

OPERATING PROCEDURES

a. Place all power and control switches in the OFF position. Place the POWER SUPPLY EXCITER switch to VFO OPERATE.

b. Insert AC line cord plug into a 110-115 volt, 60 cycle, single phase current source.

c. Connect antenna feed line to coax connector marked ANT. (rear of R.F. Chassis).

d. Set the VFO BANDSWITCH and VFO TUNING control to the desired band and frequency of operation.

e. Place filament switch (Power Supply panel in the ON position and allow three minutes warm-up time.

f. Set EXCITER and FINAL bandswitches to the desired band, and remove the crystal.

g. Place FUNCTION switch to the TUNE position. Place Xtal/VFO SW to VFO position.

h. Set ANT. COUPLING switch to position indicated in TABLE III for band in use and load expected. Set ANT. LOAD control to minimum (counter-clockwise).

i. Rotate DRIVE CONTROL to minimum position (counter-clockwise).

j. Place SSB-AM switch in AM position. (On rear of R.F. Chassis).

k. Place meter switch in OSC. PLATE position.

l. Place the EXCITER switch to VFO TUNE position and adjust OSC. TUNING control for minimum oscillator plate current reading. Note tuning chart for approximate dial reading for band of operation.

m. Place meter switch to BUFF. PLATE position.

n. Advance DRIVE CONTROL clockwise slowly. When a meter reading of 25 Ma. is obtained tune BUFFER plate control for minimum current reading. (Check TABLE III for typical dial readings, as a wrong harmonic can be tuned in some instances).

o. Place meter switch to F. GRID position and note the amount of grid current. A reading of approximately 15 Ma. should be obtained. If not, adjust the DRIVE CONTROL until a reading of 15 Ma. is obtained.

p. Place the EXCITER switch in VFO OPERATE position and TRANSMIT switch to ON position. Carefully adjust FINAL PLATE TUNING for minimum final plate current. This indicates resonance in the final plate circuit dial setting of FINAL PLATE TUNING control and should correspond closely with the settings indicated in Chart III.

q. Advance ANTENNA LOAD control slowly clockwise, final plate current should increase. When plate current has increased to 200 Ma., re-tune FINAL PLATE TUNING control for minimum plate current again. Repeat the procedure of advancing ANTENNA LOAD control and re-tuning FINAL PLATE TUNING control to resonance until the minimum plate current dip is 190 Ma.

r. Place FUNCTION switch to CW position,

this should cause final plate current to rise to approximately 300 Ma. Re-tune BUFFER TUNING for maximum grid current, then re-adjust DRIVE CONTROL to indicate 15 Ma. grid current. When the full voltage is applied to the final stage, normal loading will decrease the grid current 10 to 20% therefore re-adjustment of the BUFFER TUNING and DRIVE CONTROL is necessary,

s. Repeat the loading procedure by advancing ANTENNA LOAD control and re-tuning the FINAL PLATE TUNING control, until the minimum plate current dip of 330 Ma. is obtained. This is full load for the final stage and it should not be exceeded or a reduction in power output will result. Do not exceed 15 Ma. grid current or shortened tube life will result. The ANTENNA LOAD control may be advanced until sufficient final loading is obtained. Should the dial indications differ greatly from the typical table readings, a defective antenna or a high SWR is indicated and should be corrected.

2-40. KEYSER CONTROL ADJUSTMENT.

2-41. The keying system employed in the Globe King, Model 500B, is fundamentally grid block keying, however, several refinements have been incorporated into the basic circuits. The keyer stage utilizes a 12AU7 tube connected as a cathode follower in series with the bias voltage and provides a predetermined time lag in the application of bias voltage. The 6AG7 crystal stage is biased directly from the bias line through a suitable decoupling network. The 6AU6 VFO stage is biased through the keyer tube. The circuit constants in the keyer stage are such that key closure turns the VFO on first. Opening the key turns the crystal stage off first. Inasmuch as the VFO goes on first and off last, it eliminates the possibility of any keying chirp generated in the VFO stage to be transmitted on the air.

The keying circuit need be adjusted for the desired keying characteristics only when the transmitter is placed into initial operation. The key adjust control determines the desired keying characteristics. With the key adjust control in the extreme counter-clockwise position, softest keying is obtained. With the control in the extreme clockwise position sharper keying with a very slight click is obtained. Optimum operation, with the most pleasant keying is at the point where the VFO is just cut-off. For break-in operation on one's own frequency, it is necessary the VFO be completely cut off to eliminate interference with the received signal. Proper adjustment is as follows:

a. Rotate keyer control potentiometer shaft to extreme counter-clockwise position.