CIRCUIT THEORY (Cont.)

When in TRANSMIT, the gain of the First IF Amplifier is controlled through the Automatic Level Control network (using the AGC Amplifier V10) to control the gain of the stage in response to the average input power to the Power Amplifier. This ALC system will compensate for any extremely strong input signals, but does not completely eliminate the necessity of proper adjustment of the Mic. Gain Control. This feature will help prevent the transmitter from flat topping and spurious emissions, but considerable distortion may occur if the Mic. Gain Control is not properly adjusted. Refer to Operating Instructions.

TUNE AND CW OPERATION

Normally, the frequency of the carrier oscillator is approximately 300 cps outside the 6 db passband of the crystal lattice filter. In TUNE position, the frequency of the carrier oscillator is moved approximately 800 cps to place it well within the passband of the crystal lattice filter. A similar procedure is followed for CW to allow full carrier output during CW operation.

RECEIVE

In RECEIVE position, or at any time when the transmitter is not in TRANSMIT, all circuits used in transmitting are disabled through the relay controlled circuits, K1. The relay is energized for transmitting and de-energized for receiving. One contact, when de-energized, allows signals from the transmitting tank circuit and antenna to be fed to the Receiver RF Amplifier, V5, where they are amplified and then fed to the control grid of the Receiver Mixer, V6. The local oscillator signal from the VFO Amplifier is now used to heterodyne the received signal to the IF frequency. All IF amplification is accomplished at this frequency, nominally 5500.0 kc, through V7 and V8 IF amplifiers. In the Product Detector V9A, the IF signal is heterodyned with the carrier frequency generated by Carrier Oscillator, Q3. The resultant audio is then amplified by V9B, which then couples to V10, the AGC amplifier, and V11, the output audio stage.

FREQUENCY CALIBRATION

Frequency calibration of the Model 1011 is in 5 kc increments. Dial accuracy and tracking are quite good, but caution must always be observed when operating near band edges. Measuring the frequency with the 100 kc calibrator when working near band edges is recommended.

DIAL SET

A dial-set control has been provided so that dial adjustment can be made at any 100 kc point on the dial. With calibrator on, set the dial to any 100 kc point closest to the frequency you wish to work. Now adjust dial-set control to zero-beat the VFO with the 100 kc Calibrator. This provides greater accuracy of dial readout.

CAUTION

Care must be exercised when tuning for the 100 kc harmonics of the calibrator. Several spurious image signals may be heard, although they will be definitely weaker than the correct harmonics.

TRANSMIT AND RECEIVE SWITCHING

Transmit and receive switching is performed by relay K1. In TRANSMIT position, only those tubes that operate in the transmit mode are operative, all others being biased to cutoff through the relay contacts. In the RECEIVE position, with the relays de-energized, the tubes that are used only in transmit are cut off in the same manner. Relay K1 when de-energized, feeds signals from the output pi-network to the receiver. Note that relay K1 will not operate when the frequency range selector is in "CB" position.

POWER RATING

The Swan 1011 is capable of 180 watts, PEP input under steady state two-tone test conditions. The peak envelope power, when voice modulated, is considerably greater, typically 260 watts, or more.

The built-in power supply produces a no-load plate voltage of approximately 880 volts. Under TUNE conditions, or CW operation, this voltage will drop to approximately 680 volts. Under steady state two-tone modulation, the voltage will drop to approximately 710 volts. If the power amplifier idling current is 30 ma, and the two-tone current, just before flat-topping, is 200 ma, the peak two-tone current will be 300 ma. Under these conditions the PEP input will be 710 volts times 300 ma = 213 watts. Under voice modulation, because average power is considerably less, the power amplifier plate and screen voltages will be maintained higher, even during voice peaks, by the power supply filter capacitors. Peak plate current will therefore also be higher than with two-tone test conditions. Under typical operating conditions, peak plate current before flat-topping will be 350 ma at 800 volts, to result in an input of 280 watts, PEP. Readings of cathode current will not reflect this power input, however, because of the damping in the cathode current meter, cathode current readings under normal voice input should not average more than 100 to 120 ma.

POWER AMPLIFIER PLATE DISSIPATION

There is often a misunderstanding about the plate dissipation of tubes operated as AB1 amplifiers under voice modulation. In the Swan 1011, while in the transmit position, and with no modulation, the plate voltage will be approximately 830 volts, the plate current 30 ma, and the power input will be 25 watts.

Authorities agree that the average voice power is 10 to 20 db below peak voice power. Normally, some peak clipping in the power amplifier can be tolerated, and a peak-to-average ratio of only 6 db may sometimes occur. Under such conditions, the average power input will be 80 watts, and average plate current will be 100 ma. With power amplifier efficiency of 65 percent plate dissipation will be approximately 26 watts. The 6LQ6 is rated at 30 watts, continuous duty cycle, in normal TV service. Thus it can be seen that under normal operating conditions, the power amplifier tube in the Swan 1011 is not being driven very hard. Note, however, that proper modulation level must be maintained by correct setting of Mic. Gain, and that the length of time in TUNE position must be limited to not more than 30 sec. at a time.

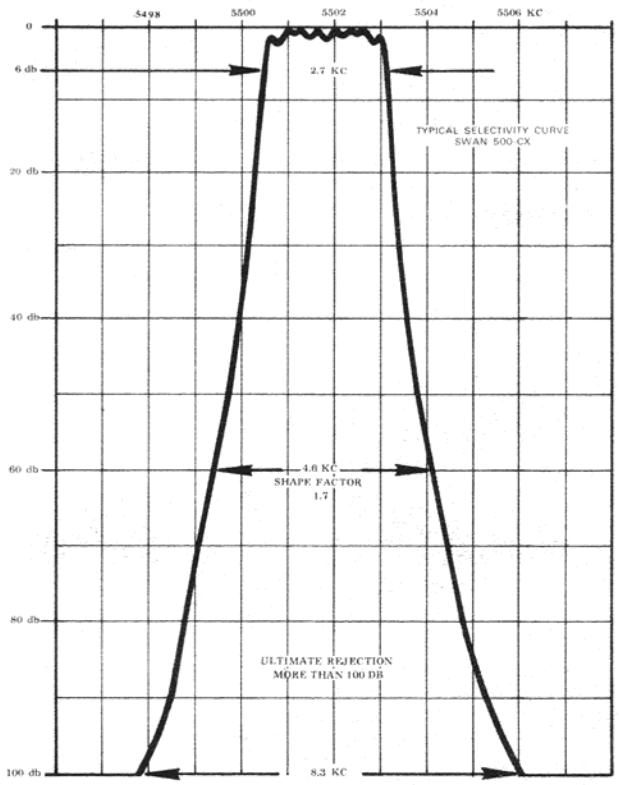


FIG. 6. CRYSTAL FILTER CHARACTERISTICS

ALIGNMENT AND TROUBLESHOOTING

The alignment procedures presented in this section are routine touch-up procedures for all tuned circuits and other adjustments. It is recommended that the procedures be performed in the order presented. However, if complete realignment is not required (as may be the case when just one tube is replaced), perform just those procedures required. Refer to Figures 7 and 8 for component placement.

RECEIVER ALIGNMENT

Receiver alignment involves only the adjustment of the Second IF coil. The R.F. coils which affect receiver performance are also used in transmit mode. Their adjustment is covered under "TRANSMITTER ALIGNMENT."

1. After allowing approximately five minutes for warm-up, tune the receiver to the middle of the band and at a "clear" frequency.

2. Adjust the P.A. TUNE, P.A. LOAD, and DRIVER front panel controls for maximum background noise.

3. Adjust IF coil L801 for maximum background noise.

S-METER ADJUSTMENT

With antenna disconnected and RF Gain fully clockwise, set R705, located on rear panel, for zero meter reading. Make sure no local signals are being received.

TRANSMITTER ALIGNMENT

(1.) Power Amplifier Bias.

a. Set bandwidth at 28 mc. position, tuning dial at 28.3 mc. and Driver control at 12 o'clock.

b. Set P.A. LOAD control to 9 o'clock.

c. Press Mic. Button. Check idling current. It should be on the delta symbol when CAR. BAL. control is nulled. Adjust P.A. BIAS control, if required.

d. With MIC. Button pressed, adjust CAR. BAL. control for slight increase in meter reading, 50 to 60 ma. Adjust P.A. TUNE to resonance, (dip).

e. Adjust coils L101, L201 and L301 for maximum meter reading. When reading goes higher than 80 ma., or so, adjust CAR. BAL. for 60 ma. again.

f. Adjust coils carefully for maximum peak. Exercise caution with CAR. BAL. control. Do not exceed 100 ma. reading for more than a few seconds. Be sure P.A. TUNE control is resonated, (adjusted for "dip" in meter reading).

(2.) Transmitter Circuits. The alignment of transmitter circuits involves the adjustment of tuned circuits in the VFO Amplifier, V1, the Transmit Mixer, V2, and Driver stage, V3. It is recommended that a dummy load be connected to the antenna jack during this series of adjustments.

a. Start first by adjusting 7 mc band. Set tuning dial and driver control as indicated by table I, page 18.

b. Set P.A. LOAD control to 9 o'clock.

c. Press Mic. Button. Check idling current. It should be on the delta symbol when CAR. BAL. control is nulled. Adjust P.A. BIAS control, if required.

d. With Mic. Button pressed, adjust CAR. BAL. control for slight increase in meter reading, 50 to 60 ma. Adjust P.A. TUNE to resonance, (dip).

e. Adjust coils as indicated by alignment chart for maximum meter reading. When reading goes higher than 80 ma., or so, adjust CAR. BAL. for 60 ma. again.

f. Adjust coils carefully for maximum peak. Exercise caution with CAR. BAL. control. Do not exceed 100 ma. reading for more than a few seconds. Be sure P.A. TUNE control is resonated, (adjusted for "dip" in meter reading).

g. Switch to 3.5 mc band, and repeat steps (a) through (f), following the tuning chart carefully. Follow this procedure through for each other band.

(3.) Power Amplifier Neutralization.

a. After allowing approximately five minutes for warm-up, tune the transmitter to approximately 28.3 mc.

b. Position the P.A. LOAD control to the 9 o'clock position, (full counter clockwise).

c. Set meter switch to P.A. CATH.

d. Key the transmitter with the microphone switch, and without speaking into the microphone, adjust the CAR. BAL. control for a power amplifier current of approximately 100 ma. Adjust the DRIVER control for peak. Quickly adjust CAR. BAL. to 100 ma. again if it increased to a higher reading.

e. With the Mic. Button still pressed, rotate the P.A. TUNE control through its range from 9 o'clock to 3 o'clock. You will note a pronounced "dip" in meter reading at resonance. Observe any tendency for the meter to "peak" above the 100 ma. plateau on either side of resonance. If there is such a peak, adjust C401, the P.A. NEUTRALIZING trimmer to suppress the peak. When properly neutralized, the meter reading will hold steadily at 100 ma. except for the sharp dip at resonance but there will be no peak above the 100 ma. level.

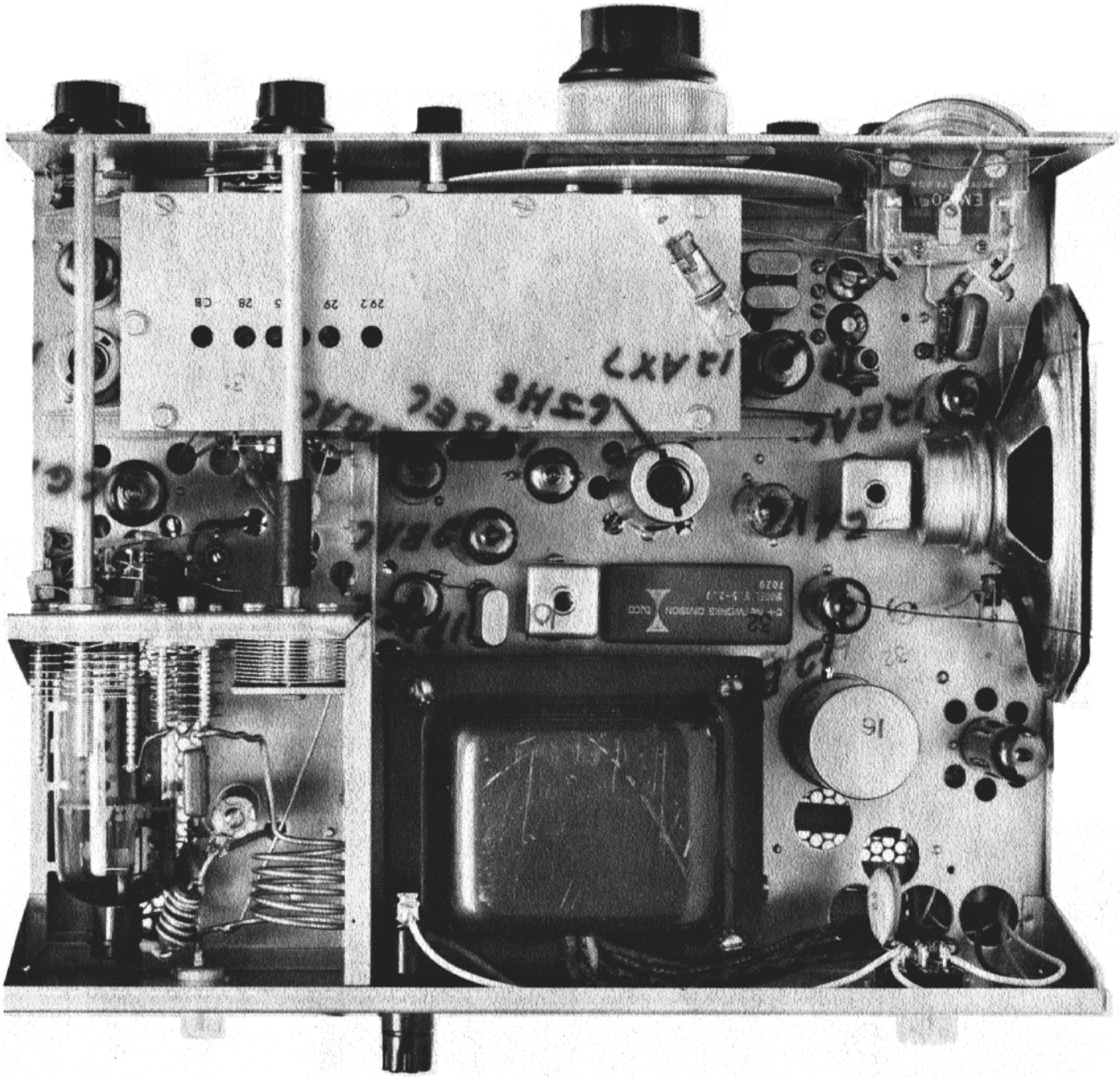


FIGURE 7. SWAN MODEL 1011 TOP VIEW

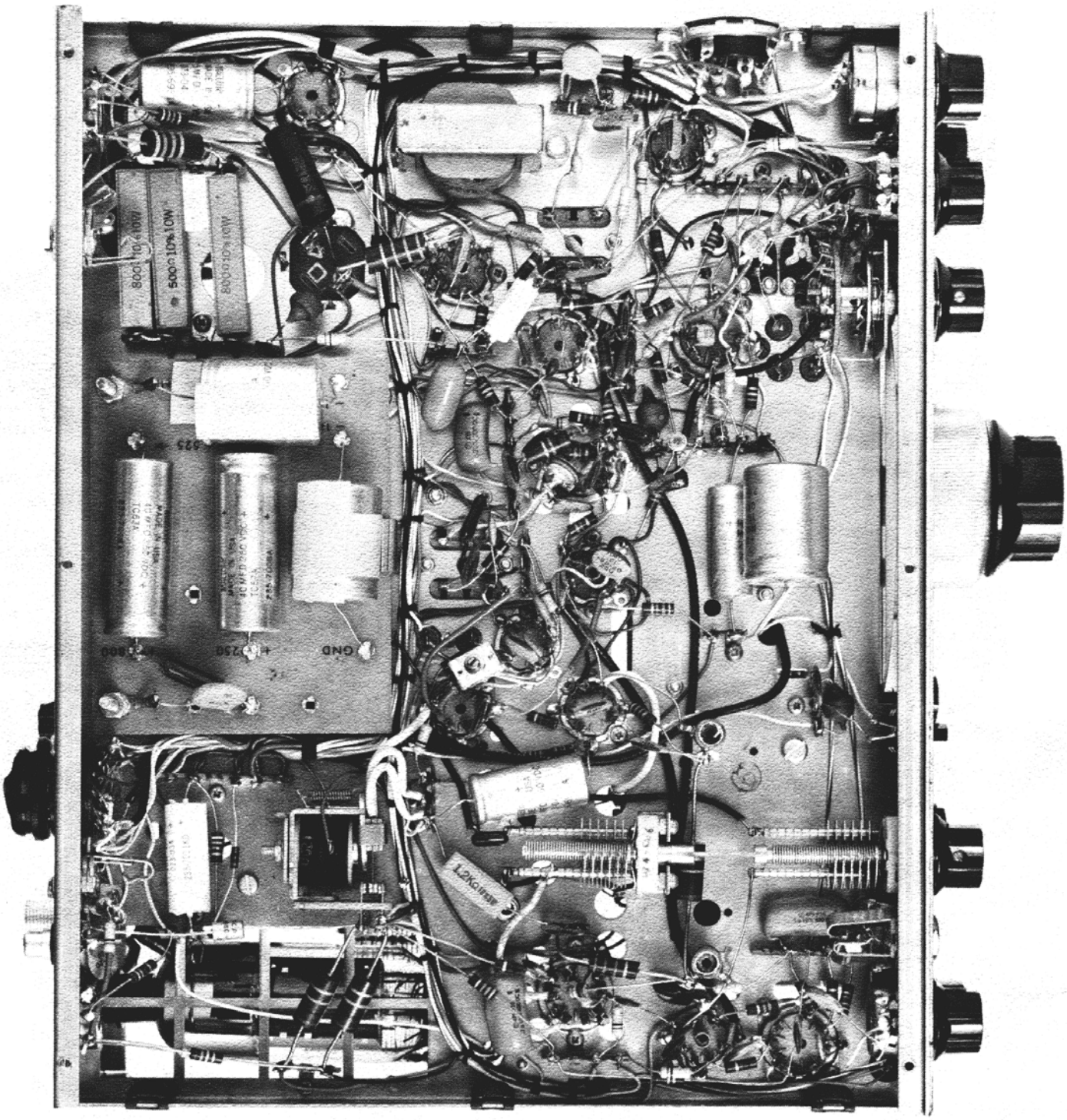


FIGURE 8. SWAN MODEL 1011 BOTTOM VIEW

f. Key the transmitter with the microphone switch and re-adjust the CAR. BAL. control for minimum power amplifier currrent. Power amplifier idling current should be on the delta symbol. If not, repeat the power amplifier bias adjustment described on Page 13.

4. **Carrier Frequency Adjustment.** A dummy load wattmeter and audio generator are required for this adjustment.

a. After allowing a five-minute warm-up period, tune the transmitter to approximately 28.3 mc.

b. Key the transmitter with the microphone switch and adjust the CAR. BAL. control for minimum power amplifier current.

c. Insert 1500 cycles of audio from an audio generator into the Mic. Jack located on the front panel. Adjust the gain of the audio generator and the Mic Gain control (R1404) until the watt-meter reads approximately 10 or 15 watts.

d. Adjust the first IF coil (L701) for maximum output. Adjust both slugs of the balanced modulator transformer (T1301) for maximum output.

e. Increase gain of audio generator until wattmeter reads 40 watts. Sweep generator down to 200 cycles and adjust the USB carrier oscillator trimmer (C1503) for a reading of 10 watts.

f. Switch to the LSB position. Adjust the LSB carrier oscillator trimmer (C1501) for a reading of 10 watts.

g. Re-check with audio generator set at 1500 cycles and 40 watts. Sweep down to 200 cycles and re-adjust Carrier Oscillator capacitor, if required, for 10 watts.

VFO CALIBRATION

After allowing approximately five minutes for warm-up, tune the dial, to the 200KC increment for any of the 10 meter ranges to be calibrated. For CB calibration, tune the dial to the 27,100KC increment. Using the 100KC crystal calibrator as a signal source, tune the signal for zero beat and note the corresponding dial reading. If the signal does not zero beat on the desired dial increment, locate the VFO cover and carefully adjust the correct trimmer until it does.

Use an insulated alignment tool for adjustment. Accuracy in other parts of the bands will be quite good, but remember that the 1011 is not to be considered a frequency standard. Be cautious when operating near band edges.

TROUBLESHOOTING

The information contained in Figures 7 and 8, together with the voltage and resistance chart and troubleshooting guide should be sufficient for most troubleshooting by the average licensed amateur radio operator.

VOLTAGE AND RESISTANCE CHART

TUBE TYPE	R = Rec. T = Trans.	Socket Pin Numbers								
		1	2	3	4	5	6	7	8	9
V1 12BA6	R Volts	-.6	0	0	12.6AC	45	45	0		
VFO Amp.	T Volts	-.6	0	0	12.6AC	50	50	0		
	Ohms	1.2K	0	0	0.2	0	*	0		
V2 12BE6	R Volts	-1.2	0	0	12.6AC	250	-2	0		
Trans. Mixer	T Volts	-1.0	0	0	12.6AC	250	135	0		
	Ohms	100K	0	0	.02	*	11K	35K		
V3 6GK6	R Volts	0	-6.7	0	0	6.3AC	NC	255	0	0
Driver	T Volts	0	-6.7	0	0	6.3AC	NC	265	225	0
	Ohms	10	100K	0	0	0.3	NC	*	0.2	0
V4 6LQ6	R Volts	NC	-75	0	12.6AC	6.3AC	-75	0	0	NC
Pwr. Amp.	T Volts	NC	-75	0	12.6AC	6.3AC	-75	225	0	NC
	Ohms	NC	6K	1.0	0.1	0.3	6K	0.1	0	NC
V5 6BZ6	R Volts	0	0	6.3AC	0	255	115	0		
Rec. R. F.	T Volts	0	0	6.3AC	0	255	0	0		
	Ohms	1.1M	0	0.1	0	14K	40K	0		
V6 6BZ6	R Volts	0	0	0	12.6AC	250	100	-.5		
Rec. Mixer	T Volts	0	0	0	12.6AC	265	0	-.5		
	Ohms	100K	0	0	0.1	11K	40K	45K		
V7 12BA6	R Volts	-1.8	0	0	12.6AC	210	48	0		
1st I. F.	T Volts	-1.8	0	0	12.6AC	220	50	0		
	Ohms	500	0	0	0.1	15K	50K	0		
V8 12BA6	R Volts	-1.7	0	0	12.6AC	205	105	0		
2nd I. F.	T Volts	-1.7	0	0	12.6AC	225	0	0		
	Ohms	110K	0	0	0.1	15K	40K	0		
V9 12AX7	R Volts	55	-1	0	0	0	145	-.25	0	6.3AC
Det. A. F.	T Volts	-3	-1.6	0	0	0	0	-.25	0	6.3AC
	Ohms	400K	11K	300	0	0	125K	1M	0	0.2
V10 6AU6	R Volts	0	2.0	6.3AC	0	0	0	225		
AGC Amp.	T Volts	0	1.6	6.3AC	0	0	0	175		
	Ohms	500K	5K	0.2	0	0	700K	100K		
V11 6AQ5	R Volts	-9	0	0	6.3AC	237	215	NC		
A. F. Output	T Volts	-9	0	0	6.3AC	262	0	NC		
	Ohms	500K	0	0	0.2	10K	12K	NC		
V12 12BA6	R Volts	0	0	12.6AC	225	225	75			
100KC Cal.	T Volts	0	0	12.6AC	175	175	55			
	Ohms	1M	0	0.1	100K	200K	0			
V13 6JH8	R Volts	0	0	0	6.3AC	0	-1.4	0	0	0
Bal. Mod.	T Volts	45	45	75	6.3AC	0	-1.4	0	100	100
	Ohms	2K	75K	500K	0.2	0	35K	0	75K	75K
V14 12AX7	R Volts	50	0	0	0	0	0	0	0	6.3AC
Mic. Amp	T Volts	45	0	0	0	0	75	0	0	6.3AC
	Ohms	1M	0	0	0	0	600K	0	10K	0.2

TROUBLESHOOTING CHART

DEFECT	POSSIBLE CAUSE
PA Idling Current Unstable	1. Defective Power Amplifier Tube (V4). 2. Defective BIAS control and/or associated components. 3. Defective bias power supply.
Inability to Load per Operation Instructions	1. Antenna not resonant at operating frequency. 2. Defective transmission line. 3. Defective antenna loading coil(s). 4. Tubes V1 through V4 defective.
Insufficient Sideband Suppression	1. Carrier Oscillator (Q3) operating on incorrect frequency. 2. Crystal filter defective or mistuned.
Insufficient Carrier Suppression	1. Tube V13 defective 2. Transformer T1301 defective or mistuned. 3. Carrier Oscillator (Q3) operating on incorrect frequency.
Microphonics in Transmitter	1. Tubes V13 and/or V14 defective. 2. IF coil L701 Defective or incorrectly adjusted. 3. Microphone defective.
Low Receiver Sensitivity	1. Tubes V5 through V10 defective. 2. Incorrect adjustment of the transmitter Pi-Network. 3. IF coil L801 incorrectly adjusted or defective. 4. K1 relay contacts defective.

TABLE I
VFO AND CARRIER OSCILLATOR FREQUENCIES

Tuning Dial	V1 Injection Frequency	Q1 Osc. Frequency	Q3 Osc. Carrier Frequency
26,950 KC	21,450KC	(1/2) 10,725 KC	5500 KC
27,260 KC	21,760KC	(1/2) 10,880 KC	5500 KC
28,000 KC	22,500 KC	(1/2) 11,250 KC	5500 KC
29,700 KC	24,200 KC	(1/2) 12,100 KC	5500 KC

PARTS LIST

RESISTORS

All resistors are ½ watt 10% tolerance, unless otherwise noted.

R101	1.5K
R102	47K
R103	10K-2W
R201	27K
R202	100K
R203	100K
R204	10K-2W
R205	470K
R206	2.7K
R301	100K
R302	100K
R303	10 Ohm
R304	100 Ohm
R401	100 Ohm
R402	25K Bias Pot.
R403	4.7K
R404	1K
R405	3 Ohm-5W
R406	100 Ohm-5W
R501	100K
R502	220K
R503	470 Ohm
R504	10K
R505	25K R.F. Gain
R506	10K
R507	470K
R601	47K
R701	1.5K
R702	33K-2W
R703	1K
R704	47K
R705	25K S-Meter Zero
R706	15K
R707	47K-2W
R708	100K
R801	100K
R802	1K
R803	4.7K
R901	100K
R902	270 Ohm
R903	270K
R904	47K
R905	10 Meg
R906	1 Meg
R907	47K
R908	100K
R1001	1 Meg
R1002	270K
R1003	470K
R1004	4.7K
R1005	15K
R1006	2.2 Meg
R1007	270K
R1008	2.2 Meg
R1009	100K
R1101	1 Meg A.F. Gain
R1201	1 Meg
R1202	27K
R1203	100K
R1301	1K
R1302	10K
R1303	10K
R1304	270K
R1305	10K-1W
R1306	27K
R1307	27K
R1308	5K Car. Bal.
R1309	1K
R1310	100K
R1311	27K
R1401	150K
R1402	47K
R1403	1K
R1404	1 Meg Mic. Gain
R1405	270K
R1406	470K
R1407	2.2 Meg
R1408	47K
R1501	10K
R1502	68K
R1503	18K
R1504	2.2K
R1505	1.5K
R1506	100 Ohm
R1601	2.7K
R1602	1.5K
R1603	1K
R1604	100K
R1605	470 Ohm
R1606	2.7K
R1607	1K
R1608	470 Ohm
R1609	470 Ohm
R1701	10K-2W
R1702	4.7 Ohm
R1703	150K-2W
R1704	150K-2W
R1705	800 Ohm-10W
R1706	1.2K-5W
R1707	270K
R1708	2.7K
R1709	800 Ohm-10W
R1710	500 Ohm-10W
R1711	100K

TRANSISTORS

Q1	2N706 Oscillator
Q2	2N5130 Buffer
Q3	2N706 Car. Oscillator

DIODES

D501	1N914
D701	1N914
D702	1N914
D703	1N914
D901	1N34A
D1001	1N914
D1002	1N34A
D1003	1N34A
D1201	1N34A
D1701	RCA 39804
D1702	1A-600V
D1703-1706	RCA 39804
D1707-1710	RCA 39804
D1711	RCA 39804
D1712	1N4742 Zener

COILS

L101	VFO Amp
L201	Trans. Mixer
L301	Driver
L302	82 uh
L401	82 uh
L402	55 uh
L403	Pi-Network
L404	30 uh
L701	5500KC I.F.
L801	5500KC I.F.
L1501	200 uh
L1601	VFO Coil
L1602	200 uh
L1603	200 uh
L1701	200 uh
L1702	17 uh

CAPACITORS

Unless otherwise specified, a capacitor is listed in pico farads with a whole number and in micro farads with a decimal number.

C101	.01 +80-20% 500V Disc
C102	.002 20% 1KV Disc
C103	27pf Disc
C104	1pf 500V Ceramic
C105	15pf Disc
C106	5pf Disc
C107	2pf Disc
C108	2pf Disc
C109	2pf Disc
C110	.01 +80-20% 500V Disc
C201	.05 200V Mylar
C202	.01 +80-20% 500V Disc
C203	470pf SM
C204	2pf 500V Ceramic
C205	.002 20% 1KV Disc
C2A	20pf Driver Tuning
C2B	20pf Driver Tuning
C301	270pf SM
C302	.002 20% 1KV Disc
C303	510pf SM
C304	.002 20% 1KV Disc
C401	20pf Neut. Trimmer
C402	3.3pf 3KV Disc
C403	.01 +80-20% 500V Disc

C404	.002 20% 1KV Disc
C405	.01 +80-20% 500V Disc
C406	270pf 2500V Mica
C407	40pf P.A. Tune
C408	410pf P.A. Load
C501	.01 +80-20% 500V Disc
C502	.01 +80-20% 500V Disc
C503	30pf Disc
C601	.01 +80-20% 500V Disc
C602	220pf Disc
C603	430pf SM
C701	1 MFD 50V
C702	50pf Disc
C703	.01 +80-20% 500V Disc
C704	.01 +80-20% 500V Disc
C705	2pf Disc
C706	.01 +80-20% 500V Disc
C801	.01 +80-20% 500V Disc
C802	.01+80-20% 500V Disc
C803	.01 +80-20% 500V Disc
C804	50pf Disc
C805	50pf Disc
C901	220pf Disc
C902	.002 20% 1KV Disc
C903	150pf Disc
C904	2 MFD 450V
C905	500pf Disc
C906	.002 20% 1KV Disc
C1001	.05 200V Mylar
C1002	.05 200V Mylar
C1003	.001 20% Disc
C1004	.01 +80-20% 500V Disc
C1005	.001 20% Disc
C1006	.001 20% Disc
C1007	.001 20% Disc
C1101	5 MFD 450V
C1102	.01 10% 1000V Tubular
C1201	50pf Disc
C1202	60pf Trimmer
C1203	150pf Disc
C1301	.01 +80-20% 500V Disc
C1302	.01 +80-20% 500V Disc
C1303	.01 +80-20% 500V Disc
C1304	.01 +80-20% 500V Disc
C1305	.01 +80-20% 500V Disc
C1306	220pf Disc
C1307	.002 20% 1KV Disc
C1401	.01 +80-20% 500V Disc
C1402	.1 10% 400V Mylar
C1403	.01 +80-20% 500V Disc
C1404	.01 +80-20% 500V Disc
C1405	.1 10% 400V Mylar
C1406	100pf Disc
C1407	.01 +80-20% 500V Disc
C1501	6-30pf Ceramic Trimmer
C1502	10pf Disc
C1503	6-30pf Ceramic Trimmer
C1504	270pf SM
C1505	270pf SM
C1506	.01 +80-20% 500V Disc
C1601	Selected
C1602	5pf Trimmer
C1603	5pf Trimmer
C1604	5pf Trimmer
C1605	Selected
C1606	5pf Trimmer
C1607	5pf Trimmer
C1608	10pf Main Tuning
C1609	Selected
C1610	2pf Dial Set
C1611	20pf Disc
C1612	270pf SM
C1613	6-30pf Ceramic Trimmer
C1614	.01 +80-20% 500V Disc
C1615	.01 +80-20% 500V Disc
C1616	300pf SM
C1617	27pf SM
C1618	.01 +80-20% 500V Disc
C1619	.01 +80-20% 500V Disc
C1620	.002 20% 1KV Disc
C1701	.01 +80-20% 500V Disc
C1702	100 MFD 35V
C1703	.01 +80-20% 500V Disc
C1704	5 MFD 450V
C1705	.0047 IKV
C1706	.0047 1KV
C1707	150 MFD 150V
C1708	40 MFD 350V
C1709	40 MFD 350V
C1710	.002 20% 1KV Disc
C1711	.01 +80-20% 500V Disc
C1712A	40 MFD 450V
C1712B	49 MFD 450V
C1713	150 MFD 150V
C1714	150 MFD 150V

TRANSFORMERS

T1101	A.F. Output Trans.
T1301	5500KC. Bal. Mod. Trans.
T1701	Power Trans.
Z401	Parasitic Suppressor

RELAYS

K1	3 PDT Relay, 12 VDC Coil

CRYSTALS

Y1201	100KC Crystal Calibrator
Y1501	5500KC Carrier Oscillator
Y1502	5504KC Carrier Oscillator

TUBES

V1	12BA6 VFO Amp.
V2	12BE6 Trans. Mixer
V3	6GK6 Driver
V4	6LQ6 Power Amp.
V5	6BZ6 Rec. RF Amp.
V6	6BZ6 Rec. Mixer
V7	12BA6 First I.F. Amp.
V8	12BA6 Second I.F. Amp.
V9	12AX7 Prod. Det/Rec. Audio
V10	6AV6 AGC/ALC Amp.
V11	6AQ5 A.F. Output
V12	12BA6 100KC Cal.
V13	6JH8 Bal. Mod.
V14	12AX7 Trans A.F./Mic. Amp.

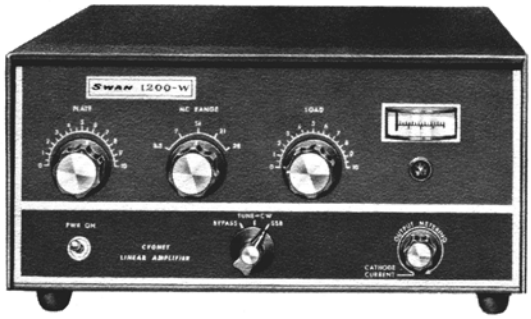
SWITCHES

S1A-B	Bandswitch
S2	Power Off and On (Part of RF Gain)
S3	Cal. Rec. Tune/CW
S4	P.A. Cath./S-Meter
S5	ANL
S6	Sideband Selector

ACCESSORIES

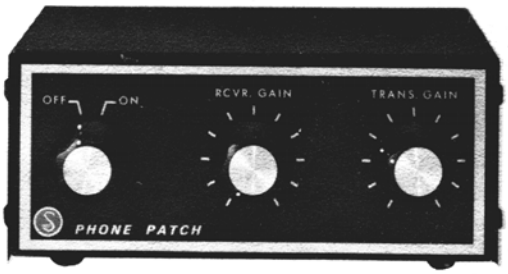
THE FOLLOWING ACCESSORIES ARE DESIGNED FOR USE WITH THE MODEL 1011 TRANSCEIVER:

(A) MODEL 14-A PLUG-IN DC CONVERTER FOR 12 TO 14 VOLT DC OPERATION



(B) MODEL 1200-W LINEAR AMPLIFIER 1200 WATTS P.E.P. INPUT, 5 BANDS

(C) MODEL 508 EXTERNAL VFO FOR SEPARATE RECEIVE-TRANSMIT FREQUENCY. PLUGS DIRECTLY INTO BACK OF 1011



(D) SWAN HYBRID PHONE PATCH MODEL FP-1

(E) MODEL VX-2 PLUG-IN VOX UNIT. PLUGS DIRECTLY INTO SIDE OF 1011

See your Swan Dealer for further information.

WARRANTY POLICY

Swan Electronics Corporation warrants this equipment against defects in material or workmanship, except for tubes, transistors, and diodes, under normal service for a period of one year from date of original purchase. Tubes, transistors, and diodes are covered under the warranty policy for a period of 90 days. This warranty is valid only if the enclosed card is properly filled in and mailed to the factory within ten days of date of purchase. Do not ship to the factory without prior authorization. This warranty is limited to repairing or replacing only the defective parts, and is not valid if the equipment has been tampered with, misused or damaged.