

Preliminary Instruction for 90800
Transmitter - Exciter

1. General

The Millen 90800 transmitter-exciter is a commercial version of the "two-tube plug-in coil exciter" as described on pages 149 to 152 of the eighteenth edition of the ARRL Radio Amateur's Handbook and in the later editions of the ARRL Handbook. The transmitter consists of a 6L6 or 6L6-G tri-tet crystal oscillator-doubler or beam tetrode crystal oscillator, driving an 807 amplifier or frequency doubler. The 6L6 may also be used as a frequency doubler driven by a V.F.O., such as the Millen 90800-90701 Variarm.

The 90800 transmitter is capable of a power output of fifty to sixty-five watts in any amateur frequency band up to and including the 14,000-14,400 kc band. The transmitter may be used in the 28,000-30,000 kc V.H.F. band with an output of twenty to thirty watts.

The transmitter is supplied with one set of plug-in coils. Additional coil may be purchased in matched sets or singly from Millen distributors.

2. Description of Chassis

Looking at face of panel:

Five prong socket at left is for reception of crystal or V.F.O.

Switch above it shorts out cathode coil in "OUT" position, and leaves cathode coil in circuit for tri-tet operation in "IN" position.

Left dial tunes 6L6 plate tank condenser, C4.

(Symbols refer to attached schematic circuit diagram X-90800)

Right dial tunes 807 plate tank condenser, C10.

Both dials read zero when condenser plates are fully meshed.

Switch at right controls meter in center, reading 6L6 or 807 plate current, as indicated on panel.

Cathode coil, L1, plugs in 5 prong socket, X4, next to 6L6 socket.

Oscillator and amplifier coils are interchangeable between 6L6 and 807 tanks (for any given frequency coil) and

plug into the jack strips adjacent to the 6L6 and 807 sockets. The 807 plate coil, L3, should be plugged in so that the link coil is near the bottom of the chassis.

Power supply leads attach to terminal board, TB1, at back left bottom of chassis. Terminals are labeled:

500 TO 750 "HV" - High Voltage "45" - 45 Volts C bias
"H" - Heater (6.3 volts) "G" - Ground, other heater+C.H.V
"K" - Key

3. Coils

Cathode coils available for the unit are: a coil for 160 meter crystals, a coil for 80 meter crystals, a coil for 40 meter crystals. The plate coils of the 6L6 and 807 are interchangeable. Coils are available for all amateur bands from 160 meters through 10 meters.

