



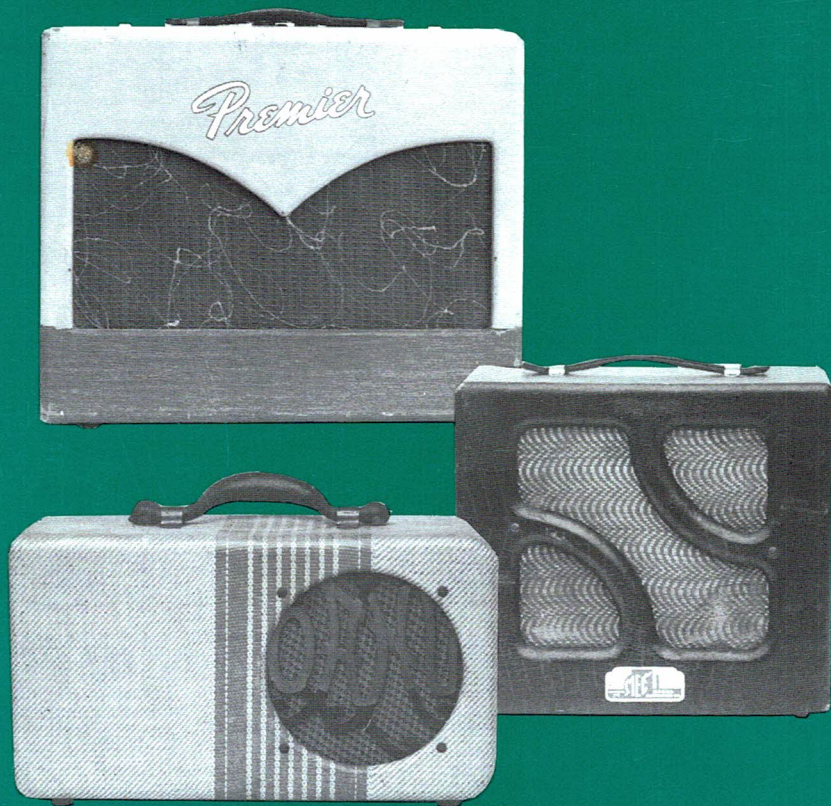
ANTIQUE RADIO CLASSIFIED



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NUMBER 8



In this issue...

Vintage Guitar Amplifiers

A.R.C. — THE NATIONAL PUBLICATION FOR BUYERS AND SELLERS
OF OLD RADIOS AND RELATED ITEMS — PUBLISHED MONTHLY

ANTIQUE RADIO CLASSIFIED

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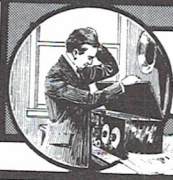
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ANTIQUE RADIO CLASSIFIED



EDITOR'S COMMENTS

As our cover clearly reminds you each month, A.R.C. is "The National Publication for Buyers and Sellers of Old Radios and Related Items." But, guitar amplifiers? Yes, guitar amplifiers are "radio-related." Some of the earliest uses of tube technology were in public address-type amplifiers for amplifying voice and music. For example, Magnavox produced a line of components for this market in the 1920s.

As the sets of the 1920s, coveted by so many longtime collectors (including your editor), become harder and harder to find, interest today is expanding to closely related items of more recent vintage. Transistor radios from the 1950s and 1960s, televisions, vintage hi-fi gear, jukeboxes, and electronic items, such as pocket calculators, are all becoming highly collectible.

Guitar amplifiers are Thomas Crocker's radio-related fascination! He reports this month on the history of guitar amplifiers, from their first appearance in the early 1930s through the 1970s. His well-illustrated article shows over 20 different guitar amps, including such names as Fender, Gibson, Crown and Alamo. Many of these manufacturers may be unfamiliar to you radio collectors, unless you have done some guitar picking yourselves, or unless your children, like my 24-year-old son, collect vintage guitar amplifiers.

To swing the subject back to radio and its very early days, we present Arthur Harrison's article on a 1916 Sears catalog offering — a Marconi portable wireless transmitter and receiver. To Arthur's photo of the receiver from the set in his collection, we have added an advertisement for the portable combination from an early Sears catalog — a reminder that the current, discontinued catalog is destined to become a collectible.

As promised with Ron Ramirez's June 1993 article on "Philco's Classic Cathedral Radio Design," in this issue, we include his and Ron Boucher's survey of the Philco Models 20, 21, 70 and 90. Hopefully, among A.R.C.'s nearly 8,000 readers, there are a lot of owners of these sets — so, let's respond to their questionnaire in record-breaking numbers. This article also provides information that is an indispensable aid to Philco cathedral identification.

Larry Babcock reports on the Niagara Frontier Wireless Association's exhibit at the Amherst Museum in Amherst, New York — a great collaboration between a club and a museum. Currently, the rotating exhibits include crystal sets, early Radiola and Federal sets, and a typical 1920s radio repair bench.

Julie and John Lyle report on the Mid-America Antique Radio Club's spring auction in Kansas where proceeds exceeded \$9,000. And your editor reports on the Antique Radio Club of America's 1993 Convention in West Virginia. Photos of convention activities, as well as of another museum project — the Museum of Radio and Technology — are included.

My invitation a month ago for a dialogue on ethics within the radio collecting community still stands. Richard Mackiewicz has begun the process on this month's *Radio Miscellanea* page. We hope you will join in this exchange of ideas. *Radio Miscellanea* also has some museum news, this time about a museum in trouble. The Atwater Kent Museum in Philadelphia, Pennsylvania, is slated to have its city funding cut, and Mike Koste asks for collectors' contributions to this cause.

A February 1993 *Radio Miscellanea* page letter from Donald Manssen sparked a dialogue on the subject of operating old AC sets on the higher AC voltage found today. Ray Bintliff has compiled the responses from several readers in a discussion of possible problems and solutions.

Photo Review shows a rare, early Grebe CR-5, as well as another example of "radio related" items — a room thermometer shaped like a small table radio.

James Mason's G & F "Mystery" radio is also a *Photo Review* feature. Although you will note that James asks for more information on his set, his address is not given. The reason is to encourage readers to write to A.R.C. so that the information can be shared by all our readers in a future issue.

New Books. Several new books are, or soon will be, available to collectors. The second edition of *Evolution of the Radio* from L-W Book Sales is now on the market. A.R.C. will review this book soon, but a quick look by your editor showed over 600 nice color radio photos.

Very soon, *Radio! Radio!* will again be available. Jonathan Hill has completed a second edition of his outstanding, comprehensive and sell-out compilation of British sets. Jonathan reports that he has made numerous corrections and has included a more useful index.

Also expected soon is Ron Ramirez's book, *Philco Radio: 1928-1942*. This pictorial reference book on Philco will have over 400 color photos.

Club Events. As has been said many times on this page, attendance at a club event is the best way to learn more about old radios, collecting, and radio values. You also have a chance to meet collectors you have known only via the pages of A.R.C. or the telephone. Since there are 31 meet possibilities this month, try to make it to one near you. A.R.C. plans to attend Radiofest in Elgin, Illinois, so if you are there, please look us up and say, "Hi."

Happy collecting.

John V. Terrey

ON THE COVER

The August cover prepares you for our lead article "Vintage Guitar Amplifiers" by Thomas Crocker. Pictured at the top is a 1950s Premier; at the mid-right, a Magnatone "Varsity" of the early 1950s; and at the bottom left, a late 1940s Oahu.

WITH THE COLLECTORS

Vintage Guitar Amplifiers

BY THOMAS CROCKER

In the past few years, much of the flotsam we stepped over on our way to that Federal battery set or Fada Catalin model has become collectible. The cover of the 1992 Antique Electronic Supply catalog showing an early 1950s Fender Twin guitar amplifier brought to light an area of collecting that's not just for musicians anymore. What follows is a brief history of the guitar amplifier.

Early mass-produced guitar amps were part of Hawaiian lap-top combos. Rickenbacker, probably the earliest guitar amp, first appeared around 1931, followed by Dobro, National and Dickerson. A late 1930s Dickerson lap-top and amp combo is shown in Figure 1. These were very simple high-gain amplifiers putting out 10 watts or less. Volume and tone controls were located on the instrument. The cabinets were covered in oil cloth leatherette, "ice-berg" laminate as on the small Dickerson lap-top, or in tweed of the type seen on suitcases of the period.

In 1936, the Gibson Company began produc-

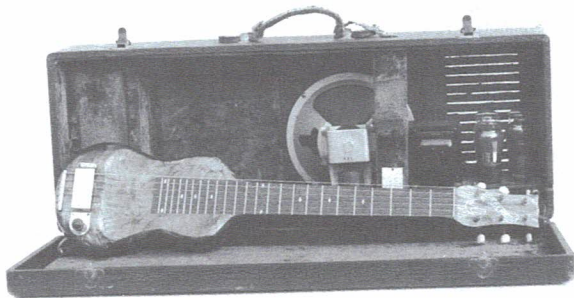


Figure 1. Late 1930s Dickerson lap-top and amp combo Model SP8, with Dickerson Musical Instrument Manufacturing Co. Serial #0013.

tion of a full line of amplifiers to go with its electric lap-top banjo and its ES150 guitar. The EH185 amp, pictured in Figure 2, was used with the ES150 by early jazz great Charlie Christian, who popularized the use of the electric guitar as a lead solo instrument. Public demand for electric guitars and amps increased as well as the number of manufacturers.

Following the war, National went under, and a new company evolved — the Valco Company. Valco was very productive, building amps under the National and Supro names, as well as for the Oahu and Gretsch companies. Valco may also have produced Gibson and early Magnatone amps for Montgomery Ward. The Oahus, sold by the Oahu Publishing Co. of Cleveland, Ohio, were for Hawaiian lap-tops, and the Valco models were the most attractive. Gibson began production of the BR amp line, still with field-coil speakers. The sad looking Gibson BR1, shown in Figure 3, with its 12-inch field-coil speaker, really "pumps" out the volume. Pictured in Figure 4 is an early example of the Gibson BR9, ca. 1940s, along with the Gibson Les Paul Jr. GA5, ca. early 1950s.

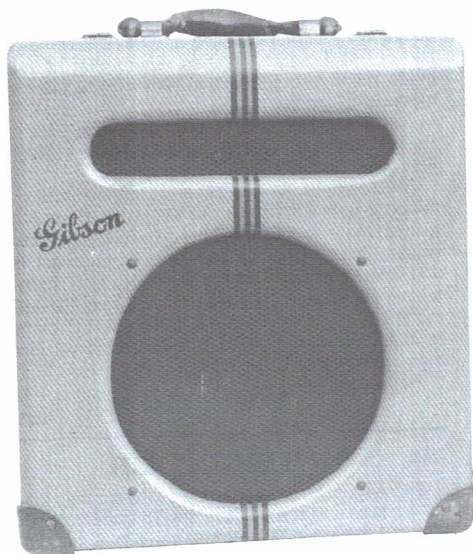


Figure 2. The Gibson EH185 amp, ca. 1937, has a 12-inch field coil speaker and a removable chassis.

In 1945, Doc Kaufman and Leo Fender began selling an amp and laptop combo under the name K & F. When Kaufman balked at Fender's plans to expand the line, Fender started the Fender Electrical Instrument Company, offering three models of amplifiers in late 1947. The early Fenders were covered in tweed with cotton grille cloth. Throughout the 1950s tweed remained, but in 1952, modern plastic grille cloth was used.

The Fender line had grown to five models when the Pro, shown in Figure 5, was introduced in 1949. It uses a 15-inch blue Jensen special design speaker, shown in Figure 6, driven by a pair of 6L6G tubes. Early models used Type 6SJ7 octal preamp tubes but later were changed mid-production to Type 12AY7s without modification to the circuit.

By 1950, most amps had changed to Alnico speakers and were moving to miniature preamp tubes. Output wattages grew closer to the 50-watt range in the larger models. Gibson began the GA series, while Fender introduced the first electric bass, and with it, the Bassman amp, probably the most popular of the old Fender amps among musicians.

Magnatone began making its own laptops and amps, such as the "Varsity" in brown lizard, shown

in Figure 7. An East Coast company, Premier, began selling very attractive equipment, as shown in Figure 8. Tremolo amps, introduced with the 1955 Fender Tremolux, began popping up everywhere by the late 1950s. Reverb showed up just in
(Continued on following page)



Figure 5. The Fender Pro amp with tweed covering has a cabinet called the "TV front."



Figure 3. The Gibson BR1, named for the designer Barnes Reincke, has a 12-inch field-coil speaker.

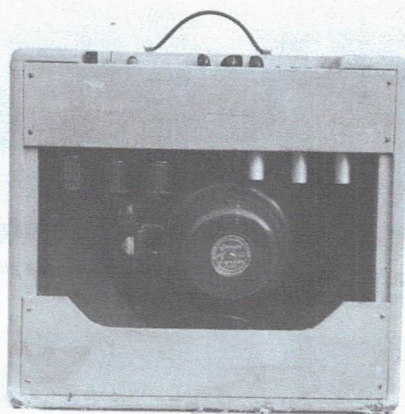


Figure 6. A blue Jensen speaker fills the cabinet of the 1950 Fender Pro.

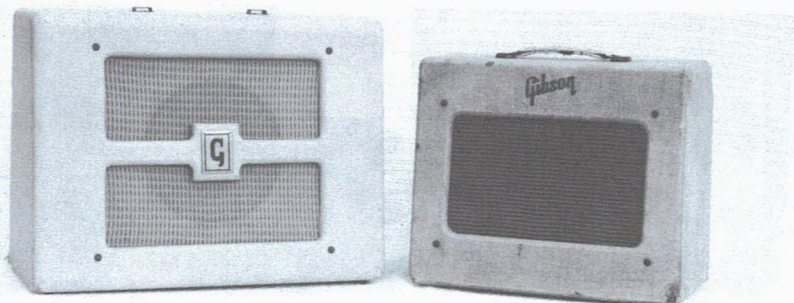


Figure 4. At left, The Gibson BR9 amp, ca. 1940s. At right, the Gibson Les Paul Jr. GA5, later renamed the Skylark, ca. early 1950s, uses a 6" by 9" speaker.

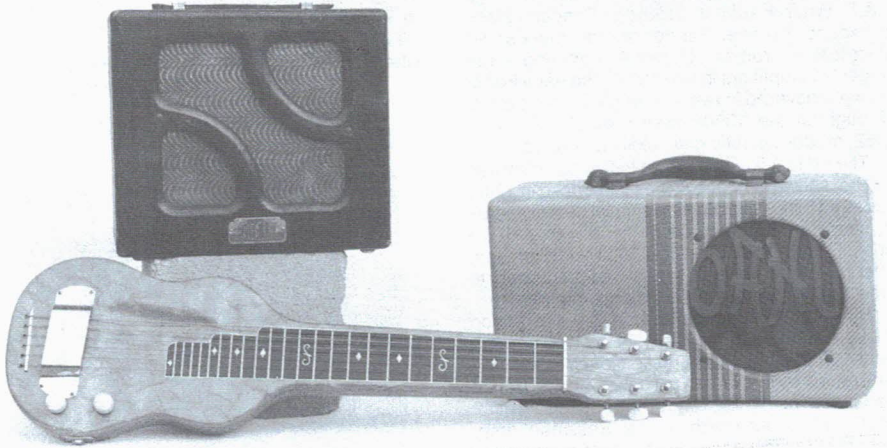


Figure 7. At left, the Magnatone Varsity amp, ca. early 1950s, in brown lizard Tolex. At right, the Oahu, ca. late 1940s, in tweed. Both amps have silk grille cloth. Foreground, a Magnatone laptop in blue iceberg.

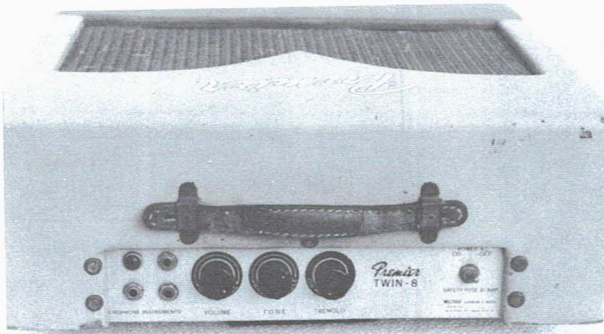


Figure 8. Top view of the Premier showing the pink anodized textured aluminum panel and brown Catalin knobs.

(Vintage Guitar Amplifiers, continued) time for surf music, and by 1965, 100-watt outputs were commonplace and more than the available speakers could handle.

Back in the 1940s, blues musicians from the Mississippi Delta area were traveling north and finding electric amplification handy in overcoming the din of voices and dancing feet in the clubs where they played. By pushing the small, often old amps to their limits, these musicians created a distortion rich in harmonics and added a new and exciting tonal range to the traditional Delta arrangements. This sound can be heard on record-



Figure 9. A trio of "black face" pre-CBS Fender amps, so named for the black painted control panels.



Figure 10. The Orange amp, an English import, showing unusual graphics.



Figure 11. From left to right: a Dickerson, an unknown make with an 8-inch speaker, and a Geb's.

ings by Howlin' Wolf, Muddy Waters, Elmore James and Little Walter. The idea of "amp" as musical instrument was not lost on a new generation of musicians and blues fans from across the Atlantic.

In this country, the "English Invasion" helped popularize English amps like Vox, used by the Beatles and Rolling Stones; Hiwatt, used loudly by The Who; and Marshall, used by Jimmy Hendrix. Marshall's early amps were a direct ripoff of the mid-1950s Fender-Bassman circuit. Fender amp covering went from tweed to white Tolex, then to brown, and finally to the black Tolex still used today, as shown in the three examples in Figure 9.

In 1966, CBS bought out Fender. At the same time, plans were made to reduce the output of the Twin, a very popular amp, from 100 watts to 85 in order to cut down on broken speakers. Sound suffered as a result and helped to create the myth that all CBS Fender amps were less desirable than the pre-CBS models. In truth, most of the Fender line was unaffected and came to

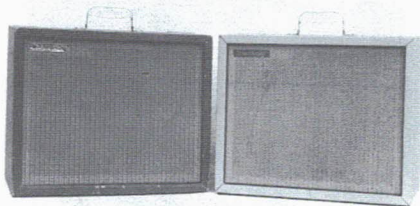


Figure 12. The Electro Models E-12 (left) and B9E, ca. late 1950s.

represent some excellent bargains for the collector or musician.

By 1970, some amp companies like Gibson and Vox had switched to transistors and lost their markets. Wattages increased, with the Ampeg SVT leading the pack with six Type 6550 tubes pushing out over 300 watts! The most powerful

(Continued on following page)

(Vintage Guitar Amplifiers, continued)

Fender was the Super Twin Reverb with six Type 6L6GCs and 165 watts rms. An English import, the Orange, shown in Figure 10, created interest with its unusual graphics, while Marshall became one of the most popular amps used in rock music. These 1970s amps enjoy popular collector status today.

Guitar amps make interesting collectibles. The



Figure 13. A Crown amplifier with a 12-inch speaker, ca. late 1950s.



Figure 14. The Traynor YSR custom reverberation amplifier, ca. 1972.

1930s models grouped from left to right in Figure 11 are a good example: a 1930s Dickerson, an unknown with an 8-inch speaker, and a late 1930s Gebbs in black leatherette, manufactured by the Western States Wholesale Corp. of Los Angeles, California. Figure 12 pictures an Electro Model E-12 in brown Telex coupled with an all silver Model B9E. Both were made by Rickenbacker in the late 1950s and produced through the early 1970s.

Another interesting model of the late 1950s is the Crown shown in Figure 13. This sweet performer has Type 6SJ7 pre-amp tubes, a Type 6SL7 inverter, two Type 6V6 output tubes, and a 12-inch Alnico speaker.

The 1972 Traynor YSR custom reverberation amplifier, shown in Figure 14, produces 50 watts from two Type EL345 tubes. The speaker cabinet houses six 10-inch speakers. The early 1960s Alamo amp from San Antonio, Texas, shown in Figure 15, might be described as "cheap but cute."

If you missed some of these treasures the first time around, many companies are re-releasing some of their more popular models. For example, Fender is reissuing an exact copy of the 1959 tweed-covered Bassman model. Vox Company's Model AC 30 is available again, and rumor has it that even the Orange amp may come back.

(Thomas Crocker, P.O. Box 11582, Glendale, CA 91226)

References:

- Brosnac, Donald. *The Amp Book*. Westport, CT: The Bold Strummer Ltd., 1987.
Pittman, Aspen. *The Tube Amp Book, Vol. 3*. Sylmar, CA: Groove Tubes/GT Electronics/Groove Tubes Audio, 1991.

Thomas Crocker began collecting vintage hi-fi amplifiers and broadcast equipment while working in radio in the early 1980s. He added vintage radios and guitar amps shortly thereafter. He is currently living and collecting in Glendale, Calif.

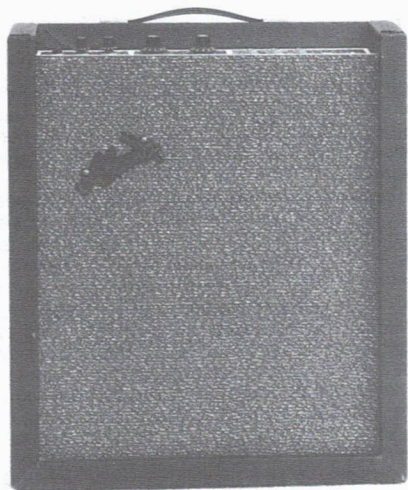


Figure 15. The Alamo, ca. early 1960s, San Antonio, Texas.

WITH THE COLLECTORS

The Marconi U.S. Army Field Set Sears Sells Marconi for the Masses

BY ARTHUR HARRISON

The following timely article reminds us of the "glory days" of the Sears catalog, soon to be a collector's item, since the company is phasing out this historic publication. (Editor)

A Sears Roebuck catalog entitled *Wireless Apparatus*, ca. 1916, describes and illustrates a portable wireless receiver and transmitter set manufactured by the Marconi Wireless Telegraph Co. of America. My collection includes the receiver only.

The complete set is shown on the following two pages which reproduce pages 64 and 65 from the Sears catalog. The set is comprised of four boxes with carrying handles — the receiver, the spark transmitter, and two battery boxes. This gear is especially interesting because it represents an early attempt at miniaturization and portability. One of the sales pitches is that it could be carried by two men.

Mounted in an ebony finished wooden case $5\frac{1}{4}$ x $5\frac{1}{4}$ x 13 inches, as shown in Figure 1, the receiver is comprised of a tiny Navy type loose coupler, its coupling controlled by a rod extending out through the end of the box, as well as a cylindrical variable condenser, tuned by means of a rod also extending from the same end of the

box. A crystal detector, a fixed condenser, and a compartment for storing headphones complete this compact receiver. The headphone compartment is missing on my set. The catalog claims that this receiving set ranges from 200 to 1,400 meters.

I am curious to know if anyone else has encountered this receiver. And does anyone have the companion transmitter in his collection?

Although the Sears catalog describes these four units as "The Marconi U.S. Army Field Set," I wonder whether the Army ever purchased these units. There is no date on the catalog, but a testimonial letter cited on page 2 is dated July 1916. The catalog was probably circulated before America's entry into World War I.

(Arthur Harrison, 501 Arbor Dr., Columbus, MO 65201)

Arthur Harrison's interest in radio goes back to 1938, but his serious collecting began in 1970 when he discovered an Atwater Kent metal radio for \$7 in a junkyard. He now collects all sorts of "junk," but antique radio, especially wireless apparatus, maintains its premier position among his interests. He has published articles in "Technology and Culture," "I.E.E.E. Spectrum," and A.R.C. of November 1992.

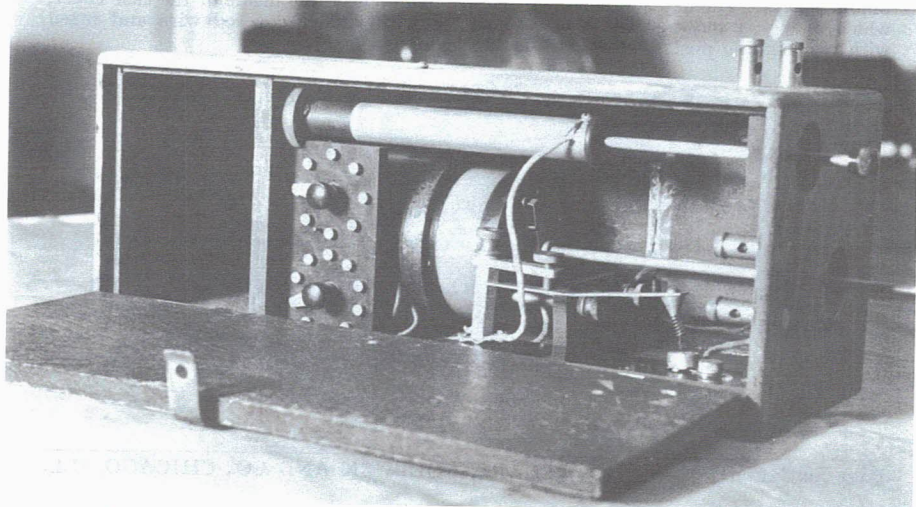
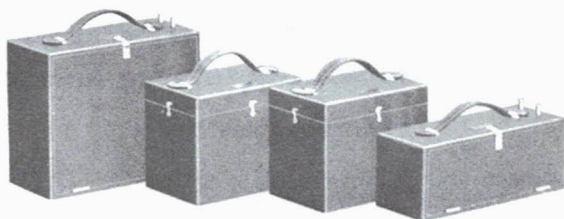


Figure 1. The Marconi portable wireless receiver that appeared in the 1916 Sears Roebuck catalog.

The Marconi U. S. Army Field Set

Made by

The Marconi Wireless Telegraph Co. of America



The Marconi Wireless Telegraph Co. have at last placed their long expected U. S. Army Field Set on the market. This company is too well known to need much said about the quality of its apparatus. Most everyone has seen a Marconi Wireless Station, either on land or on a boat, as they are scattered over the whole world.

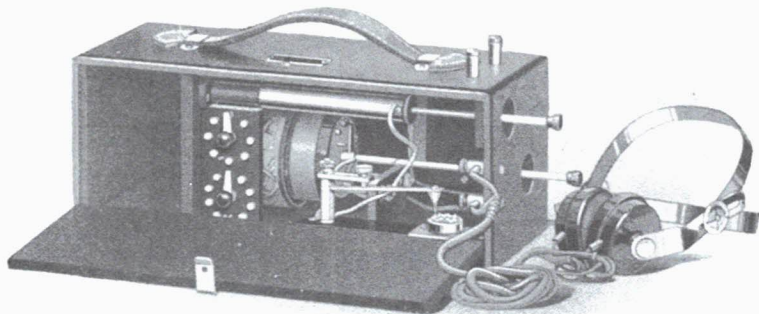
This set was finally brought out after elaborate experiments and tests. It has reached a distance of 20 miles transmitting and 500 miles receiving. This is very remarkable for an outfit so small.

The complete set consists of one transmitting set and receiving set and two battery boxes. The set can be carried by two men.

The transmitting set is mounted in an ebony finished wooden case, size $5\frac{1}{2} \times 10\frac{1}{2} \times 12\frac{1}{2}$ inches, fitted with leather carrying handle, spring catch, etc. The transmitting set is constructed as follows:

A special spark coil is mounted in the rear and at the top of the cabinet. This coil is not a stock coil, but is made especially for this set. It is as near a 100 per cent efficient coil as can be built this size. The vibrator used on the coil is extra heavy and adjustable. It is very fast and strong. Under the coil is the condenser. Special attention has been given this condenser, and its capacity is exactly right for use with this set. Condenser is of the plate glass type, mounted in an ebony finished wooden case.

An extra heavy spark gap is mounted on the condenser case, which is built for long and hard usage. The electrodes have cooling flanges and are made of zinc. The tuning coil is of heavy insulated wire, wound in a special rectangular shaped form. The capacity in the circuit may be varied by attaching the line to the different binding posts. The key and aerial switch are mounted on the inside of the case cover, which opens as shown. The set is connected with rubber covered wire and fitted with two binding posts. Its weight is $17\frac{1}{2}$ pounds.



The receiving set is also mounted in an ebony finished wooden case, $5\frac{1}{4} \times 5\frac{1}{4} \times 13$ inches.

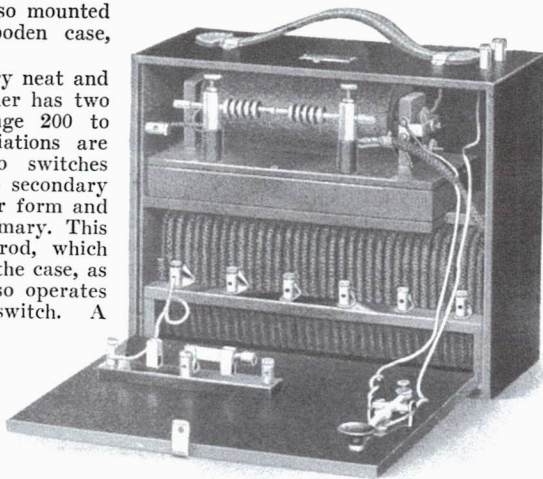
The receiving set is very neat and compact. The loose coupler has two primary variations. Range 200 to 1,400 meters. These variations are made by means of two switches mounted on a panel. The secondary is wound on a hard rubber form and slides in and out of the primary. This is done with the lower rod, which comes through the end of the case, as shown. This same rod also operates the secondary variation switch. A special tubular type variable condenser is mounted above the coupler. A fixed condenser is mounted in the rear of the cabinet.

The detector is of special design and construction and has a micrometer adjustment. The detector crystals are four in number and are mounted. Each piece is supersensitive. The receivers furnished are Murdock No. 55, 3,000-ohm. Ample space is provided for holding them. The set weighs 5 pounds.

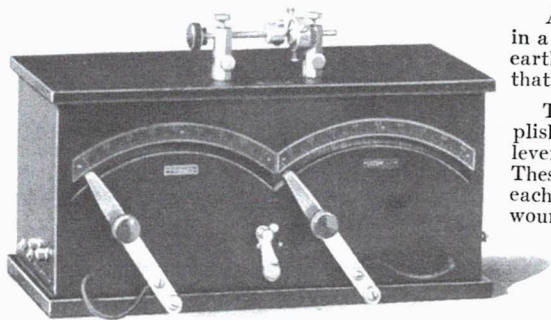
Two battery boxes, each holding 6 dry cells, are furnished complete with battery. They weigh 15 pounds apiece.

This set is specially recommended to military organizations, Boy Scouts, schools, camps, etc. Shipped direct from factory in NEW YORK. Shipping weight, complete set of four cases, about 90 pounds.

No. 57A7327½ Complete set.....\$65.00



Superior Cabinet Receiving Set



A very efficient receiving set in a cabinet to which the aerial and earth and the head receivers are all that is necessary to attach.

The entire tuning is accomplished by moving both of the levers on the front of the cabinet. These levers make contact with each and every turn of a specially wound primary and secondary coil.

A graduated scale is placed above each lever.

The coupling between the primary and secondary is fixed at the proper value for best results.

With suitable aerial of from 50 to 150 feet, this set will tune up to about 3,500 meters.

The small switch in the center connects in the circuit the proper condenser capacity to receive the longer waves. For receiving short waves this switch is left open.

A two-crystal Cup Detector is mounted on top of the cabinet and two crystals or minerals are furnished with each set.

The cabinet is handsomely finished in Circassian walnut. Detector and levers are nickel plated. Size over all of cabinet is $13\frac{1}{4}$ inches long, $5\frac{3}{4}$ inches wide, $8\frac{1}{2}$ inches high. Shipping weight, about 6 pounds.

No. 57A7207 Superior Cabinet Receiving Set.....\$10.75



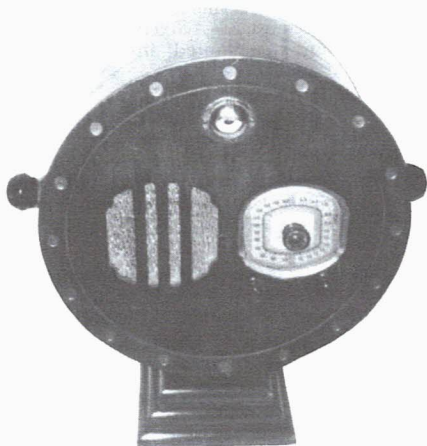
PHOTO REVIEW



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.



RCA VICTOR TOMBSTONE MODEL 8BT – This 8-tube battery set, manufactured in 1938, features three bands and is in completely original condition. (*David Wiggert – Onalaska, WI*)

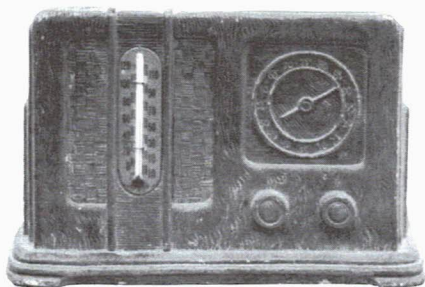


MYSTERY RADIO – This BC-SW set uses 6 octal tubes plus a ballast tube. A paper label on the back panel identifies it as "G & F Radio Patent Pending," while a patent licensing tag on the chassis carries the serial number 25-15584. Any further information on this set would be greatly appreciated. (*James Mason – Beaverton, OR*)

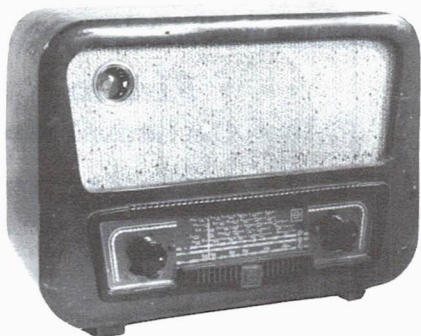


GREBE CR-5 – This set, manufactured in Richmond Hill, N.Y., is an early version of the CR-5, with the tube exposed and an open rheostat. (*Will Jensby – Santa Clara, CA*)

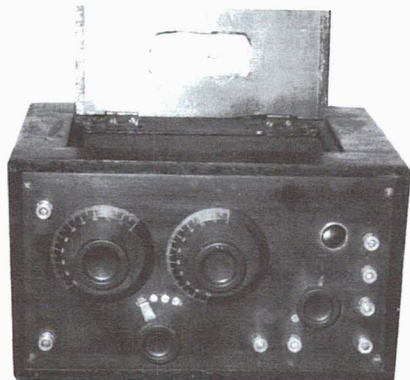
PHOTO REVIEW



RADIO THERMOMETER – This unusual presswood radio thermometer with lifelike controls and dial measures 6 inches wide, 4 inches high, and 2 inches deep. It is labeled "Ornawood" and was made in the U.S.A. (Randy King – Lincoln, NE)



HORNYPHON MODEL 321 – This European set, circa 1953, has shortwave bands, a phono connection and a tuning eye. The country of origin is unknown, but instructions are in English, German, and French. (Ron Boucher – Goffstown, NH)



MONROE TYPE DA-7 – This 1-tube radio was made in Chicago under the usual Armstrong 1914 patent. Note the raised lid with the recessed original label. (Mike Nall – Grayslake, IL)



TELEFUNKEN BAJAZZO DELUXE – This teakwood case German portable has AM/FM, two SW bands, and multivoltage or 6 D cells. It features 3 FM preset push buttons, each with its own tuner. (Randy King – Lincoln, NE)



NUNN-LANDON – Made in Milwaukee, this set has 5 tubes — (3) Type 201As and (2) Type 112s. It also has a Bakelite chassis with tube sockets that have vibration reducing mountings. (Mike Nall – Grayslake, IL)

RADIO SURVEY

Philco Radio Survey

Philco Cathedral Models 20, 21, 70 and 90

BY RON RAMIREZ AND RON BOUCHER

In the June 1993 issue, A.R.C. published an excerpt from Ron Ramirez's forthcoming book "Philco Radios: 1928-1942," as well as his article providing a tube data code to determine a set's date of manufacture. His research, along with fellow collector Ron Boucher, is never done. They continue to seek information and to try to assist other collectors in identifying Philco models. Here they provide a data guide particularly for cathedral models and ask that you help in their research by answering the accompanying questionnaire — anonymously, if you so desire. Console information would also be welcome. A.R.C. will publish the results in a later issue. (Editor)

The Philco Models 20, 21, 70 and 90 are among the most popular cathedral radios with collectors today. However, you may not be aware that these models have differences, such as cabinet design, circuitry, tube complement, knob types, etc. Figures 1 and 2 show the cabinet-style differences between the Philco Model 20 with a plain scroll front and the Model 20 Deluxe with a curly maple arch and columns. Figure 3 shows a Model 70 cabinet, which closely resembles the Model 21. Figure 4 shows the Model 90, similar in cabinet design to the Model 70 only larger.

We have prepared the Data Guide (See Table 1) to assist collectors in more accurately identifying variations in these Philco models. If you own or have access to a Philco Model 20, 21, 70, or 90, we ask that

you compare the features shown in this data guide with your radio(s), answer the survey questionnaire, and send us the results.

BASIC IDENTIFYING METHODS

In addition to cathedral models, Philco produced a variety of cabinet styles and employed two basic methods to identify cabinet styles and other features. Starting with the 1932 model year, Philco began using the "B" to designate a "Baby Grand" cabinet, which we now call a cathedral. In the early 1930s, the generic name was "Gothic." There were also other designations like "L" for lowboy, "H" for highboy, "C" for compact, "K" for consoles, etc. However, before the 1932 model year, these letter designations were not used.

In the 1930 and 1931 model years, Philco had another method of distinguishing cathedrals from other cabinet types. For example, a Model 70 was a cathedral, a Model 270 was a radio-phonograph console, and a Model 570 was a grandfather's clock.

There were also different chassis types: a Model 70 chassis was for 60 cycle AC power; a Model 70A was for 25 to 40 cycle AC; and a Model 70E was the export version. The tube layout diagrams sometimes found on the sides of the tube shields on some of these radios usually list this information.

See the box for a more complete list of suffix letters used to differentiate among models.

There were battery-operated farm radio versions



Figure 1. The Philco Model 20 cathedral with a plain scroll front.



Figure 2. The Philco Model 20 Deluxe cathedral with a curly maple arch and columns.

also. The battery-operated version of the Model 70 is a Model 35. If you have a farm version, please let us know about it.

We are mainly compiling information on cathedral models, but if you own console versions, please feel free to share that information with us. For example, is anyone aware of a Model 21 console? Was there such a model, and if so, what can you tell us about it? If you think you have a Model 21 console, we would be interested in seeing a photograph.

Serial Numbers and Dates

It is important that you provide the serial number and date of manufacture for each of your sets. All the serial numbers we have seen are 6-digit numbers. Apparently when the company got to 999,999, a letter was substituted for the first digit — A12345, for example.

Since many of the cabinets have dates rubber-stamped on the bottom of the cabinet, we have a chance



Figure 3. The Philco Model 70 cabinet, which closely resembles the Model 21.



Figure 4. The Philco Model 70, similar in cabinet design to the Model 70, but larger.

of correlating the date, serial number, and features to find out when these changes occurred. The results might allow us to come up with a chart or graph that could be used to pinpoint when a particular radio was made from the serial number or other feature, even if that radio had no date stamp.

Knowing that the cabinets were not made in the same area of the factory as the chassis, we realize that the serial numbers on the chassis and the date stamps on the cabinets might not correlate one hundred percent, but we think sufficient responses to this survey should help to make sense of the numbers. It is important to note if you have any doubts that the chassis came originally with the cabinet.

Data Guide Explanation

Since there are many variations in the models being surveyed, even experienced collectors sometimes have difficulty making a proper identification. The Data Guide in Table 1 is intended to aid those who may have only one set and no others with which to compare it. They can now identify their models more easily and provide the information we request.

The Data Guide provides basic information for each model in the survey. Be sure to check this information against the features of your set, and indicate on the survey questionnaire agreement or differences.

Model. This column lists the models included in the survey. Note that Model 21 has an "early," "late," and "very late" version with chassis variations.

Serial Number. Please enter the serial number for each of your radios.

Date of Manufacture. Look for a date stamp, usually rubber-stamped on the bottom of the cabinet, and enter the date in this column. Note: Models 70 and 90 show different manufacturing periods for the same model number, so be sure to check the date of manufacture of your set against the data given.

Cabinet Type/Decal. Please circle whether your Model 20 cabinet is "plain" or "deluxe." Also please note any cabinet variations in the other models and indicate if your radio has a patent design decal on the rear arch of the cabinet.

Knobs. This column identifies two different knob styles commonly referred to as "plain" or "rosette," as
(Continued on following page)

Suffix Letters used with Model Numbers

Suffix	Models
A	25 to 40 cycle AC
B	Baby Grand (cathedrals and later tombstones)
C	Compact (table model)
D	Highboy with doors
DX	Inclined sounding board and tambour doors (Model 15DX only)
E	Export version
F	Console
H	Highboy
J	Console
K	Console
L	Lowboy
LZ	Lazyboy (chairside)
LZX	Lazyboy (inclined sounding board)
RX	Remote Control (chairside) with inclined sounding board
T	Table model
X	Inclined sounding board

(Philco Radio Survey, continued)

shown in Figure 5. Please indicate if the knob style listed does not agree with the knobs on your set(s).

AVC. Model 70 sets without Type 35 tubes do not have AVC. For Model 90, if the set has the "normal-maximum" toggle switch on the back of the chassis, it does not have AVC.

Switch. Some Model 90 sets have a "Normal-Maximum" switch on the rear of the chassis and some do not. Check your set for the presence of this switch.

Escutcheon. If you have a Model 70, does it have a metal or Bakelite escutcheon? (The escutcheon is the ornamental plate surrounding the tuning dial scale.)

Tubes. The number of tubes and tube types is very important. Carefully check the tube complement of your set against the tube complements shown in this column.

Trimmer. If you have a Model 20 or 20B, note that a chassis can have 1, 2, or 3 trimmer condensers. These "trimmers" are screw-type adjustments usually mounted on the variable tuning capacitors. Please indicate whether your set has 1, 2, or 3 trimmers.

A "Remarks" line is provided at the bottom of the form. Please add any comments that may be helpful.

Figure 6 shows the typical locations for the patent design decal (top), the model number label (right), and the serial number (left). Figure 7 shows the tube layouts for the Models 20, 21, 70 and 90.

The Survey Questionnaire

Please note that this survey is being done for research purposes only and not to find out who owns these sets. Therefore, you may want to submit your information anonymously. Send your response to: Ron Ramirez,

811 Maple St, Providence, KY 42450. The data will be compiled, and the results will be reported in a later issue of A.R.C.

(Ron Ramirez, 811 Maple St., Providence, KY 42450)
(Ron Boucher, P.O. Box 541, Goffstown, NH 03045)

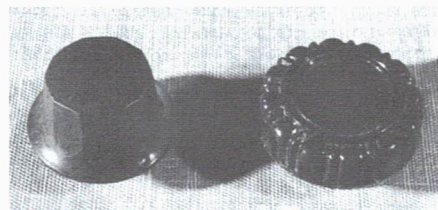


Figure 5. Plain and rosette-style knobs.

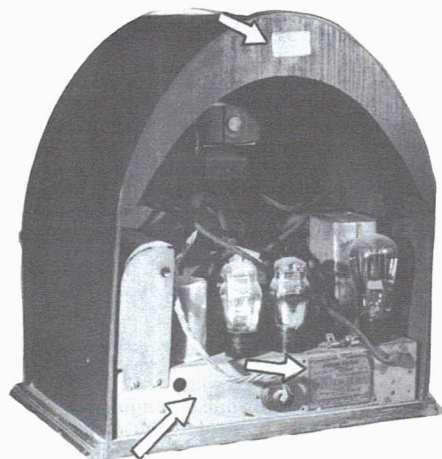


Figure 6. Decal (top), model number (lower right), and serial number (lower left) locations.

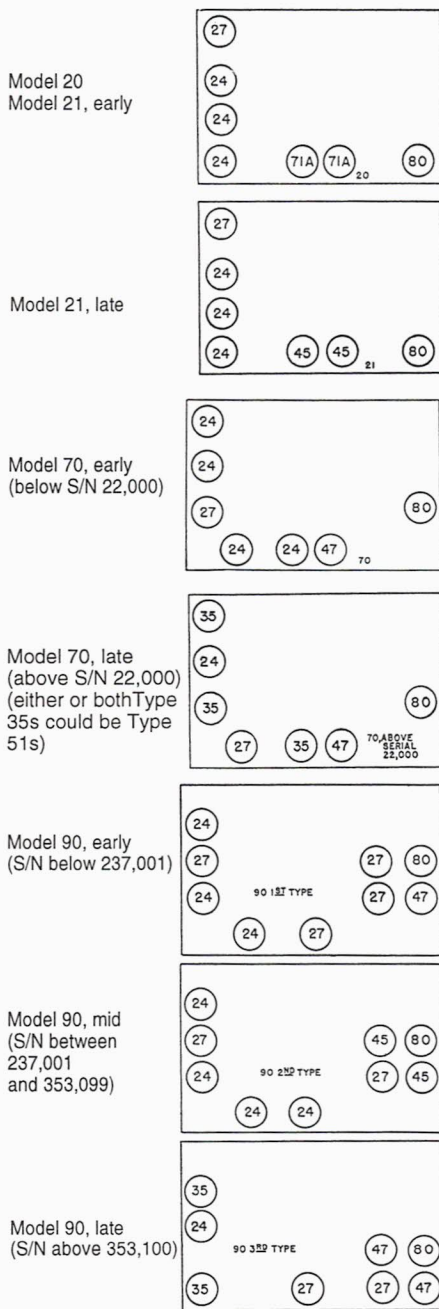


Figure 7. Tube layouts for Models 20, 21, 70 and 90.

Table 1: Data Guide

Model	Early, mid-, late or very late	Cabinet Type	Knob Type	AVC	Norm.-Max. Sw.	Escutcheon type	No. of Tubes-Types	Number Trim.
20		Plain or Deluxe	Plain	No	No	Metal	3-24, 1-27, 2-71A, 1-80	1, 2 or 3
21	Early (has Mod. 20 chassis)	Same as Model 70	Plain	No	No	Metal	Same as Mod. 20	3
21	Late (has Mod. 21 chassis)	Same as Model 70	Rosette	No	No	Metal	Same as Mod. 20	3
21	Very late (has Mod. 21 chassis)	Same as Model 70	Rosette	No	No	Metal	3-24, 1-27, 2-45 1-80	3
70	Early, 6/31 to 12/31 (Below Serial # B-22,000)		Rosette	No	No	Metal or Bakelite	4-24, 1-27, 1-47, 1-80	3
70	Late, 1/32 to 5/32 (Above Serial # B-22,000)		Rosette	No	No	Metal or Bakelite	4-24, 1-27, 1-47, 1-80	3
90	Early, 6/31 to 9/31 (Below Serial # 237,000)		Rosette	No	Yes	Metal or Bakelite	4-24, 2-27, 2-45, 1-80	4
90	Mid-, 10/31 to 12/31 (Above Serial # 237,000)		Rosette	Yes	No	Metal or Bakelite	2-24, 4-27, 1-47, 1-80	4
90	Late, 1/32 to 5/32 (Serial #s B-32,001 to B-35,000 and above # B-53,100)		Rosette	Yes	No	Metal or Bakelite	3-24, 3-27, 2-35, 2-47, 1-80	4

Survey Questionnaire

Please answer the questions below for each Philco Model 20, 21, 70 and 90 that you have available for examination. Use the information in the article, the Figures, and Table 1 to help with your answers. (Feel free to photocopy this questionnaire for each set.) Send your response to Ron Ramirez, 811 Maple St., Providence, KY 42450. A.R.C. will report on the results of the survey in a future issue.

1. Model number (and suffix letter, if any)
2. Serial number
3. Date of manufacture
4. Cabinet type: **cathedral, console, highboy, lowboy, chairside**, other?
5. Does the set have a "patent design decal" on the rear arch of the cabinet? ...
6. Is the knob type **plain** or **rosette**?
7. Total number of tubes
8. For each tube type, list number-type
9. For the Model 20, is the cabinet **plain** or **deluxe**?
10. For the Model 20, are there **1, 2** or **3** trimmers?
11. For Models 21, 70 & 90, is the set an **early, mid, late** or **very late** model? ...
12. For Models 70 & 90, is the escutcheon made of **metal** or **Bakelite**?
13. For Models 70 & 90, is there a "normal-maximum" switch? (**Yes** or **No**)
14. For Models 70 & 90, does the set have AVC? (**Yes** or **No**)
15. Do you have doubts that the chassis came originally with the cabinet? (**Yes** or **No**)
16. Comments

Optional: Name: _____
 Address: _____
 Telephone: _____

MUSEUM MUSINGS

The NFWA Museum Exhibit Amherst Museum, Amherst, N. Y.

BY LARRY BABCOCK

The Niagara Frontier Wireless Association (NFWA) has built and installed an exhibit of club members' antique radios at the Amherst Museum Colony Park in Amherst, New York, near Buffalo. The exhibit consists of a replica of a 1920s radio storefront with members' radios displayed behind the windows in a vintage setting, as shown in Figure 1. Artifacts are changed on a yearly basis so that there will be a different exhibit each time the annual NFWA/AWA (Antique Wireless Association) meet is held in August.

This first display has been dedicated to those who made the exhibit possible through financial contributions to the club. Included are Harry Houck and the Quaker Oats Company; a display window is assigned to each.

RADIOLA PRODUCTS DISPLAY

At the bottom of Figure 2 a framed photo shows Harry Houck as he appeared at the club's presentation on Armstrong. Pictured with Harry is his invention, the Radiola Second Harmonic, in which he developed the concept of utilizing the second harmonic of the oscillator to beat with the incoming signal.

This set is prominently shown in the lower part of the display. It is complete with the required batteries, horn speaker, optional external loop antenna, a few spare tubes, and an original copy of the booklet "Radio Enters the Home." Other early Radiola products shown include the following: on the lower shelf, the Radiola I, the Radiola RC, and the Radiola II; on the left of the top shelf, a Radiola Senior with its matching 2-stage Model AC amplifier; to its right, a common Radiola IIIA, except that this one has transistorized WD-11 tubes and functions with just a single 6-V battery. The Radiola IIIA will also function in the original manner with regular WD-11 tubes. I own the equipment in this picture

QUAKER OATS COMPANY DISPLAY

In 1919 and 1920, Quaker Oats boxes came with the coil already wound under the label. For a dollar you could send for all of the hardware and parts required to convert the box into the Quaker



Figure 1. Antique radio storefront built by NFWA club members to display their radios in the Amherst Museum.



Figure 2. Display of early Radiola products, owned by Larry Babcock, including the Second Harmonic set invented and developed by Harry Houck.

Oats crystal set. NFWA president Floyd Engels works for Fisher Price which was owned by Quaker Oats. Consequently, he became interested in radios using the round cardboard Quaker Oats box as a coil form.

Floyd's display window shows a collection of early Quaker Oats containers and a few home brew sets, including RF coils wound on Quaker Oats boxes. The highlight of his display is two beautiful Quaker Oats crystal sets, shown in Figure 3. As the club craftsman, Floyd is also responsible for building the sections of the antique radio display storefront in his basement.

SERVICE BENCH DISPLAY

A typical early 1920s radio service repair bench arranged by Art Albion is shown behind another store window. This display includes a number of old tubes, parts, tools, test equipment, signs, and even a telephone from the period. All are arranged to service a malfunctioning 1920s radio being tested on the service bench.

CARBORUNDUM PRODUCTS DISPLAY

Also included is a display window of early Carborundum products related to radio, planned and installed by Marvin Hess. As far as I know, Carborundum, a local company, never built a complete radio for sale, but it did supply glass grid leak resistors, detectors, and similar products. The company even built a detector in the shape of a 4-pin radio tube. This device could be plugged into the set in place of the detector tube; a knob on the tube, which was the shape of the glass envelope, adjusted the bias voltage to the detector unit inside. No modification to the set was necessary to utilize this plug-in detector unit.

VALUE TO THE PUBLIC AND THE CLUB

The 25-foot wide storefront displays the NFWA club banner behind the center entrance door. A set of Rider's manuals is available to the public at a research desk to the right of the antique radio display, and the club provides a guide in the room during major events at the museum. To date, the exhibit has proved to be very popular with the public. The storefront adds interest to the exhibit, minimizes dust and cleaning requirements, and protects the artifacts from theft and damage.

This project has also proved to be an excellent way of unifying the club. Not only do members have an outlet for showing off radios from their collections, but also they can work together on such projects as building the storefront displays and planning future shows. The latest exhibit features Federal products, since Federal is one of the most interesting and well known of early local radio manufacturers.



Figure 3. Two Quaker Oats box crystal sets, ca. 1919.

The exhibit includes a display of all the better known earlier Federal sets, as well as some prototype sets and Federal parts provided by NFWA members. Items from the Federal broadcast station, still operating as WGR, are also displayed.

THE AMHERST MUSEUM

The Amherst Museum has an entire room devoted to radio. The museum's collection of consoles includes a Scott and a George Walker Victoreen. It also contains the personal collection of Van Brooks, who was building and operating his own amateur spark gap station during the days before broadcasting.

The NFWA storefront display is located in the Brooks Hall of Communication. Other changing and permanent exhibits include technology and aircraft, and items owned by U.S. presidents. Also, a number of early historical buildings have been moved to the museum site and restored for viewing by the general public.

The Amherst Museum is open Tuesday to Saturday, 10:00 A.M. to 4:30 P.M. and closed Sundays, Mondays, and major holidays. There is no admission charge. It may be reached from Exit 49 of the N.Y. State Thruway by traveling north 9 miles on Transit Rd. (Rt. 78) to the first Tonawanda Creek Road (not the second), and then 2 miles west to the museum. For more information, call (716) 689-1440.

(Larry Babcock, 8095 Centre Ln., East Amherst, NY 1405)

Larry Babcock, an electrical engineer, worked for Bell Aircraft designing military electronic systems from 1950 to 1986. For about 17 years, he has specialized in collecting antique radios that are usually made locally, such as Branston, Wurlitzer, Promenette, Federal, and others. A director of the AWA, he also served as NFWA president for 3 years. He has been editor of the "NFWA Chronicle" for 9 years.

RESTORATION TOPICS

Line Voltages and Old Radios

COMPILED BY RAY BINTLIFF FROM RESPONSES OF:
ANDY BURNETT, THEODORE J. COHEN, AND ROBERT W. DOWNS

The "Radio Miscellanea" section in the February 1993 issue of A.R.C. included a letter from Donald Manssen in which he sought information regarding the effects of present day AC line voltages on old radios designed for operation at 110 or 115 volts. The many answers received from readers are included in the following article. Such an exchange of information is one of A.R.C.'s mandates, and we're grateful to our readers for their responses. (Editor)

POSSIBLE PROBLEMS

Some undesirable conditions can occur when old radios, designed for use on 110 volts, are operated at today's line voltages of 120 to 125 volts. Higher than normal filament and B+ voltages will be produced in the radio which, in turn, may cause premature failures of tubes and components.

LINE VOLTAGES PAST AND PRESENT

During the 1930s, line voltages were usually referred to as "110" and "220" (110 volts measured from line to neutral and 220 volts from line to line). In the 1950s and 1960s, line voltages of 115/230 volts and 117/234 volts were considered common, if not standard. The present standard of 120/240 volts was established in 1970. In practice, it is not unusual to find line voltages as high as 125 volts.

EFFECTS OF HIGH LINE VOLTAGES

The possible effects of a high line voltage can be demonstrated by the following "worst case" example. When operated at 125 volts, a radio designed for use at 110 volts will produce higher internal voltages, draw higher currents, and consume more power. As a result, a greater amount of heat will be generated within the radio. Excessive heat is a common cause of electronic component failure.

If a radio develops a filament voltage of 6.3 volts when operated on 110 volts, then operation at 125 volts will produce a filament voltage of nearly 7.2 volts ($125/110 = 1.136$) ($1.136 \times 6.3 = 7.16$). Likewise, a B+ supply of 285 volts would increase to about 325 volts, a difference of 40 volts.

Vacuum tube design allows some variation in the normal operating voltage and current of tube filaments. However, if the applied voltage is too high, tube life may be shortened because of the rapid evaporation of the tube's cathode coating.

Generally, variations in filament voltages should not be greater than 10% with 5% being a more

desirable value. Since the example shown above indicates about a 14% increase in filament voltage, reduced tube life could be expected.

The effects of increased voltages in the B+ supply are not quite as clear. But, higher B+ voltages may cause insulation breakdown in audio transformers, filter chokes, field coil windings and other components. Because electrical components are usually selected with a margin of safety in mind, the chance of failure depends upon the safety factor chosen by the circuit designer. As an example, the rated working voltage of capacitors generally exceeds their actual operating voltage.

However, these safety margins are valid only for new components. Because of the effects of aging, original components found in an old radio may be less tolerant to increased voltages particularly when higher operating temperatures are present. Clearly, certain risks are present when an old radio is operated from line voltages that are too high.

REMEDIES

Some old radios include a means for allowing safe operation over a range of line voltages. Usually, this feature takes the form of a tapped primary on the power transformer that can be changed to suit the available line voltage. If your radio has such an arrangement, your problem is solved. If it does not, there are some easy solutions.

The simplest solution is the use of a variable transformer which can be used to adjust the line voltage to match your radio's requirement. These transformers are perhaps best known by their trade names of Variac and Powerstat. Typically, they provide a continuously variable voltage output from 0 to 120 volts or 0 to 140 volts. Some of these units include an AC voltmeter which makes adjustments more convenient. Others require the use of a separate AC voltmeter. Prices for these units range from \$40 to \$100 when purchased new. Used units can be found in radio flea markets for considerably less.

A less expensive, but satisfactory, alternative is available. Figure 1 shows the schematic diagram of a filament transformer wired as a voltage-adjusting autotransformer. The transformer's rated secondary voltage will determine the amount of voltage step-down (or step-up, depending on how it is wired) that it will produce. If a transformer has a 6.3 volt secondary, it can reduce the 120-volt line voltage to 113.7 volts.

To achieve an output voltage of 110 volts, the

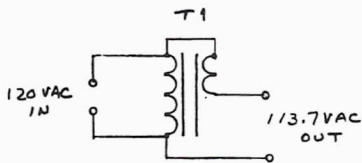


Figure 1. Simple step-down transformer arrangement. T1 is a 6.3 VAC filament transformer.

filament transformer's output voltage would need to be 10 volts. Such a transformer may be difficult to locate, but transformers with an 18-volt center-tapped secondary are readily available. In this case, only one half of the secondary is used to furnish 9 volts, a value that is close enough to the desired 10 volts. A schematic diagram for this circuit is shown in Figure 2 along with some additional features that you might want to incorporate, such as an Off-On switch, fuse, indicator lamp, AC voltmeter and AC ammeter. Make certain that the color code for the line cord and receptacle wiring are observed. The black wire is the "hot" wire, the white wire is neutral, and the green wire is ground.

CONSTRUCTION

In the interest of safety, the filament transformer and any components that you choose to add should be installed in a metal or plastic enclosure. The current rating of the filament transformer's secondary should not be less than

the current drawn by any radio connected to it. In fact, derating the transformer by 10% is recommended; (do not draw more than 1.8 amperes through a transformer rated at 2 amperes). Proper connection of the filament winding to the primary winding is important to achieve the step-down function. The output voltage should be measured after the transformer is wired. If the output voltage is greater than the line voltage, then the two wires from the secondary winding must be reversed and the line voltage checked again.

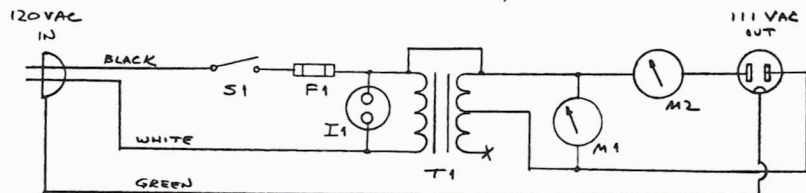
CAUTION!

A filament transformer wired as described above and a variable transformer both operate as autotransformers and *do not provide isolation from the power line*. An isolation transformer must also be used when appropriate, such as the operation of AC/DC radios or any device that is connected directly to the line voltage. As in the case with any equipment operated from AC power lines, lethal voltages are present and safety precautions must be observed.

OPERATION

The adjustable transformer provides a greater range of voltage control, but the filament transformer arrangement offers the advantage of lower cost. Either device will permit the operation of your old radios at a lower line voltage that may extend their useful life.

(Ray Bintliff, 2 Powder Horn Ln., Acton, MA 01720)



S1 SPST switch
 F1 2-amp fuse
 T1 18 VAC, center-tapped, 2-amp transformer

I1 120 VAC neon lamp
 M1 150 VAC voltmeter (optional)
 M2 3-amp AC ammeter (optional)

Figure 2. Schematic diagram of a practical step-down transformer box.

Kudos to A.R.C. and Advertiser

Dear Editor:

At our winter swap meet [Mid-America Antique Radio Club] held last Sunday (2/21/93), we had an excellent turnout in attendance thanks to your continuing efforts to support regional radio clubs by offering advertising for antique radio club meets. I am always approached by someone asking about the availability of periodicals and literature related to the antique radio field. Your magazine is *definitely* my first recommendation!! Keep up the good work!!

Stephen N. Phipps, Merriam, KS

Dear Editor:

I want to applaud Jack Shaymow of Vintage Electronics, Deerfield Beach, Fla., for his outstanding service. He described an item for sale in A.R.C. with complete accuracy and honesty. (Unfortunately, some dealers have a liberal definition of "mint condition." I feel all flaws and imperfections should be brought to the attention of a prospective buyer.) In addition, his meticulous attention to packing, shipping, and follow-up was exemplary. Let's all strive to keep high standards in our hobby.

P. Taber, Asheville, NC



MEET & AUCTION REPORT

MAARC Spring Auction Kansas City, Kansas — April 18, 1993

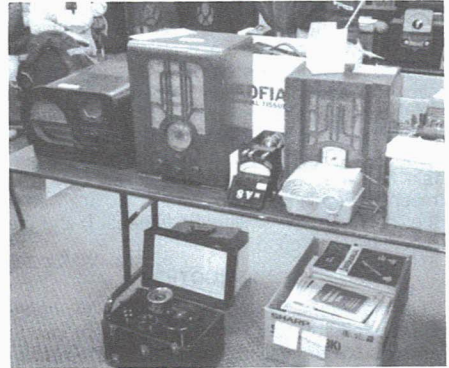
CONTRIBUTED BY JULIE AND JOHN LYLE

The Mid-America Antique Radio Club (MAARC) held its spring auction on April 18, 1993, at the Best Western Village Hall, 501 Southwest Blvd., in Kansas City, Kansas. Approximately 100 club members attended, and over 320 items were sold. The total proceeds were just under \$9,000. Among the interesting items sold were a Federal F-10 Orthosonic, which went for \$90, and a Fada 1-tube radio, selling at \$225.

MAARC holds auctions in the spring and fall, and swap meets in the summer and winter. The next swap meet is scheduled for July 25, 1993, at the above auction location.

The following is a selection of items from the auction. Conditions were not listed.

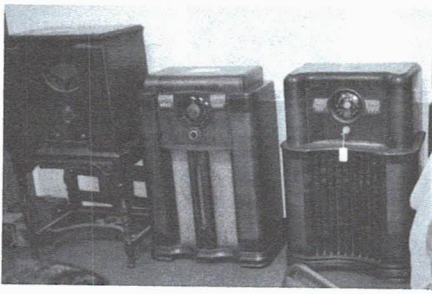
Admiral Bakelite	\$15
Admiral, wood radio	40
Airline 1-tube	120
Airline 62-475, works	45
Airline Bakelite	25
Airline Bakelite, as is	30
Airline console	5
Airline metal radio, as is	20
Airline Movie Dial	30
Airline power supply, works	40
Airline radio, 1940	10
Airline radio, wood	25
Airline tombstone, works	55
Airline, Bakelite	15
Airline, white	20
AK 55 metal radio	15
AK 60 console	40
Aladdin battery radio, with tubes	60
ARC-5 transmitter	10
Arvin 8-tube radio	25
Arvin green, works	15
Arvin metal radio	25
Arvin metal radio	25
Baby Grand console	40
Baldwin speaker, works	35
Belmont 6D111, repainted	85
Bendix Bakelite	20
Blabber Mouse, novelty	10
Bonzo novelty	35
Bonzo salt/pepper shakers, N.I.B.	5
Book radio and box of misc. radios	55
Brooks tuner, chassis	10
Bud Code Master	10
Bulova portable, hums	5
Clarion portable	5
Coronado 550	20
Coronado battery set, (2)	5 ea.
Coronado, Bakelite	5



A sampling of the varied items on display before the auction.

Coronado, wood, hums	15
Crosley 5-tube, red	25
Crosley 6H2 console	85
Crosley 51, with tubes	50
Crosley 51SD	55
Crosley Bakelite, white	10
Crosley clock radio, (2)	5, 35
Crosley Deco, hairline crack	20
Crosley table radio, wood	40
Crosley tombstone	45
Crosley Trirdyn, untested	55
Crosley, green	40
Crosley, green	70
Crosley, repainted	45
Crystal radio lamp	55
Dahlberg Pillow Speaker radio	65
Dials and parts, box	15
Edison cylinder records, box lot	10
Emerson 558 portable	25

A warning: Auction prices are not current values. A listing such as this cannot adequately include the condition of cabinets, chassis, transformers, tubes, the operating status of the set, and the inclusion of incorrect, restored or replica components, etc. Auction prices are the result of the excitement of the auction process, the skill of the auctioneer and the specific interests of the participants. Nevertheless, auction prices serve as useful references and as another element in the value determining process. The possibility of error always exists, and if we are notified, corrections will be reported.



Some of the many consoles in the auction.

Emerson AC/DC, works	60
Emerson wood radio	140
Fada 1-tube radio	225
Fairbanks 68, wood	20
Federal F-10 Orthosonic	90
Firestone tombstone	25
GE 140 portable, works	15
GE clock radio, red	15
GE console	30
GE S-22A tombstone, working	60
GE table radio	40
General Radio Variac	15
German table radio	25
Grunow tombstone	45
Hallicrafters radios, (2)	40
Hallicrafters S-38	15
Hallicrafters S-38A	30
Hallicrafters S-38B	30
Hallicrafters S-38C	20
Hallicrafters S-38D	15
Hallicrafters S-40	45
Hallicrafters S20R, works	25
Heath capacitor tester	5
Heath tube tester	20
Home brew 1-tube, uses WD-11	45
Home brew amplifier	5
Knight radio, 1941	15
Literature, box	25
Magnus organ	25
Majestic 5A410, 1946	30
Majestic 15 console	20
Majestic 50 cathedral	120
Majestic portable, works	25
McIntosh Elec., medical	45
Medical quack machine	20
Meissner, wood	15
Melrose Bakelite	10
Melrose, wood	35
Mickey Mouse, novelty	15
Midland Radio Course book	5
Midwest 442, metal radio	25
Mitchell 1251, repainted	12.50
Mitchell Bedlamp radio	20
Mitchell clock radio	25
Mohawk battery radio	70
Motorola 7" TV	60
Motorola 52H	5
Motorola portable	30
Motorola portable, 1946	20
Motorola portable, maroon	20
Motorola, plastic	5
Motorola, plastic	5

Motorola, untested	10
National NC-155, works	35
Parmak console, battery	55
Peerless speaker	20
Penthouse bar radio, wood, Deco	150
Philco 37-11 console	40
Philco 38-38	35
Philco 41-195, wood	5
Philco 48-482	15
Philco 60 cathedral, works	45
Philco 70 cathedral	160
Philco 551, as is	160
Philco AM/FM, works	15
Philco Bakelite	15
Philco Bakelite radio, works	25
Philco Bakelite radios, working, (2)	30
Philco cathedral, works	65
Philco clock radio, red	10
Philco table radio, wood, untested	35
Philco table radio, works	15
Philco Transitone	25
Philips radio	15
Piano rolls, box	5
Play Mor, cracked case	5
Play Mor, works	45
Portable radios, box	20
Power supply, 6/12 volt, works	30
Quack medical machine	25
Radichron cathedral, cabinet only	5
Radio Boys book (1), Tom Turner adv. (1)	10
Radio parts, 2 boxes	40
Radio Shack communications receiver	20
Radios and tubes, box	10
Radios, box of 3	50
Radios, box of 4	20
Radios, box	25
Radios, box	35
Radios, box	50
Radios, misc., box	25
Radios, misc., box	60
Radios, misc., box of 3	30
Radios, misc., box of 4	5
Radios, misc., box	15
Radios, misc., box	45
Radios, misc., box	50
RCA 5BT tombstone, battery	15
RCA 19K console	95
RCA 66BX, portable	5
RCA AM/FM, Bakelite	25
RCA Bakelite, white	20
RCA Globetrotter, green	15
RCA Radiola 103 speaker, works	70
RCA Strato-World	40
RCA tombstone	60
RCA with brass front	5
RCA wood table set	15
Rider manuals, 8 vols.	90
Rider manuals, Vols. 2, 4, 6	55
Rider manuals, Vols. 12, 13, 14	30
Sentinel portable, red	25
Signal Corps radio	30
Signal generator	10
Silvertone Bakelite	7
Silvertone console	20
Silvertone metal radio, 1920's	30
Silvertone metal radio, heavy	15
Sky Rover, Bakelite	15

(Continued on following page)

(MAARC Auction, continued)

Solar capacitor tester	10
Speaker cones, box	20
Stewart-Warner 496	20
Tire novelty radio	40
Transistor radios, box of 18	10
Trav-Ler Bakelite	25
Trav-Ler, white & red,	35
Tropicana novelty	10
Truetone Bakelite	50
Truetone, untested	5
Truetone, wood	10
Truetone, works	30
Tube tester, works	10
Tubes, misc., box	10
Tubes, used, box	35
Tungar battery charger	5
Variometer	25
Vibrator tester	25
Victor console	25
VTVM, works	20
Ward's 1-tube, no tube	80
Ward's 2-volt radio	5
Ward's plastic radio, maroon	15
Western Electric tube tester	25
Westinghouse Aeriola Sr.	95
Westinghouse clock radio, maroon	30
Westinghouse WR258, no tubes	10
Woolaroc, cracked	15
Zenith 4S131 tombstone	5
Zenith 8-tube radio, works	20
Zenith 8S463	170
Zenith 12-tube console	110
Zenith 511, Bakelite	20
Zenith 715 tombstone	70
Zenith 805 cathedral	105
Zenith AM/FM	10
Zenith AM/FM	15
Zenith AM/FM, works	25



The Federal A-10 Orthosonic in the background sold for \$90.

Zenith Bakelite	15
Zenith Bakelite, battery	45
Zenith clock, round, works	70
Zenith hi-fi, AM/FM	10
Zenith L cathedral, working	20
Zenith portable	20
Zenith portable	25
Zenith portable, maroon	15
Zenith Royal 500D	35
Zenith Royal 500E, white	30
Zenith tombstone	70

For information on the Mid-America Antique Radio Club (MAARC) write: Stephen Phipps, 10201 W. 52nd Ter., Shawnee Mission, KS 66203. MAARC publishes *The Broadcaster* quarterly. Dues are \$8.00.

(Julie and John Lyle, 1161 S.W. Mulvane, Topeka, KS 66604)

ARCA '93 Convention and Auction Huntington, West Virginia — June 10-12, 1993

CONTRIBUTED BY JOHN V. TERREY

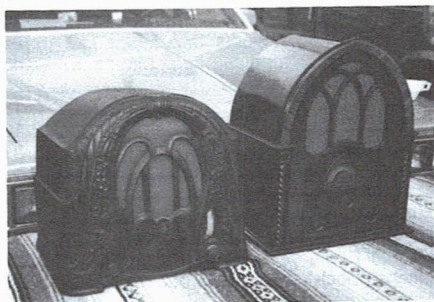
The Antique Radio Club of America (ARCA), along with its host, the West Virginia Chapter of ARCA, held its annual convention at the Holiday Inn in Huntington, West Virginia, from June 10 to 12, 1993. Over 200 collectors attended this meet, while 60 sellers participated in the flea market.

The entries in the Old Equipment Contest were outstanding. Pictured here are several of the entries, including a horn speaker about 6 feet tall. Also pictured here are a number of sets seen in the flea market, including those of a few collectors who advertise in A.R.C.

Local collections and museums are often open for viewing during meets. Photos are included here from the Museum of Radio and Technology and the Bourne/MacMillan collection.

e=excellent, vg=very good, g=good, f=fair, p=poor, NT=no tubes, WT=with tubes

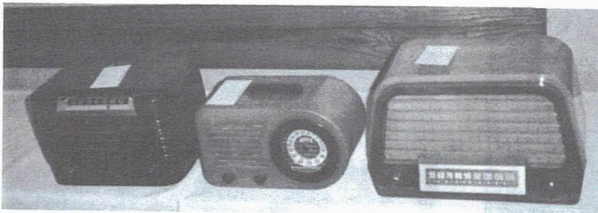
Air Castle farm set	\$15
Airline farm set, f	16
Atwater Kent 40, WT, f	22.50



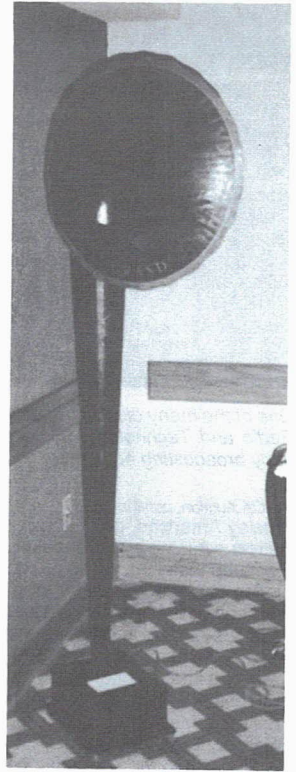
This Crosley Buddy Boy and an Atwater Kent 82 or 92 cathedral were seen in the flea market.

Atwater Kent 55, wood grain, WT, f	42.50
Batteries 1.5v, w/screw terminals (36)	21
Crosley 6-85, NT, g	80
Crosley 7H3, g	75

(Continued on page 26)



These three Catalin radios did not meet their minimums. Left to right: a Bendix Model 526, green and black, \$500; a Fada Bullet, butterscotch and red, \$700; an Air King Model A-600, yellow and green, \$1050.



Tom Burgess' Superior Grand horn speaker, a contest entry, stands about 6 feet tall.



Bill Fitch's splendid display of microphones in the Old Equipment Contest attracted wide attention.



Chris Cuff and his Scottie Cooler flea market find.



Grace MacMillan's collection of Nippers.



One of the many display cases in the Museum of Radio and Technology, some of which include early broadcasting equipment.

(ARCA Auction, continued)

Crosley American, g+	27.50
Detrola w/tuning eye & speaker	11
Eico tube tester	5
Elenco color dot generator, g	2
Emerson 855, Ingraham cabinet	18
Fada "Seven," AC, with loop, not working, f	75
Fada 700 cabinet, chassis (800 ?), no handle, wrong knobs, small chips	200
Flick of the Switch, McMahon, hard cover	26
Freshman Masterpiece, WT, g	57.50
GE E-72, large table model, f	55
General Radio random noise generator, g	30
General Radio resistor decade box, vg	2
Heathkit DX 40 transmitter, not working	2
Heathkit tube tester	5
Kadette wooden table, g	30
Knight oscilloscope, g	4
Lafayette KT-200 SW radio, g	5
Metrodyne single dial, f	11
Military 16mm sound projector	3
PACO R/C ratio bridge	5
Philco 40-155, AC, BC/SW	22.50
Philco 96 console, g	30
Philco 511, working, vg	80
Philco Transitone, brown Bakelite, p	7
Radiola III, NT, (\$80 min.), f	80



Geoffrey Bourne shown with several of his Eveready radios, including a rare Eveready speaker.

RCA 6T2, g	80
RCA Nipper dog, 16-inch, chalk, dirty	55
Roland shortwave portable	3
Sentinel, plastic, table, battery	10
Silvertone 1322, g	25
Speaker cabinet, no speaker, g	10
Stewart-Warner 305, NT, g	26
Transitor radios, box (16 count)	22.50
Tube tester and cabinet, floor model, g	5
TV coils, parts, box	10
U.S. Recording Co. portable phono	3
Variac, 2-4 amp	10
Westinghouse Model WR-28, f	45
Weston ammeter, 0-10 amp, g	26
Zenith Trans-Oceanic, f	22.50

(John V. Terrey, c/o A.R.C., P.O. Box 2, Carlisle, MA 01741)

For information on joining the Antique Radio Club of America, contact William H. Dawson, 300 Washington Trails, Washington, PA 15301. Annual dues are \$12. The club publishes "The Antique Radio Gazette" quarterly and holds national and regional conventions.

For information on the West Virginia Chapter of ARCA, contact Geoff Bourne, 405 8th Ave., St. Albans, WV 25177. Annual dues are \$25 and include museum membership. The chapter puts out a monthly newsletter and hold quarterly meets and monthly meetings.



In addition to early radio and television displays, the Museum of Radio and Technology has this impressive collection of early IMSAI computers, complete from the earliest to the latest models.

CLASSIFIED ADVERTISING POLICY

ONE FREE 20-WORD AD for subscribers in each issue; additional words are 17¢ each. See details below. Classified ads must be received (not just postmarked!) by **Noon Eastern Time** 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 2 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 so identified. Advertisers agree to respond promptly to inquiries and orders, to resolve problems promptly if the buyer is not satisfied, and to comply with a buyer refund request on unaltered returned items.

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 ET- 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 (or company 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***

17¢ 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:

33¢ per word **plus**

10¢ per word for shaded ad.

Please do not forget to send in the extra 17¢ 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. Discount: 5% for 6 months; 10% for 12 months.

Boxed Classified Ad Rates per Month

Nonshaded ads:

28¢ 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):

38¢ 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

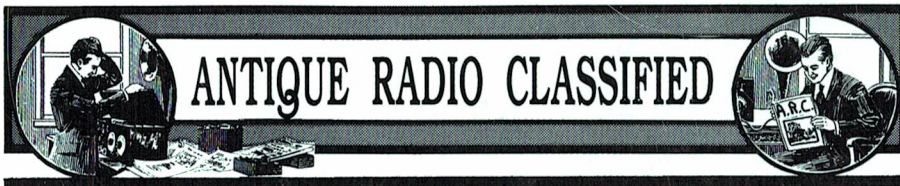
\$10.00 per month for each photo or drawing (If ad is canceled, this amount cannot always be refunded.)

CHANGES & CANCELLATIONS

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 (or company name) and address is required in all classified ads. Each additional word, abbreviation, model number or number group, extra telephone numbers, etc. count as one word each. Hyphenated words count as two words.



SECOND CLASS

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

**CLASSIFIED AD
DEADLINE AUG. 10th
Noon Eastern Time**