



the irca technical column

HOW TO UPGRADE A DELCO CAR RADIO

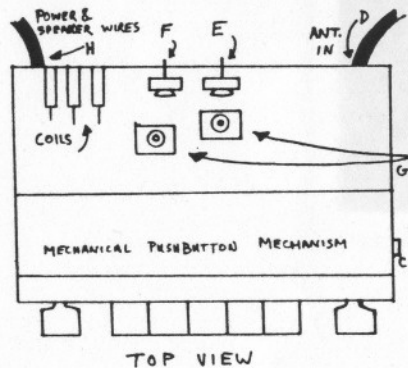
by Karl J. Zuk

I recently purchased a Pontiac T-1000 that was equipped with a "stock" Delco AM radio that left a lot to be desired in sensitivity. This radio is also used in Chevettes and other GM cars. Using this procedure, I increased its sensitivity immensely. First, remove the radio from the dash, by removing two nuts under the knobs with pliers, and one nut under the radio at points "B". Gently remove the radio (detach the antenna cable if necessary) from the dashboard so you can work on it. Also, DON'T touch the small screw in nut adjustment at "C". This is only to adjust the pushbutton mechanism.

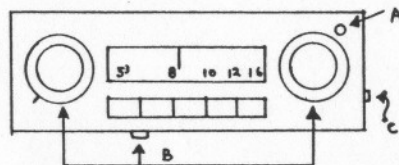
First, tune the antenna trimmer in hole "A" for best reception around 1400 kHz. Then, with small needle nosed pliers, adjust the stub of trimmer capacitor at "F" at the rear of the set. Adjust "A" and "F" until you achieve best response. Delco generously uses two (wow!) IF sections in this and similar radios, and the transformers can be found

at "G". Adjust them for best selectivity and sensitivity. Trimmer capacitor "E" is for calibration of the dial. You can adjust this to suit your desires. I managed to get a span of 525 to 1650 kHz by adjusting this cap. It comes from the factory spanning from about 500 to 1600 with no "headroom". After you have adjusted "A" and "F" and the two cans at "G" the best you can, see if the radio's reception has improved to your liking.

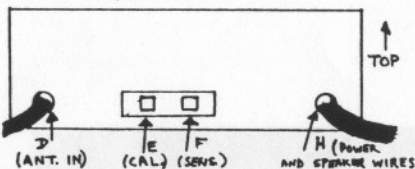
If it hasn't got the "punch" you want yet, you might want to try a loaded whip antenna, or a longer whip than the one you have presently. If you use another whip, you will need to retune the antenna trimmers "A" and "F". I know of one manufacturer of loaded whips for cars, an outfit called "Quik-Connect" in Brooklyn, NY.



FRONT VIEW (IN DASH)



REAR VIEW



SIMPLE SP-600 MODIFICATIONS

by Glen Kippel

The noise limiter in the SP-600, like most tube receivers, is chiefly useful to keep loud static bursts from ripping your eardrums out, especially if you are wearing headphones. The limiting threshold in the SP-600 happens to be set too low and thus clips some of the normal audio peaks as well as the noise.

This can be made adjustable simply by removing the Noise Limiter switch and replacing it with a pot. Turn the receiver upside down (remove it from its cabinet if it has one) and the switch is readily accessible. Snip the leads to the switch with diagonal cutters and trim the insulation off the ends to about $\frac{1}{4}$ inch. Remove the switch. Mount a 250K or 500K pot (Radio Shack 271-1723 or equivalent) in the hole that the switch came out of and connect the leads that ran to the switch. The polarity is unimportant, as long as one wire goes to the center terminal on the pot, and the other to the terminal which is left of center. Mount a small knob to the pot shaft (it may be necessary to cut the shaft to an appropriate length with a hacksaw; it is much easier to do this before mounting the pot in the receiver).

Crystal Filter Modification: The 1.3 kHz selectivity position is about as narrow as can be used for AM reception. Consulting the schematic, it can be seen that the 3, 8, and 13 kHz selectivity positions are obtained by changing the coupling in the IF transformers. When the crystal filter is switched in, the transformers remain in the 3 kHz setting, and the selectivity is adjusted by loading the crystal. This is a "classic" crystal filter configuration and it can be seen that the selectivity when the crystal filter is switched in is determined solely by the values of R45, R46 and R47. Changing these can broaden the selectivity somewhat, while still retaining the phasing notch.

Once you remove the bottom plate of the receiver, note the selectivity switch, and then find the switch section closest to the front of the receiver. You will see that there are three resistors. These are fairly difficult to get to, as they are on the top side of the switch (away from you) and this is the only thing which may make this modification difficult. There is a 240-ohm (red-yellow-brown), 1100-ohm (brown-brown-red) and 18 kilohm (brown-gray-yellow). Instead of removing the entire switch assembly, it is probably easier to just parallel the existing resistors with new values.

Across R45 (240 ohm), connect a short piece of wire, i.e. short it out. Across the adjacent resistor, R46 (1100 ohm), connect a 68 ohm resistor. Finally, across R47 (18 k) connect a 180 ohm resistor. You will need a small-tipped soldering iron and needle-nose pliers for this operation.

Once this is accomplished, replace the bottom plate of the receiver, mount it in its cabinet and go back to DXing!

