

ANTIQUERADIOS

Antique radios for antique autos



RICHARD D. FITCH

THE HORSELESS CARRIAGE AND WIREless sort of grew up together. Many prominent inventors from both fields knew each other and some, like Henry Ford and Thomas Edison, often socialized together. Automobile historians can probably trace the horseless carriage back as far as I've traced wireless. In the late 1920's, there was much discussion for and against the use of radios in autos, and many people thought that they should be outlawed because they were a dangerous distraction to the operator. Others thought the auto radio would be a noisy nuisance. But, as you know, the auto radio did survive. By the mid 1930's, auto manufacturers began to take the built-in receiver seriously, and started providing in-dash factory installations.

Problems

The auto-radio pioneers of the 1920's had a few extra considerations in designing the auto radio. The chassis had to be built to withstand the jarring it would be subject to due to road irregularities and the crude suspension systems of those days. All of the components had to be secured to the chassis, including the tubes in their sockets. The auto's six-volt battery fluctuated slightly, so the tubes had to be able to handle those fluctuations without affecting the receiver's operation. The receiver had to be sensitive, and also had to be encased in a metal box to shield it from interference. As a result, the auto radio ended up being built better than a comparable home receiver.

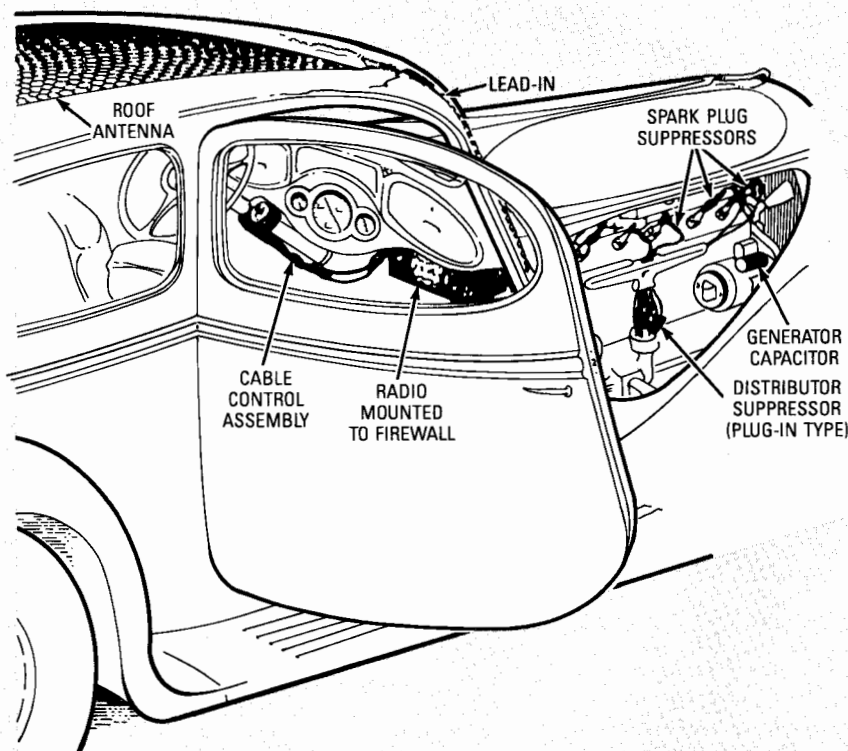


FIG. 1

In the late 1920's, the auto's 6-volt operating battery powered the radio's "A" filament, and a separate metal box lined with sponge rubber had to be installed for the "B" batteries. That box could be mounted under the rear floor boards, in the luggage compartment, or possibly in the rumble-seat compartment.

The early auto radio was mounted on the firewall under the instrument board (dash), as shown in Fig. 1. Usually the controls were right on the set, but some, even in

the 1920's, had a cable-tuning arrangement, which was placed in a convenient location for the operator, such as on the instrument board or the steering column. Consequently, that assembly added considerably to the installation of the radio.

In high sedans, the ideal place for the reproducer (speaker) was under the center of the roof. Since convertibles couldn't use that method, mounting the speaker under the dash became the most-common, yet least-desirable loca-

tion. Different types of magnetic and dynamic reproducers were used in those early autos. The field coil of an electro-dynamic reproducer to be used in an automobile had to be specially wound to operate from a six-volt battery, which, because of a large power drain, was not a particularly desirable situation. An electro-dynamic loudspeaker, however, can usually be replaced by a regular speaker, which is a big plus for the auto's storage battery.

There were many efforts to come up with a suitable aerial. Because extreme height was impractical, other methods had to be considered. In one, a flat metal plate was mounted beneath the wooden running boards, insulated from the frame, under each side. The two plates were connected to the set's aerial terminal; however, that low-slung aerial left a lot to be desired in signal pickup.

Factory aerial installations were usually between the roof and the inside upholstery (the headliner), with the shielded lead-in wire led down one of the front door posts, as seen in Fig. 1. The aerial consisted of a cloth-covered screen or some other type of insulated wire mesh. You have to remember that the roof on sedans and coupes was not a conductor. Even the frames and braces were made of wood, which made possible the roof aerial. Some sedan and coupe owners found simpler ways to install a roof aerial themselves; sewing a flexible wire through the roof liner with a large darning needle was one method used.

The engine's spark plug was the primary source of noise in an automobile's radio. To solve that problem the resistor spark plug has long been available, although I'm not sure if the resistor plug or the auto radio came first. Also, special resistors (suppressors) were available that connected directly to the spark-plug terminal and the high-tension wire, which can be seen in Fig. 1. I would consider those early resistors themselves as collectibles, and an antique auto with the original resistors on the spark plugs would be a real classic. However, even if you had those resistors, when stopped at a traffic light, the other car's ignition sys-

tems would drown out your radio. Also, the high-tension circuit wasn't the only source of interference. Electrical disturbances from the generator, and even the wheels, caused radio interference. Putting a condenser across the generator brushes and a grounding spring between the axle and the wheel helped to solve those problems.

Moving out of the 1920's, the vibrator power supply became popular. There were two basic types of vibrators that were used in auto-radio supplies: The non-synchronous, and the synchronous. The synchronous vibrator had the advantage of rectifying the voltage, and thus not requiring a rectifier tube. While it was a little noisy, the vibrator created a voltage that could be transferred up or down, eliminating the need for any storage batteries other than the automobile's.

Early manufacturers

Who were the manufacturers of the pioneer auto radios? Well, many were the same companies that made home radios. The National Company made a five-tube TRF for auto use. Atwater Kent collectors will be interested to know that that company was also in the auto-radio market, and that their AK-666 was a vibrator-operated superheterodyne. RCA Victor was in the auto market and made five- and six-tube sets with a synchronous vibrator for the mid-1930's Hudson & Terraplane.

Companies whose names appeared on early auto receivers (some dating back to the 1920's) include Stewart Warner, Majestic, Pilot, Gulbranson, Gilfillan Bros. Belmont, Wells Gardner, Silver Marshal, and United American Bosch. Franklin Radio Corp. made radios for the early 1930's air-cooled Franklin autos, and many others.

The model SA-37, by RCA Victor, was made to be installed in the 1937 Hudson and Terraplane; it is a five-tube superheterodyne set. The entire unit was housed in a metal case, except for the remote unit, which would be mounted on the steering column. The loudspeaker is mounted in the cover of the metal case.

Th
ha
po
...
un
in
8C
kt
ve
co
8C
ur
os
an
pr
th
tic
m
1-

Built for Plymouth and Dodge, the Mopar model 604 was a popular set in later autos. The set contains five tubes and a rectifier. Unlike previous sets, it has push-button tuning. Also, the set was designed to mount directly in the dash. It has a non-synchronous vibrator that is still somewhat available. Setting the pushbuttons is done by pulling off the chrome pushbutton caps. The buttons can then be unlocked by turning the screw slightly counter-clockwise; the desired station is then tuned in with the knob, and the button is pushed in while holding the knob. The screw can then be tightened and the chrome caps replaced.

One unusual receiver is the Philco model C-4608, may have been seen in a 1936 Dodge. It has a rectifier tube and a non-synchronous vibrator. While the set was designed to mount directly in the dash, the entire side cover could be opened by removing one wing nut. That was an advantage for the radioman who might have been able to repair it without removing it from the vehicle.

Repairing auto radios

The auto radios of the 1920's, if you can find one, can be serviced in much the same manner as the home-battery receiver. The additional problems that may occur in an auto-radio are usually due to vibration, and possibly moisture. As in home receivers, corrosion is the prime cause of trouble. A dead radio is a good indication of a problem with either the fuse or the vibrator.

How do you repair a vibrator? You don't!

First, they are not designed to be dismantled. If you do manage to pry one open, most likely you'll find that the contacts are burned or welded together, or that the coil windings are shorted. In any case, it isn't something that isn't worth repairing.

Radiomen of today who can't solve a vibrator problem in their antique radio might be able to solve it with transistors. While I don't recommend the use of transistors in any antique radio, there can be exceptions—such as when there is no other solution.

Over the years there have been many transistorized vibrator substitutes. Most are too large to fit in the case of the radio and have to be mounted outside and plugged into the vibrator socket using a cable.

This and that

If you enjoy reading about wireless history and antique radios, you should join the "Antique Wireless Association". Their *Old Times Bulletin* is informative and authoritative. Those interested in Nikola Tesla, will enjoy a publication prepared by Leland I. Anderson, available to members. Applications can be obtained from Bruce Roloson, Box 212, Penn Yan, NY 14527.

A reprint of a 1938 **Radio Craft** magazine should make interesting reading. Contact Vestal Press Ltd., P.O. Box 97, 320 Jenson Road, Vestal, NY 13850 for info and catalog.

In a previous column I mentioned the difficulty in finding replacement caps for push buttons on radios. If you need those caps, send an SASE to K. Parry, 17557 Horace Street, Granada Hills, CA 91344.

R-E