

the Heath Co. of Benton Harbor, Michigan. The instruction book supplied with this kit explains in detail how to connect and use the instrument, and how to interpret the screen patterns. Other oscilloscopes may also be used. The Radio Amateur's Handbook, published by the ARRL, and the Radio Handbook by Bill Orr, published by Editors and Engineers both contain detailed information on the use of oscilloscopes for transmitter tuning and operation. These publications are recommended references for this purpose.

- ⑥ To operate without the 1200-X, simply switch it to "BYPASS" position. The antenna circuit is then bypassed around the amplifier by the internal relay and the transceiver-driver will operate "BAREFOOT". However, the 8950 filaments in the 1200-X remain lit to allow instant operation of the amplifier. Whenever you are operating "BAREFOOT", it is advisable to touchup the P.A. PLATE and P.A. LOAD controls on the exciter-driver for maximum.
- ⑦ For CW operation at approximately 500 watts input, place the FUNCTION switch in the "TUNE-CW" position. For full power CW operation (approximately 700 watts input), place the FUNCTION switch in the SSB position.

RELATIVE OUTPUT:

This feature gives the operator a check on how the feedline and antenna looks to the amplifier. With the switch in the REVERSE position, the meter reads relative reflected power. This level is also controlled by the output metering control. In order to get a meaningful relationship between forward and reflected power, it is recommended that with the switch in the FORWARD position, adjust the OUTPUT METERING control for a reading of 600 to 900 on the meter scale. Then switch to REVERSE without changing the OUTPUT METERING control. Under these conditions, a reading of 125 to 200 or more on the meter indicates a VSWR of 2 to 1 or more, and some work on your antenna systems would probably be in order.

EXTERNAL ALC CONNECTION:

The Swan 270B, 300B and 500CX have ALC already incorporated in them, but for those operators that prefer having ALC controlled from the 1200-X, an external ALC connection has been provided on the back of the 1200-X. It is not necessary to use this circuit in the operation of the 1200-X. It will operate properly with or without this circuit being connected to the exciter-driver. To use this feature, a slight modification to the 270B, 300B, 500CX and 700CX is necessary. The addition of the circuit in Figure 2 or Figure 3 is necessary. The parts necessary for this modification have been packed with your 1200-X. The location of the phono jack con-

necter is recommended as shown in Figure 2 or 3, in order to allow addition of the Swan NB-500 or ICAF accessories. The connecting cable for the ALC control has also been included with your 1200-X.

ADJUSTMENT:

The best method is to use an oscilloscope, and with the exciter-driver properly connected to the amplifier, and both units properly tuned, adjust the ALC pot on the back of the amplifier so you cannot flattop. If an oscilloscope is not available, it is possible to adjust the ALC circuit by watching the cathode current on your exciter-driver. While speaking into the mic, adjust the ALC control on the back of the amplifier until occasional peak readings of 100 to 120 ma. (for 270B), 110 to 130 ma. (for 300B), or 200 to 225 ma. (for 500CX and 700CX), are obtained.

MAINTENANCE:

There will be little maintenance required in the 1200-X amplifier. The 8950 tubes will provide thousands of service hours when operated according to instructions. Deterioration of a tube will generally be indicated by a change in idling current or inability to draw normal plate current, or both. However, except for occasional field problems which may occur with any electronic device, the tubes may be expected to operate month after month and year after year with no problems. In the grounded grid circuit, matching the 8950 tubes is not normally required.

Other components are also operating conservatively, and well within nominal ratings. The electrolytic filter capacitors in the power supply are computer grade, meaning that they have a much higher degree of purity and quality control than conventional types. Life expectancy of these filters is approximately 10 years. The silicon diodes used in the supply are hermetically sealed and are not likely to fail or wear out.

BAND	DIAL SETTING	
	PLATE	LOAD
80	5	3
40	4.5	2.5
20	7.5	4
15	6	3
10	08.5	4

TYPICAL DIAL SETTINGS ON 1200-X
WHEN COUPLED TO A 50 OHM LOAD.