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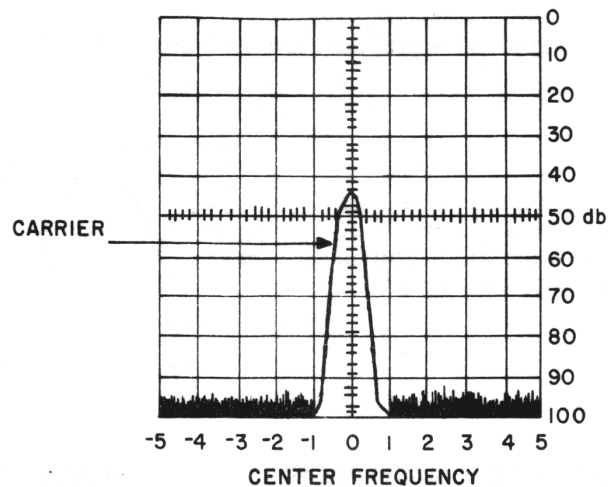
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**CARRIER SUPPRESSION WAVE PATTERN**

4. Second Harmonic and Spurious Signal Suppression

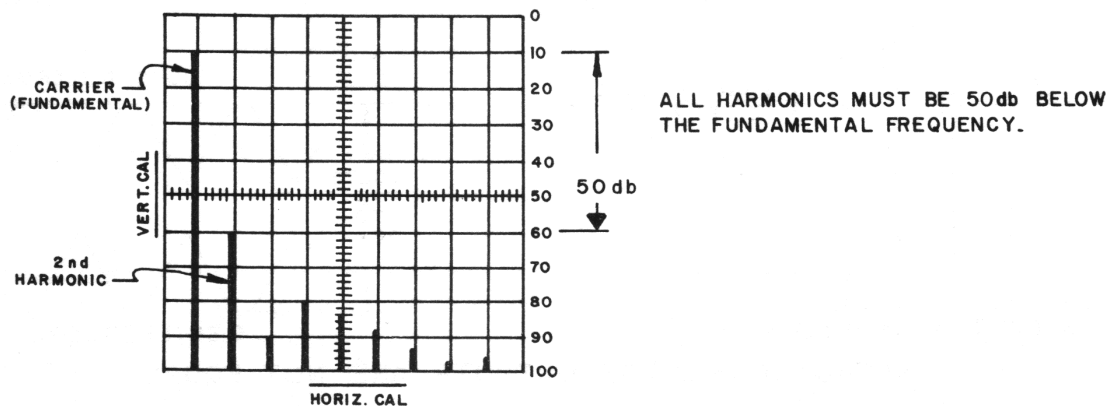
A. SSB Mode

Maintain the test setup as in paragraph 3C and observe on the spectrum analyzer that all spurious signals are 50db or more below the SSB carrier. Adjust L6 (TVI trap) as required.

B. AM Mode

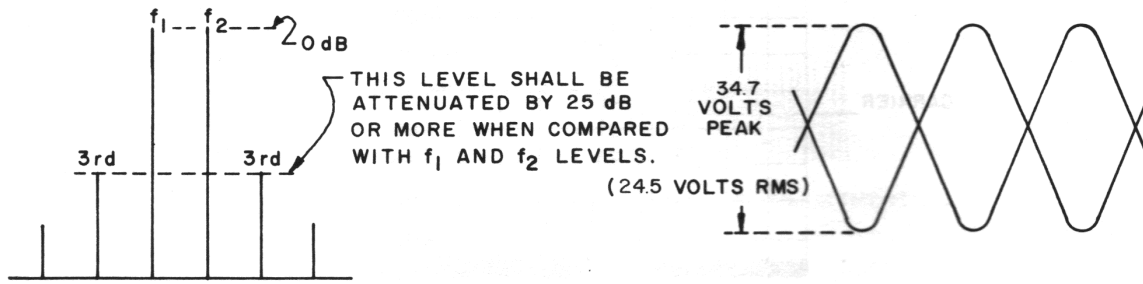
Maintain the test setup as in paragraph 2E. Key the transmitter and observe on the spectrum analyzer that the 2nd harmonic and all spurious signals below 27 MHz and up to 270 MHz are at least 50db below the fundamental frequency (carrier).

C. To obtain the conditions in test 4A and 4B, above, it may be necessary to readjust the PI network slightly. If this is necessary, recheck the SSB PEP and the AM Modulated Power output.

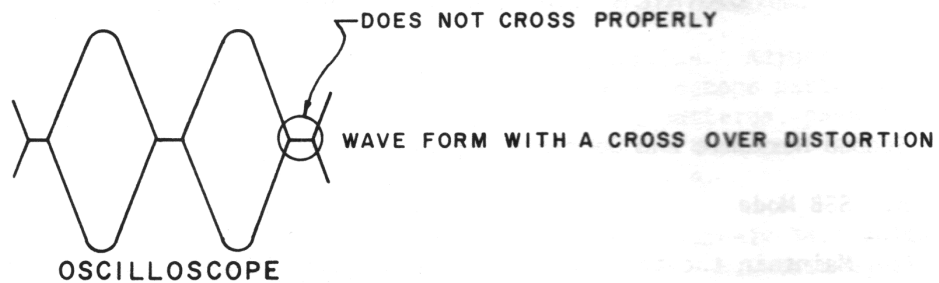


**HARMONICS FREQUENCY PATTERNS**

Adjust VR13 to obtain a symmetrical wave pattern as shown below.

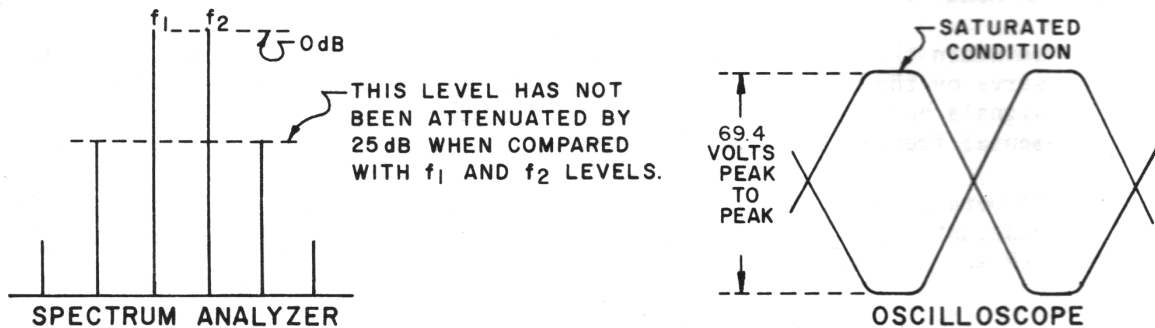


**NORMAL SPECTRUM ANALYZER AND OSCILLOSCOPE WAVE PATTERNS**



**OSCILLOSCOPE**

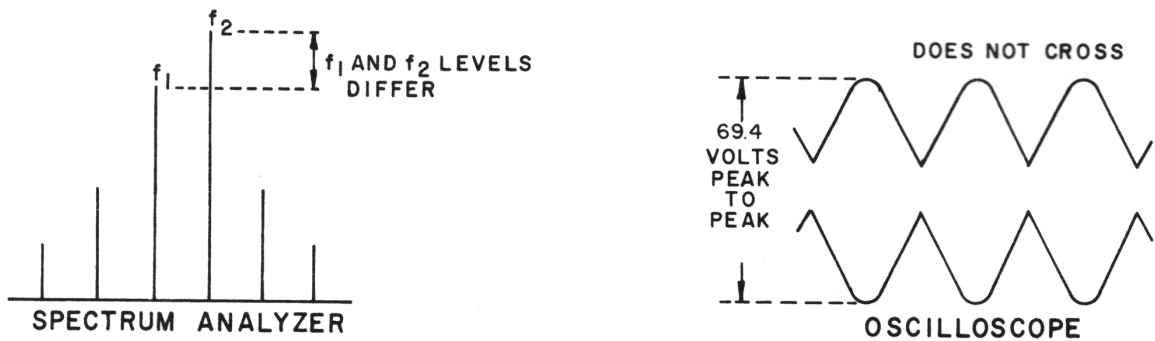
**VR 13 INCORRECTLY ADJUSTED**



**SPECTRUM ANALYZER**

**OSCILLOSCOPE**

**INCORRECT ADJUSTMENT OF VR11**



**SPECTRUM ANALYZER**

**OSCILLOSCOPE**

**AUDIO GENERATOR OUTPUTS ARE NOT EQUAL**

**SECTION III**  
**TABLES AND DIAGRAMS**

**TABLES**

- Table 1, Troubleshooting Guide
- Table 2, Transistor and Integrated Circuit Voltages
- Table 3, Crystal Combinations
- Table 4, Crystal Frequency Test Points

**DIAGRAMS**

- Figure 4, Functional Block Diagram
- Figure 5, Transistors and Integrated Circuits Location Diagram
- Figure 6, Diodes, Location Diagram
- Figure 7, Coils and Transformers, Location Diagram
- Figure 8, Schematic Diagram
- Figure 9, Controls and Test Points, Location Diagram

**TABLE I, TROUBLESHOOTING GUIDE**

TROUBLE	PROBABLE CAUSE
1. Unit dead - Indicator lights will not glow when power switch is on.	<ul style="list-style-type: none"> <li>a. Defective power source.</li> <li>b. Fuse blown.</li> <li>c. Power switch defective.</li> <li>d. L15 or CH (power choke) open.</li> </ul>
2. Fuse blows after replacement.	<ul style="list-style-type: none"> <li>a. Power source polarity reversed.</li> <li>b. TR30, TR31, D58, C197 or C196 shorted.</li> </ul>
3. No audio when in the AM Mode, -S Meter indicates reception of signals. -Carrier is modulated when transmitting. -SSB audio normal.	<ul style="list-style-type: none"> <li>a. C21, C35, C41, D9 or R28 open.</li> <li>b. D8, C39, C40 or C42 shorted.</li> <li>c. TR3, TR4, or TR5 defective.</li> <li>d. S-3 AM position defective.</li> </ul>



TABLE I, TROUBLESHOOTING GUIDE (Continued)

<p>4. No audio when in the SSB Mode.                      -S Meter indicates reception of signals.                      -Carrier is modulated when transmitting,                      -AM audio normal.</p>	<p>a. C9, C46, D16, C49, R160, C75, C76, C87 or C89 open.                      b. R39 or C88 shorted.                      c. S3, R37, Crystal Filter, TR13, TR14, TR15, D33, D34, D35 or D36 defective.</p>
<p>5. Poor reception when in AM and SSB Modes.                      -Modulation poor in AM and SSB.</p>	<p>a. C1 open.                      b. D1 shorted.                      c. C90, TR16, TR33, FET-1, TR2, S-2, VR2, Squelch Circuit, or Speaker defective.</p>
<p>6. Very low background noise.                      -Transmitter operates normally.</p>	<p>a. Channel Selector switch defective or has dirty contacts.                      b. Low power supply voltage, less than 10 volts.                      c. Squelch circuit defective (TR9, TR10, VR6, C54, or D23).                      d. AGC Circuit defective (TR11, D23, C55, C56, or VR7).                      e. Partially shorted speaker.                      f. Low power supply voltage, less than 10 volts.</p>
<p>7. Very low background noise.                      -Low transmit power.</p>	<p>a. Antenna system defective, high SWR.                      b. Power source voltage low, less than 10 volts.                      c. Crystal synthesizer component defective; C61, D27, D28, D29, D30, TR18, TR19, TR20, or TR12.</p>
<p>8. Squelch function inoperative.                      -AM receiver does not silence.</p>	<p>a. TR9, TR10, VR11, C54, D23, C28 or C29 Defective open circuit.</p>
<p>9. Squelch function inoperative.                      -AM receiver will not awaken.</p>	<p>a. TR9, TR10, VR11, C54, D23, C100 or C101 defective.</p>
<p>10. Transmitter does not operate.                      -Receiver functions normally.                      -Failure in AM/Mode and SSB/Mode.</p>	<p>a. S1 sections 2,3, or 4 or D46 open.                      b. C149, C178 or D52 shorted.                      c. Microphone transmit switch, cord or TR24 defective.</p>

## TABLE I, TROUBLESHOOTING GUIDE (Continued)

- |   |   |
|---|---|
| 11. Transmitter does not operate.<br>-Failure in SSB Mode only. | a. C142, C75, C49 or C47 open.<br>b. C143 shorted.<br>c. S3, TR23, D45, D46, D47, D48, T17, TR13 or Crystal Filter defective.     |
| <hr/>   |   |
| 12. Receiver does not operate.<br>-Failure in SSB Mode only.    | a. D16, C49, C75 or C89 open.<br>b. C88 shorted.<br>c. TR13, TR14, TR15, T15, T16, D33 D34, D35, D36 or Crystal Filter defective. |
| <hr/>   |   |
| 13. Noise Blanker does not function.                            | a. C13 or D4 open.<br>b. D3, D6 or D7 shorted.<br>c. FET 2 or S5 defective.   |

### WARNING

THE FCC RULES AND REGULATIONS, PART 95, REQUIRES THAT ONLY PERSONS POSSESSING A VALID FIRST OR SECOND CLASS RADIOTELEPHONE OPERATOR'S LICENSE ARE ALLOWED TO MAKE ADJUSTMENTS OR REPAIRS TO THE TRANSMITTING SECTION OF THIS TRANSCEIVER.

MODIFICATION TO THE TRANSMITTER SECTION IN ANY WAY NOT RECOMMENDED BY FANON/COURIER CORPORATION IS ILLEGAL. MODIFICATIONS INCLUDE, BUT ARE NOT LIMITED TO, SUBSTITUTION OF CRYSTALS, REPLACEMENT OF COMPONENT PARTS NOT OF THE SAME ELECTRICAL RATING, ADDITION OF ANY COMPONENT PART(S), CONNECTIONS, DEVICE OR ACCESSORY INTERNALLY OR EXTERNALLY TO THE TRANSMITTER.

After the repair or replacement of any critical frequency controlling part or circuit, the transmitter and receiver sections should be tested for operational compliance to the Federal Communications Commission (FCC) frequency and power requirements and the manufacturers specifications.

TABLE 2

TRANSISTOR AND IC VOLTAGE CHART

TRANSISTOR TR	RECEIVER (NO SIGNAL)			TRANSMITTER (WITHOUT MODULATION)			APPLICATION
	( B	C	E)	( B	C	E )	
FET 1 3SK22 (Y)	G1=0.0,G2=2.0,D=8,S1.5			G1=0,G2=0,D=0,S=0			RF Amplifier
FET 2 2SK30 (Y)	G=0.01,D=4.97,S=0.13			G=0, D=0, S=0			Noise Blanker Amp.
1 2SC939 (H)	2.0	8.55	1.4	0	0	0	Rx. 1st Mixer
2 "	1.5	9.0	0.95	0	0	0	Rx. AM 2nd Local Osc.
3 "	1.5	8.4	0.85	0	0	0	Rx. AM 2nd Mixer
4 "	1.7	8.4	1.45	0	0	0	Rx. AM IF Amp. 455 KHz.
5 "	1.75	8.4	1.1	0	0	0	" "
6 2SC945 (R)	0.57	6.96	0.08	0	1.25	0	SSB AGC Amp.
7 2SA733 (Q)	6.96	0	6.94	1.25	0	1.12	"
8 2SC945 (R)	6.92	8.83	6.4	1.12	0.53	0.58	"
9 "	0	0.67	0	0	0	0	Squelch Amp.
10 "	0.67	0.08	0	0	0	0	"
11 "	0.49	7.07	0	0	0	0	AM AGC Amp.
12 2SC839 (H)	1.33	6.82	0.64	1.33	6.82	0.64	19 MHz. Local Amp.
13 "	1.48	9.13	0.84	2.05	8.99	1.38	SSB 7.8 MHz. Amp.
14 "	0	9.32	0	1.33	9.12	0.73	AM 7.8 MHz. Tx. Amp.
15 "	0.12	0.57	0	0	0	0	SSB 7.8 MHz. IF Amp.
16 2SC945 (QL)	1.24	6.58	0.65	0	0	0	Rx. AF Pre-Amp.
17 2SC945 (R)	1.13	5.27	0.52	0	0	0	SSB S Meter Amp.
18 2SC839 (H)	2.45	8.19	1.88	2.45	8.19	1.88	11 MHz. Band OSC.
19 "	2.43	8.19	1.83	2.43	8.19	1.83	AM & USB 7 MHz. Band OSC.
20 "	2.41	8.19	1.86	2.41	8.19	1.86	LSB 7 MHz. Band OSC.
21 "	1.85	9.3	1.21	1.85	9.3	1.21	Carrier OSC.
22 "	1.19	9.3	0.62	1.19	9.3	0.62	Buffer Amp. for TR21
23 2SC945 (R)	0	0	0	1.49	6.39	0.89	SSB Microphone Amp.
24 "	0	0	0	1.43	2.27	0.81	AM/SSB Microphone Amp.
25 2SC1307	0	0	0	0.65	13.55	0	Tx. Final Amp.
26 2SC1306	0	0	0	0.82	13.52	0.18	Tx. Driver Amp.
27 2SC710 (C)	0	0	0	1.14	8.66	0.48	Tx. Pre-Driver Amp.
28 2SC1096-3Z(L)	0	0	0	9.15	13.31	8.52	AM Power Adjuster
29 2SC945 (R)	0	0	0	1.42	9.15	0.81	" "
30 2SC1096-3Z(L)	0.59	12.8	0.12	0.61	12.66	0.03	AF Power Amp.
31 " "	0.59	12.8	0.12	0.61	12.66	0.03	"
32 2SC735 (Y)	1.82	9.61	1.2	1.76	9.24	1.14	AF Amp.
33 2SC945 (R)	1.6	6.38	0.99	1.54	6.2	0.94	AF Amp.

RECEIVER VOLTAGES = No Signal

IC Number TA=7045 (M)	1 0	2 0	3 0	4 0	5 0	6 0	7 0	8 0
IC Number TA-7045 (M)	1 3.06	2 2.63	3 0	4 1.88	5 3.05	6 7.63	7 7.66	8 7.63

TABLE 3

CHANNEL	TRANSMITTER			RECEIVER		
	AM	USB	LSB	AM	USB	LSB
1	11.805	11.805	11.805	11.805	11.805	11.805
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3615	7.3615	7.3585	7.3615	7.3615	7.3585
2	11.805	11.805	11.805	11.805	11.805	11.805
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3715	7.3715	7.3685	7.3715	7.3715	7.3685
3	11.805	11.805	11.805	11.805	11.805	11.805
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3815	7.3815	7.3785	7.3815	7.3815	7.3785
4	11.805	11.805	11.805	11.805	11.805	11.805
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.4015	7.4015	7.3985	7.4015	7.4015	7.3985
5	11.855	11.855	11.855	11.855	11.855	11.855
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3615	7.3615	7.3585	7.3615	7.3615	7.3585
6	11.855	11.855	11.855	11.855	11.855	11.855
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3715	7.3715	7.3685	7.3715	7.3715	7.3685
7	11.855	11.855	11.855	11.855	11.855	11.855
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3815	7.3815	7.3785	7.3815	7.3815	7.3785
8	11.855	11.855	11.855	11.855	11.855	11.855
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.4015	7.4015	7.3985	7.4015	7.4015	7.3985
9	11.905	11.905	11.905	11.905	11.905	11.905
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3615	7.3615	7.3585	7.3615	7.3615	7.3585
10	11.905	11.905	11.905	11.905	11.905	11.905
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3715	7.3715	7.3685	7.3715	7.3715	7.3685
11	11.905	11.905	11.905	11.905	11.905	11.905
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3815	7.3815	7.3785	7.3815	7.3815	7.3785
12	11.905	11.905	11.905	11.905	11.905	11.905
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.4015	7.4015	7.3985	7.4015	7.4015	7.3985
13	11.955	11.955	11.955	11.955	11.955	11.955
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3615	7.3615	7.3585	7.3615	7.3615	7.3585
14	11.955	11.955	11.955	11.955	11.955	11.955
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3715	7.3715	7.3685	7.3715	7.3715	7.3685
15	11.955	11.955	11.955	11.955	11.955	11.955
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3815	7.3815	7.3785	7.3815	7.3815	7.3785
16	11.955	11.955	11.955	11.955	11.955	11.955
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.4015	7.4015	7.3985	7.4015	7.4015	7.3985
17	12.005	12.005	12.005	12.005	12.005	12.005
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3615	7.3615	7.3585	7.3615	7.3615	7.3585
18	12.005	12.005	12.005	12.005	12.005	12.005
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3715	7.3715	7.3685	7.3715	7.3715	7.3685
19	12.005	12.005	12.005	12.005	12.005	12.005
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3815	7.3815	7.3785	7.3815	7.3815	7.3785
20	12.005	12.005	12.005	12.005	12.005	12.005
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.4015	7.4015	7.3985	7.4015	7.4015	7.3985
21	12.055	12.055	12.055	12.055	12.055	12.055
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3615	7.3615	7.3585	7.3615	7.3615	7.3585
22	12.055	12.055	12.055	12.055	12.055	12.055
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.3715	7.3715	7.3685	7.3715	7.3715	7.3685
23	12.055	12.055	12.055	12.055	12.055	12.055
	7.7985	7.7985	7.8015		7.7985	7.8015
	7.4015	7.4015	7.3985	7.4015	7.4015	7.3985

7.3435 Crystal used in all AM REC. Channels

**TABLE 4**  
**CRYSTAL FREQUENCY TEST POINTS**

<u>CRYSTAL</u>	<u>FREQUENCY</u>	<u>TEST POINT</u>
X1	7.3435 MHz	TP-1
X2	11.8050 "	TP-4
X3	11.8550 "	"
X4	11.9050 "	"
X5	11.9550 "	"
X6	12.0050 "	"
X7	12.0550 "	"
X8	7.3615 "	TP-5
X9	7.3715 "	"
X10	7.3815 "	"
X11	7.4015 "	"
X12	7.3585 "	"
X13	7.3685 "	"
X14	7.3785 "	"
X15	7.3985 "	"
X16	7.8015 "	TP-6
X17	7.7985 "	"

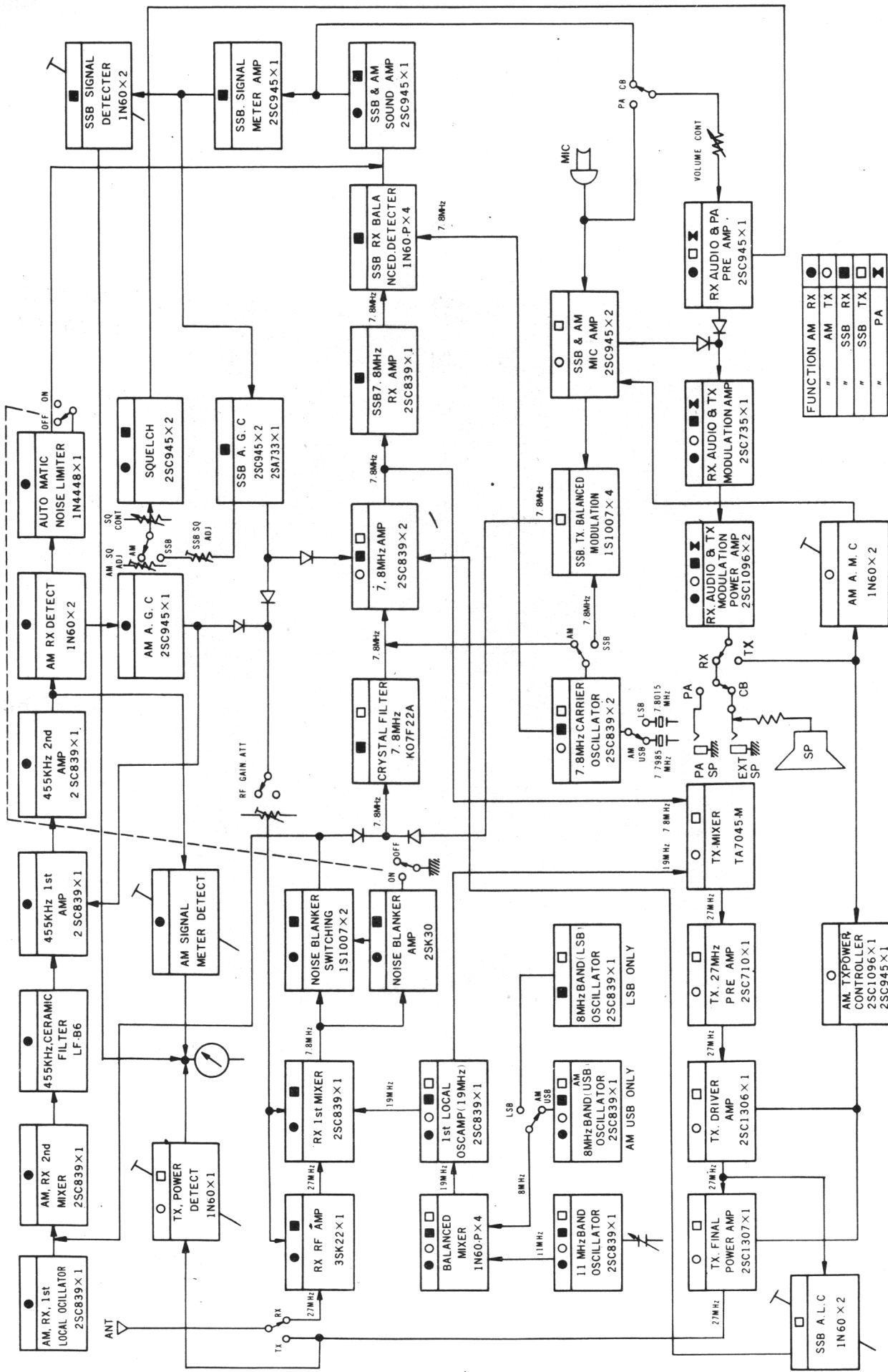
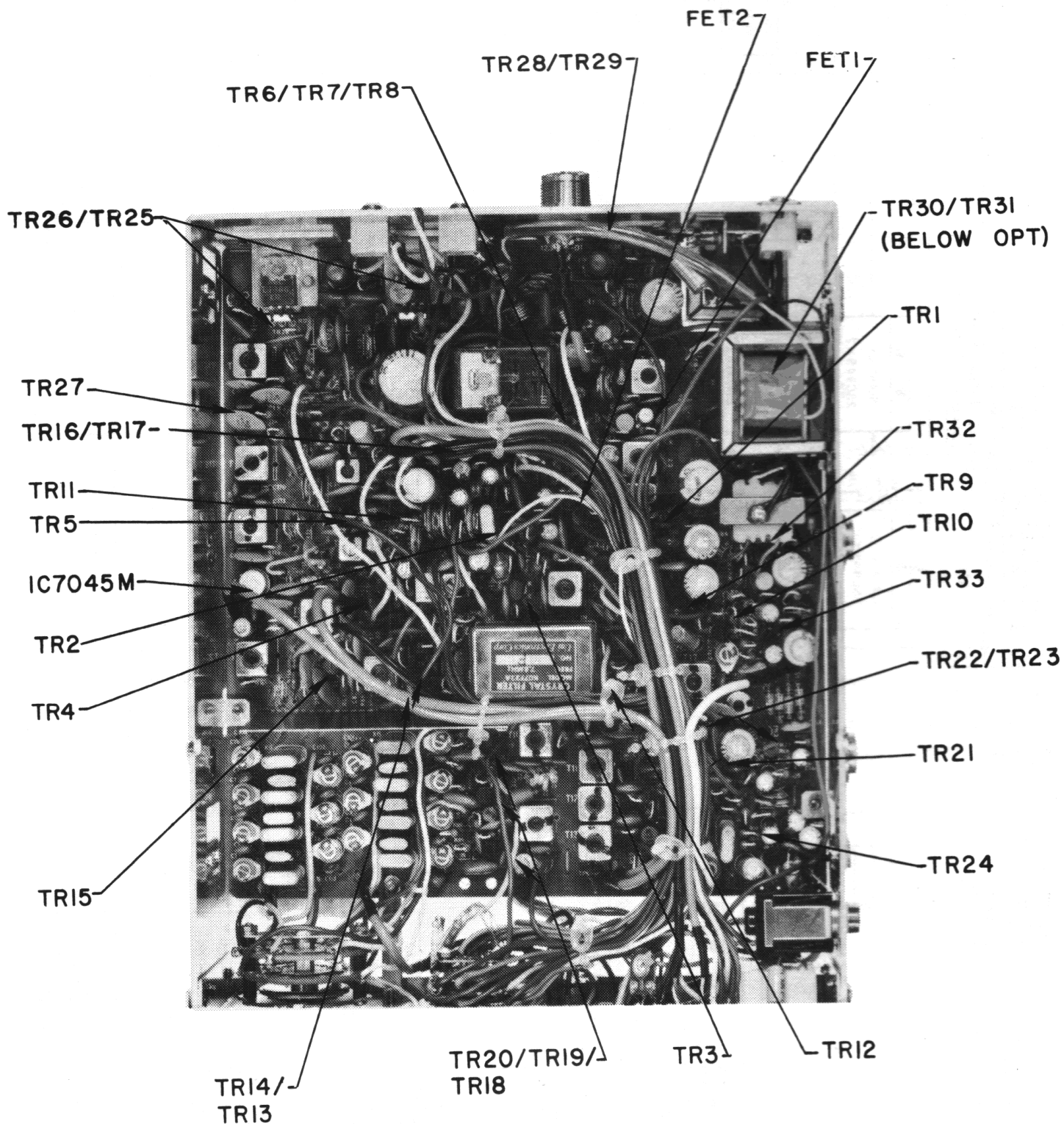


FIGURE 4, FUNCTIONAL BLOCK DIAGRAM



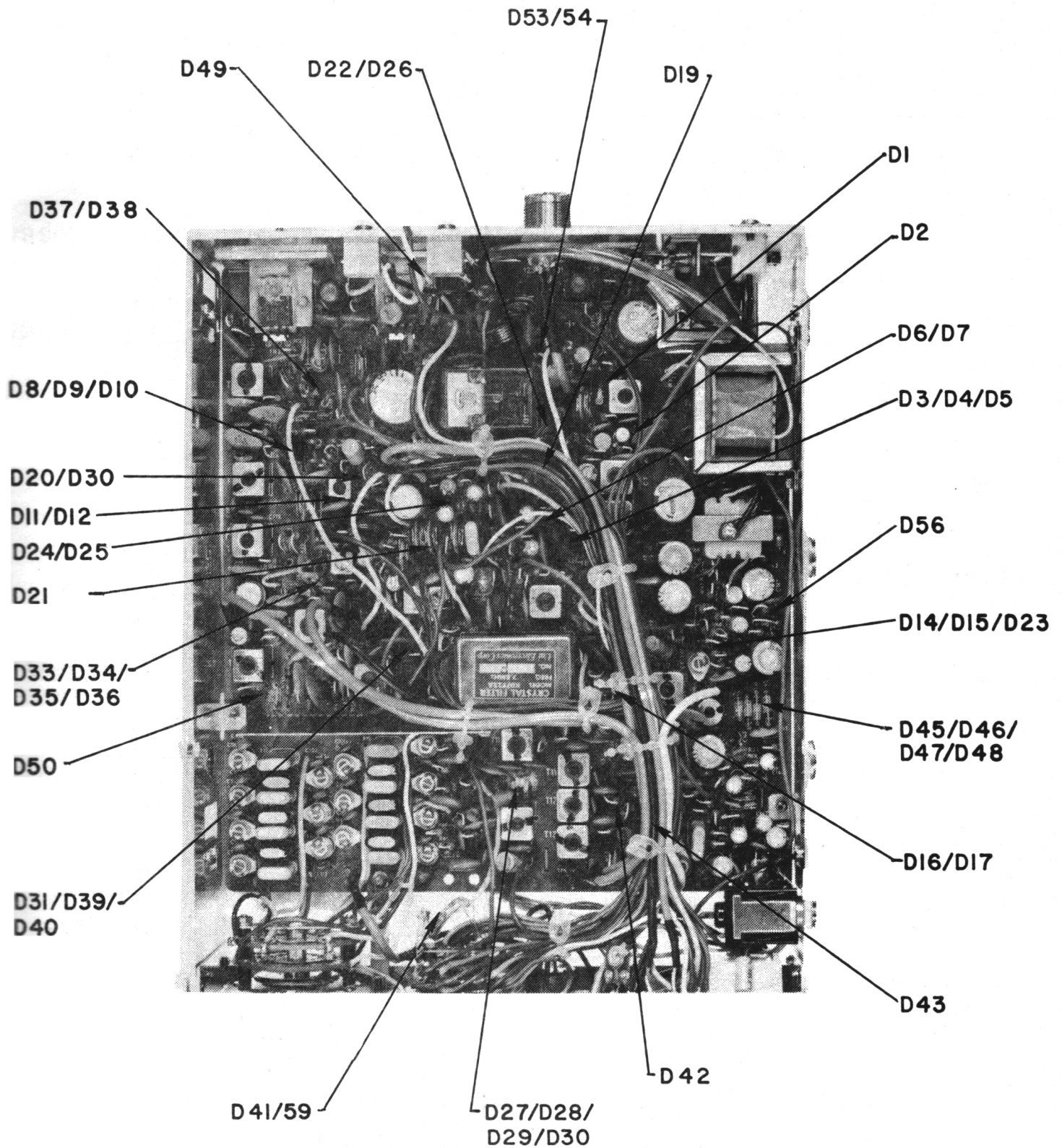


FIGURE 6, DIODES



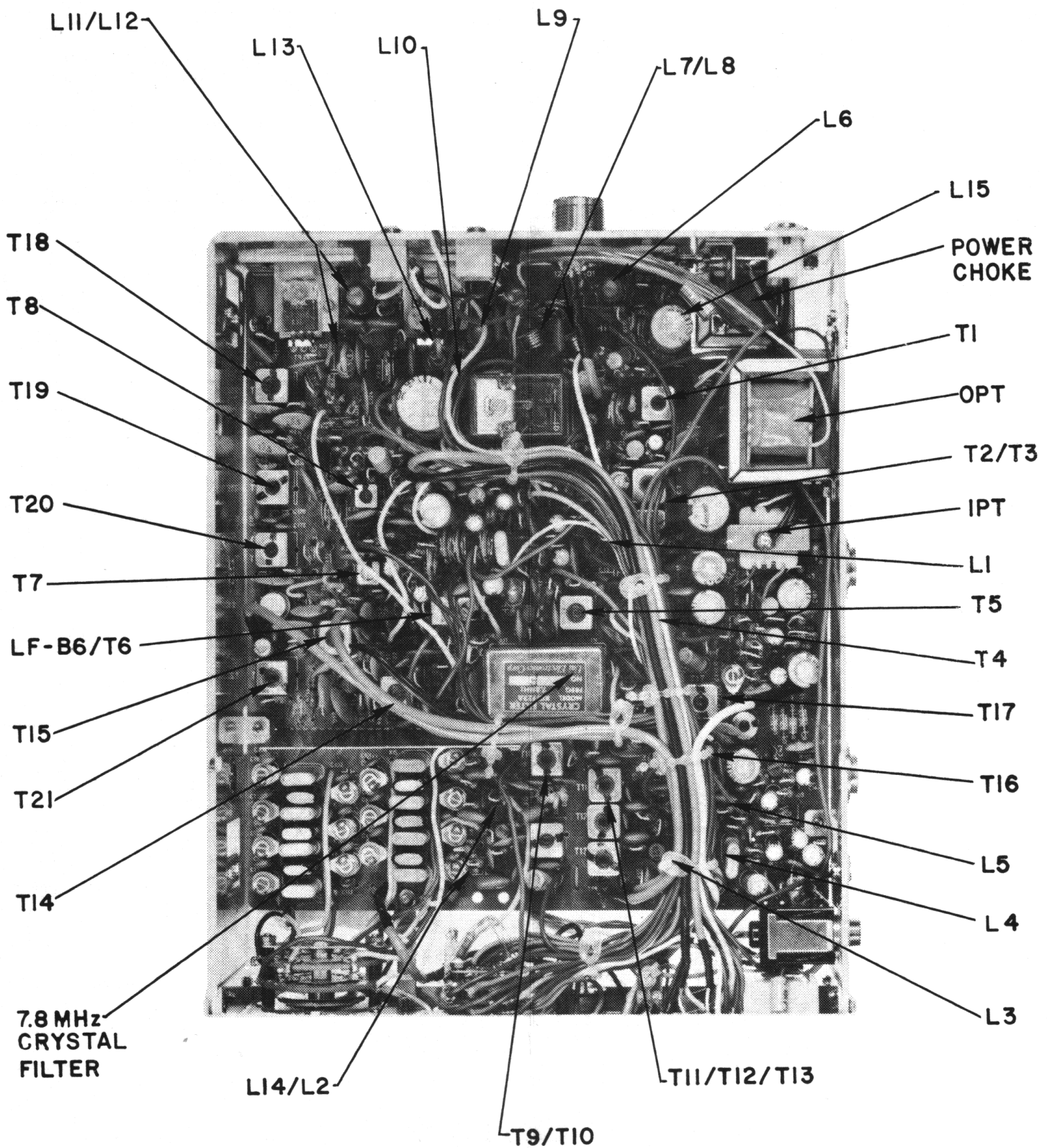


FIGURE 7, COILS & TRANSFORMERS

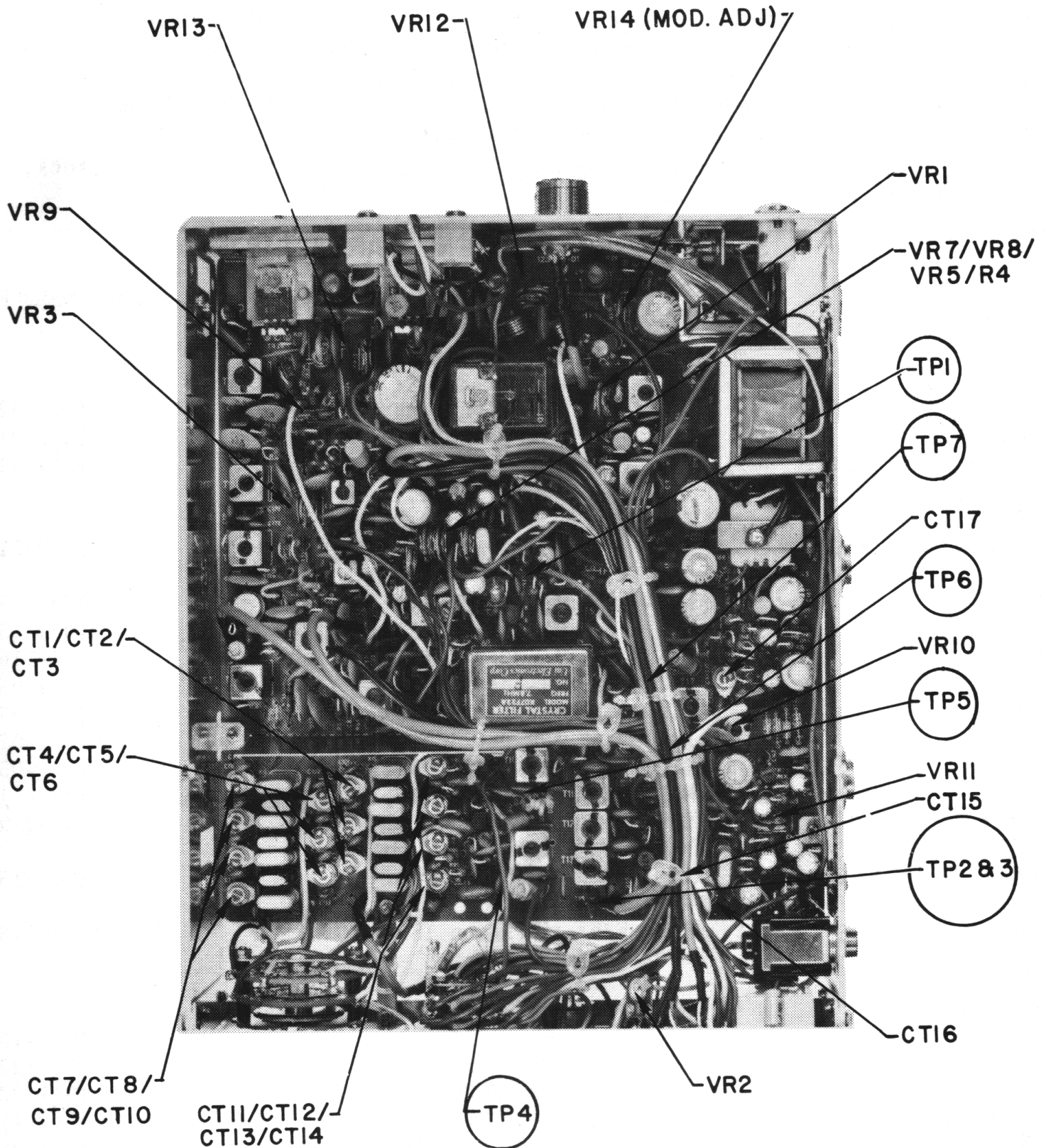


FIGURE 8, CONTROLS & TEST POINTS

## SECTION IV

### SPECIAL REPLACEMENT PARTS

A list of Special Replacement Parts for the SPARTAN SSB is provided to facilitate replacement of defective parts. When ordering from FANON/COURIER include the model and serial numbers of the unit being serviced. In case of a discrepancy between a "listed" part number and the number actually printed on a part, employ the latter. Address your communications to the FANON/COURIER Service Department, 990 South Fair Oaks Avenue, Pasadena, California, 91105.

Note: 1/4 watt resistors that are commonly available via distributor's stock, are not stocked by COURIER.

#### SPECIAL REPLACEMENT PARTS LIST

SYMBOL	DESCRIPTION	PART NUMBER
<b>SOLID STATE DEVICES</b>		
FET 2	FET, 2SK30 (Y)	1042-02
FET 1	FET, 3SK22 (Y)	1042-01
TR1,2,3,4,5,12,13, 14,15,18,19,20,21, 22	Transistor, 2SC839 (H)	1042-04
TR6,8,9,10,11,23, 24,29,33	" 2SC945 (R)	1080-21
TR16	" 2SC945 (QL)	1074-115
TR7	" 2SA733 (Q)	1079-85
TR28,30,31	" 2SC1096 (L)	1074-116
TR26	" 2SC1306	1042-08
TR25	" 2SC1307	1042-09
TR27	" 2SC710 (C)	1042-07
TR32	" 2SC735 (Y)	1042-05
IC	Integrated Circuit, TA7045M	1042-11
D3,4,8,9,10,11,12, 24,25,37,49,53,54	Diode, IN60	294-42-9
D27,28,29,30,33,34, 35,19,36,1	" IN60 (P)	1042-13
D6,7,16,17,18,20, 21,23,31,32,39, 40,42,43,56,57, 41,50	" Silicon 1S2473	1074-118
D26,44,52	Zener Diode CZ-092	1080-10
D22	" " WZ081	1074-122
D60	Varistor, KB262	1042-23
D51,58,59	" SRIK-2	1042-17
D55	" CD86003	1079-01
D14,15,45,46,47,48	" 1S1007	1079-89
D5,13	" IN4448	1042-16
D2	" ZE1.5	1042-20
TH1	Thermistor TD5-C246	1079-02

## SPECIAL REPLACEMENT PARTS LIST (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
<b>CRYSTALS</b>		
X12	7.3585 MHz, HC25/U	1079-71
X13	7.3685 " "	1079-72
X14	7.3785 " "	1079-73
X15	7.3985 " "	1079-74
X8	7.3615 " "	1079-75
X9	7.3715 " "	1079-76
X10	7.3815 " "	1079-77
X11	7.4015 " "	1079-78
X2	11.805 " "	1079-79
X3	11.855 " "	1079-80
X4	11.905 " "	1079-81
X5	11.955 " "	1079-82
X6	12.005 " "	1079-83
X7	12.055 " "	1079-84
X17	7.7985 " "	1042-82
X16	7.8015 " "	1042-83
X1	7.3435 " "	1042-81
	Crystal Filter, KO7F22A	1042-84
	Ceramic Filter, LF-B6	1079-12
<b>COILS and TRANSFORMERS</b>		
T1	Coil, (Antenna) TKXC-22019GW	1042-24
T2,3	" (RF) TKSC-22017AO	1042-25
T4	" (1st IF) TKAC-22526N	1042-29
T5,14,15	" 7.8 MHz TKAC-22015A	1042-30
T9	" 11 MHz TKXN-21017ZVI	1042-26
T10,11,12,13	" 19 MHz KXN-6711BM	1042-27
T17	" 7.8 MHz BM TKAN-21016AO	1042-32
T18	" 27 MHz TKXC-23444N	1079-03
T19	" 27 MHz TKXN-21014AO	1042-38
T20	" 27 MHz TKXN-21379UH	1042-37
T21	" 7.8 MHz TKAN-23360ZVI	1079-04
T6	" 455 KHz LPN-5944BM	1079-05
T7	" 455 KHz LLC-3657	1042-34
T8	" 455 MHz LLC-4990A2	1042-35
T16	" 7.8 MHz 113CC2804AC	1042-33
L6,9,11	" 54 MHz TRAP TC-71024	1079-06
L7,8	" 27 MHz Filter NS1367	1079-07
L10,12,13	" (RF Choke) NS15153	1074-01
L15	" " NS1516	1042-44
L3,4,5	Micro Inductor 470uH	1079-08
L1	" " 100uH	1079-09
L2	" " 8.2uH	1079-10
L14	" " 3.9uH	1079-11
CH	Transformer, (Choke) LF4 N28-7111H	1079-107
IPT	" " (AF Input) N24A-7258A	1079-13
OPT	" " (AF Output) N35-7274	1079-14

## SPECIAL REPLACEMENT PARTS LIST (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
<b>CONTROLS</b>		
S4	Switch, Channel Selector	1079-114
S3	Switch, Mode	1079-115
S1,2,5	Switch, DX Local, On/Off, Noise Blanker	1079-52
S6	Switch, PC/CB	1079-53
VR-15	Control, 10K ohm-A, Volume with On/Off Switch	1079-120
VR6	Control, 10K ohm-B, Squelch	1079-121
VR10	Potentiometer	1079-124
VR5	" 500K ohm-B	1042-93
VR4	" 200K ohm-B	1079-18
VR12	" 100K ohm-B	1042-96
VR7,9	" 30K ohm-B	1079-19
VR8,14	" 10K ohm-B	1042-98
VR3	" 5K ohm-B	1079-20
	Control, Variable Capacitor, Clarifier	1079-122
VR13	Potentiometer 200 ohm-B	1042-100
VR1	" " 100 ohm-B	1042-95
VR2	" " 50K ohm-B	1079-21
VR11	" " 5K ohm-B	1042-99
<b>CAPACITORS</b>		
CT1 through CT17	(Ceramic Trimmer)	1079-108
C16,94,95,151,190, 194,11	1uF, 50V, Electrolytic	1079-33
C29	0.47uF, 50V, "	1042-133
C197	1000uF, 25V, "	1042-123
C179	220uF " "	1079-34
C57,58,145,146,147, 176,180	4.7uF " "	1079-55
C53	2.2uF " "	1079-36
C185	470uF 16V "	1042-124
C186,191	200uF " "	1042-125
C15,37,54,144,181	10uF " "	1042-129
C93	330uF 10V "	1079-37
C178	220uF " "	1079-38
C27,60,73,134,150	47uF " "	1079-39
C56	22uF " "	1079-40
C187,192	220uF 6.3V "	1042-126
C91,97,148	33uF " "	1079-41
C142	1uF 10V, Tantalum	1042-120
C25	500pF, 50V, Styrol Film	1042-158
C48,86,124,164	0.1uF, +80%,-20%, 25V, Ceramic	1079-127
C158	650pF, ±10%, 50V, Mica	1079-47
C65,157	400pF, " " "	1042-136
C155,161,166	250pF, " " "	1042-138
C19,115,118,121	150pF " " "	1042-140
C62,63,64,136,153	100pF " " "	1042-142
C68,70,72,162	60pF " " "	1042-144
C116,119,152	40pF " " "	1042-145

**SPECIAL REPLACEMENT PARTS LIST (Continued)**

SYMBOL	DESCRIPTION	PART NUMBER
<b>CAPACITORS (Continued)</b>		
C17,36,61,170	30pF, ±10%, 50V, Mica	1042-146
C172	25pF, " " "	1042-147
C21,105,106,107,111, 112,108,109,110	200pF " " "	1079-128
C9,137,139,140,174	10pF " " "	1042-150
C13,20	5pF, ±0.5pF " "	1079-132
C7,69,71,79,123	3pF " " "	1079-183
C156,171	1pF " " "	1042-155
C6,12,22,24,26,38, 31,32,34,38,50,55, 59,67,74,80,81,83, 85,92,96,98,122,126, 129,135,154,159,160, 165,177,196	0.04uF, +80%,-20%, 50V, Ceramic	1079-45
C184	390pF, ±10%, 50V, Ceramic	1079-46
C114	150pF " " "	1042-156
C3,14,66,76,78,84,138, 167,168,169,173,175	0.02uF, +80%,-20%, 50V,Ceramic	1042-159
C1,2,35,43,49,51,75, 77,82,87,88,125,141, 189,193,149,143	0.01uF " " " "	1042-157
C195	0.001ufd, +100,-100 " , Feed-through	1042-136
C4,8	0.005uF, +80%,-20%, 50V, Ceramic	1079-44
C99,100,101,102,103, 104	20pF, ±10%, N1500, " "	1074-49
C127,130	20pF, " N750 " "	1074-50
C113	10pF " N470 " "	1074-51
C10,23,30,33,52,89, 183,182	0.04uF, ±20%, 50WV, Mylar	1042-163
C90	0.01uF " " "	1079-42
C41	0.002uF " " "	1079-43
C18,39,42,117,120,132, 133,128,131	0.001uF " " "	1079-39
C5,40,188	0.1ufd, ±20%, 50WV, Aluminum Solid	1042-122

**RESISTORS**

R7,27,161	1M ohm, ±5%, 1/4W	1042-172
R28	56K ohms, ±5%, 1/4W	1042-173
R4,18,58	330K ohm, " "	1042-175
R29	220K ohm, " "	1042-176
R31,42	150K ohm, " "	1042-177
R1,8,156	100K ohm, " "	1042-178
R157	62K ohm, " "	1079-135
R44	56K ohm, " "	1079-28
R26,34,36,63,95	47K ohm, " "	1042-180
R15,47,75	33K ohm, " "	1042-181
R12,110,116,133,153	27K ohm, " "	1042-182
R23,67,80,87,90,93, 99,102,144	22K ohm, " "	1042-183

## SPECIAL REPLACEMENT PARTS LIST (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
<b>RESISTORS (Continued)</b>		
R53,73	15K ohm $\pm 5\%$ , 1/4W	1042-184
R33,41,48,56,57, 60,70,86,89,92, 94,117,126,130, 149,155	10K ohm " "	1042-185
R46	8.2K ohm " "	1042-186
R14,97,131,138	6.8K ohm " "	1042-187
R11,22,50,62,66, 74,98,109,115, 145,152,158	5.6K ohm " "	1042-188
R111,125,146	4.7K ohm " "	1042-189
R2,43,52,77,79, 83,106,148,150, 154	3.3K ohm " "	1042-190
R10	2.7K ohm " "	1079-26
R19,49,101	2.2K ohm " "	1042-191
R32,35,37,38,40	1.5K ohm " "	1042-192
R121	1.2K ohm " "	1042-209
R71,72,103,113, 118,126	470 ohm " "	1042-195
R135	330 ohm " "	1042-196
R6,17,21,25,55, 65,69,81,108, 112,134,145,160, 147	220 ohm " "	1042-197
R112	180 ohm " "	1079-24
R61	150 ohm " "	1042-198
R3,9,54,59,127, 129,143	100 ohm " "	1042-199
R140	68 ohm " "	1079-23
R45,114,119	22 ohm " "	1079-180
R123,124	10 ohm " "	1042-204
R159	3.9 ohm " "	1079-181
R120	0.5 ohm " "	1042-205
R132	10K ohm " "	1079-175
R104,105	330 ohm " "	1079-176
R51,78	56 ohm, $\pm 10\%$ , 1/2W	1079-29
R136	47 ohm " "	1079-30
R96	470 ohm " 1/4W	1042-195
R30	220K ohm " "	1042-176
R137	10 ohm " 2W	1079-31
R139	1 ohm " 1W	1079-32
R138	10K ohm, $\pm 5\%$ 1/4W	1079-27
<b>MISCELLANEOUS</b>		
PL1	Pilot Lamp 14V, 50mA, Clear, White Lamp	1079-54
PL2	Pilot Lamp " " " Red Lamp	1079-119
S Power	Meter Type 39	1079-184
	Printed Circuit Board	1079-126

## SPECIAL REPLACEMENT PARTS LIST (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
	<b>MISCELLANEOUS (Continued)</b>	
	Jack, Antenna	1079-48
	Chassis	1079-56
	Cabinet, Top	1079-57
	Cabinet, Bottom	1079-58
	Chassis, Front	1079-59
	Chassis Holder	1079-60
	Bracket, Mounting	1079-61
	Heat Sink	1079-62
	Panel, Front	1079-63
	Knob, Mode, Clarifier, Volume, Squelch	1079-64
	Knob, Channel	1079-65
	Plate, Channel Dial	1079-66
	Plate, Control	1079-67
	Screw for Mounting Bracket	1079-70
	Screw, Upper Case SPC-11.0t (Black Leather)	1079-139
	Screw, Rear Case " " (Black Leather)	1079-140
	Screw, P.C.B. Holder " Ni-3	1079-141
	Baffle Board for Speaker	1079-144
	Heat Sink (B), TR25 & TR26	1079-146
	Hanger, Microphone	1079-178
	DC Power Cord	1079-177
	Plate, Front Name	1079-151
	Washer, Rubber (Black)	1079-154
	Net, Speaker 0.3t (Black)	1079-155
	Washer, Fiber (mounting bracket)	1079-156
	Screw, Binder Head M2x5	1079-157
	" " " M2 6x5	1079-158
	" " " M3x6	1079-159
	" " " M3x8	1079-160
	" Flat, M2 6x5	1079-161
	" " Color, M3x4	1079-162
	" " " M3x8	1079-163
	" Tapping, 3.5x8	1079-164
	" " 5x10	1079-165
	" Hexagon	1079-166
	Nut, Hexagon, M3	1079-167
	Washer, Flat, 3	1079-168
	" Spring, 3	1079-169
	" Lock, 3.5 (Inner)	1079-170
	" " 5 (Outer)	1079-171
	" " 9 (Inner)	1079-172
EXT SPKR, PA SPKR	Jack, (External Speaker)	1079-110
	Socket, Crystal	1042-56
SP	Speaker, 8 ohms	1079-112
MIC	Microphone, w/cord & connector	1042-58
RL	Relay, AE3344	1079-113
	Jack, Microphone	1042-62
	Connector, DC Power	1079-95
	Fuse Holder, RF-104	1043-133
	Fuse, 2A	1042-104



## STANDARD WARRANTY

Adopted and Recommended by Electronic  
Industries Association

FANON/COURIER CORPORATION warrants each new electronic product manufactured by it to be free from defective material and workmanship and agrees to remedy any such defect or to furnish a new part (at the Company's option) in exchange for any part of any unit of its manufacture which under normal installation, use and service disclosed such defect; provided the unit is delivered by the owner to us or to our authorized distributor from whom purchased, or authorized service station, intact, for our examination, with all transportation charges prepaid to our factory, within 90 days from the date of sale to original purchaser and provided that such examination discloses, in our judgment, that it is thus defective.

Written authorization must be obtained before any merchandise is returned to the factory.

This warranty does not extend to any of our electronic products which have been subjected to misuse, neglect, accident, incorrect wiring not our own, improper installation, unauthorized modifications, or to use in violation of instructions furnished by us, nor units which have been repaired or altered outside of our factory, nor to cases where the serial number thereof has been removed, defaced or changed, nor to accessories used therewith not of our own manufacture.

This warranty is in lieu of all warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our electronic products.

**FANON/COURIER CORPORATION**



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