

ANTENNA

The communicator transmitter output network and low-pass filter are designed to deliver power to a load impedance of 50-70 ohms, with reasonably low reactance. Coaxial transmission line with a characteristic impedance of 50 or 70 ohms should be used, terminated with an antenna or antenna matching network that matches this impedance reasonably well. RG-58/U or RG-59/U line is satisfactory for short runs of 40 or 50 feet, but, RG-8/U or RG-11/U should be used when the run is longer to prevent excessive power loss on the line.

The efficiency of the communicator installation will be substantially improved if a directional rotary beam antenna for the 6 meter amateur band is used. The GONSET 10 element 6 meter beam, Model 3282 is available for this purpose at moderate cost.

If the communicator does not load properly, i.e., the LOAD control cannot be adjusted for approximately 5.5 on the meter at resonance, the SWR on the transmission line is probably too high for satisfactory operation. This can result from a shorted or open coaxial connector, transmission line of the

wrong characteristic impedance, or an improperly tuned antenna. The line SWR can be checked with any one of a number of instruments designed for this purpose, available commercially, or home-built from directions in the RADIO AMATEURS HANDBOOK (ARRL) or similar publications. If the SWR is greater than 3:1, the transmitter usually cannot be loaded properly. In addition, a high line SWR decreases the efficiency of the low-pass filter installed on the rear panel of the transmitter. Under severe mismatched conditions, it is possible to damage components in the transmitter output network and low-pass filter. Do not operate the transmitter for more than a few seconds unless the power amplifier plate current, at resonance, is less than 6 or more than 4 on the meter. Methods of adjusting antennas for best match to the transmission line are given in detail in the ANTENNA HANDBOOK (ARRL) and similar publications.

CAUTION

Do not under any conditions operate the transmitter without a load connected to the antenna terminal.

SQUELCH OPERATION

The 6 meter Communicator employs a highly effective carrier-actuated squelch circuit which may be used or not as desired. In the absence of a signal, the exceptionally flat AVC characteristic of the 6 meter Communicator receiver normally will cause a high background noise which becomes objectionable if prolonged, as when maintaining a

standby watch on local net frequencies. The squelch facility permits muting of this background noise.

The squelch circuit employs a biased series-gate diode which is indirectly actuated by the AVC voltage. The combination is very effective, gating cleanly on an AVC voltage change as small