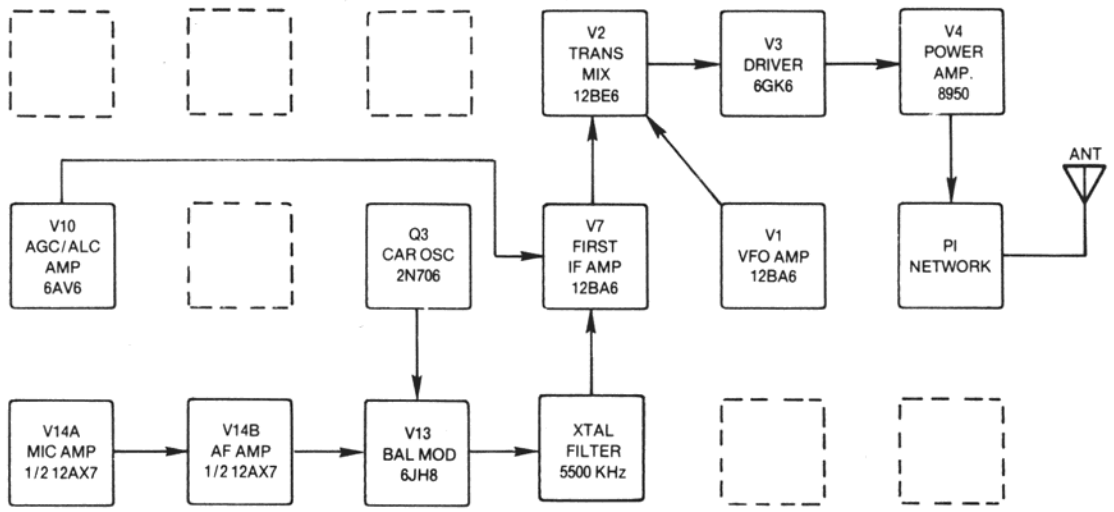

FIGURE 3. BLOCK DIAGRAM, TRANSMIT MODE.

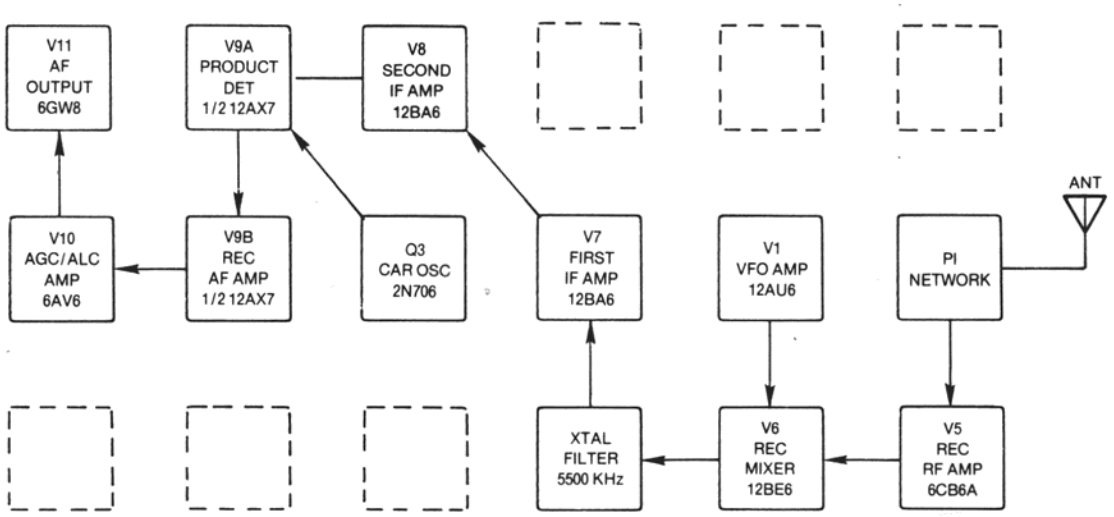

FIGURE 4. BLOCK DIAGRAM, RECEIVE MODE.

V4. The signal from the VFO Amplifier is initiated in the transistorized VFO/Buffer circuit comprised of Q1 and Q2. The signal from the VFO is routed to the VFO Amplifier and is mixed with the single sideband from the IF amplifier, resulting in output in the 10 meter band. When the transceiver is in the TRANSMIT mode, the gain of the First IF Amplifier is controlled through the Automatic Level Control (ALC) 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 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 generating spurious emissions, but considerable distortion may occur if the MIC. GAIN control is not properly adjusted. Refer to Operating Instructions.

TUNE OPERATION

Normally, the frequency of the carrier oscillator is approximately 300 Hertz outside the 6 db passband of the crystal lattice filter. In TUNE position, the frequency of the carrier oscillator is moved approximately 800 Hertz to place it well within the passband of the crystal lattice filter.

RECEIVE

In RECEIVE position, or at any time when the transmitter is not in TRANSMIT, all circuits used in trans-

mitting are disabled through circuits controlled by relay K1. The relay is energized for transmitting and de-energized for receiving. One contact, when de-energized, allows received signals from the antenna to be applied, through the transmitter tank circuit, to the receiver R. F. Amplifier, V5, where they are amplified and then applied to the control grid of the Receiver Mixer, V6. The local oscillator signal from the VFO Amplifier is then heterodyned with the received signal to produce the IF Frequency. All IF amplification is accomplished at this frequency, nominally 5500.0 KHz, through IF amplifiers V7 and V8. 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 the AGC amplifier, V10, and the audio output stage, V11.

FREQUENCY CALIBRATION

Frequency calibration of the Model 1011D tuning dial is in 5 KHz increments. Dial accuracy and tracking are quite good, but caution must always be observed when operating near band edges. Measuring the frequency with a frequency standard or marker generator when working near band edges is recommended. The procedure for adjusting the dial calibration is covered in the OPERATION section.

TRANSMIT AND RECEIVE SWITCHING

Transmit and receive switching is performed by relay K1. In TRANSMIT, only those tubes that operate in the transmit mode are operative, all others being biased to cutoff through the relay contacts. In RECEIVE, 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, applies signals from the output Pi-network to the receiver. Note that relay K1 will not operate when the BAND SWITCH control is in the 27.0 REC position.

POWER RATING

The Siltronix 1011D is capable of over 200 watts P.E.P input under steady state two-tone test conditions. The peak envelope power, when voice modulated, is considerably greater, typically 300 watts or more.

The built-in power supply produces a no-load plate voltage of approximately 880 volts. Under TUNE conditions, this voltage will drop to approximately 680 volts and maximum input power will be reduced considerably below the voice P.E.P. rating. 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 380 ma. at 800 volts, to result in an input of about 300 watts P.E.P. Meter readings of cathode current will not reflect this power input, however, because of the damping in the 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 Siltronix 1011D, while in the transmit mode, and with no modulation, the plate voltage will be approximately 830 volts, the plate current 40 ma., and the power input 33 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

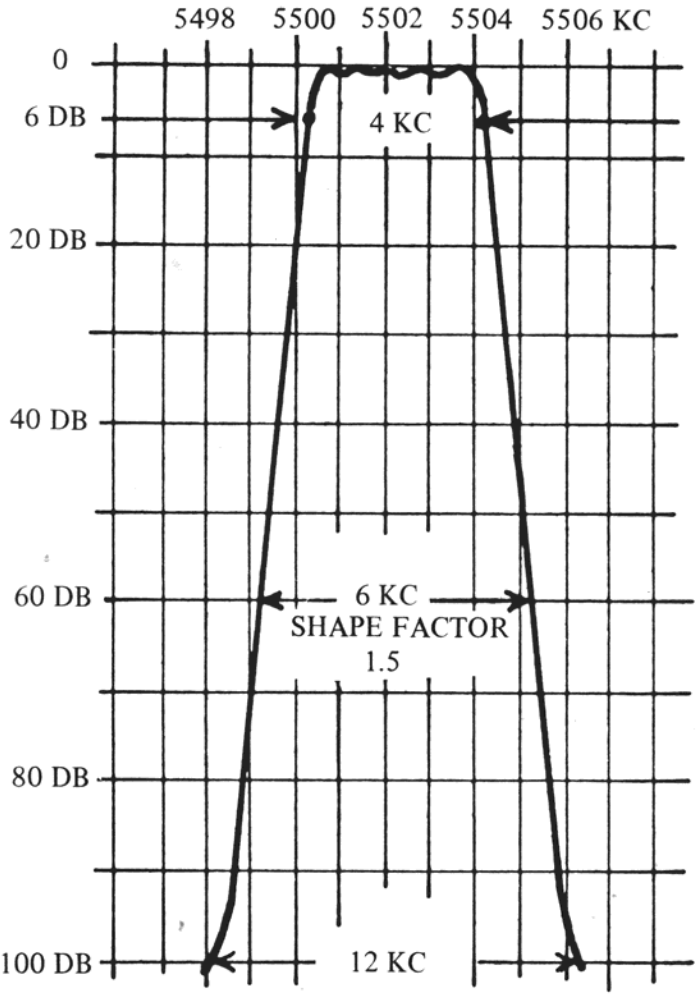

FIGURE 5. CRYSTAL FILTER CHARACTERISTICS.

ma. With power amplifier efficiency of 65 percent, plate dissipation will be approximately 26 watts. The 8950 is rated at 40 watts, continuous duty cycle. Thus it can be seen that under normal operating conditions, the Power Amplifier tube in the 1011D 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 10 seconds at a time.

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 6 and 7 for component placement.

RECEIVER ALIGNMENT

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

1. After allowing approximately five minutes for warmup, tune the receiver to the middle of the band and on a "clear" frequency.

2. Adjust the P.A. TUNE, P.A. LOAD, AND PRESELECTOR for maximum noise.

3. Adjust the second IF coil (L801) for maximum background noise.

S-METER ADJUSTMENT

With the antenna disconnected, R.F. GAIN control fully clockwise, and S-Meter switch in S-METER position, set R705, (S-Meter zero), located on the rear panel, for zero meter reading. Determine that no local signals are being received.

TRANSMITTER ALIGNMENT

1. To adjust the Power Amplifier Bias (after allowing approximately five minutes for warm-up):

   a. Hold Meter Switch in P. A. CATHODE position.

   b. Rotate CARRIER INSERTION control fully counterclockwise.

   c. Rotate Mic Gain control fully counterclockwise, then key the transmitter with the microphone switch. Adjust the Carrier Balance control, R1309 on the bottom cover, for a null.

   d. Again, key the transmitter with the microphone switch, and without speaking into the microphone, adjust the P.A. BIAS control on the rear panel until the meter reads 40 ma. of *idling current*. This point is indicated on the meter by the small triangular *"delta"* symbol.

2. The alignment of transmitter circuits involves the adjustment of tuned circuits in the VFO Amplifier, V1, the Transmit MIXER, V2, and the DRIVER stage, V3. It is recommended that a 50 ohm dummy load be connected to the antenna jack during this series of adjustments.

   a. Set the tuning dial to approximately 28.5 MHz, and the PRESELECTOR control at 12 o'clock.

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

   c. Set Meter switch to P.A. CATHODE.

   d. Press Mic. button. Check *idling current*. It should be on the *"delta"* symbol when the CARRIER BALANCE control is nulled, and the CARRIER INSERTION control is fully counterclockwise. Adjust P.A. BIAS control, on rear panel if necessary.

   e. With Mic. button depressed, adjust CARRIER BALANCE control for slight increase in meter reading, (50 to 60 ma.). Adjust P.A. TUNE control to resonance (dip).

   f. Adjust coils L101, L201, and L301, for maximum reading. When reading goes higher than 80 ma., or so, adjust CARRIER BALANCE control for 60 ma. again.

   g. Adjust coils carefully for maximum peak. Exercise caution with CARRIER BALANCE 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).

3. Power Amplifier Neutralization.

   a. After allowing approximately five minutes for warm-up, tune transmitter to approximately 28.5 MHz.

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

   c. Set S-Meter switch to P.A. CATHODE.

d. Key the transmitter with the Mic. button, and without speaking into the microphone, adjust the CARRIER BALANCE control for a reading of approximately 100 ma. **Quickly** adjust the PRESELECTOR for a peak. **Quickly** readjust the CARRIER BALANCE control to 100 ma. if it increased to a higher reading.

e. With the Mic. button still depressed, 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.

f. Key the transmitter with the Mic. button, and readjust the CARRIER BALANCE control for minimum Power Amplifier current. Power Amplifier idling current should be on the *"delta"* symbol, If not, repeat the Power Amplifier Bias adjustment described in TRANSMITTER ALIGNMENT, STEP 1.

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 28.5 MHz with the Mode Selector at USB.

b. Key the transmitter with the Mic. button, and adjust the CARRIER BALANCE control for minimum Power Amplifier current.

c. Insert a 1500 Hz audio signal from an audio generator into the MIC. jack on the front panel. Adjust the gain of the audio generator and the MIC GAIN control (R1404) until the wattmeter reads approximately 10 to 15 watts.

d. Adjust the First I.F. coil, L701, for maximum RF output. Adjust both slugs of the balanced modulator transformer, T1301, for maximum RF output.

e. Increase the output of the audio generator until the wattmeter reads 40 watts. Reset the audio generator to 200 Hertz and adjust the USB carrier oscillator trimmer, C1503, for a reading of 10 watts.

f. Switch the Mode Selector to the LSB position. Adjust the LSB carrier oscillator trimmer, C1501, for a reading of 10 watts.

g. Reset the audio generator to 1500 Hertz, the output power to 40 watts. Reset the audio generator to 200 Hertz and readjust carrier oscillator trimmers, if required, for 10 watts.

NOTE

An RF signal generator or AM transmitter covering the CB or 10-meter bands will be required for the following adjustments.

h. Set the Mode Selector switch to USB. Tune in an AM carrier from the transmitter or an unmodulated signal from the generator. Adjust the main tuning dial for a zero beat at the transceiver output.

i. Set the Mode Selector switch to LSB and retune for zero beat using the LSB VFO shifter (C1621).

NOTE

An AM transmitter must be used for the following steps.

j. Apply voice modulation to the AM transmitter and adjust the AM VFO shifter (C1613) for best received audio quality.

k. Remove modulation from the AM transmitter. Turn the SPOT switch on and adjust the AM carrier oscillator trimmer (1507) for zero beat.

5. VFO Calibration.

After allowing approximately five minutes for warm-up, set the main tuning dial to the frequency standard or marker generator signal nearest to the center of the band to be calibrated. Adjust the DIAL SET to the 12 o'clock position. Locate the VFO cover and adjust the appropriate trimmer to zero beat the VFO with the standard or generator signal. This adjustment procedure should be performed for both bands with the Sideband Selector in the USB position.

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

6. Troubleshooting.

The information contained in Figures 6 and 7, together with the voltage and resistance measurements in Table 1, and the information in Table 2, should be sufficient for most troubleshooting by the average licensed amateur radio operator. Note that the conditions for making

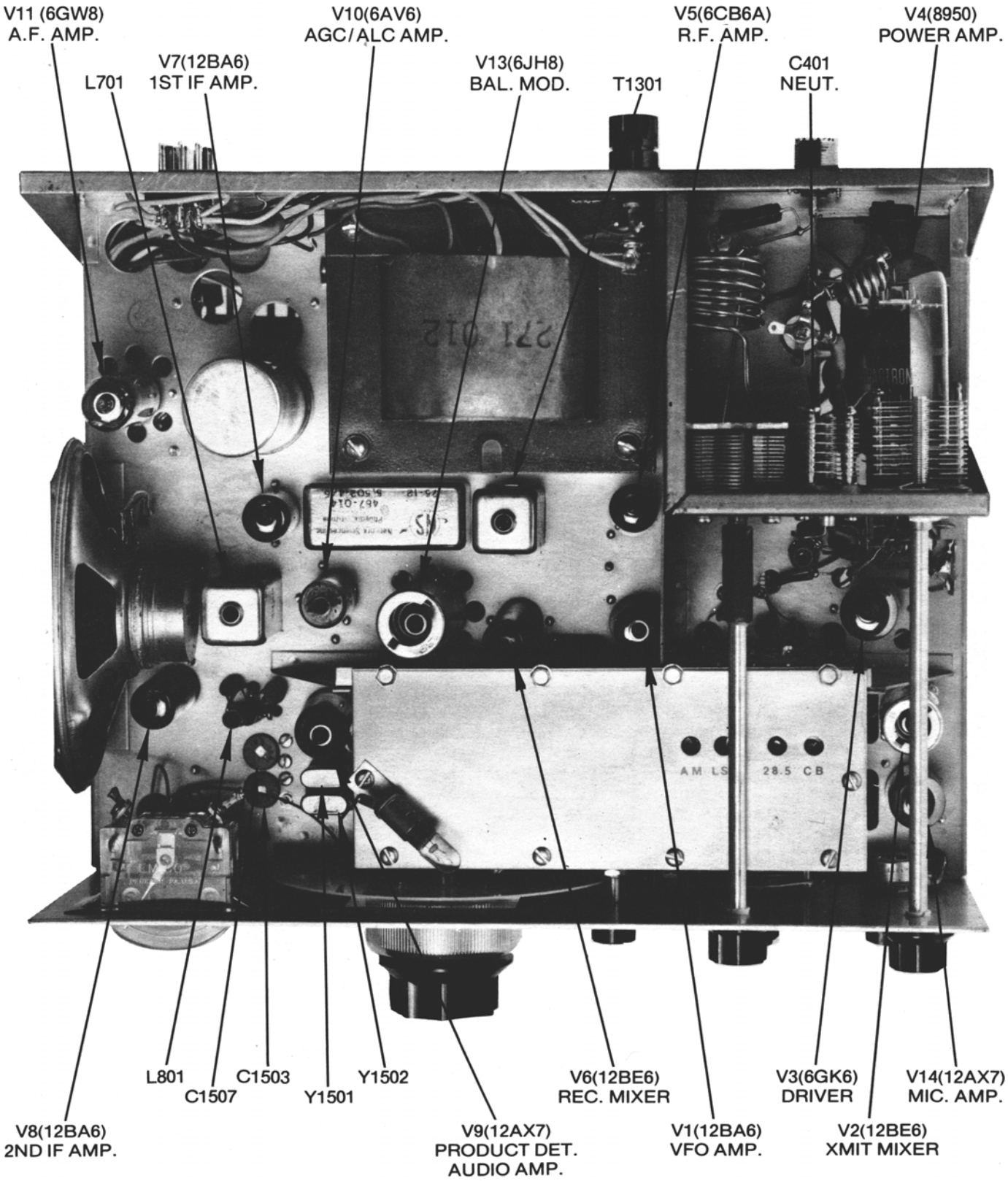

FIGURE 6. SILTRONIX MODEL 1011D, TOP VIEW.

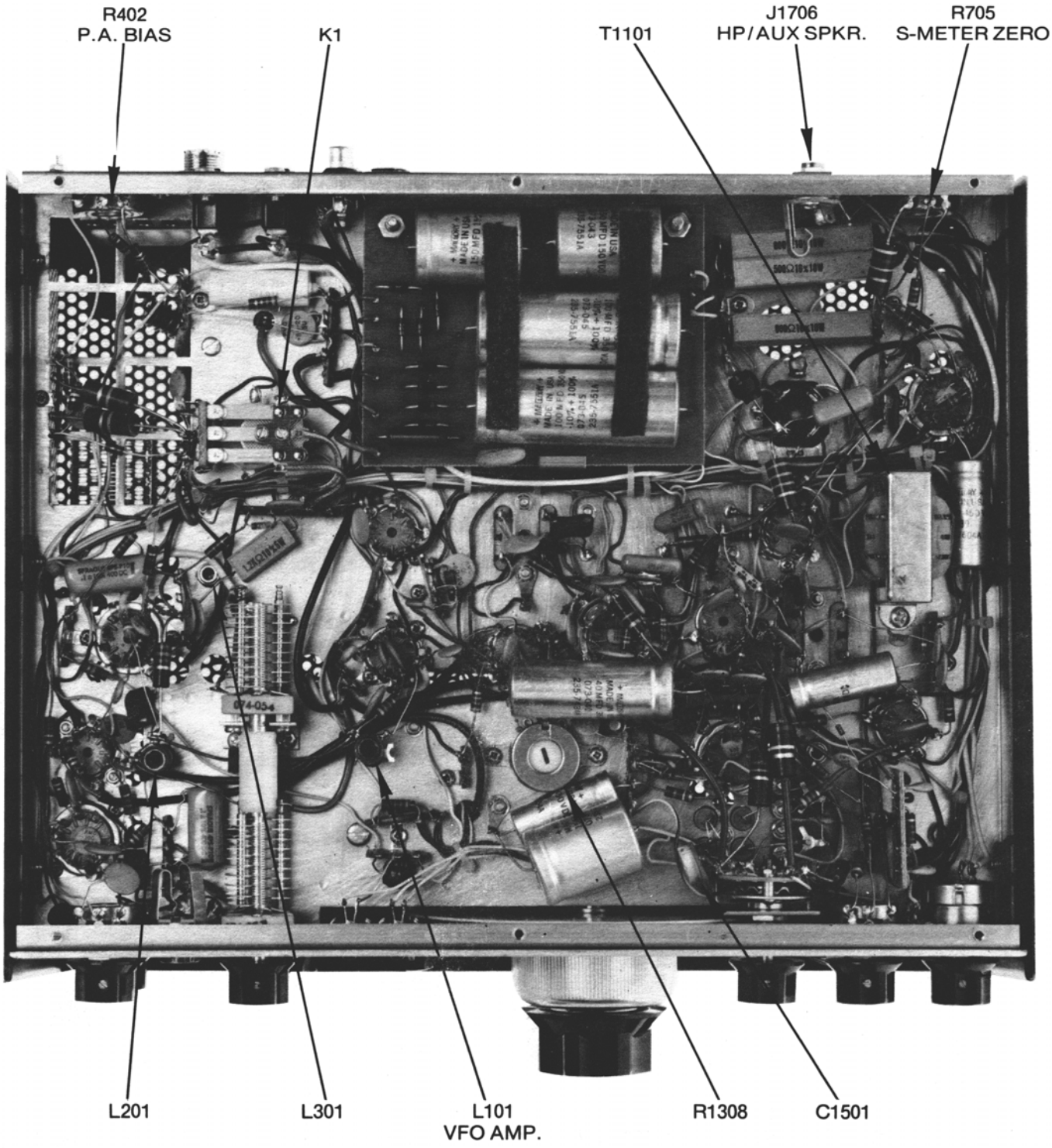

FIGURE 7. SILTRONIX MODEL 1011D, BOTTOM VIEW.

the voltage and resistance measurements of Table 1 are as follows:

RECEIVE:

1. R.F. Gain Control in "minimum" position.
2. Mode Selector Switch in "AM REC" position.
3. Main Tuning Control set to middle of range.
4. Band Switch set to "28.5".
5. Antenna connection terminated in 50 ohm dummy load.
6. A.F. Gain Control:
   A) In "OFF" position for resistance measurements.
   B) Switch at "ON" position but gain set at "minimum" for voltage measurements.
7. ANL in "OFF" position.
8. Spot Switch in "OFF" position.

TRANSMIT:

1. Mic Gain Control in "minimum" position.
2. Band Switch set to "28.5".
3. Transmitter fully tuned in middle of band.
4. Voltage measured with Tune-Rec Switch in "TUNE" position. .

NOTE: All voltages/resistances are plus or minus 20%.

TABLE 1. VOLTAGE AND RESISTANCE MEASUREMENTS.

Voltage measurements were taken using a HEWLETT PACKARD Model 410C/B VTVM. Resistance measurements were taken using a SIMPSON Model 260 Volt-Ohm meter. Refer to other conditions for measurements on page 19.

TUBE TYPE	R = Rec. T = Trans.	Socket Pin Numbers								
		1	2	3	4	5	6	7	8	9
V1 12BA6	R Volts	0	0	0	12.6AC	130	40	.38		
VFO Amp.	T Volts	0	0	0	12.6AC	120	38	.38		
	Ohms	85Ω	0	0	0	>50K	100K	60Ω		
V2 12BE6	R Volts	-2.5	0	0	12.6AC	212	-2.5	0		
Trans. Mixer	T Volts	-2.5	0	0	12.6AC	195	105	-10.0		
	Ohms	100K	0	0	0	>50K	25K	25K		
V3 6GK6	R Volts	0	-6.2	0	12.6AC	6.3AC	NC	260	0	0
Driver	T Volts	.9	-6.2	0	12.6AC	6.3AC	NC	230	170	0
	Ohms	10Ω	50K	0	0	0	NC	>30K	100Ω	0
V5 6CB6A	R Volts	-.35	0	6.3AC	12.6AC	215	95	0		
Rec. R.F.	T Volts	-9.5	0	6.3AC	12.6AC	200	-4.6	0		
	Ohms	26K	0	0	0	>30K	>40K	0		
V6 12BE6	R Volts	-4.0	0	0	12.6AC	260	95	-.7		
Rec. Mixer	T Volts	-3.8	0	0	12.6AC	220	0	-10.0		
	Ohms	82Ω	0	0	0	>40K	100K	56Ω		
V7 12BA6	R Volts	-1.2	0	0	12.6AC	200	100	0		
1st I.F.	T Volts	-1.5	0	0	12.6AC	165	95	0		
	Ohms	100K	0	0	0	>30K	40K	0		
V8 12BA6	R Volts	-1.5	0	0	12.6AC	195	95	0		
2nd I.F.	T Volts	-33	0	0	12.6AC	0	0	0		
	Ohms	13K	0	0	0	>30K	>40K	0		
V9 12AX7	R Volts	95	-2.5	0	0	NC	125	-1.1	0	6.3AC
Det. A.F.	T Volts	-4.3	-3.6	0	0	NC	0	-1	0	6.3AC
	Ohms	370K	7.5Ω	270	0	NC	125K	1M	0	0
V10 6AV6	R Volts	0	1.7	6.3AC	12.6AC	NC	0	210		
AGC Amp.	T Volts	0	1.4	6.3AC	12.6AC	NC	-.37	165		
	Ohms	500K	5K	0	0	NC	∞	>40K		
V11	R Volts	0	1.5	215	0	6.3AC	255	6.5	0	155
A.F. Output	T Volts	0	.4	0	0	6.3AC	225	0	-.85	-.2
	Ohms	110Ω	2.7K	>30K	0	0	>30K	270Ω	1.1M	120K
V13 6JH8	R Volts	0	0	0	6.3AC	0	-2	0	0	0
Bal.Mod.	T Volts	0	9	90	6.3AC	0	-1.8	0	130	130
	Ohms	3K	110K	6K	0	0	25K	0	14K	14K
V14 12AX7	R Volts	55	-.47	0	0	12.6AC	-42	0	.13	NC
Mic. Amp	T Volts	55	-.47	0	0	12.6AC	76	0	.53	NC
	Ohms	820K	2M	0	0	0	200K	0	1K	NC
		1	2,6	3,11	4,10	5,9	7,8	12	PLATE	
V4 8950	R Volts	0	0	0	0	-60	NC	12.6AC	+840	
Pwr. Amp	T Volts	0	22	175	0	-60	NC	12.6AC	+750	
	Ohms	0	3Ω	100	0	18K	NC	0		

TABLE 2. TROUBLESHOOTING GUIDE.

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 3. VFO AND CARRIER OSCILLATOR FREQUENCIES

Tuning Dial	V1 Injection Frequency	Q1 Osc. Frequency	Q3 Osc. Carrier Frequency
26,950 KC	21,450 KC	(1/2) 10,725 KC	5500 KC
27,260 KC	21,760 KC	(1/2) 10,880 KC	5500 KC
28,500 KC	23,000 KC	(1/2) 11,500 KC	5500 KC
29,000 KC	23,500 KC	(1/2) 11,750 KC	5500 KC

PARTS LIST

CAPACITORS

Unless otherwise specified, capacitors are listed in pico farads with a whole number and in micro farads with a decipal number.

C101	0.01, +80, -20%, 500V Disc.
C102	0.002, 20%, 1KV Disc.
C103	27pf Disc.
C105	15pf Disc.
C106	5pf Disc.
C107	2pf Disc.
C110	0.01, +80, -20%, 500V Disc.
C111	0.002, 20%, 1KV Disc.
C112	100pf, 500V Disc.
C202	0.002, 20%, 1KV Disc.
C203	470pf SM
C204	2pf, 500V Ceramic
C205	0.002, 20%, 1KV Disc.
C206	1.5pf
C207	0.01
C2A	20pf Driver Tuning
C2B	20pf Driver Tuning
C302	0.002, 20%, 1KV Disc.
C303	510pf SM
C304	0.002, 20%, 1KV Disc.
C305	5pf
C401	20pf Neut. Trimmer
C402	15pf, 3KV Disc.
C403	0.01, +80, -20%, 500V Disc.
C404	0.002, 20%, 1KV Disc.
C405	0.01, +80, -20%, 500V Disc.
C406	270pf, 2500V Mica
C407	40pf P.A. Tune
C408	410pf P.A. Load
C409	0.01, +80, -20%, 500V Disc.
C410	0.01, +80, -20%, 500V Disc.
C501	0.01, +80, -20%, 500V Disc.
C502	0.01, +80, -20%, 500V Disc.
C503	30pf Disc.
C601	0.01, +80, -20%, 500V Disc.
C602	220pf Disc.
C603	430pf SM
C701	1 mfd., 50V
C702	50pf Disc.
C703	0.01, +80, -20%, 500V Disc.
C704	0.01, +80, -20%, 500V Disc.
C705	2pf Disc.
C706	0.01, +80, -20%, 500V Disc.
C801	0.01, +80, -20%, 500V Disc.
C802	0.01, +80, -20%, 500V Disc.
C803	0.01, +80, -20%, 500V Disc.
C804	50pf Disc.
C805	50pf Disc.
C806	2 mfd., 450V
C901	220pf Disc.
C902	0.002, 20%, 1KV Disc.
C903	150pf Disc.
C904	2 mfd., 450V
C905	500pf Disc.
C906	0.002, 20%, 1KV Disc.
C907	40 mfd., 350V
C1001	0.05, 200V, Mylar
C1002	0.05, 200V, Mylar
C1003	0.001, 20% Disc.
C1004	0.01, +80, -20%, 500V Disc.
C1005	0.001, 20% Disc.
C1006	0.001, 20% Disc.
C1007	0.001, 20% Disc.
C1101	220pf Disc.
C1102	0.002, 20%, 1KV Disc.
C1103	500pf Disc.
C1104	0.01, 10%, 1KV Tubular
C1105	20 mfd., 25V
C1106	2 mfd., 450V
C1301	0.01, +80, -20%, 500V Disc.
C1302	0.01, +80, -20%, 500V Disc.
C1303	0.01, +80, -20%, 500V Disc.
C1304	0.01, +80, -20%, 500V Disc.
C1305	0.01, +80, -20%, 500V Disc.
C1306	220pf Disc.
C1307	0.002, 20%, 1KV Disc.
C1401	0.01, +80, -20%, 500V Disc.
C1402	0.1, 10%, 400V Mylar
C1403	0.01, +80, -20%, 500V Disc.
C1404	0.01, +80, -20%, 500V Disc.
C1405	0.1, 10%, 400V Mylar
C1406	100pf Disc.
C1407	0.01, +80, -20%, 500V Disc.
C1501	6-30pf Ceramic Trimmer
C1502	10pf Disc.
C1503	6-30pf Ceramic Trimmer
C1504	270pf SM
C1505	270pf SM
C1506	0.01, +80, -20%, 500V Disc.
C1507	30pf
C1601	Selected Value
C1602	5pf Trimmer
C1603	5pf Trimmer
C1605	Selected Value
C1608	10pf Main Tuning
C1609	Selected Value
C1610	2pf Dial Set
C1611	20pf Disc.
C1612	270pf SM
C1613	5-30pf Ceramic Trimmer
C1614	0.01, +80, -20%, 500V Disc.
C1615	0.01, +80, -20%, 500V Disc.
C1616	300pf SM
C1617	27pf SM
C1618	0.01, +80, -20%, 500V Disc.
C1619	0.01, +80, -20%, 500V Disc.
C1620	0.002, 20%, 1KV Disc.
C1621	5-30pf Ceramic Trimmer
C1622	0.01, +80, -20%, 500V Disc.
C1701	0.01, +80, -20%, 500V Disc.
C1702	100 mfd., 35V
C1703	0.01, +80, -20%, 500V Disc.
C1705	0.0047, 1KV
C1706	0.0047, 1KV
C1707	150 mfd., 150V
C1708	100 mfd., 350V
C1709	100 mfd., 350V
C1710	0.002, 20%, 1KV Disc.
C1711	0.01, +80, -20%, 500V Disc.
C1712A	80 mfd., 400V
C1712B	80 mfd., 400V
C1712C	5 mfd., 400V
C1712D	5 mfd., 400V
C1713	150 mfd., 150V
C1714	150 mfd., 150V

DIODES

D201	1N914
D401	1N34A
D501	1N914
D701	1N914
D702	1N914
D703	1N914
D901	1N34A
D1001	1N914
D1002	1N34A
D1003	1N34A
D1601	1N914
D1701	1N4005
D1702	1A, 600V
D1703 -1711	RCA 39804
D1712	1N4742 Zener

RELAYS

K1 3PDT Relay, 12 VDC Coil

COILS

L101	VFO Amp
L201	Trans. Mixer
L301	Driver
L302	82uh Choke
L401	82uh Choke
L402	55uh Choke
L403	Pi-Network
L404	30uh Choke
L701	5500 KHz IF
L801	5500 KHz IF
L1501	200uh Choke
L1601	VFO Coil
L1602	200uh Choke
L1603	200uh Choke
L1701	200uh Choke
L1702	17uh Choke
Z401	Parasitic Suppressor

TRANSISTORS

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

RESISTORS

All resistors are 1/2 watt 10% tolerance unless otherwise specified.

R101	82 Ohm
R102	47K Ohm
R103	10K Ohm, 2W
R104	56 Ohm
R201	27K Ohm
R202	100K Ohm
R204	10K Ohm, 2W
R205	470K Ohm
R206	2.7K Ohm
R207	100K Ohm
R301	100K Ohm
R302	100K Ohm
R303	10 Ohm
R304	100 Ohm
R401	100 Ohm
R402	25K Ohm Bias Pot
R403	4.7K Ohm
R404	1K Ohm
R405	3 Ohm, 5W
R406	100 Ohm, 5W
R407	2.7K Ohm
R408	15K Ohm
R501	100K Ohm
R502	220K Ohm
R503	470 Ohm
R504	10K Ohm
R505	25K Ohm RF GAin Pot
R506	10K Ohm
R507	470K Ohm
R601	470K Ohm
R701	1.5K Ohm
R702	33K Ohm, 2W
R703	1K
R704	47K Ohm
R705	25K Ohm, S-Meter Zero
R706	15K Ohm
R707	47K Ohm, 2W
R708	100K Ohm
R801	100K Ohm
R802	1K Ohm
R803	4.7K Ohm
R901	100K Ohm
R902	270 Ohm
R903	270K Ohm
R904	47K Ohm
R905	10M Ohm
R906	1M Ohm
R907	47K Ohm
R908	100K Ohm
R909	1K Ohm, 1W
R1001	1M Ohm
R1002	270K Ohm
R1003	470K Ohm
R1004	4.7K Ohm
R1005	15K Ohm
R1006	2.2M Ohm
R1007	270K Ohm
R1008	2.2M Ohm
R1009	100K Ohm
R1010	150K Ohm, 1/2W
R1101	1M Ohm AF Gain Pot
R1102	2.7K Ohm
R1103	100K Ohm
R1104	1M Ohm
R1105	270 Ohm
R1106	680 Ohm, 1/2W
R1301	1K Ohm
R1302	10K Ohm
R1303	10K Ohm
R1304	270K Ohm
R1305	10K Ohm, 1W
R1306	27K Ohm
R1307	27K Ohm
R1308	5K Ohm Car. Bal. Pot.
R1309	1K Ohm
R1310	100K Ohm
R1311	27K Ohm
R1312	Selected Value
R1313	5K Ohm Car. Ins. Pot.
R1401	15K Ohm
R1402	47K Ohm
R1403	1K Ohm
R1404	1M Ohm Mic. Gain Pot
R1405	270K Ohm
R1406	470K Ohm
R1407	2.2M Ohm
R1408	47K Ohm
R1501	47K Ohm
R1502	68K Ohm, 2W
R1503	22K Ohm
R1504	2.2K Ohm
R1505	1.5K Ohm
R1506	100 Ohm
R1507	47K Ohm
R1601	2.7K Ohm
R1602	1.5K Ohm
R1603	1K Ohm
R1604	4.7K Ohm
R1605	470 Ohm
R1606	2.7K Ohm
R1607	1K Ohm
R1608	470 Ohm
R1609	470 Ohm
R1610	4.7K Ohm
R1701	10K Ohm, 2W
R1702	4.7 Ohm
R1703	150K Ohm, 2W
R1704	150K Ohm, 2W
R1705	800 Ohm, 10W
R1706	1.2K Ohm, 5W
R1707	270K Ohm
R1708	2.7K Ohm
R1709	800 Ohm, 10W
R1710	500 Ohm, 10W

SWITCHES

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

TRANSFORMERS

T1101 A.F. Output Trans.
T1301 5500 KHz Bal. Mod. Trans.
T1701 Power Trans.

TUBES

V1 12BA6 VFO Amp
V2 12BE6 Trans. Mixer
V3 6GK6 Driver
V4 8950 Power Amp.
V5 6CB6A Rec. RF Amp.
V6 12BE6 Rec. Mixer
V7 12BA6 First IF Amp.
V8 12BA6 Second IF Amp.
V9 12AX7 Prod. Det/ Rec. Audio
V10 6AV6 AGC/ALC Amp
V11 6GW8 AF Output
V13 6JH8 Bal. Mod.
V14 12AX7 Trans. AF/Mic. Amp.

CRYSTALS

Y1501 5500 KHz Carrier Osc.
Y1502 5504.6 KHz Carrier Osc.

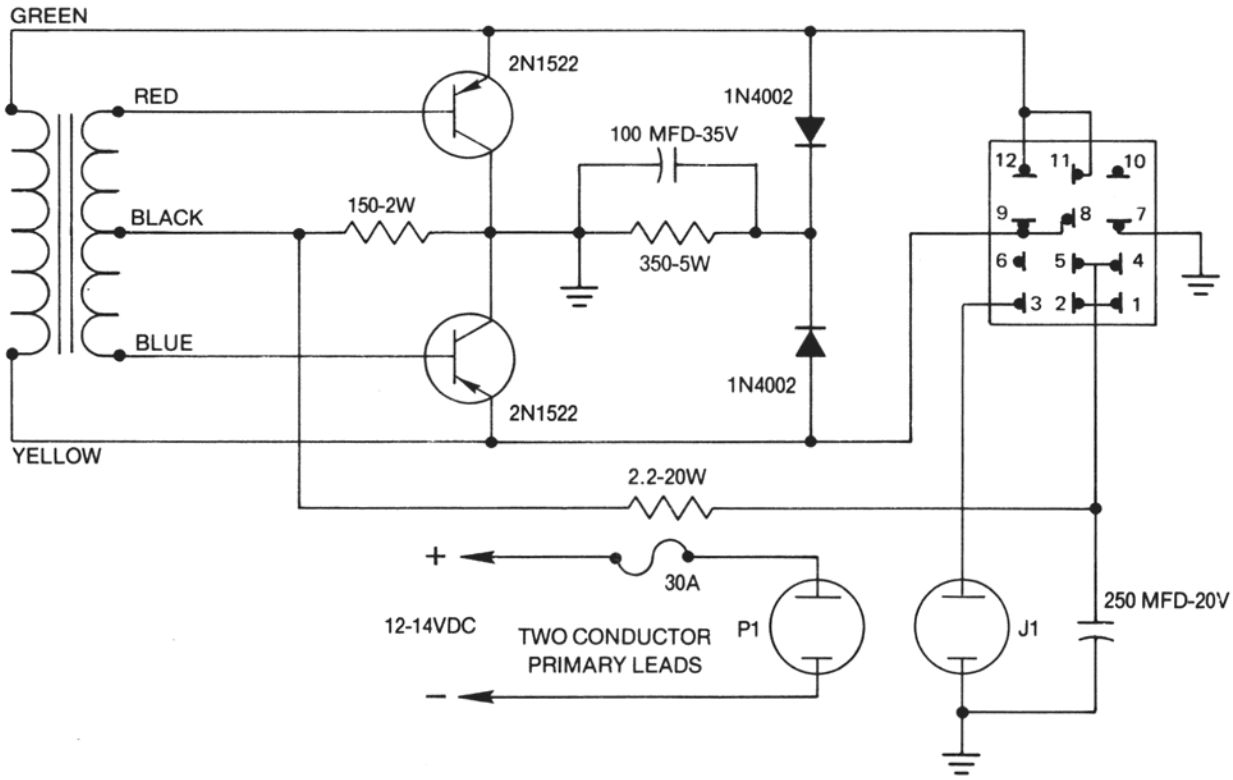

FIGURE 8. SCHEMATIC DIAGRAM, MODEL 14A POWER SUPPLY

LIMITED WARRANTY POLICY

SILTRONIX warrants this equipment against defects in material or workmanship, except for tubes and solid-state devices, under normal service for a period of six (6) months from original purchase date. Tubes and solid-state devices are warranted for a period of ninety days (90) days. This warranty is valid only if the enclosed warranty registration card is properly completed and mailed to the factory within ten (10) days of purchase date.

If warranty service is required, do not ship equipment to the factory without prior authorization obtained from the SILTRONIX factory. This warranty is limited to repairing or replacing the defective parts only and is not valid if the equipment has been tampered with, mis-used or damaged.

Liability for damage during shipment lies with the carrier and not with SILTRONIX. Any claims or adjustments for shipping damages must be filed directly with the carrier.

THE LIABILITY OF THE COMPANY ON THIS EQUIPMENT IS LIMITED TO THE EXPRESS TERMS OF THE WARRANTY PROVIDED ABOVE. NO WARRANTY OF MERCHANTABILITY AND NO WARRANTY OF FITNESS FOR A PARTICULAR USE IS IMPLIED IN THIS SALE.