

ANTIQUE RADIOS

Antique radio cabinets

IT'S HARD TO TALK ABOUT ANTIQUE RADIOS without also talking about the cabinets of antique radios. Those cabinets are as collectible as the chassis they contain. In the early days of radio, it was not unusual to have an elaborate cabinet for the speaker and none at all for the chassis. Some early speaker cabinets were so large that there was room inside to mount the chassis, which many listeners did. And many chassis were mounted in cabinets made for purposes totally unrelated to radio.

The antique of the month

Speaking of large cabinets, the massive 1940 Philco Model 41-616 combination radio/phono shown in Fig. 1 has the largest cabinet in my collection. Measuring 40 inches across and about 48 inches high, it completely dominates my "shack." Usually the shack is used only for quarantine and preliminary inspection. However, that console was too large to carry down to my "museum" (the cellar).

I received the Philco just for removing it from a location where it was unwanted. Not being one to turn down anything free, I planned to restore that monster and then sell it (or trade it) for some older (and smaller) collectibles. But, after repairing the chassis and hearing the big-band sounds emanating from the grille cloth, I decided to keep it. Now I listen to it whenever I work in the shack. My only problem is getting in and out of the shack, because the Philco almost completely blocks the door.

Its 15-tube chassis has a broadcast band and three shortwave

bands; and a 14-inch dynamic speaker is located under the record changer.

Antique cabinets

Over the years, the radio cabinet took the form of everything from a simple box to a huge elaborately scrolled cabinet. When the chassis was no longer repairable, a nice cabinet might be converted into a bookcase, a grandfather clock, a lamp, a bird house, a phonograph, a secretary, or any of a number of other things.



FIG. 1

On the other hand, many clocks, etc., had more than enough space to mount a radio chassis and a speaker. These days many collectors come into possession of an unidentifiable radio built into a clock or some other device by an early radio hobbyist. In fact, the only identifying information may be the tube numbers. Many readers have indicated that that lack of identification is a common problem.

For many years radio cabinets followed (and sometimes led)

fashions in furniture design. Of course, being beautiful was not the only function of a radio cabinet. In addition to protecting the internal circuitry, the cabinet also provided a baffle arrangement for the loudspeaker.

Both the magnetic loudspeaker and the dynamic cone loudspeaker (both of which were discussed here in the September 1986 issue) sound better when mounted in a cabinet. Because it has trouble reproducing low notes, the magnetic loudspeaker greatly benefits from a baffle.

Enclosure design

Speaker cabinets weren't used just for looks and to house the chassis; they were designed to improve the sound produced by speakers. So designers spent a great deal of effort trying to match enclosure and loudspeaker to get the best looks and the best sound. Some designers went to fantastic lengths to come up with better-sounding speaker enclosures. In fact, collectors who dismantle the cabinets of some 1930-era consoles may well be baffled by the baffle arrangement (pun intended). You may not be able to find the speaker because of all of the internal parts! Another area of much engineering effort was the fabric design of the loosely-woven grille cloth. It was hoped that the grille cloth wouldn't interfere with the sound waves.

Through the 1930's the ability to reproduce bass notes was the most desirable feature, and one of the hottest selling points, of many console radios. Bass response was improved by using a large re-



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producer, by adding bass and treble controls, and by using a well-designed enclosure.

In the developing days of radio, not just the type of speaker, but its location were items of contention among designers. In an effort to improve reproduction, shelves were installed, removed, installed in another location, and so on, in early cabinet designs. Information on that type of alteration, and others, could be obtained from the early radio magazines.

For some unknown reason, cabinets for radio chassis were not very popular. Buying radios in bits and pieces was the beginning of "component" sets, which younger readers may think began with hi-fi in the 1950's. Actually, component sets are as old as radio itself.

Many speaker cabinets were large enough to use as closets. Enterprising experimenters knew that an oversized speaker cabinet and a cabinet-less chassis could be combined. Even then, as little as 25% of the grille area might be taken up by the speaker.

Of course, it would have been a crime to destroy the front of a beautiful speaker cabinet to mount a chassis with tuning dials, volume controls, etc., protruding through the front. But there were ways around that. To maintain the integrity of the front panel of the cabinet, one place to put the tuning knob, volume control, and power switch was on the side. Of course, the chassis had to have provision for appropriate shaft extenders, as well as for other mechanical fixes.

Converting a console speaker cabinet to a complete self-contained radio was a very popular activity in the late 1920's. There were thousands of builders, and that explains why many collectors have attractive, professional-looking radios that they can't seem to be able to identify.

The cabinets themselves were made by hundreds of different cabinet makers; many of them didn't bother to label their work. All it took was a few simple alterations, such as adding a shelf, to be able to mount the chassis in the cabinet.

A homemade tuning knob (with a painted dial) that is mounted on

the side of a cabinet is a good clue that a radio wasn't originally a console radio. Converting those speaker cabinets to console radios surely didn't please the cabinet manufacturers, because the added shelves and other components did little for the cabinet's sound quality. If a back panel was present, it had to be removed to allow heat dissipation, and heat was something there was plenty of in early chassis with big tubes. Also, an AC-powered amplifier located close to a speaker often created hum that didn't exist when the speaker was mounted in the cabinet alone.

Baffle design

Sound waves emanating from the front of the speaker cone must be separated from the out-of-phase sound waves emanating from the rear. One fairly successful attempt to separate those sound waves looks like a speaker mounted on a paddle. The "paddle" is called a baffle board, and the assembly was designed to

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complement the furniture that was in style at that time (the late 1920's).

One baffle board, the 1928-ish *Musicone*, was made by Crosley. When first introduced, the *Musicone* sold for under \$40.00 complete. That was quite a buy, when you consider that a magnetic speaker was included. The *Musicone* is an attractive piece of furniture with an ornate, scalloped, solid mahogany baffle, and a three-legged stand. Standing about 40 inches tall, the baffle of

the *Musicone* can be adjusted from side to side to accommodate the listener's pleasure.

As with other components of developing radio, there was much controversy over which type of cabinet was best, and how components should be mounted inside it. Some designers thought that the speaker should be mounted in the top of the cabinet so that sound would be directed at the ears of the listeners in the room. Many readers have sent in photos

of that type of antique radio, such as the Grigsby Grunow *Majestic*; some RCA models with a phono mounted over the speaker (from about 1933); some RCA Radiolas; the Stromberg-Carlson *Highboy*, and several Philco models, such as the nine-tube model *90B* shown in Fig. 2.



FIG. 2

It may have been a good idea to mount the speakers at ear height, but tuning some of those sets was difficult. You might have to get down on your knees to see the tuning dial, which sometimes was mounted a scant 14 inches above the floor.

So some people used the bottom part of the speaker cabinet as a baffle. The speaker faced downward, so sound came out of the bottom of the cabinet. That type of cabinet could be used only in rooms with heavily carpeted floors, because the echoes that result could degrade the sound quality.

The speaker-design wars ended in a compromise: Speakers were mounted in the bottom of the front panel facing forward. The difference in sound (from the upper position) wasn't noticeable, and the radio was much easier to tune when the dial was mounted above the speaker.

Early speaker cabinets often had thin supporting legs, but later the legged cabinets gave way to models that were enclosed almost all the way to the floor. The extra cabinet, besides conforming to more modern ideas about furniture design, gave the engineers new ways of reinforcing the bass notes. The extra length of the cabinet made it

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possible to delay the sound waves (by bouncing them around inside the cabinet) until they were in phase with the waves coming from the front of the cone.

Troubleshooting hints

If you have a cabinet with a "Labyrinth," you must remove a felt hood to get at the speaker. Be sure to replace the hood (behind the speaker) and all cabinet parts, or the sound will not be reproduced as the manufacturer intended. Also, speaker cabinets without backs should stand about six inches from a wall, or in a corner for best sound.

Most early cabinets were made of extremely heavy wood. The "Sonic Arc" baffle made by RCA required a heavy cabinet. So did their model that pumped bass tones through pipes and emitted them in phase through the bottom of the baseboard.

When you dismantle those cabinets to service the loudspeaker, don't destroy all the early engineers' hard work. Be sure to replace everything just as it was when you finish. Remember: that includes any sound-deadening material, and especially the heavy flat or curved backboards.

Have and needs

We have one "have" this month, and a couple of "needs."

Tony Peterson (800 12th Ave. NE, Blaine, MN 55434) needs a 1939 Stromberg Carlson, 12-tube remote control unit.

John Kendall (301-877-3593) has a Jackson model 648 tube tester for antique tubes. George E. Kemmet (60-05 70th Ave., Ridgewood, NY 11385) needs someone to repair a Majestic Model 90.

Help needed

I am compiling a list of useful reading material for inclusion in a future column. If you have a book, magazine, newsletter, catalog, reprint, or other source of information that you consider particularly useful, I'd appreciate it if you would let me know about it. Please include a sample issue, or complete publication data, including a source where it can be purchased by our readers.

R-E