REMOVAL OF INDIVIDUAL UNITS

To remove the transmitter section from the cabinet (including the receiver audio output section) remove the tuning eye switch nut, remove the T R switch nut, disconnect the cable connectors involved, disconnect the voice coil lead from the speaker terminal, remove four screws on antenna connector, and pull the chassis straight back out of the cabinet. Reverse the procedure to replace the transmitter.

To remove the receiver, unscrew the four screws on the bottom of the cabinet, remove the two small receiver knobs, disconnect cables involved, and slide unit back out of the cabinet. To replace, reverse the procedure.

To remove the power supply, unscrew the six screws on the bottom of the cabinet, remove the nuts from the two toggle switches, disconnect cable, and lift unit up and out. To replace, reverse the procedure.

F.C.D.A. MODEL COMMUNICATORS

The "C-D" model 2 meter and 6 meter COMMUNICATORS are certified by the manufacturer to meet applicable F.C.D.A. specifications, and thereby qualify under the F.C.D.A. financial participation program.

While basically similar to the standard amateur counterparts, the C-D models differ in certain details in order to meet F.C.D.A. specifications for utility portable equipment under classifications U-14 and U-16. In addition to differences in accessories furnished (crystal, microphone, carrying case, etc.) there are other differences in certain components and in physical construction. In addition the receiver in the 2 meter model is furnished with a sharp cut-off two-section filter between the cascode r-f stage and mixer in order to provide the required image rejection.

With the image 12 Mc. removed on the low side on the 2 meter model, the filter has been factory adjusted for the maximum attenuation between 132 and 136 Mc. compatible with minimum attenuation within the pass band of 144-148 Mc.

This filter is adjusted by tuning the receiver to 147 Mc., feeding it an image signal from a signal generator set to 135 Mc., and adjusting the two outside plunger-type trimmers for maximum attenuation. If sensitivity at 144 Mc. then appears to be down as compared to a set known to be working normally, these two trimmers are screwed in very slightly to bring the sensitivity up to normal, but no more. This simplified procedure is sufficient to restore proper adjustment should it ever be required. The method of adjusting the complete filter initially at the factory is considerably more complicated, but the foregoing two adjustments are sufficient to compensate for any possible aging of components anywhere within the filter. If for any reason additional information is required on adjustment of the filter it may be obtained from the factory.

TROUBLE SHOOTING

When trouble develops the first thing to look for is a defective tube, as this trouble will represent about 90 per cent of that encountered in service. When replacing the 6T8, it is desirable to try two new tubes, as about 1 out of 10 brand new tubes will not perform satisfactorily when the supply voltage is low, as in mobile service when the generator is not charging. This is explained by the fact that the 6T8 heater voltage is dropped via a ballast resistor to prevent a-c hum or generator or vibrator hash from entering the audio circuit via the cathode of the noise clipper diode, and a 6T8 which is marginal at normal voltage will not perform satisfactorily at the reduced voltage. Failure of one rectifier tube during transmit usually will damage the other; therefore if one is found bad the other should be checked.

If the trouble is not traced to a defective tube, then voltage and resistance measurements should be made, referencing the schematic diagram and voltage chart.

RF OUTPUT INDICATOR

BOTTOM VIEW

DUMMY ANTENNA LOAD

A convenient and easily constructed dummy antenna load is shown in the accompanying illustration. The connecting leads to the PL-259-A connector should be kept very short. This r-f output indicator gives a check on carrier power output and a rough check on audio gain and modulation capability, and a periodic check with such a unit is recomended. When the lamps light to normal brilliancy the output is approximately 6 watts, which is average for a properly operating COMMUNICATOR. (The output varies slightly from unit to unit because of tube variations, etc.) When speaking directly into one of the recommended microphones at "conversational" voice level there should be a noticeable "upward flicker." Whistling into the microphone should cause a pronounced increase in lamp brilliancy.

HEADPHONE OPERATION

For special applications where headphone operation is desired and the speaker must be muted, a closed circuit headphone jack is provided on the front panel. When a pair of low impedance (600 ohm type) headphones are inserted in the jack the voice coil winding of the speaker is automatically disconnected. High impedance phones will work but give less volume.

Because of the excellent sensitivity of the COMMUNICATOR receiver, many amateurs with high power transmitters will want to use it as their fixed station receiver, thus avoiding the expense of a second receiver. The simplest method of muting the receiver on transmit when used with separate transmitter is to short the voice coil by means of a relay connected to