person I know used printer's inks with beautiful effect. Do not use synthetic finishes like polyurethane, as either they are incompatible with the sealers and bead up and refuse to dry, or they smear the stain and filler.

Step Six: Rub the finish out, using first pumice and then rottenstone. These two abrasives can be found in any good paint supply house. They are rubbed with water and a pad like the one you used for rubbing out finishes. Pumice cuts fast and will go right through a finish at the corners if you don't take care. Rottenstone is superfine and will give the clean smooth shine you want. Save a soft toothbrush to get the residue out of the corners.

(To be continued)

(Richard Foster, Antique Radio Service, 12 Shawmut Ave., Cochituate, MA 01778)

Richard Foster, whose expertise is widely known, is a professional woodworker specializing in the restoration of antique radios. Richard's business, Antique Radio Service, specializes in electrical and cabinet repair of home and auto radios.

Richard has written many A.R.C. articles on rebuilding and refinishing radio cabinets and repairing electronic components. He is also very knowledgeable about Philco receivers.

SUPPLIER ADDRESSES

Constantine's
2050 Eastchester Rd.
Bronx, NY 10461
1-800-223-8087.

Mohawk Finishing Products, Inc.
Route 30 North
Amsterdam, NY 12010
(518) 843-1380

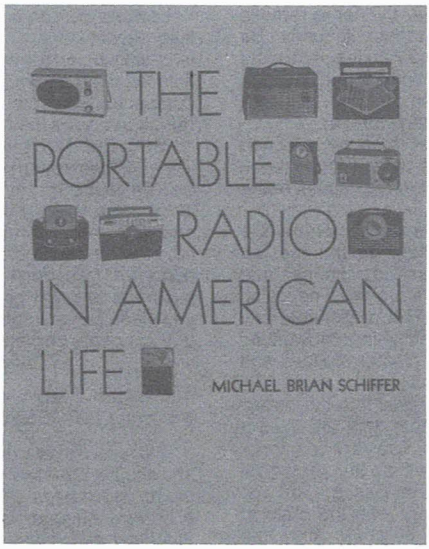
BOOK REVIEW

The Portable Radio in American Life
By Michael Brian Schiffer

REVIEWED BY CARL R. SHIRLEY

One of the most appealing aspects of the radio hobby is that there are so many interrelated facets to explore: history, technology, electronics, design, broadcasting, and entertainment, to name but a few. With this first volume of the University of Arizona Press' new *Technology and Culture* series, Michael Schiffer brings together all of these facets, and provides a valuable resource for collectors, nostalgia buffs, and those interested in popular culture and technology.

In 15 chapters and about 250 pages, Schiffer, an archaeologist, traces the development of the portable radio. He concludes that the study of such an object reveals much about the many changes that have taken place in American society during this century.



Beginning with the Industrial Revolution, the author traces the history of the communications industries, focusing on the works of such names as Guglielmo Marconi, J. Ambrose Fleming, Lee de Forest, and Edwin Armstrong. He also treats people whom he terms "techno-mancers," those with technical training who study current art and find indications of future developments. The most notable of these is Hugo Gernsback, and Schiffer returns time and again to this important figure.

Throughout the book, Schiffer discusses what he calls the "cultural imperative" of portable radio; that is, society wanted portability as soon as radio communications had been devised. The imperative was so strong that *Modern Electrics* proclaimed in 1911, "Pocket wireless apparatus are now the order of the day."

Sprinkling his study with anecdotes such as the one about the man who used his wire-haired fox terrier as an antenna, the author traces the radio craze of the 1920s. He notes the birth of the boombox in 1923 with the 24-pound Zenith Companion selling for $230! With informative detail and excellent photographs and drawings, Schiffer moves into the thirties, discussing radio networks, popular music, and programming.

The author spends more than 100 pages getting to what he calls the portable "revival" of the late thirties. With dozens of photos and discussions of everything from batteries to television to children's toys and the Second World War, Schiffer devotes a great deal of attention to the period of interest to many collectors — that is, from the mid-1930s to about 1955.

Chapter 12 is a study of the "shirt pocket portable," with attention to circuitry, tubes, and design, as well as with information concerning the development of the Belmont Boulevard and the Regency TR-1. Chapter 13 deals with transistor sets and the impact of rock and roll music on radio manufacturing. Schiffer concludes with a lengthy chapter on Japanese sets.

The Portable Radio in American Life would be a valuable book to own even if it were only a history of the portable set. But, Schiffer also discusses and clarifies the interrelationships among technological development, the tastes of high society, and the activities of ordinary people. He provides a serious, thoroughly documented, well-researched, thoughtful, and intelligently written study.

The Portable Radio in American Life by Michael Brian Schiffer is priced at $45 clothbound. The book includes a 117-item bibliography and 450 photographs and drawings. It is available from The University of Arizona Press, 1230 N. Park Avenue, Suite 102, Tucson, AZ, 85719-4140, and from A.R.C.

(Carl R. Shirley, 824 Fairwood Dr., Columbia, SC 29209)

Carl Shirley is a professor of Romance languages at the University of South Carolina. He is interested in broadcasting history, especially 1930-1950, and collects radios of that period — mainly Emersons, Arvins, and Philcos.

CLASSIFIED ADVERTISING POLICY

ONE FREE 20-WORD AD for subscribers in each issue; additional words are 15¢ each. See details below. Classified ads must be received (not just postmarked!) by **NOON** on the ad deadline. Late ads are held for the following issue. Please enclose correct payment with all ads. Stamps or cash are OK for small amounts. (Canadian and other foreign advertisers, please see "Payment" on page two for methods.) "Free words" cannot be accumulated from month to month; free words must be requested when ad is submitted.

Please write each ad on a separate sheet of paper, especially when included with other A.R.C. correspondence. Include SUB# with ad. Ads may be sent in advance; but, write each ad on a separate piece of paper and indicate the month (or successive two months) you want the ad to run.

Please write legibly and use both capital and small letters. Do not use dashes between words. Some numbers and letters can look alike, for example 1, l and I (the number one, the capital i and the small L.) Write the following characters clearly (especially in model numbers): 1, I and l; 0, O , o, Q and D; r and n; 6, b and G; V, U, u, v and Y; A and R; 5, S and s; 2, Z and z. We try to correct spelling errors, so when using an uncommon word or manufacturer which looks similar to a common word or manufacturer, note it so that we do not "correct" it. Editor's comments are in [brackets].

Advertising is accepted only for early items related to radio, communication, etc. All items must be described fairly; reproductions, reprints and not-original items must be identified as such. Advertisers agree to respond promptly to inquiries and orders, and to resolve problems promptly if the buyer is not satisified.

Publisher reserves the right to edit ads without notification to the advertiser and to reject ads for any reason. Publisher is not responsible for errors due to illegibly written ads or for any other reason. Since club activities receive free advertising on the *Coming Radio Events* page, the free 20 words may not be used for club activity ads. See inside front cover for additional information.

CLASSIFIED AD DETAILS

Deadline: NOON – 10th of the month!

Classified ads must have a standard heading such as WANTED, FOR SALE, FOR TRADE, FOR SALE/TRADE, SERVICES, MESSAGE, HELP, AUCTION, MEET, etc. This heading is the only bold or all-capitalized words allowed in the ad. Capitalize only manufacturer names, model names, etc. Wanted and For Sale ads are mixed together to encourage the reading of all ads, including the Wanted ads. This standard ad format makes scanning the ads easier.

Before writing your ad, please look over the ads in a recent issue of A.R.C., and try to write your ad in the same style. Full name and address is required in all classified ads; we will add it if you forget.

To encourage varied content of the ads, the same classified ad may be run only once per issue and for only two consecutive months. (To run an ad longer, use a boxed classified or display ad.)

Classified Ad Rates per Month

Subscribers:
- First 20 words: **FREE***
- 15¢ per word for extra words over 20 **plus**
- 10¢ per word for a shaded ad (count all words including free words).
- * Subscribers may take 20 free words on only one ad each month.

Non-Subscribers:
- 30¢ per word **plus**
- 10¢ per word for shaded ad.

Please do not forget to send in the extra 15¢ per word when your classified ad runs over the free 20 words; your payment will be appreciated, and it will help to keep A.R.C. healthy.

BOXED CLASSIFIED AD DETAILS

Deadline: 1st of the month!

Boxed classified ads can run unchanged for three months or more. No words are free. Ads may be shaded and may include bold and all-capitalized words freely. The ad need not begin with For Sale, etc. Minimum run is 3 months, prepaid.

Boxed Classified Ad Rates per Month

Nonshaded ads:
- 25¢ per word for all words,* none free, **plus**
- 10¢ per word for each bold word **plus**
- 10¢ per word for each all-caps word.

Shaded Ads (All words are bold at no charge):
- 35¢ per word for all words* **plus**
- 10¢ per word for each all-caps word.

Non-Subscribers:
- Add 20¢ per word to above costs.

*Three words can be bold-all-caps at no extra charge.

PHOTO & DRAWING DETAILS

Deadline: 1st of the month for all ads with drawings or photos!

Drawings and photos are encouraged as the response to your ad is much larger and the reader knows better what you want or are selling. Send in your drawing or photograph, and A.R.C. will reduce it or enlarge it as needed.

Photo and Drawing Rates per Month

$8.00 per month for each photo or drawing

(If ad is canceled, this amount cannot always be refunded.)

CHANGES & CANCELATIONS

Please check your ads carefully before sending them in. Once ads are received, it is not always possible to refund the amount sent, pull the ad or make changes.

IMPORTANT — COUNTING WORDS — IMPORTANT

The **standard headings**: WANTED, FOR SALE, etc., count as **one word** each time used in an ad. **Name, address** and (one) **telephone number**, count as **6 words**, regardless of length. Ham call letters and business name can be included in the 6 words and do not count extra. Full name and address is required in all classified ads – it does not cost extra! Each additional word, abbreviation, model number or number group, extra telephone numbers, etc. count as one word. Hyphenated words count as two words.

SECOND CLASS

A.R.C., P.O. Box 2, CARLISLE, MA 01741

RETURN POSTAGE GUARANTEED

CLASSIFIED AD DEADLINE JAN. 10TH