

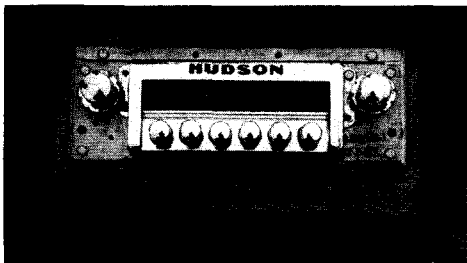
HUDSONOTES

RADIO-OLOGY

by George Schmidt

Photos by Sam Jackson

NOISE AND STATIC on most AM radios today are usually less of a problem than is station selectivity, partly because most of these stations now broadcast with much higher wattage (if no higher fidelity) than in years past. An automobile, however, offers several interference sources, the main one being the engine and its ignition system. Body metal forms a necessary electrical shield

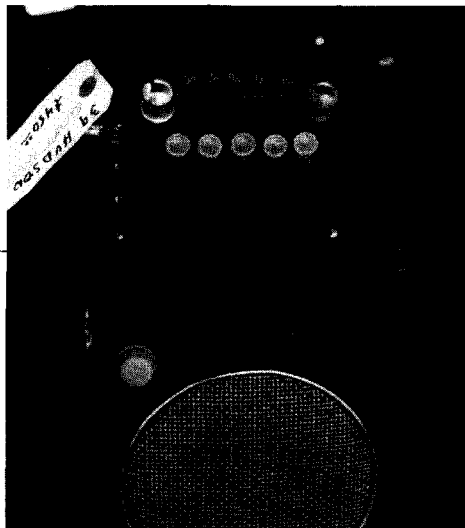


around the engine, and it is especially important that the car's hood be well grounded to the rest of the body. Often the hood hinges and latch are sufficient for this, but sometimes an added ground wire or small flat braided strap is advisable.

Interference from ignition, particularly on older cars which do not use resistance-type spark plug wires, can often be reduced by inserting a resistor in the high-tension coil wire. Several types were made, most of them simply being screwed onto the cut ends of the wire. They were often called "spark intensifiers," since they lengthened spark duration somewhat- along with reducing production of unwanted radio waves. A few accessory "suppressor" kits, in fact, included seven (or nine) of these resistors, so that there was also one for each spark plug wire.

Another form of ignition resistor was built into replacement-type acces-

sory spark plug wire terminals. At present, most late model cars use resistor-type spark plug "wire" (which is often nonmetallic); and also, most spark plugs today are available in versions with the resistor built into them. With all of these resistances in combination, it is sometimes possible to achieve absolute suppression of interference because the engine will not run! A moderate amount of resistance, how-

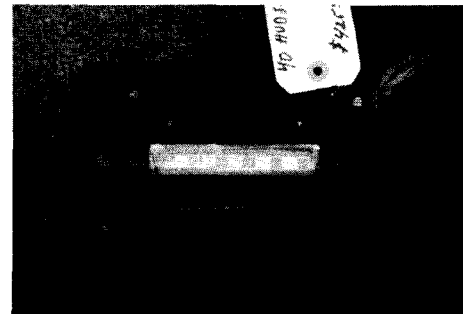


ever, may be helpful with both AM and FM reception. Nominal value of the resistor may be about 10,000 ohms. Curiously, Hudson in 1951 specified the resistor for Eights only, rather than for all models as in previous years.

INTERFERENCE CAN ALSO be caused by the car's voltage regulator (mostly clicks and pops), and the generator or possibly even the defroster motor (usually a whine). Dash gauges, turn signals, etc. may also contribute slightly, and it is said that tires, too (especially if tube-type) can sometimes accumulate enough static charge to cause radio noise. Use of tire talc

between tube and casing may help remedy this.

For use along with Hudson radios, the factory provided two condensers of about 1/2 microfarad capacity, with metal shells and mounting lugs-one of them to be installed on the ignition coil (at the terminal connected to switch); and the other to be mounted on the voltage regulator, with connection usually to the "A" (armature) terminal. Or



in some years, it might be wired to the "B" (battery) terminal, especially if another condenser is added at the generator. Most generators have a spare threaded hole for condenser mounting, with wire lead to be connected to the "A" (larger) terminal.

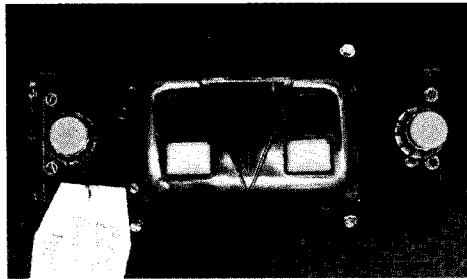
These condensers should reduce radio noise perceptibly. You may wish to try the radio both with and without them (engine running; hood closed), using several of the weaker stations. In some years, Hudson (and other cars) added a condenser at the "accessory" terminal of the ignition switch-or earlier, one at the electric fuel or temperature gauge, or both. I have usually added one- a spare ignition condenser- to the electric clock, where it also helps to extend contact life.

One condenser inside some Hudson radios '46 up has been known

in several instances to short-circuit, thus blowing the fuse. This was reported years ago by George Hausske, Illinois (see December 1969 WTN). Capacity is only .0082 microfarad (.0075 mfd. will do for replacement); but it has a high 1200-volt rating. It is soldered between two prongs of the rectifier (power tube) socket. It can be cut out and a new one installed, using solder and insulated tubing, he advises. Rectifier tube is the lone one near power transformer and vibrator.

External interference is not limited to city canyons although it is usually much less in the country except perhaps from high-voltage power lines and occasionally electric fences. Auto and other battery radios are not affected by interference which can enter through household electric wiring.

Note that most Hudson and other old-car radios are wired independently of the ignition switch. This can help

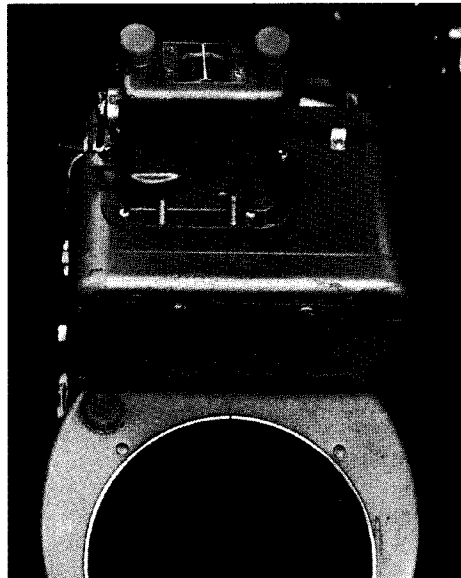


avoid switch overload and a bit of interference. The exception is those later switches which have a separate "accessory" position (turn off the ignition and give key an extra 1/4 turn backwards to allow use of radio, blower, etc.).

HUDSON PARTS BOOKS can be interesting for the many details they contain, even about "outsourced" components such as the carburetor or starter. In most years the parts for Stewart-Warner or Zenith radios, too, are listed down to the last condenser, resistor, and setscrew, but with one glaring exception: the vacuum tubes. Reason for this is uncertain, but was probably the legal fiction then still insisted upon by manufacturers or patent holders that the tubes were not the property of the radio buyer, but were merely "leased" or "licensed" to him for a specified purpose.

However, here is the Hudson/Zenith 6-tube list for 1948-49: 7Y4 (rectifier), 7A7, 7B8, 6BA6, 7B6; 6V6 (output). For 1950 Hudsons (DB50, maker not stated): 6X5 (rectifier), 6SK7, 6SQ7, two 6A7, and 6V6. For Hudson, 1951 (Sylvania/Colonial): 6X5, two 6SK7, 6A7, 6SQ7, and 6V6. The 6BA6 is one of the then-new miniature glass tubes (no plastic base); the others are standard "GT" (glass, tubular-shaped), and have the postwar "loctal" base with 8 pins plus indexing center post. Some later replacement tubes may be made of metal but should function O. K.

For the 1953-54 Hudsons, full-sized and Jet (Sylvania SH758 with 8 tubes, all of the miniatures): 6X4 (rectifier), two 6BD6, 6BE6, 6AV6, 6C4, and twin 6AQ5 (outputs). The first figure of a tube number, usually 6, indicates the voltage required for the "A" (filament or heater) circuit. A letter



such as X, Y, or Z denotes a rectifier or "power tube."

Tubes are among the most important parts to be salvaged from a scrap radio. Many are irreplaceable (or very costly) today, and tube elements seldom deteriorate in storage, since-unlike coils, condensers, etc.- they are preserved in their own small vacuum bottles.

Unfortunately this is not true of vibrators. Zenith part numbers were 190-20 for '46-47 and 190-22 for '48-49, but various other types were used

later. Postwar ones had connector prongs to be plugged in, much as on a radio tube.

THROUGH THE 1930's, radios were an option on some U.S. cars, often with both factory and aftermarket versions, and with a variety of placements for the receiver unit, the cone speaker, the antenna, and the controls (as seems to have again become the case today). Harry Kraus tells us:

"The first radios I remember actually built into a car's dash panel were in Fords, 1933-34 models, and the complete radio was in the glovebox, with dials matching the speedometer. I believe it was made by Majestic in Chicago. Earlier models had used the box under the cowl panel, with flexible control cables to a dial on the steering column. These radios could have been built by Motorola, and several other cars also used them in the 1930's era.



Lincoln Zephyr in 1936 used [one of these, but] with radio under the front seat, and four cables to the panel up front. Some early Hudson radios that I have serviced (c. 1930-35) seemed to have the same chassis and cables."

Antennas in the early 1930's were often out of sight - sometimes under a running board (O.K. except in wet and freezing weather); or more often in the form of chicken-wire netting inside the car's wood-and-fabric roof structure. Later, some antenna staffs, including the vacuum-controlled ones optional

on 1939-47 Hudsons, could be completely retracted when not in use. These vacuum antennas were also available on some General Motors vehicles, Harry notes. Their main fault was a tendency to freeze in place when lowered during wet icy weather.

An inquiry sent to our club's erstwhile Radio Advisor, Dan Schulz (Florida) was returned to me unopened. John O' Halloran at the Club Library, however suggests that apparently the first Hudson car radios date from 1932 or 1933. Can a reader tell us the exact year? Also, do any of these units survive at present? A special 1933 Terraplane model, John states, also featured a radio (evidently from Motorola), along with fully chromed radiator grille, two-color paint, and other luxury detailing. Possibly it was built for the '33 Chicago World's Fair. Author John Conde, in *The Cars that Hudson Built*, points out

ers for the Weather Control (heater) and the Hudson/Borg electric clock, and even the National 6-volt battery, are often included as well. The circuit diagrams show tube numbers, connections, internal voltages, electrical values for resistors and condensers, etc.; but they are printed in reduced size, and may be difficult to read on some copies. Fortunately the HET Club Library has a set of normal-size Hudson radio schematic diagrams, donated to us by Robert Campbell, Oregon.

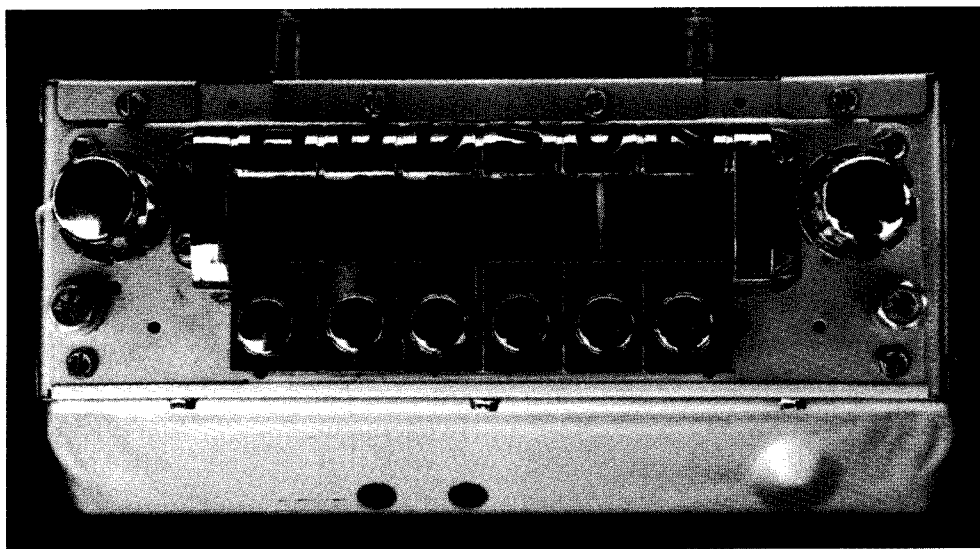
Carroll Holloway, California (see January/February '02 WTN cover) has repaired many auto radios, and has acquired a large stock of parts for them - tubes, vibrators, capacitors, and more - from several radio shops which quit business. As a further source, he has stripped many discarded old car radios for parts, testing these and saving the good components for later use. Among

sound is sometimes traceable to faulty filters.

Some of the small pieces - condensers, resistors, etc. - are still readily available, often under brand names such as Archer or Radio Shack. As one other source of parts (mostly for radio repairmen and dealers), he mentions Antique Electronic Supply, 6621 South Maple Avenue, Tempe, Arizona 85283. If we are lucky, it may be easier to find parts for our 60-year-old Hudson radios than it is for NASA to find parts (computer chips, etc.) for its "primitive" 20-year-old outer-space electronics.

Many of the radios in earlier cars, Carroll points out, were simply underdash add-ons, more or less interchangeable. He has one of them on his 1930 Durant.

DURING THE LATE 1930's, many home radios included short-wave and middle-wave capability (for foreign pro-



that many 1934 Hudsons, especially in the "DeLuxe" series, were factory-equipped with radios (brand not stated). This was also the year in which Hudson and Terraplane sedans pioneered built-in trunks (flush with body). The radio had a separate control head in dashboard. In 1936-37 a few Hudson models, the custom Eights, included the radio as standard equipment. It was optional on the rest (list price: \$59.95).

CIRCUIT DIAGRAMS for many Hudson radios can be found on the radio pamphlets usually accompanying the owner's manual. Separate fold-

his test instruments are several tube checkers, signal generator, radio power supply, and an oscilloscope, type 535A. For repair information, Carroll recommends the Sam's Auto Radio Repair Manuals (published separately from the Sams materials for home electronics), and also some publications from National and Ryder.

Most car-radio problems, he says, are caused by tubes, vibrators, slot filters, and some capacitors. Sometimes larger problems are caused by uninformed people whose probings can short-circuit and destroy filters, condensers, and other components. Poor



grams, marine and police calls, etc.), along with their coverage of the ordinary U.S. AM (amplitude modulation) broadcast band. But auto radios - possibly because of cost or interference problems - did not follow this prewar short-wave vogue, except for heavy-duty aftermarket communications equipment.

However, Hudson's 1948-49 parts catalogue includes this unexplained entry: besides #213898, "Radio - complete kit (less antenna) - Domestic," it lists #213899, "Radio - complete kit (less antenna) - Export." There is a similar listing in the 1946-47 book, but the difference between an "export" radio and a standard one is not stated - was it perhaps to accommodate some of the foreign stations? Does any reader know?

We may be too hasty in ruling out short-wave reception in old cars. A last check of Hudson accessory lists

reveals this unexpected item (for 1946-47 only): #BO 206972, "Radio converter kit - short wave." No description or parts list is included, but apparently it was made for use with the Zenith foot-control radios, and so no doubt was available for a few Brand X cars as well. How well did it work? Do any still exist? Or is it - to use the trendy word - "vaporware," which was never actually produced? This is another parts-book mystery, and again we hope that some of our "radio-ologist" readers can enlighten us.

FM (frequency modulation) broadcasting, relatively interference-free, was invented circa 1933 by Edwin Armstrong, and enjoyed large-scale growth in the U.S. during the postwar 1940's (despite a change in its assigned frequency band which made earlier tuners useless!). But FM, too, remained absent from auto radios for many years, one reason being that typ-

ing began in the U.S. in 1962, after some stations had broadcast one stereo channel on FM and the other on AM for several years.

A PRACTICAL QUESTION for Hudson and other collector-car owners who frequently use their vehicles is how best to add FM reception with minimal change (or none) to the car's original radio, which is AM, mono, and most often 6-volt and with positive ground. Your columnist has been making inquiries about this and will try to keep you posted. Also needed is more information about Hudson radios, some of them 12-volt, from the American Motors years, 1955-57 - and more about those from the 1930's as well.

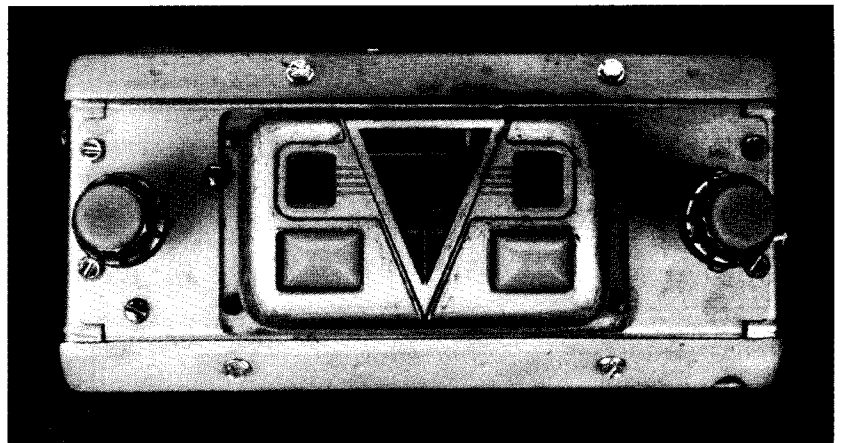
Those early units are scarce today partly because the proportion of cars sold with radios was far smaller in those days. Most often there was simply a decorative panel to fill the radio

ed that Courtesy Motors, the famous super-large Hudson dealership, was noted for its Hudson's "with radio" which featured the cheapo electronics, while the factory Hudson radio was strictly extra-cost.

But given typical AM programming then and now, perhaps it didn't matter much - and today one of these small radios might be worth preserving as a curiosity.

MORE RADIO facts and details another time. If you have further information (or corrections) about car-radio history, repair suggestions, etc., please let us know. Here are two other notes which have come from WTN readers:

Allen Saffrahn, Arizona, says that he too has one of those Japanese-built "Hudson" sewing machines (see July/August '01 WTN). To help him find a few needed parts for it, I could only suggest the Internet, where - as my friends report - one can find nearly



ical U.S. Armstrong-type FM tuners were much too sensitive to vibration and temperature. Only in the early 1960's (if memory serves) did FM car radios arrive - as German imports (Blaupunkt, Becker, et al.), with American makers having to follow. Multiplex stereophonic FM broadcast-

hole in dash. On the other hand, a stepdown-era Hudson, 1948-54, without a radio was rather unusual. I've never even seen the chrome filler panel for the 1948-49 Commodore, and only once saw a Super which had the black plastic one (matching the glovebox ornaments), along with the woodgrained filler for the speaker opening.

It's true that there were also cheaper radios, mostly aftermarket and sometimes nicknamed "mickey-mouse," available for these cars both before and after World War II. In fact, though I've never seen one, it is report-

anything, and then some.

From Kenneth Taplin, Maine: the radios with foot control were also used by Frazer, c. 1950-51. For high-temperature exhaust manifold finishes (March/April '02 WTN), he suggests a spray can of black barbecue/stove paint as a lower-cost alternative. It has worked well for him.

Next time, Robert Campbell tells us of the first Hudson-Essex-Terraplane "Majestic" radios, 1933.

A good summer season to all of our Hudson friends!



George Schmidt may be contacted at 451 Elizabeth Street, P.O. Box 294, Mishicot, WI 54228.