SECTION V
MAINTENANCE

5.1 INTRODUCTION

The maintenance section contains test and alignment procedures for an operational LPH 202/214/502/514. This section also contains troubleshooting and assembly/disassembly procedures. Before maintenance is attempted it is advisable to have thorough understanding of the theory of operation of the unit.

5.2 TEST AND ALIGNMENT

5.2.1 TEST EQUIPMENT REQUIRED

A. RF Signal Generator HP8640B or equivalent.

B. Distortion Analyzer HP334A or equivalent.

C. RF Voltmeter (optional) Booton 92C or equivalent.

D. RF Power meter Bird Termaline 6104 or equivalent.

E. Service Monitor Cushman 4000 Radio Communications Test Set or equivalent.

F. Digital Multimeter Fluke 8012A or equivalent.

G. Programmer (for non-keyboard/display units only) Companion radio with keyboard display.

H. Portable Tool Kit LAA 0600, KPN 050-2567-00. This tool kit consists of the following parts:

1. RF Cable Assembly, KPN 155-2268-00.
2. Audio Cable Assembly, KPN 155-2269-00.
3. Accessory Test Cable, KPN 155-2260-00.
4. Battery Eliminator, KPN 017-5087-00.
5. Antenna Adapter Key, KPN 047-6745-00.
6. Spanner, KPN 076-1451-00.

5.2.2 STANDARD TEST SIGNAL

NONE

5.2.3 DISASSEMBLY/ASSEMBLY

5.2.3.1 Battery Removal

A. To remove the battery, turn the radio off. Press up the metal tab on the side of the case while twisting the battery pack approximately 30° and remove it from the radio.

5.2.3.2 Unit Disassembly

A. Remove the four (4) screws from the rear cover (the side opposite from the speaker grill).

B. Remove the two screws from the bottom end of the Receiver frame assembly to free the Transmitter frame assembly.

C. The unit should now be able to be folded out to expose both halves of it.

D. Remove the four (4) screws on the System board to access the keyboard assembly.

E. To gain access to the top of the unit remove the squelch, volume and channel select knobs. Remove the two (2) retaining nuts that secure the volume and squelch potentiometers. Remove the antenna connector in the follow manner:

1. Perform steps A and B.

2. Unsolder the coil and capacitor that connects to the antenna connector.

3. Remove the antenna connector using the special antenna adapter key, KPN 047-6745-00, included in the portable tool kit, KPN 050-2567-00.

F. Lift off the top housing assembly to complete disassembly.

5.2.3.3 Assembly

To assemble the unit perform the disassembly procedures in reverse order.

5.2.4 TEST AND ALIGNMENT PROCEDURES

5.2.4.1 8.3 Volt Power Supply

Adjust R100 on the system board for 8.3VDC as read with a DVM between E5 and ground.

5.2.4.2 Receiver

A. Front End Tuning (Rev 0 PC Assembly)

1. Channel the radio to a frequency, near 148MHz. Set the squelch to open and the volume at approximently 1/2 level.
2. Set the signal generator to the frequency selected in step 1 with modulation set at 1000Hz at 3KHz deviation.
3. Using the RF cable assembly connect the signal generator to the antenna input. Connect the distortion analyzer to the audio output with the Audio cable assembly.
4. Increase the RF level until an improvement is observed in the SINAD reading (6-12dB SINAD).
5. Adjust L7, L8, L9, and L10 alternately for best SINAD while reducing the RF input level to maintain approximently 10dB SINAD.
6. Adjust T1 and T2 for best audio signal with a RF input level of 1 millivolt RMS.
   NOTE: T3 is primarily for coupling and will have little or no effect on the tuning.

B. Front End Tuning (Rev 1 and up PC Assemblies)

1. Channel the radio to a frequency, near 174MHz. Set the squelch to open and the volume at approximently 1/2 level.
2. Set the signal generator to the frequency selected in step 1 with modulation set at 1000Hz at 3KHz deviation.
3. Using the RF cable assembly connect the signal generator to the antenna input. Connect the distortion analyzer to the audio output with the Audio cable assembly.
4. Increase the RF level until an improvement is observed in the SINAD reading (6-12dB SINAD).
5. Adjust L7, L8, L9, and L10 alternately for best SINAD while reducing the RF input level to maintain approximently 10dB SINAD.
6. Select a channel and receive frequency near 148MHz and adjust R101 for best SINAD.
7. Adjust T1 and T2 for best audio signal with a RF input level of 1 millivolt RMS.
   NOTE: T3 is primarily for coupling and will have little or no effect on the tuning.

C. Squelch Adjustment (Rev 2 and up PC Assemblies)

1. Turn the RF generator all the way down and set the squelch control to the tight position (counterclockwise all the way but not in the CG position)
2. Rotate R19 fully clockwise.
3. Set the RF input level to 6db above 12db measured SINAD (approx. .4 to .5μvolts).
4. Slowly adjust R19 counterclockwise until the squelch opens.

5.2.4.3 Transmitter

A. High Power Set (5 Watt Version)

1. Connect the antenna output to the power meter with the RF cable assembly.
2. Set the radio to the lowest available frequency.
3. Key the transmitter and adjust R22 for a 5 watt reading on the power meter.
4. Recheck the output power on the remaining frequencies, and on any channel that has a power output less than 5 watts adjust R22 to increase the power output to 5 watts.

B. Low Power Set (5 Watt Version)

1. This adjustment should only be performed after the high power level has been set.
2. Connect the Antenna Output to the power meter as above.
3. Set the radio to the lowest available frequency.
4. Key the transmitter and adjust R21 for a 2 watt reading on the power meter.
5. Recheck the output power on the remaining channels. If any frequency has an output power of more then 2.4 watts, adjust R21 to decrease the output power to 2.4 watts.

C. Power Set (2 Watt Version)

1. Connect the antenna output to the power meter as above.
2. Set the radio to the lowest available frequency.
3. Key the transmitter and adjust R47 for a 2 watt reading on the power meter.
4. Recheck the output power on the remaining channels. If any frequency has an output power of less than 2 watts, adjust R47 to increase the output power to 2 watts.

5.2.4.4 SYNTHESIZER

A. VCO Adjustment

1. The following test frequencies should be programmed into the EEPROM as needed (Refer to paragraph 2.3.3 in Section 2 of this manual for programming information):

148MHz
160.595MHz
160.6MHz
174MHz

2. Set the radio to receive on 148 MHz.
3. Connect a digital multimeter between TP1 and ground.
4. Adjust L1 for a reading of 3VDC with the synthesizer locked.
5. Set the radio to receive on 160.6MHz.
6. If the voltage at TP1 is less than 3VDC, adjust L1 to increase the reading to 3VDC.
7. Set the radio to receive at 160.595MHz.
8. If the voltage at TP1 is greater than 6.5VDC, or the synthesizer does not lock up, adjust L1 to obtain a reading of 6.5VDC.
9. Set the radio to receive at 174MHz.
10. If the voltage at TP1 is greater than 6.5VDC, or if the synthesizer does not lock up, adjust L1 to obtain a reading of 6.5VDC.

B. Reference Oscillator Adjustment

1. Connect the antenna output to the RF input jack of the Service Monitor.
2. Set the radio for any valid transmit frequency. and set the Service Monitor to receive on the same frequency.
3. Key the transmitter and adjust C28 for zero frequency error.

C. Deviation Adjustment

1. Connect the antenna output to the RF input jack of the Service Monitor using the RF cable assembly.
2. Connect the modulation output of the Service Monitor to the mic high input of the radio using the accessory test cable.
3. Adjust the audio modulation output level from the Service Monitor for 0.25 VRMS at 1000Hz.
4. Select a transmit test frequency as follows: If the radio will be transmitting with CODE GUARD ™. select a frequency where CODE GUARD ™ will be operational. If both tone and digital CODE GUARD ™ are used. select a frequency using digital CODE GUARD ™.
5. Set the Service Monitor to receive this transmitter frequency.
6. Adjust R49 to the center of it's range.
7. Key the transmitter and adjust R46 to obtain a deviation reading of 4.75KHz on the Service Monitor.
8. For radios using digital CODE GUARD ™. perform the following additional adjustments.

   Reference modulation Adjustment:

   a. Adjust the modulation output level from the Service Monitor to 0 volts.
   b. Key the transmitter and observe the resulting waveform on the CRT display of the Service Monitor.
   c. Adjust R49 to obtain the flattest waveform as shown in Figure 5-1 below.
   d. Return the modulation output level from the Service Monitor to .25 VRMS.

9. Check the deviation reading on all the other transmit frequencies. On any frequency where the deviation is greater than 5 KHz adjust R46 to reduce the deviation to 5KHz.

NOTE

If readjustment of R46 is required in this step. return to step 8 for radios containing digital CODE GUARD ™.

5.2.5 TROUBLESHOOTING

Refer to the Troubleshooting flowcharts at the end of this section and the schematics in the Illustrated Parts List for troubleshooting information.

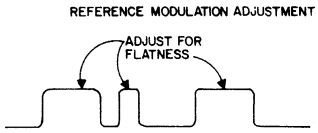


FIGURE 5-1 REFERENCE MODULATION ADJUSTMENT

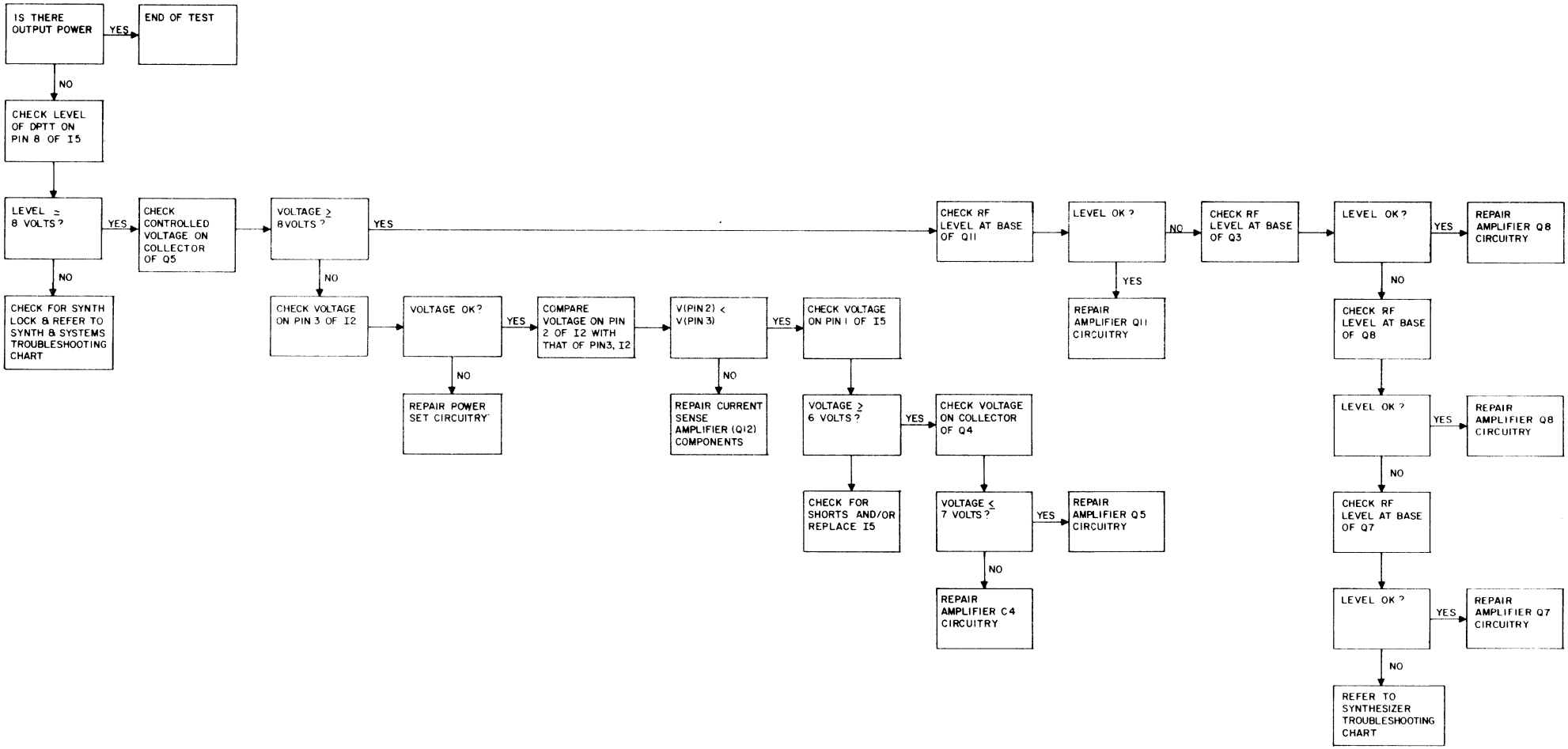


FIGURE 5-2 TRANSMITTER TROUBLESHOOTING FLOWCHART
(Dwg No 696-0775-01 Rev 0)

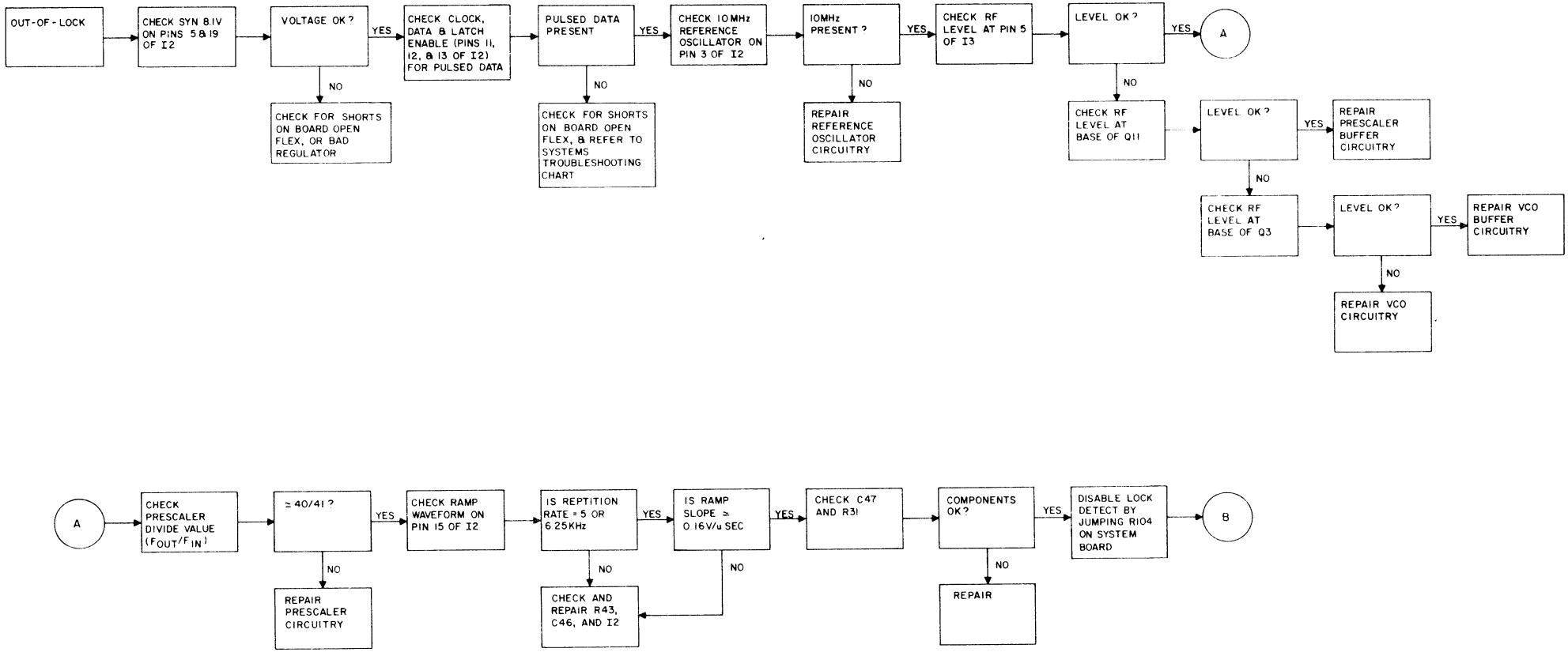


FIGURE 5-3 SYNTHESIZER TROUBLESHOOTING FLOWCHART
(Dwg No 696-0775-02 Rev 0)
(Sheet 1 of 2)

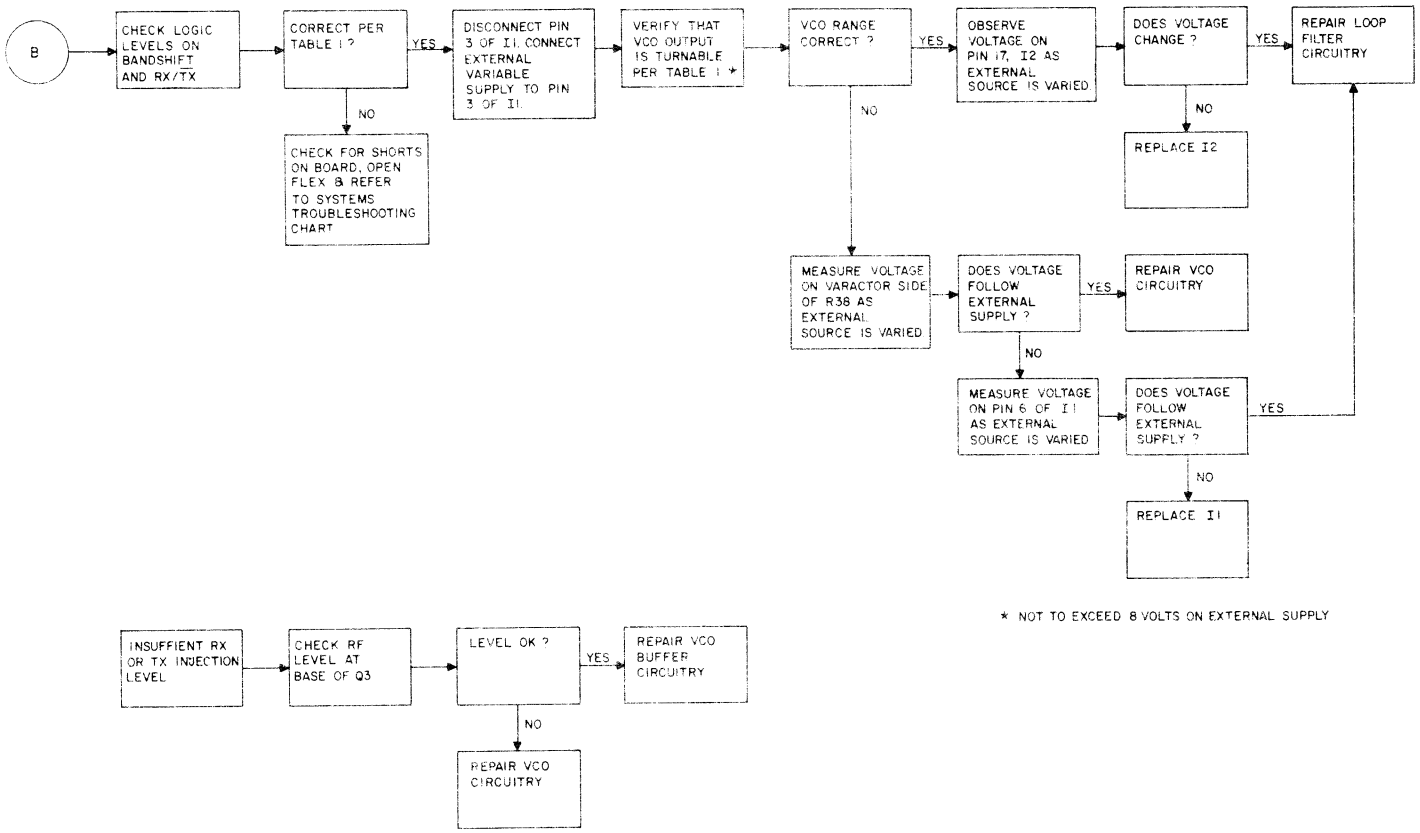


TABLE I

PROGRAMMED GREATER THAN	FREQUENCY LESS THAN	MODE	BANDSHIFT	RX/TX	STEERING VOLTAGE (APPROXIMATE)	MINIMUM TURNABLE FREQUENCY RANGE
148.000 MHz	160.5975 MHz	RX	+8V	+8V	2.5V-6.5V	131 MHz - 144 MHz
160.600 MHz	174.000 MHz	RX	+0V	+8V	2.5V-6.5V	143 MHz - 158 MHz
148.000 MHz	160.5975 MHz	TX	+8V	+0V	2.5V-6.5V	148 MHz - 161 MHz
160.600 MHz	174.000 MHz	TX	+0V	+0V	2.5V-6.5V	160 MHz - 174 MHz

FIGURE 5-3 SYNTHESIZER TROUBLESHOOTING FLOWCHART
(Dwg No 696-0775-02 Rev 0)
(Sheet 2 of 2)

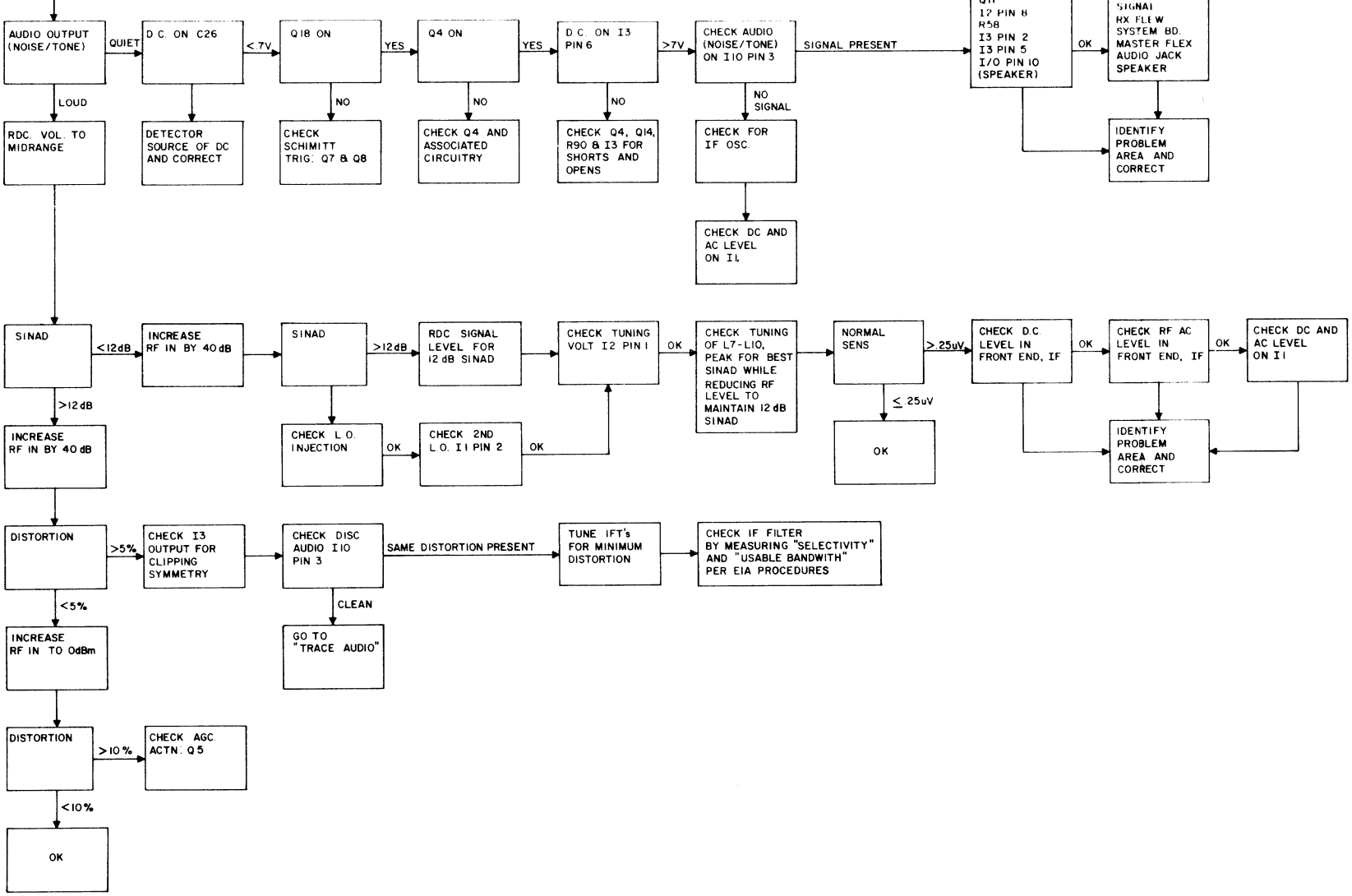


FIGURE 5-4 LPH RECEIVER TROUBLESHOOTING FLOWCHART
(Dwg No 696-0775-03 Rev 0)

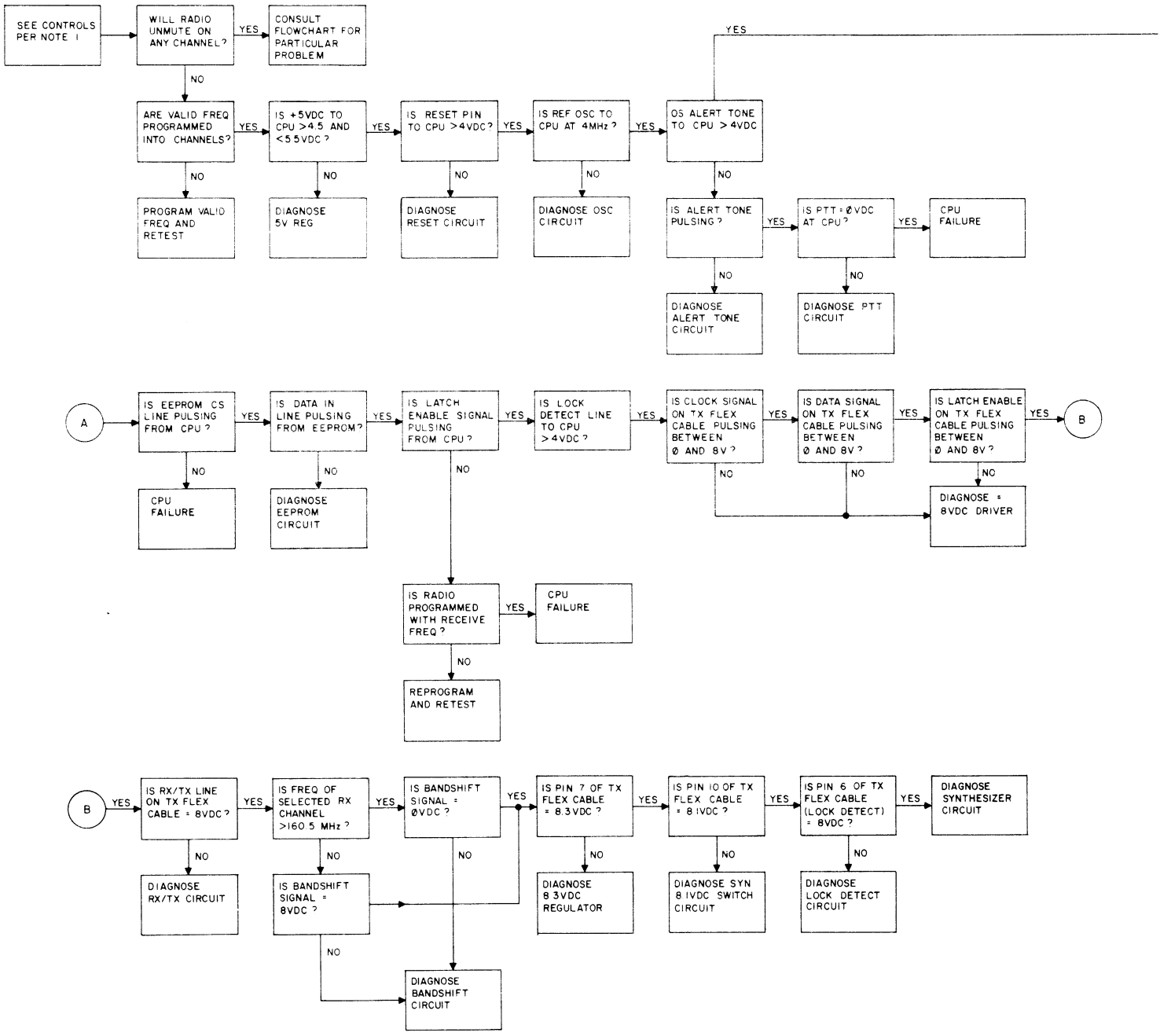
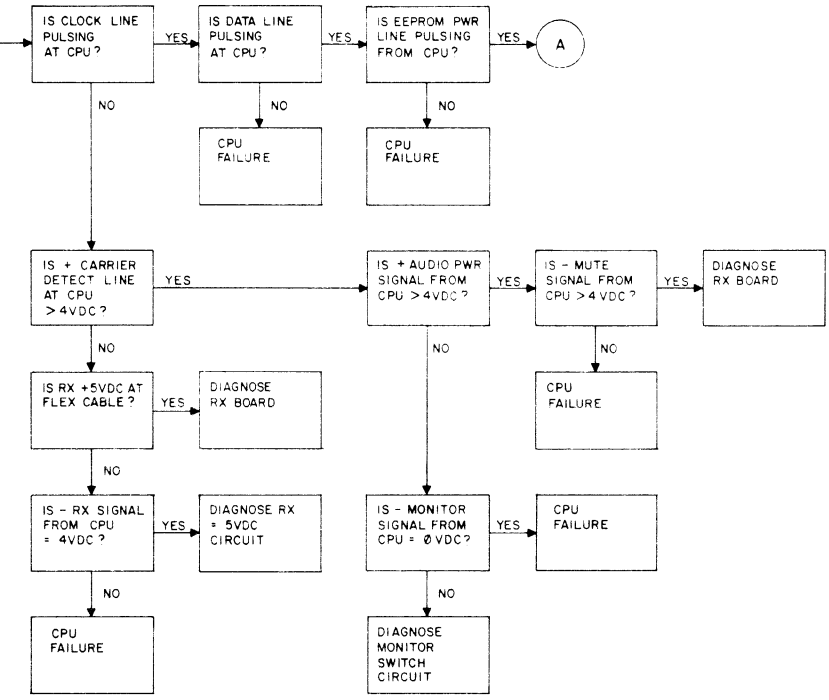


FIGURE 5-5 LPH SYSTEM TROUBLESHOOTING FLOWCHART
(Dwg No 696-0775-09 Rev 0)
(Sheet 1 of 2)



NOTES:

1. SET RADIO CONTROLS AS FOLLOWS:

VOLUME	HALF
SQUELCH	CW
PWR	LOW
SCAN	OFF
PRIORITY	OFF

2. SET RADIO CONTROLS AS FOLLOWS:

VOLUME	HALF
SQUELCH	CCW
PWR	LOW
SCAN	ON
PRIORITY	OFF

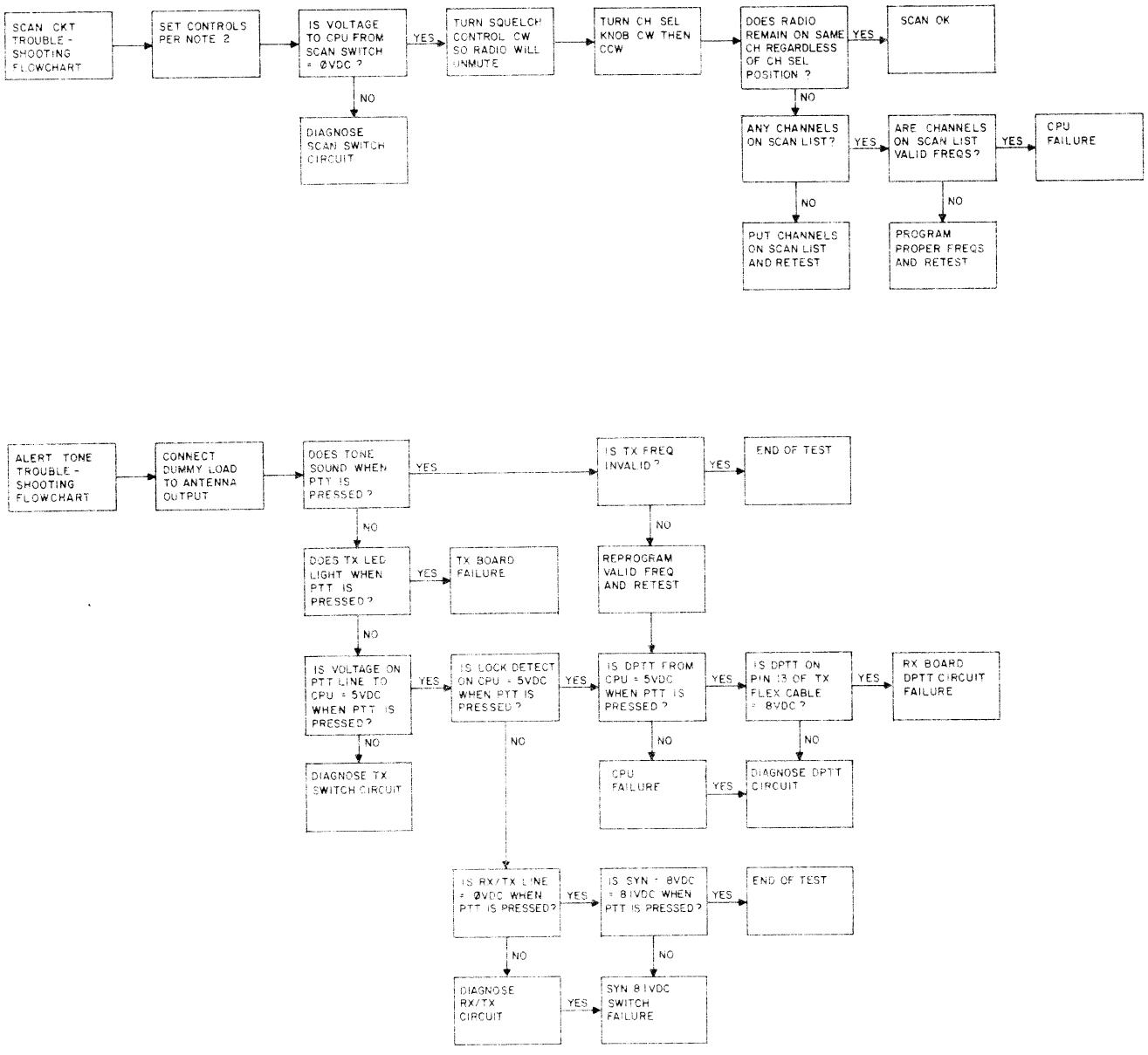


FIGURE 5-5 LPH SYSTEM TROUBLESHOOTING FLOWCHART
(Dwg No 696-0775-09 Rev 0)
(Sheet 2 of 2)

ILLUSTRATED PARTS LIST

INTRODUCTION

This Illustrated Parts List (IPL) provides for the proper identification of replacement parts. Individual Bills of Material (BOM) within this IPL are arranged in numerical order by BOM number. Each BOM is followed by the Assembly Drawing and Schematic Diagram for that assembly.

Parts identified in this IPL by King Part Number meet design specifications for this equipment and are the recommended replacement parts. Warranty information concerning King replacement parts are contained in Service Memo #1, KPN 600-8001-XX.

BILL OF MATERIAL DESCRIPTION

This section describes the various items that appear on the Bills of Material. A sample BOM is included in this section as Figure 6-1.

1. BOM Number

   The Bill of Material Number appears at the top of the BOM as a 9-digit number which is also the King Part Number for the assembly. The BOM Number is followed by the assembly description and the revision level of the BOM.

2. Symbol Column

   This column contains the Reference Designators of the electrical components of the assembly. Mechanical parts are not assigned Reference Designators. The Reference Designator consists of a letter abbreviation which indicates the type of component followed by the number assigned to that part (C101, Q101, etc). Common Reference Designator abbreviations are listed below.

C	Capacitor	P	Plug
CJ	Circuit Jumper	R	Resistor
CR	Diode	S	Switch
DS	Lamp	T	Transformer
F	Fuse	TP	Test Point
FL	Filter	U	Resistor/Capacitor Network
I	Integrated Circuit	V	Photocell/Vacuum Tube
J	Jack	WG	Waveguide
L	Inductor	Y	Crystal
Q	Transistor		

3. Part Number Column

   This column contains the King Part Number for each part. Special purpose 999-9999-XX series part numbers may appear in the BOM and are described below.

   1. CR401 999-9999-96 RESERVED

      The Reference Designator CR 401 has been reserved for future use; the assembly does not currently include a CR401.

   2. CR401 999-9999-97 SEE NEXT ASSEMBLY

      CR401 is a part of the electrical circuit but due to assembly or testing requirements is actually part of a different assembly.

   3. CR401 999-9999-98 NOT USED

      The Reference Designator CR401 is available for future assignment. The assembly does not currently include a CR 401.

4. CR401 999-9999-99 DO NOT USE

The Reference Designator CR401 has been previously used for this assembly and later deleted. It may not be reassigned on this assembly.

4. Description Column

This column contains the description of each part in the assembly. Common abbreviations which may appear in this column are listed below.

AL	Aluminum	PC	Polycarbonate
BIFLR	Bifilar	PF	Precision Film
BOM	Bill of Material	PP	Paper
CC	Carbon Composite	PS	Polystrene
CF	Carbon Film	QW	Quarter Watt
CH	Choke	RES	Resistor
CAP	Capacitor	S	Silicon
CR	Ceramic	SCR	Screw
DC	Disc Ceramic	SM	Silver Mica
DIO	Diode	STDF	Standoff
EL	Electrolytic	SW	Switch
FC	Fixed Composition	TERM	Terminal
FERR	Ferrite	TN	Tantalum
FLTR	Filter	TST PT	Test Point
FT	Feedthru	TW	Tenth Watt
HV	High Voltage	VA	Variable
HW	Half Watt	WW	Wire Wound
IC	Integrated Circuit	XFMR	Transformer
MC	Monolithic Ceramic	XSTR	Transistor
MY	Mylar	XTAL	Crystal

5. Assembly (A) Column

An "A" in this column indicates that the part indicated is an assembly. If the KPN and description reads "200-XXXX-99 COMMON BOM" the parts for that assembly are included in the same BOM. The parts breakdown for an assembly with any other KPN will be found in the BOM with the same number.

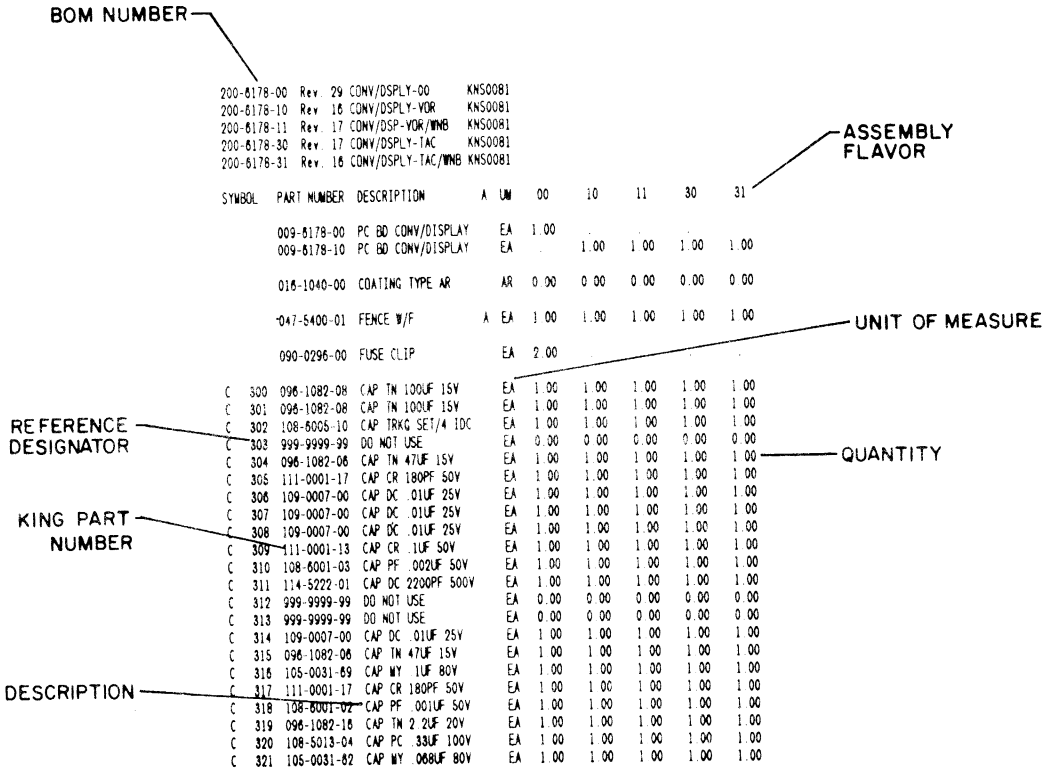
6. Unit of Measure (UM) Column

This column indicates the Unit of Measure for each part. Common abbreviations found in this column are listed below.

EA	Each
FT	Foot
AR	As Required

7. Quantity and Flavor Columns

Individual flavors of an assembly are identified by the last two digits of the KPN. Part quantities for each flavor will be indicated under headings numbered 00 through 99 as required. The parts indicated in the 99 Column are common to all other flavors of the assembly and are considered the Common Bill of Material for the assembly.



200-6178-00 Rev. 29 CONV/DSPLY-00 KNS0081
200-6178-10 Rev. 16 CONV/DSPLY-VOR KNS0081
200-6178-11 Rev. 17 CONV/DSP-VOR/WMB KNS0081
200-6178-30 Rev. 17 CONV/DSPLY-TAC KNS0081
200-6178-31 Rev. 16 CONV/DSPLY-TAC/WMB KNS0081

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	00	10	11	30	31
	009-6178-00	PC BD CONV/DISPLAY		EA	1.00				
	009-6178-10	PC BD CONV/DISPLAY		EA		1.00	1.00	1.00	1.00
	016-1040-00	COATING TYPE AR		AR	0.00	0.00	0.00	0.00	0.00
	047-5400-01	FENCE W/F	A	EA	1.00	1.00	1.00	1.00	1.00
	090-0296-00	FUSE CLIP		EA	2.00				
C 300	096-1082-08	CAP TN 100UF 15V		EA	1.00	1.00	1.00	1.00	1.00
C 301	096-1082-08	CAP TN 100UF 15V		EA	1.00	1.00	1.00	1.00	1.00
C 302	108-6005-10	CAP TRKG SET/4 1DC		EA	1.00	1.00	1.00	1.00	1.00
C 303	999-9999-99	DO NOT USE		EA	0.00	0.00	0.00	0.00	0.00
C 304	096-1082-06	CAP TN 47UF 15V		EA	1.00	1.00	1.00	1.00	1.00
C 305	111-0001-17	CAP CR 180PF 50V		EA	1.00	1.00	1.00	1.00	1.00
C 306	109-0007-00	CAP DC .01UF 25V		EA	1.00	1.00	1.00	1.00	1.00
C 307	109-0007-00	CAP DC .01UF 25V		EA	1.00	1.00	1.00	1.00	1.00
C 308	109-0007-00	CAP DC .01UF 25V		EA	1.00	1.00	1.00	1.00	1.00
C 309	111-0001-13	CAP CR .1UF 50V		EA	1.00	1.00	1.00	1.00	1.00
C 310	108-6001-03	CAP PF .002UF 50V		EA	1.00	1.00	1.00	1.00	1.00
C 311	114-5222-01	CAP DC 2200PF 500V		EA	1.00	1.00	1.00	1.00	1.00
C 312	999-9999-99	DO NOT USE		EA	0.00	0.00	0.00	0.00	0.00
C 313	999-9999-99	DO NOT USE		EA	0.00	0.00	0.00	0.00	0.00
C 314	109-0007-00	CAP DC .01UF 25V		EA	1.00	1.00	1.00	1.00	1.00
C 315	096-1082-06	CAP TN 47UF 15V		EA	1.00	1.00	1.00	1.00	1.00
C 316	105-0031-69	CAP MY .1UF 80V		EA	1.00	1.00	1.00	1.00	1.00
C 317	111-0001-17	CAP CR 180PF 50V		EA	1.00	1.00	1.00	1.00	1.00
C 318	108-6001-02	CAP PF .001UF 50V		EA	1.00	1.00	1.00	1.00	1.00
C 319	096-1082-16	CAP TN 2.2UF 20V		EA	1.00	1.00	1.00	1.00	1.00
C 320	108-5013-04	CAP PC .33UF 100V		EA	1.00	1.00	1.00	1.00	1.00
C 321	105-0031-62	CAP MY .068UF 80V		EA	1.00	1.00	1.00	1.00	1.00

FIGURE 6-1 TYPICAL BILL OF MATERIAL

MODEL NUMBER

SUBASSEMBLY NUMBER	LPH 202	LPH 214	LPH 502	LPH 514
REC. FRAME ASS. KPN 200-3218-00	X		X	
REC. FRAME ASSY KPN 200-3218-01		X		X
2 WATT TX/VCO ASSY KPN 200-3220-00	X	X		
5 WATT TX/VCO ASSY KPN 200-3220-01			X	X
FRONT COVER ASSY KPN 200-3222-00	X	X	X	X
KEYBRD/DSPLY ASSY KPN 200-3223-00		X		X
2 CHAN SYSTEM BRD KPN 200-6877-00	X		X	
14 CHAN SYSTEM BRD KPN 200-6877-01		X		X

FIGURE 6-2 MODEL VERSUS SUBASSEMBLY CHART
(Dwg No 696-0775-04 Rev 0)

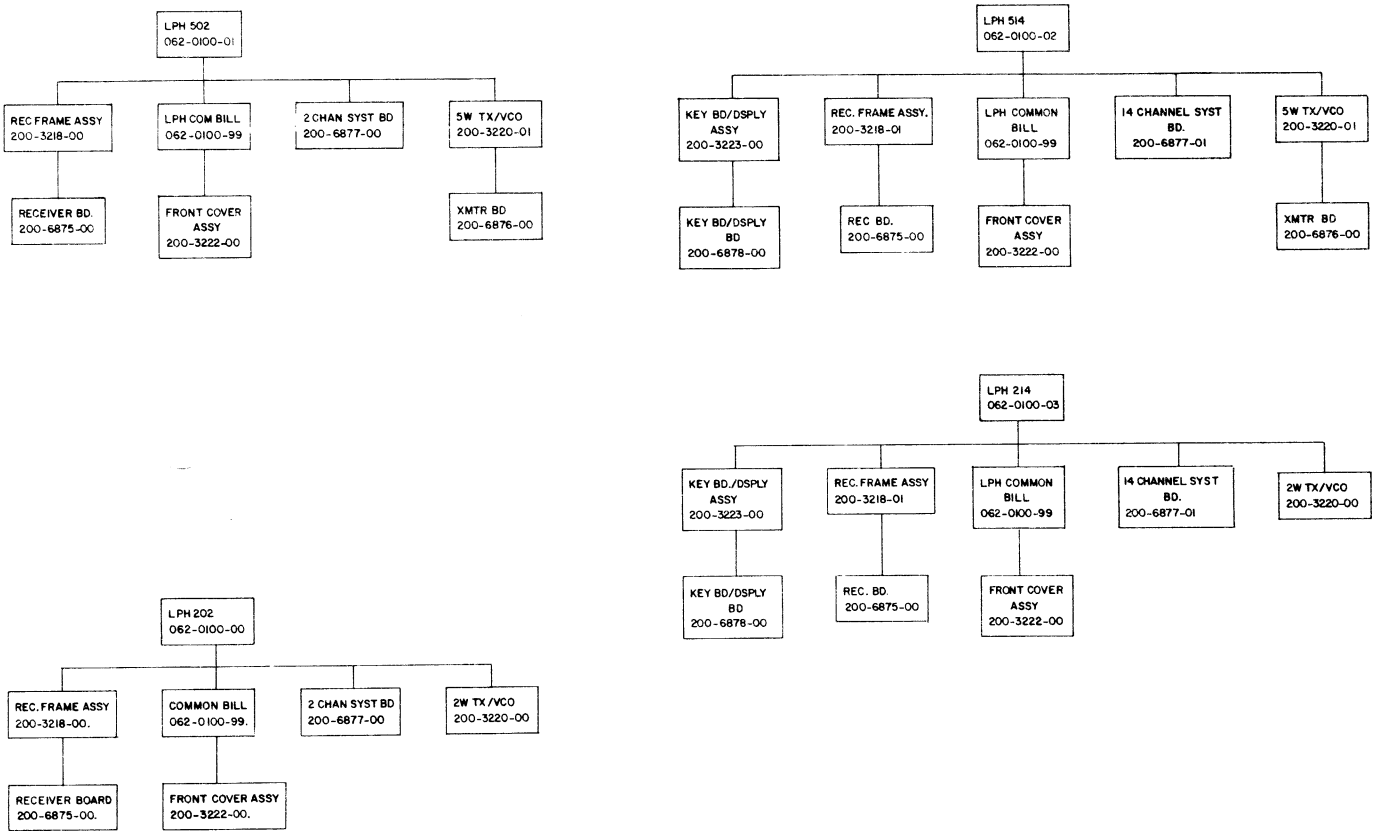


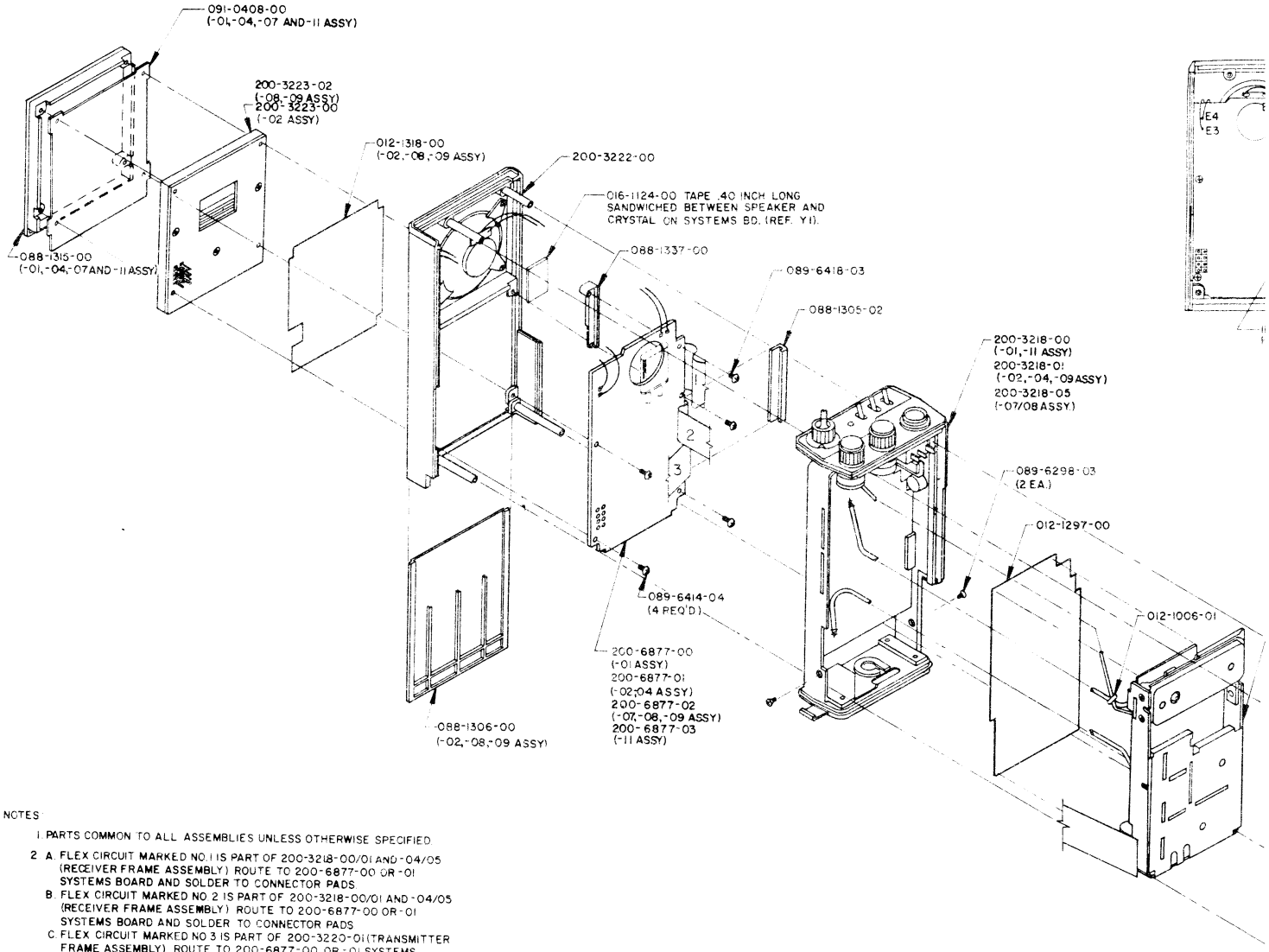
FIGURE 6-3 ASSEMBLY FLOWCHARTS
(Dwg No 696-0775-05 Rev 0)

062-0100-00 REV 5 FINAL ASSY LPH2020
062-0100-01 REV 4 FINAL ASSY LPH5020
062-0100-02 REV 5 FINAL ASSY LPH5141
062-0100-03 REV 7 FINAL ASSY LPH2141
062-0100-04 REV 5 FINAL ASSY LPH5140
062-0100-05 REV 5 FINAL ASSY LGH214A
062-0100-06 REV 6 FINAL ASSY LGH2142A
062-0100-07 REV 6 FINAL ASSY LGH5143A
062-0100-08 REV 5 FINAL ASSY LQH5142A
062-0100-09 REV 1 FINAL ASSY

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00	01	02	03	04	05	06	07	08	09
		012-1318-00	INSULATOR MYLAR		EA	.	.	1.00	1.00	.	.	1.00	.	1.00	1.00
		062-0100-99	COMMON BOM	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		088-1293-00	BACK CVR W/HS BLK		EA	.	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00
		088-1293-04	BACK COVER ASSY	A	EA	1.00	.	.	1.00	.	1.00	1.00	.	.	.
		088-1306-00	DOOR KEYBOARD BLK		EA	.	.	1.00	1.00	.	.	1.00	.	1.00	1.00
		088-1315-00	INSRT FRNT CVR BLK		EA	1.00	1.00	.	.	1.00	1.00	.	1.00	.	.
		091-0408-00	SPACER BD		EA	1.00	1.00	.	.	1.00	1.00	.	1.00	.	.
		200-3218-00	RX FRAME ASSY	A	EA	.	1.00	.	.	.	.	.	.	.	.
		200-3218-01	RX FRAME ASSY	A	EA	.	.	1.00	.	1.00	.	.	.	.	1.00
		200-3218-05	RX FRAME ASSY	A	EA	.	.	.	.	.	.	.	1.00	1.00	.
		200-3218-06	RX FRAME ASSY	A	EA	1.00	.	.	.	.	.	.	.	.	.
		200-3218-07	RX FRAME ASSY	A	EA	.	.	.	1.00	.	.	.	.	.	.
		200-3218-10	RX FRAME ASSY	A	EA	.	.	.	.	.	1.00	1.00	.	.	.
		200-3220-00	2W TX/VCO	A	EA	1.00	.	.	1.00	.	1.00	1.00	.	.	.
		200-3220-01	XMTR SBFRAME	A	EA	.	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00
		200-3223-02	KBD/DSPL ASSY-TONE	A	EA	.	.	1.00	1.00	.	.	1.00	.	1.00	1.00
		200-6877-00	2 CH SYSTEM BD	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
		200-6877-01	14 CH SYSTEM BD	A	EA	.	.	1.00	1.00	1.00	.	.	.	.	.
		200-6877-02	14 CH/TONE SYS BD	A	EA	.	.	.	.	.	1.00	1.00	1.00	1.00	1.00
REF	1	300-3219-00	FINAL ASSY		RF	.	X.	X.	.	X.	.	.	X.	X.	X.
REF	1	300-3219-01	FINAL ASSY		RF	X.	.	.	X.	.	X.	X.	.	.	.
REF	2	002-0675-00	PORT XCVR INTCON		RF	X.	X.	X.	X.	X.	X.	X.	X.	X.	X.
REF	4	004-0483-00	MPS LPH		RF	X.	X.	X.	X.	X.	X.	X.	X.	X.	X.

062-0100-10 REV 2 FINAL ASSY
062-0100-11 REV 1 FINAL ASSY LPH 5023
062-0100-12 REV 1 FINAL ASSY LPH 2023
062-0100-99 REV 13 COMMON BOM LPH0000

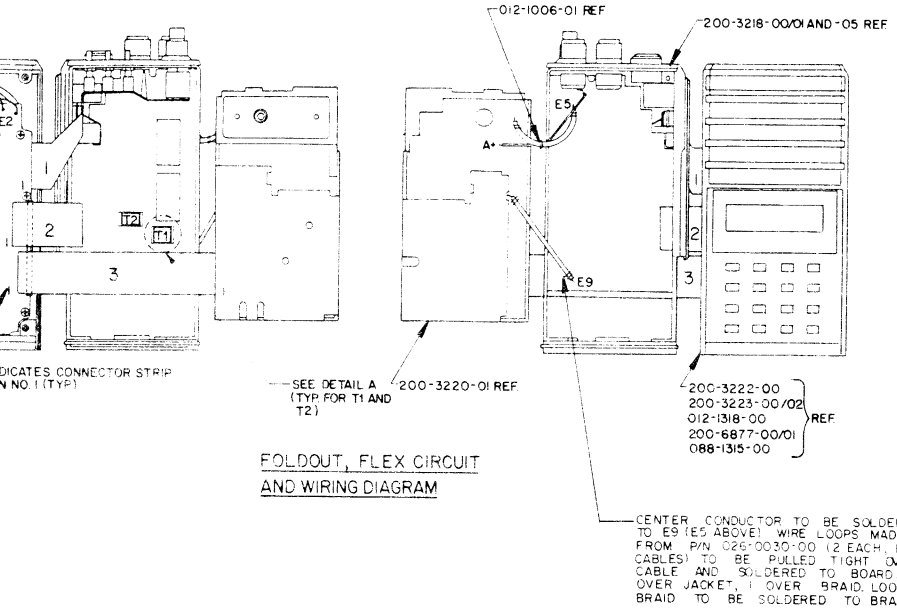
SYMBOL	PART NUMBER	DESCRIPTION	A	UM	10	11	12	99
	006-8401-00	*OPERATORS MANUAL		EA	.	.	.	1.00
	012-1006-01	LACING CORD 20DR		AR	.	.	.	1.00
	012-1297-00	INSULATOR		EA	.	.	.	1.00
	012-1318-00	INSULATOR MYLAR		EA	1.00	.	.	.
	012-1353-00	COPPER TAPE SHLD		EA	.	.	.	2.00
	012-1354-00	INSUL MYLAR		EA	.	.	.	2.00
	016-1008-04	GLYPTAL 7526 BL		AR	.	.	.	1.00
	016-1124-00	FOAM TAPE V1002		IN	.	.	.	0.40
	026-0030-00	WIRE CU24AWG TIN		IN	.	.	.	2.00
	035-1560-00	LPH PKG INSTR		EA	.	.	.	1.00
	062-0100-99	COMMON BOM	A	EA	1.00	1.00	1.00	.
	088-1293-00	BACK CVR W/HS BLK		EA	.	1.00	.	.
	088-1293-04	BACK COVER ASSY	A	EA	1.00	.	1.00	.
	088-1305-02	EXT STRN RLF 1.50		EA	.	.	.	1.00
	088-1306-00	DOOR KEYBOARD BLK		EA	1.00	.	.	.
	088-1315-00	INSRT FRNT CVR BLK		EA	.	1.00	1.00	.
	088-1337-00	STRAIN RELIEF		EA	.	.	.	1.00
	089-6298-03	SCR FHPH 3-48X3/16		EA	.	.	.	2.00
	089-6414-04	SCR PHP 2-28X1/4		EA	.	.	.	4.00
	089-6418-03	SCR PHP 0-40X3/16		EA	.	.	.	1.00
	089-7071-08	PHP M2.5-.45X8 BK		EA	.	.	.	3.00
	089-7071-20	PH[M2.5-.45X20 BK		EA	.	.	.	1.00
	091-0408-00	SPACER BD		EA	.	1.00	1.00	.
	195-0018-00	FCC DCL OPTIONS		EA	.	.	.	1.00
	200-3218-00	RX FRAME ASSY	A	EA	.	1.00	.	.
	200-3218-06	RX FRAME ASSY	A	EA	.	.	1.00	.
	200-3218-07	RX FRAME ASSY	A	EA	1.00	.	.	.
	200-3220-00	2W TX/VCO	A	EA	1.00	.	1.00	.
	200-3220-01	XMTR SBFRAME	A	EA	.	1.00	.	.
	200-3222-00	FRONT COVER ASSY	A	EA	.	.	.	1.00
	200-3223-02	KBD/DSPL ASSY-TONE	A	EA	1.00	.	.	.
	200-6877-02	14 CH/TONE SYS BD	A	EA	1.00	.	.	.
	200-6877-03	2 CHNL/TONE SYS BD	A	EA	.	1.00	1.00	.
REF 1	300-3219-00	FINAL ASSY		RF	.	X.	.	X.
REF 1	300-3219-01	FINAL ASSY		RF	X.	.	X.	.
REF 2	002-0675-00	PORT XCVR INTCON		RF	X.	X.	X.	.
REF 4	004-0483-00	MPS LPH		RF	X.	X.	X.	.



NOTES:

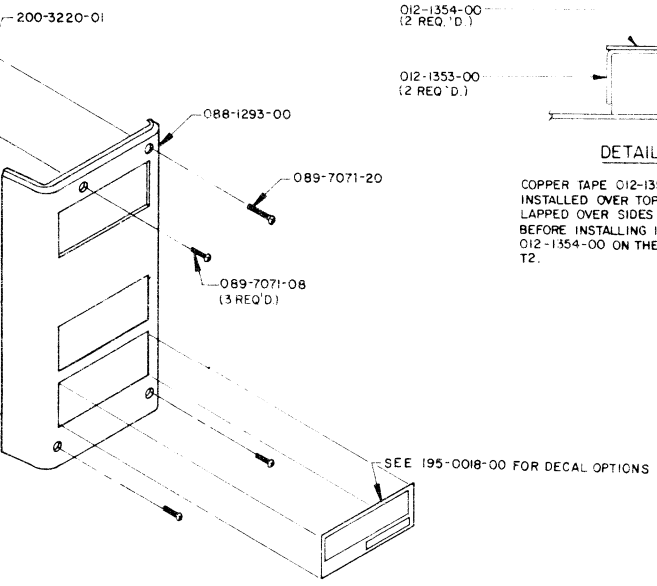
1. PARTS COMMON TO ALL ASSEMBLIES UNLESS OTHERWISE SPECIFIED.
2. A. FLEX CIRCUIT MARKED NO.1 IS PART OF 200-3218-00/01 AND -04/05 (RECEIVER FRAME ASSEMBLY) ROUTE TO 200-6877-00 OR -01 SYSTEMS BOARD AND SOLDER TO CONNECTOR PADS.
   B. FLEX CIRCUIT MARKED NO.2 IS PART OF 200-3218-00/01 AND -04/05 (RECEIVER FRAME ASSEMBLY) ROUTE TO 200-6877-00 OR-01 SYSTEMS BOARD AND SOLDER TO CONNECTOR PADS.
   C. FLEX CIRCUIT MARKED NO.3 IS PART OF 200-3220-01(TRANSMITTER FRAME ASSEMBLY) ROUTE TO 200-6877-00 OR -01 SYSTEMS BOARD AND SOLDER TO CONNECTOR PADS.
3. REFERENCE- OPERATORS MANUAL KPN 006-8401-00.
4. REFERENCE-PORTABLE TRANSCEIVER INTERCONNECTION DIAGRAM KPN 002-0675-00.
5. REFERENCE-LPH PACKING INSTRUCTIONS KPN 035-1560-00.
6. REFERENCE-MINIMUM PERFORMANCE SPECIFICATIONS KPN 004-0483-00.

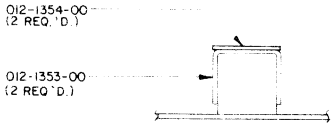
FIGURE 6-4 FINAL ASSEMBLY
(Dwg No 300-3219-00 Rev 6)



FOLDOUT, FLEX CIRCUIT
AND WIRING DIAGRAM

CENTER CONDUCTOR TO BE SOLDERED TO E9 (E5 ABOVE) WIRE LOOPS MADE FROM P/N 026-0030-00 (2 EACH, BOTH CABLES) TO BE PULLED TIGHT OVER CABLE AND SOLDERED TO BOARD, 1 OVER JACKET, 1 OVER BRAID. LOOP OVER BRAID TO BE SOLDERED TO BRAID.





DETAIL-A

COPPER TAPE 012-1353-00 TO BE INSTALLED OVER TOP AND EQUALLY LAPPED OVER SIDES OF T1 AND T2, BEFORE INSTALLING INSULATOR MYLAR 012-1354-00 ON THE TOP OF T1 AND T2.

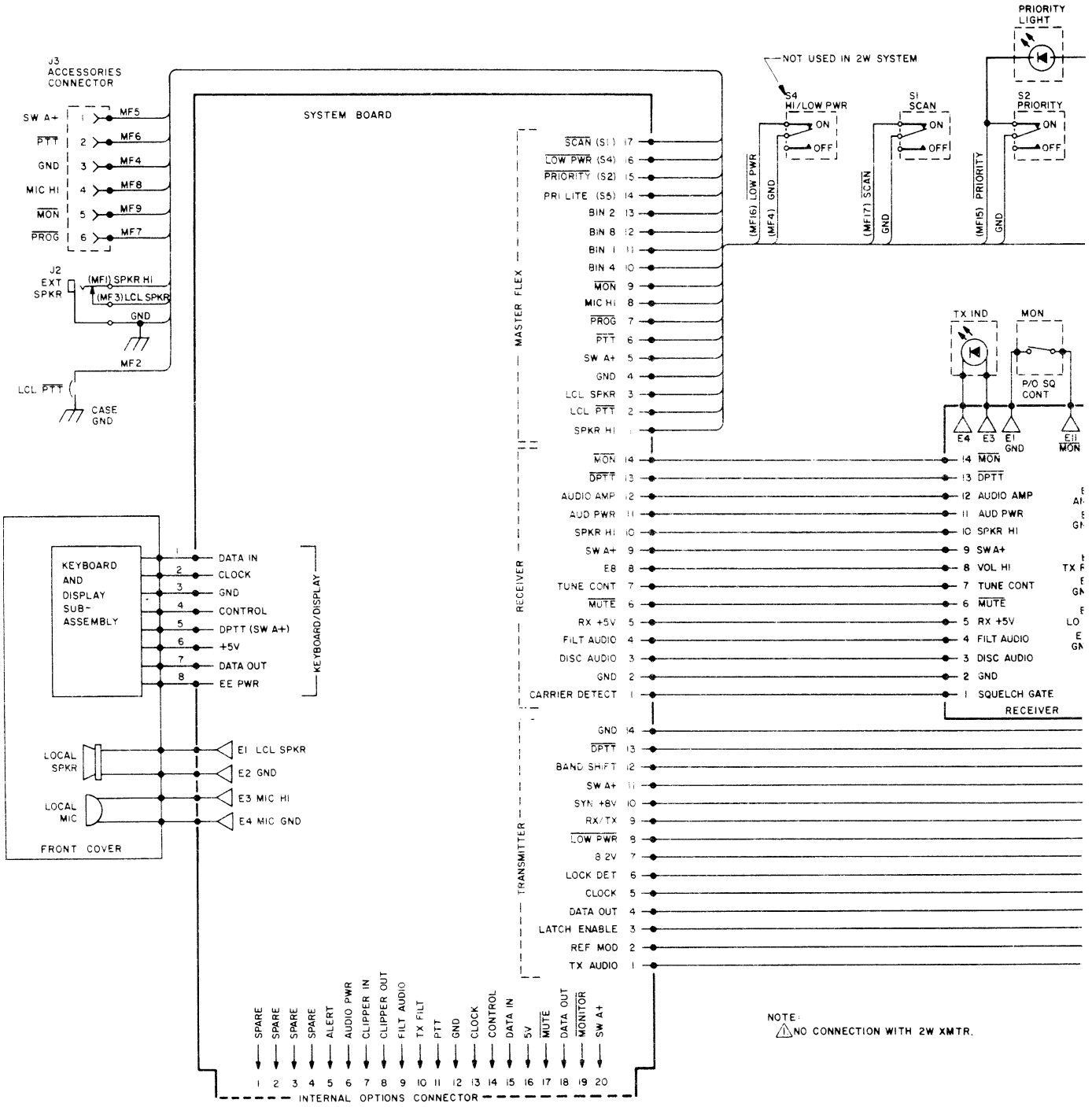
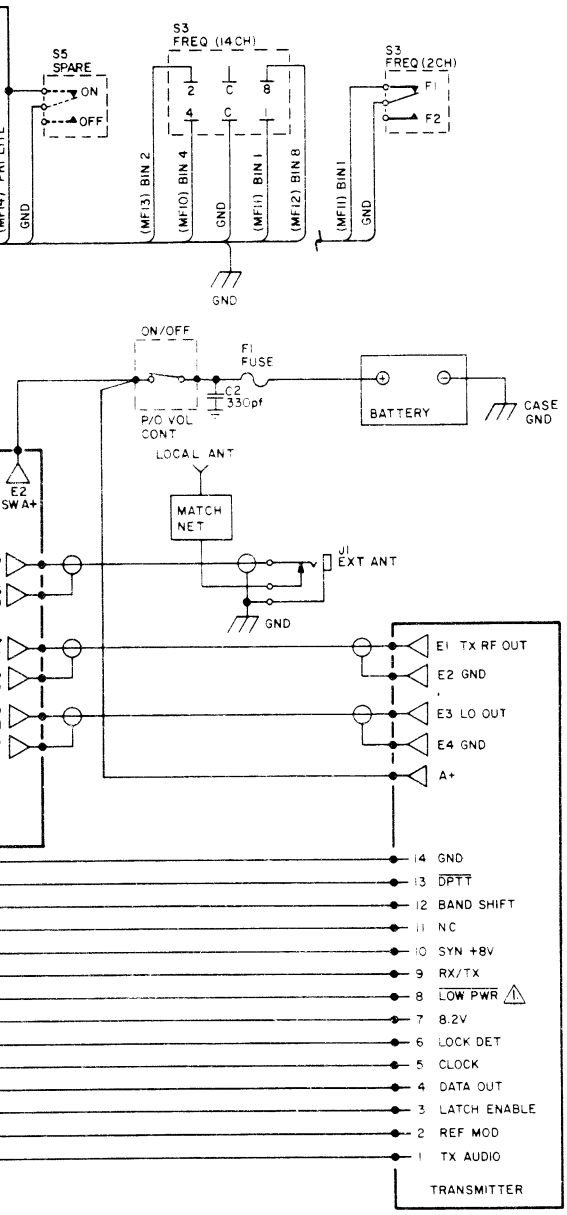


FIGURE 6-5 PORTABLE TRANSCEIVER INTERCONNECT
(Dwg No 002-0675-00 Rev 3)


S5
SPARE
ON
OFF
S3
FREQ (14CH)
2
C
8
4
C
(MF13) BIN 2
(MF10) BIN 4
GND
(MF11) BIN 1
(MF12) BIN 8
S3
FREQ (2CH)
F1
F2
(MF11) BIN 1
GND
GND
ON/OFF
F1
FUSE
C2
330pf
P/O VOL
CONT
BATTERY
CASE
GND
LOCAL ANT
MATCH
NET
J1
EXT ANT
GND
E2
SW A+
E1 TX RF OUT
E2 GND
E3 LO OUT
E4 GND
A+
14 GND
13 DPTT
12 BAND SHIFT
11 N.C
10 SYN +8V
9 RX/TX
8 LOW PWR
7 8.2V
6 LOCK DET
5 CLOCK
4 DATA OUT
3 LATCH ENABLE
2 REF MOD
1 TX AUDIO
TRANSMITTER

200-3218-00 REV 13 RX FRAME ASSY LPH0000
200-3218-01 REV 14 RX FRAME ASSY LPH0000
200-3218-02 REV 12 RX/FRAME ASSY
200-3218-03 REV 14 RX/FRAME ASSY
200-3218-04 REV 8 RX FRAME ASSY LPH 202 LPH 514
200-3218-05 REV 9 RX FRAME ASSY LPH 202 LPH 514
200-3218-06 REV 5 RX FRAME ASSY
200-3218-07 REV 6 RX FRAME ASSY
200-3218-08 REV 5 RX FRAME ASSY
200-3218-09 REV 5 RX FRAME ASSY

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00	01	02	03	04	05	06	07	08	09
		030-0242-00	RCPT BNC CONN		EA	.	.	.	.	1.00	1.00	.	.	.	1.00
		047-6739-01	BNC ANT NUT W/F		EA	.	.	.	.	1.00	1.00	.	.	.	1.00
		047-7465-00	WSHR CHNL SLCT		EA	.	1.00	.	1.00	.	1.00	.	1.00	.	.
		057-3100-00	INLAY LPH514		EA	.	1.00	.	.	.	1.00	.	.	.	.
		057-3100-01	INLAY LPH502		EA	1.00	.	.	.	1.00	.	.	.	.	.
		057-3100-02	INLAY LPH202		EA	.	.	.	.	.	.	1.00	.	.	1.00
		057-3100-03	INLAY LPH214		EA	.	.	.	.	.	.	.	1.00	.	.
		057-3101-00	INLAY JPH514		EA	.	.	.	1.00	.	.	.	.	.	.
		057-3101-01	INLAY JPH502		EA	.	.	1.00	.	.	.	.	.	.	.
		057-3101-02	INLAY JPH202		EA	.	.	.	.	.	.	.	.	1.00	.
		073-0601-03	KNOB ASSY	A	EA	2.00	2.00	.	.	2.00	2.00	2.00	2.00	.	2.00
		073-0602-03	CHNL KNOB ASSY	A	EA	.	2.00	.	.	.	1.00	.	.	.	.
		073-0604-03	KNOB ASSY	A	EA	.	.	2.00	2.00	.	.	.	.	2.00	.
		076-1438-00	ADAPTER ANTENNA		EA	1.00	1.00	1.00	1.00	.	.	1.00	1.00	1.00	.
		076-1439-00	NUT SLOT M5X0.50		EA	1.00	3.00	1.00	3.00	1.00	3.00	.	3.00	.	.
		076-1439-02	NUT SLOW 1/4-40		EA	.	1.00	.	1.00	.	.	.	1.00	.	.
		076-1444-00	NUT ALIGNMENT		EA	1.00	.	1.00	.	1.00	.	1.00	.	1.00	1.00
		076-1449-01	BSHG BNC ANT W/F	A	EA	.	.	.	.	1.00	1.00	.	.	.	1.00
		088-1294-00	PTT HOUSING		EA	1.00	1.00	.	.	1.00	1.00	1.00	1.00	.	1.00
		088-1294-01	PTT HOUSING		EA	.	.	1.00	1.00	.	.	.	.	1.00	.
		088-1301-00	ANTENNA BUSHING		EA	1.00	1.00	1.00	1.00	.	.	1.00	1.00	1.00	.
		088-1304-00	LTCH PLT HSG BLK		EA	1.00	1.00	.	.	1.00	1.00	1.00	1.00	.	1.00
		088-1304-01	LTCH PLT HSG BRN		EA	.	.	1.00	1.00	.	.	.	.	1.00	.
		088-1307-00	TOP PLATE		EA	1.00	1.00	.	.	1.00	1.00	1.00	1.00	.	1.00
		088-1310-00	ANTENNA NUT		EA	1.00	1.00	1.00	1.00	.	.	1.00	1.00	1.00	.
		088-1311-00	LED BUSHING		EA	.	1.00	.	1.00	.	1.00	.	1.00	.	.
		088-1325-00	TOP PLATE		EA	.	.	1.00	1.00	.	.	.	.	1.00	.
		088-1328-08	KNOB INSERT ASSY	A	EA	.	.	.	1.00	.	.	.	.	.	.
		088-2052-01	SWITCH BEZEL W/DCR	A	EA	.	1.00	.	.	.	1.00	.	1.00	.	.
		088-2052-03	SWITCH BESEL W/DCR	A	EA	.	.	.	1.00	.	.	.	.	.	.
		089-6004-05	SCR FHP 2-56X5/16		EA	.	.	1.00	1.00	.	.	.	.	1.00	.
		089-6159-05	SCR FHP 2-56X5/16		EA	1.00	1.00	.	.	1.00	1.00	1.00	1.00	.	1.00
		090-0492-00	STOP PIN		EA	.	2.00	.	2.00	.	2.00	.	2.00	.	.
		150-0002-10	TUBING TFLN 26AWG		IN	0.60	1.20	0.60	1.20	0.60	1.20	0.60	1.20	0.60	0.60
		200-3218-99	COMMON B/M	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
C	1	109-0012-01	CAP DC 4.7PF 100V		EA	1.00	1.00	1.00	1.00	.	.	1.00	1.00	1.00	.
C	1	111-0001-52	CAP CR 3.9PF 100V		EA	.	.	.	.	1.00	1.00	.	.	.	1.00
DS	2	007-6176-02	DIO MV5374C		EA	.	1.00	.	1.00	.	1.00	.	1.00	.	.
L	1	019-2401-03	COIL 6T		EA	.	.	.	.	1.00	1.00	.	.	.	1.00
L	1	019-2401-06	COIL 6T		EA	1.00	1.00	1.00	1.00	.	.	1.00	1.00	1.00	.
REF	1	300-3218-00	RCVR ASSY LPH 2CH		RF	X.	.	X.	.	X.	.	X.	.	X.	X.
REF	1	300-3218-01	RCVR ASSY 14CH		RF	.	X.	.	X.	.	X.	.	X.	.	.
S	1	031-0473-00	SWITCH TOGGLE		EA	.	1.00	.	1.00	.	1.00	.	1.00	.	.
S	2	031-0473-00	SWITCH TOGGLE		EA	.	1.00	.	1.00	.	1.00	.	1.00	.	.
S	3	031-0473-00	SWITCH TOGGLE		EA	1.00	.	1.00	.	1.00	.	1.00	.	1.00	1.00
S	3	031-0474-10	DIP SW MOD	A	EA	.	1.00	.	1.00	.	1.00	.	1.00	.	.
S	4	031-0473-00	SWITCH TOGGLE		EA	1.00	1.00	1.00	1.00	1.00	1.00	.	.	.	.

200-3218-10 REV 6 RX FRAME ASSY
200-3218-99 REV 3 COMMON B/M LPH

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	10	99
	009-6881-00	PCB PTT SWITCH		EA	.	1.00
	009-6883-00	FLEX CKT TOP CONT		EA	.	1.00
	009-6884-00	FLEX CIRCUIT		EA	.	1.00
	010-0019-93	TERM STDF WHT		EA	.	2.00
	012-1021-08	TAPE ELEC 1/2 WD		IN	.	1.00
	012-1037-00	TAPE POLY FILM		IN	.	1.25
	012-1277-01	SNAP DOME ALGNMNT		EA	.	1.00
	012-1317-00	INSULATOR MYLAR		EA	.	1.00
	025-0001-01	WIRE 26 BRN		IN	.	1.00
	025-0001-19	WIRE 26 PNK		IN	.	7.00
	026-0002-00	WIRE COP TIN 24G		IN	.	2.00
	030-0242-00	RCPT BNC CONN		EA	1.00	.
	031-0475-00	SNAP DOME SWITCH		EA	.	2.00
	047-6701-02	RCVR SUBFRAME W/F		EA	.	1.00
	047-6702-00	BTRY LATCH PLATE		EA	.	1.00
	047-6703-00	LATCH SPRING		EA	.	1.00
	047-6739-01	BNC ANT NUT W/F		EA	1.00	.
	047-7465-00	WSHR CHNL SLCT		EA	1.00	.
	057-3100-03	INLAY LPH214		EA	1.00	.
	073-0601-03	KNOB ASSY	A	EA	2.00	.
	073-0602-03	CHNL KNOB ASSY	A	EA	1.00	.
	076-1437-00	BLIND PRESS NUT		EA	.	1.00
	076-1439-00	NUT SLOT M5X0.50		EA	2.00	.
	076-1439-01	NUT SLOT M6X0.70		EA	.	2.00
	076-1446-00	POSITIVE CONTACT		EA	.	1.00
	076-1449-01	BSHG BNC ANT W/F	A	EA	1.00	.
	088-1294-00	PTT HOUSING		EA	1.00	.
	088-1295-00	PTT SWITCH BOOT		EA	.	1.00
	088-1303-00	PTT ACTUATOR		EA	.	1.00
	088-1304-00	LTCH PLT HSG BLK		EA	1.00	.
	088-1305-01	EXT STRN RLF .75		EA	.	1.00
	088-1307-00	TOP PLATE		EA	1.00	.
	088-1311-00	LED BUSHING		EA	1.00	.
	088-1313-00	OPTIONS PLUG COVER		EA	.	1.00
	088-1321-00	OPTIONS PLUG SPCR		EA	.	1.00
	088-2052-01	SWITCH BEZEL W/DCR	A	EA	1.00	.
	089-6004-05	SCR FHP 2-56X5/16		EA	.	4.00
	089-6159-05	SCR FHP 2-56X5/16		EA	1.00	.
	089-6615-05	SCR PHP 2MX5MM		EA	.	2.00
	089-8335-00	WSHR CURVED SPRING		EA	.	1.00
	090-0019-00	RING RTNR .125		EA	.	1.00
	090-0492-00	STOP PIN		EA	2.00	.
	092-5099-00	RIVET .125 L		EA	.	2.00
	150-0002-10	TUBING TFLN 26AWG		IN	1.20	.
	150-0042-10	SHRINK TUBING .187		IN	.	0.25
	155-2219-00	CABLE COAX 1.15		EA	.	1.00
	200-3218-99	COMMON B/M	A	EA	1.00	.
ASY 1	200-6875-00	RECEIVER BOARD	A	EA	.	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	10	99
C	1	111-0001-52	CAP CR 3.9PF 100V		EA	1.00	.
C	2	111-0001-15	CAP CR 330PF 50V		EA	.	1.00
DS	1	007-6176-03	DIO MV5774C		EA	.	1.00
DS	2	007-6176-02	DIO MV5374C		EA	1.00	.
F	1	036-0057-09	FUSE 275 125V 4A		EA	.	1.00
J	1	033-0128-00	JACK 3.5MM		EA	.	1.00
J	2	033-0127-00	JACK 2.5MM		EA	.	1.00
J	3	030-2529-00	CONN RECEPTACLE		EA	.	1.00
L	1	019-2401-03	COIL 6T		EA	1.00	.
REF	1	300-3218-01	RCVR ASSY 14CH		RF	X.	.
S	1	031-0473-00	SWITCH TOGGLE		EA	1.00	.
S	2	031-0473-00	SWITCH TOGGLE		EA	1.00	.
S	3	031-0474-10	DIP SW MOD	A	EA	1.00	

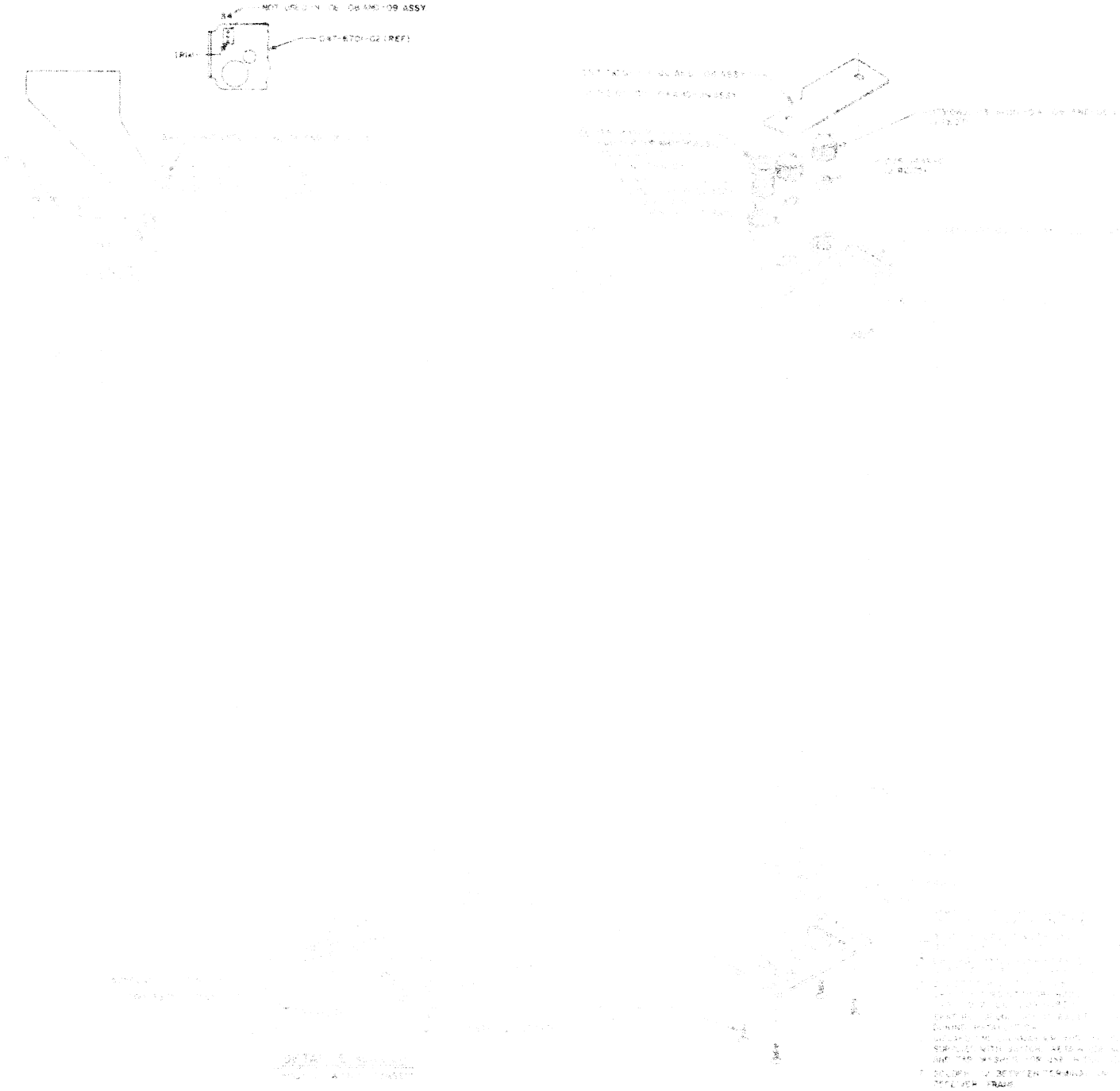
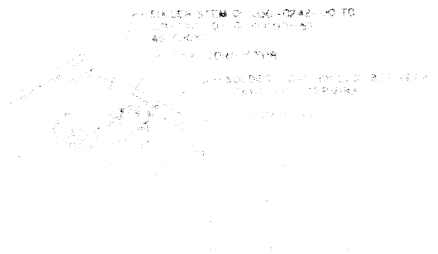


FIGURE 6-6 RECEIVER FRAME ASSEMBLY, LPH 2 CHANNEL
(Dwg No 300-3218-00/02/04 Rev 7)



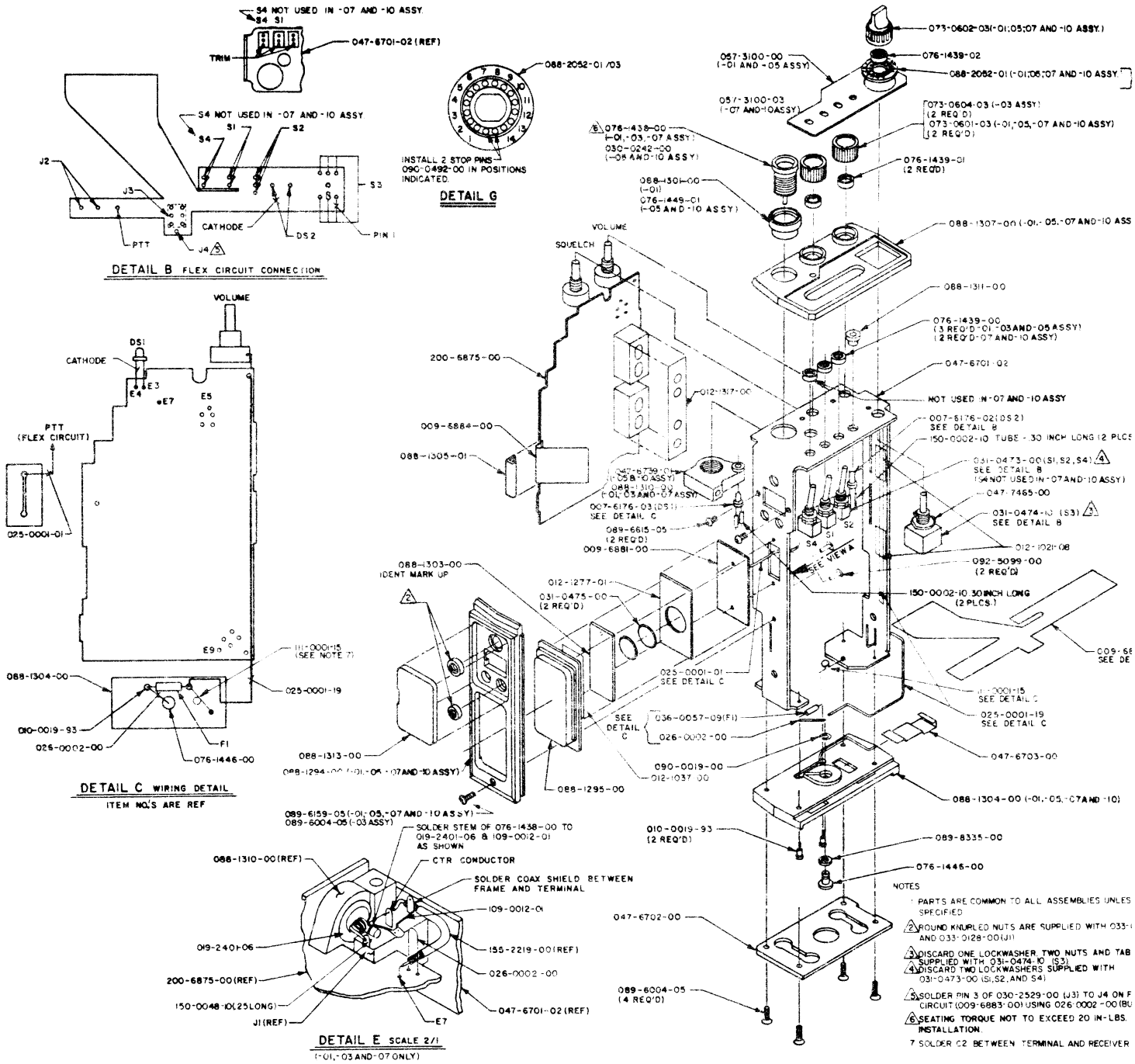
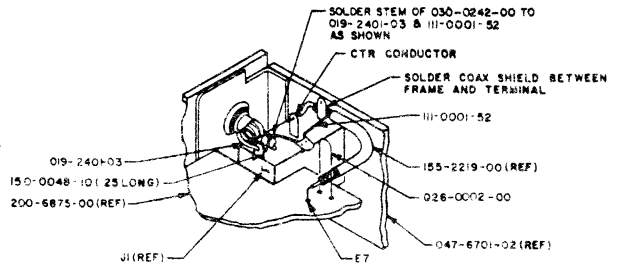


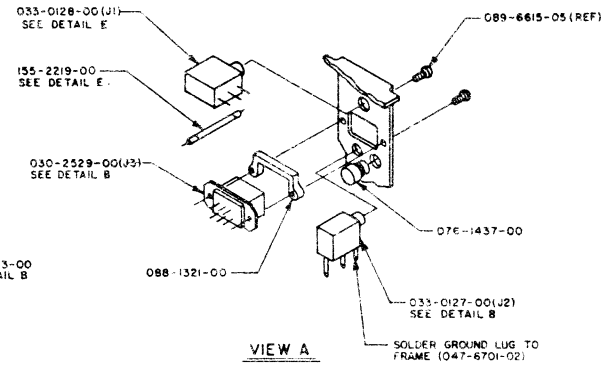
FIGURE 6-7 RECEIVER FRAME ASSEMBLY, LPH 14 CHANNEL
(Dwg No 300-3218-01/03/05 Rev 8)

EE DETAIL G
OR STOP PIN DETAILS.



DETAIL F SCALE 2/1

(-05 AND -10 ASSY ONLY)



VIEW A

OTHERWISE

27-00(J2)

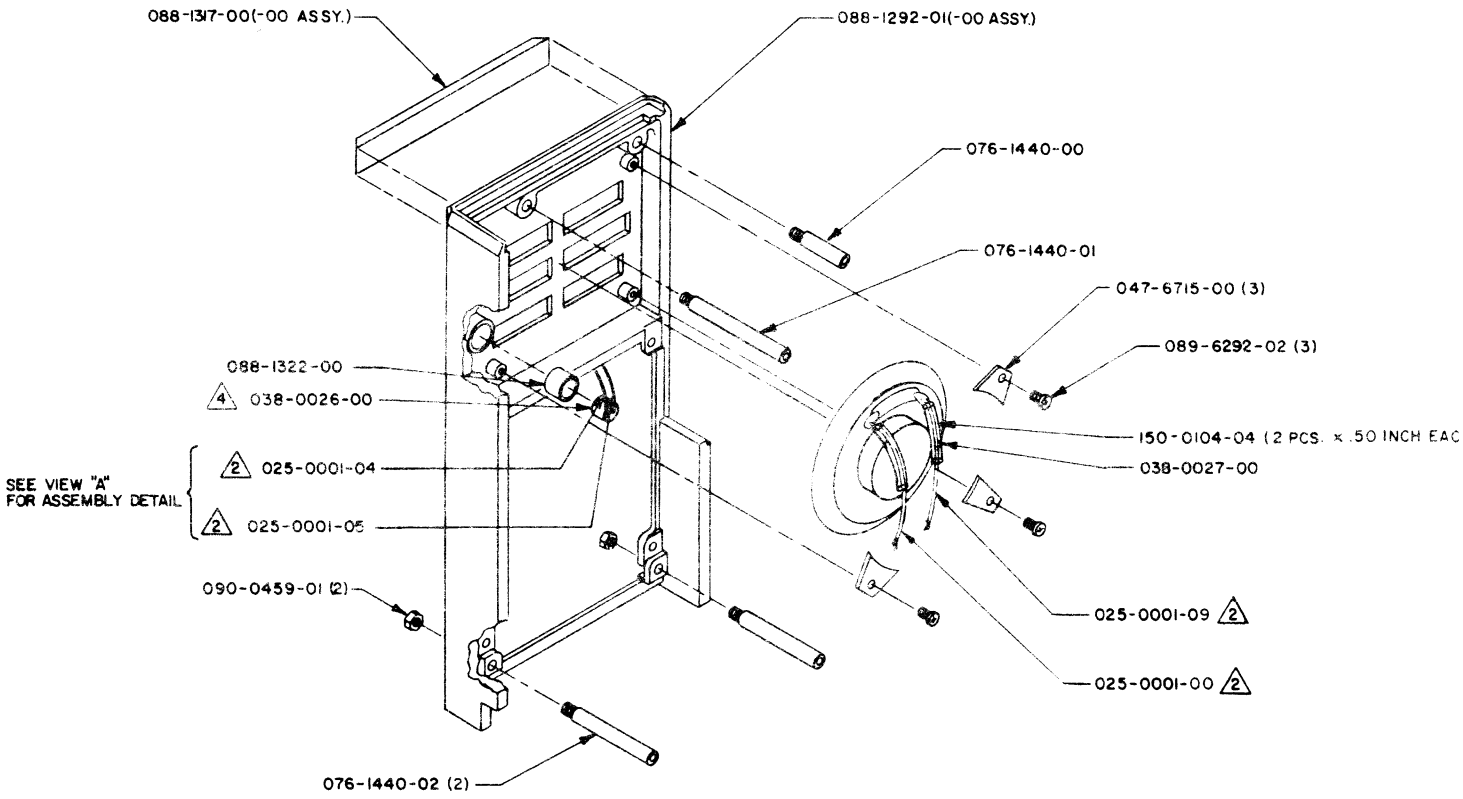
ASHER

EX
WIRE)
URING

RAME

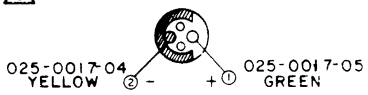
200-3222-00 REV 7 FRONT COVER ASSY LPH0000

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
		016-1112-00	HOT MELT 1943		AR	1.00
		025-0001-00	WIRE 26 BLK		IN	2.50
		025-0001-09	WIRE 26 WHT		IN	2.50
		025-0017-04	WIRE INSUL YL		IN	2.50
		025-0017-05	WIRE 30 GRN		IN	2.50
		047-6715-00	SPEAKER CLIP		EA	3.00
		076-1440-00	STANDOFF .550		EA	1.00
		076-1440-01	STANDOFF 1.125		EA	1.00
		076-1440-02	STANDOFF 1.105		EA	2.00
		088-1292-01	FRT PLASTIC COVER		EA	1.00
		088-1317-00	NAMEPLATE INLAY		EA	1.00
		088-1322-00	BUSHING MICROPHONE		EA	1.00
		089-6292-02	SCR PHP 2-56X1/8		EA	3.00
		090-0459-01	NUT HEX M2.5X0.45		EA	2.00
		150-0042-10	SHRINK TUBING .187		IN	1.00
LS	1	038-0027-00	SPEAKER 45MM		EA	1.00
MK	1	038-0026-00	MIC CARTRIDGE		EA	1.00
REF	1	300-3222-00	FRONT COVER ASSY		RF	X.



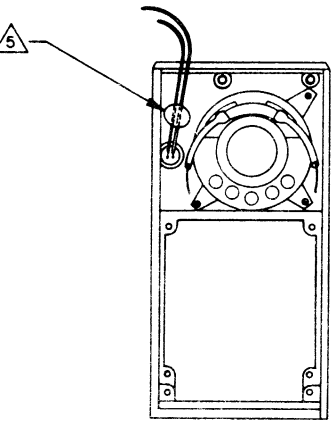
NOTES:

2. WIRES ON MICROPHONE AND SPEAKER TO BE 2.5" LONG MIN.
3. PARTS ARE COMMON TO ALL ASSEMBLIES UNLESS OTHERWISE SPECIFIED.
4. WIRING DIAGRAM FOR MICROPHONE 038-0026-00



5. USE HOT MELT ADHESIVE 016-1112-00 AS REQUIRED TO SECURE MICROPHONE WIRES TO COVER.

FIGURE 6-8 FRONT COVER ASSEMBLY
(Dwg No 300-3222-00 Rev 5)



VIEW "A"

200-3223-00 REV 5 KBD/DSPLY ASSY LPH0000
200-3223-01 REV 7 KYDB/DISPLAY ASSY
200-3223-02 REV 1 KBD/DSPL ASSY-TONE
200-3223-99 REV 2 KYDB/DSPLY ASSY LPH0000

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00	01	02	99
		030-2530-00	ZEBRA CONNECTOR		EA	.	.	.	1.00
		031-0472-02	KEYPAD	A	EA	.	.	.	1.00
		043-0011-00	LAND MOBILE LCD		EA	.	.	.	1.00
		057-2846-00	OVERLAY KYBD BLK		EA	1.00	.	1.00	.
		057-2846-01	OVERLAY KYBD BRN		EA	.	1.00	.	.
		088-1299-00	DISPLAY LENS		EA	.	.	.	1.00
		088-1308-00	INSR KYBD/DSPL BLK		EA	1.00	.	1.00	.
		088-1308-01	INSR KYBD/DSPL BRN		EA	.	1.00	.	.
		088-1327-00	DISPLAY SPACER		EA	.	.	.	1.00
		089-6297-03	SCR FHPH 2-56X3/16		EA	.	.	.	3.00
		200-3223-99	KYDB/DSPLY ASSY	A	EA	1.00	1.00	1.00	.
		200-6878-01	KYBD/DSPL BD TONE	A	EA	.	.	1.00	.
ASY	1	200-6878-00	KYBD/DSPLY BD	A	EA	1.00	.	.	.
ASY	1	200-6878-01	KYBD/DSPL BD TONE	A	EA	.	1.00	.	.
REF	1	300-3223-00	KBD/DSPLY ASSY		RF	X.	.	.	.
REF	1	300-3223-01	*KYBD/DSPL ASSY		RF	.	X.	.	.
REF	1	300-3223-02	*KYBD/DSPL ASSY		EA	.	.	1.00	.

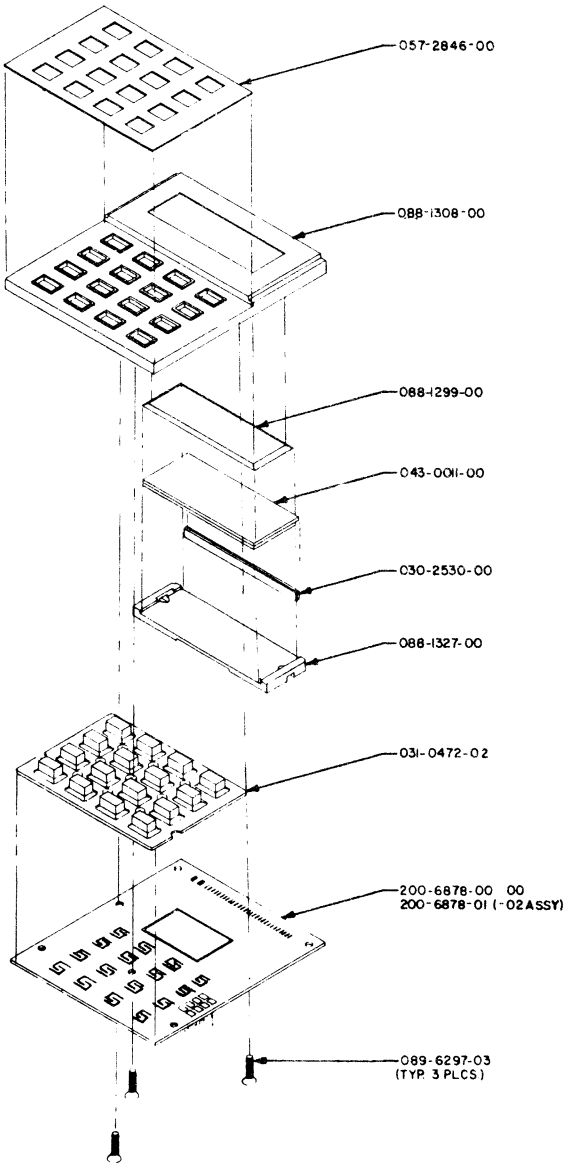


FIGURE 6-9 KEYBOARD/DISPLAY ASSEMBLY
(Dwg No 300-3223-00 Rev 3)

200-6875-00 REV 14 RECEIVER BOARD LPH0000

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
		009-6875-00	PC BD RECEIVER		EA	1.00
		012-1316-00	INSULATOR MYLAR		EA	1.00
		016-1124-00	FOAM TAPE V1002		AR	1.00
		025-0001-19	WIRE 26 PNK		IN	4.00
		026-0002-00	WIRE COP TIN 24G		IN	2.00
		047-6735-00	CAN DUAL-COIL		EA	2.00
		047-6737-01	SHLD DSCRMNTR W/F		EA	1.00
C	1	106-0072-63	*CAP CH 18PF 50V 2%		EA	1.00
C	2	106-0072-64	*CAP CH 33PF 50V 2%		EA	1.00
C	3	106-0072-64	*CAP CH 33PF 50V 2%		EA	1.00
C	4	106-0072-62	*CAP CH 12PF 50V 2%		EA	1.00
C	6	106-0072-63	*CAP CH 18PF 50V 2%		EA	1.00
C	7	106-0072-64	*CAP CH 33PF 50V 2%		EA	1.00
C	8	106-0072-62	*CAP CH 12PF 50V 2%		EA	1.00
C	9	106-4103-47	CAP CH 10K X7R/50V		EA	1.00
C	12	106-0072-32	CAP CH 47PFNPO/50V		EA	1.00
C	14	106-0072-11	CAP CH8.2PFNPO/50V		EA	1.00
C	15	106-0072-11	CAP CH8.2PFNPO/50V		EA	1.00
C	16	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	17	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	18	096-1113-19	CAP CH10.0UF10%15V		EA	1.00
C	19	106-4121-16	CAP CH120PFNPO/50V		EA	1.00
C	20	106-0072-42	CAP CH 33PFNPO/50V		EA	1.00
C	21	106-4473-48	CAP CH 47K X7R/50V		EA	1.00
C	22	106-4473-48	CAP CH 47K X7R/50V		EA	1.00
C	23	106-4121-16	CAP CH120PFNPO/50V		EA	1.00
C	24	097-0109-06	CAP EL 100UF 16V		EA	1.00
C	25	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	26	106-4103-47	CAP CH 10K X7R/50V		EA	1.00
C	27	106-4103-47	CAP CH 10K X7R/50V		EA	1.00
C	28	106-4121-16	CAP CH120PFNPO/50V		EA	1.00
C	29	106-4682-46	CAP CH 6.8K 50V 5%		EA	1.00
C	30	106-4682-46	CAP CH 6.8K 50V 5%		EA	1.00
C	31	106-4682-46	CAP CH 6.8K 50V 5%		EA	1.00
C	32	106-4103-46	CAP CH 10K X7R/50V		EA	1.00
C	33	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	34	106-4103-47	CAP CH 10K X7R/50V		EA	1.00
C	35	113-3220-00	CAP DC 22PF 500V		EA	1.00
C	36	106-4103-46	CAP CH 10K X7R/50V		EA	1.00
C	37	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	39	113-3220-00	CAP DC 22PF 500V		EA	1.00
C	42	106-4102-46	CAP CH 1K 50V 5%		EA	1.00
C	44	106-0072-01	CAP CH1.8PFNPO/50V		EA	1.00
C	45	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	46	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	47	113-3220-00	CAP DC 22PF 500V		EA	1.00
C	48	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	49	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	51	113-3220-00	CAP DC 22PF 500V		EA	1.00
C	53	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	55	096-1113-71	CAP CH.47UF20%20V		EA	1.00
C	56	106-4682-46	CAP CH 6.8K 50V 5%		EA	1.00
C	57	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	58	096-1113-71	CAP CH.47UF20%20V		EA	1.00
C	59	106-4222-46	CAP CH 2.2K 50V 5%		EA	1.00
C	60	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	61	097-0109-00	CAP EL 2.2UF 50V		EA	1.00
C	62	106-4473-48	CAP CH 47K X7R/50V		EA	1.00
C	63	097-0109-07	CAP EL 100UF 25V		EA	1.00
C	66	106-4102-46	CAP CH 1K 50V 5%		EA	1.00
C	67	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	70	106-4223-46	CAP CH 22K X7R/50V		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
C	71	106-4223-46	CAP CH 22K X7R/50V		EA	1.00
C	72	106-4223-46	CAP CH 22K X7R/50V		EA	1.00
C	73	106-4563-46	CAP CH 56K X7R/50V		EA	1.00
C	74	106-4333-46	CAP CH 33K X7R/50V		EA	1.00
C	75	106-4393-46	CAP CH 39K X7R/50V		EA	1.00
C	76	106-4822-46	CAPCH.0082MX7R/50		EA	1.00
C	77	106-4273-46	CAP CH 27K X7R/50V		EA	1.00
C	79	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	81	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	82	106-4102-46	CAP CH 1K 50V 5%		EA	1.00
C	83	097-0109-07	CAP EL 100UF 25V		EA	1.00
C	84	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	88	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	89	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	90	106-4100-16	CAP CH 10PF NPO/50		EA	1.00
C	92	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	93	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	94	106-4101-16	CAP CH100PFNPO/50V		EA	1.00
C	95	106-4561-46	CAP CH 560 50V 5%		EA	1.00
C	96	106-4561-46	CAP CH 560 50V 5%		EA	1.00
C	97	106-4561-46	CAP CH 560 50V 5%		EA	1.00
C	98	106-4101-16	CAP CH100PFNPO/50V		EA	1.00
C	99	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	100	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	101	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	102	106-4473-47	CAP CH 47K X7R/50V		EA	1.00
C	103	106-4561-46	CAP CH 560 50V 5%		EA	1.00
CR	1	007-6191-00	DIO PIN		EA	1.00
CR	2	007-6191-00	DIO PIN		EA	1.00
CR	3	007-6184-00	DIO DUAL SWITCHING		EA	1.00
CR	4	007-4058-00	DIO VARI MV209M4		EA	1.00
CR	8	007-6177-00	SMD DIO SI MMBD914		EA	1.00
CR	10	007-6188-00	DIO HOT CARRIER		EA	1.00
CR	11	007-6188-00	DIO HOT CARRIER		EA	1.00
CR	12	007-6188-00	DIO HOT CARRIER		EA	1.00
CR	13	007-6188-00	DIO HOT CARRIER		EA	1.00
CR	14	007-6188-00	DIO HOT CARRIER		EA	1.00
CR	15	007-6180-00	DIO SW MMBD6050		EA	1.00
FL	1	017-0106-00	FLTR CR 455KHZ		EA	1.00
FL	2	017-0131-00	CERAMIC DSCRMNTR		EA	1.00
FL	4	017-0096-00	XTAL FLTR 16.9MHZ		EA	1.00
I	1	120-3193-00	IC FM/IF MC3357D		EA	1.00
I	2	120-3196-00	IC LM2902D		EA	1.00
I	3	120-3129-02	IC LM386N-3		EA	1.00
L	1	019-2401-06	COIL 6T		EA	1.00
L	2	019-2401-14	*COIL 2TX.08		EA	1.00
L	3	019-2084-21	CH 1UH 10%		EA	1.00
L	4	019-2401-01	COIL 6T		EA	1.00
L	5	019-2401-01	COIL 6T		EA	1.00
L	6	019-2401-02	COIL 6T		EA	1.00
L	7	019-3157-02	COIL MOD IND		EA	1.00
L	8	019-3157-03	COIL MOD IND		EA	1.00
L	9	019-3157-03	COIL MOD IND		EA	1.00
L	10	019-3157-01	COIL MOD IND		EA	1.00
L	12	019-2401-15	*COIL 3TX.08		EA	1.00
Q	2	007-0529-00	XSTR NPN MMBTH24		EA	1.00
Q	4	007-0530-00	XSTR NPN MMBT3903		EA	1.00
Q	5	007-0537-00	XSTR PNP MMBT5087		EA	1.00
Q	7	007-0530-00	XSTR NPN MMBT3903		EA	1.00
Q	8	007-0530-00	XSTR NPN MMBT3903		EA	1.00
Q	9	007-0539-00	XSTR MMBTH10		EA	1.00
Q	10	007-0536-00	XSTR MMBR920		EA	1.00
Q	11	007-0535-00	XSTR JFET MMBF4393		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
Q	12	007-0537-00	XSTR PNP MMBT5087		EA	1.00
Q	13	007-0530-00	XSTR NPN MMBT3903		EA	1.00
Q	14	007-0542-00	XSTR PNP MMBTA64		EA	1.00
Q	15	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00
Q	16	007-0187-02	XSTR SOT-23 2N5089		EA	1.00
Q	17	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00
Q	18	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00
Q	19	007-0537-00	XSTR PNP MMBT5087		EA	1.00
R	3	130-5274-23	RES CHIP 270KEW5%		EA	1.00
R	4	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00
R	5	130-5360-23	RES CHIP 36.0EW5%		EA	1.00
R	6	130-5202-23	RES CHIP 2K5%EW		EA	1.00
R	7	130-5202-23	RES CHIP 2K5%EW		EA	1.00
R	8	130-5473-23	RES CHIP 47KEW5%		EA	1.00
R	9	130-5152-23	RES CHIP 1.5KEW5%		EA	1.00
R	10	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	11	130-5203-23	RES CHIP 20K EW 5%		EA	1.00
R	13	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	14	130-5563-23	RES CHIP 56K5%EW		EA	1.00
R	15	130-5563-23	RES CHIP 56K5%EW		EA	1.00
R	16	130-5623-23	RES CHIP 62KEW5%		EA	1.00
R	17	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	18	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	19	133-0271-13	RES VAS 15K 100V		EA	1.00
R	20	130-5473-23	RES CHIP 47KEW5%		EA	1.00
R	22	133-0270-00	RES VA 20K.08W20%		EA	1.00
R	23	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	24	130-5391-23	RES CHIP 390EW5%		EA	1.00
R	25	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	26	130-5431-23	RES CHIP 430EW5%		EA	1.00
R	27	130-5202-23	RES CHIP 2K5%EW		EA	1.00
R	28	130-5223-22	RES CHIP 22K EW 2%		EA	1.00
R	29	130-5273-23	RES CHIP 27K EW 5%		EA	1.00
R	30	130-5433-22	RES CHIP 43K EW 2%		EA	1.00
R	31	130-5204-23	RES CHIP 200KEW5%		EA	1.00
R	32	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	33	130-5124-23	RES CHIP 120KEW5%		EA	1.00
R	34	130-5124-23	RES CHIP 120KEW5%		EA	1.00
R	35	130-5471-23	RES CHIP 470EW5%		EA	1.00
R	39	130-5203-23	RES CHIP 20K EW 5%		EA	1.00
R	41	130-5471-23	RES CHIP 470EW5%		EA	1.00
R	42	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	44	130-5124-23	RES CHIP 120KEW5%		EA	1.00
R	45	130-5124-23	RES CHIP 120KEW5%		EA	1.00
R	47	130-5101-23	RES CH 100 EW 5%		EA	1.00
R	48	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	49	130-5474-23	RES CHIP 470KEW5%		EA	1.00
R	50	130-5223-23	RES CHIP 22K EW 5%		EA	1.00
R	51	130-5273-23	RES CHIP 27K EW 5%		EA	1.00
R	52	130-5124-23	RES CHIP 120KEW5%		EA	1.00
R	53	130-5153-23	RES CHIP 15K EW 5%		EA	1.00
R	54	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	55	130-5273-23	RES CHIP 27K EW 5%		EA	1.00
R	56	130-5122-23	RES CHIP 1.2KEW5%		EA	1.00
R	57	130-5100-23	RES CH 10 EW 5%		EA	1.00
R	58	133-0270-01	RES VA 10K.08W20%		EA	1.00
R	60	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	61	130-5153-23	RES CHIP 15K EW 5%		EA	1.00
R	62	130-5564-23	RES CHIP 560KEW5%		EA	1.00
R	63	130-5564-23	RES CHIP 560KEW5%		EA	1.00
R	64	130-5362-23	RES CHIP 3.6K5%EW		EA	1.00
R	65	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	66	130-5622-23	RES CHIP 6.2KEW5%		EA	1.00
R	67	130-5203-23	RES CHIP 20K EW 5%		EA	1.00
R	68	130-5433-23	RES CHIP 43KEW5%		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
R	69	130-5623-23	RES CHIP 62KEW5%		EA	1.00
R	70	130-5823-23	RES CHIP 82KEW5%		EA	1.00
R	71	130-5562-23	RES CHIP 5.6KEW5%		EA	1.00
R	72	130-5133-22	RES CHIP 13K EW 2%		EA	1.00
R	73	130-5123-22	RES CHIP 12K EW 2%		EA	1.00
R	74	130-5133-23	RES CHIP 13KEW5%		EA	1.00
R	75	130-5334-23	RES CHIP 330KEW5%		EA	1.00
R	76	130-5471-23	RES CHIP 470EW5%		EA	1.00
R	77	130-5334-23	RES CHIP 330KEW5%		EA	1.00
R	78	130-5334-23	RES CHIP 330KEW5%		EA	1.00
R	79	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	80	130-5153-23	RES CHIP 15K EW 5%		EA	1.00
R	81	130-5393-23	RES CHIP 39K EW 5%		EA	1.00
R	82	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	83	130-5203-23	RES CHIP 20K EW 5%		EA	1.00
R	84	130-5203-23	RES CHIP 20K EW 5%		EA	1.00
R	86	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	87	130-5203-23	RES CHIP 20K EW 5%		EA	1.00
R	88	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	89	130-5474-23	RES CHIP 470KEW5%		EA	1.00
R	90	131-0033-13	RES CF 3.3 EW 5%		EA	1.00
R	91	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	92	130-5682-23	RES CHIP 6.8KEW5%		EA	1.00
R	93	130-5822-23	RES CHIP 8.2KEW5%		EA	1.00
R	94	130-5362-23	RES CHIP 3.6K5%EW		EA	1.00
R	95	130-5753-23	RES CHIP 75KEW 5%		EA	1.00
R	96	130-5101-23	RES CH 100 EW 5%		EA	1.00
R	97	130-5154-23	RES CHIP 150K5%EW		EA	1.00
R	98	130-5471-23	RES CHIP 470EW5%		EA	1.00
R	99	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	100	130-5433-23	RES CHIP 43KEW5%		EA	1.00
R	101	133-0141-11	RES VA 100K 20%		EA	1.00
R	102	130-5244-23	RES CHIP 240K5%EW		EA	1.00
REF	1	300-6875-00	RECEIVER BD ASSY		RF	X.
T	1	019-8134-00	XFMR IF T		EA	1.00
T	2	019-8133-00	XFMR IF		EA	1.00
T	3	019-8135-00	XFMR MIXER		EA	1.00
Y	1	044-0152-00	XTAL 17.355MHZ		EA	1.00

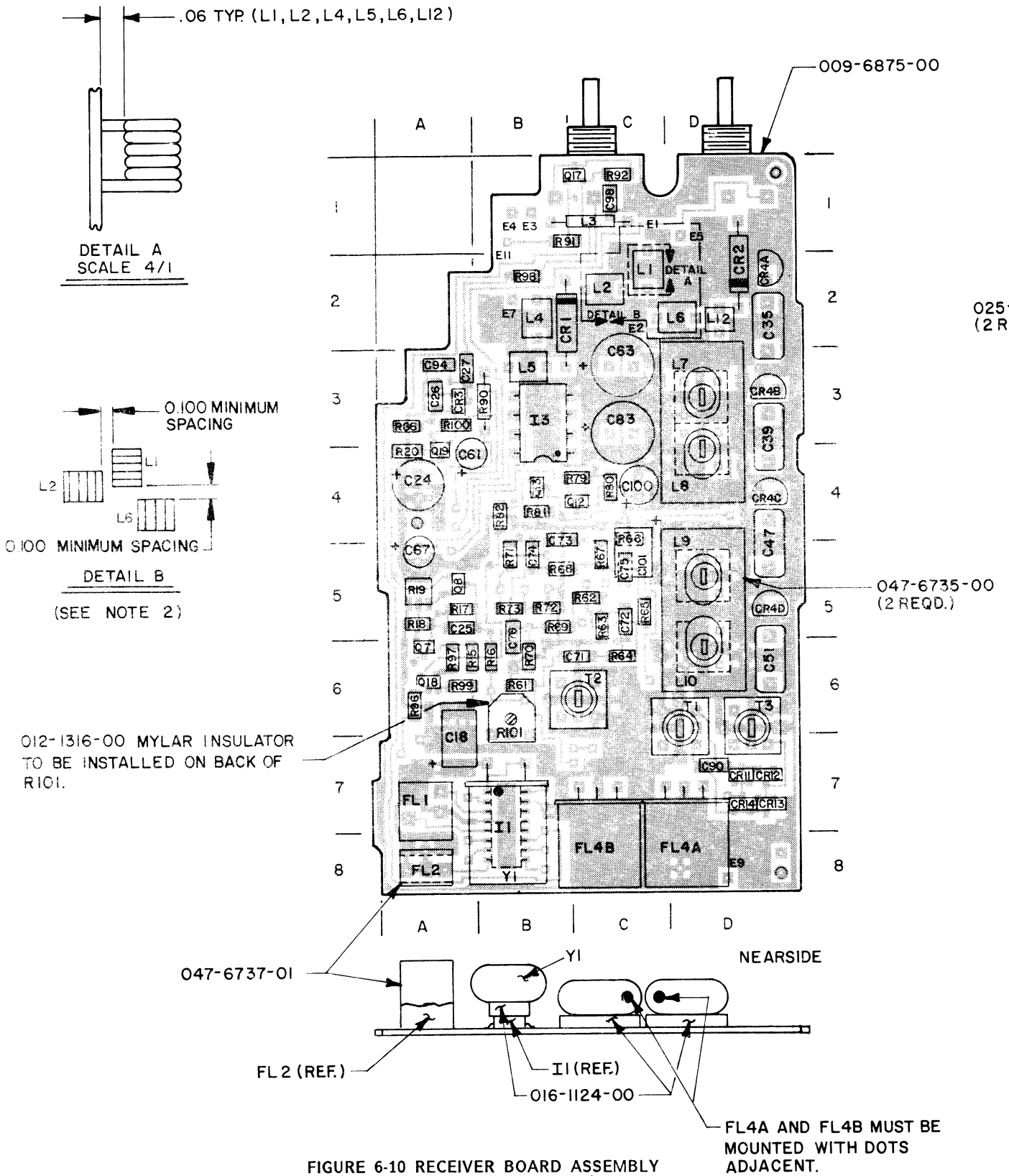
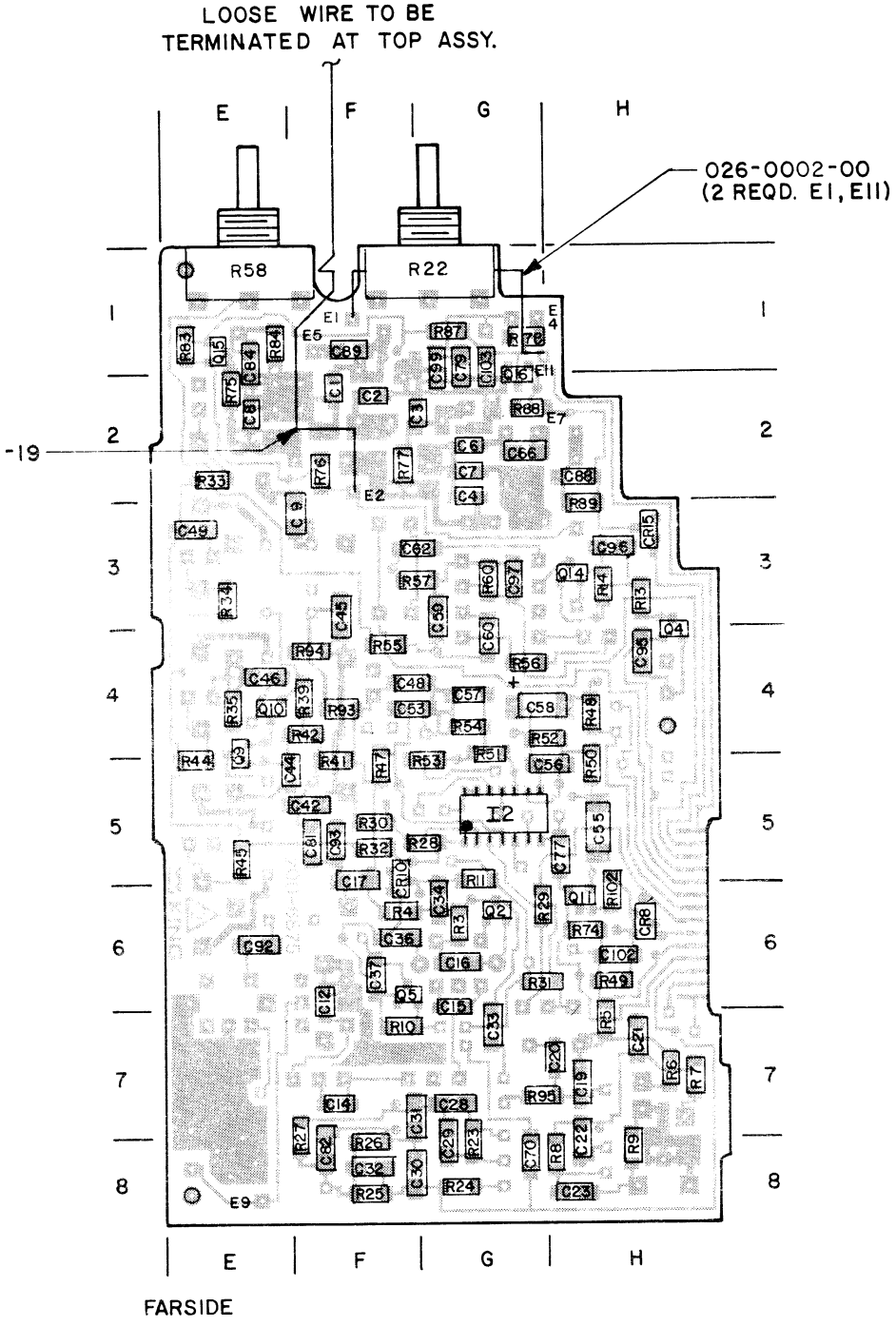


FIGURE 6-10 RECEIVER BOARD ASSEMBLY
(Dwg No 300-6875-00 Rev 6)



NOTES: UNLESS OTHERWISE SPECIFIED ;

1. DUE TO HEIGHT RESTRICTIONS ALL LEADED DEVICES MUST BE MOUNTED AS CLOSE TO BOARD SURFACE AS POSSIBLE CR4A,B,C&D CONSTITUTE A MATCHED SET AND MUST BE MOUNTED IN THIS MANNER FOR ELECTRICAL REASONS AS WELL.
2. COILS MUST BE AXIALLY ALIGNED WITH PADS. IN ADDITION L1 MUST BE PERPENDICULAR TO L2.

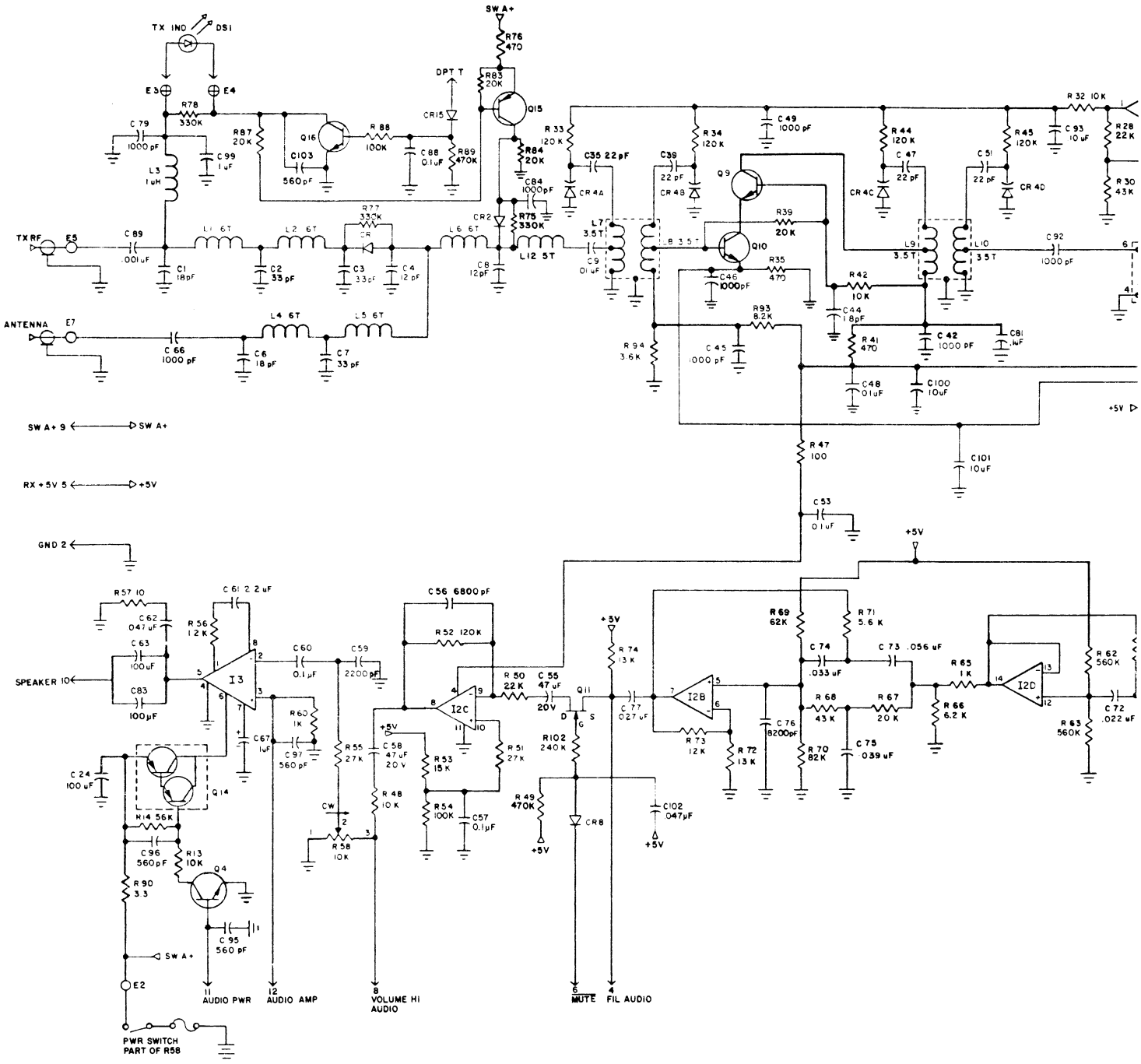
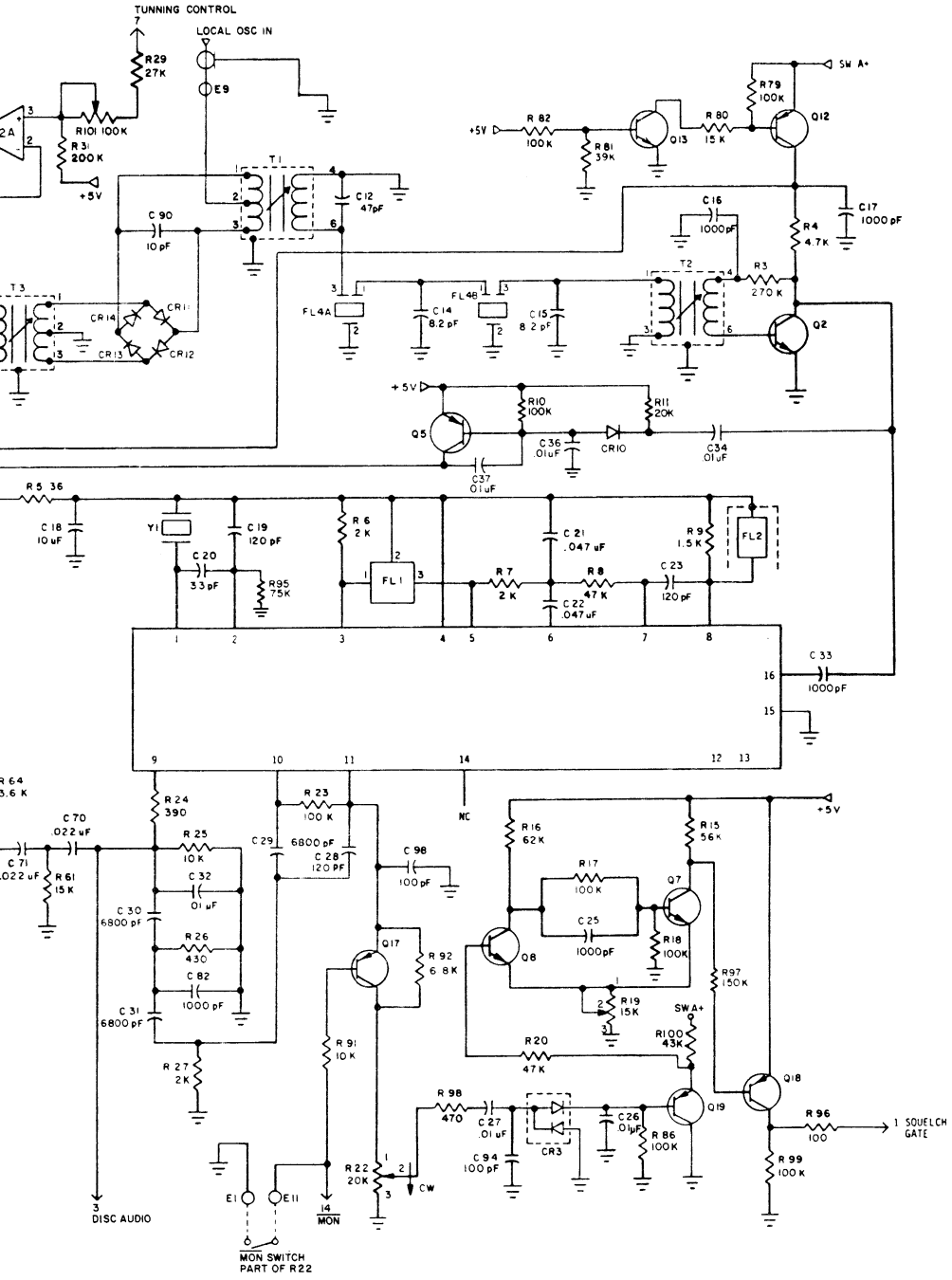


FIGURE 6-11 RECEIVER BOARD SCHEMATIC
(Dwg No 002-6875-00 Rev 4)


TUNNING CONTROL
LOCAL OSC IN
SW A+
R29 27K
R101 100K
R31 200K
+5V
E9
T1
C12 47pF
C90 10pF
R82 100K
R81 39K
Q13
R80 15K
R79 100K
Q12
C16 1000pF
C17 1000pF
R4 4.7K
T2
R3 270K
Q2
T3
CR14
CR11
CR13
CR12
FL4A
FL4B
C14 8.2pF
C15 8.2pF
R10 100K
R11 20K
Q5
C36 .01uF
CR10
C34 .01uF
C37 .01uF
R5 36
C18 10uF
Y1
C19 120pF
C20 33pF
R95 75K
R6 2K
FL1
R7 2K
C21 .047uF
R8 47K
C22 .047uF
C23 120pF
R9 1.5K
FL2
C33 1000pF
R64 3.6K
C70 .022uF
C71 .022uF
R61 15K
R24 390
R25 10K
C32 .01uF
C30 6800pF
R26 430
C82 1000pF
C31 6800pF
R27 2K
R23 100K
C29 6800pF
C28 120pF
C98 100pF
NC
R16 62K
R17 100K
C25 1000pF
Q8
Q7
R18 100K
R15 56K
+5V
R97 150K
R19 15K
SW A+
R100 43K
R20 47K
Q17
R92 6.8K
R91 10K
R98 470
C27 .01uF
CR3
C26 .01µF
R86 100K
Q18
Q19
R96 100
1 SQUELCH GATE
R99 100K
C94 100pF
R22 20K
CW
E1
E11
3 DISC AUDIO
14 MON
MON SWITCH PART OF R22

200-6876-00 REV 17 TRANSMITTER BOARD LPH0000

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
		009-6876-00	PC BD TRANSMITTER		EA	1.00
		016-1004-00	COMPOUND THRML JNT		AR	1.00
		016-1124-00	FOAM TAPE V1002		AR	1.00
		016-1184-00	ELASTOMERIC ADHES		AR	1.00
		026-0002-00	WIRE COP TIN 24G		IN	5.00
		047-6714-01	ADAPTER HEAT SINK		EA	1.00
		047-6716-02	SHIELD ASSY W/F		EA	1.00
		047-6717-01	SHIELD VCO W/F		EA	1.00
		047-6718-01	SHIELD L/L AMP W/F		EA	1.00
		047-6720-01	SHIELD NEARSIDE		EA	1.00
		047-6722-01	SHIELD BUFFER W/F		EA	1.00
		090-0307-00	HEAT SINK FOR TO-5		EA	1.00
		091-0320-00	INSUL TO-5		EA	1.00
		155-2219-01	CABLE COAX .020		EA	1.00
		155-2219-03	CABLE COAX .020		EA	1.00
		195-0011-00	CRYSTAL KIT		EA	1.00
C	1	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	2	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	3	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	4	106-0072-34	CAP CH 56PFNPO/50V		EA	1.00
C	5	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	6	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	7	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	8	106-0072-13	CAP CH 10PFNPO/50V		EA	1.00
C	9	106-0072-44	CAP CH 1.5PF		EA	1.00
C	10	106-0072-32	CAP CH 47PFNPO/50V		EA	1.00
C	11	106-0072-01	CAP CH1.8PFNPO/50V		EA	1.00
C	12	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	13	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	14	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	15	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	16	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	17	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	18	106-0072-24	CAP CH 22PFNPO/50V		EA	1.00
C	20	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	21	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	22	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	23	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	24	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	25	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	26	106-0072-31	CAP CH 39PFNPO/50V		EA	1.00
C	27	106-0072-32	CAP CH 47PFNPO/50V		EA	1.00
C	28	102-0054-01	CAP CERAMIC TRIM		EA	1.00
C	29	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	30	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	31	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	32	106-0072-04	CAP CH4.7PFNPO/50V		EA	1.00
C	33	106-0072-12	CAP CH10PF NPO/50V		EA	1.00
C	34	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	35	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	36	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	37	106-0072-15	CAP CH 12PFNPO/50V		EA	1.00
C	38	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	39	106-0072-24	CAP CH 22PFNPO/50V		EA	1.00
C	40	106-0072-21	CAP CH 20PFNPO/50V		EA	1.00
C	41	106-0072-32	CAP CH 47PFNPO/50V		EA	1.00
C	42	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	43	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	44	106-0072-32	CAP CH 47PFNPO/50V		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
C	45	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	46	106-4222-46	CAP CH 2.2K 50V 5%		EA	1.00
C	47	106-5101-16	CAP CH100PFNPO/50V		EA	1.00
C	48	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	49	106-0072-38	CAP CH 82PFNPO/50V		EA	1.00
C	50	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	51	106-5103-48	CAP CH 10K X7R/50V		EA	1.00
C	52	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	53	106-4221-47	CAP CH220PFX7R/50V		EA	1.00
C	54	106-0072-06	CAP CH5.6PFNPO/50V		EA	1.00
C	56	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	57	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	58	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	59	106-5221-48	CAP CH 220X7R/50V		EA	1.00
C	60	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	61	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	62	106-0072-36	CAP CH 68PFNPO/50V		EA	1.00
C	63	106-0072-36	CAP CH 68PFNPO/50V		EA	1.00
C	64	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	65	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	66	106-0072-32	CAP CH 47PFNPO/50V		EA	1.00
C	67	106-0072-21	CAP CH 20PFNPO/50V		EA	1.00
C	68	096-1113-28	CAP CH.22UF10%35V		EA	1.00
C	69	108-5077-01	CAP PC 1.0UF30V10%		EA	1.00
C	70	106-0072-24	CAP CH 22PFNPO/50V		EA	1.00
C	72	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	74	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	75	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	76	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	77	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	78	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	79	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	80	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	81	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	83	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	84	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	85	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	86	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	87	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	88	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	89	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	90	106-5561-48	CAP CH 560 X7R/50V		EA	1 00
C	91	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	92	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	93	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	94	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	95	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	96	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	97	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	98	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	99	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	100	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
CR	1	007-4057-00	DIO V MMBV105G		EA	1.00
CR	2	007-6178-00	DIO PIN MMBV3401		EA	1.00
CR	3	007-6178-00	DIO PIN MMBV3401		EA	1.00
CR	4	007-4016-15	DIO V MV2115		EA	1.00
CR	6	007-4016-15	DIO V MV2115		EA	1.00
CR	7	007-4056-00	DIO V MMBV109		EA	1.00
CR	8	007-6180-00	DIO SW MMBD6050		EA	1.00
CR	9	007-6177-00	SWD DIO SI MMBD914		EA	1.00
CR	10	007-6178-00	DIO PIN MMBV3401		EA	1.00
I	1	120-3194-00	IC OP AMP MC1741CD		EA	1.00
I	2	120-6132-02	IC FREQ SYN		EA	1.00
I	3	120-0203-00	VHF PRESCALER		EA	1.00
I	4	120-6131-00	IC QUAD ANLG SW		EA	1.00
I	5	120-3195-00	IC LM2904D		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
L	1	019-3156-00	COIL ADJ		EA	1.00
L	2	019-2084-21	CH 1UH 10%		EA	1.00
L	3	019-2084-04	CH .22UH 5%		EA	1.00
L	4	019-2084-06	CH .27UH 5%		EA	1.00
L	5	019-2084-06	CH .27UH 5%		EA	1.00
L	6	019-2084-04	CH .22UH 5%		EA	1.00
L	7	019-2099-04	CHOKE .027UH 10%		EA	1.00
L	8	013-0006-00	FERR BEAD		EA	1.00
L	10	019-2400-06	COIL 9T		EA	1.00
L	11	019-2084-21	CH 1UH 10%		EA	1.00
L	12	019-2099-02	CHOKE .10UH 5%		EA	1.00
L	13	019-2099-02	CHOKE .10UH 5%		EA	1.00
L	14	019-2084-21	CH 1UH 10%		EA	1.00
L	15	019-2400-02	COIL 3T		EA	1.00
L	18	019-2400-09	COIL 5T		EA	1.00
L	19	019-2400-07	COIL 3T		EA	1.00
L	20	019-2099-04	CHOKE .027UH 10%		EA	1.00
L	21	013-0006-00	FERR BEAD		EA	1.00
L	22	019-2400-06	COIL 9T		EA	1.00
L	23	019-2400-07	COIL 3T		EA	1.00
L	24	019-2084-04	CH .22UH 5%		EA	1.00
L	31	019-2400-02	COIL 3T		EA	1.00
L	32	019-2400-08	COIL 4T		EA	1.00
L	33	019-2400-02	COIL 3T		EA	1.00
L	36	019-2084-00	CH .15UH 5%		EA	1.00
L	37	019-2084-06	CH .27UH 5%		EA	1.00
L	38	013-0006-00	FERR BEAD		EA	1.00
L	39	019-2099-02	CHOKE .10UH 5%		EA	1.00
Q	1	007-0539-00	XSTR MMBTH10		EA	1.00
Q	3	007-0539-00	XSTR MMBTH10		EA	1.00
Q	4	007-0530-00	XSTR NPN MMBT3903		EA	1.00
Q	5	007-0540-00	XSTR MXT3906		EA	1.00
Q	7	007-0539-00	XSTR MMBTH10		EA	1.00
Q	8	007-0541-00	XSTR RF MXR3866		EA	1.00
Q	9	007-0545-00	XSTR RF PWR 2N6255		EA	1.00
Q	10	007-0539-00	XSTR MMBTH10		EA	1.00
Q	11	007-0538-00	XSTR RF POWER		EA	1.00
Q	12	007-0537-00	XSTR PNP MMBT5087		EA	1.00
Q	13	007-0537-00	XSTR PNP MMBT5087		EA	1.00
Q	14	007-0187-02	XSTR SOT-23 2N5089		EA	1.00
R	1	130-5753-23	RES CHIP 75KEW 5%		EA	1.00
R	2	130-5473-23	RES CHIP 47KEW5%		EA	1.00
R	3	130-5243-23	RES CHIP 24K EW 5%		EA	1.00
R	4	130-5152-23	RES CHIP 1.5KEW5%		EA	1.00
R	5	130-5100-23	RES CH 10 EW 5%		EA	1.00
R	6	130-5112-23	RES CERAMIC CHIP		EA	1.00
R	7	130-5112-23	RES CERAMIC CHIP		EA	1.00
R	8	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	9	130-5101-23	RES CH 100 EW 5%		EA	1.00
R	10	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	11	130-5392-23	RES CHIP 3.9KEW5%		EA	1.00
R	12	130-5561-23	RES CHIP 560EW5%		EA	1.00
R	13	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	14	130-5271-23	RES CHIP 270EW5%		EA	1.00
R	15	130-5331-23	RES CHIP 330 EW5%		EA	1.00
R	16	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	17	130-5471-23	RES CHIP 470EW5%		EA	1.00
R	18	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	19	130-5563-23	RES CHIP 56K5%EW		EA	1.00
R	20	130-5363-23	RES CHIP 36KEW5%		EA	1.00
R	21	133-0141-11	RES VA 100K 20%		EA	1.00
R	22	133-0141-11	RES VA 100K 20%		EA	1.00
R	23	130-5433-23	RES CHIP 43KEW5%		EA	1.00
R	24	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00
R	25	132-0135-00	RES WW .18 1W 5%		EA	1.00
R	28	130-5682-23	RES CHIP 6.8KEW5%		EA	1.00
R	29	130-5202-23	RES CHIP 2K5%EW		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
R	30	130-5151-23	RES CHIP 150EW5%		EA	1.00
R	31	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	32	130-5683-23	RES CHIP 68K EW 5%		EA	1.00
R	33	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	34	130-5753-23	RES CHIP 75KEW 5%		EA	1.00
R	35	130-5682-23	RES CHIP 6.8KEW5%		EA	1.00
R	36	130-5473-23	RES CHIP 47KEW5%		EA	1.00
R	37	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	38	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	39	130-5624-23	RES CHIP 620KEW5%		EA	1.00
R	40	130-5163-23	RES CHIP 16KEW5%		EA	1.00
R	41	130-5303-23	RES CHIP 30KEW5%		EA	1.00
R	42	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00
R	43	130-5623-23	RES CHIP 62KEW5%		EA	1.00
R	45	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	46	133-0141-06	RES VA 47K 20%		EA	1.00
R	49	133-0141-11	RES VA 100K 20%		EA	1.00
R	52	130-5302-23	RES CHIP 3K EW 5%		EA	1.00
R	53	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	55	130-5622-23	RES CHIP 6.2KEW5%		EA	1.00
R	56	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	57	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	60	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00
R	62	130-5333-23	RES CHIP 33K EW 5%		EA	1.00
R	63	130-5333-23	RES CHIP 33K EW 5%		EA	1.00
R	64	130-5332-23	RES CHIP 3.3KEW5%		EA	1.00
R	65	131-0030-23	RES CF 3 QW 5%		EA	1.00
R	66	130-5202-23	RES CHIP 2K5%EW		EA	1.00
R	67	130-5513-23	RES CHIP 51K EW 5%		EA	1.00
R	68	130-5303-23	RES CHIP 30KEW5%		EA	1.00
R	69	130-5153-23	RES CHIP 15K EW 5%		EA	1.00
REF	1	300-6876-00	XMTR BD ASSY		RF	X.
RT	1	134-1012-01	THMS 1K 10%		EA	1.00
Y	1	044-0151-00	XTAL 10.00MHZ QRTZ		EA	1.00

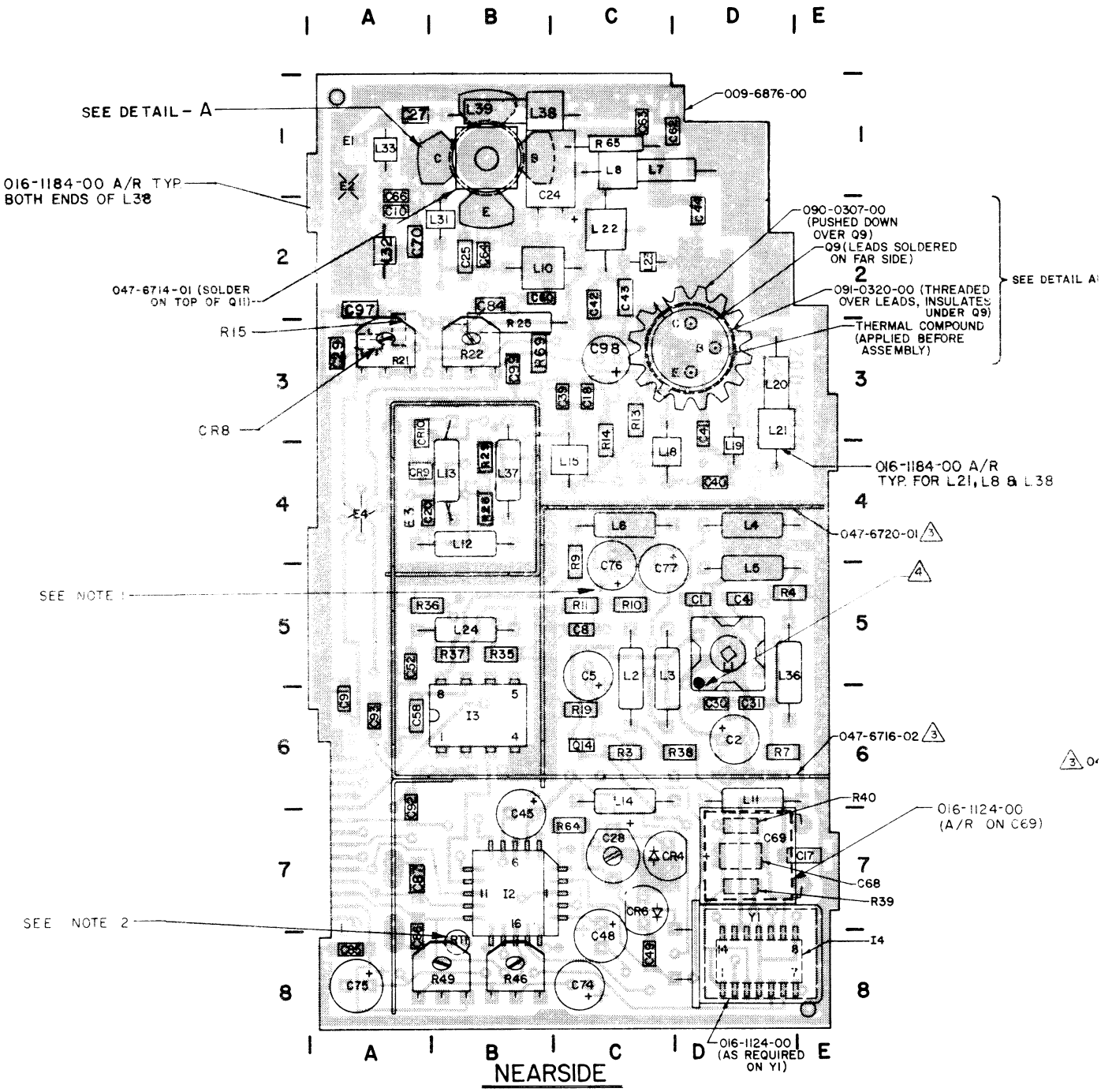
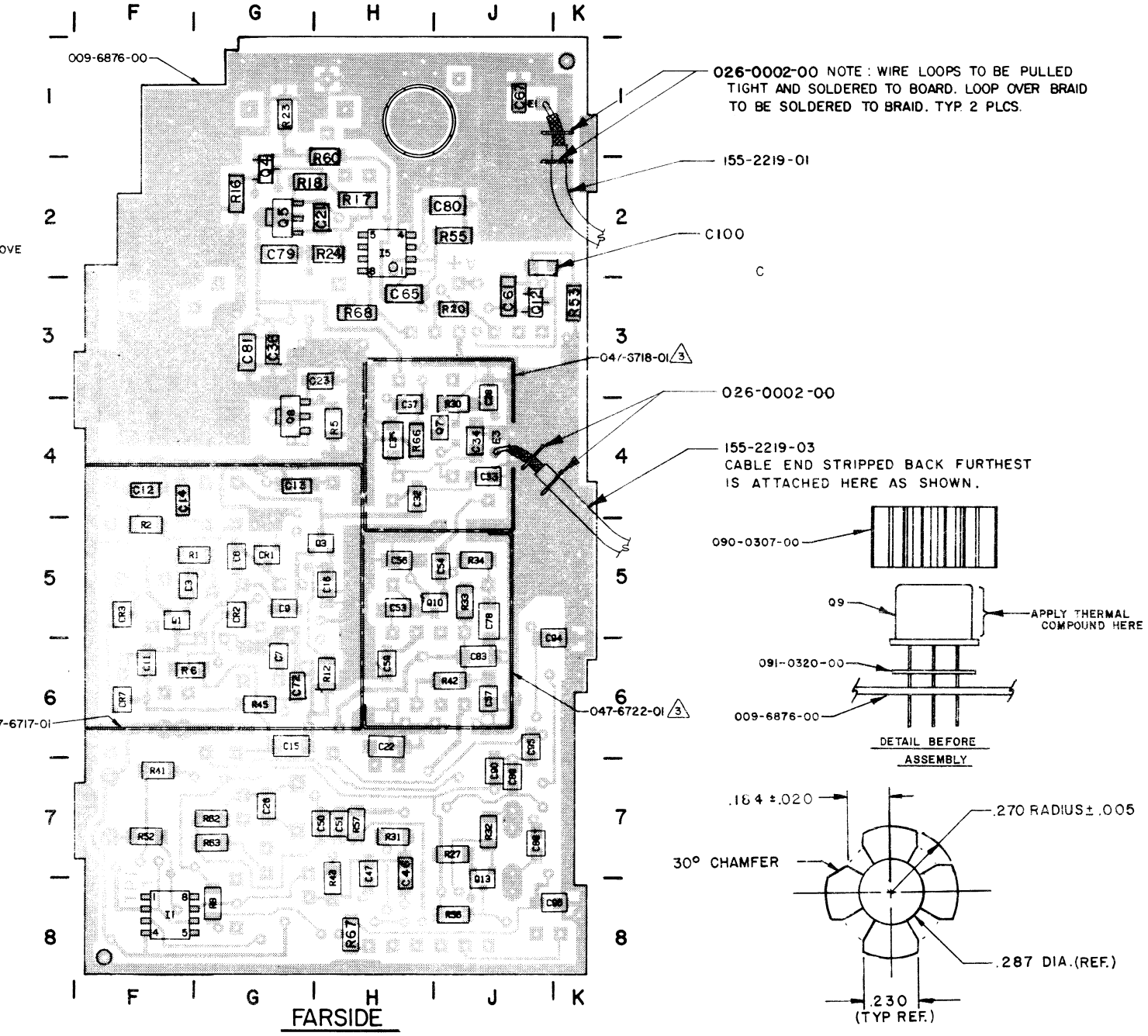


FIGURE 6-12 5 WATT TRANSMITTER BOARD ASSEMBLY
(Dwg No 300-6876-00 Rev 7)



NOTES:

1. C2, C5, C45, C48, C74, C75, C76, C77, CR4, CR6 AND Q9 HEIGHT SHOULD NOT EXCEED .315 INCH ABOVE BOARD SURFACE.
2. RT1 - USE HEAT SINK DEVICE WHILE SOLDERING TO PREVENT THERMAL DAMAGE.

3. SOLDER BOTTOM EDGES OF FENCES TO GROUND PLANE ON BOARD WHERE SOLDERMASK IS OPEN TO ENSURE GOOD ELECTRICAL CONTINUITY THRUOUT. FENCES TO BE SNUGGED DOWN ON BOARD SURFACE. GAP BETWEEN FENCE EDGE AND BOARD SURFACE NOT TO EXCEED .007 INCH.

4. ● DENOTES PIN #1 OF L1.

DETAIL - A
SCALE: 2/1
KPN 007-0538-00 MODIFIED

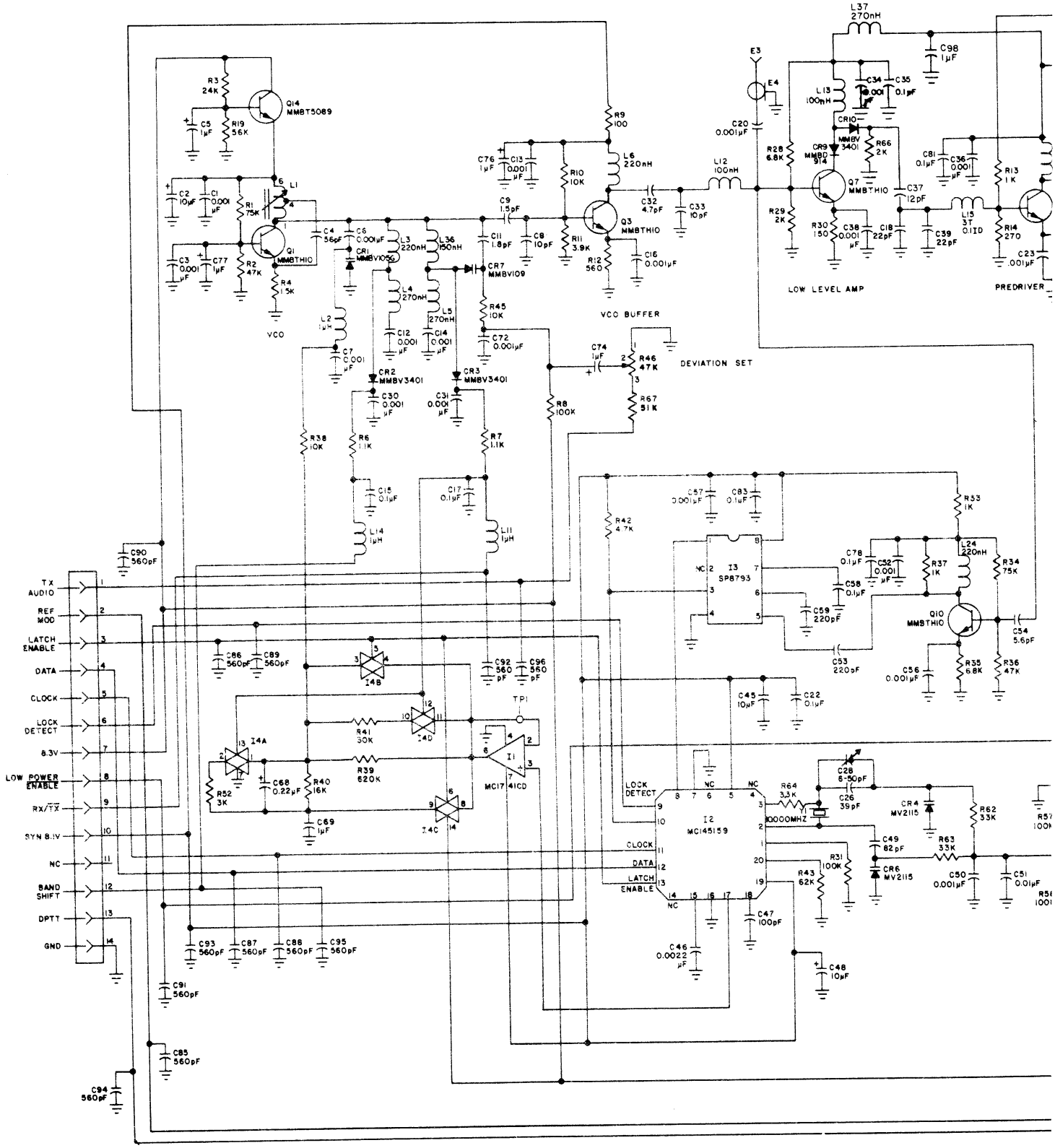
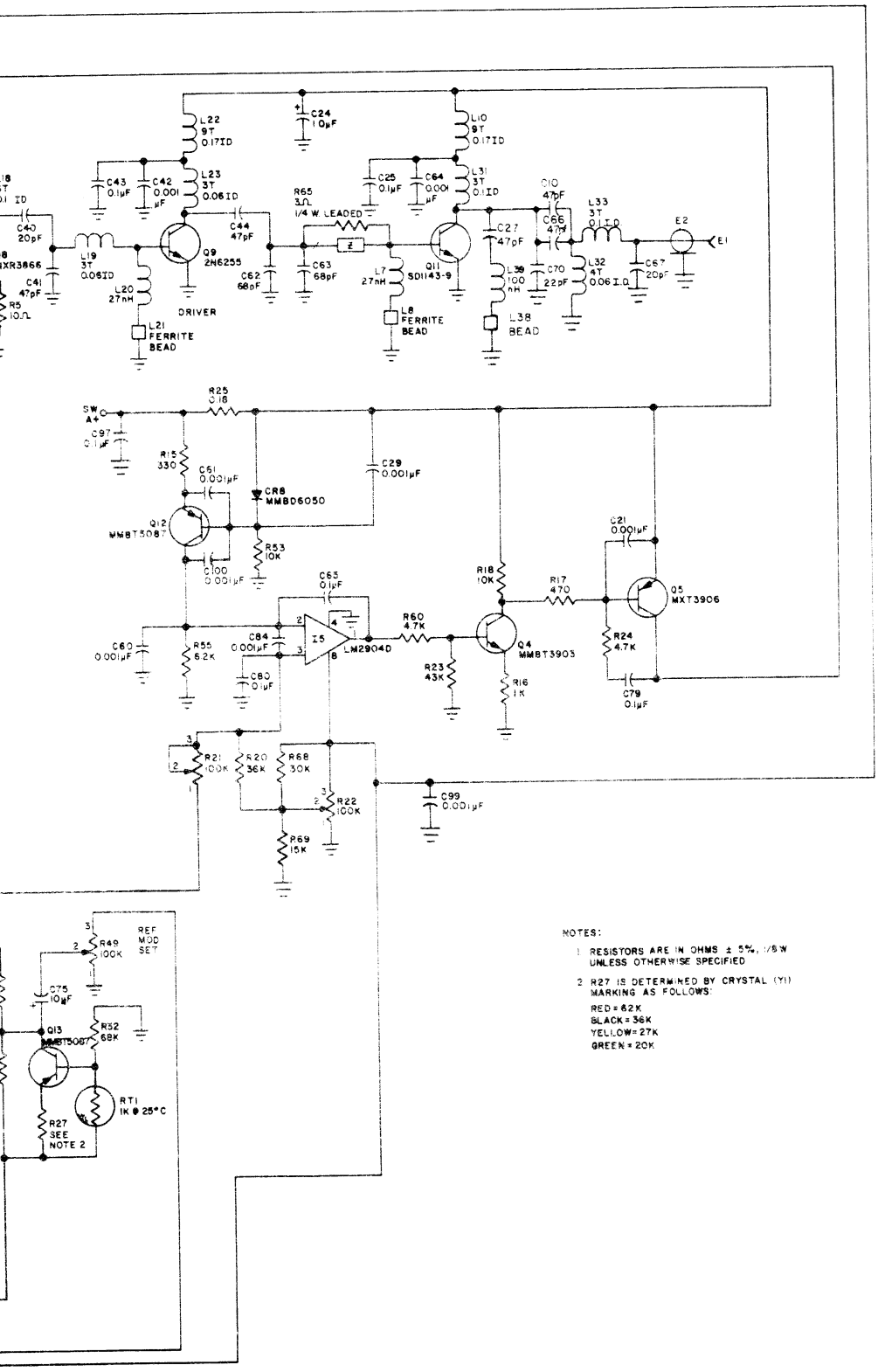


FIGURE 6-13 5 WATT TRANSMITTER BOARD SCHEMATIC
(Dwg No 002-6876-00 Rev 3)



NOTES:

1. RESISTORS ARE IN OHMS ± 5%, 1/8 W UNLESS OTHERWISE SPECIFIED.
2. R27 IS DETERMINED BY CRYSTAL (Y1) MARKING AS FOLLOWS:
   - RED = 62K
   - BLACK = 36K
   - YELLOW = 27K
   - GREEN = 20K

5 WATT XMITTER BRD

200-6880-00 REV 5 2W TX PC LPH0000

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
		009-6880-00	PC BD 2W TX		EA	1.00
		016-1004-00	COMPOUND THRWL JNT		AR	1.00
		016-1124-00	FOAM TAPE V1002		AR	1.00
		016-1184-00	ELASTOMERIC ADHES		AR	1.00
		026-0002-00	WIRE COP TIN 24G		IN	1.00
		047-6716-02	SHIELD ASSY W/F		EA	1.00
		047-6717-01	SHIELD VCO W/F		EA	1.00
		047-6718-01	SHIELD L/L AMP W/F		EA	1.00
		047-6720-01	SHIELD NEARSIDE		EA	1.00
		047-6722-01	SHIELD BUFFER W/F		EA	1.00
		090-0307-00	HEAT SINK FOR TO-5		EA	1.00
		091-0320-00	INSUL TO-5		EA	2.00
		155-2219-01	CABLE COAX .020		EA	2.00
		155-2219-03	CABLE COAX .020		EA	1.00
		195-0011-00	CRYSTAL KIT		EA	1.00
C	1	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	2	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	3	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	4	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	5	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	6	106-0072-34	CAP CH 56PFNP0/50V		EA	1.00
C	7	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	8	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	9	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	10	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	11	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	12	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	13	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	14	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	15	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	16	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	17	106-0072-01	CAP CH1.8PFNP0/50V		EA	1.00
C	18	106-0072-44	CAP CH 1.5PF		EA	1.00
C	19	106-0072-13	CAP CH 10PFNP0/50V		EA	1.00
C	20	097-0109-08	CAP EL 1UF 50V		EA	1.00
C	21	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	22	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	23	106-0072-04	CAP CH4.7PFNP0/50V		EA	1.00
C	24	106-0072-12	CAP CH10PF NP0/50V		EA	1.00
C	25	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	26	106-0072-15	CAP CH 12PFNP0/50V		EA	1.00
C	27	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	28	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	29	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	30	106-0072-30	CAP CH 39PFNP0/50V		EA	1.00
C	32	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	33	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	34	106-0072-26	CAP CH 27PFNP0/50V		EA	1.00
C	35	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	36	106-0072-19	CAP CH 18PFNP0/50V		EA	1.00
C	37	106-0072-34	CAP CH 56PFNP0/50V		EA	1.00
C	38	106-0072-34	CAP CH 56PFNP0/50V		EA	1.00
C	39	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	40	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	41	106-0072-26	CAP CH 27PFNP0/50V		EA	1.00
C	42	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	43	106-0072-32	CAP CH 47PFNP0/50V		EA	1.00
C	44	106-0072-30	CAP CH 39PFNP0/50V		EA	1.00
C	46	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	47	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	48	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	49	106-5561-48	CAP CH 560 X7R/50V		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
C	50	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	51	096-1113-28	CAP CH.22UF10%35V		EA	1.00
C	52	108-5077-01	CAP PC 1.0UF30V10%		EA	1.00
C	53	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	54	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	56	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	57	106-4561-47	CAP CH560PFX7R/50V		EA	1.00
C	58	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	59	106-5561-48	CAP CH 560 X7R/50V		EA	1.00
C	60	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	61	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	62	106-5221-48	CAP CH 220X7R/50V		EA	1.00
C	63	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	64	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	65	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	66	106-4221-47	CAP CH220PFX7R/50V		EA	1.00
C	67	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	68	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	69	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	70	106-0072-06	CAP CH5.6PFNPO/50V		EA	1.00
C	71	106-4222-47	CAPCH2200PFX7R/50V		EA	1.00
C	72	106-5101-16	CAP CH100PFNPO/50V		EA	1.00
C	73	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	74	102-0054-01	CAP CERAMIC TRIM		EA	1.00
C	75	106-0072-31	CAP CH 39PFNPO/50V		EA	1.00
C	76	106-0095-26	CAP CH 82PF 5%		EA	1.00
C	77	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	78	106-5103-48	CAP CH 10K X7R/50V		EA	1.00
C	79	097-0109-02	CAP EL 10UF 35V		EA	1.00
C	80	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	81	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	82	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	83	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	84	106-5102-48	CAP CH 1K X7R/50V		EA	1.00
C	85	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	86	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
C	87	106-4102-47	CAP CH 1K X7R/50V		EA	1.00
C	88	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00
CR	1	007-4057-00	DIO V MMBV105G		EA	1.00
CR	2	007-6178-00	DIO PIN MMBV3401		EA	1.00
CR	3	007-6178-00	DIO PIN MMBV3401		EA	1.00
CR	4	007-4056-00	DIO V MMBV109		EA	1.00
CR	5	007-6178-00	DIO PIN MMBV3401		EA	1.00
CR	6	007-4016-15	DIO V MV2115		EA	1.00
CR	7	007-4016-15	DIO V MV2115		EA	1.00
CR	8	007-6180-00	DIO SW MMBD6050		EA	1.00
CR	9	007-6177-00	SMD DIO SI MMBD914		EA	1.00
I	1	120-3194-00	IC OP AMP MC1741CD		EA	1.00
I	2	120-6132-02	IC FREQ SYN		EA	1.00
I	3	120-0203-00	VHF PRESCALER		EA	1.00
I	4	120-6131-00	IC QUAD ANLG SW		EA	1.00
I	5	120-3195-00	IC LM2904D		EA	1.00
L	1	019-3156-00	COIL ADJ		EA	1.00
L	2	019-2084-21	CH 1UH 10%		EA	1.00
L	3	019-2084-04	CH .22UH 5%		EA	1.00
L	4	019-2084-06	CH .27UH 5%		EA	1.00
L	5	019-2084-00	CH .15UH 5%		EA	1.00
L	6	019-2084-06	CH .27UH 5%		EA	1.00
L	7	019-2084-21	CH 1UH 10%		EA	1.00
L	8	019-2084-21	CH 1UH 10%		EA	1.00
L	9	019-2084-04	CH .22UH 5%		EA	1.00
L	10	019-2099-02	CHOKE .10UH 5%		EA	1.00
L	11	019-2099-02	CHOKE .10UH 5%		EA	1.00
L	12	019-2084-04	CH .22UH 5%		EA	1.00
L	13	019-2400-16	COIL 4T		EA	1.00
L	14	019-2400-14	COIL 1T		EA	1.00
L	15	019-2400-11	COIL 4T		EA	1.00
L	16	019-2099-03	CH .047UH 5%		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
L	17	013-0006-00	FERR BEAD		EA	1.00
L	18	019-2400-12	COIL 8T		EA	1.00
L	19	019-2400-02	COIL 3T		EA	1.00
L	20	019-2400-02	COIL 3T		EA	1.00
L	21	019-2084-02	CH .18UH 5%		EA	1.00
L	22	013-0006-00	FERR BEAD		EA	1.00
L	23	019-2084-06	CH .27UH 5%		EA	1.00
L	24	019-2084-06	CH .27UH 5%		EA	1.00
Q	1	007-0187-02	XSTR SOT-23 2N5089		EA	1.00
Q	2	007-0539-00	XSTR MMBTH10		EA	1.00
Q	3	007-0539-00	XSTR MMBTH10		EA	1.00
Q	4	007-0539-00	XSTR MMBTH10		EA	1.00
Q	5	007-0250-00	XSTR 2N4427		EA	1.00
Q	6	007-0545-00	XSTR RF PWR 2N6255		EA	1.00
Q	7	007-0539-00	XSTR MMBTH10		EA	1.00
Q	8	007-0537-00	XSTR PNP MMBT5087		EA	1.00
Q	9	007-0537-00	XSTR PNP MMBT5087		EA	1.00
Q	10	007-0530-00	XSTR NPN MMBT3903		EA	1.00
Q	11	007-0540-00	XSTR MXT3906		EA	1.00
R	1	130-5243-23	RES CHIP 24K EW 5%		EA	1.00
R	2	130-5563-23	RES CHIP 56K5%EW		EA	1.00
R	3	130-5753-23	RES CHIP 75KEW 5%		EA	1.00
R	4	130-5473-23	RES CHIP 47KEW5%		EA	1.00
R	5	130-5152-23	RES CHIP 1.5KEW5%		EA	1.00
R	6	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	7	130-5112-23	RES CERAMIC CHIP		EA	1.00
R	8	130-5112-23	RES CERAMIC CHIP		EA	1.00
R	9	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	10	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	11	130-5392-23	RES CHIP 3.9KEW5%		EA	1.00
R	12	130-5391-23	RES CHIP 390EW5%		EA	1.00
R	13	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	14	130-5101-23	RES CH 100 EW 5%		EA	1.00
R	15	133-0141-06	RES VA 47K 20%		EA	1.00
R	16	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00
R	17	130-5182-23	RES CHIP 1.8KEW5%		EA	1.00
R	18	130-5151-23	RES CHIP 150EW5%		EA	1.00
R	23	130-5302-23	RES CHIP 3K EW 5%		EA	1.00
R	24	130-5163-23	RES CHIP 16KEW5%		EA	1.00
R	25	130-5303-23	RES CHIP 30KEW5%		EA	1.00
R	26	130-5624-23	RES CHIP 620KEW5%		EA	1.00
R	28	130-5623-23	RES CHIP 62KEW5%		EA	1.00
R	29	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	30	130-5333-23	RES CHIP 33K EW 5%		EA	1.00
R	31	130-5333-23	RES CHIP 33K EW 5%		EA	1.00
R	32	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	33	130-5104-23	RES CH 100K EW 5%		EA	1.00
R	34	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00
R	35	130-5683-23	RES CHIP 68K EW 5%		EA	1.00
R	36	133-0141-11	RES VA 100K 20%		EA	1.00
R	37	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	38	130-5753-23	RES CHIP 75KEW 5%		EA	1.00
R	39	130-5682-23	RES CHIP 6.8KEW5%		EA	1.00
R	40	130-5473-23	RES CHIP 47KEW5%		EA	1.00
R	41	130-5331-23	RES CHIP 330 EW5%		EA	1.00
R	42	132-0116-10	RES WW .47 3W 10%		EA	1.00
R	43	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	44	130-5622-23	RES CHIP 6.2KEW5%		EA	1.00
R	45	130-5202-23	RES CHIP 2K5%EW		EA	1.00
R	46	130-5822-23	RES CHIP 8.2KEW5%		EA	1.00
R	47	133-0141-11	RES VA 100K 20%		EA	1.00
R	48	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00
R	49	130-5433-23	RES CHIP 43KEW5%		EA	1.00
R	50	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	51	130-5103-23	RES CH 10K EW 5%		EA	1.00
R	52	130-5471-23	RES CHIP 470EW5%		EA	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00
R	53	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00
R	54	130-5332-23	RES CHIP 3.3KEW5%		EA	1.00
R	55	130-5102-23	RES CH 1K EW 5%		EA	1.00
R	56	130-5513-23	RES CHIP 51K EW 5%		EA	1.00
REF	1	300-6880-00	2W TX BD ASSY		RF	X.
REF	2	002-6880-00	SCH XMTR BD		RF	X.
RT	1	134-1012-01	THMS 1K 10%		EA	1.00
Y	1	044-0151-00	XTAL 10.00MHZ QRTZ		EA	1.00

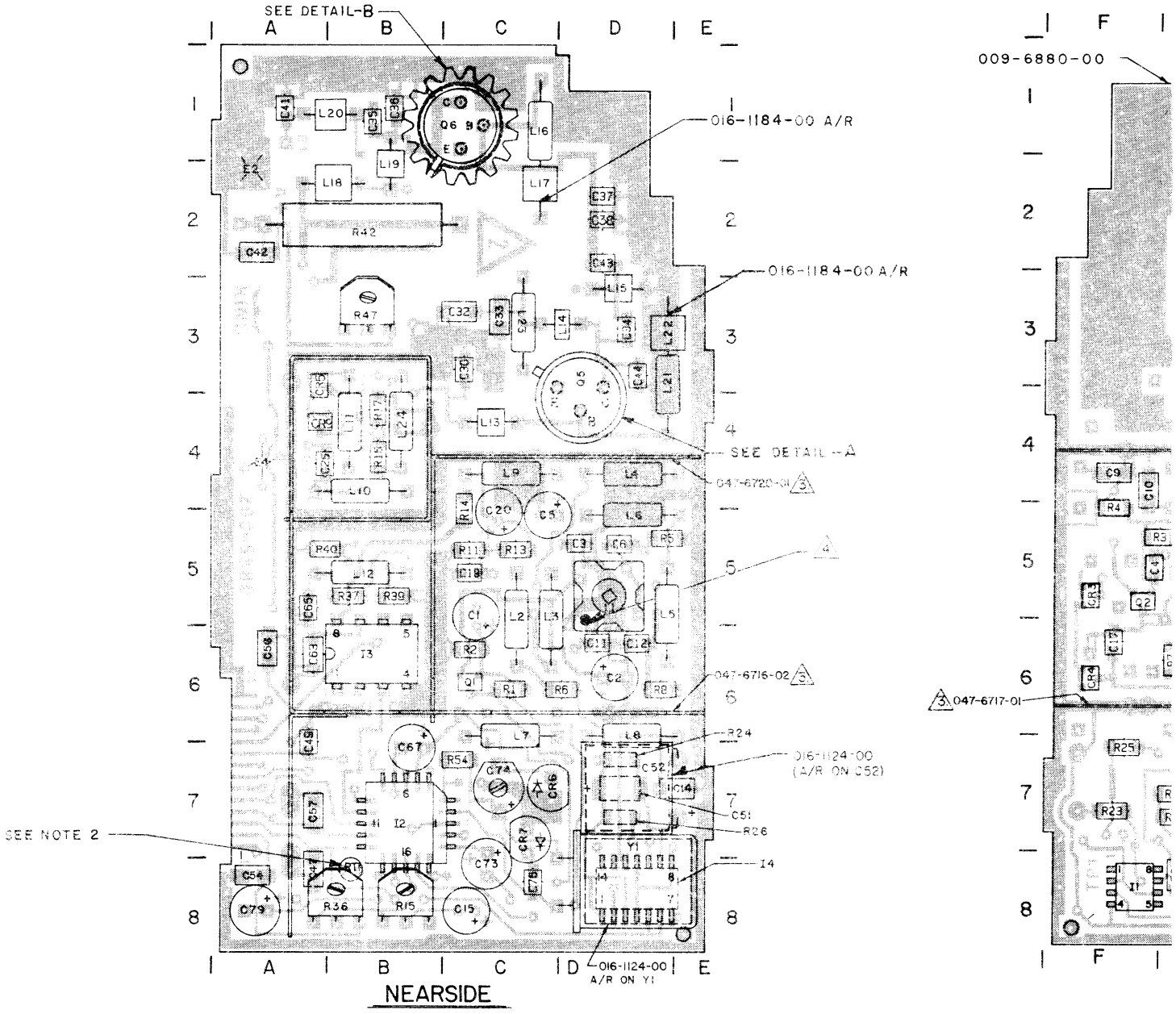
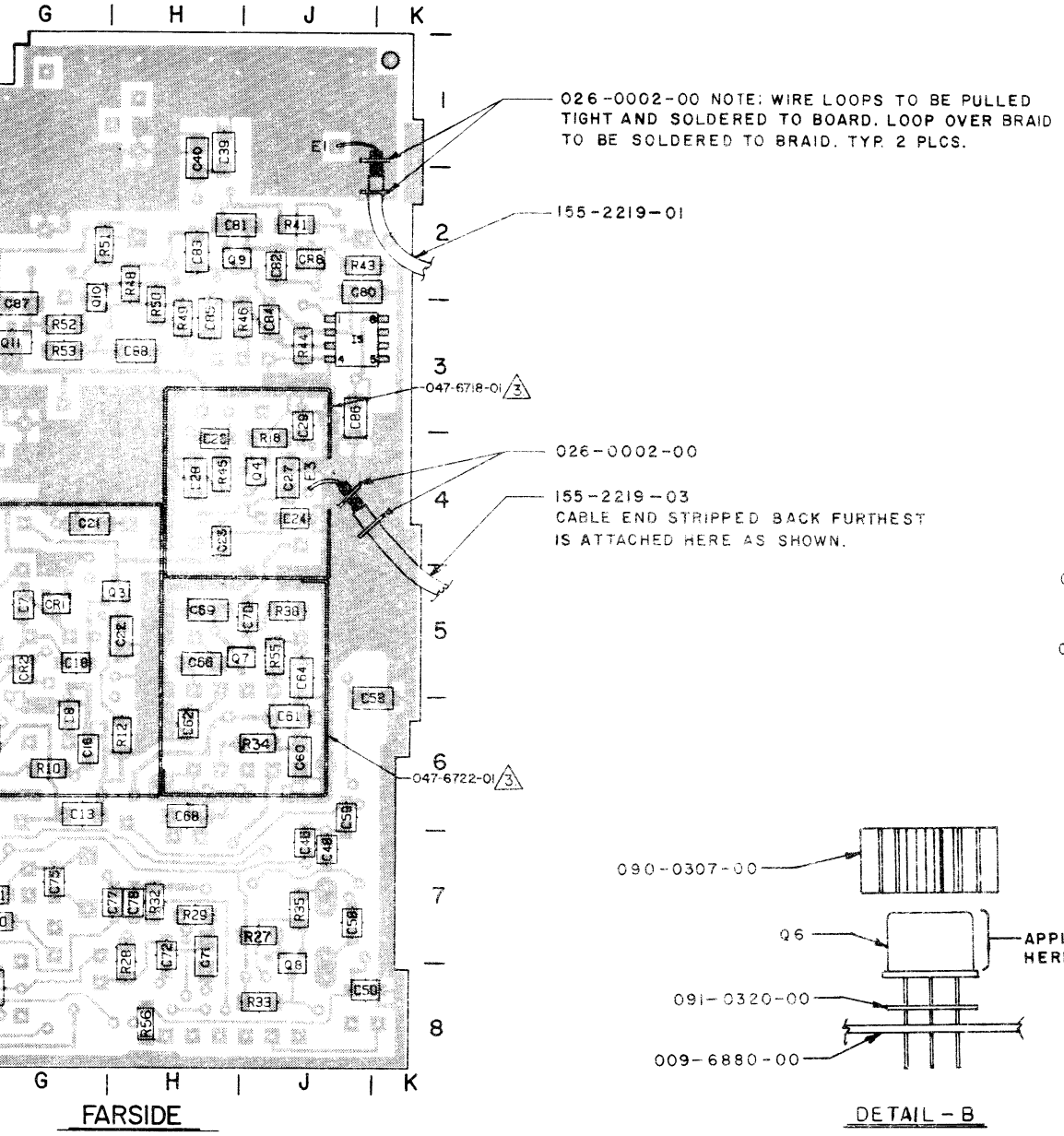
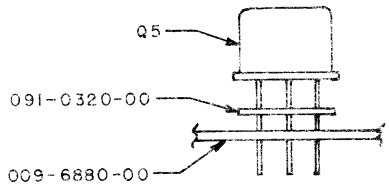
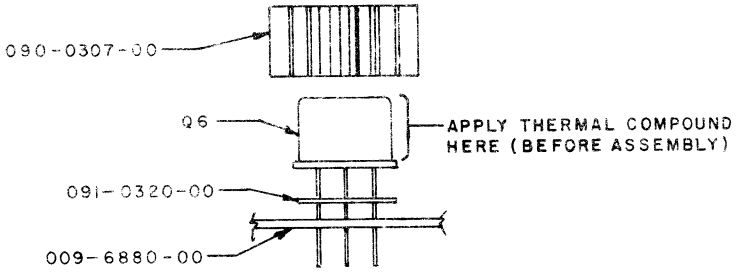


FIGURE 6-14 2 WATT TRANSMITTER ASSEMBLY
(Dwg No 300-6880-00 Rev 4)





DETAIL-A



DETAIL-B

NOTES:

1. C1, C2, C5, C15, C20, C67, C73, C79, CR6, CR7 AND Q5 HEIGHT SHOULD NOT EXCEED .315 INCH ABOVE BOARD SURFACE.
2. RTI USE HEAT SINK DEVICE WHILE SOLDERING TO PREVENT THERMAL DAMAGE.
3. △3 SOLDER BOTTOM EDGES OF FENCES TO GROUND PLANE ON BOARD WHERE SOLDERMASK IS OPEN TO INSURE GOOD ELECTRICAL CONTINUITY THRUOUT. FENCES WILL BE SNUGGED DOWN ON BOARD SURFACE. GAP BETWEEN FENCE EDGE AND BOARD SURFACE NOT TO EXCEED .007 INCHES.
4. △4 ● DENOTES PIN#1 OF U1.

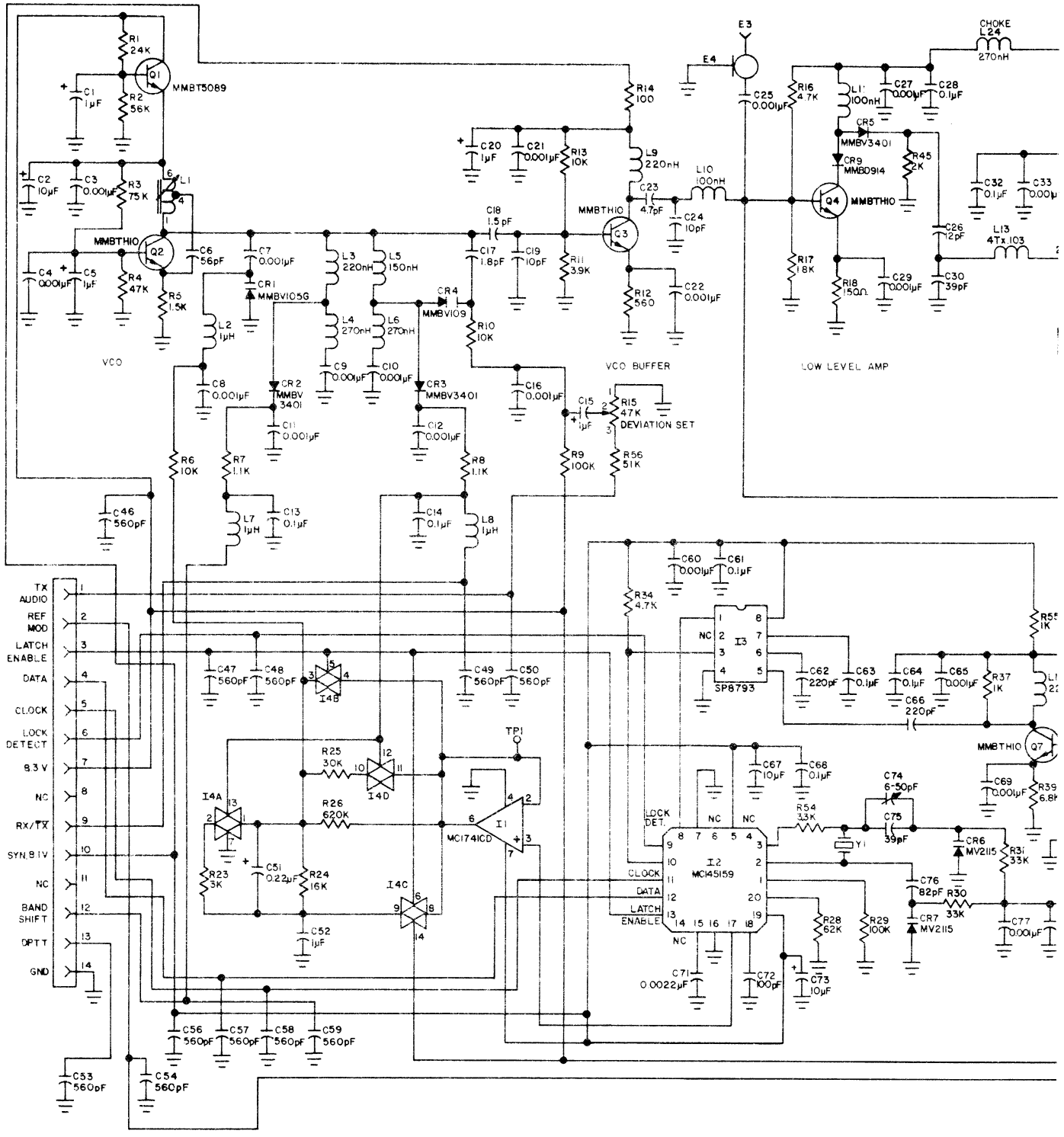
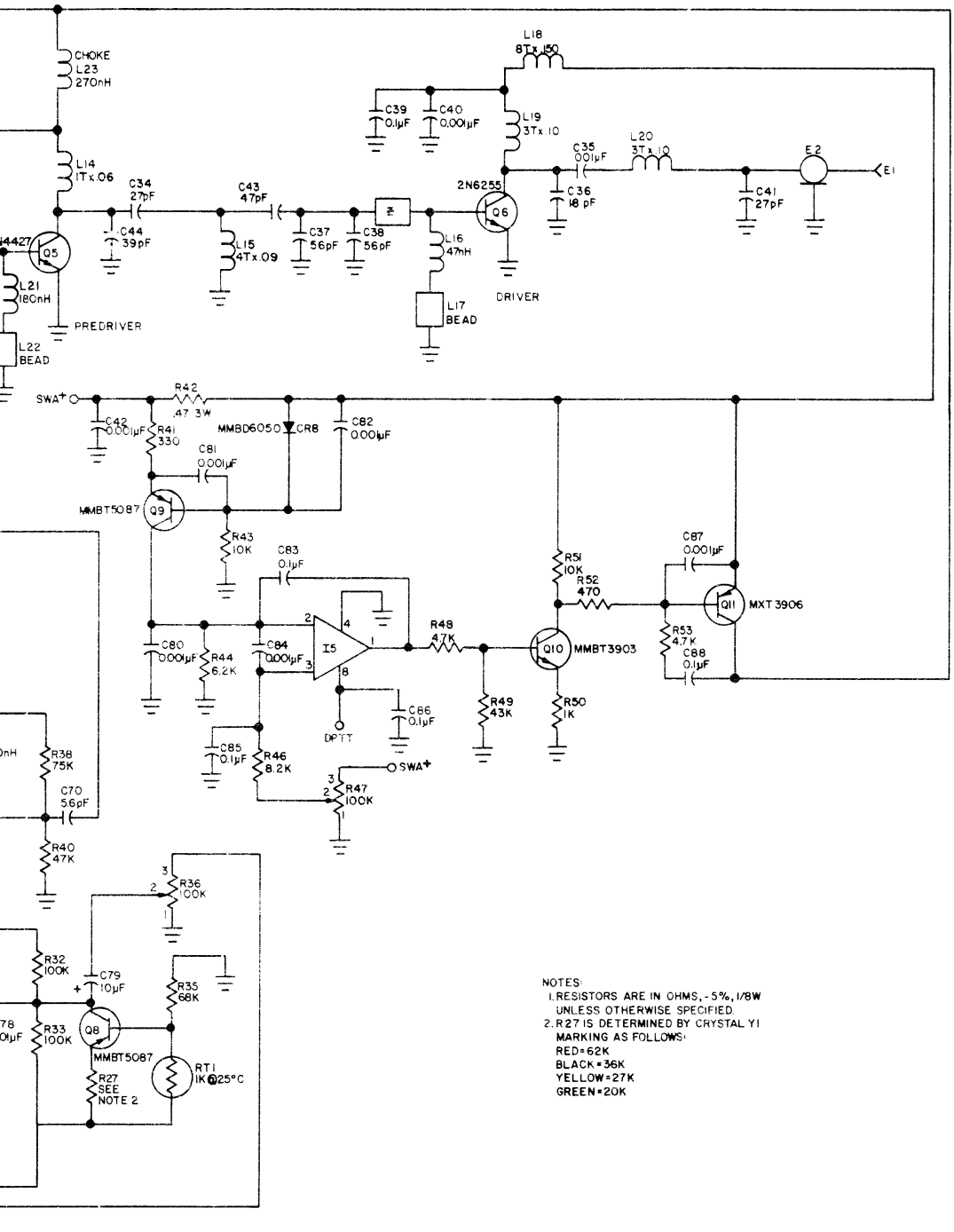


FIGURE 6-15 2 WATT TRANSMITTER SCHEMATIC
(Dwg No 002-6880-00 Rev 5)



NOTES:
1. RESISTORS ARE IN OHMS, ±5%, 1/8W UNLESS OTHERWISE SPECIFIED.
2. R27 IS DETERMINED BY CRYSTAL Y1 MARKING AS FOLLOWS:
   RED=62K
   BLACK=36K
   YELLOW=27K
   GREEN=20K

2 WATT XMITTER BRD

200-6877-00 REV 16 2 CH SYSTEM BD LPH0000
200-6877-01 REV 18 14 CH SYSTEM BD LPH0000

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00	01
		009-6877-00	PC BD SYSTEM		EA	1.00	1.00
		012-1316-00	INSULATOR MYLAR		EA	1.00	1.00
		016-1124-00	FOAM TAPE V1002		IN	.	0.30
		026-0012-08	WIRE COP 30G		IN	.	2.00
C	1	106-4333-46	CAP CH 33K X7R/50V		EA	1.00	1.00
C	2	106-4222-46	CAP CH 2.2K 50V 5%		EA	1.00	1.00
C	3	106-4563-46	CAP CH 56K X7R/50V		EA	1.00	1.00
C	4	097-0109-08	CAP EL 1UF 50V		EA	1.00	1.00
C	5	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00	1.00
C	6	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00	1.00
C	7	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00	1.00
C	8	106-4100-16	CAP CH 10PF NPO/50		EA	1.00	1.00
C	9	106-4100-16	CAP CH 10PF NPO/50		EA	1.00	1.00
C	12	106-6683-48	CAPCH68KX7R50V20%		EA	1.00	1.00
C	13	106-4561-47	CAP CH560PFX7R/50V		EA	1.00	1.00
C	14	106-4153-47	CAP CH 15K X7R/50V		EA	1.00	1.00
C	16	106-4103-47	CAP CH 10K X7R/50V		EA	1.00	1.00
C	17	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00	1.00
C	18	096-1113-71	CAP CH.47UF20%20V		EA	1.00	1.00
C	20	097-0109-08	CAP EL 1UF 50V		EA	1.00	1.00
C	25	097-0109-08	CAP EL 1UF 50V		EA	1.00	1.00
C	27	106-5223-48	CAP CH 22K X7R/50V		EA	1.00	1.00
C	28	106-4821-47	CAP CH820PFX7R/50V		EA	1.00	1.00
C	29	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00	1.00
C	30	106-4103-47	CAP CH 10K X7R/50V		EA	1.00	1.00
C	31	106-4104-78	CAP CH 100KZ5U/50V		EA	1.00	1.00
C	35	106-4561-47	CAP CH560PFX7R/50V		EA	1.00	1.00
C	36	096-1113-72	CAP CH1.0UF20%20V		EA	1.00	1.00
C	37	106-4101-16	CAP CH100PFNPO/50V		EA	1.00	1.00
C	38	106-4101-16	CAP CH100PFNPO/50V		EA	1.00	1.00
C	39	106-4101-16	CAP CH100PFNPO/50V		EA	1.00	1.00
C	40	106-4101-16	CAP CH100PFNPO/50V		EA	1.00	1.00
C	41	106-4101-16	CAP CH100PFNPO/50V		EA	1.00	1.00
C	42	106-4561-47	CAP CH560PFX7R/50V		EA	1.00	1.00
C	43	106-4101-16	CAP CH100PFNPO/50V		EA	1.00	1.00
C	44	106-4102-47	CAP CH 1K X7R/50V		EA	1.00	1.00
C	45	106-4821-47	CAP CH820PFX7R/50V		EA	1.00	1.00
C	46	106-4561-47	CAP CH560PFX7R/50V		EA	1.00	1.00
C	47	106-5561-48	CAP CH 560 X7R/50V		EA	1.00	1.00
C	48	106-4561-47	CAP CH560PFX7R/50V		EA	1.00	1.00
C	49	106-4561-47	CAP CH560PFX7R/50V		EA	1.00	1.00
C	50	106-4561-47	CAP CH560PFX7R/50V		EA	1.00	1.00
C	51	106-4822-46	CAPCH.0082MX7R/50		EA	1.00	1.00
C	52	106-4103-46	CAP CH 10K X7R/50V		EA	1.00	1.00
C	53	106-4103-46	CAP CH 10K X7R/50V		EA	1.00	1.00
CR	1	007-5117-07	DIO Z 6.2V SOT		EA	1.00	1.00
CR	2	007-5117-07	DIO Z 6.2V SOT		EA	1.00	1.00
CR	3	007-6184-00	DIO DUAL SWITCHING		EA	1.00	1.00
CR	4	007-6181-00	DIO DUAL MMBD2835		EA	1.00	1.00
CR	7	007-5117-09	DIO Z 7.5V SOT		EA	1.00	1.00
CR	8	007-6181-00	DIO DUAL MMBD2835		EA	1.00	1.00
I	1	122-0059-00	LMR/VHF/SYS/PROC		EA	1.00	1.00
I	2	120-3196-00	IC LM2902D		EA	1.00	1.00
I	3	120-2156-00	16X16 BIT EEPROM		EA	1.00	.
I	3	120-2157-00	64X16 BIT EEPROM		EA	.	1.00
I	4	120-3126-04	IC LM317LZ		EA	1.00	1.00
I	5	120-3196-00	IC LM2902D		EA	1.00	1.00
I	6	120-3192-00	OP AMP MC4558CD		EA	1.00	1.00
I	7	120-6135-00	QUAD VOLTAGE SHFTR		EA	1.00	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00	01
J	1	030-1249-04	SCKT MIN SPRING		EA	.	8.00
Q	1	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00	1.00
Q	2	007-0530-00	XSTR NPN MMBT3903		EA	1.00	1.00
Q	3	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00	1.00
Q	4	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00	1.00
Q	6	007-0537-00	XSTR PNP MMBT5087		EA	1.00	1.00
Q	7	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00	1.00
Q	8	007-0530-00	XSTR NPN MMBT3903		EA	1.00	1.00
Q	9	007-0530-00	XSTR NPN MMBT3903		EA	1.00	1.00
Q	11	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00	1.00
Q	13	007-0530-00	XSTR NPN MMBT3903		EA	1.00	1.00
Q	14	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00	1.00
Q	15	007-0530-00	XSTR NPN MMBT3903		EA	1.00	1.00
Q	16	007-0530-00	XSTR NPN MMBT3903		EA	1.00	1.00
Q	17	007-0065-01	XSTR 2N3906 (SOT)		EA	1.00	1.00
R	1	130-5102-23	RES CH 1K EW 5%		EA	1.00	1.00
R	2	130-5223-23	RES CHIP 22K EW 5%		EA	1.00	1.00
R	3	130-5102-23	RES CH 1K EW 5%		EA	1.00	1.00
R	4	130-5823-23	RES CHIP 82KEW5%		EA	1.00	1.00
R	5	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	6	130-5913-23	RES CHIP 91KEW5%		EA	1.00	1.00
R	7	130-5204-23	RES CHIP 200KEW5%		EA	1.00	1.00
R	8	130-5752-22	RES CHIP 7.5KEW2%		EA	1.00	1.00
R	13	130-5153-22	RES CHIP 15KEW2%		EA	1.00	1.00
R	14	130-5303-22	RES CHIP 30KEW2%		EA	1.00	1.00
R	15	130-5623-22	RES CHIP 62KEW2%		EA	1.00	1.00
R	16	130-5124-22	RES CHIP 120KEW2%		EA	1.00	1.00
R	17	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	20	130-5203-23	RES CHIP 20K EW 5%		EA	1.00	1.00
R	22	130-5152-23	RES CHIP 1.5KEW5%		EA	1.00	1.00
R	23	130-5472-23	RES CHIP 4.7KEW5%		EA	1.00	1.00
R	24	130-5473-23	RES CHIP 47KEW5%		EA	1.00	1.00
R	25	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	26	130-5622-23	RES CHIP 6.2KEW5%		EA	1.00	1.00
R	27	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	28	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	29	130-5105-23	RES CHIP 1M EW 5%		EA	1.00	1.00
R	31	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	32	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	33	130-5223-23	RES CHIP 22K EW 5%		EA	1.00	1.00
R	34	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	35	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	36	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	37	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	39	130-5163-23	RES CHIP 16KEW5%		EA	1.00	1.00
R	40	130-5223-23	RES CHIP 22K EW 5%		EA	1.00	1.00
R	41	130-5153-23	RES CHIP 15K EW 5%		EA	1.00	1.00
R	42	130-5433-23	RES CHIP 43KEW5%		EA	1.00	1.00
R	43	130-5913-23	RES CHIP 91KEW5%		EA	1.00	1.00
R	44	130-5184-23	RES CH 180K EW 5%		EA	1.00	1.00
R	45	130-5304-23	RES CHIP 300KEW5%		EA	1.00	1.00
R	46	130-5153-23	RES CHIP 15K EW 5%		EA	1.00	1.00
R	47	130-5473-23	RES CHIP 47KEW5%		EA	1.00	1.00
R	48	130-5822-23	RES CHIP 8.2KEW5%		EA	1.00	1.00
R	50	130-5303-23	RES CHIP 30KEW5%		EA	1.00	1.00
R	51	130-5822-23	RES CHIP 8.2KEW5%		EA	1.00	1.00
R	52	130-5912-23	RES CHIP 9.1K5%EW		EA	1.00	1.00
R	53	130-5913-23	RES CHIP 91KEW5%		EA	1.00	1.00
R	54	130-5163-23	RES CHIP 16KEW5%		EA	1.00	1.00
R	55	130-5223-23	RES CHIP 22K EW 5%		EA	1.00	1.00
R	56	130-5164-23	RES CHIP 160K EW5%		EA	1.00	1.00
R	57	130-5154-23	RES CHIP 150K5%EW		EA	1.00	1.00
R	58	130-5102-23	RES CH 1K EW 5%		EA	1.00	1.00
R	59	130-5113-23	RES CHIP 11K EW 5%		EA	1.00	1.00
R	60	130-5302-23	RES CHIP 3K EW 5%		EA	1.00	1.00
R	61	130-5562-23	RES CHIP 5.6KEW5%		EA	1.00	1.00
R	62	130-5304-23	RES CHIP 300KEW5%		EA	1.00	1.00
R	65	130-5513-22	RES CHIP 51K EW 2%		EA	1.00	1.00

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00	01
R	66	130-5333-22	RES CHIP 33KEW2%		EA	1.00	1.00
R	72	130-5823-23	RES CHIP 82KEW5%		EA	1.00	1.00
R	73	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	74	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	76	130-5101-23	RES CH 100 EW 5%		EA	.	1.00
R	78	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	79	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	80	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	81	130-5472-23	RES CHIP 4.7KEW5%		EA	.	1.00
R	82	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	83	130-5752-23	RES CHIP 7.5KEW5%		EA	1.00	1.00
R	85	130-5154-23	RES CHIP 150K5%EW		EA	1.00	1.00
R	86	130-5683-23	RES CHIP 68K EW 5%		EA	1.00	1.00
R	87	130-5683-23	RES CHIP 68K EW 5%		EA	1.00	1.00
R	88	130-5222-23	RES CHIP 2.2KEW5%		EA	1.00	1.00
R	89	130-5473-23	RES CHIP 47KEW5%		EA	1.00	1.00
R	91	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	92	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	93	130-5562-23	RES CHIP 5.6KEW5%		EA	1.00	1.00
R	94	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	96	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	97	130-5274-23	RES CHIP 270KEW5%		EA	1.00	1.00
R	98	130-5244-23	RES CHIP 240K5%EW		EA	1.00	1.00
R	99	130-5244-23	RES CHIP 240K5%EW		EA	1.00	1.00
R	100	133-0141-05	RES VA 500 20%		EA	1.00	1.00
R	101	130-5102-23	RES CH 1K EW 5%		EA	1.00	1.00
R	102	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	103	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	104	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	105	130-5104-23	RES CH 100K EW 5%		EA	1.00	1.00
R	106	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	107	130-5103-23	RES CH 10K EW 5%		EA	1.00	1.00
R	108	130-5753-23	RES CHIP 75KEW 5%		EA	1.00	1.00
R	109	130-5913-23	RES CHIP 91KEW5%		EA	1.00	1.00
REF	1	300-6877-00	SYSTEM BD ASSY		RF	X.	X.
Y	1	044-0150-00	XTAL 3.994375MHZ		EA	1.00	1.00

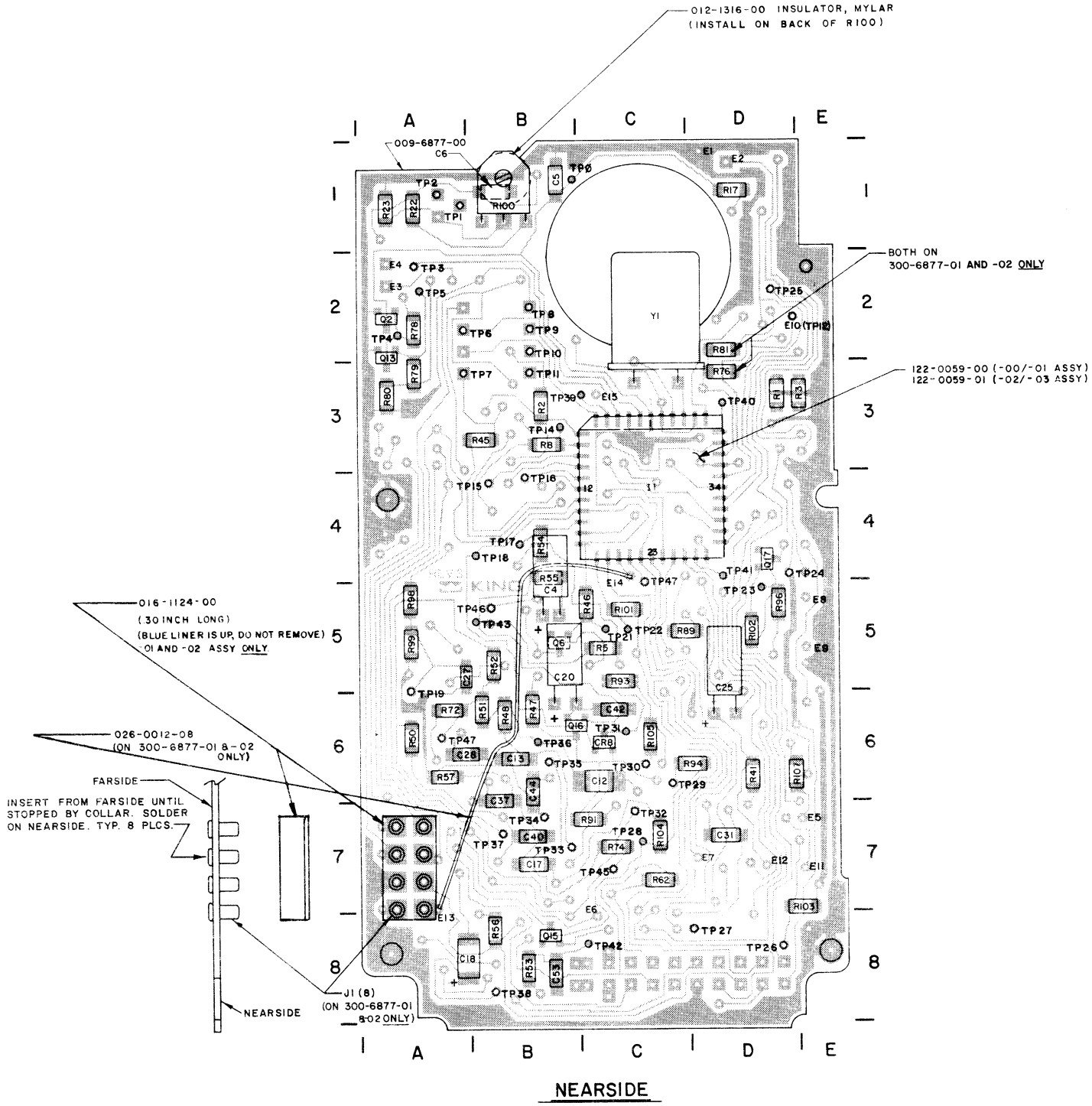
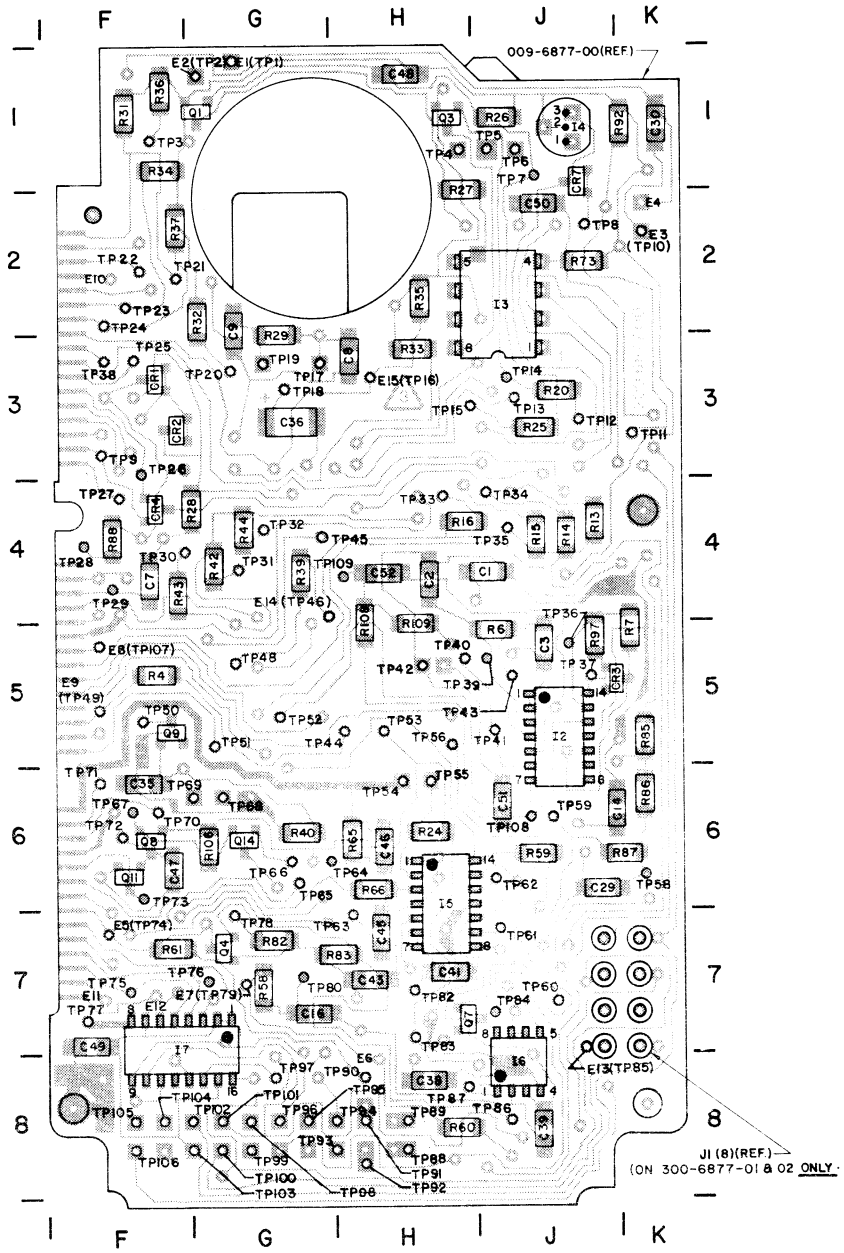


FIGURE 6-16 SYSTEM BOARD ASSEMBLY
(Dwg No 300-6877-00 Rev 7)



FARSIDE

NOTES:

1. ALL PARTS USED ON THE 300-6877-00 THRU -03 ASSY'S WITH THE FOLLOWING EXCEPTIONS:
   - A. ON -00 AND -01 ASSY'S ONLY -
     - 122-0059-00
   - B. ON -02 AND -03 ASSY'S ONLY-
     - 122-0059-01
   - C. ON -01 AND -02 ASSY'S ONLY-
     - J1 (8 PLCS.)
     - R81
     - R76
     - 026-0012-08
     - 016-1124-00
2. ADD 200 TO ALL TEST POINTS (TP) NUMBERS ON NEARSIDE ONLY.
3. 300-6877-00 AND -03 ASSY'S GO IN 2 CHANNEL RADIOS.
   300-6877-01 AND -02 ASSY'S GO IN 4 CHANNEL RADIOS.

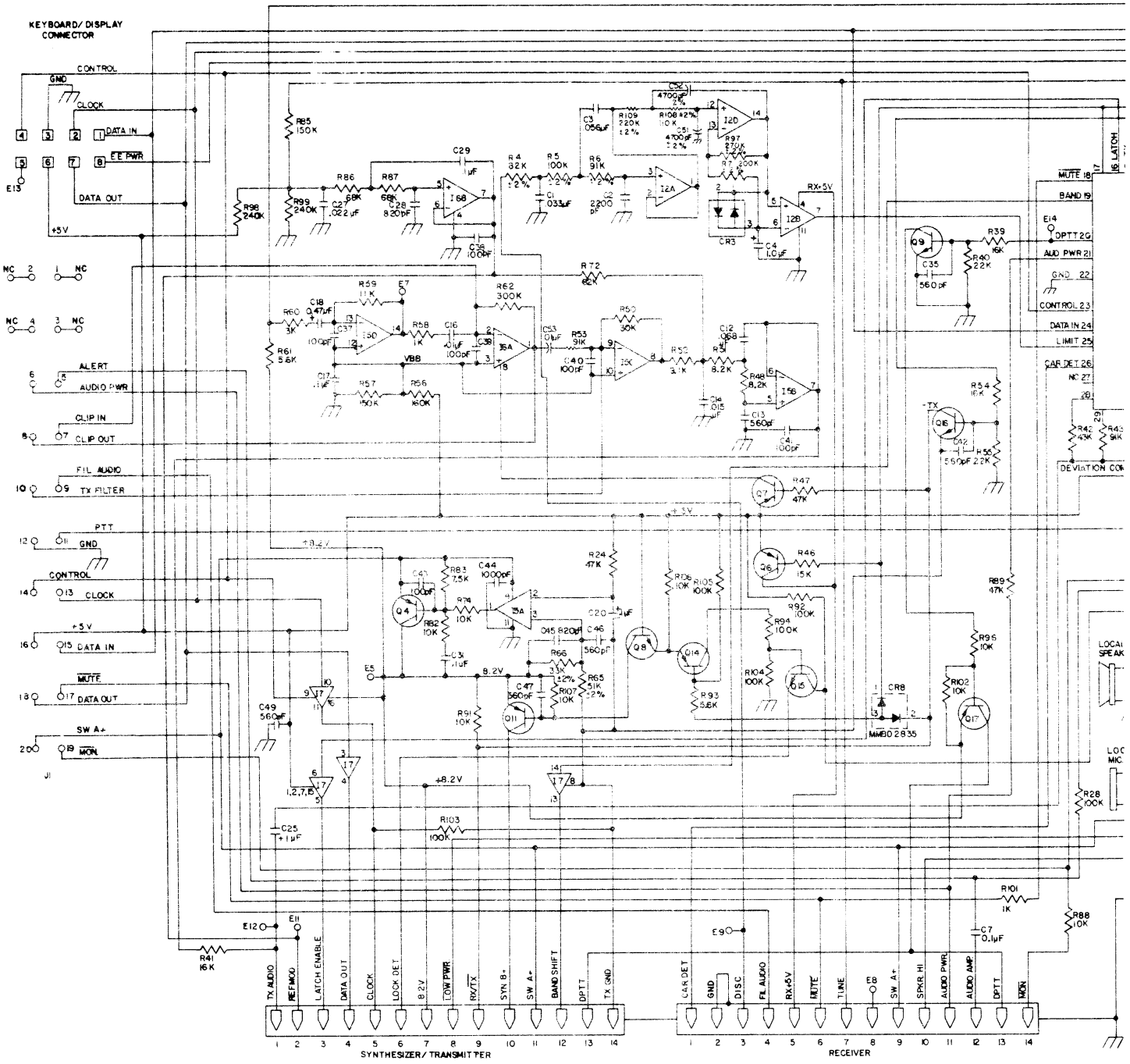
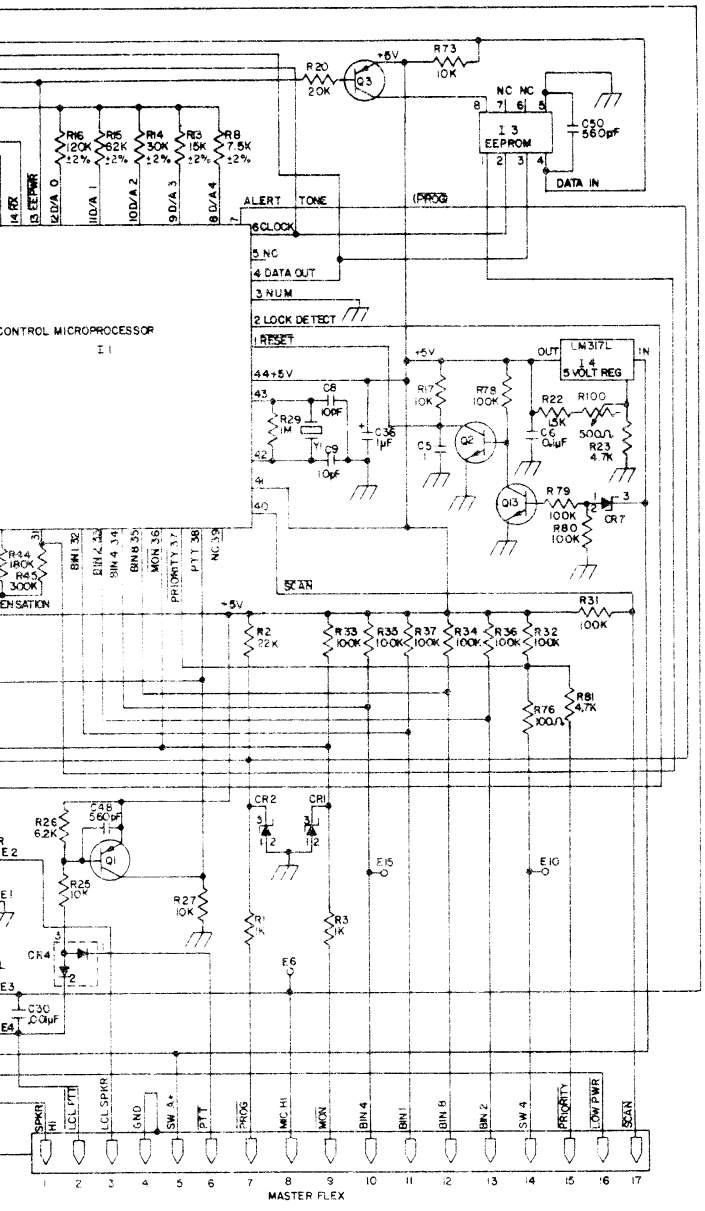
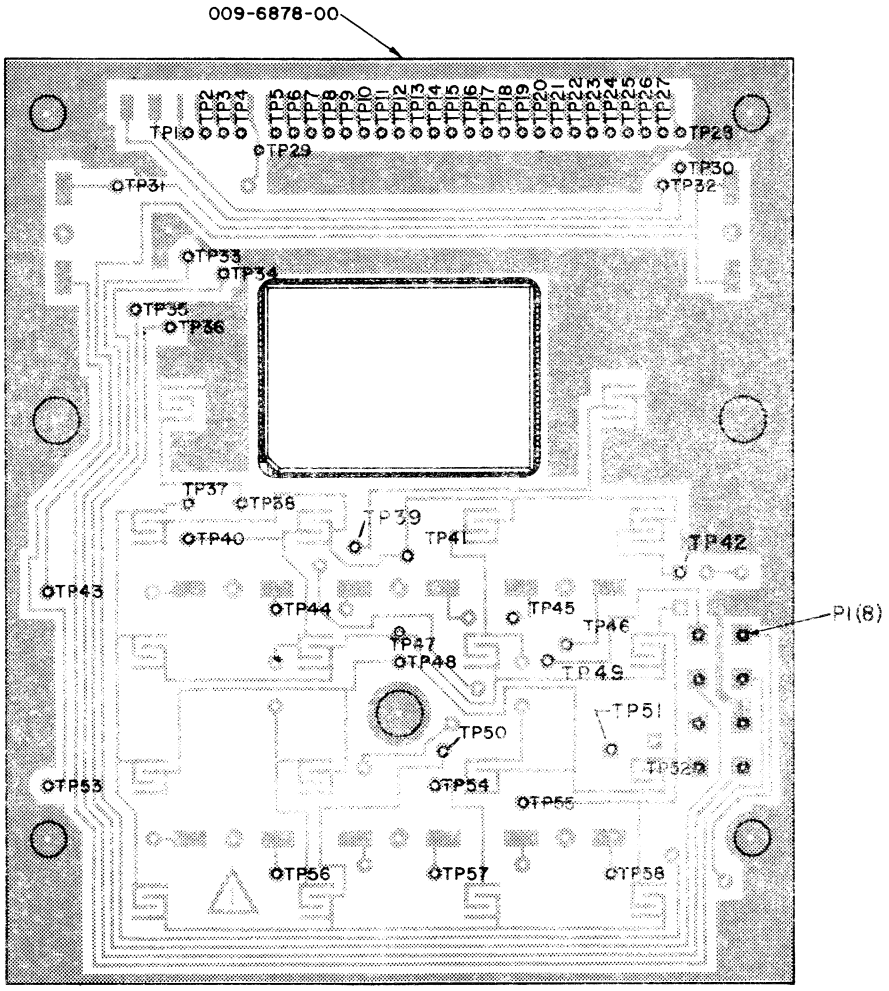


FIGURE 6-17 SYSTEM BOARD SCHEMATIC
(Dwg No 002-6877-00 Rev 7)


R20 20K
Q3
+5V
R73 10K
NC NC
I 3 EEPROM
C50 560pF
DATA IN
R16 120K ±2%
R15 62K ±2%
R14 30K ±2%
R13 15K ±2%
R8 7.5K ±2%
ALERT
TONE
(PROG
6 CLOCK
5 NC
4 DATA OUT
3 NUM
2 LOCK DETECT
1 RESET
CONTROL MICROPROCESSOR
I 1
44 +5V
43
42
41
40
C8 100pF
R29 1M
Y1
C9 10pF
C36 1µF
C5 .1
Q2
R17 10K
R78 100K
OUT
LM317L
I 4
5 VOLT REG
IN
R22 1.5K
R100 500Ω
R23 4.7K
C6 .01µF
Q13
R79 100K
R80 100K
CR7
SCAN
-5V
R2 22K
R33 100K
R35 100K
R37 100K
R34 100K
R36 100K
R32 100K
R31 100K
R76 100Ω
R81 4.7K
R26 6.2K
C48 560pF
Q1
R25 10K
R27 10K
CR2
CR1
E15
E16
R1 1K
R3 1K
CR4
E6
E3
C30 .01µF
E4
SPKR HI
LCL PTT
LCL SPKR
GND
SW A+
PTT
PROG
MIC HI
MON
BIN 4
BIN 1
BIN 8
BIN 2
SW 4
PRIORITY
LOW PWR
SCAN
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
MASTER FLEX

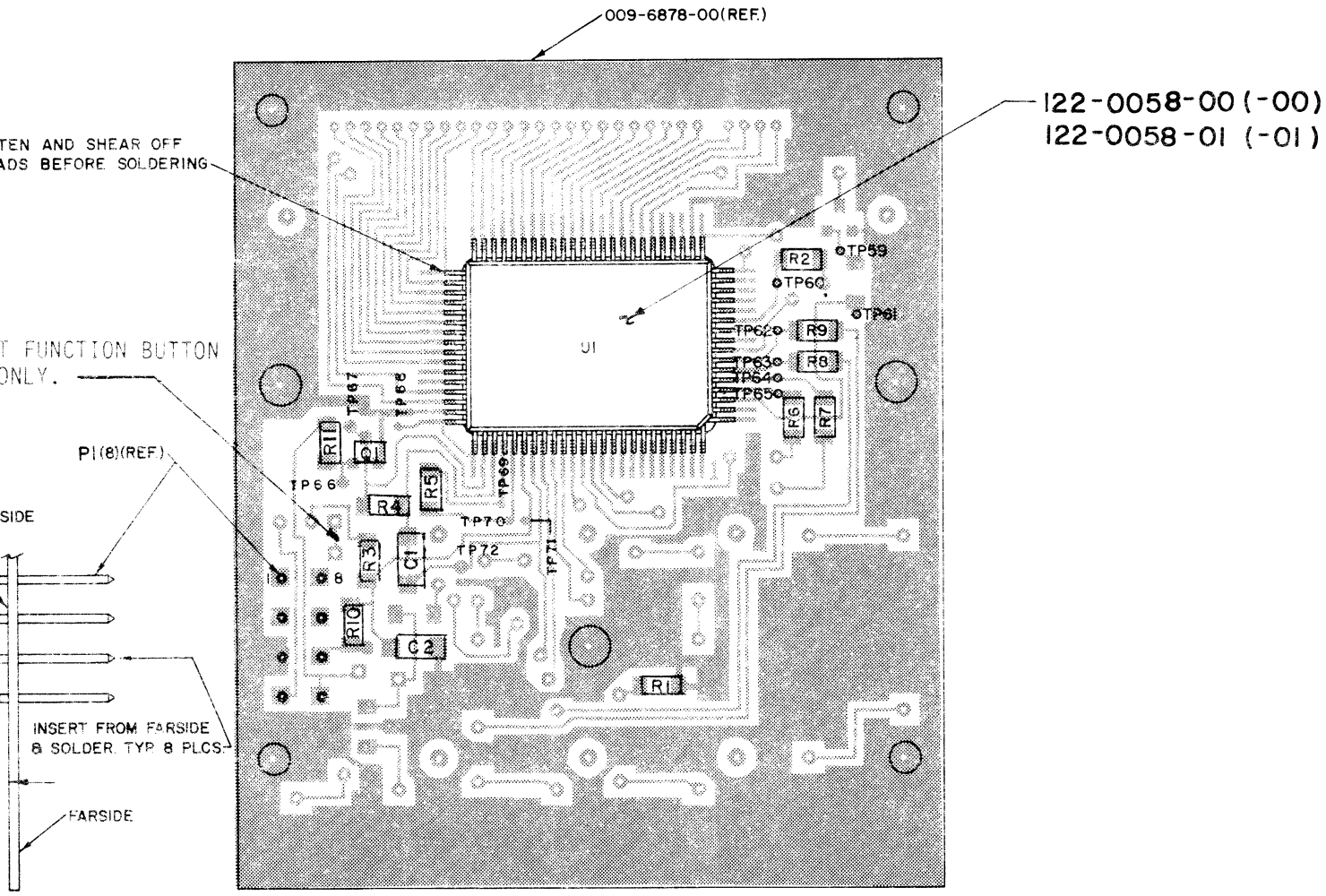
200-6878-00 REV 7 KEYBOARD/DISPLAY BD LPH0000
200-6878-01 REV 1 KYBD/DISPLAY BD TONE LPH 514
200-6878-99 REV 1 KEYBOARD/DISPLAY BD LPH0000

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	00	01	99
		009-6878-00	PC BD KYBD/DSPLY		EA	.	.	1.00
		030-2174-04	PIN CONTACT		EA	.	.	8.00
		200-6878-99	KYBD/DSPLY BD	A	EA	1.00	1.00	.
C	1	106-4104-78	CAP CH 100KZ5U/50V		EA	.	.	1.00
C	2	106-4104-78	CAP CH 100KZ5U/50V		EA	.	.	1.00
I	1	122-0058-00	LMR/KYBD/DSPL/PROC	A	EA	1.00	.	.
I	1	122-0058-01	LMR/KYBD/DSPL/PROC	A	EA	.	1.00	.
Q	1	007-0530-00	XSTR NPN MMBT3903		EA	.	.	1.00
R	1	130-5103-23	RES CH 10K EW 5%		EA	.	.	1.00
R	2	130-5202-23	RES CHIP 2K5%EW		EA	.	.	1.00
R	3	130-5103-23	RES CH 10K EW 5%		EA	.	.	1.00
R	4	130-5103-23	RES CH 10K EW 5%		EA	.	.	1.00
R	5	130-5104-23	RES CH 100K EW 5%		EA	.	.	1.00
R	6	130-5202-23	RES CHIP 2K5%EW		EA	.	.	1.00
R	7	130-5202-23	RES CHIP 2K5%EW		EA	.	.	1.00
R	8	130-5202-23	RES CHIP 2K5%EW		EA	.	.	1.00
R	9	130-5202-23	RES CHIP 2K5%EW		EA	.	.	1.00
R	10	130-5101-23	RES CH 100 EW 5%		EA	.	.	1.00
R	11	130-5203-23	RES CHIP 20K EW 5%		EA	.	.	1.00
REF	1	300-6878-00	KYBD/DSPLY BD ASSY		RF	X.	.	.



NEARSIDE

FIGURE 6-18 KEYBOARD/DISPLAY BOARD ASSEMBLY
(Dwg No 300-6878-00 Rev 4)



FARSIDE

NOTE:

1. ALL PARTS ARE COMMON TO -00 AND -01 ASSYS UNLESS OTHERWISE SPECIFIED.

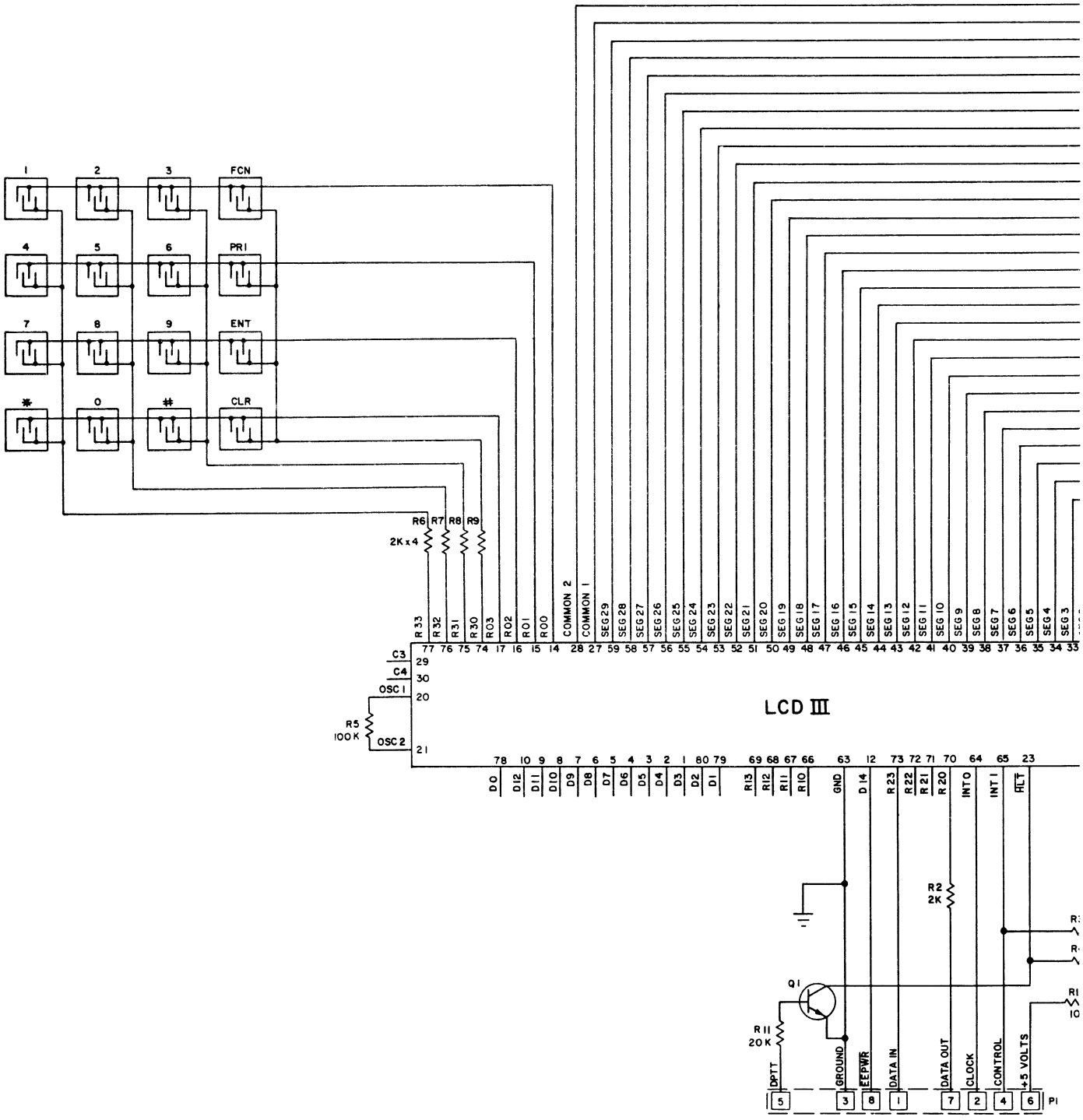
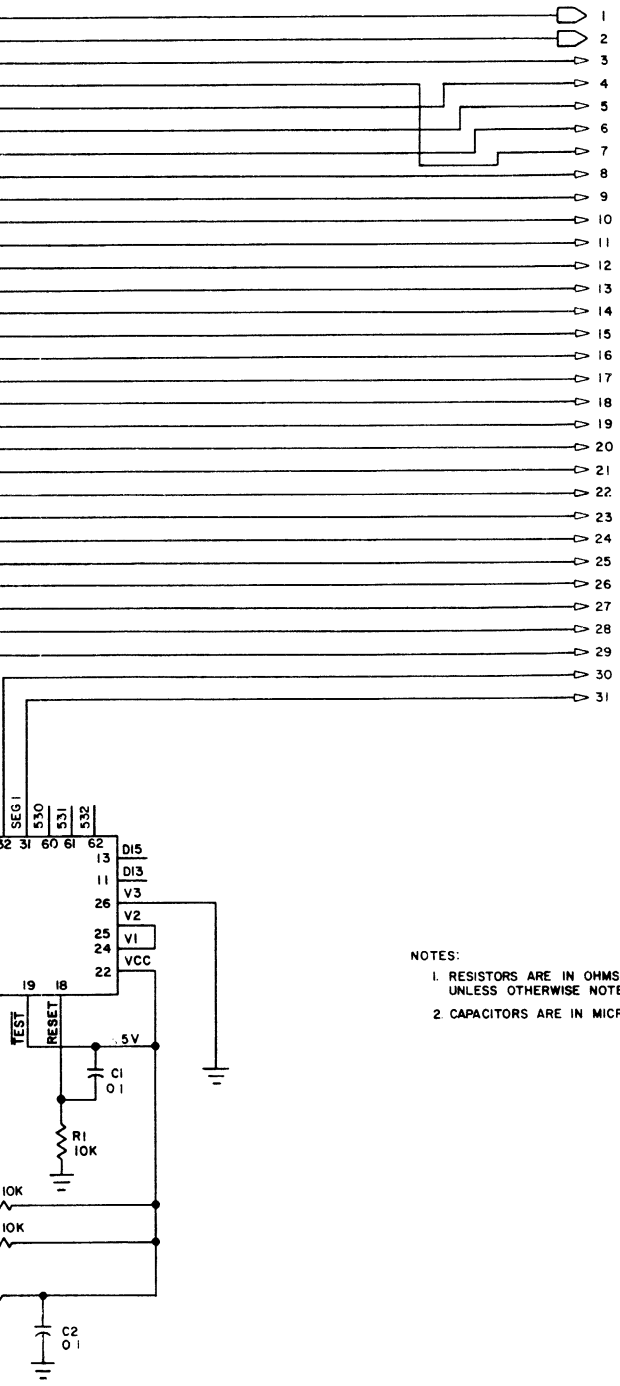


FIGURE 6-19 KEYBOAD/DISPLAY BOARD SCHEMATIC
(Dwg No 002-6878-00 Rev 2)



NOTES:

1. RESISTORS ARE IN OHMS ± 5% 1/8W UNLESS OTHERWISE NOTED
2. CAPACITORS ARE IN MICROFARADS ± 20 50V