AMPLIFIER TUNING

(1) Connect amplifier to antenna or dummy load.

(2) Connect relay control cable from Swan FM-2X transceiver to RELAY CONTROL phone jack on rear of chassis.

(3) Connect output from Swan FM-2X transceiver to INPUT connector on rear of VHF-150 chassis.

(4) Connect power cable to 117 volts AC (230 volts AC if VHF-150 is wired for 230 volts). If using Mobile, connect amplifier to 12 VDC. (See Figure 4.)

(5) Turn PWR ON switch to "ON" (up) position. Indicator light located below meter will come on.

(6) Allow 2 minutes for warmup of amplifier.

(7) Place the channel switch on the Swan FM-2X to a channel that does not have a crystal installed, or disconnect the coaxial cable between the output of the FM-2X and the input to the VHF-150.

(8) Place the BYPASS TURN-CW-FM SSB function switch in the SSB position

(9) Depress the mike switch on the FM-2X microphone, and adjust the P.A. BIAS control on the rear of the amplifier until the meter reads 60 ma. of cathode current. Release mike switch.

(10) Place channel switch on FM-2X to a channel that has a crystal installed, or reconnect coaxial cable between output of FM-2X and input of VHF-150.

(11) Set LOAD control to 0 (minimum position).

(12) Set DRIVE control to position No. 5

(13) Place BYPASS TUNE-CW-FM SSB function switch in the TUNE-CW-FM position.

(14) Depress mike switch and adjust GRID control for MAXIMUM reading on the meter.

CAUTION

DO NOT HOLD MIKE SWITCH DEPRESSED MORE THAN 5 SECONDS AT THIS TIME. PLATE CIRCUIT IS NOT AT RESONANCE YET AND 5894B AMPLIFIER TUBE WILL DRAW EXCESSIVE CURRENT.

(15) Again depress mike switch, and rapidly tune PLATE control for a "DIP" on the meter. This action is known as "resonating" the plate circuit, and is extremely vital to preserving tube life.

NOTE

IF YOU HAVE NOT FOUND THE "DIP" IN 5 SECONDS, RELEASE THE MIKE SWITCH AND WAIT 30 SECONDS BEFORE TRYING AGAIN.

(16) Continue tuning the GRID and PLATE controls until the meter reads Maximum for the GRID control and Minimum ("DIP") for the PLATE control.

(17) Set DRIVE control to position No. 3.

(18) Rotate OUTPUT METERING control fully clockwise.

(19) Depress mike switch and advance the LOAD control to approximately 5. This should cause an increase in meter reading. Alternately adjust LOAD and PLATE controls until a maximum reading is obtained on the meter. If meter pegs, rotate meter control counterclockwise until a lower level on the meter is obtained.

(20) Rotate OUTPUT METERING control to CATHODE CURRENT position (switch snaps). Depress mike switch and check plate tuning for a "DIP". If meter is on the "DIP" or only slightly off, leave on "DIP". The amplifier should be drawing approximately 180 to 200 ma. of cathode current. If a large adjustment is necessary to "DIP" the meter, improper tuning of the VHF-150, or a high VSWR in the antenna is indicated.

(21) Rotate OUTPUT METERING switch clockwise to Relative Output.

(22) Normally, the VHF-150 should have the DRIVE control set at position No. 3 when used with the Swan FM-2X. Position No. 1 and No. 2 will give excessive drive which causes harmonics and other spurious outputs. In cases where the FM-2X has exceptionally good output, (12 to 13 watts), position No. 4 may be used. When using the VHF-150 with other equipment, the position of the DRIVE control will vary depending upon the drive available. Use the position on the DRIVE control that just gives you full output. Advancing it farther to squeeze out an extra watt or two only gives you stronger spurious signal possibilities, without really gaining anything at the receiving end.

(23) The VHF-150 is now properly tuned and ready for ON-THE-AIR operation. Select the proper mode of operation for your particular exciter or transceiver. For the Swan FM-2X transceiver, set the BYPASS TUNE-CW-FM SSB function switch in the TUNE-CW-FM position. Do not attempt to transmit CW or FM with the function switch in the SSB position. While SSB will operate in the TUNE-CW-FM position, linear operation is not possible, and distortion of the SSB signal will take place.