

11569 alt 30  
thing. Then start with step 1. Do not plug the transmitter into the AC line outlet until the instructions below tell you to do so.

1. Connect the wire from the ground terminal at the rear of the chassis to a good ground such as a cold water pipe. All other equipment such as the receiver, converters, power supplies, VFO, etc. should have good connections made to this same ground. Use a #14 or heavier wire. Do not depend on coaxial cable to provide a common ground. The RF bypass capacitors from the AC line to the chassis can give an unpleasant shock if the above grounding instructions are not followed. This is true for all makes of equipment.

2. Connect the antenna to the changeover relay or switch.

3. Connect the Standing Wave Bridge, if one is available. Instructions for this come with the Standing Wave Bridge.

4. Hook up the Low Pass Filter, if you are operating on 6 meters. A Drake TV-1000LP is recommended for this use. If you switch to 2 meters, remove the low pass filter from this circuit.

5. Connect the receive side of the relay to the converter or receiver.

6. Connect the transmit side of the relay to the coaxial jack on the back of the transmitter.

7. Connect the relay coil (See section on Relays).

8. Plug in the microphone.

9. Plug in the crystal. If a VFO is to be used, use a crystal for at least the first tests.

#### OPERATION FOR PHONE AND CW

1. Preset the TX-62 controls as follows:  
POWER switch to OFF, CW-PHONE switch to CW, VFO CRYSTAL switch to CRYSTAL, METER switch to GRID, MIC GAIN at zero, DRIVE at 100, LOAD at zero, PLATE at about 50, BAND switch set on the band to be tuned up. Key or microphone switch should be open.

2. Plug the line cord of the transmitter into the AC wall outlet.

3. Throw the power switch on. Wait for at least one full minute for the tubes to warm up.

4. Key the transmitter with the key or the button on the microphone momentarily and watch the meter. It should read between 2 and 9 ma.

5. If the meter reads above 5 ma., turn the drive control down to obtain a reading between 2 ma. and 5 ma.

6. Throw the meter switch to ANT.

7. Key the transmitter and tune the PLATE capacitor for maximum reading on the meter.

8. Key the transmitter and adjust the LOAD capacitor for maximum reading.

9. Repeat steps 7 and 8 several times until no further increase is obtained. Do NOT hold the key down for a long time. Hold it for just a few seconds at a time while each adjustment is made. During tuneup, it is very easy to overheat the final amplifier tube and shorten its life.

NOTE: Step 10 is for CW operation only. Steps 11 through 13 are for Phone Operation only.

10. (CW OPERATION ONLY) Throw the meter switch to GRID. Adjust the drive control for 3 ma. on the meter. Satisfactory results can be had with as little as 2 ma.

The transmitter is now tuned up for CW operation.

The following steps are for Phone operation only.

11. Throw the CW-PHONE switch to PHONE. Throw the METER switch to GRID. Adjust the DRIVE control for 3 ma. on the meter. Satisfactory results can be had

DRIVE 32-31

LOAD 60-59

PLATE 63-62

with as little as 2 ma.

12. Throw the METER switch to ANT. This will permit observation of the RF output to the antenna, including the variations with modulation.

13. Adjust the MIC GAIN control until the meter swings up the scale on a few words -- on peaks -- about one-quarter way between the meter reading for CW and the meter reading for Phone when there is no modulation. If the meter does not swing at all, the modulation is too low. Either talk closer to the microphone or talk louder or turn the MIC GAIN control up higher. When the swing is excessive, the modulation is also excessive, causing distortion and often poor readability. In this case, turn the MIC GAIN control down.

The transmitter is now tuned for Phone operation.

Note that in the tuneup procedures above, the plate current is not mentioned. Accurate tuning cannot be had by tuning the TX-62 for plate current dip. A typical range of meter readings on CATH, or cathode currents (the total of plate, screen and grid currents) is as follows:

	6 meters	2 meters
CW	130 - 170 ma.	150 - 190 ma.
Phone	80 - 110 ma.	90 - 135 ma.

These readings are affected by line voltage variations, antenna characteristics, tube variations and circuit variations.

On Phone, one may talk as long as desired. On CW, send CW as long as desired but do not hold the key down for more than a couple of minutes. Remember that CW is a "part time" operation - the carrier is off a good part of the time. If tests require long key-down operation on CW, tune carefully.

#### ALTERNATE STEP 11:

Step 11 above is rather simple and is sufficient for most operations. However, as the user becomes more familiar with the transmitter, he may want to use a better method for arriving at the proper final grid current. The final will operate with more efficiency with this alternate method. It can be done as follows:

With the METER switch on ANT, and the DRIVE control at maximum (never allow the final grid to have more than 5 ma. for more than a few seconds), adjust the DRIVE control from the maximum point downwards. As the control is turned down, the meter reading will increase and then decrease. Turn the control up again (clockwise) --- just past the peak reading to where the meter reading starts to drop very slightly. This is the best operating point. The METER switch can then be thrown to GRID. The grid current reading is usually very close to 3 ma., but it may be as low as 2 ma. or as high as 3.5 ma. Note that this procedure is good for general use, on any Class C amplifier -- for phone or CW.

SPOT SWITCH: There is a switch on the MIC GAIN control. It is normally in the "ON" position. If the MIC GAIN control is turned counter-clockwise - past 0 - the switch will snap to the "OFF" position. In this position, the final amplifier and the tripler on 2 meters are disabled. This permits keying the transmitter and tuning in the signal on the receiver, without putting a signal on to the antenna. Either the receiver can be exactly tuned to a crystal frequency or, when a VFO is used, the VFO can be tuned in exactly to the same frequency as the station the receiver is tuned in on. As soon as the tuning is completed, turn the MIC GAIN back to the original setting. Note that the use of the spot switch will depend on the relay circuit in use.