The carrier frequency is generated by the transistorized crystal controlled Beat Frequency Oscillator (BFO) Q9. The signal from the BFO is fed into the cathode of the Product Detector through C503. In the NORMAL sideband mode, the carrier frequency is generated at 5500 kc., and in the OPPOSITE sideband mode, the carrier is generated at 5503.3 kc.

In the Product Detector, the BFO signal is heterodyned with the I.F. signal, and the resultant audio is then amplified by the First Audio Amplifier V5B.

In the Swan Model 600-R Custom, the audio signal from the Product Detector is coupled through C502 to the control switch of the I.C.A.F. (Integrated Circuit Audio Filter) Adjustable Audio NOTCHER-PEAKER. When the control switch is in the OFF position, the audio signal is passed through the switch back to the grid of the First Audio Amplifier. When the control switch is in the NOTCH position, an unwanted tone can be nulled out by rotating the A.F. TUNE control. In this position, the SELECTIVITY control has no effect on the signal. When the control switch is in the PEAK position, a desired CW tone is adjusted for maximum strength by rotating the A.F. TUNE control. The SELECTIVITY control may be turned clockwise to reduce bandwidth, or counter clockwise to increase bandwidth. Normally this control will be set to about 12 o'clock.

When receiving AM signals, the BFO is switched off, and the Product Detector operates as a conventional AM detector.

The output of the First Audio Amplifier is coupled through C506, and the A.F. GAIN control R601, to the grid of the Audio Output Amplifier V6. The output of the A.F. Output stage is coupled through T601 to the 4 ohm speaker jack. The audio signal is also fed to the grid of the AGC Amplifier V7, through C507. The audio voltage is rectified and amplified by V7 and D701. D702 and D703 provide DC blocking to the AGC Amplifier. The negative voltage developed by the AGC Amplifier is fed back to the grid circuits of the R.F. Amplifier, and the I.F. Amplifiers.

Receiver muting is accomplished by externally ungrounding the negative 35 volt bias line to V1, V2, and V3 through pin 9 of the "TO 600-T" socket on the rear panel.

Power for the receiver is supplied by the built-in power supply. Full-wave rectification is provided by the bridge circuit comprised of D1201 through D1204, which supplies the positive 225 and 200 volt plate and screen voltages. The filter network is comprised of C1205A/B, C1206A/B, and R1201, R1202, and R1203. R1206 is the power supply bleeder resistor. The 12.6 AC filament voltage is supplied by a separate winding of T1201. The negative 35 volt bias is developed across D1205. Voltage regulation of the negative 12 volts is achieved by the use of Zener Diode D1206.

The transistorized crystal calibrator provides 100 kc and 25 kc calibration markers for proper dial alignment. Q1 and Q2, along with the 100 kc crystal Y1301, provide the 100 kc marker. Q3 and Q4 are the multivibrator circuit which divides the 100 kc signal by a factor of 4, thus providing calibration markers every 25 kc. The output of the calibrator is coupled through C1305 to the antenna input circuit.