

Note: Under conditions of lower than normal supply voltage, tubes not quite up to par, or a combination of these factors, it may not always be possible to load up to a full 500 ma, particularly on 10 meters. This is not necessarily a sign of something being radically wrong. Peak input power will still be 400 watts when the Power Amplifier is loaded to 400 ma in TUNE position, and entirely satisfactory operation will be possible. In other words, don't panic if your Swan 400 will not load to 500 ma at all times--it may be a combination of low supply voltage, tube condition, or some other local, temporary condition.

9. Rotate the FUNCTION SWITCH to REC.
10. Install a high impedance push to talk microphone in the MIC JACK on the front panel.
11. Depress the push-to-talk button on the microphone and while talking in a normal tone of voice, slowly rotate the MIC GAIN control clockwise until the PA cathode current meters reading averages 150 to 200 ma. This setting of the MIC GAIN control will result in peak input power in excess of 400 watts. The ALC circuit will operate to limit the average cathode current near this value, so that a further increase in MIC GAIN will not appreciably increase the meter reading. The normal MIC GAIN setting, with a high impedance hand-held microphone, will be between the 9 and 12 o'clock positions.

AM OPERATION (Single Sideband With Carrier)

1. Tune up transmitter to full output on single sideband on desired frequency band as described above.
2. Rotate MIC GAIN control to full counter-clockwise position

3. With Function Switch in TRANSMIT, rotate CAR BAL control until cathode current is approximately 150 ma.
4. While talking in a normal tone of voice into the microphone, increase MIC GAIN setting until variation is just discernible on meter. This setting will result in adequate modulation with one sideband.

Note: If the sideband selector switch is in normal sideband position, the extremely sharp crystal filter may make it impossible to load to 150 ma on TRANSMIT. Place the sideband selector in other sideband and no difficulty should be experienced.

TUNE POSITION SWITCHING

In the TUNE position, the Sideband Selector switch, S5, removes C1504, which is effectively in parallel across the carrier crystal Y1502 when in the most used sideband position, thereby raising the carrier frequency to be within the passband of the crystal filter. In the other sideband position, C1505 is normally across Y1501, and in TUNE position, C1503 is added in parallel with C1505 to lower the carrier to be within the passband of the filter. See Figure 3. S5 also grounds one deflection plate of the Balanced Modulator in TUNE, allowing full carrier to be inserted.

PHONE-CW POSITION SWITCHING

In Phone position of S4, an additional capacitance, C1501 is also in parallel with C1504 to keep the carrier outside the passband. When S4 is placed in CW position, C1501 is removed, effectively raising the carrier partially into the filter passband. On the other sideband, C1502 is placed in parallel to lower the carrier a like amount into the crystal passband. Switch S4 also grounds one deflection plate of the Balanced Modulator, opens the cathode of V16B, Transmit AF Amplifier, and switches the grid block keying circuit into operation in the CW position.