

## OPERATING INSTRUCTIONS

**NOTE:** You must have a license issued by the Federal Communications Commission to operate this transmitter on the air.

### CRYSTAL OPERATION

- ☐ Plug the desired crystal in to the receptacle on the front panel.
- ☐ Set the BAND switch to the desired band of frequencies.
- ☐ Place the XTAL-VFO switch in the XTAL position.
- ☐ Perform the TUNING instructions.

### VFO OPERATION

- ☐ Set the BAND switch to the desired band of frequencies.
- ☐ Place the XTAL-VFO switch in the desired band setting; 80 for 80 meter operation; 40—10 for either 40, 20, 15 or 10 meter operation; 6 for 6 meter operation.
- ☐ Perform the TUNING instructions.

### TUNING

**NOTE:** The tune-up is the same for either AM or CW operation.

- ☐ Place the Function switch in the off position. Plug the line cord into a 117 volt 60 cycle AC power outlet.

**CAUTION: NEVER REMOVE THE TRANSMITTER FROM THE CASE OR TOUCH ANY OF THE WIRES WHILE THE UNIT IS PLUGGED INTO A POWER OUTLET.**

- ☐ Connect an antenna or suitable dummy load—preferably not a light bulb—to the antenna jack on the rear of the chassis. NEVER turn the transmitter on without a dummy load or antenna connected.
- ☐ Set the Function switch in the VFO SPOT position. Allow approximately 30 minutes for the transmitter to warm up.
- ☐ Set the meter switch to the BUFFER GRID position.
- ☐ Adjust the Oscillator Tune control for a maximum meter reading.
- ☐ Place the meter switch in the FINAL GRID position.
- ☐ Adjust the Buffer Tune control for a maximum reading (not to exceed 10 ma).

**NOTE:** On 6 meter operation adjustment of the Buffer Tune control will result in a reading of approximately 1 ma. This drive is sufficient to provide full output on 6 meter operation.

- ☐ Set the meter switch to RELATIVE OUTPUT.
- NOTE:** On 6 meter band operation set the Final Tune control to 10.
- ☐ Place the Function switch in the AM position.

Simultaneously adjust the Final Tune and Load controls for maximum meter reading. Be sure the output is as high as possible and not just close. This adjustment is very important on 6 meter operation.

**NOTE:** If for any reason the transmitter is loaded in the CW position without first tuning in the AM position, turn the Load control fully counter-clockwise before placing the Function switch in the CW position. This will insure that the final tubes do not draw an excessive amount of current.

- ☐ Place the Function switch in the CW position for the following adjustment. Do this adjustment as quickly as possible and then return the Function switch to the STANDBY position.

For 6 meter operation turn the Load control a few degrees clockwise. This should bring the plate current down to 250 ma. Then adjust the Final Tune control for maximum output. The maximum power output may occur at a point other than minimum plate current. Therefore adjust the Final Tune control for maximum power output without exceeding the maximum permissible plate current of 250 ma.

- ☐ For 10 through 80 meter band operation, simultaneously adjust the Final Tune and Load controls for a maximum ~~power~~ <sup>output</sup>.

**NOTE:** On the lower bands it is possible to overdrive the 6146 tubes. Therefore, after adjusting the Final Tune and Load controls, detune the Buffer Tune control ~~for a maximum power output~~ <sup>for a maximum power output</sup> by turning the function switch in the STANDBY position if you have not already done so.

### CW OPERATION

- ☐ Place the key in the KEY jack.
- ☐ Set the FUNCTION switch to the CW position.

### AM OPERATION

- ☐ Connect a microphone to the MIC jack.
- ☐ Place the FUNCTION switch in the AM position.

### FREQUENCY COVERAGE

The chart below lists the frequencies of operation for the different bands.

BAND (Meters)	Frequency of Crystal or VFO (MC)	Transmitter Freq. Range (MC)
80	3.5 to 4.0	3.5 to 4.0
40	7.0 to 7.3	7.0 to 7.3
20	7.0 to 7.175	14.0 to 14.35
15	7.0 to 7.150	21.0 to 21.45
10	7.0 to 7.425	28.0 to 29.7
6	8.334 to 9.0	50.0 to 54.0

From the above information you can select the crystals for the bands in which you wish to operate.