B. INSTALLATION

GENERAL

The Swan 400 transceiver has been designed to provide the utmost in ease of operation, stability, versatility, and enjoyment. Maximum enjoyment from your Swan will depend to a great extent on the installation. For fixed station or portable use, operation with the Model 117B power supply provides a compact arrangement with maximum ease of operation. All switching is performed in the transceiver. For mobile installations, the Model 512 supply provides similar switching arrangements, and speaker output may be fed through the car broadcast receiver speaker.

POWER SUPPLY

The Swan Models 117AC and 117B power supplies provide all necessary voltages required by the transceiver. The supplies come equipped with a pre-wired plug and cable, all ready for plugging into the transceiver. The Model 512 supply for mobile operation includes all necessary cables, connector plug, fuses, and installation hardware. The Jones plug for connection to the transceiver is furnished with the unit.

Power requirements for the Swan 400 are shown in the following table. Pin connections to the Jones type power connector are also listed as an aid in connecting other brands or home-brew power supplies.

	Pin	Nominal	Minimum	Maximum
High Voltage	8	800 VDC 500 MA	600 VDC Low Pwr.	1000 VDC Hi. Power
Medium Voltage	10	275 VDC 150 MA	225 VDC	325 VDC
Bias Voltage	3	-110 VDC 100 MA	-100 VDC	-130VDC
Filament Voltage	4	12.6 V* 5.5 amp.	11.5 V	14.5 V
Relay Voltage	5	12 VDC 250 MA	10 VDC	14.5 VDC

*AC or DC

EXTERNAL SPEAKER CONNECTIONS

Audio output from the transceiver is provided at pin 12 of the Jones plug. The other speaker lead goes to the common chassis ground at pin 6. Output impedance is between 3 and 4 ohms. For mobile installations, the car broadcast speaker may be used, in which case a DPDT selector switch should be installed to select either the broadcast receiver or transceiver output.

MICROPHONE

The microphone input is designed for high impedance microphones only. DO NOT ATTEMPT TO USE CARBON MICROPHONES. The choice of microphone is important, for good speech quality, and should be given serious consideration. The crystal lattice filter in the transceiver provides all the restriction necessary on audio response, and further restriction in the microphone is not required. It is more important to have a microphone with a smooth, flat response throughout the speech range. The microphone plug should be a standard 1/4 in. diameter three-contact type. The tip connection is for push-to-talk relay control, the ring connector is for the microphone terminal, and the sleeve is for the common chassis ground. The manufacturer's instructions should be followed in connecting the microphone cable to the plug. With many microphones, the push-to-talk button must be pressed to make the microphone operative, even though the panel function switch is in the transmit position. This feature may be disabled, if desired, by opening the microphone case and permanently connecting the contacts which control the microphone.

ANTENNA

Any of the common antenna systems designed for use on the high frequency amateur bands may be used with the Swan transceiver, provided the input impedance of the transmission line is not outside the capability of the pi-output matching network. An antenna which reflects a standing wave ratio on 50 or 75 ohm transmission line, below approximately 3:1 at the proposed operating frequency, or a system that results in a transmission line input impedance that is essentially resistive and between 20 and 300 ohms will take power from the transceiver with little difficulty. If tuned open-wire transmission line is used to excite the antenna, a suitable antenna tuner should be used between the transceiver and the antenna to provide a reasonable impedance match between the unbalanced coaxial output and the balanced open-wire line. Methods of constructing and operating such tuners are described in detail in the ARRL Antenna Handbook, and similar publications. For operation on the 75- and 40-meter bands, a simple dipole antenna, cut to resonate in the most used portion of the band, will perform satisfactorily. For operation on the 10, 15, and 20 meter bands, the efficiency of the station will be greatly increased if a good directional rotary antenna is used.