SERVICE MANUAL

LPU Series	**MPU** Series	**LQU** Series	**MQU** Series	**LPV** Series	**MPV** Series

LPU SERIES PORTABLE UHF RADIO

BENDIX/KING

Allied Signal

BENDIX/KING Service Bulletin

MOBILE COMMUNICATIONS DIVISION

Date: January 31, 1991

Model: LQU and MQU Series portable radios

Key Components: None

Symptoms: None

Confirmation: None

Effectivity: N/A

Manual Reference: LPU Series Service Manual, 006-05689-0001

Parts Required: None

LPU Series Service Manual, 006-05689-0001, contains service information on LQU and MQU Series radios for reference only.

LQU and MQU Series radios are certified intrinsically safe for hazardous environments. Special care is required to keep them intrinsically safe.

To preserve the intrinsically safe certification of LQU and MQU Series radios, it is recommended that you send units in need of repair to the Bendix/King factory.

WARNING

MODIFICATION OR IMPROPER REPAIR OF INTRINSICALLY SAFE RADIOS WILL MAKE THEM UNSAFE FOR OPERATION IN HAZARDOUS ENVIRONMENTS AND WILL VOID THEIR INTRINSICALLY SAFE RATING.

Technical questions should be directed to Customer Service at 1-800-733-2633.

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SECTION 1
GENERAL INFORMATION

1.1 INTRODUCTION

This manual provides information on LPU Series UHF portable radios. It details the physical, mechanical, and electrical characteristics of the various models within the LPU family.

The original LPU Series has expanded to include additional series and features. For your convenience, this LPU Series service manual encompasses the following series:

- ❑ LPU Series — early and later models
- ❑ MPU Series — LPU in a metal case
- ❑ LQU Series — LPU intrinsically safe for hazardous environments. Please see LQU specification sheet for certification details.
- ❑ MQU Series — LQU in a metal case. Please see MQU specification sheet for certification details.
- ❑ LPV Series — LPU downbanded to a lower frequency
- ❑ MPV Series — LPV in a metal case

Information in this manual on LPU Series radios is also valid for the other series of radios except where noted.

1.2 DESCRIPTION

The LPU Series radios are self-contained 4 watt UHF FM Transceivers covering the frequency range of 450MHz to 512MHz (LPV 403MHz to 457MHz). The units are multi-channel, digitally synthesized radios using a single crystal for frequency control. All models use a rotary switch for channel selection, and incorporate an EEPROM for the storage of channel frequency, CODE GUARD™, and Dual Tone Multiple Frequency/Automatic Numeric Identifier encode information. All models also include low battery and busy channel indicators. A variety of 2 channel, 14 channel, 42 channel, and 210 channel models using toggle switches to control repeater talk-around, priority scan, and multi-channel scan are available. Status and channel information is displayed over a liquid crystal display on Keyboard/Display models. Connectors are provided on the side of the unit for external antenna, microphone, speaker, and optional accessories. A variety of twist off battery packs are also available. Unit features are listed in the chart below.

MODEL NUMBER	CHANNEL CAPACITY	PRIORITY SCAN	SCAN	KEYBOARD DISPLAY	DTMF ANI
4020	2	—	—	—	ANI ONLY
4140	14	✓	—	—	ANI ONLY
4141	14	✓	✓	✓	✓
4421	42	✓	✓	✓	✓
4991	210	✓	✓	✓	✓

1.3 TECHNICAL CHARACTERISTICS

GENERAL

FREQUENCY:	450-512MHz, LPU/MPU/LQU/MQU 403-457MHz, LPV/MPV
POWER SUPPLY:	One rechargeable nickel cadmium battery with temperature sensor or alkaline battery pack.
OPERATING VOLTAGE:	10 VDC nominal
OPERATIONAL FEATURES:	
Priority Channel Scan	Programmable (Keyboard units only)
Transmit-Time-Out Timer	
Scan Delay	
DTMF/ANI Encode	Programmable
Code Guard Squelch	Programmable
Squelch Tail Elimination	Standard
CHANNELS:	
LPU 4020	2
LPU 4140	14
LPU 4141	14
LPU 4421	42 in three 14-channel groups
LPU 4991	210 in fifteen 14-channel groups
FREQUENCY SPREAD:	62MHz with no degradation, LPU/MPU/LQU/MQU 54MHz with no degradation, LPV/MPV
OPERATING TEMPERATURE:	-30° to +60°C
PHYSICAL DIMENSIONS:	
Weight:	20 oz (0.6 kg) 24 oz (0.7 kg) with large battery
Width:	2.55 in (64.8 mm)
Depth:	1.50 in (38.1 mm)
Height:	6.6 in (167.6 mm) 7.8 in (198.1 mm) with large battery
ANTENNA TYPE:	Threaded mount molded cable radiator (standard) BNC mount molded cable radiator (optional) TNC mount molded cable radiator (optional)
CHANNEL SPACING:	25kHz.
MAXIMUM CURRENT DRAIN:	
Transmit 4 watts:	1250mA
Receive 500 milliwatts audio:	185mA
Receive standby:	70mA (battery saver off) 20mA (battery saver on)
FCC IDENTIFICATION NUMBER:	ASY90Q LT30001

TRANSMITTER

RF POWER OUT:	4 Watts
MODULATION CHARACTERISTICS:	15KOF2D, 16KOF3E, 16DOFXE
SPURIOUS AND HARMONICS:	-60dBc
MAXIMUM DEVIATION:	±5kHz
FM HUM AND NOISE: (Companion RX)	-40dB
FREQUENCY STABILITY:	±5 parts per million
AUDIO DISTORTION:	3% maximum with 3kHz deviation
AUDIO RESPONSE:	+1 to -3dB from 6dB/octave pre-emphasis 0.3 to 3KHz
DUTY CYCLE:	EIA

RECEIVER	
SENSITIVITY: 12dB SINAD	.30µV
SELECTIVITY:	-70dBm
IMAGE AND SPURIOUS RESPONSES:	-70dBm
INTERMODULATION:	-65dBm
AUDIO RESPONSE:	+1dB to -3dB from 6dB/octave de-emphasis at 0.3 from 3kHz
AUDIO OUTPUT	500mW with 5% maximum distortion into an 8 ohm load

1.4 ACCESSORIES

A wide variety of batteries and other accessories can be added to LPU Series radios. Your BENDIX/KING dealer price list will list all available accessories.

IMPORTANT: Use only approved intrinsically safe batteries and accessories on intrinsically safe LQU and MQU radios.

1.5 LICENSE REQUIREMENTS

This equipment must be licensed by the Federal Communications Commission prior to use. Your BENDIX/KING dealer can assist you in meeting these requirements. Your dealer will program each radio with your authorized frequencies and signaling codes.

1.6 SERVICE INFORMATION

If you have questions regarding service you may contact the factory at this address:

BENDIX/KING
Mobile Communications Division
2920 Haskell Avenue
Lawrence, Kansas 66046
(913) 842-0402

1.7 WARRANTY INFORMATION

BENDIX/KING Mobile Communications Division ("Warrantor") warrants to the purchaser of new radio equipment of the Warrantor's manufacture that such equipment shall be free from defects in material and workmanship for a period of two years from the date of purchase of the equipment; batteries, antennas, and accessories are warranted for a period of one year. Equipment and accessory items not manufactured by the Warrantor, other than items contained in Warrantor's published price list, carry the standard warranty of the manufacturer thereof.

This Warranty does not cover equipment which has been (a) damaged or not maintained as reasonable and necessary, (b) modified in any way, (c) improperly installed, (d) repaired by someone other than the Warrantor or an Authorized Warranty Repair Station, or (e) used in a manner or purpose for which the equipment was not intended. This Warranty shall not extend to incidental or consequential damages arising from the operation of the equipment or from any claimed breach of this Warranty.

To obtain warranty repair, the customer must return the equipment, properly packaged, freight prepaid, to Warrantor or any Authorized Warranty Repair Station. The equipment will be returned freight prepaid.

This warranty is the only warranty with respect to the equipment and is expressly in lieu of all other warranties, express or implied. Warrantor hereby DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE. No person, whether in the employ of Warrantor or not, is authorized to make oral or other modifications, extensions, or additions to this warranty, unless approved in writing by an authorized officer of the Warrantor at its home office.

The liability of Warrantor is expressly limited to the repair or replacement of the equipment as described herein. Warrantor shall not be liable to the purchaser and the purchaser shall, upon his tender of the purchase price for the equipment, agree that Warrantor shall not be liable, in any respect, for the equipment or damages caused thereby, except as prescribed herein, whether such liability is predicated upon negligence, tort, contract, or other product liability theory.

SECTION II
INSTALLATION AND PROGRAMMING

2.1 GENERAL INFORMATION

This section contains suggestions and factors to consider before installing the LPU series transceivers.

2.2 UNPACKING AND INSPECTING EQUIPMENT

Exercise extreme care when unpacking the equipment. Make a visual inspection of the unit for damage incurred during shipment. If a claim for damage is to be made, save the shipping container to substantiate the claim. The claim should be promptly filed with the transportation company. It would be advisable to retain the container and the packing material after all equipment has been removed in the event that equipment storage or reshipment becomes necessary.

2.3 PROGRAMMING

2.3.1 INTRODUCTION

There are two basic types of UHF handheld radios offered by BENDIX/KING Mobile Communications. The first are units with a keyboard and a display. These will be referred to as the MASTER units. Any MASTER unit can be programmed using the keyboard and display. MASTER units are also capable of transfering or receiving their program to or from any other UHF BENDIX/KING portable. The second type of radio has no keyboard or display. These will be referred to as SLAVES. A SLAVE must be programmed by an external source. There are three possible techniques for programming:

A. A MASTER unit can be programmed using the keyboard and display.

B. Any BENDIX/KING Radio (MASTER or SLAVE) can be cloned from a master unit (mobile or handheld) by attaching a cloning cable (LAA 0700) from the MASTER to the CLONE and pressing a download button.

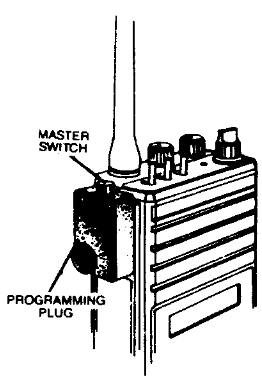
C. Any BENDIX/KING radio can be cloned from a computer by means of a special RS232 interface.

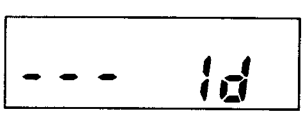
2.3.2. PROGRAMING A MASTER RADIO THROUGH THE KEYBOARD AND DISPLAY

NOTE:

To program radios using this method, a LAA 0701 program plug must be used.

A. To Enter the Programming Mode:





PASSWORD CODE ENTRY

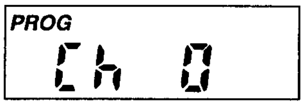
1. Make sure that the unit is connected to a charged battery pack.

2. Insert the programming plug into the side connector of the radio. (<u>NOTE</u>: The cloning cable will serve as a substitute for the programming plug. The cloning cable has two plugs. The plug with the master switch <u>must</u> be inserted into the connector on the side of the radio.)

3. Press and hold the master switch.

4. While holding the master switch, press and hold the (FCN) key. After approximently three seconds the display will show "_ _ _ Id ".

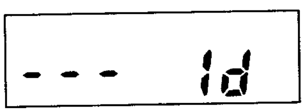
5. Release the (FCN) switch and the master key. The radio is now in the password entry mode. The correct six digit password code must now be entered to proceed with programming. The password code can consist of the digits zero and two through nine. The digit one can be used providing it is NOT the first digit of the password code. If used as the first digit the radio will malfunction. The "*" and the "#" may also be used in the password code.



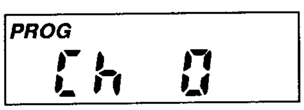
6. Enter the proper password code. While entering the password code the display will not change, however a beep will be heard for each key pressed. After the six digit code has been entered press the ENT key to continue with normal radio programming. The display will show "PROG Ch 0" to verify that you are in the programming mode. If the password code entered is incorrect, the radio will reset to normal operation. NOTE: New radios shipped from the factory are assigned the password code:"000000".

B. Changing the Password Code:

NOTE: The current password code must be known before the password can be changed.



1. Enter the program mode and select the six keys that make up the current password code, then press the FCN key. Subsequent keystrokes will then be displayed in the right section of the display and move to the left as each key is pressed. NOTE: DO NOT USE THE NUMBER "1" AS THE FIRST DIGIT OF THE PASSWORD CODE! If an error is made entering the new password code, pressing the clear key will reset the radio to entry point for changing the password code and the display will indicate, "_ _ _ Id".



2. The new password will be stored by pressing the ENT key and the display will change to "PROG Ch 0" for normal programming functions.

C. To Program General Radio Performance Variables (CH 0):

1. Channel 0 is the portion of the program that controls the following radio performance variables:

Idetification Numbers (ANI)	Priority Key Lockout
Scan Delay	Scan List (ENT/CLR) Key Lockout
Transmit Timeout Timer	User Code Guard Enable
Priority Scan Operation	Busy Channel Operation
Battery Saver	ANI/DTMF Enable

D. To Set the ID Number:

PROG
Ch 0

1. The display will indicate "PROG Ch 0" after entering the program mode.

2. Press the FCN key.

PROG ID
135 7296

3. The display will indicate the ID number (as many as seven digits may be used). The ID number can be used for either radio management or transmitted as a DTMF tone burst for ANI purposes. The ANI feature in Miscellaneous Channel 0 Programming - Group 2 must be enabled. (Refer to I, #5.)

4a. If no change is needed for the ID number, press FCN to advance to the next section.

PROG ID
250 0062

PROG ID
250 0063

4b. A new number can be entered by pressing CLR.The digits will appear to right of the display and move to the left. Press ENT to store the new ID number, the program will automatically advance to the next section.

4c. If desired,the existing ID number can be incremented one digit by pressing PRI. Then press ENT to store the new ID number and automatically advance to the next section.

E. To Set the Transmitter Time Out Timer

After the ID number is set, the upper display will indicate PROG TX. This is the duration of the transmitter Time Out Timer. 0 SEC means the Time Out Timer is inhibited.

PROG TX
0 SEC

PROG TX
225 SEC

1. Press the FCN key to advace to the next section if no change is needed.

2. The Time Out Timer duration can be changed by pressing the PRI or CLR key. Each press of the PRI key will increase the duration by 15 seconds until the maximum of 225 seconds (3 minutes, 45 seconds). An entry after maximum will reset the duration to zero. Pressing the CLR key will automatically reset the duration to zero. Press ENT to store the chosen duration and automatically advance the program to the next section.

F. To Set the Scan Delay Time

PROG SCAN
2.0SEC

After the Time Out Timer is set the upper display will indicate PROG SCAN. This is the duration of the scan delay time in seconds.

1. Press the FCN key to advance to the next section if no changes are needed.

PROG SCAN
7.5SEC

2. The scan delay duration can be changed by pressing the PRI or CLR key. Each press of the PRI key will increase the scan delay time by .5 seconds up to 7.5 seconds. Another press after 7.5 seconds resets to 0. Pressing the CLR key will automatically reset the value to 0. Press ENT to store the chosen value and automatically advance the program to the next section.

Note: It is not recommended to leave the scan delay time at 0 seconds.

G. Miscellaneous Channel O Programming - GROUP ONE

PROG
1- 12345

After the scan delay time is set the display will show PROG 1-12345. This is a group of five individual functions that can be enabled or disabled.

PROG
1- 12345

DISABLED

When a function is enabled, the corresponding number in the display will flash. When the function is disabled the number is steady. If you wish to change the function from enable to disable or vice versa, press the number key corresponding to that function.

PROG
1- 12345

ENABLED

Example: If function #4 (Priority Key Lockout) is disabled, the 4 in the display will not be flashing. If the 4 key is pressed, the 4 in the display will flash signifying that Priority Key Lockout is enabled. A subsequent press of the 4 key will return Priority Key Lockout to a disabled status.

H. GROUP ONE Functions

PROG
1- 12345

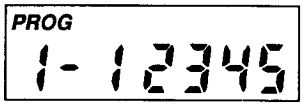
BATTERY SAVER ON

PROG
1- 12345

BATTERY SAVER OFF

1. Battery Saver Inhibit - When enabled (flashing), this turns off the battery saver. The battery saver should be turned off only to get proper voltage readings during service or in systems requiring extremely fast squelch attack time. NOTE: BENDIX/KING current drain and battery life specifications are based on performance with the battery saver on.

2. & 3. Functions 2 and 3 are used to define Priority Scan operation. There are three types of Priority Scan available. Their operational characteristics are thoroughly discussed in Section 3.2.6 D and E of this manual. In summary:

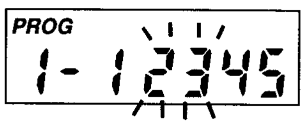


PRIORITY MODE A

Priority Mode A - The Priority Channel follows the position of the channel select knob.

PRIORITY MODE B

Priority Mode B - The Priority Channel is fixed. You will transmit on the channel selected by the channel select knob channel.

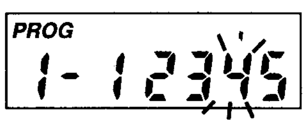


PRIORITY MODE C

Priority Mode C - The Priority Channel is fixed. When the PRI toggle switch is on, you will transmit on the Priority Channel regardless of the channel select knob setting.

To set Function 2 and 3 for Priority Mode A, B, or C, use the following chart:

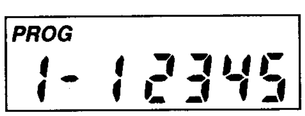
	FUNCTON 2	FUNCTION 3
PRIORITY MODE A	DISABLE (STEADY)	DISABLE (STEADY)
PRIORITY MODE B	ENABLE (FLASHING)	DISABLE (STEADY)
PRIORITY MODE C	ENABLE (FLASHING)	ENABLE (FLASHING)



PRIORITY KEY LOCKED OUT

4. PRI Key Lockout- When enabled (flashing) the PRI key will be locked out in the operating mode. The user will not be able to change the designation of the Priority Channel. When disabled (steady) the user will be able to change the channel that is designated as Priority Channel.

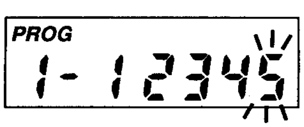
See Section 3.2.5 E for instructions on changing the Priority channel.



PRIORITY KEY OPERATIVE

5. Scan List Lockout - When enabled (flashing), the user will not be able to change the channels in the scan list. When disabled (steady), the user can enter or delete channels from the scan list.

See Section 3.2.5 C for instructions on changing the scan list.



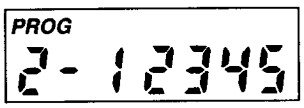
ENTER/CLEAR KEYS LOCKED OUT

Once each function 1-5 is set as desired, press ENT to store them into memory and automatically advance the program to the next section.

Note: The Priority Channel designation and Scan List cannot be changed in the programming mode. If the user is not allowed to have access to choose the Priority Channel or the ability to change the Scan List, the following procedure should be used.

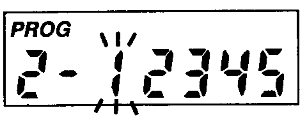
1. Set Group One functions 4 & 5 to steady or disabled.
2. Press ENTER
3. Go out of the programming mode by turning the radio off and removing the programming device. Set the priority channel and Scan List as described in paragraph 2.4.4.
4. Return to the programming mode and reset the Group 1 functions 1, 2, 3, 4, and 5 as desired (4 and 5 flashing).
5. Press ENTER to store these selections and proceed with the Group Two functions.

I. Miscellaneous Channel 0 Programming - GROUP 2



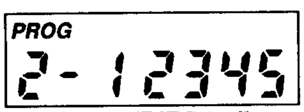
After Group One functions are set the display will show PROG 2-12345 for Group 2 functions. As with Group One functions, the enabled function number will flash. The disabled functions remain steady.

1. User Code Guard Selection



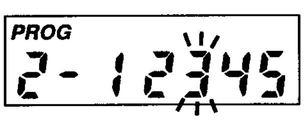
USER CODE GUARD TM ENABLED

When enabled (flashing) the user will be able to press the keyboard to independently select the CODE GUARD™ values that are programmed into Channels 1 thru 9 while operating on any Channel 1 thru 14. When disabled the user will be unable to use the keyboard for CODE GUARD™ selection. See Section 3.2.5. F for operation procedures of this function.

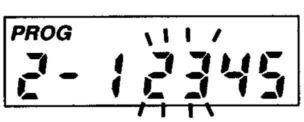


USER CODE GUARD TM DISABLED

2.&3. Functions two and three are used to set Busy Channel operation. There are three types of busy channel operation available. Each of their characteristics are thoroughly discussed in the Operation Section of this manual. In summary:



Busy Channel Indicator - The yellow LED illuminates when any activity on the channel selected has been detected.



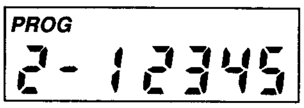
Busy Channel Lockout - The yellow LED illuminates and the transmitter PTT is disabled when activity on the channel selected has been detected.

Busy Channel Override - This function is similar to Busy Channel Lockout except the transmitter PTT can be activated by rotating the squelch control clockwise off the detent "CG" position.

To set Busy Channel operation use the following chart:

MODE	FUNCTION 2	FUNCTION 3
Busy Channel Indictation	Disable (steady)	Enable (flashing)
Busy Channel Lockout	Enable (flashing)	Enable (flashing)
Busy Channel Override	Enable (flashing)	Disable (steady)

4. ANI Enable
   When flashing (enabled) the seven digit number entered in the ID portion of the Channel 0 will be transmitted on each press of the side PTT switch. On later models, if DTMF and ANI are both enabled, the ANI tone sequence will be transmitted only after the [ENT] key is pressed while the transmit PTT switch is activated.
5. DTMF Enable
   When flashing (enabled) the keypad becomes active for manual DTMF operation.

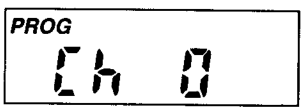


Once Group Two functions are set, press ENT to store the functions into memory. The display will revert back to the CH0 entry point.

I. To Review Channel 0 Values

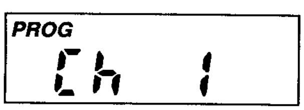
Repeated pressing of the FCN key will display each value in Channel 0, then loop back to the Ch 0 entry point.

J. To Enter Frequencies and CODE GUARD™ Values for Channel 1:



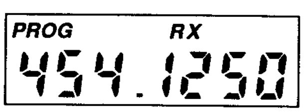
Once Channel 0 programming is complete, the display will show PROG Ch 0. Any channel number can now be pressed to allow access to the frequency and CODE GUARD™ values for that channel.

NOTE: A valid receive frequency must be programmed into each channel intended for use. If a 0 value or an invalid frequency is programmed, the LCD will give a false reading in the operation mode, and may result in radio malfunction. If a malfunction occurs, reset the radio by turning it off and then back on. Valid frequencies are from 450.00MHz to 512.00MHz (403.00MHz to 457.00MHz for LPV/MPV).



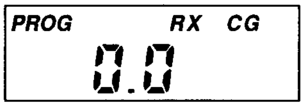
ENTRY POINT

1. Press (1) and the display will show PROG CH 1. This is the entry point for channel 1 values.
2. Press FCN and the upper part of the display will show PROG RX. This is the receive frequency for channel 1 (in MHz).



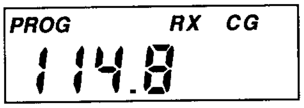
3. If the displayed frequency is correct, press FCN to advance to the next value.

   If a new frequency is desired, press CLR followed by the digits of the desired frequency from left to right. Then press ENT to store this frequency and automatically advance to the next value.

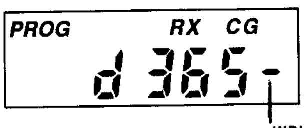


4. After the receive frequency is set the upper part of the display will show PROG RX CG. This is the CODE GUARD™ value for Channel 1 receive. NOTE: 0.0 indicates carrier squelch operation.

   If the displayed value is correct, press FCN to advance to the next value.



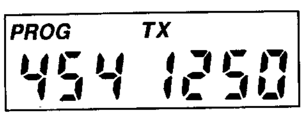
   If a new value is desired, press the CLR key to reset the display to 0.0. Tone CODE GUARD™ is entered directly, using the digit keys (0 thru 9) See Section 2.4.8.



INDICATES INVERTED CODE

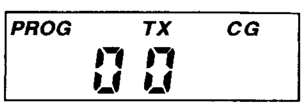
   Digital CODE GUARD™ is entered by first pressing CLR, then the (#) key, causing the letter d to appear, followed by three zeros. Enter the desired digital code using keys 0 thru 7 (keys 8 & 9 respond as a 7.) See Section 2.4.9. Pressing the PRI key after the three digit code has been entered allows the digital code to be inverted. When the displayed value is correct, press ENT to store the CODE GUARD™ and automatically advance to the next value.

5. After the receive CODE GUARD™ is set the upper part of the display will show PROG TX. This is the transmitter frequency for Channel 1. If it is correct, press FCN to advance to the next value.



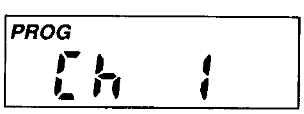
   If you wish to change it, press CLR followed by the frequency in MHz then ENT to store the new frequency and automatically advance to the next value.

   Only frequencies from 450 to 512.000MHz will be operable. See Section 4.3.5 for frequency increments.



6. After the transmit frequency is set the upper part of the display will show PROG TX CG This is the CODE GUARD™ value for Channel 1 transmit (0.0 indicates carrier squelch). If this value is correct press FCN to advance to the next value.

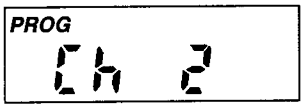
   If a new value is desired, follow the procedure for receive CODE GUARD™ as described in Step 4.



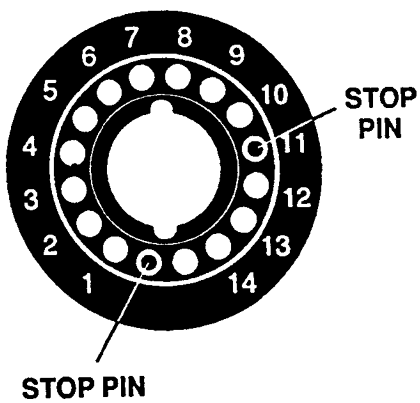
ENTRY POINT

7. After the transmit CODE GUARD™ is set, the display will loop back to the Channel 1 entry point. If you wish to review the frequencies and CODE GUARD™ values in Channel 1, subsequent pressing of the FCN key will show each value and then loop back to the Channel 1 entry point.

J. To Enter Frequencies and CODE GUARD™ Values for any Channel



1. After Channel 1 information is set, the display will loop back to show PROG CH 1. Press CLR followed by the digits of any other channel number to gain access to the frequencies and CODE GUARD™ values for that channel. Each channel is then programmed using the same technique as previously outlined for Channel 1.



2. After the frequencies and CODE GUARD™ values are entered for each channel, the channel select knob can be modified to limit it's travel. The procedure is as follows: Remove the channel select knob from the radio. There are two pins. The pins can be set to limit the travel from two to 14 channels as needed. Place the pins in to the appropriate hole and reinstall the channel select knob. For example, to limit the travel to channels 1-10 set the pins as shown in the illustration to the left.

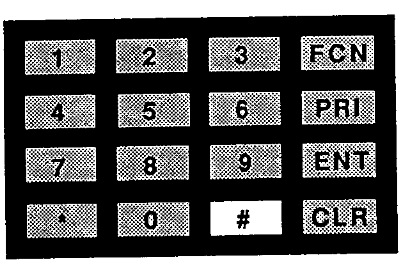
K. To Leave the Programming Mode:

1. Rotate the On/Off/Volume knob on the top of the radio counter clockwise to the Off position.
2. Remove the programming plug.
3. Normal radio operation will occur on the next power up.

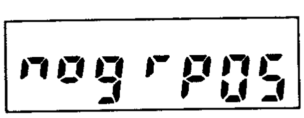
L. Group Programming:

Models equipped with more than one group (42 or 210 channel radios) require that each group be programmed individually. Perform the following, to select a group for programming.

1. Turn the radio to normal operation.



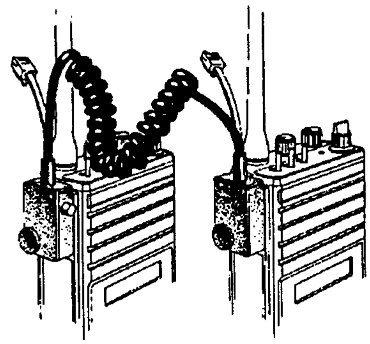
2. Select the group to be programmed by pressing the "#" key followed by the desired group number. If an invalid group number has been selected the display will indicate: " no group 05 ". To exit this mode either turn the radio off, then on, or enter a valid group number from the keypad.



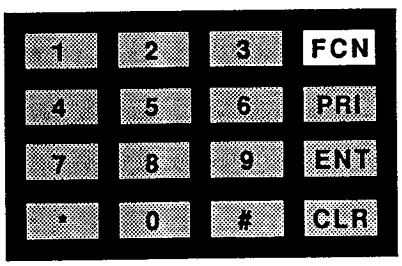
3. Enter the program mode and follow the steps necessary: See section 2.4.2 A. NOTE: The same password code is used for all groups in the radio.

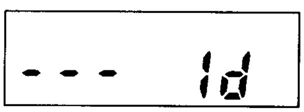
2.3.3 CLONING A RADIO FROM A MASTER

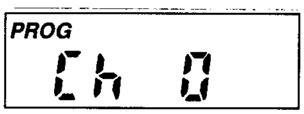
Any MASTER radio (unit with internal keyboard and display) is capable of transferring its program to another MASTER or SLAVE (unit without keyboard). Note: Both units must be of the same frequency band. The radio receiving the program will be referred to as the CLONE.

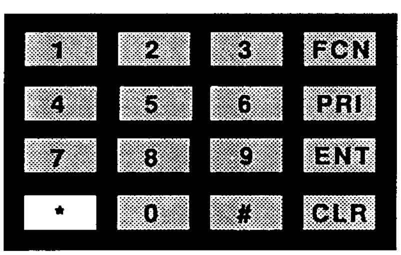


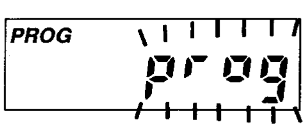
MASTER RADIO CLONE RADIO



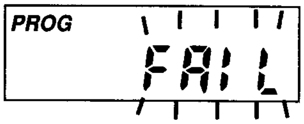








1. Make sure that both units are connected to a charged battery pack.
2. Attach the MASTER switch end of the cloning cable into the side connector of the MASTER radio. (<u>NOTE</u>: one plug of the cloning cable has a push button MASTER switch. This plug must be plugged into the side connector of the MASTER radio.)
3. Power up the MASTER radio by rotating the On/Off/Volume knob clockwise past the detent.
4. To put the MASTER radio in the programming mode, press and hold the MASTER switch. Then press the FCN key until the display shows "_ _ _ Id".
5. Enter the correct Password Code to proceed to CH 0.
6. Review the values in the program. Any changes required must be made at this time.
7. Connect the other plug of the cloning cable into the side connector of the radio to be cloned.
8. Power up the clone radio.
9. Press the * key on the MASTER radio keyboard. The display will flash PROG signifying that the radio is ready to download.
10. Press FCN key. The program in the MASTER will be downloaded to the clone. The clone will send back the program to the MASTER to verify successful cloning.
11. If the download was successful, the MASTER will resume flashing PROG. Power down the clone. Disconnect the cable. Normal radio operation will occur on the next power up.



12. If the download was not successful the MASTER will display FAIL and multiple beeps will follow. Failure to down load the MASTER program can be due to:

A. Incorrect radio types (VHF tries to program UHF or vice versa).

B. Improper connection.

C. Failure to power up radio.

D. Clone set in programming mode.

<u>NOTE</u>: To stop fail mode, press CLR, power down the radios, and try again starting at Step 1.

2.4 SPECIAL CLONING INSTRUCTIONS

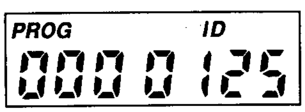
It is possible to change Channel 0 values on the MASTER radio, hold them in a temporary memory, and download them to the clone without actually entering them into the permanent memory of the MASTER. This is convenient for sequential identification numbers used to identify a series of portables in a radio system. Assuming that the frequencies, CODE GUARD™ values, and other Ch 0 values are common for all radios in the system, but that the radio identification number should be unique to each radio, the following method would be used to clone additional radios for the system:

1. Program the MASTER with all frequencies, CODE GUARD™ values and Channel 0 values that will be common to all radios.

2. Advance the display to show the MASTER's ID number #100 for example.

3. Press CLR; press 1 2 5. #125 is now in temporary memory.

4. Press *, connect the cable to the radio and download by pressing FCN. ID #125 is now stored in permanent memory of the clone.



5. After download press CLR. Disconnect the clone. The MASTER radio display will show that #125 is still being held in the temporary memory of the MASTER.

6. Press PRI. This will increment the ID number one digit to #126. (Note: any new number can be entered at this point by pressing CLR and using the digit keys to enter the new number.)

7. Press *. Connect the cable to the second clone and download by pressing FCN.

8. Any number of radios can be coded with different or sequential ID numbers using this technique. The ID number in the permanent memory of the MASTER will remain unchanged as #100.

2.4.1 SCAN LIST AND PRIORITY CHANNEL CLONING

When a MASTER downloads to a clone, the Scan List and Priority Channel designations are also transferred to the clone. This includes Priority Mode and any lockout functions.

If electing to program a clone with a set Priority Mode, Priority Channel and Scan List along with the respective lockout functions (if desired), the MASTER radio must first be programmed with these parameters. Hence whatever is programmed in the MASTER will be downloaded to the clone radio. See the appropriate operating procedures in Section 3.2 for selecting the Scan List, Priority Channel and Lockout functions. See Section 2.4.2 G for Priority Mode selection.

2.4.2 CLONING BY RS 232 INTERFACE

Programming from a computer by the RS 232 interface is covered in a separate programming manual. Contact your BENDIX/KING sales representative and order manual LAA 0705.

2.4.3 SELECTING A TONE CODE GUARD™

The tone CODE GUARD™ system may be set for any frequency in the range of 67 to 250.3 Hz. However, since most systems adhere to the Electronic Industry Association (EIA) standards, tones should be selected from the following EIA list. In order to insure optimum performance, tone selection for use on the same radio frequency (RF) channel or adjacent channels in the same coverage area should be made from one of the Groups A, B, or C to the maximum degree possible. BENDIX/KING guarantees optimum receiver performance only if tone frequencies below 220 Hz are chosen.

GROUP A		GROUP B		GROUP C
67.0	*151.4	71.9	146.2	74.4
77.0	162.2	82.5	156.7	79.7
88.5	173.8	94.8	167.9	85.4
*100.0	186.2	103.5	*179.9	91.5
107.2	203.5	100.9	192.8	
114.8	218.1	*118.8	210.7	
123.0	233.6	127.3	225.7	
131.8	250.3	136.5	241.8	
141.3				

* 50/60 Hz power distribution systems could cause flashing.

The assignments in a given area shall be made from one of the Groups A, B, or C.

2.4.4 SELECTING A DIGITAL CODE GUARD™

Codes for the Digital CODE GUARD™ system may be chosen from the following list. Since there are no EIA standards for the performance or compatibility of Digital CODE GUARD™ systems it is recommended that an operational test be made on the intended system before wholesale assignments are made. In some cases either or both the transmit and receive codes will require an inverted code to operate with existing systems. This can be done during the code programming of the system. Usually systems using direct unit to unit transmission (systems without mobile relays, repeators, remote control, etc) may use codes from the table. Systems with relays etc. may use code variations for system control and operational efficiency. The system operator or engineer should be consulted regarding the operational requirement on such systems.

023	065	131	172	251	331	412	466	612	703
025	071	132	174	261	343	413	503	624	712
026	072	134	205	263	346	423	506	627	723
031	073	143	223	265	351	431	516	631	731
032	074	152	226	271	364	432	532	632	732
043	114	155	243	306	365	445	546	654	734
047	115	156	244	311	371	464	565	662	743
051	116	162	245	315	411	465	606	664	754
054	125	165							

2.5 BATTERY REPLACEMENT

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.

B. To reinstall the battery, locate the center hub on the radio base and place it in the recesses of the battery pack. Position the battery pack at the 30° offset, seating two metal studs in their respective resess. Apply upward pressure to the battery pack while twisting the battery pack to its original position. The metal tab will click, locking the pack in position.

C. BENDIX/KING battery packs are available in a variety of sizes and types for special applications. Rechargeable packs can be charged seperately or while attached to a radio.

D. Periodically check the contacts on the battery pack for dirt that may prevent a good electrical contact with the charging base.

E. Do not dispose of a battery pack in the fire. An explosion may occur.

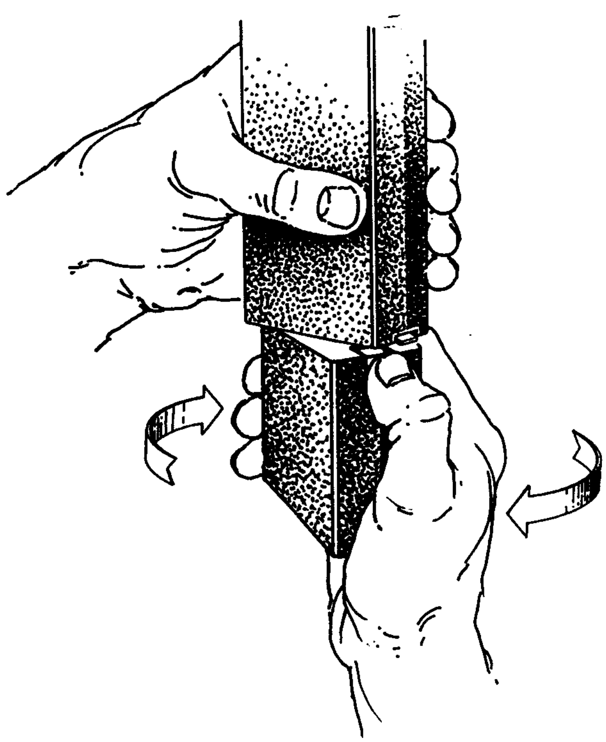


FIGURE 2-1 BATTERY REPLACEMENT

SECTION III

OPERATION

3.1 INTRODUCTION

This section contains a basic operation procedure for the LPU hand held UHF FM Transceivers. Information on programming and installation is contained in Section 2 of this manual.

WARNING

DO NOT OPERATE THIS UNIT IN CLOSE PROXIMITY TO ELECTRICAL BLASTING CAPS. DO NOT OPERATE THIS RADIO IN AN EXPLOSIVE ATMOSPHERE (PETROLEUM FUELS, SOLVENTS, DUST, ETC).

3.2 OPERATION

The transceivers are equipped with a Low Battery Indication feature. When the voltage drops below the value needed for proper operation, low battery condition is indicated by flashing the yellow LED at the rate of approximately once every 3 seconds.

3.2.1 BASIC OPERATION

A. Receive

Turn the power on by rotating the VOL (volume) knob clockwise past the OFF detent. The LCD will momentarily display grp 01 and a beep will be audible, indicating the radio is operational. Select the appropriate channel using the Channel Select knob. Rotate the SQ (squelch) knob clockwise until a rushing noise is heard. Set the volume to a comfortable level, then rotate the SQ knob counter-clockwise until the noise stops. This is called the squelch threshold setting. Further rotation counter-clockwise tightens the squelch setting, making it necessary for stronger signals to open the squelch and allow a message to be heard.

B.Transmit

Press and hold the side PTT (push to talk) switch. The transmit LED will glow red when the transmitter is on. Talk in a normal voice with the microphone one to two inches from your lips. Make each transmission as brief as possible. Release the PTT switch to end the transmission.

If the transmit LED does not glow when you press the PTT switch, the battery pack may need to be charged. (On later models, the LCD display will show "Lobat" and the yellow Low Battery LED will flash.) If the transmit LED does not glow and a tone is heard, you are on a receive only channel. Switch the channel selector to an authorized transmit channel. If the length of your message exceeds the preset time out timer setting, the transmitter will automatically shut off and a tone will be heard. If you wish to continue the transmission, release the PTT, then press, hold, and continue talking.

3.2.2 CODE GUARD™ OPERATION

CODE GUARD™ allows one radio or group of radios to be selectively called within a system. If the radio has been programmed with CODE GUARD™, use the following receive and transmit instructions.

A.Receive
Rotate the SQ (squelch) knob clockwise until a rushing noise is heard. Set the volume to a comfortable level then rotate the SQ knob completely counter-clockwise, past the detent for CODE GUARD™ operation. A message will be heard only when the programmed CODE GUARD™ is being transmitted.

B.Transmit

Before transmitting on CODE GUARD™ channels, monitor the channel by turning the SQ knob clockwise, off the detent. If the channel is not busy, press and hold the side PTT (push to talk) switch. The Transmit LED will glow RED when the transmitter is on. Talk in a normal voice with the microphone one to two inches away from your lips. Make each transmission as brief as possible. Release the PTT switch to end transmission. Reset the SQ knob to the CODE GUARD™ position.

If the Transmit LED does not glow when you press the PTT switch, the battery pack may need to be charged. If the Transmit LED does not glow and a tone is heard, you are on a receive only channel. Switch the channel selector to an authorized transmit channel. If the length of your message exceeds the preset time out timer setting, the transmitter will automatically shut off and a tone will be heard. If you wish to continue this transmission, release the PTT, then press and hold.

3.2.3 TALK AROUND

On models equipped with talk around, placing the TA toggle switch in the TA position allows the radio to transmit on the receive frequency of the channel selected. This allows one to talk portable to portable, or portable to mobile, when out of range of the repeater.

3.2.4 BUILT IN FEATURES

Select BENDIX/KING radios are based on a microprocessor core that allows certain features and operational characteristics to be built in to the radio. You should define the best operational settings for your customer's system and program them in to the radio.

Additional transmit and receive frequencies can be added. If you wish to monitor other local radio systems that fall anywhere in the band, a frequency with or without CODE GUARD™ can be added to the program.

The radio comes equipped with a time out timer. This is used to limit the duration of calls and to guard against accidental PTT locking on the transmitter and tying up the radio system. The duration of the time out timer can be changed from 0 - 3.75 minutes as required.

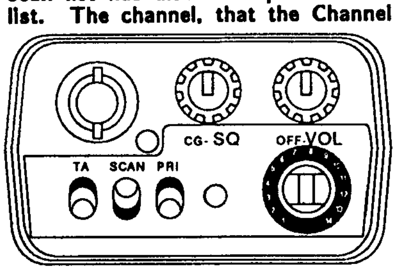
A SCAN delay is included to allow a response to a transmission to be received before the scanner moves on to search for new activity. If you find that the scanner is restarting before message replies are heard, increase the scan delay time. (0 - 7.5 seconds)

There are three different priority modes available. These are discussed in the priority section of this manual. Also included: the user CODE GUARD™ feature, DTMF/ANI operation, manual DTMF operation, and three different modes of busy channel operation. A detailed explanation appears later in this section of the manual. System needs and suggestions should be discussed with the customer.

3.2.5 OPERATIONAL FEATURES AVAILABLE ON SELECT MODELS

A. Scan Operation

When in the scan mode, the radio receiver samples channels in a predetermined list (scan list) looking for activity. If an active channel is found, the scanning action stops and the message on that channel is heard. Once the message stops, the receiver will wait for a response before scanning resumes. This waiting period is called the "scan delay time". It can be preset (from 0 seconds to 7.5 seconds). The scan list has also been preset. On some radios you will be able to add or delete channels from the scan list. The channel, that the Channel Selector Knob is set to, is always included in the scan list.



To begin scanning, place the SCAN toggle switch in the SCAN position. Scan operation occurs only while the radio is receiving. After SCAN is enabled, two flashing bars on the right side of the display (Figure A) indicate that the radio is scanning the channels in the Scan List.

When a signal is detected, scanning stops and the signal being received is heard, with active channel shown on the right side of the LCD display. (Figure B) The radio receiver stays tuned to that channel until activity ceases and resumes scanning after the "scan delay" time.

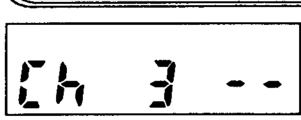


FIG A

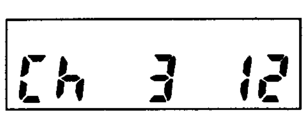


FIG B

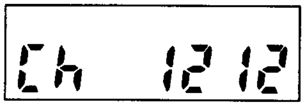


FIG C

If you wish to transmit on the last active scan channel (right side of display), turn the Channel Select Knob on top of the radio to match that channel. (Figure C) Turn OFF the SCAN toggle switch for normal talk-listen operation.

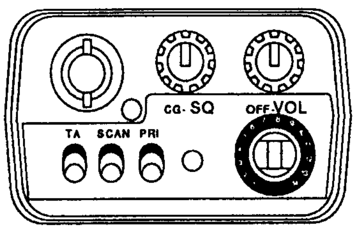
When the PTT is pressed while in the scan mode, the radio transmits on the "transmit" (left side of display) channel. Upon release of PTT, the radio receiver will hold on that channel. If no activity occurs during the "scan delay" time, the radio resumes scanning.

B. Scanning CODE GUARD™ Channels

To scan for channels with programmed CODE GUARD™, rotate the SQ knob completely counter-clockwise, past the detent. When a signal is detected, scanning stops and the CODE GUARD™ for that channel is checked. If the proper CODE GUARD™ is present, the radio receives on that channel until CODE GUARD™ ceases. If the proper CODE GUARD™ is not present the radio receiver will resume scanning immediately.

C. Changing the Scan List

The radio can be programmed with a permanent or changeable scan list. If the scan list can be changed, use the following steps to enter or clear channels.



To avoid confusion, turn OFF the PRI and SCAN toggle switches on the top of the radio.

Turn the Channel Select Knob to the channel to be entered or cleared.

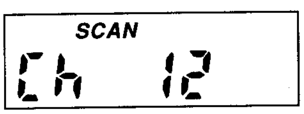
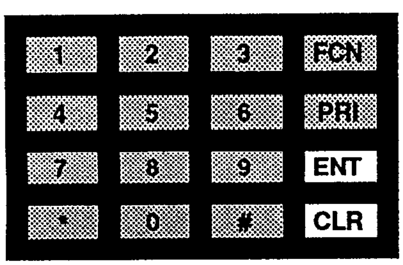


FIG D

To ENTER a channel into the scan list, press the [ENT] key on the keyboard. A short beep will be heard. "SCAN" will be shown in the LCD display.(Figure D)



To CLEAR a channel from the scan list, press the [CLR] key. A short beep will be heard, and the "SCAN" in the display will disappear.

D. Permanent Scan List

To make the scan list permanent enter the program mode CH 0. Press the FCN key until Group 1 functions appear (1-12345). Press the digit 5 so it begins to flash, then press (ENT). The scan list is now permanent in the normal operation mode and cannot be changed until the scan lockout function has been reversed.

E. Priority Operation

Priority operation consists of receiving on any channel while still monitoring for a message on the priority channel. Priority can also be used in combination with Scan operation. When the priority scan channel is a CODE GUARD™ channel, messages will only be audible if the correct code is detected. If the correct code is not detected, the yellow LED will stay on for the duration of the transmission, but no message will be audible.

FIG E

When the PRI (priority) toggle switch is turned ON, the channel designated "priority" is sampled 4 times a second, regardless of activity on any other channel. Two flashing bars on the right hand side of the display indicate that the radio is sampling the priority channel. (Figure E) If a signal is received on the priority channel, the radio receiver will lock on to this channel for the duration of the transmission.

When the SCAN toggle switch is ON and the PRI toggle switch is OFF, normal scanning will occur but the priority channel will not be sampled. If both scan and priority toggles are off, the radio will function as in basic operation.

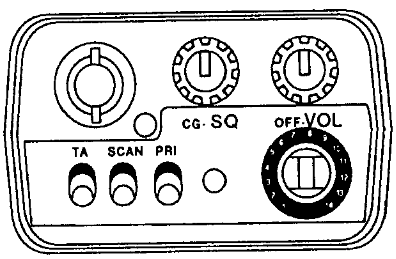
There are three priority modes:

Priority Mode A - The priority channel is tied to the Channel Select Knob. When the selector is set on channel 5, this is the priority channel. If the selector is switched to channel 8, this becomes the priority channel. You will transmit on the frequency chosen by the Channel Select Knob.

Priority Mode B - The priority channel is fixed. You will transmit on the frequency chosen by the Channel Select Knob.

Priority Mode C - The priority channel is fixed. When the PRI toggle switch is ON, you will transmit on the priority channel regardless of the Channel Select Knob setting.

If you do not know which priority mode is preset for the radio, the following steps will identify it.



1. Set the PRI and SCAN toggle switches to OFF.

2. Rotate the Channel Select Knob, stopping at each detent to view the LCD Display.

3. If a "PR" symbol (in the upper left of the LCD Display) does not appear for any channel, you have priority Mode A. (Figure F)

4. If "PR" is displayed, rotate the Channel Select Knob to a different channel, then turn the PRI toggle ON.

   If the LCD display doesn't show "PR", you have priority Mode B.

   If the LCD Display changes and "PR" appears, you have priority Mode C.

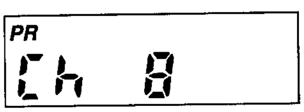


FIG F

Priority Mode A Details:

In this mode, the priority channel is tied to the Channel Select Knob. When the SCAN and PRI (priority) Toggle Switches are ON, Scanning will occur until an active scan channel is found. The radio will receive the active channel (Figure G) while continuing to sample the priority channel 4 times per second.

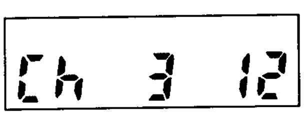


FIG G

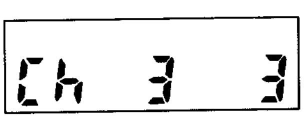


FIG H

If during this sampling the priority channel becomes active, the yellow LED will light. The radio receiver will go to the priority channel and hold for the duration of the transmission. (Figure H) The active channel (scan or priority) will be shown on the right hand side of the display. If you wish to reply to a message on the priority channel, press the PTT and you will transmit on the priority channel. Once activity ceases on the priority channel, the radio returns to scan operation.

Priority Mode B Details:

This mode fixes one channel in the radio as the priority channel. With the SCAN toggle switch OFF and PRI (priority) toggle switch ON, the radio can receive on the Knob Selected Channel while still sampling the priority channel. If the priority channel becomes active, the yellow LED goes on and the radio holds on the priority channel for the duration of the transmission. If you wish to reply to a message on the priority channel, you must rotate the Channel Select Knob to the priority channel, then transmit.

Ch 5 12

FIG J

Ch 5 3

FIG K

PR
Ch 3 3

FIG L

With both SCAN and PRI toggle switches ON, normal scanning operation will occur until the scanner locks on to an active channel. (Figure J) The priority channel will continue to be sampled 4 times per second while the radio is listening to this active channel. If activity occurs on the priority channel, the radio will override the active scan channel, go to the priority channel, and hold for the duration of the transmission. (Figure K) If you wish to reply to a message on the priority channel, you must rotate the channel selector to the priority channel, then transmit. (Figure L) Once activity has ceased on the priority channel, the radio returns to scan operation.

Priority Mode C Details:

With the PRI toggle switch ON and SCAN switch OFF, the fixed priority channel is sampled 4 times a second. If activity occurs on the priority channel, the radio will go to the priority channel and hold for the duration of the transmission. If you wish to reply to a message heard on the priority channel, press the push to talk and the radio will automatically transmit on the priority channel regardless of the setting of the Channel Select Knob. In Priority Mode "C" the radio will always transmit on the priority channel if the PRI toggle switch is ON. The yellow LED will come on as a reminder that you are transmitting on the priority channel. Once activity has ceased on the priority channel, the radio will return to the Channel Select Knob receive channel.

PR
Ch 3 12

FIG M

PR
Ch 3 3

FIG N

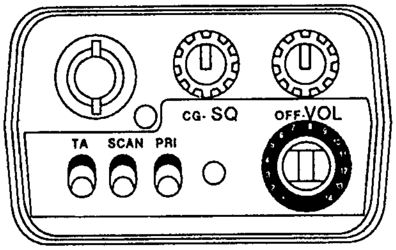
PR
Ch 3 3

FIG O

With both SCAN and PRI toggle switches ON, the radio will scan until it locks on to an active channel. (Figure M) The priority channel will continue to sampled 4 times a second while the radio is listening to this active channel. If activity occurs on the priority channel, the radio will override the active scan channel, go to the priority channel and hold for the duration of the transmission. (Figure N) If you wish to reply to a message on the priority channel, press the PTT and the radio will automatically transmit on the priority channel regardless of the setting of the Channel Select Knob. In priority Mode "C" the radio will always transmit on the priority channel if the PRI toggle switch is on. (Figure O) The yellow LED will come on to remind you that you are transmitting on the priority channel. Once activity ceases on the priority channel, the radio returns to scan operation.

F. To Change the Priority Channel

The priority channel used in Priority Mode B and C may be permanently set or may be changeable. If the radio has changeable priority, use the following steps to make this change. NOTE: Only one channel can be designated as the priority channel.

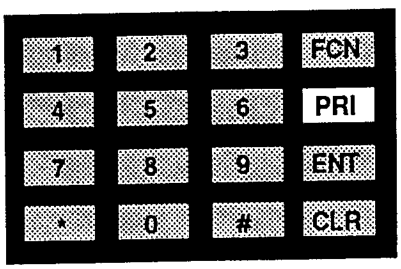


1. To avoid possible confusion, turn OFF the PRI and SCAN toggle switches on the top of the radio.

2. Turn the Channel Select Knob to the channel that you wish to enter as the new priority channel.

FIG P

A press of the [PRI] key causes a short beep, with letters "PR" displayed, indicating that the displayed channel is now the priority channel. (Figure P)



A channel can be both a priority and a scanned channel. Due to multiple sampling of the same channel, maximum performance occurs when the priority channel is not also a scan channel.

G. Setting Priority channel lockout

1. To lockout a priority channel setting the radio must first be programmed for priority mode B or C.
2. With the radio in normal operation mode set the channel select knob to the desired priority channel.
3. Press the (PRI) key on the keyboard. PR should appear on the display.
4. Enter the programming mode. While in CH 0 press the (FCN) key until Group 1 functions appear (1-12345).
5. Press the digit 4 on the keyboard. The 4 in the display should now be flashing.
6. Press ENT. Return the radio to normal operation mode by turning the radio off, then back on again. The channel selected as priority channel should show PR on the upper portion of the display.
7. To verify priority channel lockout set the channel select knob to a different channel and press the (PRI) key. The PR symbol should not appear in the display.

H. User CODE GUARD™ (optional on selected models only)

The user CODE GUARD™ feature allows the user to select any of the CODE GUARD™ values that are programmed in channels 1 thru 9 while operating on any channel 1 thru 14. This feature only operates when a system uses one frequency with more than one CODE GUARD™ value and is operative in both receive and transmit modes.

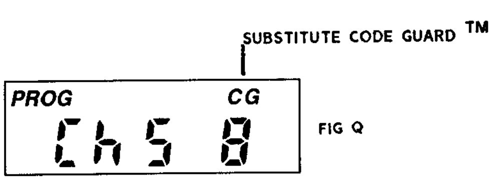


FIG Q

To select a CODE GUARD™ other than what is used by the channel setting of the channel select knob just press the digit on the keyboard of the channel (1 thru 9) you wish to use. The CODE GUARD™ selected will appear in the display as shown in Figure Q.

Pressing the digit 0 clears the selected CODE GUARD™ and normal channel operation will resume.

NOTE: During scan or priority scan mode the display will not show the selected CG but will instead revert to the normal scan-priority display.

NOTE: Once a CODE GUARD™ value is selected by the keyboard it will not change even if the power is interrupted or if the channel selector is changed.

I. Busy Channel Operation

If the radio has been programmed for busy channel operation, it will operate in one of the following modes:

1. Busy Channel Operation

   The yellow LED will illuminate indicating there is carrier activity on the channel selected. If the channel selected is a code guarded squelch channel and the correct code is not detected, the yellow LED will remain lit for the duration of the carrier activity and no messages will be audible.

   During SCAN and PRIORITY SCAN operation, the yellow LED will illuminate when activity is detected on any channel that is on the scan list. When scanning CODE GUARD™ channels and activity is detected, the yellow LED will illuminate for the time period necessary to determine if the proper CODE GUARD™ has been received, causing the LED to flash at various rates. In Priority Scan operation, the yellow LED will remain on for the duration of the activity.

2. Busy Channel Lockout

   The Busy Channel Lockout feature applies only to those channels programmed for receive CODE GUARD™ operation. When carrier activity has been detected on the channel selected, the receive CODE GUARD™ is checked. If the proper CODE GUARD™ is present transmission is allowed on that channel. If an incorrect code or carrier activity only is detected, the transmitter is disabled and an alert tone will be audible when the radio's PTT is depressed.

   Channels not programmed for receive CODE GUARD™ operation will transmit regardless of carrier activity.

   During SCAN operation, the transmitter is disabled. To transmit on a channel, the SCAN switch must be in the off position.

   When using the Priority Mode C and the Priority switch is on, the Busy Channel Lockout is overridden and transmit capability is allowed.

3. Busy Channel Lockout Override

   This mode operates in a similar manner as the Busy Channel Lockout mode. However, the exception is that you are able to override and transmit by turning the squelch control off (the detent CG position).

J. ANI Operation

A DTMF/ANI encoding feature is also available on all models. If enabled, a sequence of DTMF tones similar to the tones used by a standard pushbutton telephone will be transmitted each time the transmit PTT switch is activated. A sidetone of the ANI number transmitted will also be audible through the front speaker. On later models, if DTMF and ANI are both enabled, the ANI tone sequence will be transmitted only after the [ENT] key is pressed while the transmit PTT switch is activated.

K. DTMF Operation

Some keyboard models of the LPU series portables are equipped with DTMF encoding. To operate the DTMF function simply press and hold the side transmit PTT switch and press any of the 12 keys desired. An audible sidetone will be generated and heard through the front speaker.

<u>NOTE</u>: The FCN, PRI, ENT, AND CLR keys respond as DTMF tones A, B, C, and D respectively.

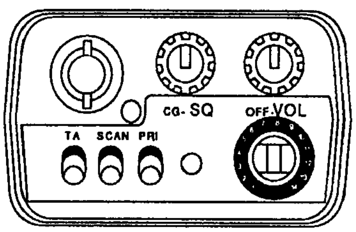
3.2.6 GROUP OPERATION

A. Group Description

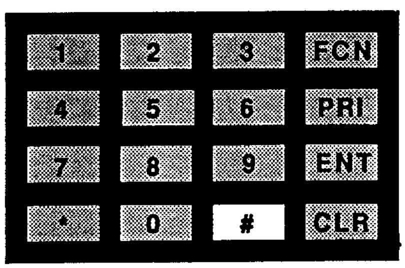
Depending on the model, the BENDIX/KING radio has either 2, 14, or 42, or 210 channels. Models equipped with 42 or 210 channels are seperated into groups with each group having 14 channels. Fourty two channel radios have three groups, 210 channel radios have 15 groups.

For simplification each group should be looked at as an indivdual 14 channel radio. Each group can be programmed to have an individual identity with the same operational and built in features as described in Section 3.2.4 .

B. Group Selection



1. To avoid confusion switch the SCAN and PRI switches to the "OFF" position. By pressing the # key on the key pad, the display indicates the group selected. FIG. R



2. After two seconds the radio returns to normal operation and the channel selected is displayed.

3. To change groups, press the # key followed by the group number desired. After two seconds, the radio returns to normal operation for the that group and the channel number selected appears in the display. All scanning and priority functions selected affects only the channels in the group.

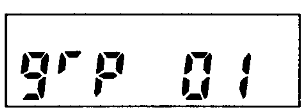
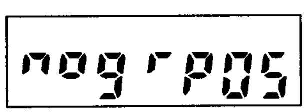


FIG R

4. When changing groups and a non-programmed or invalid group number is selected the no grp 05 message will be displayed. The radio will not be operational. To resume normal radio operation, enter a valid group number.



*NOTE: For invalid frequencies see technical specification sheet.

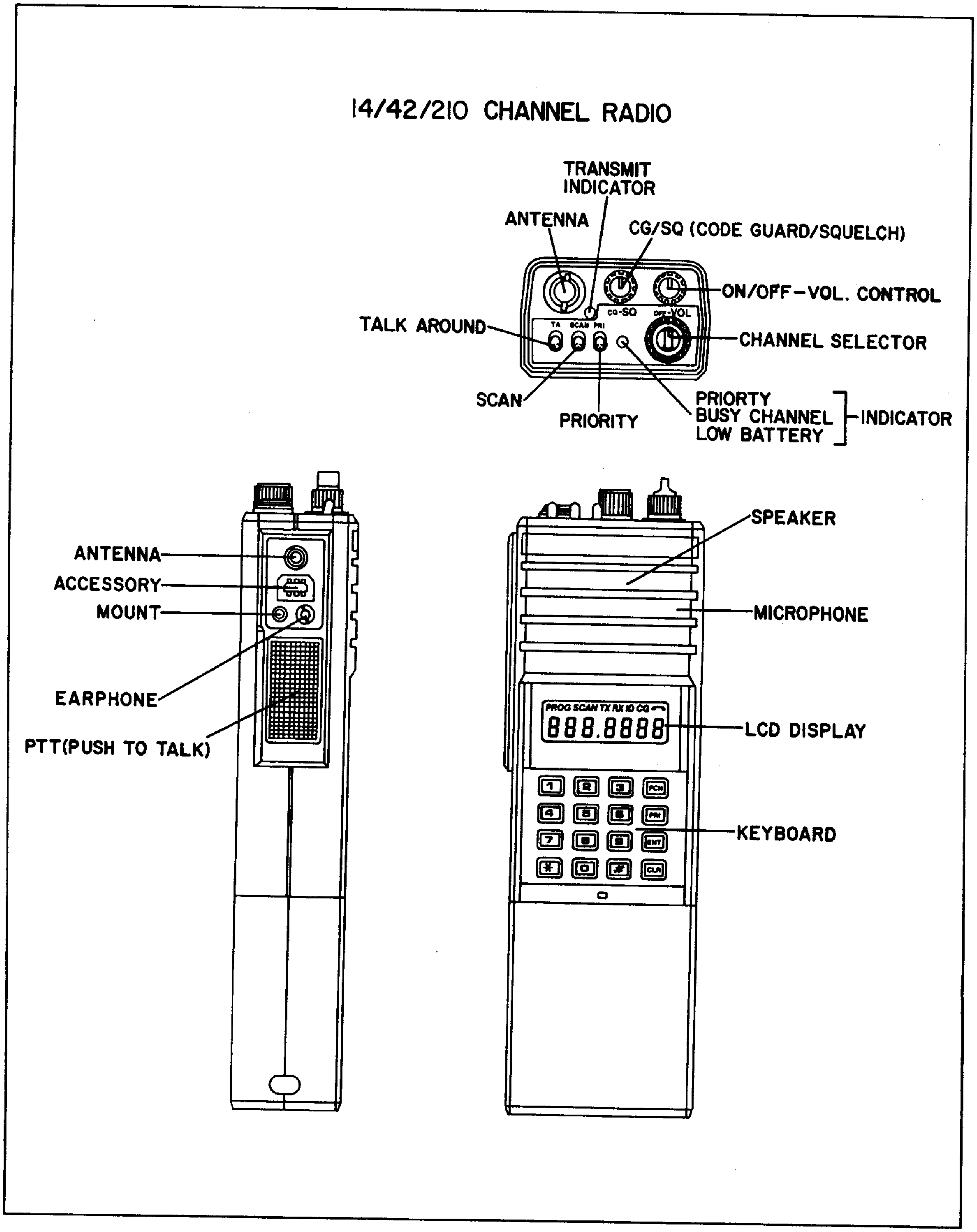


FIGURE 3-1 LPU 514 CONTROLS

SECTION IV
THEORY OF OPERATION

4.1 INTRODUCTION

This section contains the theory of operation for the LPU Series transceivers. To aid in understanding the operation of the equipment, schematic diagrams are found in Section VI of this manual.

4.2 EQUIPMENT DESCRIPTION

The LPU 4020, 4140, 4141, 4421, and 4491 are handheld UHF FM Tranceivers operating in the 450-512 MHz band. All models are digitally synthesized and use a single crystal for frequency control. All models use a rotary switch for channel selection, and incorporate an EEPROM for the storage of channel frequency, CODE GUARD™, and DTMF/ANI encode information. All models also include low battery and busy channel indicators. A variety of 4 watt 2, 14, 42, and 210 channel models using toggle switches to control repeater talk-around, priority scan, and multi-channel scan are available.

Controls include an On/Off/Volume control, Squelch Sensitivity, Channel Selector, and a Repeater Talk Around Switch. In addition, the LPU 4141, 4421, and the LPU 4991 contain a keyboard, and a liquid crystal display that displays channel and status information. Connectors are provided on the side of each unit for an external antenna, speaker, microphone, programming, and other related accessories. Usable channels are dealer programmable.

4.3 FUNCTIONAL DESCRIPTION

The BENDIX/KING LPU 4000 Series handheld radio is comprised of the following sub-assemblies:

A. SYSTEMS BOARD

Contained within this sub-assembly are the microprocessor control, the synthesizer, regulation, and switching circuitry. A casting is used to shield the synthesizer area. The VCO board plugs into the sub-assembly. Interconnections to other boards are provided by pin and socket connectors.

B. RF BOARD

This sub-assembly consists of receiver circuitry through the discriminator and the transmitter line-up.

C. OPTIONS BOARD/KEYBOARD DISPLAY

This sub-assembly consists of receive and transmit audio chains. Both the systems board and the keyboard/display unit interface through this board. Additional area on this board is reserved for options.

D. VCO BOARD

The VCO board is a seperate assembly containing only the VCO that plugs into the systems board.

4.4 THEORY OF OPERATION

4.3.1 SYSTEMS BOARD

The systems board functions include:

1. Microprocessor Control
2. Voltage Regulation
3. Receiver Front End Tuning/Signaling
4. Synthesizer
5. Audio Amplifier
6. CTCSS/CDCSS(Continous Tone or Digital Coded Squelch System)Decode

A. Microprocessor Control

The microprocessor, I5, receives inputs from user controls such as SCAN, PTT, Keyboard, and controls radio functions, such as loading the synthesizer, adjusting the deviation and receiver tuning, time out functions, and the audio mute. Y1, C46, C47, and R71 connected to pin 42 and pin 43 form a 4.000 MHz master oscillator.

The EEPROM, I8, stores user specific parameters such as frequencies, time-out-timer length, and scan list. I8 is accessed through Q11 by a signal from pin 17 of I5. Transistors Q6, Q7, Q8, Q9, Q10, and Q11 provide level interfaces and current capability for the various microprocessor functions.

B. Voltage Regulation

I6A, Q4, and associated circuitry comprise a low noise +7.5 VDC regulator for use by the VCO. I6B, Q16, and associated circuitry comprise a low noise, +5 VDC regulator used by the synthesizer and the VCO. I4 is the +5 VDC supply for the radio. In addition, I4 supplies a power on reset indication for the microprocessor. The microprocessor oscillator drives a FET Q1 amplifier tied to a peak-to-peak detector. The detector is referenced to +10 VDC. The gain of Q1 is controlled by an error amplifier, I3A. The result is a 20 VDC switching regulator used by the synthesizer and the receiver front end.

C. Front End Tuning/Signaling

RN1 is a resistor network providing digital to analog conversion for the receiver front end tuning in the receive mode, and for DTMF and CTCSS/CDCSS tone generation in the transmit mode. Buffering of this output is provided by I3B. I9, potentiometer R27, and the associated circuitry form an adjustable level converter for tuning the receiver front end.

D. Synthesizer

1. Synthesizer

I11 forms the main synthesizer. The IC contains three programmable CMOS counters, a sample-and-hold phase detector, and the amplifier for the reference oscillator. Oscillator inputs (pins 2 and 3) form an on-chip reference oscillator when connected to terminals of an external crystal (Y2). The first counter, (÷ by R), counts down the reference oscillator to a frequency used as a reference by the sample-and-hold analog phase detector. The second counter, (÷ by N), counts down the output of the Prescaler to the reference frequency when the loop is locked. The third counter, (÷ by A), controls the modulus control line of the Prescaler. The sample-and-hold phase detector provides a DC voltage that is proportional to the phase error between the divided reference, and the divided carrier frequency. This voltage is fed through the loop filter to the VCO, and adjusts the VCO frequency in a direction to maintain phase and frequency lock between the divided down frequencies.

2. Prescaler

The prescaler I12 is the first counter in the feedback path of the synthesizer. Using emitter coupled logic, it divides the RF signal to a frequency that is processed by the CMOS dividers. The prescaler is of the dual modulus type which allows the divided value to be set by the synthesizer I11, either ÷ by 128, (modulus control line high) or ÷ by 129 (low) . This capability allows the channel spacing to be determined by the counted down reference frequency.

3. Reference Oscillator

The reference oscillator provides the reference frequency from which the receiver and transmiter injection signals are synthesized. The oscillator frequecy is controlled by the crystal Y2 that operates in the parallel resonant mode across an amplifier built into the synthesizer's IC. This crystal is compensated to ± 5ppm by a temperature compensating circut consisting of transistor Q14, thermistor RT1, varactors CR8, and CR9.

In addition, a method of modulation is provided to improve the synthesizer frequency response to low frequency modulation.

4. Loop Filter

The loop filter removes noise and unwanted frequency components from the output of the phase detector, that would modulate the VCO. The filter is a multiple bandwidth design that allows fast response during frequency changes (such as in channel scan) without degrading the noise and spurious performance of the synthesizer during steady state receive and transmit conditions. The filter bandwidth is switched to a wide condition when the latch enable line pulses high for approximately 4msec during a frequency change. This allows the new frequency to be reached quickly. When the latch enable returns to a low state, the bandwidth changes to a narrow condition and provides for good noise and spurious performance. Transmit uses a different bandwidth than is used by receive. Better hum and noise performance on transmit, and better response time on receive, is accomplished by changing the bandwidth to a narrow value when the RX/TX line goes high.

5. Offset D/A

I13 is a serial latching D/A that is loaded by the microprocessor when it loads the synthesizer. This provides an offset voltage that is summed in to the loop filter. The op amp I10 provides translation from the zero to four volt output of the phase detector. Calibration of the VCO is provided for in the software by altering the loaded values of this IC.

6. Deviation Compensation

I2, along with R94, R95, and R97 comprise a voltage divider with R30 on the Options Board. This divider controls the peak deviation on transmit. As the transmit frequency increases, less voltage is needed at the VCO, so the effective, parallel resistance is lowered with microprocessor control.

E. Audio Amplifier

I7 is a 0.5 watt audio IC that is muted and unmuted by the transistor Q15 on pin 8. The FET Q23 provides for muting on the tone line when needed.

F. CTCSS Decode

I1 and associated circuitry act as a filter and limiter for CTCSS/CDCSS decoding interface to the microprocessor.

4.4.2 RF BOARD RECEIVER SECTION

A. LO Buffer

Transistor Q17 is a LO buffer that provides approximately 10dB of gain to run the input mixer and transmitter line-up.

B. RF Preselectors

The first and second RF preselectors are varactor tuned, two pole filters which are identical in structure. Coupling has been adjusted to allow the first filter to operate with a low loss, and the second filter to provide greater selectivity at a higher loss. Overall the preselectors exhibit a 3dB bandwidth of 16MHz, and greater than 70dB of rejection at the image frequency. The first preselector consists of L1, CR4, C86, L2, CR5, and C87. The second preselector consists of L5, CR6, C88, L6, CR7, and C89. The microprocessor generated tuning voltage for the preselectors is fed to varactors CR4, CR5, CR6, and CR7 through R5, R6, R14, and R76.

C. RF Amplifier

The RF amplifier is a cascade amplifier providing 20dB of gain. It is comprised of Q2 and Q3 and associated biasing circuitry.

D. Mixer

The Active Singly-Balanced Mixer is comprised of input transformer T1, transistors Q4 and Q5, T2, and associated circuitry. Local oscillator injection is provided at the primary winding of T1. The mixer converts the signal to an IF of 45MHz.

E. IF Filter and IF Amplifier

The output of the mixer is fed to the first IF filter, consisting of crystal filters FL1A and FL1B. This filter is 15KHz wide centered at 45MHz. The output of the first IF filter is coupled to IF amplifier Q6 and associated biasing circuitry through T3.

F. FM IF Subsystem

The FM IF Subsystem is built around I1, a multi-function intergrated circuit. The following discussion describes the functions performed by I1.

The second local oscillator consists of Y1, L8, C29, C30, and variable capacitor C31 connected to pins 1 and 2 of I1. The second mixer is contained in I1 and its output is filtered by 455KHz ceramic filters FL3 and FL4. A five stage limiting amplifier within I1 provides most of the radio gain at 455KHz. The FM signal is demodulated by ceramic discriminator FL5, and the audio signal appears at pin 9 of I1. The audio signal is then split and simultaneously fed to the audio processing circuitry on the options board, and the noise squelch circuitry.

G. Noise Squelch

A high pass filter for the detection of audio high frequency noise is provided by R34, R36, R38, R70, C22, and C26. Potentiometer R36 acts as an internal tight squelch adjustment. The filtered noise is internally amplified (input pin 10, output pin 11), then externally amplified by transistor Q15. The gain of Q15 is controlled by the squelch potentiometer. A Schmitt trigger detects the noise internally (between pin 12 and pin 14). When a high level is reached C56 is discharged. C56 is charged by the microprocessor and then sampled to determine signal level and subsequent processing.

4.4.2. RF BOARD TRANSMITTER SECTION

A. Line Up

Transmitter Q17 is a LO buffer that provides approximately 10dB of gain to run the mixer and transmitter line-up.

The transmitter consists of two class A and two class C amplifiers coupled by broadband matching networks. Low level amplifier Q7 and pre-driver Q8 operate class A, providing power levels of 0.01 watts and 0.1 watts respectively. Driver Q9 and final Q10 operate class C, providing power levels of 0.7 watts and 5.0 watts respectively.

B. Power Control

The power control circuitry provides a feedback loop to maintain a constant power level. A portion of the RF power is detected by stripline couplers, Z10 and Z11. After being rectified by CR10, the voltage is applied to pin 2 of the error amplifier of I2. The error voltage is amplified by I2, level shifted by Q12 and Q13, then, the voltage is supplied as a bias voltage for the driver Q9. Power control potetiometer R52 controls transmiter power out by setting a reference voltage for error amplifier I2.

C. Harmonic Filter/ Antenna Switch

The Harmonic filter consists of L13, L20, L22, L23, L24, C66, C70, C71, C72, C73, and C79. This circuit forms a seven pole elliptical filter that reduces harmonics reaching the antenna. In the receive mode, the antenna switching network is inactive, allowing the incoming signal to pass from the antenna, through L26 to the preselector section. In the transmit mode, a DPTT voltage is applied to Q1 through CR1, causing Q1 to conduct. The receiver input is then shunted through pin diode CR3. Q1 conducting causes Q14 to conduct, supplying a switched A+ voltage to pin diode CR14. When CR14 conducts, Transmit RF is passed to the antenna.

4.4.3. OPTIONS BOARD

A. Control Functions

When the local PTT or the external PTT line is grounded, Q1 is biased by CR1, and applies a 5VDC level to the microprocessor for PTT control. Q2 forms a switch that passes voltage to the transmit and receive audio circuits. Quad analog switch I4 is used to control transmit and receive audio paths.

B. Receive Audio

The discriminated audio is buffered by amplifier I3B before being fed to the audio high pass filter. The audio high pass filter, consisting of I1A, B, and C, and associated circuitry, filters low frequency tones from the audio signal. R14 and C11 provides passive de-emphasis for the audio signal. The signal is amplified by I1D before being fed to the final receive audio amplifier located on the systems board. Analog switches I4B, I4C, and I4D provide control for receiver muting.

C. Transmit Audio

The transmit audio is first amplified by the microphone pre-amplifier I2D. The PTT controlled analog switch, I4A, passes the audio to the same high pass filter circuits used in the receiver audio processing. The audio is then fed to I2A, providing pre-emphasis and limiting. The audio is amplified by I2B before being filtered by the three pole low pass filter, comprised of I2C and associated circuitry. The low pass filter has a cutoff near 3KHz and limits modulation bandwidth to be within FCC requirements. The output from I2C is then fed to the deviation control circut on the systems board.

4.4.4 VCO

The FET, Q1, generates the RF signal for both the receiver and the transmiter. Frequency control of the oscillator is accomplished by tuning the resonant tank circuit comprised of microstrip inductor Z1, CR1, and C12. The VCO tuning is controlled by the synthesizer through the steering line input. Q2 and the associated circuitry form an RF buffer. Q3, CR4, L4, C14, and C18, supply biasing for Q1, and is microprocessor controlled through the TX +5V line. A biased Q3 causes the 45MHz frequency shift between transmit and receive. Transmit audio is fed to CR3 through R6 for modulating the VCO. Q4 is a regulator for the main +7.5V supply.

SECTION V
MAINTENANCE

5.1 INTRODUCTION

The maintenance section contains test and alignment procedures for an operational LPU Series Radio. This section also contains troubleshooting and assembly/disassembly procedures. It is recommended that one have an understaning of the theory of operation before maintence is attempted.

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. Computer: IBM PC or compatible (256K memory) with RS232 port, LAA0705 programming cable, BENDIX/KING software UHF version, (required for the VCO calibration only).

I. Portable Tool Kit: LAA0600, P/N 050-02567-0000. This tool kit consists of the following parts:

1.	RF Cable assembly	155-02268-0000
2.	Audio Cable Assembly	155-02269-0000
3.	Accessory Test Cable	155-02260-0000
4.	Battery Eliminator	071-05087-0000
5.	Antenna Adaptor Key	047-06754-0000
6.	Spanner	076-01451-0000
7.	Spline Wrench .48	076-06119-0000

J. LPU Test Cable Kit: LAA0608, P/N 050-02767-0000. This cable kit consists of the following parts:

1.	Eight pin interconnect cable	155-02528-0000
2.	Ten pin interconnect cable	155-02564-0000
3.	Twelve pin interconnect cable	155-02565-0000
4.	RF Output intrconnect cable	155-02566-0000
5.	Local Oscillator cable	155-02567-0000
6.	Twelve pin interconnect cable	155-02623-0000
7.	Twelve pin interconnect cable	155-02705-0000
8.	RF Output intrconnect cable	155-02706-0000
7.	Eight pin interconnect cable	155-02709-0000

5.3 OVERHAUL

5.3.1 VISUAL INSPECTION

This section contains instructions to assist in determining, by inspection, the condition of LPU assemblies. Defects resulting from wear, physical damage, deterioration, or other causes can be found by these inspection procedures. To aid inspection, detailed procedures are arranged in alphabetical order.

A. Capacitors, Fixed

Inspect capacitors for case damage, body damage, and cracked, broken, or charred insulation. Check for loose, broken, or corroded terminal studs, lugs, or leads. Inspect for loose, broken, or improperly soldered connections. On chip caps be especially alert for hairline cracks in the body and broken terminations.

B. Capacitors, Variable

Inspect trimmers for chipped and cracked bodies, damaged dielectrics and damaged contacts.

C. Chassis

Inspect the chassis for deformation, dents, punctures, badly worn surfaces, damaged connectors, damaged fastener devices, loose or missing hardware, component corrosion, and damage to the finish.

D. Connectors

Inspect connectors for broken parts, and other irregularities. Inspect for cracked or broken insulation and for contacts that are broken, deformed, or out of alignment. Also, check for corroded or damaged plating on contacts and for loose, improperly soldered, broken, or corroded terminal connections.

E. Covers and Shields

Inspect covers and shields for punctures, deep dents, and badly worn surfaces. Also, check for damaged fastener devices, corrosion and damage to finish.

F. Flex Circuits

Inspects flex circuits for punctures, and badly worn surfaces. Check for broken traces, especially near the solder contact points.

G. Fuse

Inspect for blown fuse and check for loose solder joints.

H. Insulators

Inspect insulators for evidence of damage, such as broken or chipped edges, burned areas, and presence of foreign matter.

I. Jacks

Inspect all jacks for corrosion, rust, deformations, loose or broken parts, cracked insulation, bad contacts, or other irregularities.

J. Potentiometers

Inspect all potentiometers for evidence of damage or loose terminals, cracked insulation or other irregularities.

K. Resistors, Fixed

Inspect the fixed resistors for cracked, broken, blistered, or charred bodies and loose, broken, or improperly soldered connections. On chip resistors be especially alert for hairline cracks in the body and broken terminations.

L. RF Coils

Inspect all RF coils for broken leads, loose mountings, and loose, improperly soldered, or broken terminal connections. Check for crushed, scratched, cut or charred windings. Inspect the windings, leads, terminals and connections for corrosion or physical damage. Check for physical damage to forms and tuning slug adjustment screws.

M. Terminal Connections soldered

1. Inspect for cold-soldered or resin joints. These joints present a porous or dull, rough appearance. Check for strength of bond using the points of a tool.

2. Examine the terminals for excess solder, protrusions from the joint, pieces adhering to adjacent insulation, and particles lodged between joints, conductors, or other components.

3. Inspect for insufficient solder and unsoldered strands of wire protruding from conductor at the terminal. Check for insulation that is stripped back too far from the terminal.

4. Inspect for corrosion at the terminal.

N. Transformers

1. Inspect for signs of excessive heating, physical damage to case, cracked or broken insulation, and other abnormal conditions.

2. Inspect for corroded, poorly soldered, or loose connecting leads or terminals.

O. Wiring/Coaxial Cable

Inspect wiring in chassis for breaks in insulation, conductor breaks, cut or broken lacing and improper dress in relation to adjacent wiring or chassis.

5.3.2 CLEANING

A. Using a clean, lint-free cloth lightly moistened with soap and water only, remove the foreign matter from the equipment case and unit front panel. Wipe dry using a clean, dry, lint-free cloth.

B. Using a hand controlled dry air jet (not more than 15psi), blow the dust from inaccessible areas. Care should be taken to prevent damage by the air blast.

C. Clean the receptacles and plugs with a hand controlled dry air jet (not more than 25psi), and a clean, lint-free cloth lightly moistened with soap and water only. Wipe dry with a clean, dry, lint-free cloth.

5.3.3 REPAIR

This section describes the procedure along with any special techniques for replacing damaged or defective components.

A. Connectors

When replacing a connector, refer to the appropriate PC board assembly drawing and follow the notes to insure correct mounting and mating of each connector.

B. Crystal

The use of any other than a BENDIX/KING crystal is considered an unauthorized modification.

C. Diodes

Diodes used are silicon and germanium. Use long nose pliers as a heat sink under normal soldering conditions. Note the diode polarity before removal.

D. Integrated Circuits

Refer to Appendix A for removal and replacement instructions.

E. Wiring/Coaxial Cable

When repairing a wire that has broken from it's terminal, remove all old solder and pieces of wire from the terminal, restrip the wire to the necessary length and resolder the wire to the terminal. replace a damaged wire or coax with one of the same type, size and length.

5.4 DISASSEMBLY/ASSEMBLY

5.4.1 Battery Removal

To remove the battery pack, turn the radio off. Press up the metal tab on the side of the case while turning the pack approximately 30°. Remove the pack from the radio.

5.4.2 Unit Disassembly

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

B. Loosen the PTT housing screw and seperate the front cover from the main frame.

5.4.2.1 Options Board and Keyboard

A. Disconnect the zero force insertion connector (J 10) from the options board, by sliding the connector sleeve toward the top of the radio. This allows the flex cable to be unplugged.

B. Remove the five screws that secure the options board to the keyboard and the front cover, unplug the keyboard.

5.4.2.2 RX/Tx Board

A. Unfasten the three retaining clip screws that secure the rx/tx board to the main frame.

B. Lift up on the RX/TX board until it is disconnected from the systems board.

C. Slide the RX/TX board toward the battery

5.4.2.3 Synthisizer and VCO Board

Remove the nine screws that secure the synthisizer shield and the VCO board to the systems board. The VCO board unplugs from the Systems board.

5.4.2.4 Top Plate and Switch Board

A. Remove the channel select, volume, and the squelch knobs.

B. Remove the retaining fasteners from the channel select switch, volume control, and the squelch control.

C. Remove the bezel and inlay.

D. Remove the retaining fasteners from the talk around, scan, and priority switches.

E. Unfasten the four screws that secure the top frame assembly to the main frame (the screws are located on the side of the frame, two screws beside the channel select switch and two screws below the ptt housing).

5.4.3 Assembly

To assemble the unit complete the disassembly procedure in reverse order.

5.5 TEST AND ALIGNMENT PROCEDURES

5.5.1 Test Set-Up

The radio should be supplied with 10.5VDC power from an external power supply, and the manual controls shall be set as follows:

Channel Selector: Channel One
On/Off Volume: On
Squelch/Monitor: Monitor Detent
Scan: Off
Priority: Off
RTA: Off

NOTE: Some models do not include all of the controls listed.

5.5.2 SYNTHESIZER

A. VCO Adjustment

VCO calibration is performed automatically using a computer which communicates through the radio's side connector and external calibration software. Connect the computer's RS232 port to the radio with the programming cable. Load and run the LMR Editor Software. Select the calibration section for the UHF Portable VCO. Use the companion Software Manual to assist in the calibration section of the disc.

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 this frequency.
3. Key the transmitter and adjust C63 to obtain the frequency selected within ± 200Hz.

C. Deviation Adjustment

1. Connect the antenna output to the RF input jack of the service monitor.
2. Connect the modulation output of the service monitor to the mic high input of the radio. Connect the digital multimeter to monitor this input voltage.
3. Adjust the audio output level of the modulation output to 0.15 volts RMS at a frequency of 1kHz.
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 the Tone and Digital Code GUARD™ are used, select a frequency using Digital CODE GUARD™.
5. Set the service monitor to receive the selected transmitter frequency.
6. Adjust R128 to the center of its range.
7. Key the transmitter and adjust R127 on the System Board to obtain a deviation reading of 4.75 kHz on the service monitor.
8. Check the deviation reading on all of the transmit frequencies. On any frequency where the deviation is greater than 5 kHz, adjust R127 on the systems Board to reduce the deviation to 5 kHz.

D. Reference Modulation Adjustment

For radios using Digital CODE GUARD™, Make the following adjustments:

1. Adjust the modulation output level from the service monitor to 0.0 volts.
2. Key the transmitter and observe the resulting waveform on the CRT display of the service monitor.
3. Adjust R128 on the Systems Board to obtain the flattest waveform as shown in Figure 5-1. A droop of 30% is allowable.
4. Return the modulation output level from the service monitor to 0.15 VRMS, and readjust deviation if necessary.

E. Transmitter Carrier Power Set

All Transmitter power readings should be measured from the side connector jack.

1. Connect the antenna output to the power meter and load.
2. Set the radio to the highest available frequency
3. Key the transmitter and adjust R52 on the RF Board for a 4.0 watt reading on the power meter.
4. Select frequencies near Midband and near 450 MHz. Check output power of each frequency, where the power is less than 4 watts, readjust to 4 watts.

F. Receiver Front End Tuning

1. The following test frequencies should be programmed into the EEPROM as needed: 451.55 MHz and 511.10 MHz.
2. Set the signal generator to the selected frequency, modulation off, output level approximately -40 dBm.
3. Connect the signal generator to the antenna input. Connect the distortion analyzer to the audio load.

4. Set the radio to receive on 451.55 MHz, squelch open, volume at approximately mid-level.
5. Make sure that the reference oscillator has been adjusted and the generator is on frequency. Adjust C31 for maximum audio level and minimum distortion.
6. Set the generator modulation to FM, 1 KHz tone, 3 KHz deviation and adjust T2 and T3 for a minimum audio distortion.
7. Decrease the RF level for an output SINAD reading (6 to 12 dB SINAD).
8. Adjust (mechanically spread the windings) L1, L2, L5, and L6 in a sequence for best SINAD while reducing the RF input level to maintain approximately 10 dB SINAD. Continue to adjust until no further improvement can be obtained.
9. Change the receive frequency to 511.10 MHz and adjust R52 on the Systems Board for best SINAD.

G. Receiver Squelch Adjustment (Early Models)

1. On any programmed frequency, set the radio squelch knob to tight (counterclockwise but not past detent).
2. Setup a 3.5 kHz tone, modulated at 5 kHz with an RF level of -92 dBm. Adjust R36 on the RF Board until the squelch just opens.

H. Receiver Squelch Adjustment (Late Models)

1. Open the squelch knob fully clockwise.
2. Set the radio to low end of band, programmed with 0 Hz receive Code Guard. Set the volume knob at 6 dB down from the rated audio. Set the RF level to the level which gives 8 dB SINAD (useable sense -2 dB).
3. Turn R34 on the RX/TX board clockwise until squelch closes.
4. Slowly turn R34 counterclockwise until squelch just opens.

5.6 TROUBLESHOOTING

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

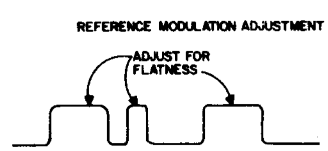


FIGURE 5-1 REFERENCE MODULATION ADJUSTMENT

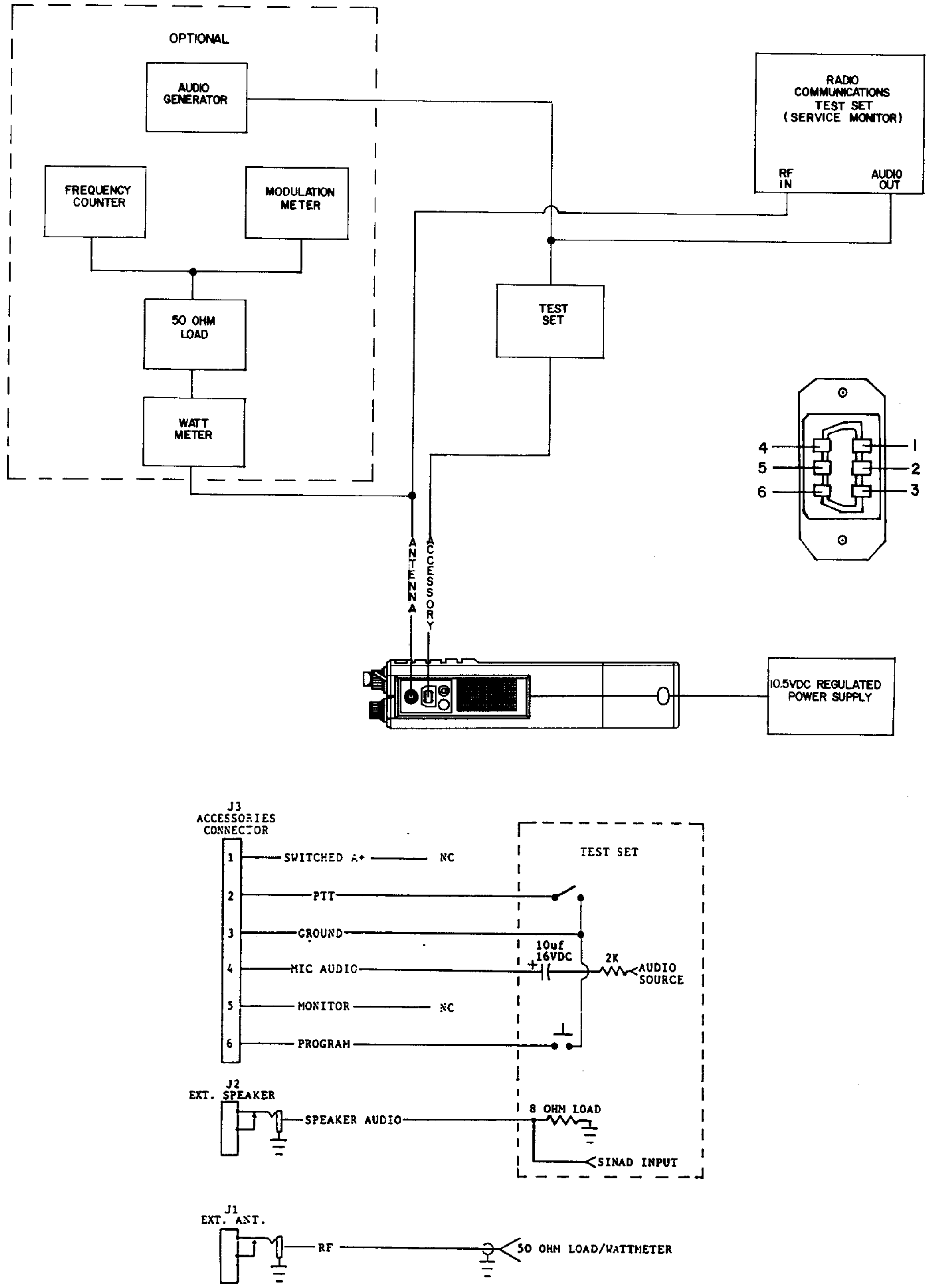


FIGURE 5-2 TRANSMITTER TEST SET-UP

BENDIX/KING
MOBILE COMMUNICATIONS DIVISION

Service Bulletin

Date: January 31, 1991

Model: LQU and MQU Series portable radios

Key Components: None

Symptoms: None

Confirmation: None

Effectivity: N/A

Manual
Reference: LPU Series Service Manual, 006-05689-0001

Parts
Required: None

LPU Series Service Manual, 006-05689-0001, contains service information on LQU and MQU Series radios for reference only.

LQU and MQU Series radios are certified intrinsically safe for hazardous environments. Special care is required to keep them intrinsically safe.

To preserve the intrinsically safe certification of LQU and MQU Series radios, it is recommended that you send units in need of repair to the Bendix/King factory.

> WARNING
>
> MODIFICATION OR IMPROPER REPAIR OF INTRINSICALLY SAFE RADIOS WILL MAKE THEM UNSAFE FOR OPERATION IN HAZARDOUS ENVIRONMENTS AND WILL VOID THEIR INTRINSICALLY SAFE RATING.

Technical questions should be directed to Customer Service at 1-800-733-2633.

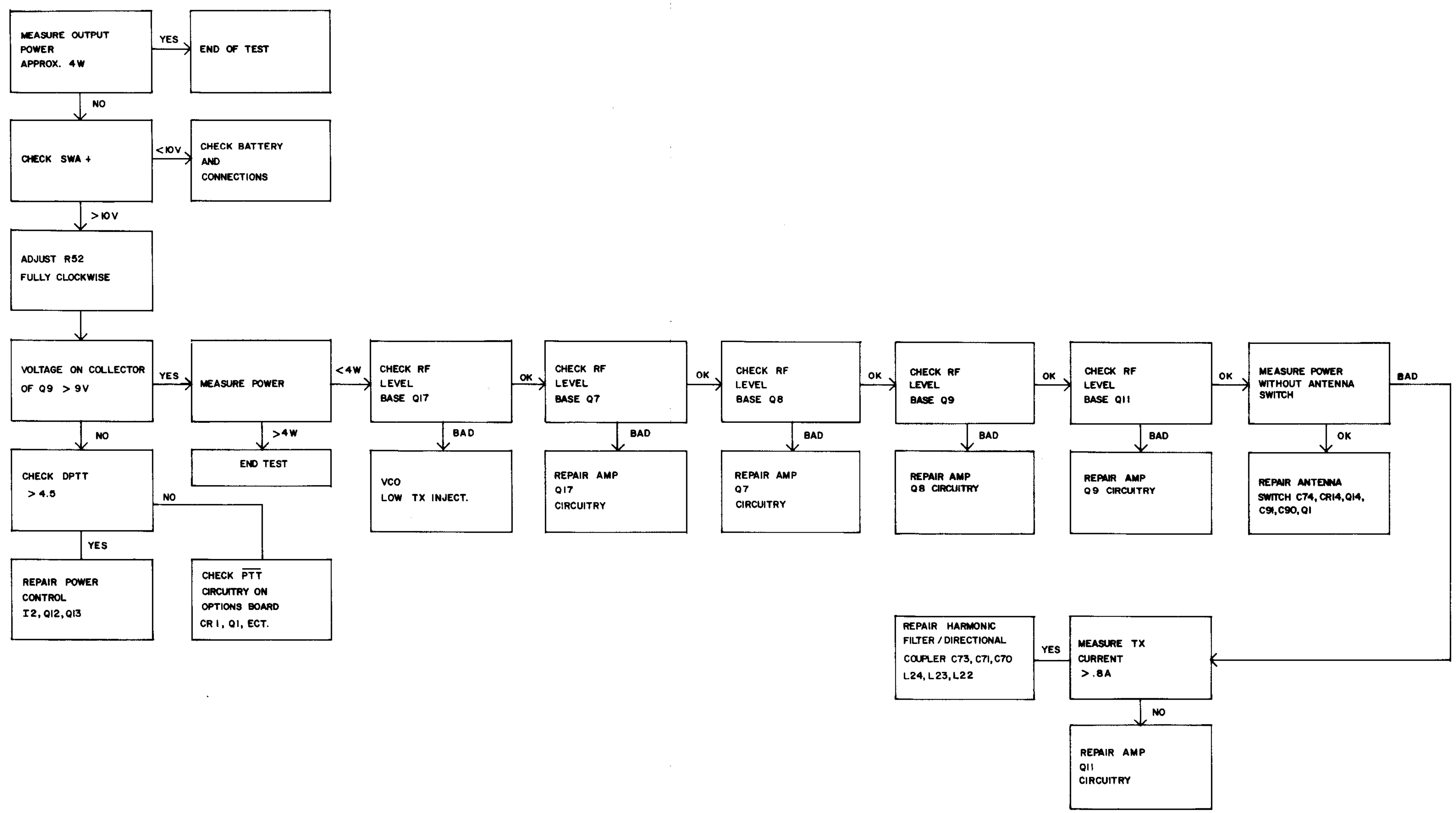


FIGURE 5-3 TRANSMITTER TROUBLESHOOTING FLOWCHART

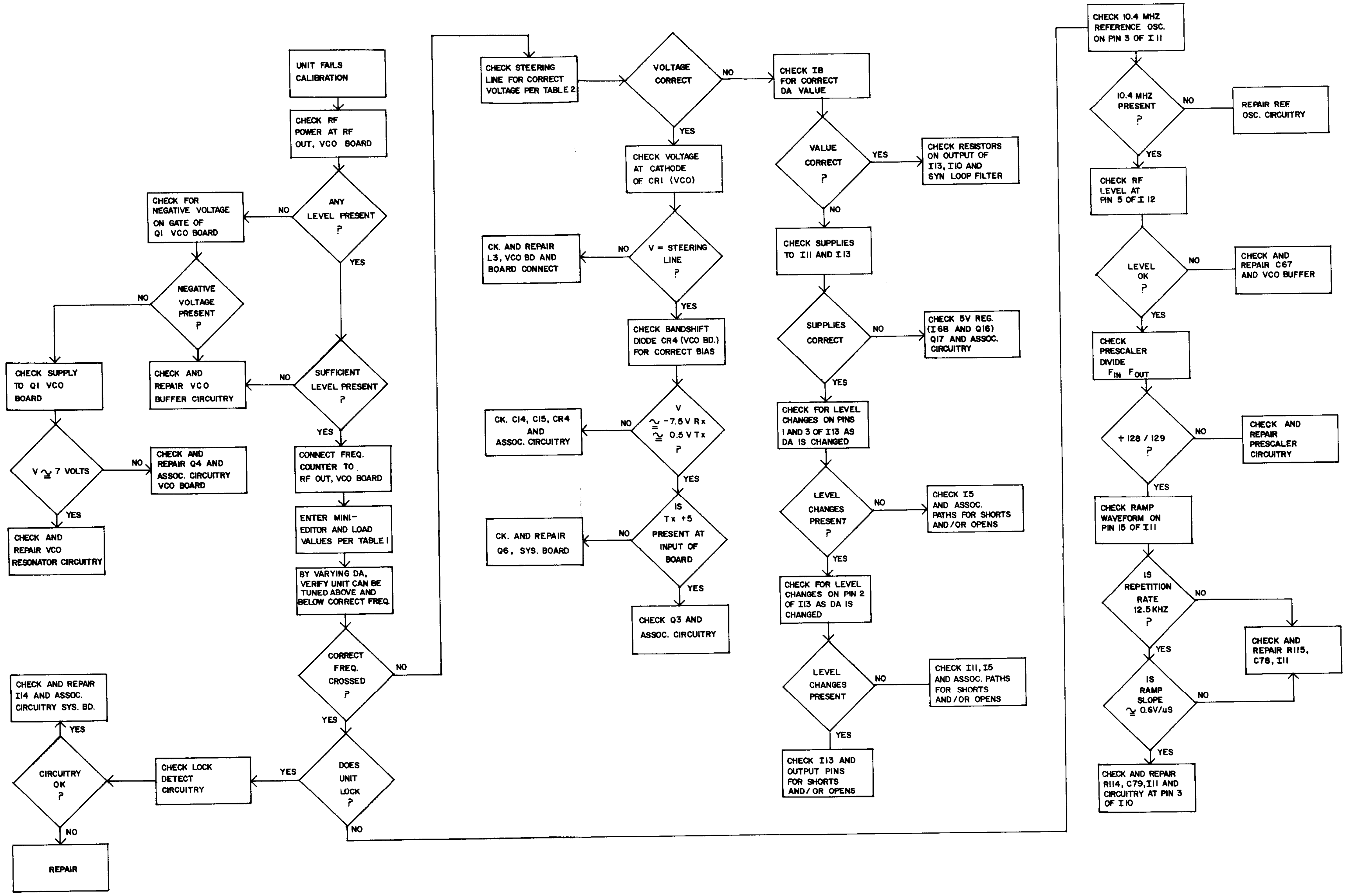


TABLE I				
FAILURE MODE	FREQ	TY	DA	DAI
LOW BAND, Rx	450	R	55	1
MID BAND, Rx	481	R	32	1
HIGH BAND, Rx	512	R	10	1
LOW BAND, Tx	450	T	50	1
MID BAND, Tx	481	T	32	1
HIGH BAND, Tx	512	T	15	1

TABLE 2	
DA	APPROXIMATE VOLTAGE
60	1.6V
50	4.0V
40	6.4V
30	8.9V
20	11.4V
10	13.7V
0	16.2V

FIGURE 5-4 SYNTHESIZER TROUBLESHOOTING FLOWCHART

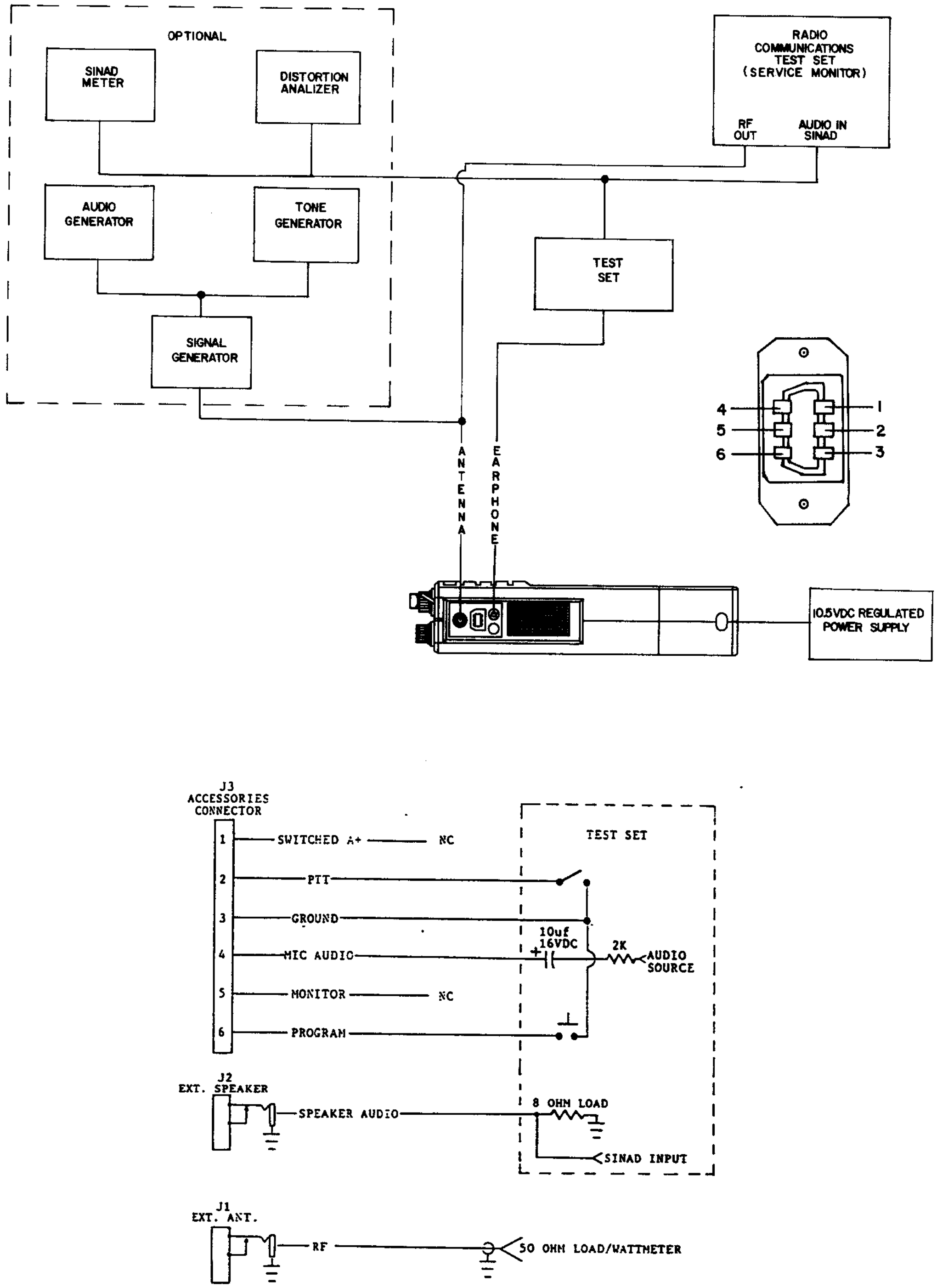


FIGURE 5-5 RECEIVER TEST SET-UP

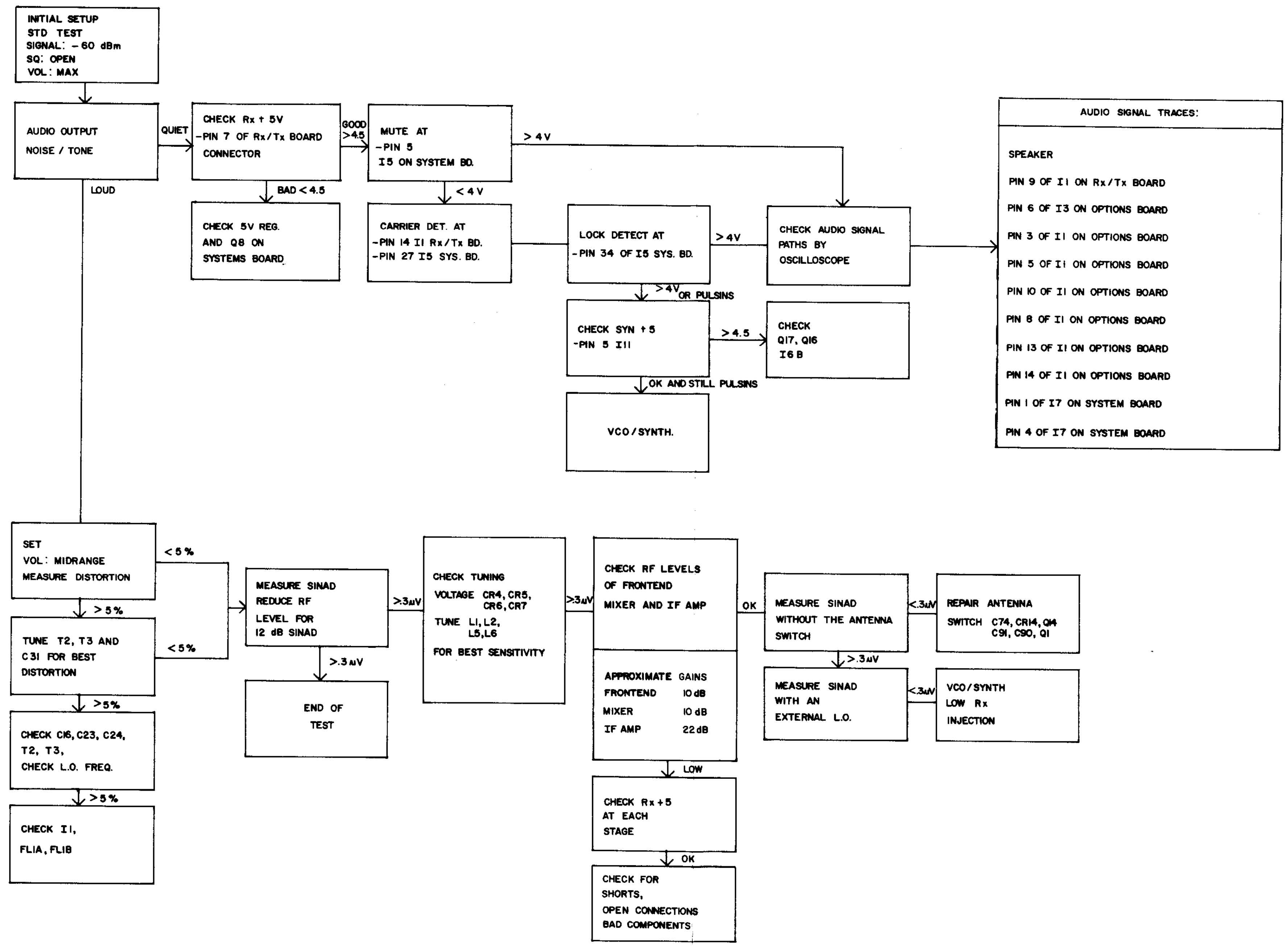


FIGURE 5-6 RECEIVER TROUBLESHOOTING FLOWCHART

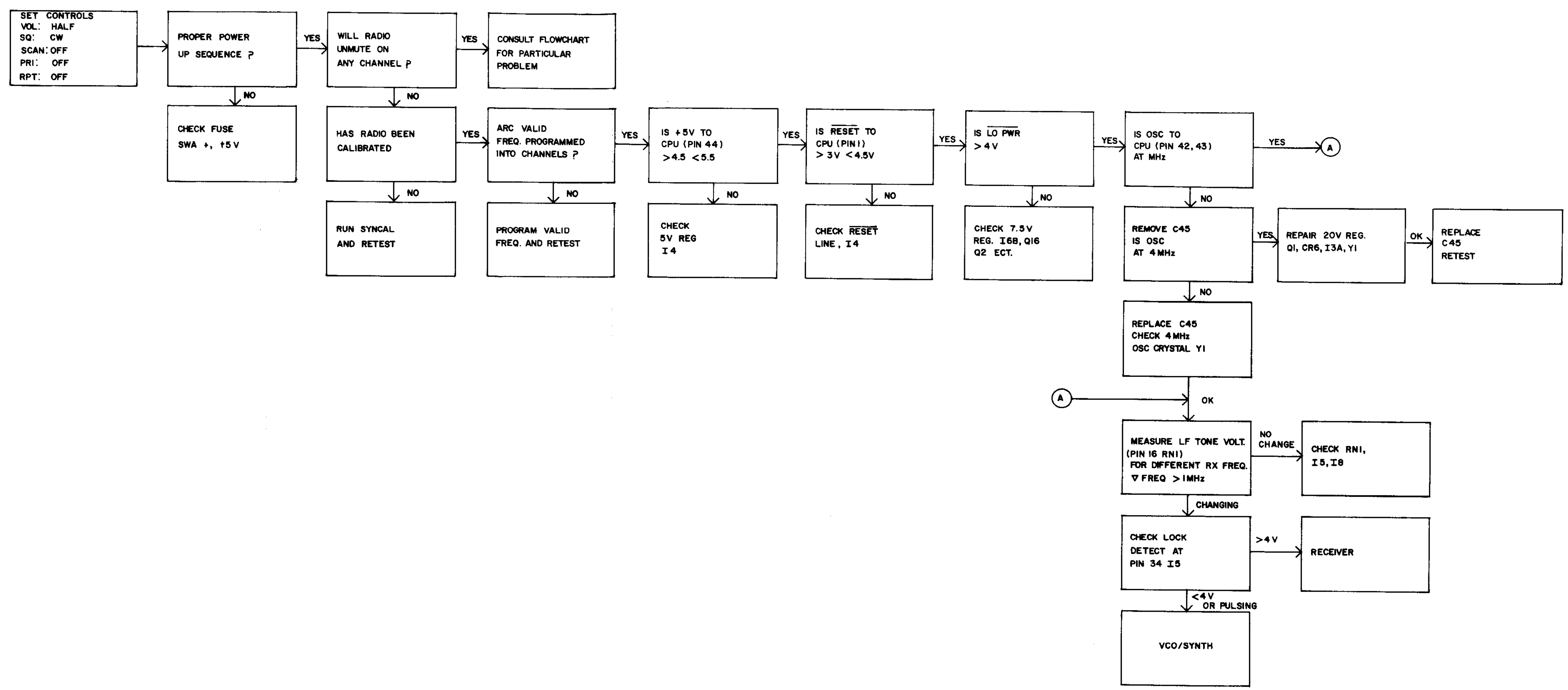


FIGURE 5-7 SYSTEMS TROUBLESHOOTING FLOWCHART

SECTION VI-A
ILLUSTRATED PARTS LIST

6A.1 INTRODUCTION

This Illustrated Parts List helps you identify parts used in BENDIX/KING LPU Series portable radios, as well as LPU-related radios. It includes Bills Of Material (BOM) for all major assemblies arranged from Final Assembly down to individual part level. Each BOM is followed by the corresponding Assembly Drawing and Schematic Diagram.

Parts listed in the BOMs meet BENDIX/KING design specifications and are the recommended replacement parts.

All part numbers now have 12 digits, replacing the 9-digit part numbers used previously. To change a 9-digit part number to 12 digits, simply add a zero to the second set of digits and two zeros to the third set of digits. For example, 088-1306-00 becomes 088-01306-0000

6A.2 BILLS OF MATERIAL

Bills of Material contain specific information on each part in the corresponding Assembly Drawing and Schematic Diagram. Sub-assemblies are listed by BOM number, helping you find the correct sub-assembly parts for each specific radio model.

6A.2.1 BOM NUMBER

The Bill of Material Number, which is also the 12-digit Part Number for the assembly, appears at the top of the BOM. If the assembly is available in a variety of "flavors", the BOM Number for each flavor appears at the top of the BOM. Parts common to more than one flavor are often listed in a Common BOM, ending with -0099. The last four digits of each BOM Number appear above a flavor column at the right side of the BOM.

6A.2.2 SYMBOL COLUMN

This column contains the Reference Designators of parts as labelled in the Assembly Drawing and Schematic Diagram. The Reference Designator consists of an abbreviation for type of component and a number assigned to that part (ITM 4, R 31, etc). Common Reference Designator abbreviations are listed below.

ASY	Assembly	MK	Microphone
B	Motor or Synchro	P	Plug
C	Capacitor	Q	Transistor
CJ	Circuit Jumper	R	Resistor
CR	Diode	REF	Reference
DS	Lamp	RN	Resistor Network
F	Fuse	RT	Thermistor
FL	Filter	S	Switch
I	Integrated Circuit	T	Transformer
ITM	Item	TP	Test Point
J	Jack	U	Resistor/Capacitor Network
L	Inductor	V	Photocell/Vacuum Tube
LS	Speaker	WG	Waveguide
M	Meter	Y	Crystal

6A.2.3 PART NUMBER COLUMN

This column contains the individual Part Numbers used when ordering replacement parts. If the part is listed as an assembly (ASY), the BOM and drawings for that assembly follow after the current BOM and drawings.

6A.2.4 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	MY	Mylar
ASSY	Assembly	PC	Polycarbonate
BIFLR	Bifilar	PF	Precision Film
BOM	Bill of Material	PP	Paper
CC	Carbon Composite	PS	Polystyrene
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	Electrode	SW	Switch
EW	Eighth Watt	TERM	Terminal
FC	Fixed Composition	TN	Tantalum
FERR	Ferrite	TST PT	Test Point
FLTR	Filter	TW	Tenth Watt
FT	Feedthru	VA	Variable
HV	High Voltage	WW	Wire Wound
HW	Half Watt	XFMR	Transformer
IC	Integrated Circuit	XSTR	Transistor
MC	Monolithic Ceramic	XTAL	Crystal

6A.2.5 ASSEMBLY (A) COLUMN

An "A" in this column indicates that the part is an assembly. If the P/N and description reads "200-0XXXX-0099 COMMON BOM" the parts for that assembly are included in the current BOM. The parts breakdown for an assembly with any other P/N will be found in the BOM with the same number. Those assemblies with BOMs and drawings included in this manual are indicated by "ASY" in the Symbol Column.

6A.2.6 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	RF	For Reference Only
FT	Foot	IN	Inch
AR	As Required		

6A.2.7 QUANTITY COLUMNS

These columns indicate the part quantities for each flavor of the assembly. The four-digit number above each column corresponds to the last four digits of a BOM Number at the top of the BOM. Parts common to more than one flavor are often listed in Common BOMs, ending with -0098 or -0099.

FINAL ASSEMBLY

062-00110-0000 LPU
062-00110-0001 LPU
062-00110-0002 LPU
062-00110-0003 LPU
062-00110-0004 LPU
062-00110-0005 LPU 1421A
062-00110-0006 LPU 1991A
062-00110-0007 LPU 4421A
062-00110-0008 LPU 4991A
062-00110-0009 LQU 1020A

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0001	0002	0003	0004	0005	0006	0007	0008	0009
	062-00110-0099	COMMON BOM	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASY 1	200-03481-0000	SYS FRM. 2CH 1.5W	A	EA	1.00	.	.	.	.	.	.	.	.	.
ASY 1	200-03481-0001	SYS FRM 14CH WK	A	EA	.	1.00	.	1.00	.	.	.	.	.	.
ASY 1	200-03481-0002	SYS FRM 2CH 4W NK	A	EA	.	.	.	.	1.00	.	.	.	.	.
ASY 1	200-03481-0003	SYS FRM 14CH 4W NK	A	EA	.	.	1.00	.	.	.	.	.	.	.
ASY 1	200-03481-0004	SYS FRM 42CH 4W	A	EA	.	.	.	.	.	1.00	.	1.00	.	.
ASY 1	200-03481-0005	SYS FRM 99CH 4W	A	EA	.	.	.	.	.	.	1.00	.	1.00	.
ASY 1	200-03481-0006	SYSTEM BD ASSY	A	EA	.	.	.	.	.	.	.	.	.	1.00
ASY 2	200-03476-0000	RX/TX SUB-FRAME	A	EA	1.00	.	.	1.00	.	1.00	1.00	.	.	1.00
ASY 2	200-03476-0001	TX/RX FRAME ASSY	A	EA	.	1.00	1.00	.	1.00	.	.	1.00	1.00	.
ASY 3	200-03477-0000	FRONT COVER ASSY	A	EA	1.00	.	1.00	.	1.00	.	.	.	.	1.00
ASY 3	200-03477-0001	FRT CVR W/KYBD	A	EA	.	1.00	.	1.00	.	1.00	1.00	1.00	1.00	.
ITM 1	088-02078-0001	BACK CVR		EA	1.00	.	.	1.00	.	1.00	1.00	.	.	1.00
ITM 1	088-02078-0010	BACK W/CTO MOD	A	EA	.	1.00	1.00	.	1.00	.	.	1.00	1.00	.
ITM 3	089-07071-0008	PHP M2.5-.45X8 BK		EA	.	.	.	.	.	.	.	.	.	1.00
ITM 3	089-07071-0023	SCR PHPM2.5-.45X23		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.
ITM 5	089-07070-0003	SCR BHC 4-40X3/16		EA	.	1.00	1.00	.	1.00	.	.	1.00	1.00	.
ITM 10	047-09084-0001	SHIELD TX/RX/ BTM	A	EA	.	1.00	1.00	.	1.00	.	.	1.00	1.00	.
ITM 11	012-01459-0000	INSUL TX/RX BD		EA	.	1.00	1.00	.	1.00	.	.	1.00	1.00	.
ITM 12	047-09141-0000	SHLD TP 3/4X1/3/4		EA	.	2.00	2.00	.	2.00	.	.	2.00	2.00	.
ITM 15	076-01440-0000	STANDOFF .550		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.
ITM 15	076-01440-0001	STANDOFF 1.125		EA	.	.	.	.	.	.	.	.	.	1.00

BENDIX/KING
LPU SERIES
UHF FM COMM TRANSCEIVERS
FINAL ASSEMBLY

062-00110-0010	LQU 4141A
062-00110-0011	LQU 4140A
062-00110-0012	LQU 1141A
062-00110-0013	LQU 4020A
062-00110-0014	LQU 1421A
062-00110-0015	LQU 1991A
062-00110-0016	LQU 4421A
062-00110-0017	LQU 4991A
062-00110-0020	LQU
062-00110-0021	LQU

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY									
					0010	0011	0012	0013	0014	0015	0016	0017	0020	0021
	006-08444-0000	OPERATORS MANUAL		RF	.	.	.	.	.	.	.	.	X.	X.
	035-01560-0000	PKG INSTR PORT		RF	.	.	.	.	.	.	.	.	X	X
	062-00110-0099	COMMON BOM	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.
ASY 1	200-03481-0007	SYSTEM BD ASSY	A	EA	1.00	.	1.00	.	.	.	.	.	.	.
ASY 1	200-03481-0008	SYSTEM BD ASSY	A	EA	.	.	.	1.00	.	.	.	.	.	.
ASY 1	200-03481-0009	SYSTEM BD ASSY	A	EA	.	1.00	.	.	.	.	.	.	.	.
ASY 1	200-03481-0010	SYSTEM BD ASSY	A	EA	.	.	.	.	1.00	.	1.00	.	.	.
ASY 1	200-03481-0011	SYSTEM BD ASSY	A	EA	.	.	.	.	.	1.00	.	1.00	.	.
ASY 1	200-03481-0020	FM FRM ASSY	A	EA	.	.	.	.	.	.	.	.	1.00	.
ASY 1	200-03481-0021	FM FRM ASSY	A	EA	.	.	.	.	.	.	.	.	.	1.00
ASY 2	200-03476-0000	RX/TX SUB-FRAME	A	EA	.	.	1.00	.	1.00	1.00	.	.	.	.
ASY 2	200-03476-0001	TX/RX FRAME ASSY	A	EA	1.00	1.00	.	1.00	.	.	1.00	1.00	.	.
ASY 2	200-03476-0013	FM TX/RX FRM ASSY	A	EA	.	.	.	.	.	.	.	.	1.00	1.00
ASY 3	200-03477-0000	FRONT COVER ASSY	A	EA	.	1.00	.	1.00	.	.	.	.	.	.
ASY 3	200-03477-0001	FRT CVR W/KYBD	A	EA	1.00	.	1.00	.	1.00	1.00	1.00	1.00	.	.
ASY 3	200-03477-0012	FM CVR W/O KTBD	A	EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 1	088-02078-0001	BACK CVR		EA	.	.	1.00	.	1.00	1.00	.	.	.	.
ITM 1	088-02078-0010	BACK W/CTO MOD	A	EA	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00	1.00
ITM 2	089-07071-0008	PHP M2.5-.45X8 BK		EA	.	.	.	.	.	.	.	.	2.00	2.00
ITM 3	089-07071-0008	PHP M2.5-.45X8 BK		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.
ITM 4	089-06004-0003	SCR FHP 2-56X3/16		EA	.	.	.	.	.	.	.	.	3.00	3.00
ITM 5	089-07070-0003	SCR BHC 4-40X3/16		EA	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00	3.00
ITM 6	047-08816-0003	SHIELD TX/RX W/F	A	EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 7	089-05569-0002	SCR THP 2-56X1/8		EA	.	.	.	.	.	.	.	.	2.00	2.00
ITM 8	195-00018-0000	FCC DCL OPTIONS	A	EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 9	047-08958-0001	CLIP 256W/FIN		EA	.	.	.	.	.	.	.	.	3.00	3.00
ITM 10	047-09084-0001	SHIELD TX/RX/ BTM	A	EA	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00	1.00
ITM 11	012-01459-0000	INSUL TX/RX BD		EA	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00	1.00
ITM 12	047-09141-0000	SHLD TP 3/4X1/3/4		EA	2.00	2.00	.	2.00	.	.	2.00	2.00	2.00	2.00
ITM 13	076-01466-0000	STANDOFF		EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 14	089-07071-0035	THP M2.5-.45X35BK		EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 15	076-01440-0000	STANDOFF .550		EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 15	076-01440-0001	STANDOFF 1.125		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.
ITM 16	088-02089-0000	PLATE	A	EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 17	089-06919-0003	SCR FHP 3-48X3/16		EA	.	.	.	.	.	.	.	.	2.00	2.00
ITM 18	057-03326-0000	FACT MU LABEL		EA	.	.	.	.	.	.	.	.	1.00	1.00
REF 1	300-03474-0000	LPU/LQU FINAL ASSY		RF	.	.	.	.	.	.	.	.	X.	X.
REF 2	002-06908-0010	SCH UHF INTRCT DIA		RF	.	.	.	.	.	.	.	.	X.	X.
REF 3	004-00487-0000	MPS LPU/LQU	A	RF	.	.	.	.	.	.	.	.	X.	X.

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
FINAL ASSEMBLY

062-00110-0022	LQU
062-00110-0023	LQU
062-00110-0024	LQU
062-00110-0050	LPU 4020A
062-00110-0051	LPU 4140A
062-00110-0052	LPU 4141A
062-00110-0053	LPU 4421A
062-00110-0054	LPU 4991A
062-00110-0055	LPU 4020A
062-00110-0056	LPU 4140A

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0022	0023	0024	0050	0051	0052	0053	0054	0055	0056
	006-08444-0000	OPERATORS MANUAL		RF	X.	X.	X.	.	.	.	.	.	.	.
	035-01560-0000	PKG INSTR PORT		RF	X.	X.	X.	.	.	.	.	.	.	.
	062-00110-0099	COMMON BOM	A	EA	.	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASY 1	200-03481-0022	FM FRM ASSY	A	EA	1.00	.	.	.	.	.	.	.	.	.
ASY 1	200-03481-0023	FM FRM ASSY	A	EA	.	1.00	.	.	.	.	.	.	.	.
ASY 1	200-03481-0024	FM FRM ASSY	A	EA	.	.	1.00	.	.	.	.	.	.	.
ASY 1	200-03481-0050	SYS FRAME ASSY	A	EA	.	.	.	1.00	.	.	.	.	.	.
ASY 1	200-03481-0051	SYS FRAME ASSY	A	EA	.	.	.	.	1.00	.	.	.	.	.
ASY 1	200-03481-0052	SYS FRAME ASSY	A	EA	.	.	.	.	.	1.00	.	.	.	.
ASY 1	200-03481-0053	SYS FRAME ASSY	A	EA	.	.	.	.	.	.	1.00	.	.	.
ASY 1	200-03481-0054	SYS FRAME ASSY	A	EA	.	.	.	.	.	.	.	1.00	.	.
ASY 1	200-03481-0055	SYS FRAME ASSY	A	EA	.	.	.	.	.	.	.	.	1.00	.
ASY 1	200-03481-0056	SYS FRAME ASSY	A	EA	.	.	.	.	.	.	.	.	.	1.00
ASY 2	200-03476-0002	TX/RX FRM ASSY	A	EA	.	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASY 2	200-03476-0013	FM TX/RX FRM ASSY	A	EA	1.00	1.00	1.00	.	.	.	.	.	.	.
ASY 3	200-03477-0002	FRT CVR W/O KYBD	A	EA	.	.	.	1.00	1.00	.	.	.	1.00	1.00
ASY 3	200-03477-0003	FRT CVR W/KYBD	A	EA	.	.	.	.	.	1.00	1.00	1.00	.	.
ASY 3	200-03477-0013	FM CVR W/KYBD	A	EA	1.00	1.00	1.00	.	.	.	.	.	.	.
ITM 1	088-02078-0010	BACK W/CTO MOD	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 2	089-07071-0008	PHP M2.5-.45X8 BK		EA	2.00	2.00	2.00	.	.	.	.	.	.	.
ITM 3	089-07071-0023	SCR PHPM2.5-.45X23		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.
ITM 3	089-07071-0035	THP M2.5-.45X35BK		EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 4	089-06004-0003	SCR FHP 2-56X3/16		EA	3.00	3.00	3.00	.	.	.	.	.	.	.
ITM 5	089-07070-0003	SCR BHC 4-40X3/16		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 6	047-08816-0003	SHIELD TX/RX W/F	A	EA	1.00	1.00	1.00	.	.	.	.	.	.	.
ITM 7	089-05569-0002	SCR THP 2-56X1/8		EA	2.00	2.00	2.00	.	.	.	.	.	.	.
ITM 8	195-00018-0000	FCC DCL OPTIONS	A	EA	1.00	1.00	1.00	.	.	.	.	.	.	.
ITM 9	047-08958-0001	CLIP 256W/FIN		EA	3.00	3.00	3.00	.	.	.	.	.	.	.
ITM 10	047-09084-0000	SHIELD TX/RX BTM		EA	.	.	1.00	.	.	.	.	.	.	.
ITM 10	047-09084-0001	SHIELD TX/RX/ BTM	A	EA	1.00	1.00	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 11	012-01459-0000	INSUL TX/RX BD		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 12	047-09141-0000	SHLD TP 3/4X1/3/4		EA	2.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM 13	076-01466-0000	STANDOFF		EA	1.00	1.00	1.00	.	.	.	.	.	.	.
ITM 14	089-07071-0035	THP M2.5-.45X35BK		EA	1.00	1.00	1.00	.	.	.	.	.	.	.
ITM 15	076-01440-0000	STANDOFF .550		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.
ITM 15	076-01466-0000	STANDOFF		EA	.	.	.	.	.	.	.	.	1.00	1.00
ITM 16	088-02089-0000	PLATE	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 17	089-06919-0003	SCR FHP 3-48X3/16		EA	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM 18	057-03326-0000	FACT MU LABEL		EA	1.00	1.00	1.00	.	.	.	.	.	.	.
REF 1	300-03474-0000	LPU/LQU FINAL ASSY		RF	X.	X.	X.	.	.	.	.	.	.	.
REF 2	002-06908-0010	SCH UHF INTRCT DIA		RF	X.	X.	X.	.	.	.	.	.	.	.
REF 3	004-00487-0000	MPS LPU/LQU	A	RF	X.	X.	X.	.	.	.	.	.	.	.

FINAL ASSEMBLY

062-00110-0057 LPU 4141A
062-00110-0058 LPU 4421A
062-00110-0059 LPU 4991A
062-00110-0099 COMMON BOM

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0057	0058	0059	0099
	006-08444-0000	OPERATORS MANUAL		RF	.	.	.	X.
	035-01560-0000	PKG INSTR PORT		RF	.	.	.	X.
	062-00110-0099	COMMON BOM	A	EA	1.00	1.00	1.00	.
ASY 1	200-03481-0057	SYS FRAME ASSY	A	EA	1.00	.	.	.
ASY 1	200-03481-0058	SYS FRAME ASSY	A	EA	.	1.00	.	.
ASY 1	200-03481-0059	SYS FRAME ASSY	A	EA	.	.	1.00	.
ASY 2	200-03476-0002	TX/RX FRM ASSY	A	EA	1.00	1.00	1.00	.
ASY 3	200-03477-0003	FRT CVR W/KYBD	A	EA	1.00	1.00	1.00	.
ITM 1	088-02078-0010	BACK W/CTO MOD	A	EA	1.00	1.00	1.00	.
ITM 2	089-07071-0008	PHP M2.5-.45X8 BK		EA	.	.	.	2.00
ITM 3	089-07071-0035	THP M2.5-.45X35BK		EA	1.00	1.00	1.00	.
ITM 4	089-06004-0003	SCR FHP 2-56X3/16		EA	.	.	.	3.00
ITM 5	089-07070-0003	SCR BHC 4-40X3/16		EA	1.00	1.00	1.00	.
ITM 6	047-08816-0003	SHIELD TX/RX W/F	A	EA	.	.	.	1.00
ITM 7	089-05569-0002	SCR THP 2-56X1/8		EA	.	.	.	2.00
ITM 8	195-00018-0000	FCC DCL OPTIONS	A	EA	.	.	.	1.00
ITM 9	047-08958-0001	CLIP 256W/FIN		EA	.	.	.	3.00
ITM 10	047-09084-0001	SHIELD TX/RX/ BTM	A	EA	1.00	1.00	1.00	.
ITM 11	012-01459-0000	INSUL TX/RX BD		EA	1.00	1.00	1.00	.
ITM 12	047-09141-0000	SHLD TP 3/4X1/3/4		EA	2.00	2.00	2.00	.
ITM 13	076-01466-0000	STANDOFF		EA	.	.	.	1.00
ITM 14	089-07071-0035	THP M2.5-.45X35BK		EA	.	.	.	1.00
ITM 15	076-01466-0000	STANDOFF		EA	1.00	1.00	1.00	.
ITM 16	088-02089-0000	PLATE	A	EA	1.00	1.00	1.00	.
ITM 17	089-06919-0003	SCR FHP 3-48X3/16		EA	2.00	2.00	2.00	.
ITM 18	012-01353-0000	COPPER TAPE SHLD	A	IN	.	.	.	0.75
REF 1	300-03474-0000	LPU/LQU FINAL ASSY		RF	.	.	.	X.
REF 2	002-06908-0010	SCH UHF INTRCT DIA		RF	.	.	.	X.
REF 3	004-00487-0000	MPS LPU/LQU	A	RF	.	.	.	X.

BENDIX/KING
LPU SERIES
UHF FM COMM TRANSCEIVERS
FINAL ASSEMBLY

062-00120-0000	MPU 4020A
062-00120-0001	MPU 4140A
062-00120-0002	MPU 4141A
062-00120-0003	MPU 4421A
062-00120-0004	MPU 4991A
062-00120-0005	MQU 4020B
062-00120-0006	MQU 4140B
062-00120-0007	MQU 4141B
062-00120-0008	MQU 4421B
062-00120-0009	MQU 4991B

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY									
					0000	0001	0002	0003	0004	0005	0006	0007	0008	0009
	062-00120-0098	FM COM BOM MQU	A	EA	.	.	.	.	.	1.00	1.00	1.00	1.00	1.00
	062-00120-0099	COMMON BOM MPU	A	EA	1.00	1.00	1.00	1.00	1.00	.	.	.	.	.
ASY 1	200-03481-0025	FM SYS BD ASSY	A	EA	.	.	.	.	.	1.00	.	.	.	.
ASY 1	200-03481-0026	FM SYS BD ASSY	A	EA	.	.	.	.	.	.	1.00	.	.	.
ASY 1	200-03481-0027	FM SYS BD ASSY	A	EA	.	.	.	.	.	.	.	1.00	.	.
ASY 1	200-03481-0028	FM SYS BD ASSY	A	EA	.	.	.	.	.	.	.	.	1.00	.
ASY 1	200-03481-0029	FM SYS BD ASSY	A	EA	.	.	.	.	.	.	.	.	.	1.00
ASY 1	200-03481-0062	SYS FRAME ASSY	A	EA	1.00	.	.	.	.	.	.	.	.	.
ASY 1	200-03481-0063	SYS FRAME ASSY	A	EA	.	1.00	.	.	.	.	.	.	.	.
ASY 1	200-03481-0064	SYS FRAME ASSY	A	EA	.	.	1.00	.	.	.	.	.	.	.
ASY 1	200-03481-0065	SYS FRAME ASSY	A	EA	.	.	.	1.00	.	.	.	.	.	.
ASY 1	200-03481-0066	SYS FRAME ASSY	A	EA	.	.	.	.	1.00	.	.	.	.	.
ASY 2	200-03476-0002	TX/RX FRM ASSY	A	EA	1.00	1.00	1.00	1.00	1.00	.	.	.	.	.
ASY 3	200-03477-0004	FT CVR W/O KYBD	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ASY 3	200-03477-0005	FRT CVR W/KYBD	A	EA	.	.	1.00	1.00	1.00	.	.	.	.	.
ASY 3	200-03477-0014	FM CVR W/O KYBD	A	EA	.	.	.	.	.	1.00	1.00	.	.	.
ASY 3	200-03477-0015	FM CVR W/KYBD	A	EA	.	.	.	.	.	.	.	1.00	1.00	1.00

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
FINAL ASSEMBLY

062-00120-0098		COMMON BOM	MQU			
062-00120-0099		COMMON BOM	MPU			

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0098	QUANTITY 0099
ASY 2	200-03476-0013	FM TX/RX FRM ASSY	A	EA	1.00	.
ITM 1	073-00609-0004	MOD COVER	A	EA	1.00	1.00
ITM 2	089-07071-0008	PHP M2.5-.45X8 BK		EA	2.00	2.00
ITM 3	089-07071-0023	SCR PHPM2.5-.45X23		EA	1.00	1.00
ITM 4	089-06004-0003	SCR FHP 2-56X3/16		EA	3.00	3.00
ITM 5	089-07070-0003	SCR BHC 4-40X3/16		EA	1.00	1.00
ITM 6	047-08816-0003	SHIELD TX/RX W/F	A	EA	1.00	1.00
ITM 7	089-05569-0002	SCR THP 2-56X1/8		EA	2.00	2.00
ITM 8	195-00018-0000	FCC DCL OPTIONS	A	EA	1.00	1.00
ITM 9	047-08958-0001	CLIP 256W/FIN		EA	3.00	3.00
ITM 10	047-09084-0001	SHIELD TX/RX/ BTM	A	EA	1.00	1.00
ITM 11	012-01459-0000	INSUL TX/RX BD		EA	1.00	1.00
ITM 12	047-09141-0000	SHLD TP 3/4X1/3/4		EA	2.00	2.00
ITM 13	076-01466-0000	STANDOFF		EA	1.00	1.00
ITM 14	089-07071-0035	THP M2.5-.45X35BK		EA	1.00	1.00
ITM 15	012-01470-0000	INSULATOR MYLAR		EA	1.00	1.00
ITM 16	076-01440-0000	STANDOFF .550		EA	1.00	1.00
ITM 17	088-02089-0000	PLATE	A	EA	1.00	1.00
ITM 18	089-06919-0003	SCR FHP 3-48X3/16		EA	1.00	1.00
ITM 19	187-01333-0000	HEAT SINK GASKET		EA	1.00	1.00
ITM 20	091-00187-0001	WASHER SHOULDER		EA	4.00	4.00
ITM 21	187-01331-0000	TEFLON CORD GASKET		IN	7.00	7.00
ITM 22	016-01013-0000	VAC GREASE DC 976		AR	1.00	1.00
ITM 23	012-01353-0000	COPPER TAPE SHLD	A	IN	.	0.75
ITM 23	057-03326-0000	FACT MU LABEL		EA	1.00	.
REF 1	300-04986-0000	FINAL ASSY MPU		RF	X.	X.
REF 2	002-06908-0010	SCH UHF INTRCT DIA		RF	X.	X.
REF 3	004-00487-0000	MPS LPU/LQU	A	RF	X.	X.
REF 4	035-01560-0000	PKG INSTR PORT		RF	X.	X.
REF 5	000-00483-0000	FLOW CHART MPU	A	RF	X.	X.

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
FINAL ASSEMBLY

062-00123-0000	LPU
062-00123-0001	LPV 4140A
062-00123-0002	LPV 4141A
062-00123-0003	LPV 4421A
062-00123-0004	LPV 4991A
062-00123-0099	LPV

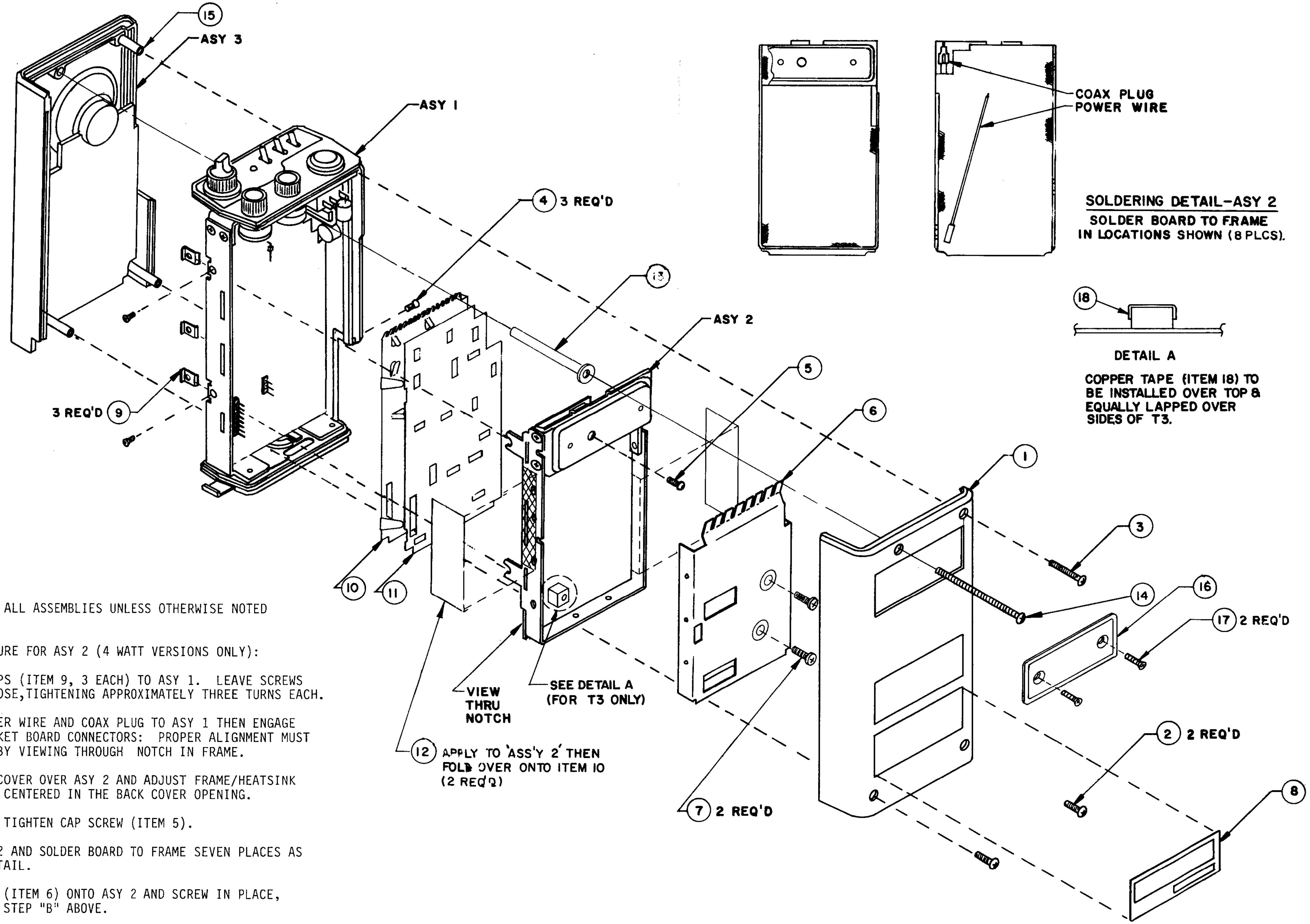
SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0001	0002	0003	0004	0099
	006-08444-0000	OPERATORS MANUAL		RF	.	.	.	.	.	X.
	035-01560-0000	PKG INSTR PORT		RF	.	.	.	.	.	X.
	062-00123-0099	FINAL ASSY	A	EA	1.00	1.00	1.00	1.00	1.00	.
ASY 1	200-03481-0070	SYS FRAME ASSY	A	EA	1.00	.	.	.	.	.
ASY 1	200-03481-0071	SYS FRAME ASSY	A	EA	.	1.00	.	.	.	.
ASY 1	200-03481-0072	SYS FRAME ASSY	A	EA	.	.	1.00	.	.	.
ASY 1	200-03481-0073	SYS FRAME ASSY	A	EA	.	.	.	1.00	.	.
ASY 1	200-03481-0074	SYS FRAME ASSY	A	EA	.	.	.	.	1.00	.
ASY 2	200-03476-0020	TX/RX FRAME ASSY	A	EA	1.00	1.00	1.00	1.00	1.00	.
ASY 3	200-03477-0002	FRT CVR W/O KYBD	A	EA	1.00	1.00	.	.	.	.
ASY 3	200-03477-0003	FRT CVR W/KYBD	A	EA	.	.	1.00	1.00	1.00	.
ITM 1	088-02078-0010	BACK W/CTO MOD	A	EA	1.00	1.00	1.00	1.00	1.00	.
ITM 2	089-07071-0008	PHP M2.5-.45X8 BK		EA	.	.	.	.	.	2.00
ITM 3	089-07071-0023	SCR PHPM2.5-.45X23		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 4	089-06004-0003	SCR FHP 2-56X3/16		EA	.	.	.	.	.	3.00
ITM 5	089-07070-0003	SCR BHC 4-40X3/16		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 6	047-08816-0003	SHIELD TX/RX W/F	A	EA	.	.	.	.	.	1.00
ITM 7	089-05569-0002	SCR THP 2-56X1/8		EA	.	.	.	.	.	2.00
ITM 8	195-00018-0000	FCC DCL OPTIONS	A	EA	.	.	.	.	.	1.00
ITM 9	047-08958-0001	CLIP 256W/FIN		EA	.	.	.	.	.	3.00
ITM 10	047-09084-0001	SHIELD TX/RX/ BTM	A	EA	1.00	1.00	1.00	1.00	1.00	.
ITM 11	012-01459-0000	INSUL TX/RX BD		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 12	047-09141-0000	SHLD TP 3/4X1/3/4		EA	2.00	2.00	2.00	2.00	2.00	.
ITM 13	076-01466-0000	STANDOFF		EA	.	.	.	.	.	1.00
ITM 14	089-07071-0035	THP M2.5-.45X35BK		EA	.	.	.	.	.	1.00
ITM 15	076-01440-0000	STANDOFF .550		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 16	088-02089-0000	PLATE	A	EA	1.00	1.00	1.00	1.00	1.00	.
ITM 17	089-06919-0003	SCR FHP 3-48X3/16		EA	2.00	2.00	2.00	2.00	2.00	.
ITM 18	012-01353-0000	COPPER TAPE SHLD	A	IN	.	.	.	.	.	0.75
REF 1	300-03474-0000	LPU/LQU FINAL ASSY		RF	.	.	.	.	.	X.
REF 2	002-06908-0010	SCH UHF INTRCT DIA		RF	.	.	.	.	.	X.
REF 3	004-00885-0000	MPS LRV	A	RF	.	.	.	.	.	X.

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
FINAL ASSEMBLY

062-00124-0000	MPV
062-00124-0001	MPV 4140A
062-00124-0002	MPV 4141A
062-00124-0003	MPV 4421A
062-00124-0004	MPV 4991A
062-00124-0099	MPV

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY					
					0000	0001	0002	0003	0004	0099
	006-08444-0000	OPERATORS MANUAL		RF	.	.	.	.	.	X.
	035-01560-0000	PKG INSTR PORT		RF	.	.	.	.	.	X.
	062-00124-0099	FINAL ASSY	A	EA	1.00	1.00	1.00	1.00	1.00	.
ASY 1	200-03481-0075	SYS FRAME ASSY	A	EA	1.00	.	.	.	.	.
ASY 1	200-03481-0076	SYS FRAME ASSY	A	EA	.	1.00	.	.	.	.
ASY 1	200-03481-0077	SYS FRAME ASSY	A	EA	.	.	1.00	.	.	.
ASY 1	200-03481-0078	SYS FRAME ASSY	A	EA	.	.	.	1.00	.	.
ASY 1	200-03481-0079	SYS FRAME ASSY	A	EA	.	.	.	.	1.00	.
ASY 2	200-03476-0020	TX/RX FRAME ASSY	A	EA	1.00	1.00	1.00	1.00	1.00	.
ASY 3	200-03477-0004	FT CVR W/O KYBD	A	EA	1.00	1.00	.	.	.	.
ASY 3	200-03477-0005	FRT CVR W/KYBD	A	EA	.	.	1.00	1.00	1.00	.
ITM 1	073-00609-0004	MOD COVER	A	EA	1.00	1.00	1.00	1.00	1.00	.
ITM 2	089-07071-0008	PHP M2.5-.45X8 BK		EA	.	.	.	.	.	2.00
ITM 3	089-07071-0023	SCR PHPM2.5-.45X23		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 4	089-06004-0003	SCR FHP 2-56X3/16		EA	.	.	.	.	.	3.00
ITM 5	089-07070-0003	SCR BHC 4-40X3/16		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 6	047-08816-0003	SHIELD TX/RX W/F	A	EA	.	.	.	.	.	1.00
ITM 7	089-05569-0002	SCR THP 2-56X1/8		EA	.	.	.	.	.	2.00
ITM 8	195-00018-0000	FCC DCL OPTIONS	A	EA	.	.	.	.	.	1.00
ITM 9	047-08958-0001	CLIP 256W/FIN		EA	.	.	.	.	.	3.00
ITM 10	047-09084-0001	SHIELD TX/RX/ BTM	A	EA	1.00	1.00	1.00	1.00	1.00	.
ITM 11	012-01459-0000	INSUL TX/RX BD		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 12	047-09141-0000	SHLD TP 3/4X1/3/4		EA	2.00	2.00	2.00	2.00	2.00	.
ITM 13	076-01466-0000	STANDOFF		EA	.	.	.	.	.	1.00
ITM 14	089-07071-0035	THP M2.5-.45X35BK		EA	.	.	.	.	.	1.00
ITM 15	012-01470-0000	INSULATOR MYLAR		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 16	076-01440-0000	STANDOFF .550		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 17	088-02089-0000	PLATE	A	EA	1.00	1.00	1.00	1.00	1.00	.
ITM 18	089-06919-0003	SCR FHP 3-48X3/16		EA	2.00	2.00	2.00	2.00	2.00	.
ITM 19	187-01333-0000	HEAT SINK GASKET		EA	1.00	1.00	1.00	1.00	1.00	.
ITM 20	091-00187-0001	WASHER SHOULDER		EA	.	.	.	.	.	4.00
ITM 21	187-01331-0000	TEFLON CORD GASKET		IN	.	.	.	.	.	7.00
ITM 22	016-01013-0000	VAC GREASE DC 976		AR	.	.	.	.	.	1.00
ITM 23	012-01353-0000	COPPER TAPE SHLD	A	IN	.	.	.	.	.	0.75
REF 1	300-04986-0000	FINAL ASSY MPU		RF	.	.	.	.	.	X.
REF 2	002-06908-0010	SCH UHF INTRCT DIA		RF	.	.	.	.	.	X.
REF 3	004-00885-0000	MPS LRV	A	RF	.	.	.	.	.	X.
REF 4	000-00487-0000	FLOW CHART MPV	A	RF	.	.	.	.	.	X.



SOLDERING DETAIL-ASY 2

SOLDER BOARD TO FRAME IN LOCATIONS SHOWN (8 PLCS).

18

DETAIL A

COPPER TAPE (ITEM 18) TO BE INSTALLED OVER TOP & EQUALLY LAPPED OVER SIDES OF T3.

NOTES:

1. PARTS COMMON TO ALL ASSEMBLIES UNLESS OTHERWISE NOTED IN BOM.

2. ASSEMBLY PROCEDURE FOR ASY 2 (4 WATT VERSIONS ONLY):

   A. INSTALL CLIPS (ITEM 9, 3 EACH) TO ASY 1. LEAVE SCREWS (ITEM 4) LOOSE,TIGHTENING APPROXIMATELY THREE TURNS EACH.

   B. CONNECT POWER WIRE AND COAX PLUG TO ASY 1 THEN ENGAGE PIN AND SOCKET BOARD CONNECTORS: PROPER ALIGNMENT MUST BE CHECKED BY VIEWING THROUGH NOTCH IN FRAME.

   C. PLACE BACK COVER OVER ASY 2 AND ADJUST FRAME/HEATSINK SO AS TO BE CENTERED IN THE BACK COVER OPENING.

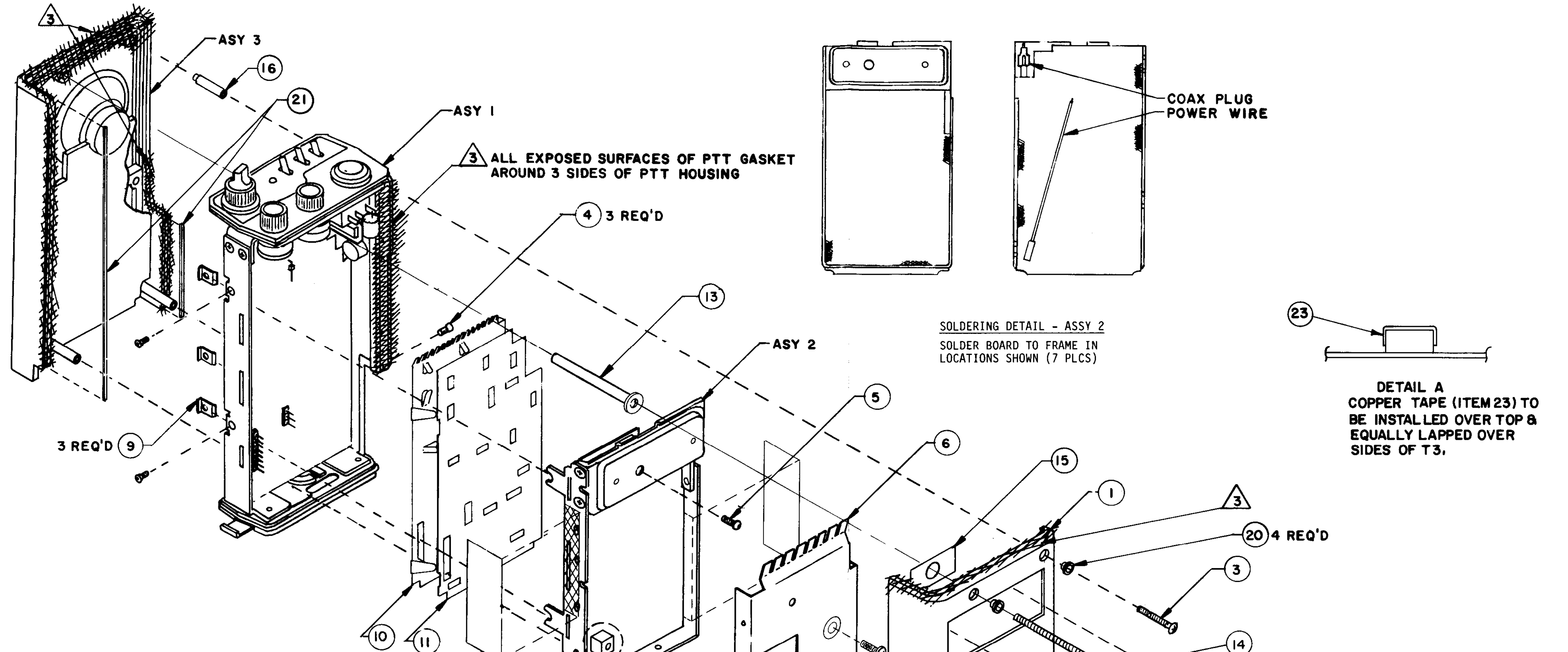
   D. INSTALL AND TIGHTEN CAP SCREW (ITEM 5).

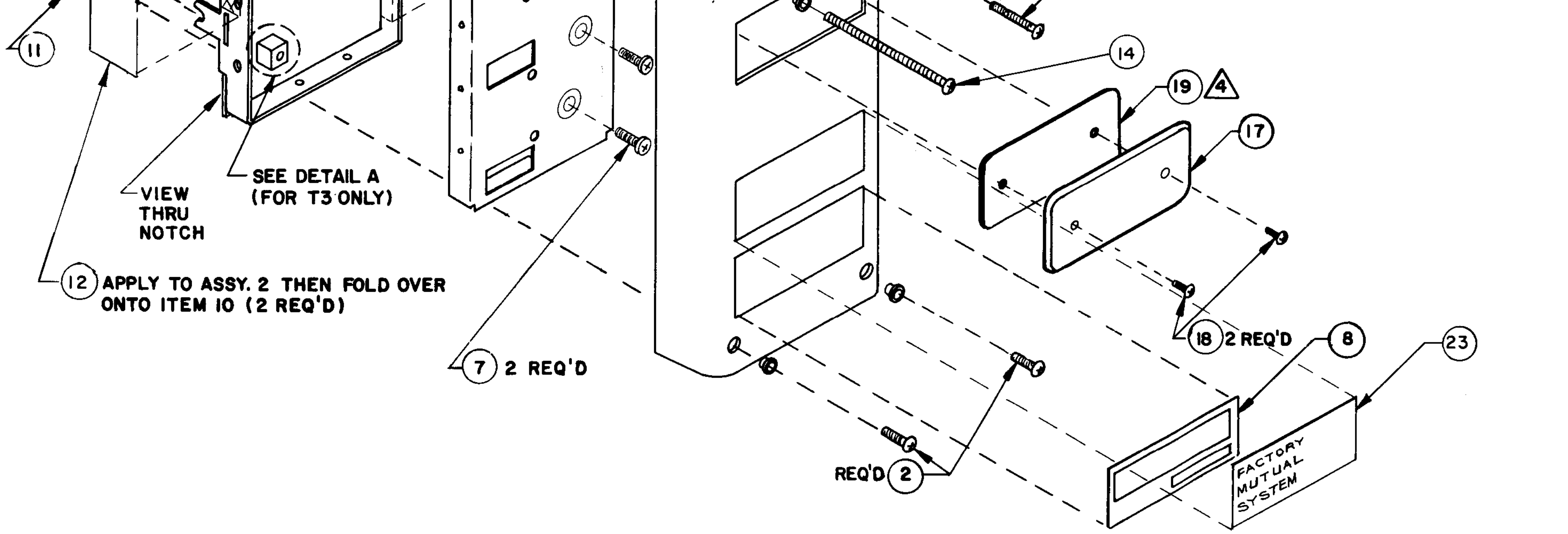
   E. REMOVE ASY 2 AND SOLDER BOARD TO FRAME SEVEN PLACES AS SHOWN IN DETAIL.

   F. SNAP SHIELD (ITEM 6) ONTO ASY 2 AND SCREW IN PLACE, THEN REPEAT STEP "B" ABOVE.

   G. REPLACE BACK COVER (ITEM 1) OVER ASY 2 AND HOLD FIRMLY IN PLACE. WHILE IN PLACE, TIGHTEN THE THREE SCREWS (ITEM 4) WHICH WERE INSTALLED IN STEP "A" ABOVE.

   NOTE: PROCEDURE STEPS "C" THROUGH "F" ABOVE ARE REQUIRED ONLY FOR INITIAL FACTORY BUILD OF UNIT OR WHENEVER THE TX/RX BOARD IS REMOVED FROM THE FRAME IN SERVICE. THESE STEPS MAY BE ELIMINATED BY USE OF A FIXTURE PROVIDED BY MANUFACTURING. STEPS "B" AND "G" ABOVE HOWEVER MUST ALWAYS BE FOLLOWED WHENEVER ASY 2 IS REMOVED FROM ASY 1.





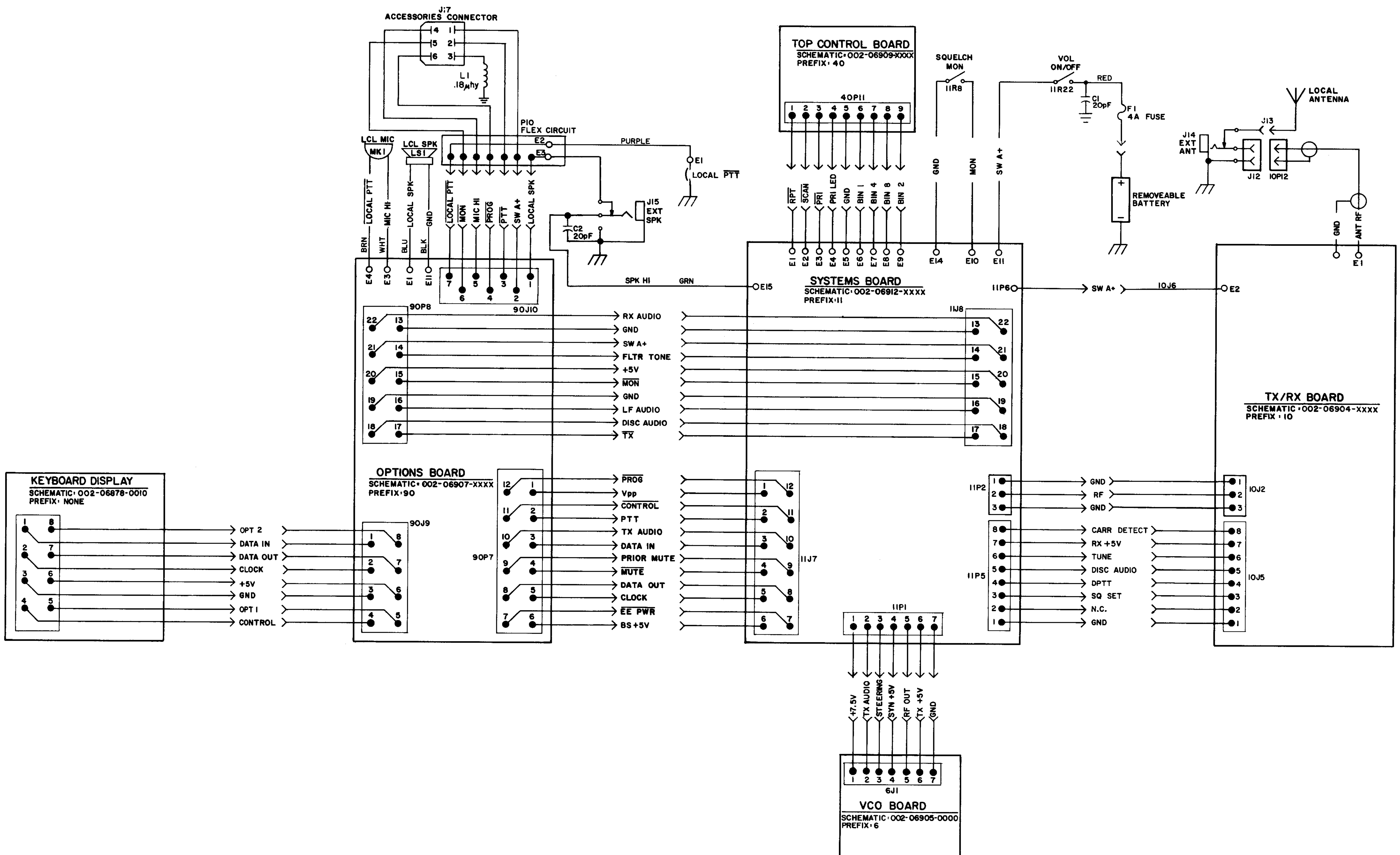
NOTES:

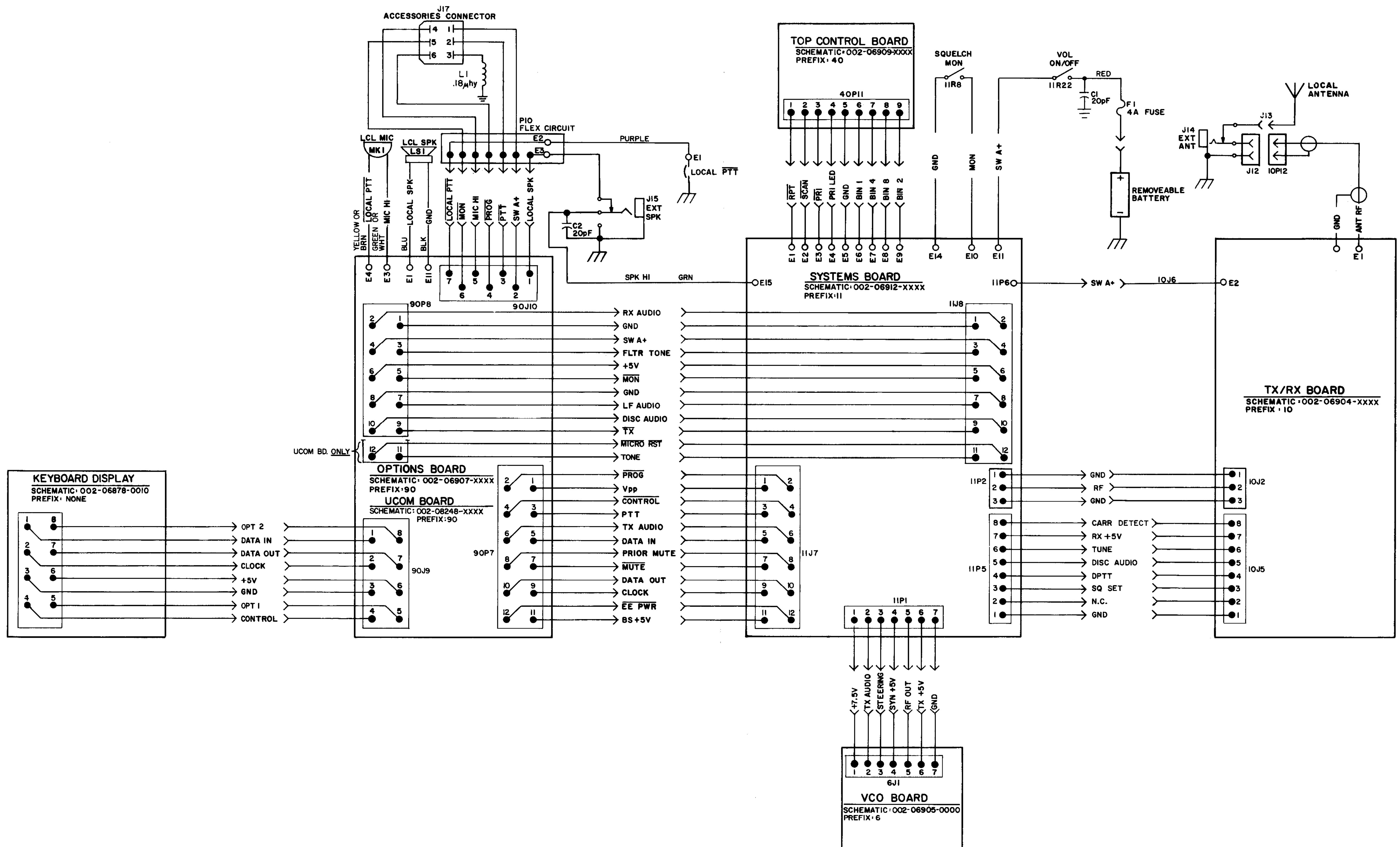
1. PARTS COMMON TO ALL ASSEMBLIES UNLESS OTHERWISE NOTED IN BOM.
2. ASSEMBLY PROCEDURE FOR ASY 2 (4 WATT VERSIONS ONLY):
   A. INSTALL CLIPS (ITEM 9, 3 EACH) TO ASY 1. LEAVE SCREWS (ITEM 4) LOOSE, TIGHTENING APPROXIMATELY THREE TURNS EACH.
   B. CONNECT POWER WIRE AND COAX PLUG TO ASY 1 THEN ENGAGE PIN AND SOCKET BOARD CONNECTORS: PROPER ALIGNMENT MUST BE CHECKED BY VIEWING THROUGH NOTCH IN FRAME.
   C. PLACE BACK COVER OVER ASY 2 AND ADJUST FRAME/HEATSINK SO AS TO BE CENTERED IN THE BACK COVER OPENING.
   D. INSTALL AND TIGHTEN CAP SCREW (ITEM 5).
   E. REMOVE ASY 2 AND SOLDER BOARD TO FRAME SEVEN PLACES AS SHOWN IN DETAIL.
   F. SNAP SHIELD (ITEM 6) ONTO ASY 2 AND SCREW IN PLACE, THEN REPEAT STEP "B" ABOVE.
   G. REPLACE BACK COVER (ITEM 1) OVER ASY 2 AND HOLD FIRMLY IN PLACE. WHILE IN PLACE, TIGHTEN THE THREE SCREWS (ITEM 4) WHICH WERE INSTALLED IN STEP "A" ABOVE.

   NOTE: PROCEDURE STEPS "C" THROUGH "F" ABOVE ARE REQUIRED ONLY FOR INITIAL FACTORY BUILD OF UNIT OR WHENEVER THE TX/RX BOARD IS REMOVED FROM THE FRAME IN SERVICE. THESE STEPS MAY BE ELIMINATED BY USE OF A FIXTURE PROVIDED BY MANUFACTURING. STEPS "B" AND "G" ABOVE HOWEVER MUST ALWAYS BE FOLLOWED WHENEVER ASY 2 IS REMOVED FROM ASY 1.

△3. HIGH VACUUM GREASE (ITEM 22) IS APPLIED TO SOME SEALING SURFACES TO ENSURE AGAINST MOISTURE INTRUSION. AREAS DENOTED BY CROSSHATCHING WILL HAVE GREASE SPARINGLY APPLIED BEFORE UNIT IS ASSEMBLED. ONCE ASSEMBLED, EXCESS GREASE SHALL BE REMOVED FROM THE UNIT EXTERIOR USING AN ALCOHOL SATURATED CLOTH OR AN EQUIVALENT CLEANING METHOD.

△4. CENTER GASKET OVER MOUNTING HOLES, ADHESIVE SIDE TOWARD HEAT SINK. PRESS TO SEAL GASKET EDGES TO BACK COVER.


J17
ACCESSORIES CONNECTOR
L1
.18μhy
P10
FLEX CIRCUIT
PURPLE
E1
LOCAL PTT
LCL MIC
MK1
LCL SPK
LS1
J15
EXT
SPK
C2
20pF
SPK HI
GRN
TOP CONTROL BOARD
SCHEMATIC: 002-06909-XXXX
PREFIX: 40
40P11
RPT
SCAN
PRI
PRI LED
GND
BIN 1
BIN 4
BIN 8
BIN 2
SQUELCH
MON
11R8
VOL
ON/OFF
11R22
RED
C1
20pF
F1
4A FUSE
REMOVEABLE
BATTERY
LOCAL
ANTENNA
J13
J14
EXT
ANT
J12
10P12
GND
MON
SW A+
ANT RF
SYSTEMS BOARD
SCHEMATIC: 002-06912-XXXX
PREFIX: 11
11P6
SW A+
10J6
11J8
TX/RX BOARD
SCHEMATIC: 002-06904-XXXX
PREFIX: 10
90P8
90J10
RX AUDIO
GND
SW A+
FLTR TONE
+5V
MON
GND
LF AUDIO
DISC AUDIO
TX
OPTIONS BOARD
SCHEMATIC: 002-06907-XXXX
PREFIX: 90
PROG
Vpp
CONTROL
PTT
TX AUDIO
DATA IN
PRIOR MUTE
MUTE
DATA OUT
CLOCK
EE PWR
BS+5V
90P7
11J7
KEYBOARD DISPLAY
SCHEMATIC: 002-06878-0010
PREFIX: NONE
90J9
OPT 2
DATA IN
DATA OUT
CLOCK
+5V
GND
OPT 1
CONTROL
11P2
GND
RF
GND
10J2
11P5
CARR DETECT
RX +5V
TUNE
DISC AUDIO
DPTT
SQ SET
N.C.
GND
10J5
11P1
+7.5V
TX AUDIO
STEERING
SYN +5V
RF OUT
TX +5V
GND
6J1
VCO BOARD
SCHEMATIC: 002-06905-0000
PREFIX: 6


J17
ACCESSORIES CONNECTOR
L1
.18μhy
P10
FLEX CIRCUIT
PURPLE
E1
LOCAL PTT
J15
EXT
SPK
C2
20pF
LCL MIC
MK1
LCL SPK
LS1
YELLOW OR BRN
LOCAL PTT
GREEN OR WHT
MIC HI
BLU
LOCAL SPK
BLK
GND
LOCAL PTT
MON
MIC HI
PROG
PTT
SW A+
LOCAL SPK
SPK HI
GRN
90P8
90J10
UCOM BD. ONLY
OPTIONS BOARD
SCHEMATIC: 002-06907-XXXX
PREFIX:90
UCOM BOARD
SCHEMATIC: 002-08248-XXXX
PREFIX:90
90J9
90P7
KEYBOARD DISPLAY
SCHEMATIC: 002-06876-0010
PREFIX: NONE
OPT 2
DATA IN
DATA OUT
CLOCK
+5V
GND
OPT 1
CONTROL
RX AUDIO
GND
SW A+
FLTR TONE
+5V
MON
GND
LF AUDIO
DISC AUDIO
TX
MICRO RST
TONE
PROG
Vpp
CONTROL
PTT
TX AUDIO
DATA IN
PRIOR MUTE
MUTE
DATA OUT
CLOCK
EE PWR
BS+5V
TOP CONTROL BOARD
SCHEMATIC: 002-06909-XXXX
PREFIX: 40
40P11
RPT
SCAN
PRI
PRI LED
GND
BIN 1
BIN 4
BIN 8
BIN 2
SQUELCH
MON
11R8
VOL
ON/OFF
11R22
RED
C1
20pF
F1
4A FUSE
REMOVEABLE
BATTERY
GND
MON
SW A+
SYSTEMS BOARD
SCHEMATIC: 002-06912-XXXX
PREFIX:11
11J8
11J7
11P6
11P2
11P5
11P1
SW A+
10J6
LOCAL
ANTENNA
J13
J14
EXT
ANT
J12
10P12
GND
ANT RF
TX/RX BOARD
SCHEMATIC: 002-06904-XXXX
PREFIX: 10
10J2
10J5
GND
RF
GND
CARR DETECT
RX +5V
TUNE
DISC AUDIO
DPTT
SQ SET
N.C.
GND
+7.5V
TX AUDIO
STEERING
SYN +5V
RF OUT
TX +5V
GND
6J1
VCO BOARD
SCHEMATIC: 002-06905-0000
PREFIX: 6

SYSTEM FRAME ASSEMBLY

200-03481-0000	LPU
200-03481-0001	LPU
200-03481-0002	LPU
200-03481-0003	LPU
200-03481-0004	LPU
200-03481-0005	LPU
200-03481-0006	LQU
200-03481-0007	LQU
200-03481-0008	LQU
200-03481-0009	LQU

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0001	0002	0003	0004	0005	0006	0007	0008	0009
	200-03481-0099	COMMON BOM	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASY 1	200-06912-0000	NO LONGER USED	A	EA	.	1.00	1.00	1.00	.	.	.	1.00	1.00	1.00
ASY 1	200-06912-0001	NO LONGER USED	A	EA	.	.	.	.	1.00	.	.	.	.	.
ASY 1	200-06912-0002	NO LONGER USED	A	EA	.	.	.	.	.	1.00	.	.	.	.
ASY 1	200-06912-0010	SYSTEMS BD ASSY	A	EA	1.00	.	.	.	.	.	1.00	.	.	.
ASY 2	200-06909-0000	CTRL BD 2CH 1.5W	A	EA	1.00	.	.	.	.	.	1.00	.	.	.
ASY 2	200-06909-0001	CTRL BD 14CH WK	A	EA	.	1.00	.	.	1.00	1.00	.	1.00	.	.
ASY 2	200-06909-0002	CTRL BD 2 CH 4W	A	EA	.	.	1.00	.	.	.	.	.	1.00	.
ASY 2	200-06909-0003	CTRL BD 14CH 4W NK	A	EA	.	.	.	1.00	.	.	.	.	.	1.00
ASY 3	200-03475-0000	TOP FRAME ASSY	A	EA	1.00	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASY 4	200-06905-0000	VCO BD ASSY	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 3	200-03475-0000	TOP FRAME ASSY	A	EA	.	1.00								
ITM 14	076-01461-0000	SPACER SWITCH		EA	.	3.00	1.00	2.00	3.00	3.00	.	3.00	1.00	2.00
ITM 15	076-01439-0000	NUT SLOT M5X0.50		EA	.	3.00	1.00	2.00	3.00	3.00	.	3.00	1.00	2.00
ITM 16	088-01311-0000	LED BUSHING		EA	.	1.00	.	1.00	1.00	1.00	.	1.00	.	1.00
ITM 17	057-03100-0005	INLAY TOP		EA	1.00	.	.	.	.	.	1.00	.	.	.
ITM 17	057-03551-0001	INLAY TOP		EA	.	1.00	.	.	1.00	1.00	.	1.00	.	.
ITM 17	057-03551-0002	INLAY TOP		EA	.	.	1.00	.	.	.	.	.	1.00	.
ITM 17	057-03551-0003	INLAY TOP		EA	.	.	.	1.00	.	.	.	.	.	1.00
ITM 20	088-02052-0001	SWITCH BEZEL W/DCR	A	EA	.	1.00	.	1.00	1.00	1.00	.	1.00	.	1.00
ITM 20	088-02072-0001	SW BZL 2CH W/DCR	A	EA	1.00	.	1.00	.	.	.	1.00	.	1.00	.
ITM 21	090-00492-0000	STOP PIN		EA	.	2.00	.	2.00	2.00	2.00	.	2.00	.	2.00
ITM 27	009-06917-0001	PCBD FARSD SHLD		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 28	073-00611-0001	CAST VCO/SYN W/FIN	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 29	073-00612-0001	CASTING VCO/CVR	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 31	076-01449-0001	BSHG BNC ANT W/F	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
ITM 31	088-01301-0000	ANTENNA BUSHING		EA	1.00	1.00	1.00	1.00	1.00	1.00	.	.	.	.
ITM 32	088-01310-0000	ANTENNA NUT		EA	1.00	1.00	1.00	1.00	1.00	1.00	.	.	.	.
ITM 35	088-02058-0000	SWITCH BOOT		EA	.	1.00	.	.	1.00	1.00	.	1.00	.	.
ITM 35	088-02058-0003	SWITCH BOOT		EA	.	.	1.00	.	.	.	.	.	1.00	.
ITM 35	088-02058-0004	SWITCH BOOT		EA	1.00	.	.	.	.	.	1.00	.	.	.
ITM 35	088-02058-0006	SWITCH BOOT		EA	.	.	.	1.00	.	.	.	.	.	1.00
ITM 39	089-08336-0000	BNC WASHER		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
J 13	030-00202-0000	CONN COAX RECPT		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
J 13	076-01438-0000	ADAPTER ANTENNA		EA	1.00	1.00	1.00	1.00	1.00	1.00	.	.	.	.

200-03481-0010	LQU
200-03481-0011	LQU
200-03481-0020	LQU
200-03481-0021	LQU
200-03481-0022	LQU
200-03481-0023	LQU
200-03481-0024	LQU
200-03481-0025	MQU
200-03481-0026	MQU
200-03481-0027	MQU

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY									
						0010	0011	0020	0021	0022	0023	0024	0025	0026	0027
		200-03481-0099	COMMON BOM	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ASY	1	200-06912-0001	NO LONGER USED	A	EA	1.00	.	.	.	.	.	.	.	.	.
ASY	1	200-06912-0002	NO LONGER USED	A	EA	.	1.00	.	.	.	.	.	.	.	.
ASY	1	200-06912-0013	FM SYS BD ASSY	A	EA	.	.	1.00	1.00	1.00	.	.	1.00	1.00	1.00
ASY	1	200-06912-0014	FM SYS BD ASSY	A	EA	.	.	.	.	.	1.00	.	.	.	.
ASY	1	200-06912-0015	FM SYS BD ASSY	A	EA	.	.	.	.	.	.	1.00	.	.	.
ASY	2	200-06909-0001	CTRL BD 14CH WK	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ASY	2	200-06909-0011	FM CTRL BD 14CHWK	A	EA	.	.	.	.	1.00	1.00	1.00	.	.	1.00
ASY	2	200-06909-0012	FM CTRL BD 2CH4W	A	EA	.	.	1.00	.	.	.	.	1.00	.	.
ASY	2	200-06909-0013	FM CTRL BD 14CH4WK	A	EA	.	.	.	1.00	.	.	.	.	1.00	.
ASY	3	200-03475-0000	TOP FRAME ASSY	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ASY	3	200-03475-0013	FM TOP FRM ASSY	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	.	.	.
ASY	3	200-03475-0014	FM TOP FRM ASSY	A	EA	.	.	.	.	.	.	.	1.00	1.00	1.00
ASY	4	200-06905-0000	VCO BD ASSY	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ASY	4	200-06905-0013	FM VCO ASSY	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
C	1	111-00002-0013	CAP CER 22PF X7R		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
F	1	036-00057-0009	FUSE 275 125V 4A		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	1	089-07394-0000	SCR FH 256X9/32		EA	.	.	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ITM	2	047-06702-0000	BTRY LATCH PLATE		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	3	076-01446-0000	POSITIVE CONTACT		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	4	089-08335-0000	WSHR CURVED SPRING	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	5	010-00019-0093	TERM STDF WHT	A	EA	.	.	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM	6	088-01304-0010	LTCH PLT HSG MOD	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	7	047-06703-0000	LATCH SPRING	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	8	090-00019-0000	RING RTNR .125		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	9	026-00002-0000	WIRE COP TIN 24G	A	IN	.	.	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
ITM	10	047-07478-0003	LOWER FRAME	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	11	047-07478-0003	LOWER FRAME	A	EA	.	.	.	1.00	.	.	.	.	.	.
ITM	11	047-07479-0003	SIDE FRAME	A	EA	.	.	1.00	.	1.00	1.00	1.00	1.00	1.00	1.00
ITM	12	089-06004-0002	SCR FHP 2-56X1/8		EA	.	.	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ITM	13	047-07465-0000	WSHR CHNL SLCT		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	14	076-01461-0000	SPACER SWITCH		EA	3.00	3.00	1.00	2.00	3.00	3.00	3.00	1.00	2.00	3.00
ITM	15	076-01439-0000	NUT SLOT M5X0.50		EA	3.00	3.00	1.00	2.00	3.00	3.00	3.00	1.00	2.00	3.00
ITM	16	088-01311-0000	LED BUSHING		EA	1.00	1.00	.	1.00	1.00	1.00	1.00	.	1.00	1.00
ITM	17	057-03551-0001	INLAY TOP		EA	1.00	1.00	.	.	.	1.00	1.00	.	.	1.00
ITM	17	057-03551-0002	INLAY TOP		EA	.	.	1.00	.	.	.	.	1.00	.	.
ITM	17	057-03551-0003	INLAY TOP		EA	.	.	.	1.00	.	.	.	.	1.00	.
ITM	18	076-01439-0001	NUT SLOT M6X0.70		EA	.	.	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM	19	088-02087-0001	KNOB MOLDED	A	EA	.	.	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM	20	088-02052-0001	SWITCH BEZEL W/DCR	A	EA	1.00	1.00	.	1.00	1.00	1.00	1.00	.	1.00	1.00
ITM	20	088-02072-0001	SW BZL 2CH W/DCR	A	EA	.	.	1.00	.	.	.	.	1.00	.	.
ITM	21	090-00492-0000	STOP PIN		EA	2.00	2.00	.	2.00	2.00	2.00	2.00	.	2.00	2.00
ITM	22	076-01439-0002	NUT SLOT 1/4-40		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	23	088-02085-0001	CHANNEL KNOB MLED	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	24	025-00001-0002	WIRE 26 RED		IN	.	.	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
ITM	25	012-01421-0000	MICROTHIN TAPE		IN	.	.	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
ITM	26	089-05895-0005	SCR PHP 0-80X5/16		EA	.	.	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
ITM	27	009-06917-0001	PCBD FARSD SHLD		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM	27	009-06923-0001	PCBD SPCR/FRSD SHL	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	28	073-00611-0001	CAST VCO/SYN W/FIN	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM	28	073-00616-0001	CASTING LWR VCO SY	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	29	073-00612-0001	CASTING VCO/CVR	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM	29	073-00617-0001	CSTG SHORT VCO CVR		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	31	076-01449-0001	BSHG BNC ANT W/F	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM	31	088-01301-0000	ANTENNA BUSHING		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	32	088-01310-0000	ANTENNA NUT		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	33	088-02067-0001	TOP PLT SPEC	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	34	187-01755-0000	O-RING		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	35	088-02058-0000	SWITCH BOOT		EA	1.00	1.00	.	.	1.00	1.00	1.00	.	.	1.00
ITM	35	088-02058-0003	SWITCH BOOT		EA	.	.	1.00	.	.	.	.	1.00	.	.
ITM	35	088-02058-0006	SWITCH BOOT		EA	.	.	.	1.00	.	.	.	.	1.00	.

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
SYSTEM FRAME ASSEMBLY

200-03481-00XX

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0010	0011	0020	0021	0022	0023	0024	0025	0026	0027
ITM	37	187-01768-0000	INSULATOR	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	39	089-08336-0000	BNC WASHER		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM	41	187-01321-0000	GSKT,LTCH PLT HSG		EA	.	.	.	.	.	.	.	1.00	1.00	1.00
ITM	42	012-01421-0000	MICROTHIN TAPE		IN	.	.	.	.	.	.	2.00	2.00	2.00	2.00
ITM	43	035-08373-0002	SEALING TAPE TAN		EA	.	.	.	.	.	.	0.50	0.50	0.50	0.50
ITM	44	012-01492-0000	VCO SHIELD INSUL		EA	.	.	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM	45	016-01013-0000	VAC GREASE DC 976		AR	.	.	.	.	.	.	.	1.00	1.00	1.00
ITM	46	089-08335-0001	SPRING WASHER	A	EA	.	.	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM	47	089-08341-0000	WASHER FLAT	A	EA	.	.	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM	48	016-01412-0000	LOCTITE 425	A	AR	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
J	13	030-00202-0000	CONN COAX RECPT		EA	1.00	1.00	.	.	.	.	.	.	.	.
J	13	076-01438-0000	ADAPTER ANTENNA		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
REF	1	300-03481-0000	SYSTEMS FRAME ASSY	A	RF	.	.	X.	X.	X.	X.	X.	X.	X.	X.
REF	2	300-03481-0010	MOD SYS FRM ASSY	A	RF	.	.	.	.	.	.	.	X.	X.	X.

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
SYSTEM FRAME ASSEMBLY

200-03481-0028	MQU
200-03481-0029	MQU
200-03481-0050	LPU
200-03481-0051	LPU
200-03481-0052	LPU
200-03481-0053	LPU
200-03481-0054	LPU
200-03481-0055	LPU
200-03481-0056	LPU
200-03481-0057	LPU

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY									
					0028	0029	0050	0051	0052	0053	0054	0055	0056	0057
	200-03481-0099	COMMON BOM	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASY 1	200-06912-0010	SYSTEMS BD ASSY	A	EA	.	.	1.00	1.00	1.00	.	.	1.00	1.00	1.00
ASY 1	200-06912-0011	SYSTEM BD ASSY	A	EA	.	.	.	.	.	1.00	.	.	.	.
ASY 1	200-06912-0012	SYSTEMS BD ASSY	A	EA	.	.	.	.	.	.	1.00	.	.	.
ASY 1	200-06912-0014	FM SYS BD ASSY	A	EA	1.00	.	.	.	.	.	.	.	.	.
ASY 1	200-06912-0015	FM SYS BD ASSY	A	EA	.	1.00	.	.	.	.	.	.	.	.
ASY 2	200-06909-0001	CTRL BD 14CH WK	A	EA	.	.	.	.	1.00	1.00	1.00	.	.	1.00
ASY 2	200-06909-0002	CTRL BD 2 CH 4W	A	EA	.	.	1.00	.	.	.	.	1.00	.	.
ASY 2	200-06909-0003	CTRL BD 14CH 4W NK	A	EA	.	.	.	1.00	.	.	.	.	1.00	.
ASY 2	200-06909-0011	FM CTRL BD 14CHWK	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ASY 3	200-03475-0000	TOP FRAME ASSY	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASY 3	200-03475-0014	FM TOP FRM ASSY	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ASY 4	200-06905-0000	VCO BD ASSY	A	EA	.	.	1.00	1.00	1.00	1.00	1.00	.	1.00	1.00
ASY 4	200-06905-0013	FM VCO ASSY	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ASY 4	200-06905-0020	VCO BD ASSY DNBD	A	EA	.	.	.	.	.	.	.	1.00	.	.
C 1	111-00002-0013	CAP CER 22PF X7R		EA	1.00	1.00	.	.	.	.	.	.	.	.
F 1	036-00057-0009	FUSE 275 125V 4A		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 1	089-07394-0000	SCR FH 256X9/32		EA	4.00	4.00	.	.	.	.	.	.	.	.
ITM 2	047-06702-0000	BTRY LATCH PLATE		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 3	076-01446-0000	POSITIVE CONTACT		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 4	089-08335-0000	WSHR CURVED SPRING	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 5	010-00019-0093	TERM STDF WHT	A	EA	2.00	2.00	.	.	.	.	.	.	.	.
ITM 6	088-01304-0010	LTCH PLT HSG MOD	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 7	047-06703-0000	LATCH SPRING	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 8	090-00019-0000	RING RTNR .125		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 9	026-00002-0000	WIRE COP TIN 24G	A	IN	0.50	0.50	.	.	.	.	.	.	.	.
ITM 10	047-07478-0003	LOWER FRAME	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 11	047-07479-0003	SIDE FRAME	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 12	089-06004-0002	SCR FHP 2-56X1/8		EA	4.00	4.00	.	.	.	.	.	.	.	.
ITM 13	047-07465-0000	WSHR CHNL SLCT		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 14	076-01461-0000	SPACER SWITCH		EA	3.00	3.00	1.00	2.00	3.00	3.00	3.00	1.00	2.00	3.00
ITM 15	076-01439-0000	NUT SLOT M5X0.50		EA	3.00	3.00	1.00	2.00	3.00	3.00	3.00	1.00	2.00	3.00
ITM 16	088-01311-0000	LED BUSHING		EA	1.00	1.00	.	1.00	1.00	1.00	1.00	.	1.00	1.00
ITM 17	057-03551-0001	INLAY TOP		EA	1.00	1.00	.	.	1.00	1.00	1.00	.	.	1.00
ITM 17	057-03551-0002	INLAY TOP		EA	.	.	1.00	.	.	.	.	1.00	.	.
ITM 17	057-03551-0003	INLAY TOP		EA	.	.	.	1.00	.	.	.	.	1.00	.
ITM 18	076-01439-0001	NUT SLOT M6X0.70		EA	2.00	2.00	.	.	.	.	.	.	.	.
ITM 19	088-02087-0001	KNOB MOLDED	A	EA	2.00	2.00	.	.	.	.	.	.	.	.
ITM 20	088-02052-0001	SWITCH BEZEL W/DCR	A	EA	1.00	1.00	.	1.00	1.00	1.00	1.00	.	1.00	1.00
ITM 20	088-02072-0001	SW BZL 2CH W/DCR	A	EA	.	.	1.00	.	.	.	.	1.00	.	.
ITM 21	090-00492-0000	STOP PIN		EA	2.00	2.00	.	2.00	2.00	2.00	2.00	.	2.00	2.00
ITM 22	076-01439-0002	NUT SLOT 1/4-40		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 23	088-02085-0001	CHANNEL KNOB MLED	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 24	025-00001-0002	WIRE 26 RED		IN	7.00	7.00	.	.	.	.	.	.	.	.
ITM 25	012-01421-0000	MICROTHIN TAPE		IN	1.50	1.50	.	.	.	.	.	.	.	.
ITM 26	089-05895-0005	SCR PHP 0-80X5/16		EA	9.00	9.00	.	.	.	.	.	.	.	.
ITM 27	009-06923-0001	PCBD SPCR/FRSD SHL	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 28	073-00616-0001	CASTING LWR VCO SY	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 29	073-00617-0001	CSTG SHORT VCO CVR		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 31	076-01449-0001	BSHG BNC ANT W/F	A	EA	.	.	.	.	.	.	.	1.00	1.00	1.00
ITM 31	088-01301-0000	ANTENNA BUSHING		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.	.
ITM 32	088-01310-0000	ANTENNA NUT		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.	.
ITM 33	088-02067-0001	TOP PLT SPEC	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 34	187-01755-0000	O-RING		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 35	088-02058-0000	SWITCH BOOT		EA	1.00	1.00	.	.	1.00	1.00	1.00	.	.	1.00
ITM 35	088-02058-0003	SWITCH BOOT		EA	.	.	1.00	.	.	.	.	1.00	.	.
ITM 35	088-02058-0006	SWITCH BOOT		EA	.	.	.	1.00	.	.	.	.	1.00	.
ITM 37	187-01768-0000	INSULATOR	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 39	089-08336-0000	BNC WASHER		EA	.	.	.	.	.	.	.	1.00	1.00	1.00
ITM 41	187-01321-0000	GSKT,LTCH PLT HSG		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 42	012-01421-0000	MICROTHIN TAPE		IN	2.00	2.00	.	.	.	.	.	.	.	.

SYSTEM FRAME ASSEMBLY

200-03481-00XX

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0028	0029	0050	0051	0052	0053	0054	0055	0056	0057
ITM	43	035-08373-0002	SEALING TAPE TAN		EA	0.50	0.50	.	.	.	.	.	.	.	.
ITM	44	012-01492-0000	VCO SHIELD INSUL		EA	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM	45	016-01013-0000	VAC GREASE DC 976		AR	1.00	1.00	.	.	.	.	.	.	.	.
ITM	46	089-08335-0001	SPRING WASHER	A	EA	2.00	2.00	.	.	.	.	.	.	.	.
ITM	47	089-08341-0000	WASHER FLAT	A	EA	2.00	2.00	.	.	.	.	.	.	.	.
ITM	48	016-01412-0000	LOCTITE 425	A	AR	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.	.
J	13	030-00202-0000	CONN COAX RECPT		EA	.	.	.	.	.	.	.	1.00	1.00	1.00
J	13	076-01438-0000	ADAPTER ANTENNA		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.	.	.
REF	1	300-03481-0000	SYSTEMS FRAME ASSY	A	RF	X.	X.	.	.	.	.	.	.	.	.
REF	2	300-03481-0010	MOD SYS FRM ASSY	A	RF	X.	X.	.	.	.	.	.	.	.	.

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
SYSTEM FRAME ASSEMBLY

200-03481-0058 LPU
200-03481-0059 LPU
200-03481-0060 LPU 4140S
200-03481-0061 LPU 4991S
200-03481-0062 MPU
200-03481-0063 MPU
200-03481-0064 MPU
200-03481-0065 MPU
200-03481-0066 MPU
200-03481-0067 LPU 4141S

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0058	0059	0060	0061	0062	0063	0064	0065	0066	0067
	200-03481-0099	COMMON BOM	A	EA	1.00	1.00	.	.	1.00	1.00	1.00	1.00	1.00	.
ASY 1	200-06912-0010	SYSTEMS BD ASSY	A	EA	.	.	1.00	.	1.00	1.00	1.00	.	.	1.00
ASY 1	200-06912-0011	SYSTEM BD ASSY	A	EA	1.00	.	.	.	.	.	.	1.00	.	.
ASY 1	200-06912-0012	SYSTEMS BD ASSY	A	EA	.	1.00	.	1.00	.	.	.	.	1.00	.
ASY 2	200-06909-0001	CTRL BD 14CH WK	A	EA	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00	1.00
ASY 2	200-06909-0002	CTRL BD 2 CH 4W	A	EA	.	.	.	.	1.00	.	.	.	.	.
ASY 2	200-06909-0003	CTRL BD 14CH 4W NK	A	EA	.	.	1.00	.	.	1.00	.	.	.	.
ASY 3	200-03475-0000	TOP FRAME ASSY	A	EA	1.00	1.00	1.00	1.00	.	.	.	.	.	1.00
ASY 3	200-03475-0001	TOP FRAME ASSY	A	EA	.	.	.	.	1.00	1.00	1.00	1.00	1.00	.
ASY 4	200-06905-0000	VCO BD ASSY	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
C 1	111-00002-0013	CAP CER 22PF X7R		EA	.	.	1.00	1.00	.	.	.	.	.	1.00
F 1	036-00057-0009	FUSE 275 125V 4A		EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 1	089-07394-0000	SCR FH 256X9/32		EA	.	.	4.00	4.00	.	.	.	.	.	4.00
ITM 2	047-06702-0000	BTRY LATCH PLATE		EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 3	076-01446-0000	POSITIVE CONTACT		EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 4	089-08335-0000	WSHR CURVED SPRING	A	EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 5	010-00019-0093	TERM STDF WHT	A	EA	.	.	2.00	2.00	.	.	.	.	.	2.00
ITM 6	088-01304-0010	LTCH PLT HSG MOD	A	EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 7	047-06703-0000	LATCH SPRING	A	EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 8	090-00019-0000	RING RTNR .125		EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 9	026-00002-0000	WIRE COP TIN 24G	A	IN	.	.	0.50	0.50	.	.	.	.	.	0.50
ITM 10	047-07478-0003	LOWER FRAME	A	EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 11	047-07479-0003	SIDE FRAME	A	EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 12	089-06004-0002	SCR FHP 2-56X1/8		EA	.	.	4.00	4.00	.	.	.	.	.	4.00
ITM 13	047-07465-0000	WSHR CHNL SLCT		EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 14	076-01461-0000	SPACER SWITCH		EA	3.00	3.00	2.00	3.00	1.00	2.00	3.00	3.00	3.00	3.00
ITM 15	076-01439-0000	NUT SLOT M5X0.50		EA	3.00	3.00	2.00	3.00	1.00	2.00	3.00	3.00	3.00	3.00
ITM 16	088-01311-0000	LED BUSHING		EA	1.00	1.00	1.00	1.00	.	1.00	1.00	1.00	1.00	1.00
ITM 17	057-03551-0001	INLAY TOP		EA	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00	1.00
ITM 17	057-03551-0002	INLAY TOP		EA	.	.	.	.	1.00	.	.	.	.	.
ITM 17	057-03551-0003	INLAY TOP		EA	.	.	1.00	.	.	1.00	.	.	.	.
ITM 18	076-01439-0001	NUT SLOT M6X0.70		EA	.	.	2.00	2.00	.	.	.	.	.	2.00
ITM 20	088-02052-0001	SWITCH BEZEL W/DCR	A	EA	1.00	1.00	1.00	1.00	.	1.00	1.00	1.00	1.00	1.00
ITM 20	088-02072-0001	SW BZL 2CH W/DCR	A	EA	.	.	.	.	1.00	.	.	.	.	.
ITM 21	090-00492-0000	STOP PIN		EA	2.00	2.00	.	.	.	2.00	2.00	2.00	2.00	.
ITM 22	076-01439-0002	NUT SLOT 1/4-40		EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 24	025-00001-0002	WIRE 26 RED		IN	.	.	7.00	7.00	.	.	.	.	.	7.00
ITM 25	012-01421-0000	MICROTHIN TAPE		IN	.	.	1.50	1.50	.	.	.	.	.	1.50
ITM 26	089-05895-0005	SCR PHP 0-80X5/16		EA	.	.	9.00	9.00	.	.	.	.	.	9.00
ITM 27	009-06923-0001	PCBD SPCR/FRSD SHL	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 28	073-00616-0001	CASTING LWR VCO SY	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 29	073-00617-0001	CSTG SHORT VCO CVR		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 31	076-01449-0001	BSHG BNC ANT W/F	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 31	088-01301-0000	ANTENNA BUSHING		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 32	088-01310-0000	ANTENNA NUT		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 33	088-02067-0001	TOP PLT SPEC	A	EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 34	187-01755-0000	O-RING		EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 35	088-02058-0000	SWITCH BOOT		EA	1.00	1.00	.	1.00	.	.	1.00	1.00	1.00	1.00
ITM 35	088-02058-0003	SWITCH BOOT		EA	.	.	.	.	1.00	.	.	.	.	.
ITM 35	088-02058-0006	SWITCH BOOT		EA	.	.	1.00	.	.	1.00	.	.	.	.
ITM 37	187-01768-0000	INSULATOR	A	EA	.	.	1.00	1.00	.	.	.	.	.	1.00
ITM 39	089-08336-0000	BNC WASHER		EA	1.00	1.00	.	.	.	.	.	.	.	.
ITM 41	187-01321-0000	GSKT,LTCH PLT HSG		EA	.	.	.	.	1.00	1.00	1.00	1.00	1.00	.
ITM 42	012-01421-0000	MICROTHIN TAPE		IN	.	.	.	.	2.00	2.00	2.00	2.00	2.00	.
ITM 43	035-08373-0002	SEALING TAPE TAN		EA	.	.	.	.	0.50	0.50	0.50	0.50	0.50	.
ITM 44	012-01492-0000	VCO SHIELD INSUL		EA	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM 45	016-01013-0000	VAC GREASE DC 976		AR	.	.	.	.	1.00	1.00	1.00	1.00	1.00	.
ITM 46	016-01412-0000	LOCTITE 425	A	AR	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
J 13	030-00202-0000	CONN COAX RECPT		EA	1.00	1.00	.	.	.	.	.	.	.	.
J 13	076-01438-0000	ADAPTER ANTENNA		EA	.	.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
SYSTEM FRAME ASSEMBLY

200-03481-00XX

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0058	0059	0060	0061	0062	0063	0064	0065	0066	0067
REF 1	300-03481-0000	SYSTEMS FRAME ASSY	A	RF	.	.	X.	X.	.	.	.	.	.	X.
REF 2	300-03481-0010	MOD SYS FRM ASSY	A	RF	.	.	.	.	X.	X.	X.	X.	X.	.

BENDIX/KING

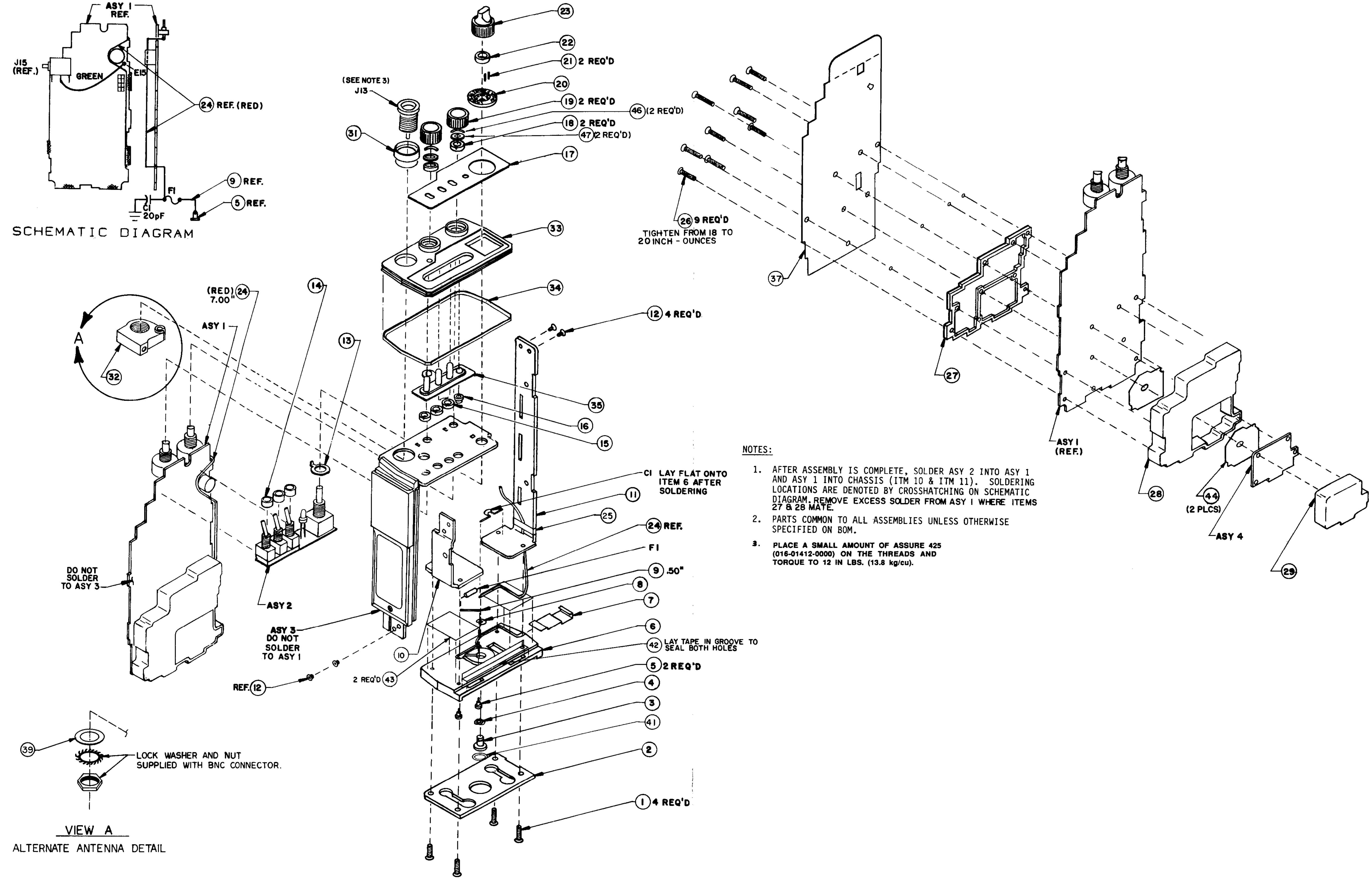
LPU SERIES
UHF FM COMM TRANSCEIVERS
SYSTEM FRAME ASSEMBLY

200-03481-0070	LPV
200-03481-0071	LPV
200-03481-0072	LPV
200-03481-0073	LPV
200-03481-0074	LPV
200-03481-0075	MPV
200-03481-0076	MPV
200-03481-0077	MPV
200-03481-0078	MPV
200-03481-0079	MPV

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0070	0071	0072	0073	0074	0075	0076	0077	0078	0079
	200-03481-0099	COMMON BOM	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASY 1	200-06912-0010	SYSTEMS BD ASSY	A	EA	1.00	1.00	1.00	.	.	1.00	1.00	1.00	.	.
ASY 1	200-06912-0011	SYSTEM BD ASSY	A	EA	.	.	.	1.00	.	.	.	.	1.00	.
ASY 1	200-06912-0012	SYSTEMS BD ASSY	A	EA	.	.	.	.	1.00	.	.	.	.	1.00
ASY 2	200-06909-0001	CTRL BD 14CH WK	A	EA	.	.	1.00	1.00	1.00	.	.	1.00	1.00	1.00
ASY 2	200-06909-0002	CTRL BD 2 CH 4W	A	EA	1.00	.	.	.	.	1.00	.	.	.	.
ASY 2	200-06909-0003	CTRL BD 14CH 4W NK	A	EA	.	1.00	.	.	.	.	1.00	.	.	.
ASY 3	200-03475-0000	TOP FRAME ASSY	A	EA	1.00	1.00	1.00	1.00	1.00	.	.	.	.	.
ASY 3	200-03475-0001	TOP FRAME ASSY	A	EA	.	.	.	.	.	1.00	1.00	1.00	1.00	1.00
ASY 4	200-06905-0020	VCO BD ASSY DNBD	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 14	076-01461-0000	SPACER SWITCH		EA	1.00	2.00	3.00	3.00	3.00	1.00	2.00	3.00	3.00	3.00
ITM 15	076-01439-0000	NUT SLOT M5X0.50		EA	1.00	2.00	3.00	3.00	3.00	1.00	2.00	3.00	3.00	3.00
ITM 16	088-01311-0000	LED BUSHING		EA	.	1.00	1.00	1.00	1.00	.	1.00	1.00	1.00	1.00
ITM 17	057-03551-0001	INLAY TOP		EA	.	.	1.00	1.00	1.00	.	.	1.00	1.00	1.00
ITM 17	057-03551-0002	INLAY TOP		EA	1.00	.	.	.	.	1.00	.	.	.	.
ITM 17	057-03551-0003	INLAY TOP		EA	.	1.00	.	.	.	.	1.00	.	.	.
ITM 20	088-02052-0001	SWITCH BEZEL W/DCR	A	EA	.	1.00	1.00	1.00	1.00	.	1.00	1.00	1.00	1.00
ITM 20	088-02072-0001	SW BZL 2CH W/DCR	A	EA	1.00	.	.	.	.	1.00	.	.	.	.
ITM 21	090-00492-0000	STOP PIN		EA	.	2.00	2.00	2.00	2.00	.	2.00	2.00	2.00	2.00
ITM 27	009-06923-0001	PCBD SPCR/FRSD SHL	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 28	073-00616-0001	CASTING LWR VCO SY	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 29	073-00617-0001	CSTG SHORT VCO CVR		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 31	088-01301-0000	ANTENNA BUSHING		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 32	088-01310-0000	ANTENNA NUT		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM 35	088-02058-0000	SWITCH BOOT		EA	.	.	1.00	1.00	1.00	.	.	1.00	1.00	1.00
ITM 35	088-02058-0003	SWITCH BOOT		EA	1.00	.	.	.	.	1.00	.	.	.	.
ITM 35	088-02058-0006	SWITCH BOOT		EA	.	1.00	.	.	.	.	1.00	.	.	.
ITM 41	187-01321-0000	GSKT,LTCH PLT HSG		EA	.	.	.	.	.	1.00	1.00	1.00	1.00	1.00
ITM 42	012-01421-0000	MICROTHIN TAPE		IN	.	.	.	.	.	2.00	2.00	2.00	2.00	2.00
ITM 43	035-08373-0002	SEALING TAPE TAN		EA	.	.	.	.	.	0.50	0.50	0.50	0.50	0.50
ITM 44	012-01492-0000	VCO SHIELD INSUL		EA	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ITM 45	016-01013-0000	VAC GREASE DC 976		AR	.	.	.	.	.	1.00	1.00	1.00	1.00	1.00
ITM 48	016-01412-0000	LOCTITE 425	A	AR	1.00	1.00	1.00	1.00	1.00	.	.	.	.	.
J 13	076-01438-0000	ADAPTER ANTENNA		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
REF 2	300-03481-0010	MOD SYS FRM ASSY	A	RF	.	.	.	.	.	X.	X.	X.	X.	X.

SYSTEM FRAME ASSEMBLY

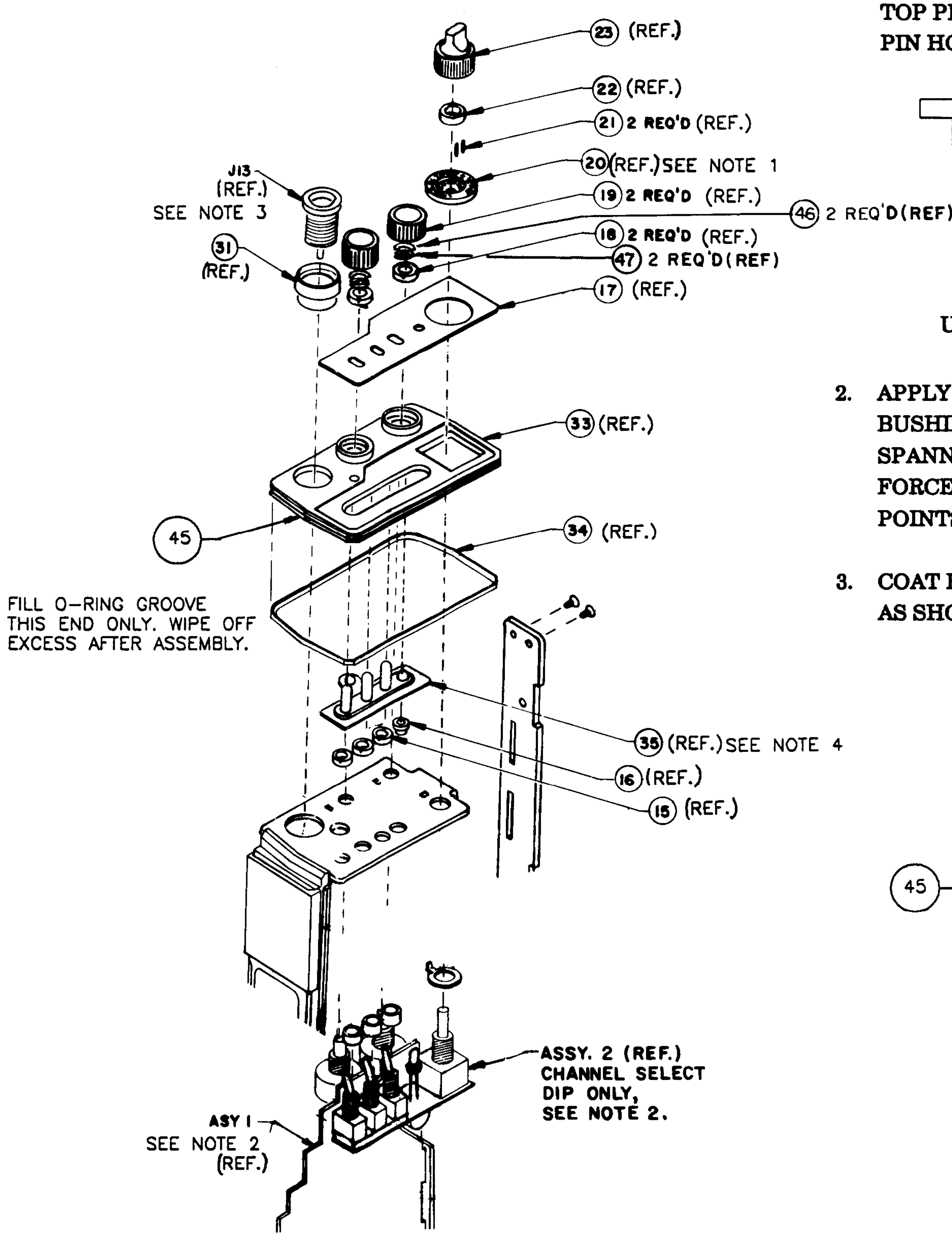
200-03481-0099			COMMON BOM	LPU	LQU	
SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0099
C	1	111-00002-0013	CAP CER 22PF X7R		EA	1.00
F	1	036-00057-0009	FUSE 275 125V 4A		EA	1.00
ITM	1	089-07394-0000	SCR FH 256X9/32		EA	4.00
ITM	2	047-06702-0000	BTRY LATCH PLATE		EA	1.00
ITM	3	076-01446-0000	POSITIVE CONTACT		EA	1.00
ITM	4	089-08335-0000	WSHR CURVED SPRING	A	EA	1.00
ITM	5	010-00019-0093	TERM STDF WHT	A	EA	2.00
ITM	6	088-01304-0010	LTCH PLT HSG MOD	A	EA	1.00
ITM	7	047-06703-0000	LATCH SPRING	A	EA	1.00
ITM	8	090-00019-0000	RING RTNR .125		EA	1.00
ITM	9	026-00002-0000	WIRE COP TIN 24G	A	IN	0.50
ITM	10	047-07478-0003	LOWER FRAME	A	EA	1.00
ITM	11	047-07479-0003	SIDE FRAME	A	EA	1.00
ITM	12	089-06004-0002	SCR FHP 2-56X1/8		EA	4.00
ITM	13	047-07465-0000	WSHR CHNL SLCT		EA	1.00
ITM	18	076-01439-0001	NUT SLOT M6X0.70		EA	2.00
ITM	19	088-02087-0001	KNOB MOLDED	A	EA	2.00
ITM	22	076-01439-0002	NUT SLOT 1/4-40		EA	1.00
ITM	23	088-02085-0001	CHANNEL KNOB MLED	A	EA	1.00
ITM	24	025-00001-0002	WIRE 26 RED		IN	7.00
ITM	25	012-01421-0000	MICROTHIN TAPE		IN	1.50
ITM	26	089-05895-0005	SCR PHP 0-80X5/16		EA	9.00
ITM	33	088-02067-0001	TOP PLT SPEC	A	EA	1.00
ITM	34	187-01755-0000	O-RING		EA	1.00
ITM	37	187-01768-0000	INSULATOR	A	EA	1.00
ITM	46	089-08335-0001	SPRING WASHER	A	EA	2.00
ITM	47	089-08341-0000	WASHER FLAT	A	EA	2.00
REF	1	300-03481-0000	SYSTEMS FRAME ASSY	A	RF	X.



NOTES:

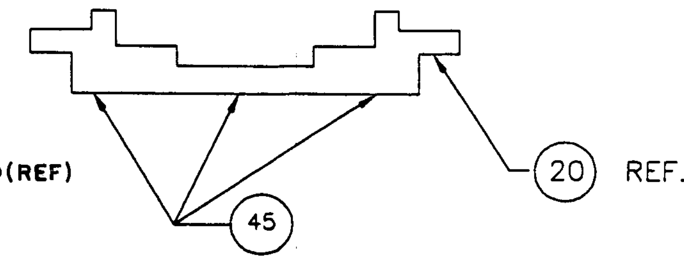
1. AFTER ASSEMBLY IS COMPLETE, SOLDER ASY 2 INTO ASY 1 AND ASY 1 INTO CHASSIS (ITM 10 & ITM 11). SOLDERING LOCATIONS ARE DENOTED BY CROSSHATCHING ON SCHEMATIC DIAGRAM. REMOVE EXCESS SOLDER FROM ASY 1 WHERE ITEMS 27 & 28 MATE.
2. PARTS COMMON TO ALL ASSEMBLIES UNLESS OTHERWISE SPECIFIED ON BOM.
3. PLACE A SMALL AMOUNT OF ASSURE 425 (016-01412-0000) ON THE THREADS AND TORQUE TO 12 IN LBS. (13.8 kg/cu).

SYSTEMS FRAME ASSEMBLY
300-03481-0000



NOTES:

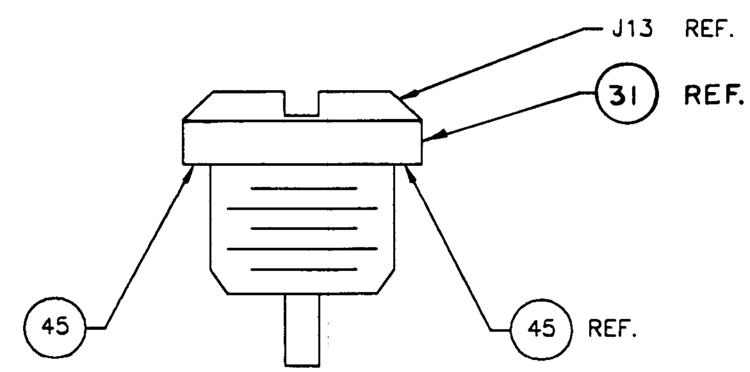
1. UNDERCOAT BOTTOM SURFACE OF BEZEL (ITEM 20) WITH VACUUM GREASE (ITEM 45) BEFORE INSTALLATION INTO TOP PLATE RECESS. ALLOW GREASE TO FILL ALL STOP PIN HOLES. KNOB WILL CONCEAL EXCESS GREASE.



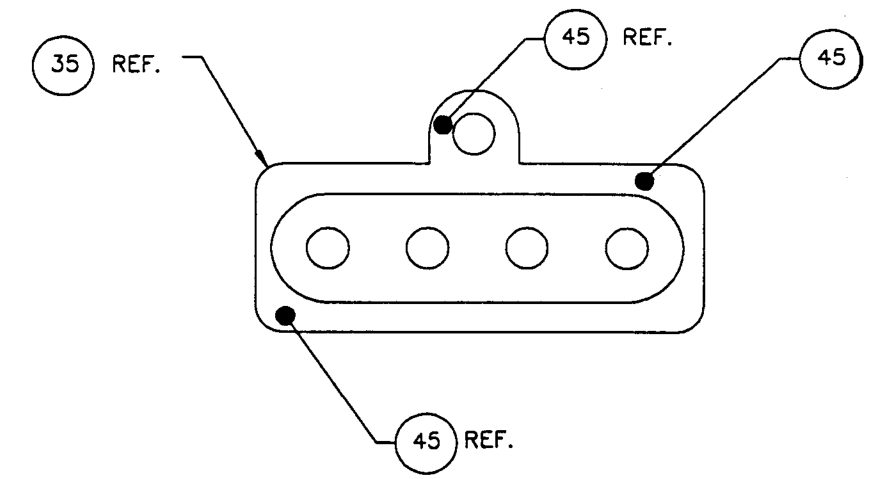
UNDERCOAT ENTIRE SURFACE
AS SHOWN

2. APPLY VACUUM GREASE (ITEM 45) TO THREADED BUSHING. FILL ALL THREADS BEFORE INSTALLING SPANNER NUT. INSTALLATION OF SPANNER NUT WILL FORCE VACUUM GREASE INTO RECESSES SEALING ALL POINTS OF MOISTURE ENTRY.

3. COAT FLANGE SURFACE WITH VACUUM GREASE (ITEM 45) AS SHOWN. WIPE OFF EXCESS AFTER INSTALLATION.



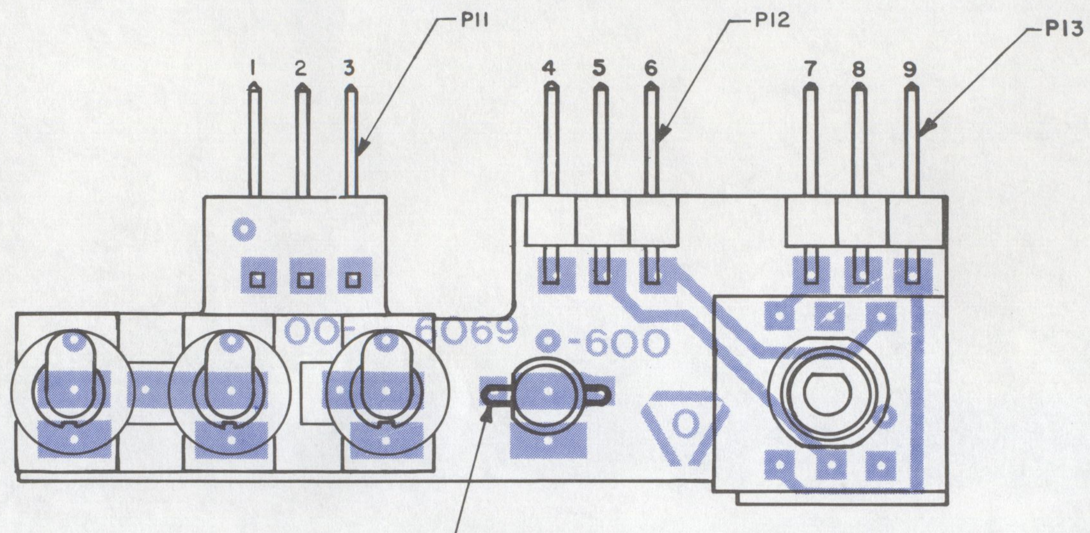
4. APPLY A THIN LAYER OF VACUUM GREASE (ITEM 45) TO THE CONTINUOUS SURFACE INDICATED. THIS LAYER WILL SEAL ALL POINTS OF MOISTURE ENTRY. WIPE OFF EXCESS AFTER INSTALLATION OF INLAY (ITEM 17).



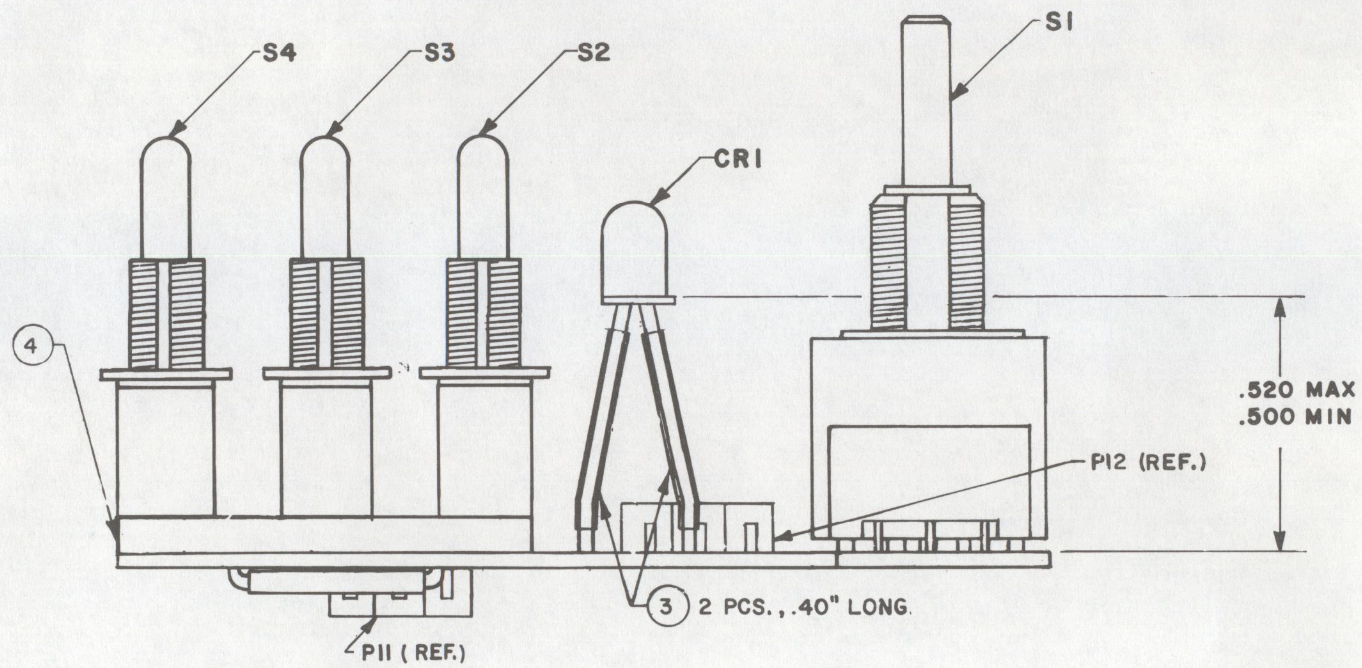
CONTROL BOARD ASSEMBLY

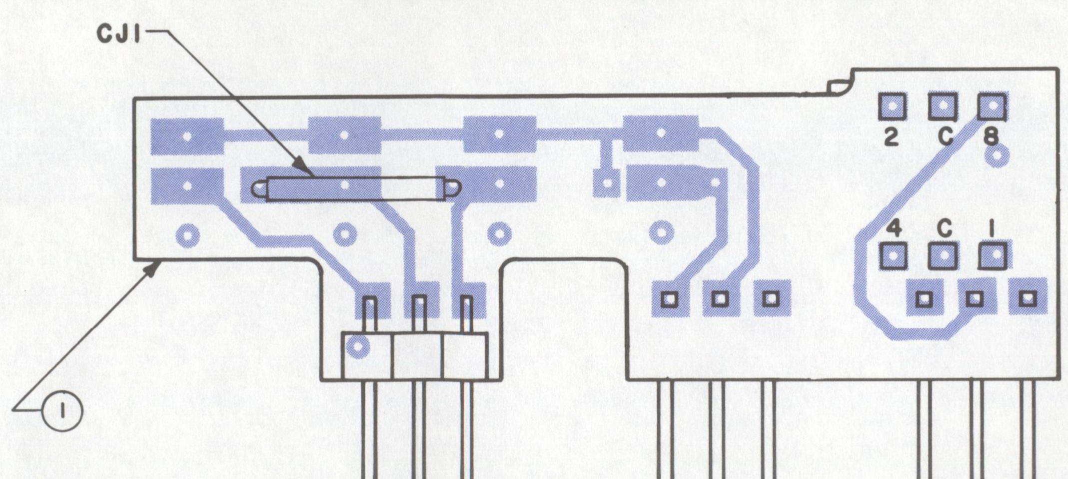
200-06909-0000 LPU
200-06909-0001 LPU
200-06909-0002 LPU
200-06909-0003 LPU
200-06909-0011 LQU
200-06909-0012 LQU
200-06909-0013 LQU
200-06909-0099 COMMON BOM

SYMBOL		PART NUMBER	DESCRIPTION	LPU A	UM	QUANTITY 0000	0001	0002	0003	0011	0012	0013	0099
		200-06909-0099	COMMON BOM	A	EA	1.00	1.00	1.00	1.00	.	.	.	.
CJ	1	026-00018-0000	WIRE CKTJMPR 22AWG		EA	.	.	.	1.00	.	.	1.00	.
CR	1	007-06176-0002	DIO MV5374C		EA	.	1.00	.	1.00	1.00	.	1.00	.
ITM	1	009-06909-0000	PC BD TOP CONTROL		EA	.	.	.	.	1.00	1.00	1.00	1.00
ITM	3	150-00002-0010	TUBING TFLN 26AWG		IN	.	0.80	.	0.80	0.80	.	0.80	.
ITM	4	088-02068-0000	SPACER, SWITCH		EA	.	1.00	1.00	1.00	1.00	1.00	1.00	.
P	11	030-02386-0003	HDR RT ANG 3P		EA	.	.	.	.	1.00	1.00	1.00	1.00
P	12	030-02386-0003	HDR RT ANG 3P		EA	.	.	.	.	1.00	1.00	1.00	1.00
P	13	030-02386-0003	HDR RT ANG 3P		EA	.	1.00	.	1.00	1.00	.	1.00	.
REF	1	300-06909-0000	TOP CNTRL BD ASSY		RF	.	.	.	.	X.	X.	X.	X.
S	1	031-00474-0010	DIP SW MOD	A	EA	.	1.00	.	1.00	1.00	.	1.00	.
S	1	031-00482-0000	DIP SWITCH		EA	1.00	.	1.00	.	.	1.00	.	.
S	2	031-00480-0000	TOGGLE SWITCH		EA	.	1.00	.	1.00	1.00	.	1.00	.
S	3	031-00480-0000	TOGGLE SWITCH		EA	.	1.00	.	.	1.00	.	.	.
S	4	031-00480-0000	TOGGLE SWITCH		EA	.	1.00	1.00	1.00	1.00	1.00	1.00	.



NEARSIDE



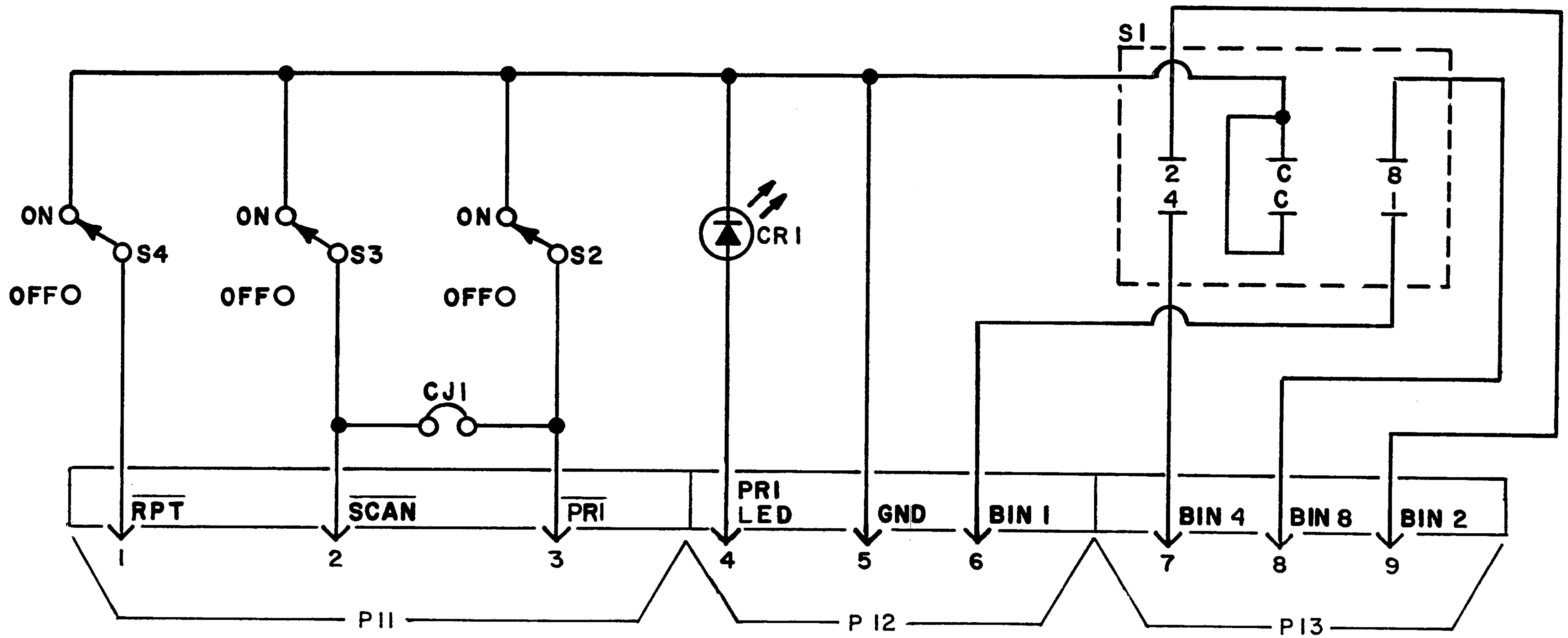


FARSIDE

PARTS REQUIRED					
	200-6909-00	-01	-02	-03	-04
CJ1				X	
CR1		X		X	X
ITM 1	X	X	X	X	X
ITM 3		X		X	X
ITM 4		X		X	X
P11	X	X	X	X	X
S1	X	X	X	X	X
S2		X		X	X
S3		X			X
S4		X	X	X	
P12	X	X	X	X	X
P13		X		X	X

SEE BILL OF MATERIALS FOR MORE COMPLETE INFORMATION

CONTROL BOARD ASSEMBLY
300-06909-0000



PARTS REQUIRED

	-00	-01	-02	-03	-04
CJ1				X	
CR1		X		X	X
S1	X	X	X	X	X
S2		X		X	X
S3		X			X
S4		X	X	X	
P11	X	X	X	X	X
P12	X	X	X	X	X
P13		X		X	X

CODE	S1 SWITCH POSITION															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	*		*		*		*		*		*		*		*	
2	*	*			*	*			*	*			*	*		
4	*	*	*	*					*	*	*	*				
8	*	*	*	*	*	*	*	*								

200-06912-0000	LPU
200-06912-0001	LPU
200-06912-0002	LPU
200-06912-0010	LPU
200-06912-0011	LPU
200-06912-0012	LPU
200-06912-0013	LQU
200-06912-0014	LQU
200-06912-0015	LQU
200-06912-0098	COMMON BOM

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0001	0002	0010	0011	0012	0013	0014	0015	0098
	200-06912-0098	COMMON BOM	A	EA	.	.	.	1.00	1.00	1.00	.	.	.	.
	200-06912-0099	COMMON BOM	A	EA	1.00	1.00	1.00	.	.	.	.	.	.	.
C 1	106-00072-0026	CAP CH 27PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 2	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 3	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 4	106-06472-0014	CAP CH 4.7K NPO/50		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 5	106-06472-0014	CAP CH 4.7K NPO/50		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 6	096-01186-0062	CAP 1.0UF 16V 20%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 7	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 8	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 10	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 20	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 21	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 22	097-00213-0077	CAP AL 220.UF 16V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 23	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 24	106-04562-0046	CH CAP 5600PF		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 25	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 35	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 36	096-01186-0064	CAP 10UF 16V 20%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 37	097-00109-0000	CAP EL 2.2UF 50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 38	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 40	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 41	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 43	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 44	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 45	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 46	106-00072-0020	CAP CH 20PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 47	106-00072-0020	CAP CH 20PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 48	096-01186-0086	CAP 10UF 35V 20%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 50	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 51	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 52	106-05221-0016	CAP CH220PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 54	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 55	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 56	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 57	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 59	106-05102-0016	CAP CH 1K NPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 60	106-04103-0047	CH 10K X7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 61	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 62	106-04103-0046	CAP CH 10K X7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 63	102-00070-0001	CAP VAR 4.2-30 N75		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 64	106-00075-0001	CAP CH47PFN750/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 66	106-05221-0016	CAP CH220PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 67	106-00072-0044	CAP CH 1.5PF		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 68	106-05221-0016	CAP CH220PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 69	106-04103-0046	CAP CH 10K X7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 70	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 77	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 78	106-05152-0016	CAPCH 1.5K NPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 79	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 80	096-01186-0067	CAP 2.2UF 20V 20%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 81	096-01186-0026	CAP .22UF 35V 10%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 82	108-05077-0001	CAP PC 1.0UF30V10%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 83	096-01186-0062	CAP 1.0UF 16V 20%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 84	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 85	106-04473-0047	CAP CH 47K X7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 86	106-05182-0047	CAPCH1800PFX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 87	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 88	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 89	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 90	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 91	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C 92	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00

SYSTEMS BD ASSY

200-06912-00XX

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0001	0002	0010	0011	0012	0013	0014	0015	0098
C	100	106-04104-0047	CH 100KX7R/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	101	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	102	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	103	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	104	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	105	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	109	096-01186-0062	CAP 1.0UF 16V 20%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	110	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	111	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	112	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	113	106-00072-0006	CAP CH5.6PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
C	114	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	1	007-05117-0007	DIO Z 6.2V SOT		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	2	007-05117-0007	DIO Z 6.2V SOT		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	3	007-06181-0000	DIO DUAL MMBD2835		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	4	007-06184-0000	DIO DUAL SWITCHING		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	5	007-06180-0000	DIO SW MMBD6050		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	6	007-06184-0000	DIO DUAL SWITCHING		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	7	007-06180-0000	DIO SW MMBD6050		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	8	007-04066-0000	DIODE DUAL VAR		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	9	007-04066-0000	DIODE DUAL VAR		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	10	007-06180-0000	DIO SW MMBD6050		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
CR	11	007-06180-0000	DIO SW MMBD6050		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
DS	1	007-06176-0003	DIO MV5774C		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	1	120-03195-0000	IC LM2904D		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	2	120-06084-0003	HEX 3 STATE BUFFER		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	3	120-03195-0000	IC LM2904D		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	4	120-03274-0000	VOLT REG LM2951ACM	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	5	122-00886-0002	KNR UHF PROC	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	6	120-03195-0000	IC LM2904D		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	7	120-03428-0000	AUD AMP SL6310L/MP	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	8	120-02159-0004	E EPROM	A	EA	1.00	1.00	.	.	.	.	.	.	.	.
I	8	120-02159-0005	EEPROM 16K CMOS	A	EA	.	.	1.00	.	.	1.00	.	.	1.00	.
I	8	195-00113-0000	EEPROM ALTERNATOR		EA	.	.	.	1.00	.	.	1.00	.	.	.
I	8	195-00113-0001	EEPROM ALTERNATOR		EA	.	.	.	.	1.00	.	.	1.00	.	.
I	9	120-03191-0000	IC OP AMP MC1776CD		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	10	120-03194-0000	IC OP AMP MC1741CD		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	11	120-06132-0002	IC FREQ SYN		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	12	120-04027-0000	PRESCALER		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	13	120-06056-0003	4094(SO) REGISTER		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
I	14	120-06131-0000	IC QUAD ANLG SW	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
ITM	1	009-06912-0010	PC BD SYS UHF		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
ITM	10	012-01174-0000	INSULATOR		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
ITM	11	026-00002-0000	WIRE COP TIN 24G	A	IN	.	.	.	.	.	.	2.00	2.00	2.00	2.00
ITM	12	195-00052-0000	CRYSTAL KIT	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
ITM	13	016-01082-0000	DC RTV 3145		AR	.	.	.	.	.	.	1.00	1.00	1.00	1.00
ITM	14	016-01124-0001	TAPE DOUB SIDE FOA		IN	.	.	.	.	.	.	0.85	0.85	0.85	0.85
ITM	15	150-00003-0010	TUBING TFLN 24AWG	A	IN	.	.	.	.	.	.	1.00	1.00	1.00	1.00
ITM	16	047-09489-0001	REGULATOR SHIELD		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
J	7	030-03052-0006	BOX CONN STRIP		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
J	8	030-03052-0006	BOX CONN STRIP		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
L	1	019-02084-0065	CH 68UH 10%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
P	1	030-01411-0000	PC 10'S		EA	.	.	.	.	.	.	7.00	7.00	7.00	7.00
P	2	030-02290-0004	STRGT HEADER 3P		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
P	5	030-02898-0008	LO PRFL TERM STRIP		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
P	6	030-02386-0001	HDR RT ANG 1P		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	1	007-00535-0001	XSTR JFET MMBF4392	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	4	007-00537-0000	XSTR PNP MMBT5087		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	5	007-08064-0017	XSTR NPN 47K 47K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	6	007-08064-0016	XSTR PNP 47K 47K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	7	007-08064-0014	XSTR PNP 4.7K, 10K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	8	007-08064-0014	XSTR PNP 4.7K, 10K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	9	007-08064-0014	XSTR PNP 4.7K, 10K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	10	007-08064-0000	XSTR PNP 10K, 10K	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	11	007-08064-0014	XSTR PNP 4.7K, 10K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q	13	007-00903-0000	2N7002 MOSFET		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00

SYSTEMS BD ASSY

200-06912-00XX

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0001	0002	0010	0011	0012	0013	0014	0015	0098
Q 14	007-00537-0000	XSTR PNP MMBT5087		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 15	007-00903-0000	2N7002 MOSFET		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 16	007-00813-0000	XSTR NPN S MMBTA14		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 17	007-00537-0000	XSTR PNP MMBT5087		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 18	007-00813-0000	XSTR NPN S MMBTA14		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 19	007-08064-0017	XSTR NPN 47K 47K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 20	007-08064-0016	XSTR PNP 47K 47K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 21	007-08064-0017	XSTR NPN 47K 47K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 22	007-08064-0016	XSTR PNP 47K 47K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 23	007-00535-0000	XSTR JFET MMBF4393	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 24	007-08064-0016	XSTR PNP 47K 47K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 25	007-08064-0017	XSTR NPN 47K 47K		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 27	007-00187-0002	XSTR SOT-23 2N5089		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 28	007-00187-0002	XSTR SOT-23 2N5089		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Q 29	007-00187-0002	XSTR SOT-23 2N5089		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 1	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 4	130-05393-0012	RES CH 39K TW 2%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 5	130-05624-0012	RES CH 620K TW 2%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 6	130-05105-0012	RES CH 1M TW 2%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 7	130-05623-0012	RES CH 62K TW 2%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 8	133-00270-0007	RES VA 100K.08W20%	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 9	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 10	131-05123-0013	RES MELF 12K EW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 18	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 20	130-05914-0013	RES CH 910K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 21	130-05224-0013	RES CH 220K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 22	133-00270-0007	RES VA 100K.08W20%	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 23	130-05203-0013	RES CH 20K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 24	130-05224-0013	RES CH 220K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 25	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 26	130-05244-0013	RES CH 240K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 27	133-00271-0018	RES VA 100K 20%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 28	130-05124-0012	RES CH 120K TW 2%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 31	130-05204-0012	RES CH 200K TW 2%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 32	130-05105-0013	RES CH IM TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 33	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 34	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 36	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 37	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 38	130-05104-0023	RES CH 100K EW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 39	130-05104-0023	RES CH 100K EW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 40	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 41	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 42	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 43	130-05471-0023	RES CHIP 470EW5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 44	130-05471-0023	RES CHIP 470EW5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 47	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 48	130-05474-0013	RES CH 470K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 50	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 51	130-05752-0013	RES CH 7.5K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 66	130-05105-0013	RES CH IM TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 67	130-05105-0023	RES CHIP 1M EW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 68	130-05334-0012	RES CH 330K TW 2%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 69	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 70	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 71	130-05105-0013	RES CH IM TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 72	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 73	130-05105-0013	RES CH IM TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 74	130-05394-0013	RES CH 390K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 76	130-05224-0013	RES CH 220K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 77	130-05204-0013	RES CH 1/10W		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 78	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 80	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 82	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 83	130-05752-0013	RES CH 7.5K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 84	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 94	130-05244-0013	RES CH 240K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 95	130-05124-0013	RES CH 120K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 96	130-05623-0013	RES CH 62K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 97	130-05303-0013	RES CH 30K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 99	130-05224-0013	RES CH 220K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R 101	130-05823-0013	RES CH 82K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00

200-06912-00XX

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	0000	0001	0002	0010	0011	0012	0013	0014	0015	0098
R	102	130-05244-0013	RES CH 240K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	104	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	105	130-05333-0013	RES CH 33K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	106	130-05333-0013	RES CH 33K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	107	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	108	130-05105-0013	RES CH IM TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	111	131-05243-0013	RES MELF 24K EW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	112	130-05332-0013	RES CH 3.3K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	113	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	114	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	115	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	116	130-05203-0013	RES CH 20K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	117	130-05393-0013	RES CH 39K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	118	130-05823-0013	RES CH 82K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	119	130-05164-0013	RES CH 160K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	120	130-05334-0013	RES CH 330K TW 5%	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	121	131-05563-0013	RES MELF 56K EW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	122	130-05134-0013	RES CH 130 TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	123	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	126	130-05153-0013	RES CH 15K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	127	133-00271-0013	RES VAS 15K 100V	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	128	133-00271-0018	RES VA 100K 20%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	129	130-05624-0013	RES CH 620K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	130	130-05303-0013	RES CH 30K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	131	130-05163-0013	RES CH 16K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	132	130-05302-0013	RES CH 3K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	133	130-05823-0013	RES CH 82K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	135	130-05105-0013	RES CH IM TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	136	130-05473-0013	RES CH 47K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	138	130-05474-0013	RES CH 470K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	139	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	140	130-05914-0013	RES CH 910K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	141	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	200	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	201	130-05202-0023	RES CHIP 2K5%EW		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	202	130-05513-0013	RES CH 51K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	205	130-05682-0023	RES CHIP 6.8KEW5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	206	130-05513-0013	RES CH 51K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	209	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	210	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	211	130-05105-0013	RES CH IM TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	212	130-05104-0013	RES CH 100K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	213	130-05473-0013	RES CH 47K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	215	130-05223-0013	RES CH 22K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	217	130-05000-0015	RES CH 0 TW		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	221	130-05224-0013	RES CH 220K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	222	130-05392-0013	RES CH 3.9K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	223	130-05222-0013	RES CH 2.2K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	224	130-05474-0013	RES CH 470K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	225	130-05474-0013	RES CH 470K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	226	130-05103-0013	RES CH 10K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	227	130-05000-0015	RES CH 0 TW		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	228	130-05000-0015	RES CH 0 TW		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	229	130-05000-0015	RES CH 0 TW		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
R	230	130-05823-0013	RES CH 82K TW 5%		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
REF	1	300-06912-0010	SYSTEMS BD ASSY		RF	.	.	.	.	.	.	X.	X.	X.	X.
REF	2	002-06912-0010	SCH SYS BD ASSY	A	RF	.	.	.	.	.	.	X.	X.	X.	X.
RN	1	015-00208-0006	R/2R NETWORK	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
RT	1	134-01044-0013	THRMSTR SURFACE MT		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Y	1	044-00245-0000	XTAL 4.000MHZ	A	EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00
Y	2	044-00158-0000	10.4 MHZ QZ XSTAL		EA	.	.	.	.	.	.	1.00	1.00	1.00	1.00

200-06912-0099 COMMON BOM

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0099
		009-06912-0000	PCBD UHF PORT SYS		EA	1.00
C	1	106-00072-0026	CAP CH 27PFNPO/50V		EA	1.00
C	2	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	3	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	4	106-06472-0014	CAP CH 4.7K NP0/50		EA	1.00
C	5	106-06472-0014	CAP CH 4.7K NP0/50		EA	1.00
C	6	096-01113-0072	CAP CH1.0UF20%20V		EA	1.00
C	7	106-04101-0016	CH 100PF NPO/50V		EA	1.00
C	8	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	9	096-01186-0063	CAP 3.3UF 16V 20%		EA	1.00
C	10	106-04101-0016	CH 100PF NPO/50V		EA	1.00
C	20	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	21	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	22	097-00109-0022	CAP EL 220UF 16V		EA	1.00
C	23	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	24	106-04562-0046	CH CAP 5600PF		EA	1.00
C	25	106-04101-0016	CH 100PF NPO/50V		EA	1.00
C	35	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	36	096-01186-0064	CAP 10UF 16V 20%		EA	1.00
C	37	097-00109-0000	CAP EL 2.2UF 50V		EA	1.00
C	38	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	40	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	41	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	43	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	44	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	45	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	46	106-00072-0020	CAP CH 20PFNPO/50V		EA	1.00
C	47	106-00072-0020	CAP CH 20PFNPO/50V		EA	1.00
C	48	097-00109-0002	CAP EL 10UF 35V		EA	1.00
C	50	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	51	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	52	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00
C	53	106-04101-0016	CH 100PF NPO/50V		EA	1.00
C	54	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	55	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	56	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	57	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	58	096-01113-0072	CAP CH1.0UF20%20V		EA	1.00
C	59	106-04102-0047	CH 1K X7R/50V		EA	1.00
C	60	106-04103-0047	CH 10K X7R/50V		EA	1.00
C	61	106-04101-0016	CH 100PF NPO/50V		EA	1.00
C	62	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00
C	63	102-00085-0000	CAP VAR SURF MTG		EA	1.00
C	64	106-04390-0016	CAP CH 39PFNPO/50V		EA	1.00
C	66	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00
C	67	106-04102-0046	CAP CH 1K 50V 5%		EA	1.00
C	68	106-04221-0016	CAP CH220PFNPO/50V		EA	1.00
C	69	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00
C	70	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	77	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	78	106-04152-0016	CAPCH1500PFNPO/50V		EA	1.00
C	79	106-04101-0016	CH 100PF NPO/50V		EA	1.00
C	80	097-00109-0000	CAP EL 2.2UF 50V		EA	1.00
C	81	096-01113-0028	CH .22UF 10% 35V		EA	1.00
C	82	108-05077-0001	CAP PC 1.0UF30V10%		EA	1.00
C	83	096-01186-0062	CAP 1.0UF 16V 20%		EA	1.00
C	84	106-04104-0047	CH 100KX7R/50V		EA	1.00
C	85	106-04473-0047	CAP CH 47K X7R/50V		EA	1.00
C	86	106-05272-0047	CAPCH2700PFX7R/50V		EA	1.00
C	87	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	88	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	89	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	90	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	91	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	92	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00
C	100	106-04223-0046	CAP CH 22K X7R/50V		EA	1.00
CR	1	007-05117-0007	DIO Z 6.2V SOT		EA	1.00
CR	2	007-05117-0007	DIO Z 6.2V SOT		EA	1.00
CR	3	007-06181-0000	DIO DUAL MMBD2835		EA	1.00
CR	4	007-06184-0000	DIO DUAL SWITCHING		EA	1.00
CR	5	007-06180-0000	DIO SW MMBD6050		EA	1.00

SYSTEMS BD ASSY

200-06912-0099

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0099
CR	6	007-06184-0000	DIO DUAL SWITCHING		EA	1.00
CR	7	007-06180-0000	DIO SW MMBD6050		EA	1.00
CR	8	007-04066-0000	DIODE DUAL VAR		EA	1.00
CR	9	007-04066-0000	DIODE DUAL VAR		EA	1.00
CR	10	007-06180-0000	DIO SW MMBD6050		EA	1.00
CR	11	007-06180-0000	DIO SW MMBD6050		EA	1.00
DS	1	007-06176-0003	DIO MV5774C		EA	1.00
I	1	120-03195-0000	IC LM2904D		EA	1.00
I	2	120-06084-0003	HEX 3 STATE BUFFER		EA	1.00
I	3	120-03195-0000	IC LM2904D		EA	1.00
I	4	120-03274-0000	VOLT REG LM2951ACM	A	EA	1.00
I	5	122-00886-0000	MCD UHF SYS MASK	A	EA	1.00
I	6	120-03195-0000	IC LM2904D		EA	1.00
I	7	120-03428-0000	AUD AMP SL6310L/MP	A	EA	1.00
I	9	120-03191-0000	IC OP AMP MC1776CD		EA	1.00
I	10	120-03194-0000	IC OP AMP MC1741CD		EA	1.00
I	11	120-06132-0002	IC FREQ SYN		EA	1.00
I	12	120-00204-0000	PRESC MC12018D	A	EA	1.00
I	13	120-06056-0003	4094(SO) REGISTER		EA	1.00
I	14	120-06131-0000	IC QUAD ANLG SW	A	EA	1.00
ITM	2	088-02069-0000	SPACER 2X5		EA	1.00
ITM	3	088-02070-0000	SPACER 2X6		EA	1.00
ITM	10	012-01174-0000	INSULATOR		EA	1.00
ITM	11	026-00002-0000	WIRE COP TIN 24G	A	IN	2.00
ITM	12	195-00052-0000	CRYSTAL KIT	A	EA	1.00
ITM	13	016-01082-0000	DC RTV 3145		AR	1.00
ITM	14	016-01124-0001	TAPE DOUB SIDE FOA		IN	0.75
ITM	15	150-00003-0010	TUBING TFLN 24AWG	A	IN	1.00
J	7	030-02904-0006	PC TERM STRIP		EA	2.00
J	8	030-02904-0005	PC TERM STRIP		EA	2.00
L	1	019-02084-0065	CH 68UH 10%		EA	1.00
P	1	030-01381-0000	PC PIN		EA	7.00
P	2	030-02290-0004	STRGT HEADER 3P		EA	1.00
P	5	030-02898-0008	LO PRFL TERM STRIP		EA	1.00
P	6	030-02386-0001	HDR RT ANG 1P		EA	1.00
Q	1	007-00535-0001	XSTR JFET MMBF4392	A	EA	1.00
Q	2	007-08064-0017	XSTR NPN 47K. 47K		EA	1.00
Q	3	007-00537-0000	XSTR PNP MMBT5087		EA	1.00
Q	4	007-00537-0000	XSTR PNP MMBT5087		EA	1.00
Q	5	007-08064-0017	XSTR NPN 47K. 47K		EA	1.00
Q	6	007-08064-0016	XSTR PNP 47K. 47K		EA	1.00
Q	7	007-08064-0014	XSTR PNP 4.7K, 10K		EA	1.00
Q	8	007-08064-0014	XSTR PNP 4.7K, 10K		EA	1.00
Q	9	007-08064-0014	XSTR PNP 4.7K, 10K		EA	1.00
Q	10	007-08064-0000	XSTR PNP 10K, 10K	A	EA	1.00
Q	11	007-08064-0014	XSTR PNP 4.7K, 10K		EA	1.00
Q	13	007-00530-0000	XSTR NPN MMBT3903	A	EA	1.00
Q	14	007-00537-0000	XSTR PNP MMBT5087		EA	1.00
Q	15	007-00187-0002	XSTR SOT-23 2N5089		EA	1.00
Q	16	007-00813-0000	XSTR NPN S MMBTA14		EA	1.00
Q	17	007-00537-0000	XSTR PNP MMBT5087		EA	1.00
Q	18	007-00813-0000	XSTR NPN S MMBTA14		EA	1.00
Q	19	007-08064-0017	XSTR NPN 47K. 47K		EA	1.00
Q	20	007-08064-0016	XSTR PNP 47K. 47K		EA	1.00
Q	21	007-08064-0017	XSTR NPN 47K. 47K		EA	1.00
Q	22	007-08064-0016	XSTR PNP 47K. 47K		EA	1.00
Q	23	007-00535-0000	XSTR JFET MMBF4393	A	EA	1.00
Q	24	007-08064-0016	XSTR PNP 47K. 47K		EA	1.00
Q	25	007-08064-0017	XSTR NPN 47K. 47K		EA	1.00
R	1	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	4	130-05753-0022	RES CH 75K EW2%		EA	1.00
R	5	130-05334-0023	RES CHIP 330KEW5%		EA	1.00
R	6	130-05514-0022	RES CH 510K EW 2%		EA	1.00
R	7	130-05514-0022	RES CH 510K EW 2%		EA	1.00
R	8	133-00270-0007	RES VA 100K.08W20%	A	EA	1.00
R	9	130-05104-0023	RES CH 100K EW 5%		EA	1.00

BENDIX/KING

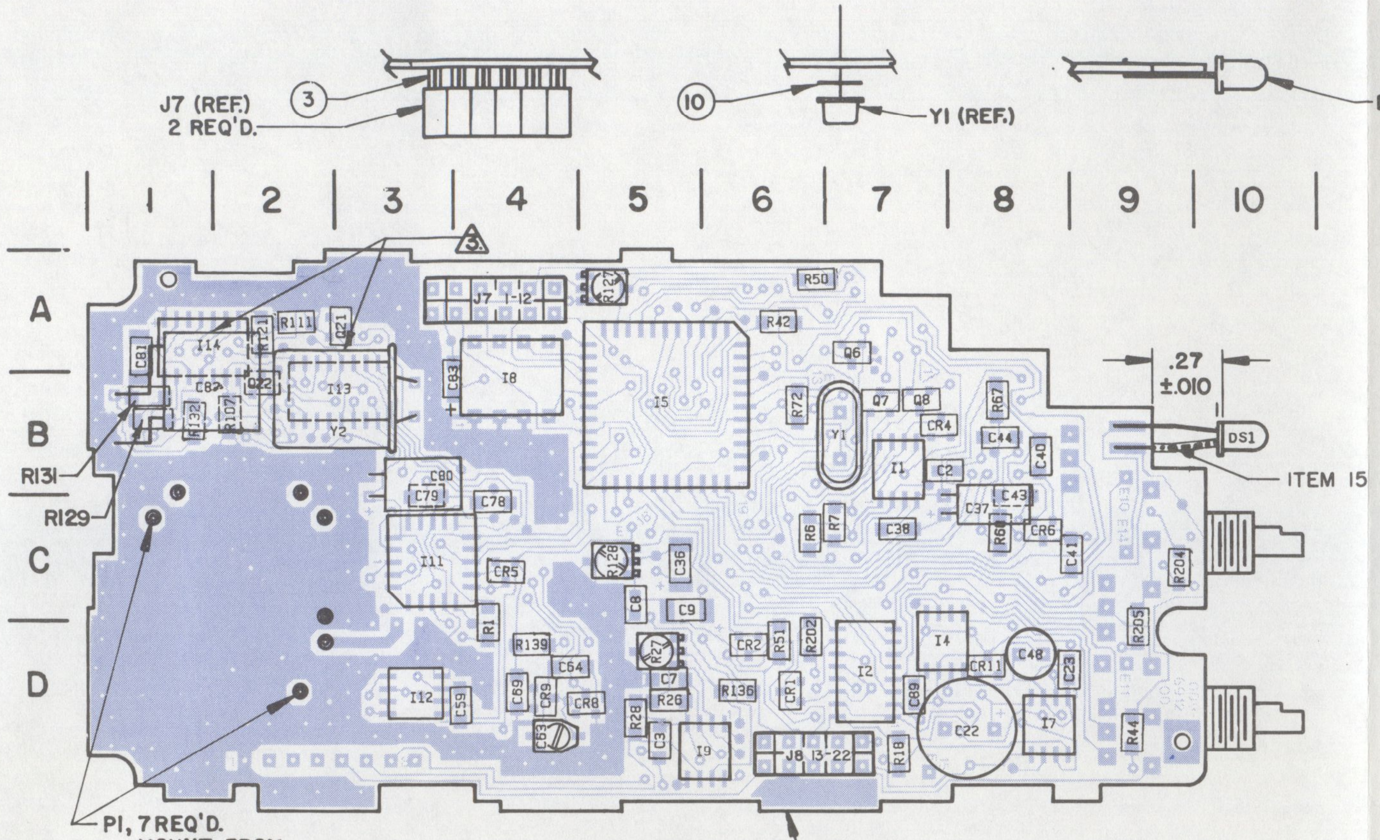
LPU SERIES
UHF FM COMM TRANSCEIVERS
SYSTEMS BD ASSY

200-06912-0099

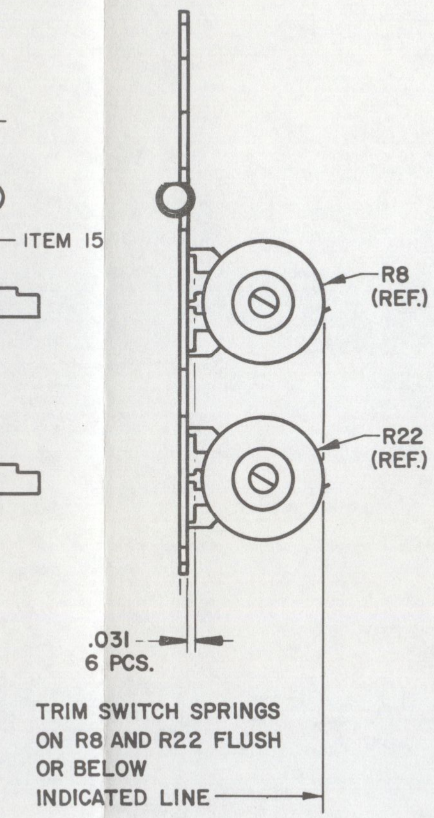
SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0099
R	10	130-05123-0023	RES CHIP 12K5%EW		EA	1.00
R	18	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	20	130-05914-0023	RES CHIP 910K EW5%		EA	1.00
R	21	130-05224-0023	RES CHIP 220K5%EW		EA	1.00
R	22	133-00270-0007	RES VA 100K.08W20%	A	EA	1.00
R	23	130-05102-0023	RES CH 1K EW 5%		EA	1.00
R	24	130-05224-0023	RES CHIP 220K5%EW		EA	1.00
R	25	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	26	130-05244-0022	RES CH 240K QW 2%		EA	1.00
R	27	133-00271-0018	RES VA 100K 20%		EA	1.00
R	28	130-05124-0022	RES CHIP 120KEW2%		EA	1.00
R	31	130-05204-0022	RES CHIP 200KEW2%		EA	1.00
R	32	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00
R	33	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	34	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	36	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	37	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	38	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	39	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	40	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	41	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	42	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	43	130-05471-0023	RES CHIP 470EW5%		EA	1.00
R	44	130-05471-0023	RES CHIP 470EW5%		EA	1.00
R	47	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	48	130-05474-0023	RES CHIP 470KEW5%		EA	1.00
R	50	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	51	130-05752-0023	RES CHIP 7.5KEW5%		EA	1.00
R	66	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00
R	67	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00
R	68	130-05334-0022	RES CH 330K EW 2%		EA	1.00
R	69	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	70	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	71	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00
R	72	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	73	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00
R	74	130-05394-0023	RES CHIP 390K EW5%		EA	1.00
R	76	130-05224-0023	RES CHIP 220K5%EW		EA	1.00
R	77	130-05204-0023	RES CHIP 200KEW5%		EA	1.00
R	78	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	79	130-05823-0023	RES CHIP 82KEW5%		EA	1.00
R	80	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	81	130-05474-0023	RES CHIP 470KEW5%		EA	1.00
R	82	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	83	130-05752-0023	RES CHIP 7.5KEW5%		EA	1.00
R	84	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	94	130-05244-0023	RES CHIP 240K5%EW		EA	1.00
R	95	130-05124-0023	RES CHIP 120KEW5%		EA	1.00
R	96	130-05623-0023	RES CHIP 62KEW5%		EA	1.00
R	97	130-05303-0023	RES CHIP 30KEW5%		EA	1.00
R	99	130-05224-0023	RES CHIP 220K5%EW		EA	1.00
R	101	130-05823-0023	RES CHIP 82KEW5%		EA	1.00
R	102	130-05244-0023	RES CHIP 240K5%EW		EA	1.00
R	104	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	105	130-05333-0023	RES CHIP 33K EW 5%		EA	1.00
R	106	130-05333-0023	RES CHIP 33K EW 5%		EA	1.00
R	107	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	108	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00
R	111	130-05243-0023	RES CHIP 24K EW 5%		EA	1.00
R	112	130-05332-0023	RES CHIP 3.3KEW5%		EA	1.00
R	113	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	114	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	115	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	116	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00
R	117	130-05393-0023	RES CHIP 39K EW 5%		EA	1.00
R	118	130-05823-0023	RES CHIP 82KEW5%		EA	1.00
R	119	130-05164-0023	RES CHIP 160K EW5%		EA	1.00
R	120	130-05334-0023	RES CHIP 330KEW5%		EA	1.00
R	121	130-05563-0023	RES CHIP 56K5%EW		EA	1.00
R	122	130-05134-0023	RES CHIP 130KEW5%		EA	1.00
R	123	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	126	130-05153-0023	RES CHIP 15K EW 5%		EA	1.00
R	127	133-00271-0013	RES VAS 15K 100V	A	EA	1.00

200-06912-0099

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0099
R	128	133-00271-0018	RES VA 100K 20%		EA	1.00
R	129	130-05624-0023	RES CHIP 620KEW5%		EA	1.00
R	130	130-05303-0023	RES CHIP 30KEW5%		EA	1.00
R	131	130-05163-0023	RES CHIP 16KEW5%		EA	1.00
R	132	130-05302-0023	RES CHIP 3K EW 5%		EA	1.00
R	133	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	135	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00
R	136	130-05473-0023	RES CHIP 47KEW5%		EA	1.00
R	138	130-05474-0023	RES CHIP 470KEW5%		EA	1.00
R	139	130-05104-0023	RES CH 100K EW 5%		EA	1.00
R	140	130-05914-0023	RES CHIP 910K EW5%		EA	1.00
R	141	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	200	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	201	130-05363-0023	RES CHIP 36KEW5%		EA	1.00
R	202	130-05513-0023	RES CHIP 51K EW 5%		EA	1.00
R	203	130-05392-0023	RES CHIP 3.9KEW5%		EA	1.00
R	204	130-05204-0023	RES CHIP 200KEW5%		EA	1.00
R	205	130-05682-0023	RES CHIP 6.8KEW5%		EA	1.00
R	206	130-05513-0023	RES CHIP 51K EW 5%		EA	1.00
R	207	130-05000-0025	RES CHIP 0 EW CJ		EA	1.00
R	208	130-05000-0025	RES CHIP 0 EW CJ		EA	1.00
R	209	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	210	130-05103-0023	RES CH 10K EW 5%		EA	1.00
R	211	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00
REF	1	300-06912-0000	SYSTEMS BD ASSY		RF X	
REF	2	002-06912-0000	SCH UHF SYSTEM BD		RF X	
RN	1	015-00208-0006	R/2R NETWORK	A	EA	1.00
RT	1	134-01044-0013	THRMSTR SURFACE MT		EA	1.00
Y	1	044-00245-0000	XTAL 4.000MHZ	A	EA	1.00
Y	2	044-00158-0000	10.4 MHZ QZ XSTAL		EA	1.00



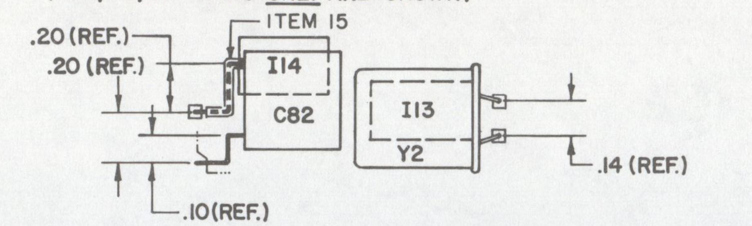
NEARSIDE

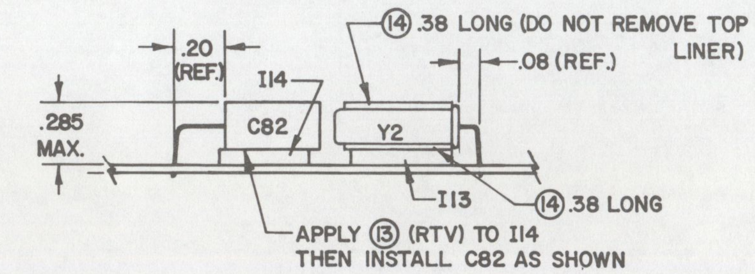


NOTES:
1. BOARD PREFIX IS 11.

2. Y2 IS SOLDERED UPRIGHT AND THEN LAYED DOWN AS SHOWN AFTER FAIRCHILD TESTING IS COMPLETED.

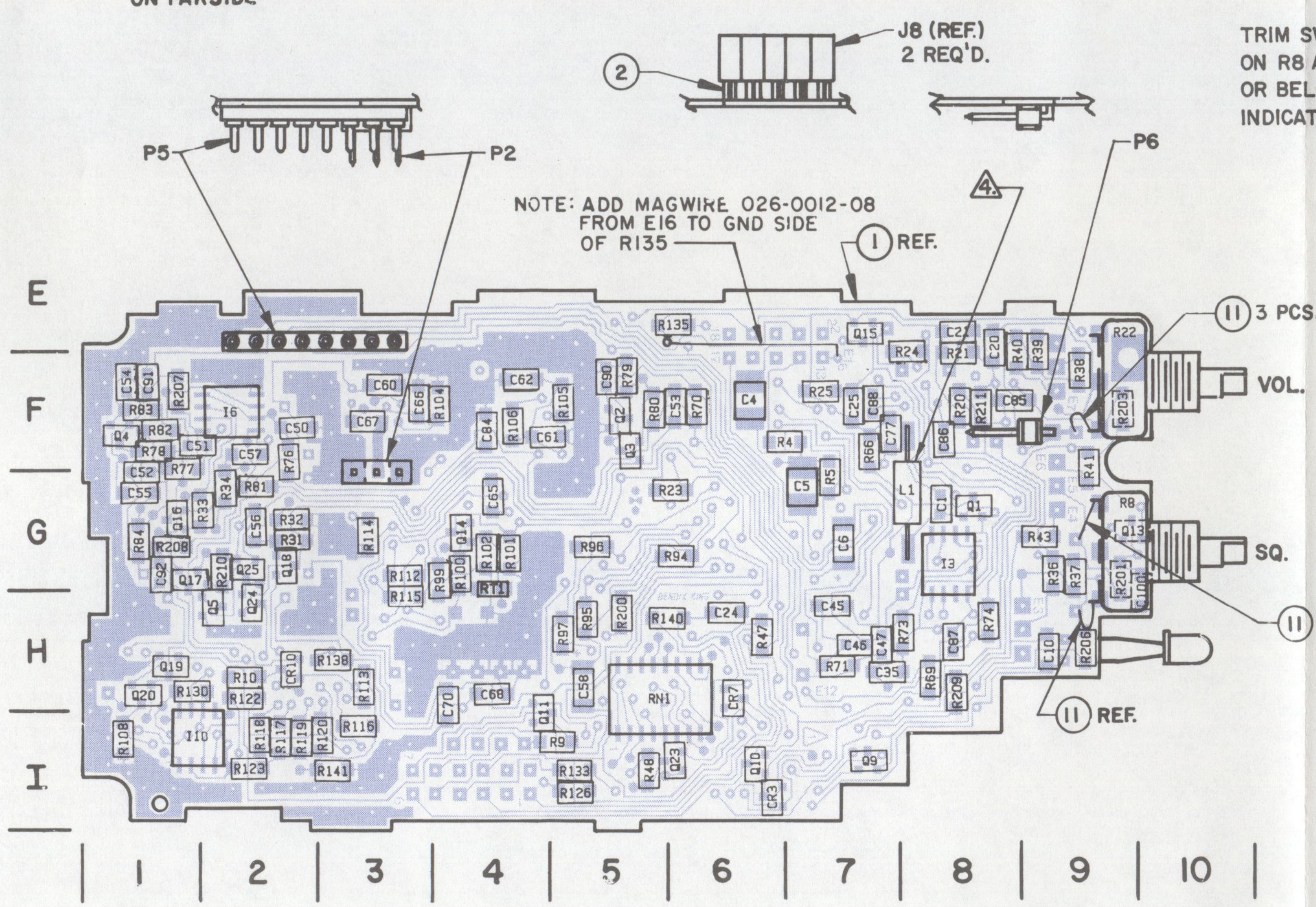
3. SEE DETAILS BELOW FOR C82 & Y2 ASSY. INFORMATION. (C82, Y2, I14 & I13 ONLY ARE SHOWN):



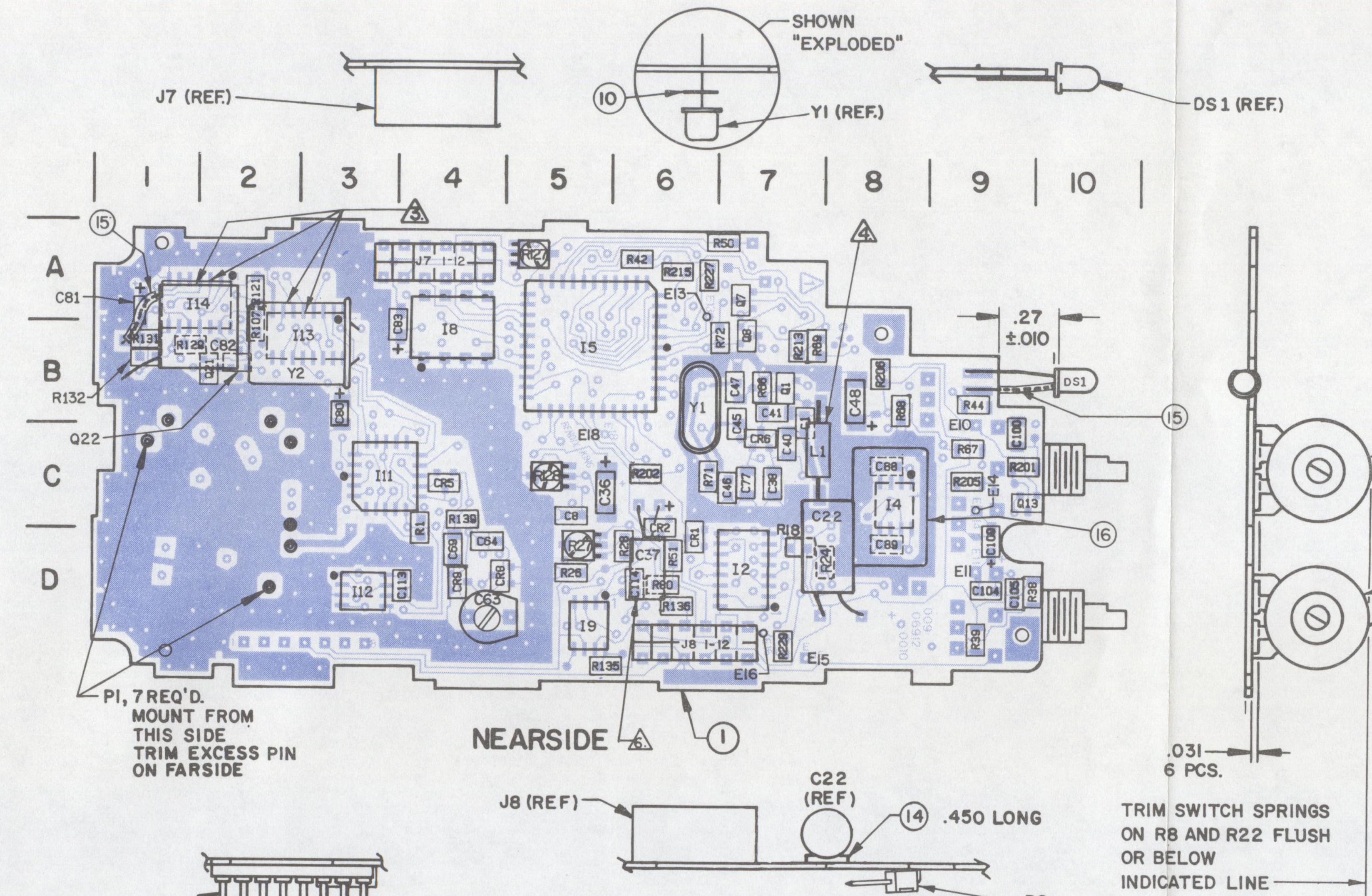


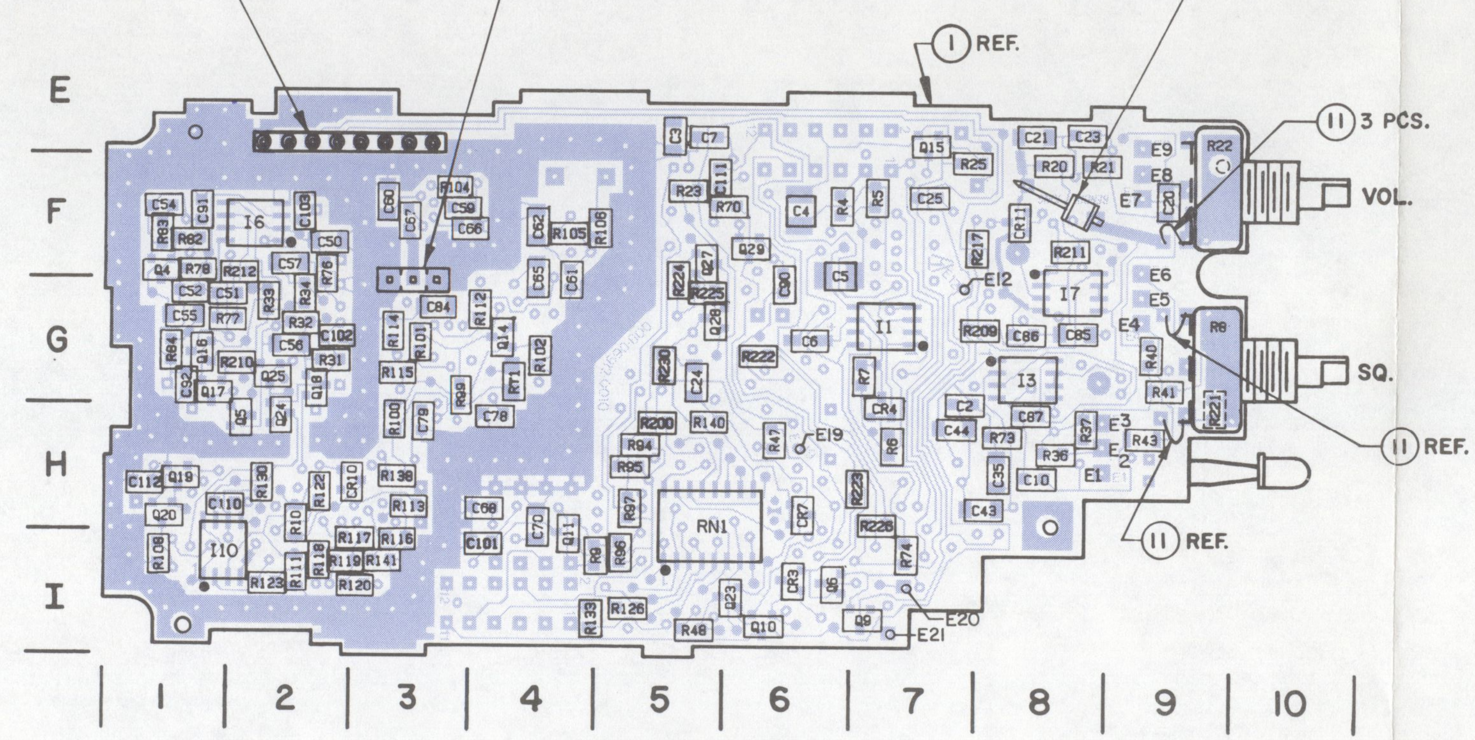
4. PREFORM L1 LEADS AND SURFACE MOUNT WITH THE DEVICE DOWN AGAINST THE BOARD SURFACE.

5. DUE TO HEIGHT RESTRICTIONS, ALL LEADED DEVICES MUST BE MOUNTED AS CLOSE TO THE BOARD SURFACE AS POSSIBLE.



FARSIDE



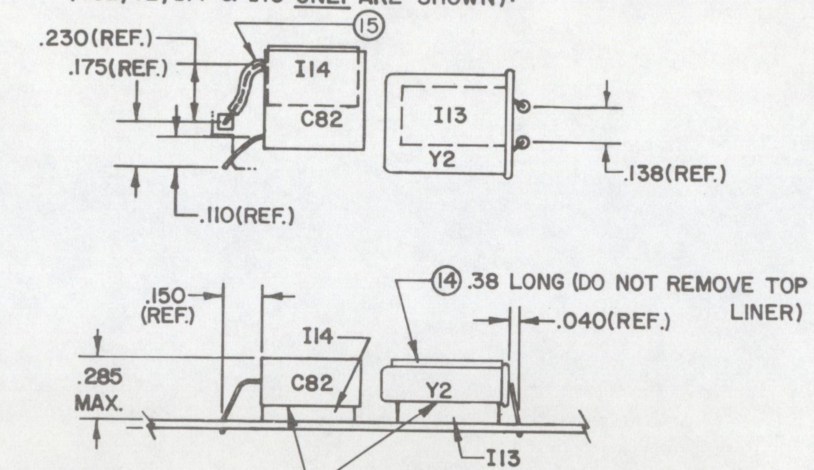


FARSIDE

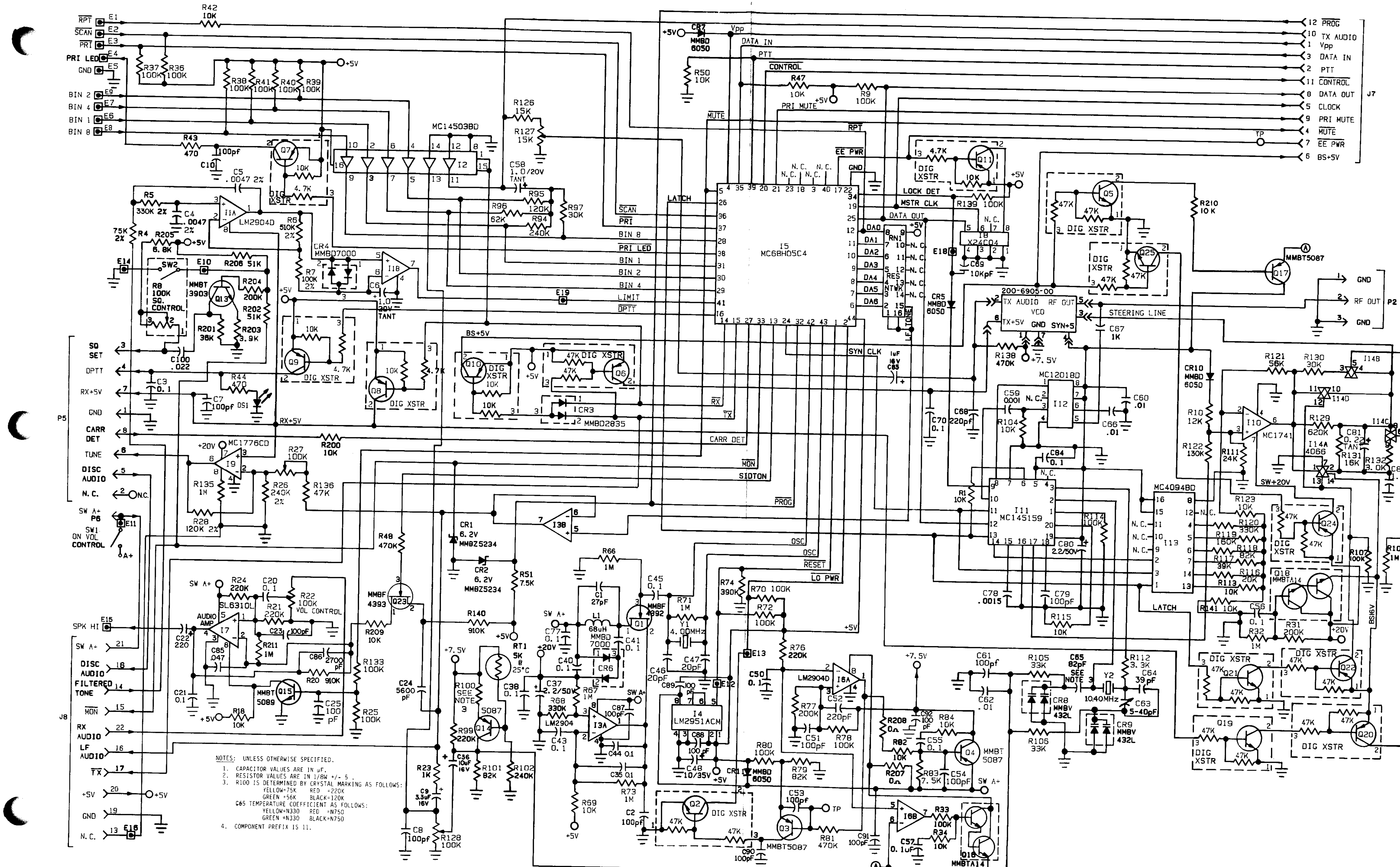
SYSTEMS BOARD ASSEMBLY
300-06912-0010

NOTES:

1. BOARD PREFIX IS I1.
2. Y2 IS SOLDERED UPRIGHT AND THEN LAYED DOWN AS SHOWN AFTER FAIRCHILD TESTING IS COMPLETED.
3. SEE DETAILS BELOW FOR C82 & Y2 ASSY. INFORMATION. (C82, Y2, I14 & I13 ONLY ARE SHOWN):

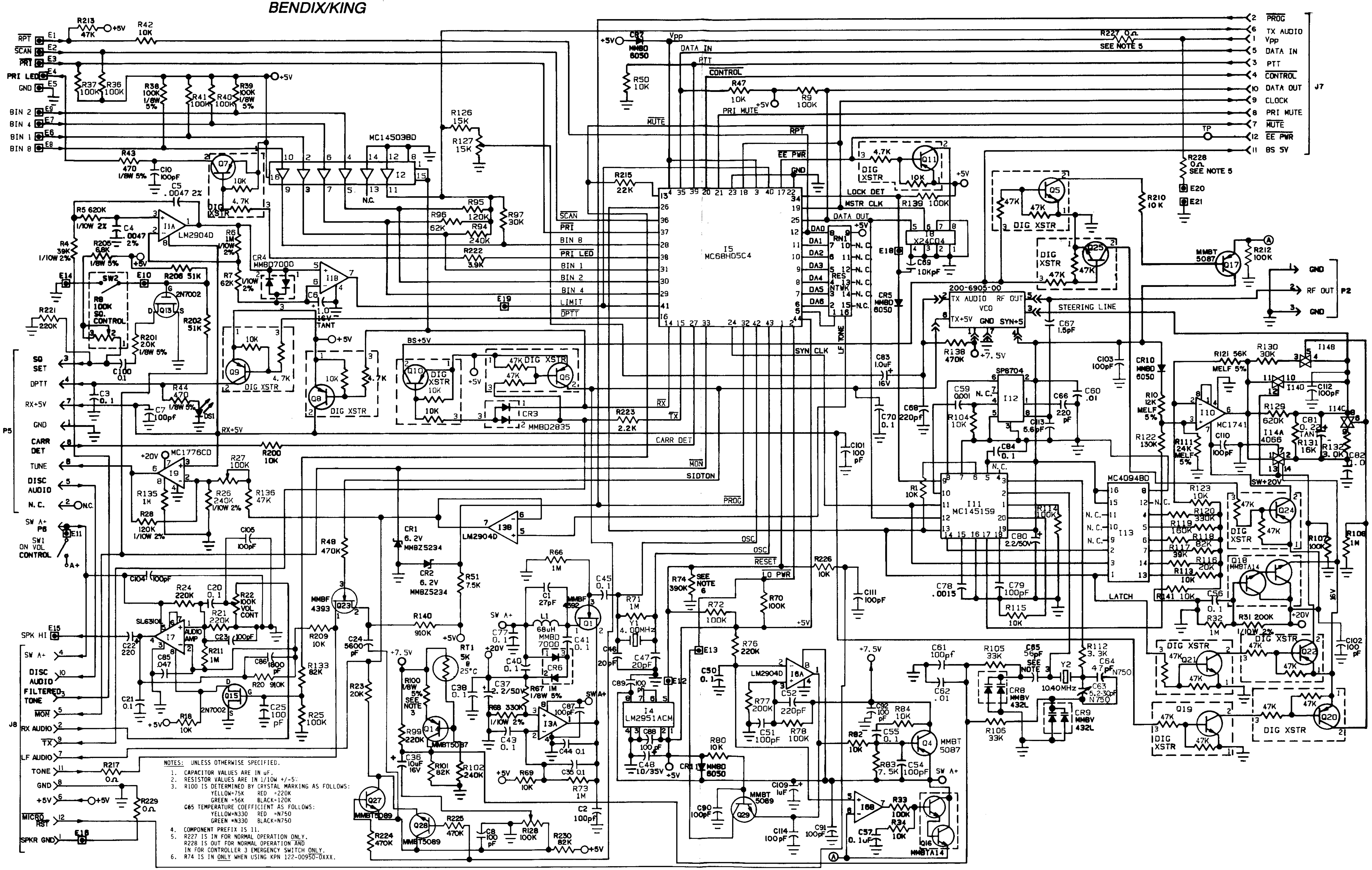


4. PREFORM L1 LEADS AND SURFACE MOUNT WITH THE DEVICE DOWN AGAINST THE BOARD SURFACE.
5. DUE TO HEIGHT RESTRICTIONS, ALL LEADED DEVICES MUST BE MOUNTED AS CLOSE TO THE BOARD SURFACE AS POSSIBLE.
6. TOTAL HEIGHT OF C37 BENT OVER CANNOT EXCEED .200.



MMLPU4000R0.DATKH

SYSTEMS BOARD SCHEMATIC
002-06912-0000

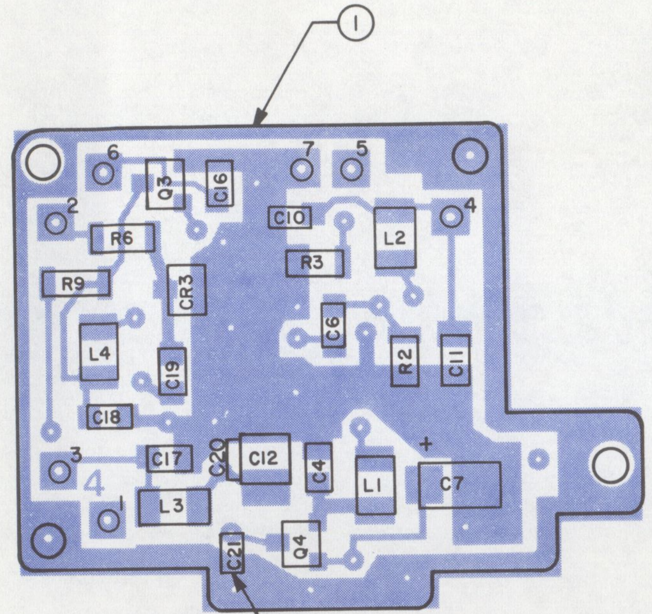


SYSTEMS BOARD SCHEMATIC
002-06912-0010

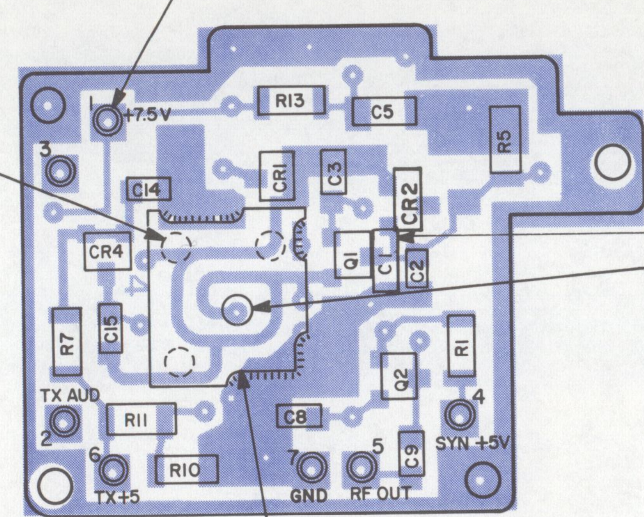
VCO BOARD ASSEMBLY

200-06905-0000 LPU
200-06905-0013 LQU
200-06905-0020 LPV

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0013	0020
C	1	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00
C	2	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	3	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	4	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	5	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00
C	6	106-00072-0068	CAP CH0.5PFNPO/50V		EA	1.00	1.00	1.00
C	7	096-01113-0067	CAP CH 1.5UF20%15V		EA	1.00	1.00	1.00
C	8	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	9	106-00072-0002	CAP CH3.9PFNPO/50V		EA	1.00	1.00	1.00
C	10	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	11	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00
C	12	106-00074-0040	CAP PF 13 500VDC		EA	1.00	1.00	1.00
C	14	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	15	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	16	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	17	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	18	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
C	19	106-00072-0046	CAP CH 1PF NPO/50V		EA	1.00	1.00	1.00
C	20	195-00111-0000	CAP OPTION		EA	1.00	1.00	.
C	20	195-00111-0020	CAP OPTION(DWNBND)		EA	.	.	1.00
C	21	106-00076-0001	CAP CERAMIC CHIP	A	EA	1.00	1.00	1.00
CR	1	007-04067-0000	VOT VARI CAP DIODE		EA	1.00	1.00	1.00
CR	2	007-06415-0000	DIODE DUAL	A	EA	1.00	1.00	1.00
CR	3	007-04057-0000	DIO V MMBV105G		EA	1.00	1.00	1.00
CR	4	007-06178-0000	DIO PIN MMBV3401	A	EA	1.00	1.00	1.00
ITM	1	009-06905-0000	PC BD VCO BD	A	EA	1.00	1.00	.
ITM	1	009-06905-0020	PCBD VCO DNBD	A	EA	.	.	1.00
ITM	2	047-09067-0000	PIN FLTHD MINIATUR		EA	1.00	1.00	1.00
ITM	3	009-06920-0000	PCBD VCO RESN SHD		EA	1.00	1.00	1.00
ITM	4	016-01364-0000	LOCKTITE 348-10	A	AR	1.00	1.00	1.00
J	1	030-02907-0000	SOCKET, MIN SPRING		EA	7.00	7.00	7.00
L	1	019-02660-0021	SURFACE MT, 470 NH		EA	1.00	1.00	1.00
L	2	019-02660-0005	SURFACE MT 30 NH		EA	1.00	1.00	1.00
L	3	019-02660-0021	SURFACE MT, 470 NH		EA	1.00	1.00	1.00
L	4	019-02660-0021	SURFACE MT, 470 NH		EA	1.00	1.00	1.00
Q	1	007-00815-0000	XSTR FET MMBFU310		EA	1.00	1.00	1.00
Q	2	007-00821-0000	XSTR RF MMBR901		EA	1.00	1.00	1.00
Q	3	007-00187-0002	XSTR SOT-23 2N5089		EA	1.00	1.00	1.00
Q	4	007-00813-0000	XSTR NPN S MMBTA14		EA	1.00	1.00	1.00
R	1	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00
R	2	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00
R	3	130-05471-0023	RES CHIP 470EW5%		EA	1.00	1.00	1.00
R	5	130-05473-0023	RES CHIP 47KEW5%		EA	1.00	1.00	1.00
R	6	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00
R	7	130-05471-0023	RES CHIP 470EW5%		EA	1.00	1.00	1.00
R	9	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00
R	10	130-05104-0023	RES CH 100K EW 5%		EA	1.00	1.00	1.00
R	11	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00
R	13	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00
REF	1	300-06905-0000	UHF VCO BD ASSY		RF	X.	X.	X.



NEARSIDE



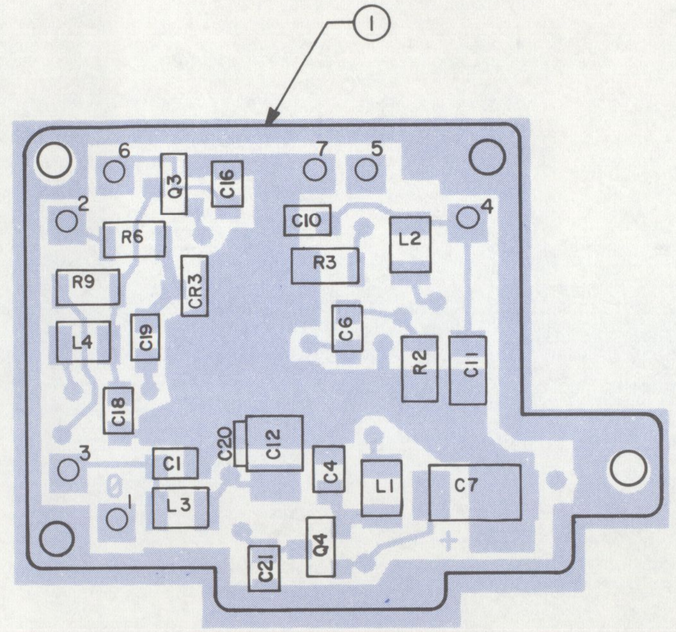
FARSIDE

NOTES:

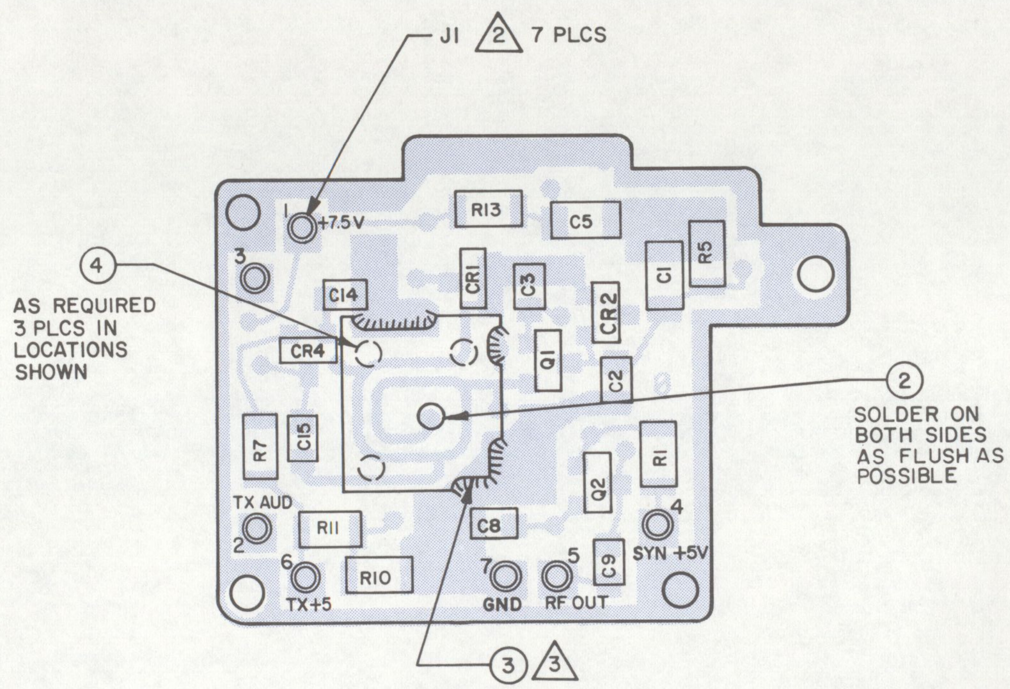
1. ALL REFERENCE DESIGNATORS ARE PRECEDED BY THE NUMBER 6 . FOR EXAMPLE C19 IS 6C19.
2. INSTALL J1 FROM FARSIDE.
3. SOLDER EDGES OF ITEM 3 TO GROUND PLANE WHERE APPLICABLE.
4. MOUNT C20 (TO THE SIDE OF C12) FLUSH OR BELOW C12 AS REQ'D BY 195-00111-0000.

REWORK NOTE:

A. REMOVE SOLDER MASK BENEATH C1 WHERE NECESSARY.



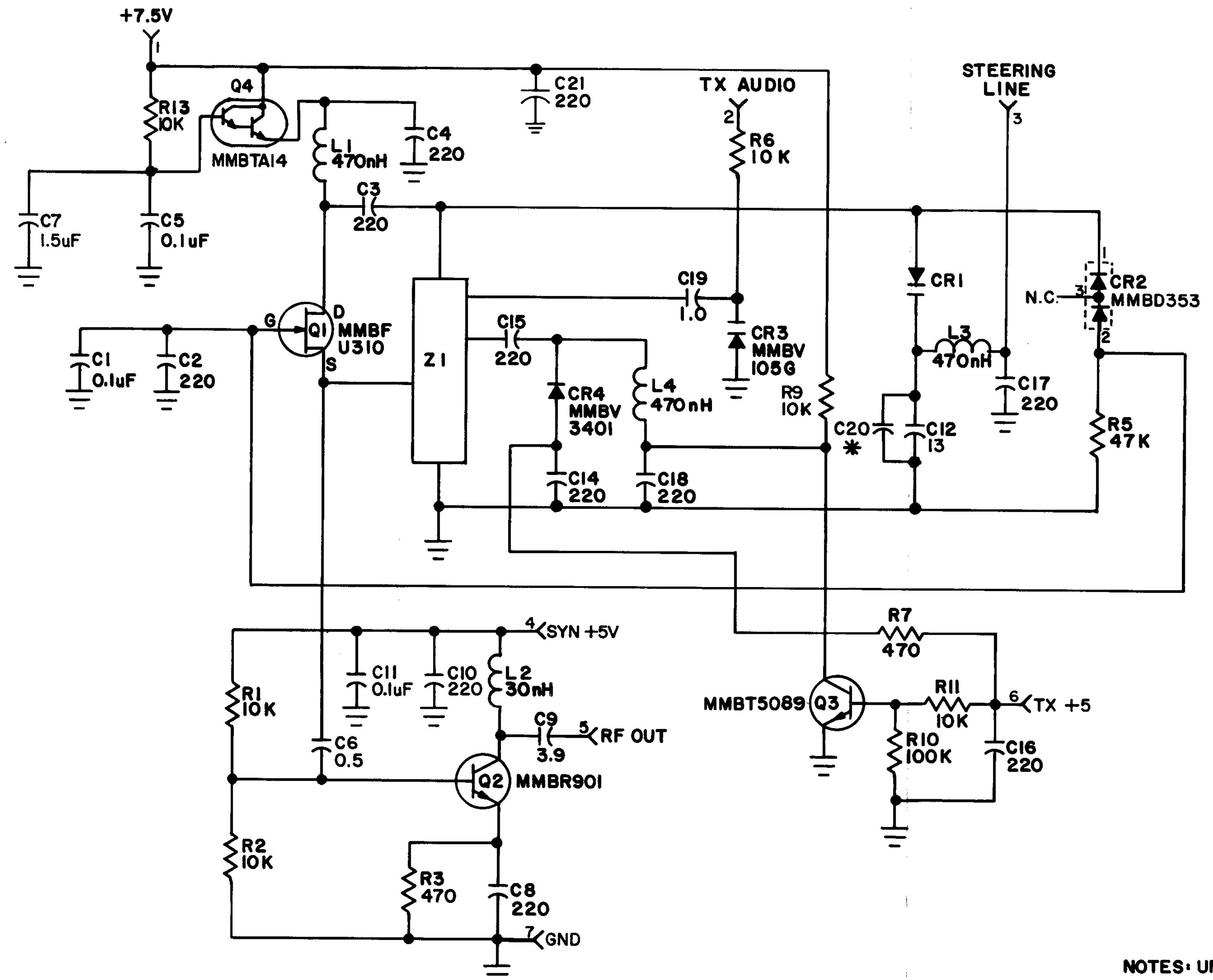
NEARSIDE



FARSIDE

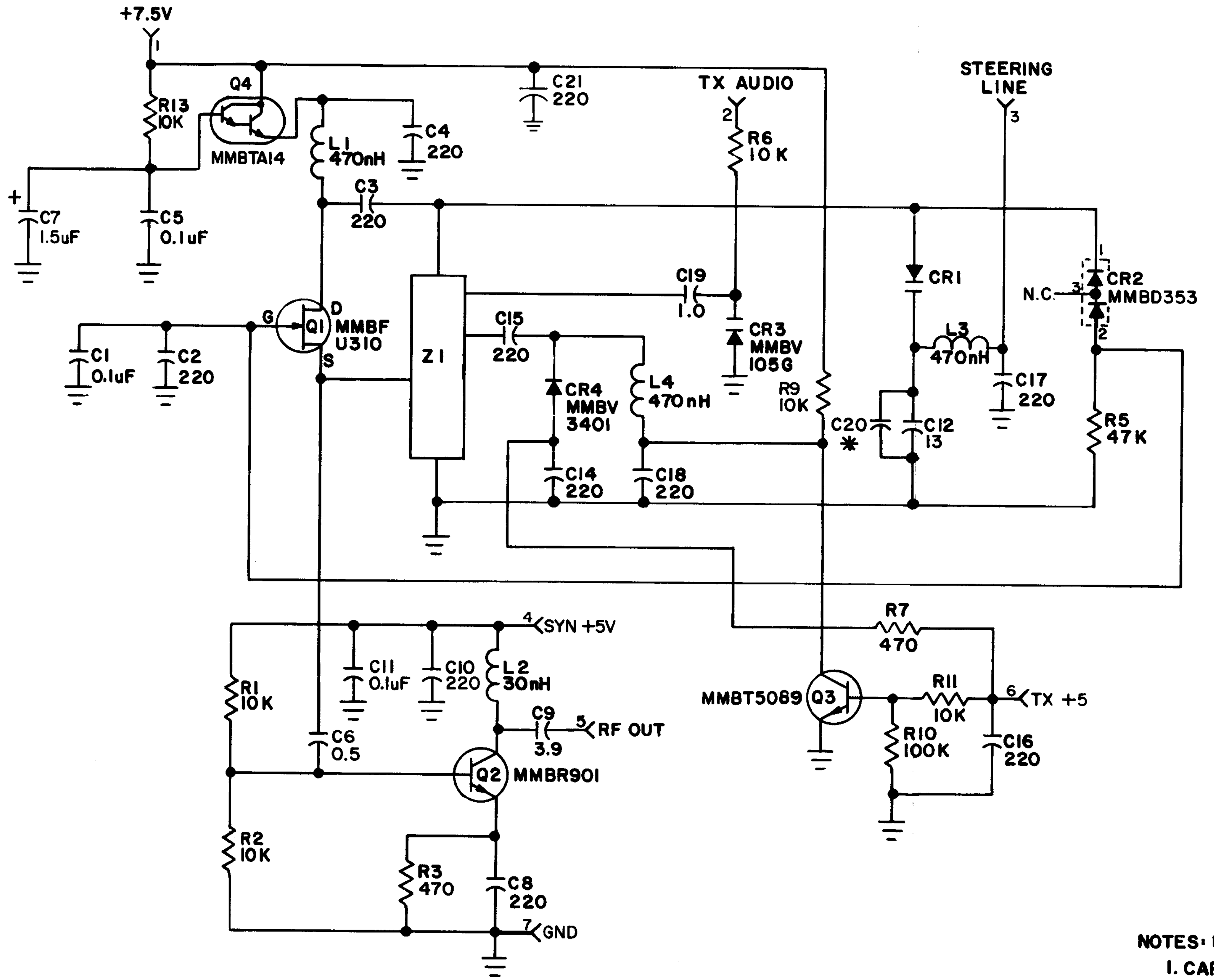
NOTES:

1. ALL REFERENCE DESIGNATORS ARE PRECEDED BY THE NUMBER 6. FOR EXAMPLE C19 IS 6C19.
2. INSTALL J1 FROM FARSIDE.
3. SOLDER EDGES OF ITEM 3 TO GROUND PLANE WHERE APPLICABLE.
4. MOUNT C20 (TO THE SIDE OF C12) FLUSH OR BELOW C12 AS REQ'D BY 195-00111-0000.



NOTES: UNLESS OTHERWISE SPECIFIED;

1. CAPACITOR VALUES ARE IN pF.
2. RESISTOR VALUES ARE IN OHMS.
3. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NUMBER 6. FOR EXAMPLE C19 IS 6C19.



NOTES: UNLESS OTHERWISE SPECIFIED;
1. CAPACITOR VALUES ARE IN pF.
2. RESISTOR VALUES ARE IN OHMS.
3. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NUMBER 6. FOR EXAMPLE C19 IS 6C19.

BENDIX/KING

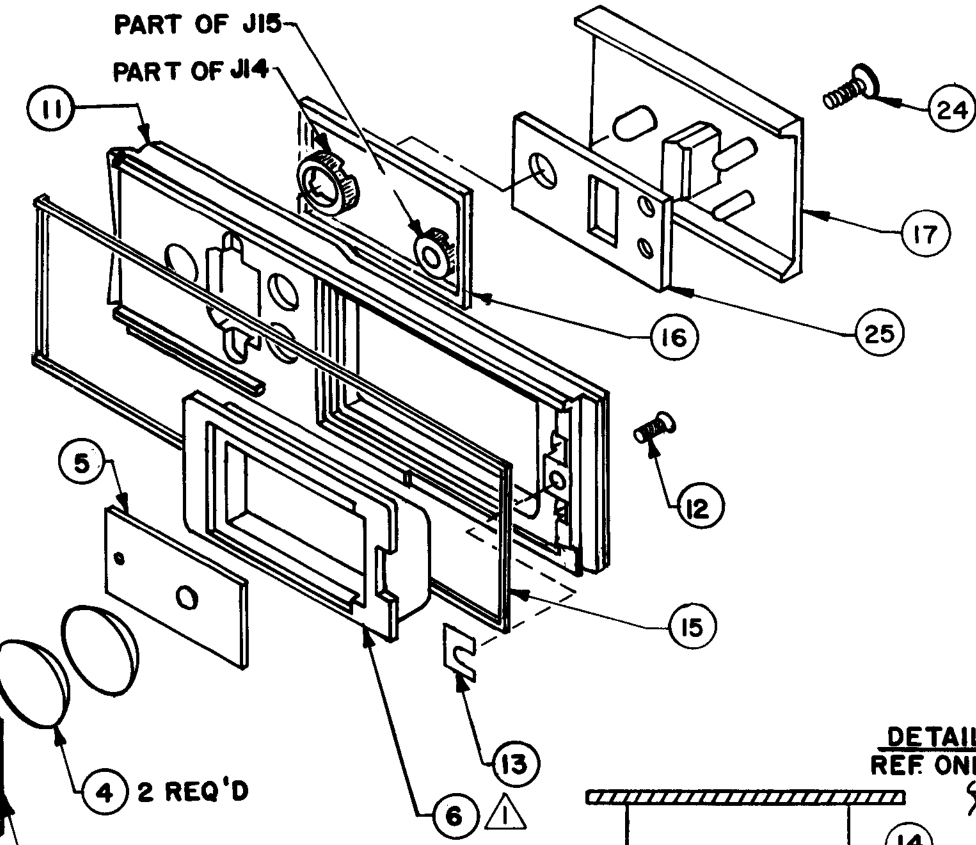
LPU SERIES
UHF FM COMM TRANSCEIVERS
TOP FRAME ASSEMBLY

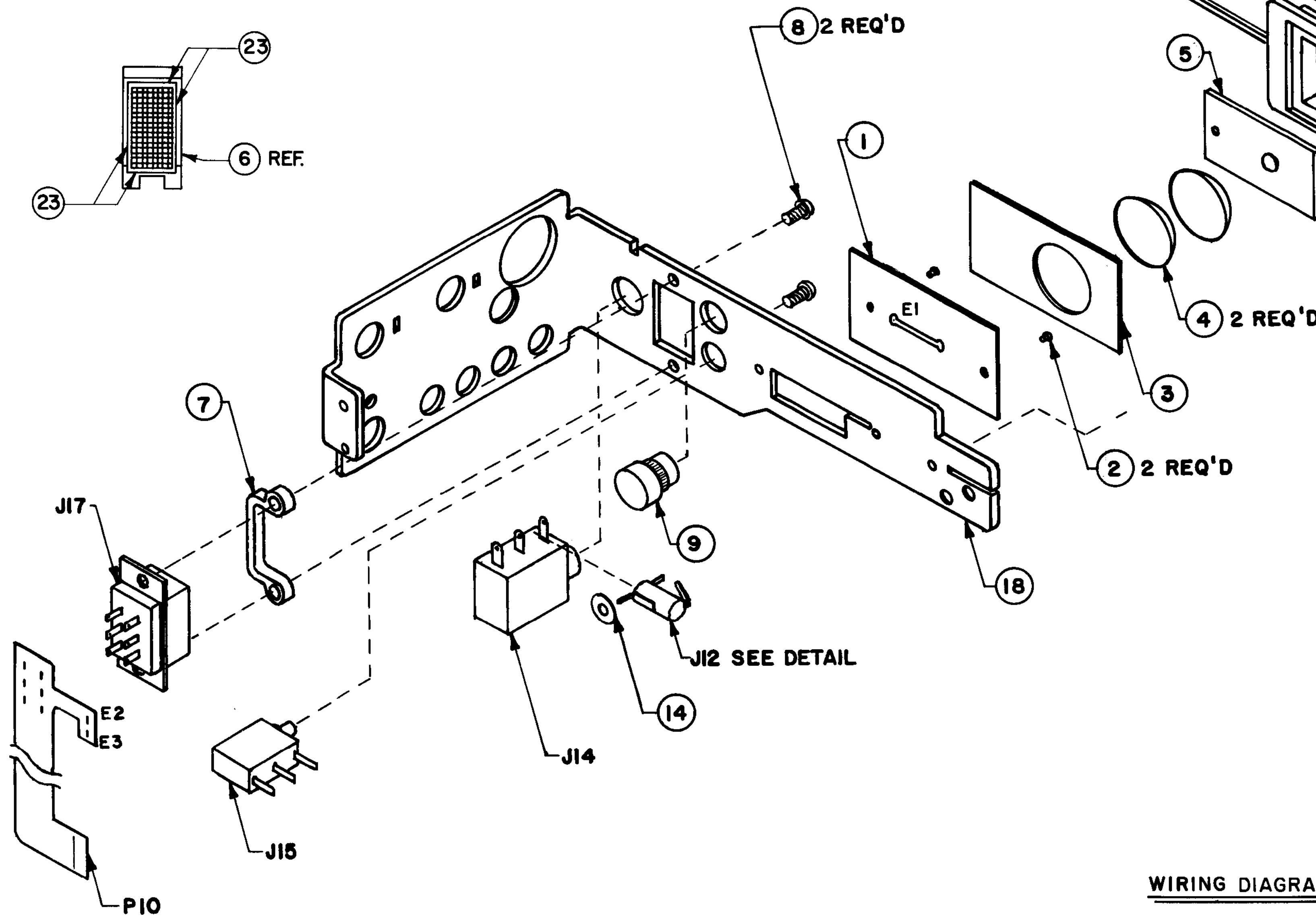
200-03475-0000	LPU
200-03475-0001	MPU
200-03475-0013	LQU
200-03475-0014	MQU

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0001	0013	0014
C	2	111-00002-0013	CAP CER 22PF X7R		EA	1.00	1.00	1.00	1.00
ITM	1	009-06881-0000	PCB PTT SWITCH		EA	1.00	1.00	1.00	1.00
ITM	2	092-05099-0000	RIVET .125 L		EA	2.00	2.00	2.00	2.00
ITM	3	012-01277-0001	SNAP DOME ALGNMNT		EA	1.00	1.00	1.00	1.00
ITM	4	031-00475-0000	SNAP DOME SWITCH		EA	2.00	2.00	2.00	2.00
ITM	5	088-01303-0000	PTT ACTUATOR		EA	1.00	1.00	1.00	1.00
ITM	6	088-01295-0001	PTT SWITCH BOOT	A	EA	1.00	1.00	1.00	1.00
ITM	7	088-01321-0000	OPTIONS PLUG SPCR		EA	1.00	1.00	1.00	1.00
ITM	8	089-07397-0006	SCREW THP METRIC		EA	2.00	2.00	2.00	2.00
ITM	9	076-01437-0000	BLIND PRESS NUT		EA	1.00	1.00	1.00	1.00
ITM	11	088-02060-0010	SPEC PTT HSG MOD	A	EA	1.00	1.00	1.00	1.00
ITM	12	089-06159-0005	SCR FHP 2-56X5/16		EA	1.00	1.00	1.00	1.00
ITM	13	012-01386-0000	SHIM PIT HOUSING		EA	1.00	1.00	1.00	1.00
ITM	14	012-01415-0000	INSULATOR, COAX		EA	1.00	1.00	1.00	1.00
ITM	15	187-01327-0000	O RING PTT		EA	1.00	1.00	1.00	1.00
ITM	16	187-01328-0000	GASKET		EA	1.00	.	1.00	.
ITM	16	187-01336-0000	GASKET SIDE CONN		EA	.	1.00	.	1.00
ITM	17	088-01313-0000	OPTIONS PLUG COVER		EA	.	1.00	.	1.00
ITM	17	088-02076-0001	OPTIONS PLUG COVER	A	EA	1.00	.	1.00	.
ITM	18	047-07474-0001	TOP FRAME UHF	A	EA	1.00	1.00	1.00	1.00
ITM	19	150-00003-0010	TUBING TFLN 24AWG	A	IN	1.50	1.50	1.50	1.50
ITM	20	026-00030-0000	WIRE CU24AWG TIN	A	IN	0.50	0.50	0.50	0.50
ITM	21	025-00001-0007	WIRE 26 PUR		IN	1.20	1.20	1.20	1.20
ITM	22	025-00001-0005	WIRE 26 GRN		IN	2.25	2.25	2.25	2.25
ITM	23	016-01013-0000	VAC GREASE DC 976		AR	.	1.00	.	1.00
ITM	24	089-07437-0001	SCR FHP M4X6.0 BLK	A	EA	.	1.00	.	1.00
ITM	25	187-01745-0000	GASKETS, SIDE CONN	A	EA	.	1.00	.	1.00
J	12	030-00244-0000	ANTENNA CONN RECTP		EA	1.00	1.00	1.00	1.00
J	14	033-00128-0000	JACK 3.5MM	A	EA	1.00	1.00	1.00	1.00
J	15	033-00127-0000	JACK 2.5MM	A	EA	1.00	1.00	1.00	1.00
J	17	030-02529-0000	CONN RECEPTACLE		EA	1.00	1.00	1.00	1.00
L	1	019-02084-0002	CH .18UH 5%		EA	1.00	1.00	1.00	1.00
P	10	009-06911-0000	FLEX CKT UHF PORT		EA	1.00	1.00	1.00	1.00
REF	1	300-03475-0000	TOP FRAME ASSY	A	RF	X.	X.	X.	X.

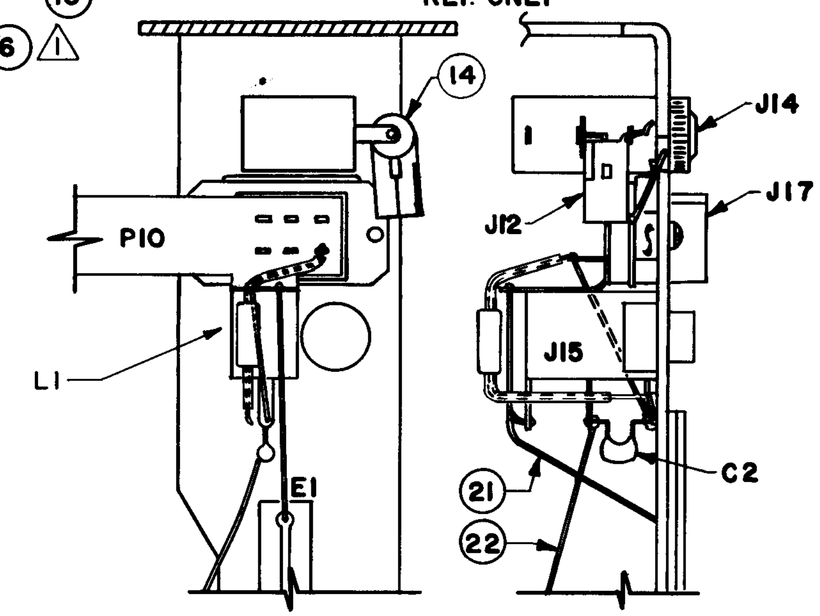
NOTES:

⚠1 APPLY VACUUM GREASE (ITEM 23) SPARINGLY TO THE PERIMETER SURFACES AS SHOWN BEFORE INSTALLATION. AFTER ITEM 6 IS ASSEMBLED, REMOVE EXCESS GREASE FROM THE EXTERIOR & INTERIOR SURFACE WITH AN ALCOHOL SATURATED CLOTH OR EQUIVALENT.

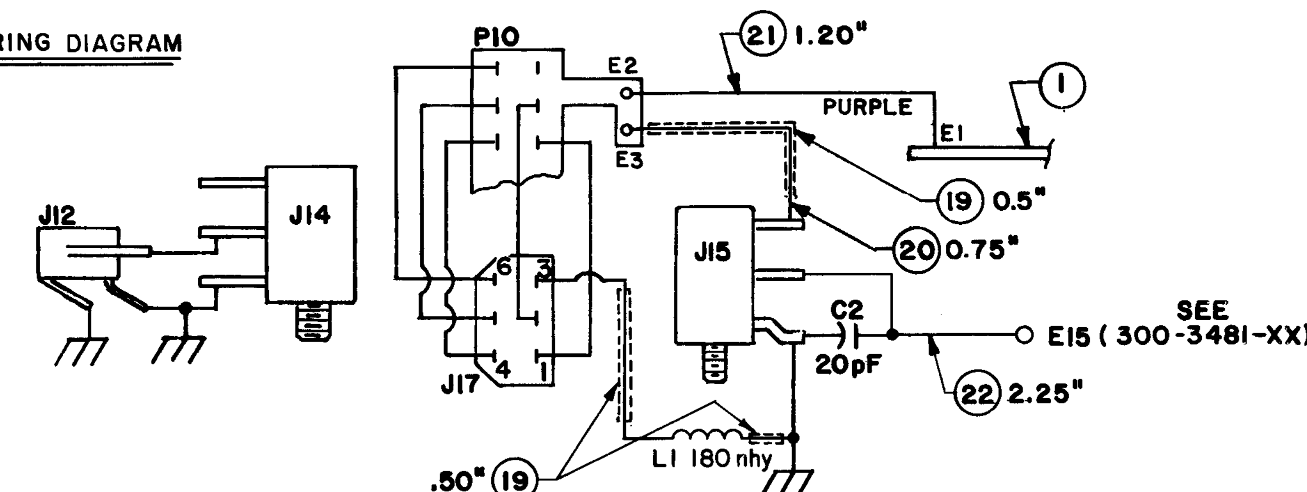




DETAIL
REF. ONLY



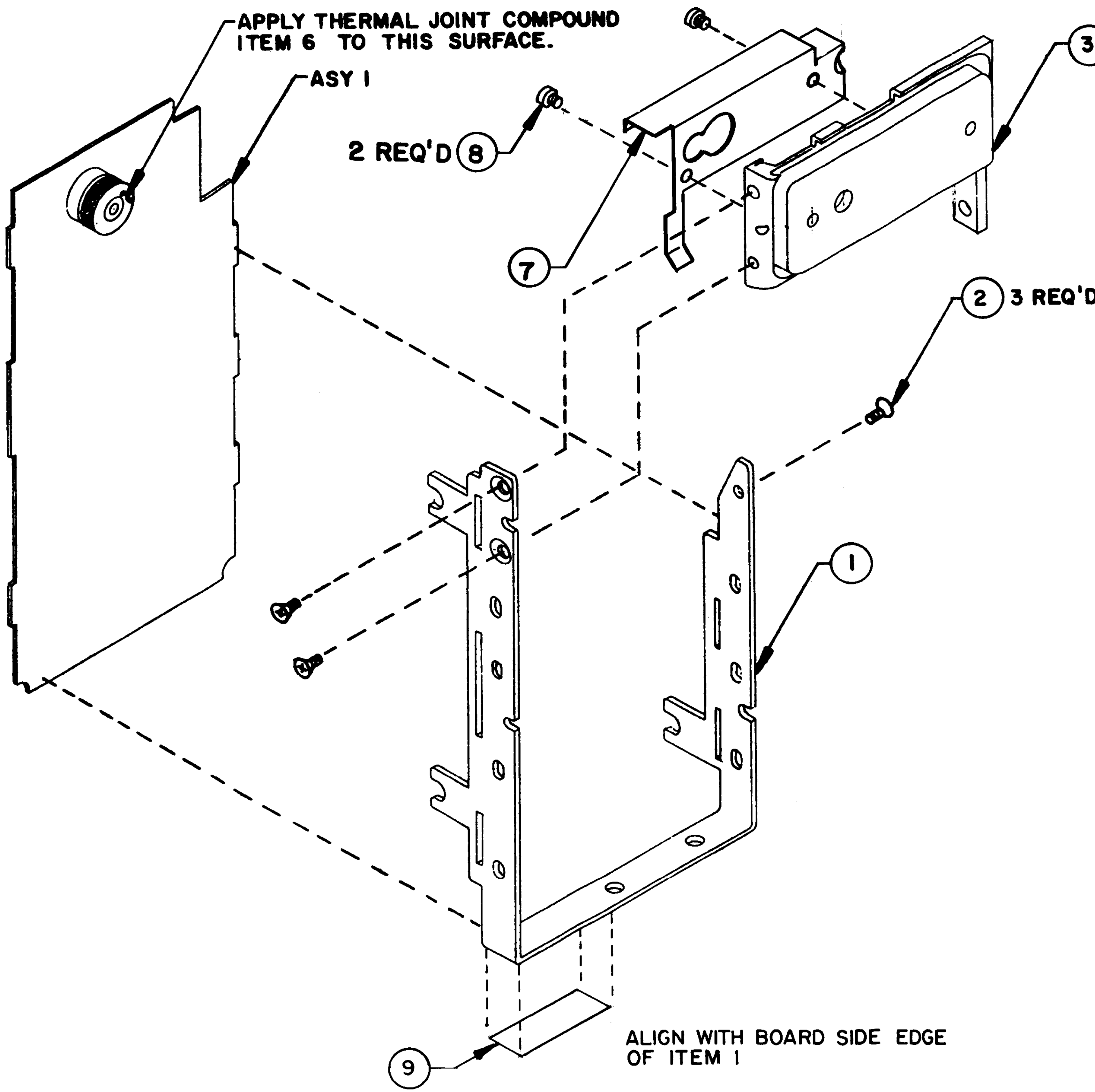
WIRING DIAGRAM



BENDIX/KING
LPU SERIES
UHF FM COMM TRANSCEIVERS
TX/RX FRAME ASSEMBLY

200-03476-0000	
200-03476-0001	LPU
200-03476-0002	LPU
200-03476-0013	LQU MQU
200-03476-0020	LPV

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0001	0002	0013	0020
ASY 1	200-06904-0000	UHF RX/TX BD	A	EA	.	1.00	.	.	.
ASY 1	200-06904-0010	UHF RX/TX BD	A	EA	.	.	1.00	.	.
ASY 1	200-06904-0013	FM UHF RX/TX BD	A	EA	.	.	.	1.00	.
ASY 1	200-06904-0020	UHF RN TX DNED	A	EA	.	.	.	.	1.00
ASY 1	200-06914-0000	2W UHF RX/TX		EA	1.00	.	.	.	.
ITM 1	047-07476-0001	SUBFRAME UHF	A	EA	1.00	1.00	1.00	1.00	1.00
ITM 2	089-06004-0003	SCR FHP 2-56X3/16		EA	3.00	3.00	3.00	3.00	3.00
ITM 3	047-07484-0001	BRACKET HEATSINK		EA	1.00	.	.	.	.
ITM 3	073-00614-0001	CSTG HEAT SINK W/F	A	EA	.	1.00	1.00	1.00	1.00
ITM 4	075-00109-0002	EXTRS TO 39 HEATSK	A	EA	1.00	.	.	.	.
ITM 5	089-07070-0003	SCR BHC 4-40X3/16		EA	1.00	.	.	.	.
ITM 6	016-01004-0000	COMPOUND THRML JNT		AR	1.00	1.00	1.00	1.00	1.00
ITM 7	047-09082-0001	SHIELD FINAL		EA	.	1.00	1.00	1.00	1.00
ITM 8	089-06292-0002	SCR PHP 2-56X1/78		EA	.	2.00	2.00	2.00	2.00
ITM 9	016-01124-0004	FOAM TAPE .35W		IN	.	.	0.70	0.70	0.70
REF 1	300-03476-0000	RX/TX SUB-FRAME		RF	X.	X.	X.	X.	X.



NOTES:

1. DO NOT SOLDER ASY 1 TO ITEM 1, UNTIL FINAL ASSEMBLY, UNLESS ASSEMBLY FIXTURE IS USED. REFER TO DRWG. NO. 300-3474-00 FOR DETAILS.

200-06904-0000	LPU
200-06904-0010	
200-06904-0013	LQU
200-06904-0020	LPV

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0010	0013	0020
B 1	013-00006-0000	FERR BEAD	A	EA	1.00	1.00	1.00	1.00
B 2	013-00006-0000	FERR BEAD	A	EA	1.00	1.00	1.00	1.00
B 3	013-00006-0000	FERR BEAD	A	EA	1.00	1.00	1.00	1.00
B 4	013-00006-0000	FERR BEAD	A	EA	1.00	1.00	1.00	1.00
B 5	013-00006-0000	FERR BEAD	A	EA	1.00	1.00	1.00	1.00
C 1	106-00072-0034	CAP CH 56PFNPO/50V		EA	1.00	1.00	1.00	.
C 1	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	1.00
C 2	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C 3	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 4	106-04221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 5	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C 6	106-00072-0034	CAP CH 56PFNPO/50V		EA	1.00	.	.	.
C 7	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 8	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 9	106-00072-0002	CAP CH3.9PFNPO/50V		EA	.	.	.	1.00
C 9	106-00072-0061	CAP CR CH 9.1PF		EA	1.00	1.00	1.00	.
C 10	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 11	106-00072-0034	CAP CH 56PFNPO/50V		EA	.	1.00	1.00	1.00
C 11	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	.	.	.
C 12	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 13	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 14	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 15	106-05103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C 16	106-00072-0018	CAP CH 18PFNPO/50V		EA	.	1.00	1.00	1.00
C 16	106-00072-0030	CAP CH 39PFNPO/50V		EA	1.00	.	.	.
C 17	106-00072-0034	CAP CH 56PFNPO/50V		EA	.	.	.	1.00
C 17	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	.
C 18	106-00072-0032	CAP CH 47PFNPO/50V		EA	.	1.00	1.00	.
C 18	106-00072-0034	CAP CH 56PFNPO/50V		EA	.	.	.	1.00
C 18	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	.	.	.
C 19	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 20	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 21	106-05103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C 22	106-04121-0016	CAP CH120PFNPO/50V		EA	.	1.00	1.00	1.00
C 22	106-04562-0046	CH CAP 5600PF		EA	1.00	.	.	.
C 23	106-00072-0016	CAP CH 15PFNPO/50V		EA	.	1.00	1.00	1.00
C 23	106-00072-0018	CAP CH 18PFNPO/50V		EA	1.00	.	.	.
C 24	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C 25	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C 26	106-04561-0016	CAP CH560PFNPO/50V		EA	.	1.00	1.00	1.00
C 26	106-04562-0046	CH CAP 5600PF		EA	1.00	.	.	.
C 27	106-04103-0047	CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C 28	106-04103-0047	CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C 29	106-04150-0016	CH 15PF NPO/50V		EA	1.00	1.00	1.00	1.00
C 30	106-00072-0010	CAP CH8.2PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 31	102-00066-0000	CAP VA 5-20PF 25V		EA	1.00	1.00	1.00	1.00
C 32	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C 33	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C 34	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C 35	106-04820-0016	CAP CH 82PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 36	106-04102-0016	CAP CH 1K NPO/50V		EA	.	1.00	1.00	1.00
C 36	106-04471-0026	CH 470PF NPO/100V		EA	1.00	.	.	.
C 37	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C 38	106-00072-0034	CAP CH 56PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 39	106-04222-0046	CAP CH 2.2K 50V 5%		EA	1.00	.	.	.
C 39	106-05561-0046	CH 560PF 7R/50V		EA	.	1.00	1.00	1.00
C 40	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00	.	.	.
C 40	106-05392-0047	CAP CH3900PFX7R/50		EA	.	1.00	1.00	1.00
C 41	106-00072-0012	CAP CH10PF NPO/50V		EA	.	1.00	1.00	.
C 41	106-00072-0060	CAP CR CH 7.5PF		EA	1.00	.	.	1.00
C 42	106-04102-0047	CH 1K X7R/50V		EA	.	1.00	1.00	1.00
C 42	106-04223-0046	CAP CH 22K X7R/50V		EA	1.00	.	.	.
C 43	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 44	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 45	106-00072-0014	CAP CH12PFNPO/50V		EA	1.00	1.00	1.00	.
C 45	106-00072-0018	CAP CH 18PFNPO/50V		EA	.	.	.	1.00
C 46	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C 47	106-05221-0048	CAP CH 220X7R/50V		EA	1.00	1.00	1.00	1.00
C 48	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00

200-06904-00XX

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0010	0013	0020
C	49	106-00072-0018	CAP CH 18PFNPO/50V		EA	1.00	1.00	1.00	.
C	49	106-00072-0026	CAP CH 27PFNPO/50V		EA	.	.	.	1.00
C	50	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	51	106-05221-0048	CAP CH 220X7R/50V		EA	1.00	1.00	1.00	1.00
C	52	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	53	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C	54	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C	55	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	56	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	.	.	.
C	57	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	58	106-00072-0012	CAP CH10PF NPO/50V		EA	.	1.00	1.00	.
C	58	106-00072-0018	CAP CH 18PFNPO/50V		EA	1.00	.	.	.
C	59	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	.
C	60	106-00072-0012	CAP CH10PF NPO/50V		EA	.	.	.	1.00
C	60	106-00072-0014	CAP CH12PFNPO/50V		EA	1.00	1.00	1.00	.
C	61	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	62	106-00072-0034	CAP CH 56PFNPO/50V		EA	.	1.00	1.00	1.00
C	62	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	.	.	.
C	63	106-00072-0016	CAP CH 15PFNPO/50V		EA	1.00	1.00	1.00	.
C	63	106-00072-0018	CAP CH 18PFNPO/50V		EA	.	.	.	1.00
C	64	106-00072-0030	CAP CH 39PFNPO/50V		EA	.	1.00	1.00	.
C	64	106-00072-0034	CAP CH 56PFNPO/50V		EA	.	.	.	1.00
C	64	106-00072-0042	CAP CH 33PFNPO/50V		EA	1.00	.	.	.
C	65	106-04103-0047	CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C	66	106-00072-0008	CAP CH6.8PFNPO/50V		EA	1.00	1.00	1.00	.
C	66	106-00072-0060	CAP CR CH 7.5PF		EA	.	.	.	1.00
C	67	106-00072-0010	CAP CH8.2PFNPO/50V		EA	.	1.00	1.00	1.00
C	67	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	.	.	.
C	68	106-05103-0046	CAP CH 10K X7R/50V		EA	.	1.00	1.00	1.00
C	69	097-00109-0002	CAP EL 10UF 35V		EA	1.00	1.00	1.00	1.00
C	70	106-00072-0014	CAP CH12PFNPO/50V		EA	1.00	1.00	1.00	.
C	70	106-00072-0018	CAP CH 18PFNPO/50V		EA	.	.	.	1.00
C	71	106-00072-0014	CAP CH12PFNPO/50V		EA	1.00	1.00	1.00	.
C	71	106-00072-0018	CAP CH 18PFNPO/50V		EA	.	.	.	1.00
C	72	106-00072-0016	CAP CH 15PFNPO/50V		EA	.	1.00	1.00	1.00
C	72	106-00072-0018	CAP CH 18PFNPO/50V		EA	1.00	.	.	.
C	73	106-00072-0008	CAP CH6.8PFNPO/50V		EA	1.00	1.00	1.00	.
C	73	106-00072-0060	CAP CR CH 7.5PF		EA	.	.	.	1.00
C	74	106-00072-0034	CAP CH 56PFNPO/50V		EA	1.00	1.00	1.00	.
C	74	106-00072-0040	CAP CH100PFNPO/50V		EA	.	.	.	1.00
C	75	106-05221-0048	CAP CH 220X7R/50V		EA	1.00	1.00	1.00	1.00
C	76	106-04104-0047	CH 100KX7R/50V		EA	1.00	.	.	.
C	77	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C	78	106-00072-0016	CAP CH 15PFNPO/50V		EA	1.00	1.00	1.00	.
C	78	106-00072-0026	CAP CH 27PFNPO/50V		EA	.	.	.	1.00
C	79	106-00072-0014	CAP CH12PFNPO/50V		EA	.	1.00	1.00	.
C	79	106-00072-0016	CAP CH 15PFNPO/50V		EA	1.00	.	.	1.00
C	80	106-00072-0034	CAP CH 56PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	81	106-00072-0034	CAP CH 56PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	82	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00
C	83	096-01186-0012	CAP 1.0UF 16V 10%		EA	.	1.00	1.00	1.00
C	86	106-00072-0010	CAP CH8.2PFNPO/50V		EA	1.00	1.00	1.00	.
C	86	106-00072-0061	CAP CR CH 9.1PF		EA	.	.	.	1.00
C	87	106-00072-0010	CAP CH8.2PFNPO/50V		EA	1.00	1.00	1.00	.
C	87	106-00072-0061	CAP CR CH 9.1PF		EA	.	.	.	1.00
C	88	106-00072-0010	CAP CH8.2PFNPO/50V		EA	1.00	1.00	1.00	.
C	88	106-00072-0061	CAP CR CH 9.1PF		EA	.	.	.	1.00
C	89	106-00072-0010	CAP CH8.2PFNPO/50V		EA	1.00	1.00	1.00	.
C	89	106-00072-0061	CAP CR CH 9.1PF		EA	.	.	.	1.00
C	90	106-00072-0002	CAP CH3.9PFNPO/50V		EA	.	1.00	1.00	1.00
C	90	106-00072-0054	CAP CH 3.3PF		EA	1.00	.	.	.
C	91	106-00072-0002	CAP CH3.9PFNPO/50V		EA	1.00	.	.	.
C	91	106-00072-0051	CAP CR CH 2.2PF		EA	.	1.00	1.00	1.00
C	94	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C	95	106-05221-0048	CAP CH 220X7R/50V		EA	1.00	1.00	1.00	1.00
C	96	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C	97	106-05221-0048	CAP CH 220X7R/50V		EA	1.00	1.00	1.00	1.00
C	100	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	101	106-05221-0048	CAP CH 220X7R/50V		EA	1.00	1.00	1.00	1.00
C	102	106-00072-0016	CAP CH 15PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	103	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C	107	106-05221-0016	CAP CH220PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	108	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	1.00

RX/TX BOARD ASSEMBLY

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SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0010	0013	0020
C	110	106-00072-0016	CAP CH 15PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	111	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00
C	112	106-00072-0008	CAP CH6.8PFNPO/50V		EA	1.00	1.00	1.00	.
C	112	106-00072-0014	CAP CH12PFNPO/50V		EA	.	.	.	1.00
C	113	106-00072-0034	CAP CH 56PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	114	106-00072-0004	CAP CH4.7PFNPO/50V		EA	1.00	1.00	1.00	1.00
C	116	106-05221-0048	CAP CH 220X7R/50V		EA	.	1.00	1.00	1.00
C	118	106-00072-0034	CAP CH 56PFNPO/50V		EA	.	1.00	1.00	1.00
C	121	106-04273-0046	CAP CH 27K X7R/50V		EA	.	1.00	1.00	1.00
C	122	106-00072-0054	CAP CH 3.3PF		EA	.	.	.	1.00
CR	1	007-06180-0000	DIO SW MMBD6050		EA	1.00	1.00	1.00	1.00
CR	3	007-06178-0000	DIO PIN MMBV3401	A	EA	1.00	1.00	1.00	1.00
CR	4	007-04064-0000	DIODE VARACAP		EA	1.00	1.00	1.00	1.00
CR	5	007-04064-0000	DIODE VARACAP		EA	1.00	1.00	1.00	1.00
CR	6	007-04064-0000	DIODE VARACAP		EA	1.00	1.00	1.00	1.00
CR	7	007-04064-0000	DIODE VARACAP		EA	1.00	1.00	1.00	1.00
CR	10	007-06179-0000	DIO SI MMBD501	A	EA	.	1.00	1.00	1.00
CR	10	007-06188-0000	DIO HOT CARRIER	A	EA	1.00	.	.	.
CR	14	007-06178-0000	DIO PIN MMBV3401	A	EA	1.00	1.00	1.00	1.00
CR	15	007-06227-0000	SOT23 DIO MMBD6100		EA	1.00	1.00	1.00	1.00
CR	16	007-06180-0000	DIO SW MMBD6050		EA	.	1.00	1.00	1.00
CR	17	007-06226-0000	SOT23 DIO MMBD352		EA	.	1.00	1.00	1.00
FL	1	017-00134-0000	XTAL FILTER 45MHZ	A	EA	1.00	1.00	1.00	1.00
FL	3	017-00106-0000	FLTR CR 455KHZ		EA	1.00	1.00	1.00	1.00
FL	4	017-00106-0000	FLTR CR 455KHZ		EA	1.00	1.00	1.00	1.00
FL	5	017-00137-0000	DISCRIMINATOR CER.	A	EA	1.00	1.00	1.00	1.00
I	1	120-03199-0000	IC FM IF MC3361	A	EA	1.00	1.00	1.00	1.00
I	2	120-03195-0000	IC LM2904D		EA	1.00	1.00	1.00	1.00
ITM	1	009-06904-0000	PC BD UHF RX/TX 4W		EA	1.00	.	.	.
ITM	1	009-06904-0010	PC 4W RX/TX BD		EA	.	1.00	1.00	1.00
ITM	2	009-06913-0000	SHLD DIR CPLR UHF		EA	1.00	1.00	1.00	1.00
ITM	3	047-09136-0001	CHANNEL PLT BRASS		EA	1.00	1.00	1.00	1.00
ITM	4	016-01004-0000	COMPOUND THRML JNT		AR	1.00	1.00	1.00	1.00
ITM	5	076-01459-0001	STUD HEAT SINK		EA	1.00	1.00	1.00	1.00
ITM	6	089-08339-0000	WASHER CURVED SPRG		EA	1.00	1.00	1.00	1.00
ITM	7	076-01460-0001	NUT ADJUSTING		EA	1.00	1.00	1.00	1.00
ITM	8	091-00523-0000	INSULATOR XTAL		EA	2.00	2.00	2.00	2.00
ITM	9	016-01082-0000	DC RTV 3145		AR	1.00	1.00	1.00	1.00
ITM	10	026-00002-0000	WIRE COP TIN 24G	A	IN	1.00	1.00	1.00	1.00
ITM	11	016-01184-0000	ELASTOMERIC ADHES		AR	1.00	1.00	1.00	1.00
ITM	12	047-09138-0001	GND LUG XSTR	A	EA	1.00	1.00	1.00	1.00
ITM	13	030-01390-0000	SPRG CONTCT PROBE		EA	2.00	.	.	.
ITM	13	076-01465-0001	RIVET STANDOFF		EA	.	2.00	2.00	2.00
J	2	030-01386-0001	SCKT MINATURE SPRG		EA	3.00	3.00	3.00	3.00
J	5	030-02902-0008	LIF LOW PRFL SKT		EA	1.00	1.00	1.00	1.00
J	6	155-02531-0000	CABLE ASSY SWA +	A	EA	1.00	1.00	1.00	1.00
L	1	019-02676-0000	COIL		EA	1.00	1.00	1.00	.
L	1	019-02676-0004	COIL 2TX.140 20AWG		EA	.	.	.	1.00
L	2	019-02676-0001	IND 2TX.13 20 AWG		EA	1.00	1.00	1.00	.
L	2	019-02676-0005	COIL 2TX145 20GA		EA	.	.	.	1.00
L	3	019-02674-0001	IND 2TX.110 20 AWG		EA	1.00	1.00	1.00	1.00
L	4	019-02674-0001	IND 2TX.110 20 AWG		EA	1.00	1.00	1.00	1.00
L	5	019-02676-0001	IND 2TX.13 20 AWG		EA	.	.	.	1.00
L	5	019-02676-0002	IND 2TX.105 20 AWG		EA	1.00	1.00	1.00	.
L	6	019-02676-0004	COIL 2TX.140 20AWG		EA	1.00	.	.	.
L	6	019-02704-0000	COIL 1-3/4 TURN	A	EA	.	.	.	1.00
L	6	019-02704-0002	COIL 1-3/4 TURNS	A	EA	.	1.00	1.00	.
L	7	019-02673-0000	COIL VERTICAL MOUN	A	EA	1.00	1.00	1.00	1.00
L	8	019-02084-0026	CH 1.8UH 5%		EA	1.00	1.00	1.00	1.00
L	9	019-02673-0000	COIL VERTICAL MOUN	A	EA	1.00	1.00	1.00	1.00
L	10	019-03163-0000	3/4 TURN COIL		EA	1.00	.	.	.
L	11	019-02084-0002	CH .18UH 5%		EA	1.00	1.00	1.00	1.00
L	12	019-02675-0011	IND 2TX.090 22AWG		EA	1.00	1.00	1.00	1.00
L	13	019-02663-0000	COIL SURFACE MOUNT		EA	1.00	1.00	1.00	.
L	13	019-02706-0001	COIL SURFACE MOUNT	A	EA	.	.	.	1.00
L	14	019-02673-0000	COIL VERTICAL MOUN	A	EA	1.00	1.00	1.00	1.00
L	15	019-02673-0000	COIL VERTICAL MOUN	A	EA	1.00	1.00	1.00	.

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SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0010	0013	0020
L	15	019-02673-0001	COIL VERT 3-1/2T	A	EA	.	.	.	1.00
L	16	019-02673-0000	COIL VERTICAL MOUN	A	EA	1.00	1.00	1.00	.
L	16	019-02673-0001	COIL VERT 3-1/2T	A	EA	.	.	.	1.00
L	17	019-02675-0002	IND 2TX.07 22 AWG		EA	1.00	1.00	1.00	.
L	17	019-02675-0004	IND 2TX.10 22 AWG		EA	.	.	.	1.00
L	18	019-02675-0002	IND 2TX.07 22 AWG		EA	.	.	.	1.00
L	18	019-02675-0007	IND 3TX.07 22 AWG		EA	1.00	1.00	1.00	.
L	19	019-02675-0002	IND 2TX.07 22 AWG		EA	1.00	1.00	1.00	.
L	19	019-02675-0015	IND 2TX.08 22 AWG		EA	.	.	.	1.00
L	20	019-02675-0006	IND 3TX.061 22 AWG		EA	1.00	1.00	1.00	.
L	20	019-02675-0007	IND 3TX.07 22 AWG		EA	.	.	.	1.00
L	21	019-02675-0007	IND 3TX.07 22 AWG		EA	1.00	1.00	1.00	1.00
L	22	019-02675-0003	IND 2TX.098 22 AWG		EA	1.00	1.00	1.00	1.00
L	23	019-02675-0002	IND 2TX.07 22 AWG		EA	1.00	1.00	1.00	1.00
L	24	019-02675-0003	IND 2TX.098 22 AWG		EA	1.00	1.00	1.00	.
L	24	019-02675-0017	IND 2TX.110 22GA		EA	.	.	.	1.00
L	25	019-02084-0002	CH .18UH 5%		EA	1.00	1.00	1.00	1.00
L	26	019-02674-0000	COIL SURFACE MOUNT		EA	1.00	1.00	1.00	1.00
L	27	019-02675-0001	IND 2TX.061 22 AWG		EA	1.00	1.00	1.00	1.00
L	28	019-02675-0009	IND 3TX.09 22 AWG		EA	1.00	1.00	1.00	.
L	28	019-02675-0018	IND 4TX.083 22GA		EA	.	.	.	1.00
L	29	019-02660-0005	SURFACE MT 30 NH		EA	1.00	1.00	1.00	1.00
L	30	019-02675-0009	IND 3TX.09 22 AWG		EA	1.00	1.00	1.00	1.00
P	1	155-02484-0000	CABLE ASSY, COAX		EA	1.00	1.00	1.00	1.00
Q	1	007-00187-0002	XSTR SOT-23 2N5089		EA	1.00	1.00	1.00	1.00
Q	2	007-00821-0000	XSTR RF MMBR901		EA	1.00	1.00	1.00	1.00
Q	3	007-00536-0000	XSTR MMBR920		EA	1.00	1.00	1.00	1.00
Q	4	007-00536-0000	XSTR MMBR920		EA	1.00	1.00	1.00	1.00
Q	5	007-00536-0000	XSTR MMBR920		EA	1.00	1.00	1.00	1.00
Q	6	007-00529-0000	XSTR NPN MMBTH24		EA	1.00	1.00	1.00	1.00
Q	7	007-00822-0000	XSTR RF MMBR930		EA	1.00	1.00	1.00	1.00
Q	8	007-00823-0000	XSTR RF MRF559		EA	1.00	1.00	1.00	1.00
Q	9	007-00823-0000	XSTR RF MRF559		EA	1.00	1.00	1.00	1.00
Q	11	007-00826-0000	XSTR RF SRF3927		EA	1.00	1.00	1.00	1.00
Q	12	007-00530-0000	XSTR NPN MMBT3903	A	EA	1.00	1.00	1.00	1.00
Q	13	007-00900-0000	BCX 69		EA	1.00	1.00	1.00	1.00
Q	14	007-00537-0000	XSTR PNP MMBT5087		EA	1.00	1.00	1.00	1.00
Q	15	007-00187-0002	XSTR SOT-23 2N5089		EA	1.00	1.00	1.00	1.00
Q	17	007-00822-0000	XSTR RF MMBR930		EA	1.00	1.00	1.00	1.00
R	1	130-05334-0023	RES CHIP 330KEW5%		EA	1.00	1.00	1.00	1.00
R	2	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	3	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	4	130-05334-0023	RES CHIP 330KEW5%		EA	1.00	1.00	1.00	1.00
R	5	130-05124-0023	RES CHIP 120KEW5%		EA	1.00	1.00	1.00	1.00
R	6	130-05124-0023	RES CHIP 120KEW5%		EA	1.00	1.00	1.00	1.00
R	7	130-05362-0023	RES CHIP 3.6K5%EW		EA	1.00	1.00	1.00	1.00
R	8	130-05122-0023	RES CHIP 1.2KEW5%		EA	1.00	1.00	1.00	1.00
R	9	130-05820-0023	RES CHIP 82 EW 5%		EA	1.00	1.00	1.00	1.00
R	10	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00	1.00
R	11	130-05303-0013	RES CH 30K TW 5%		EA	.	1.00	1.00	1.00
R	11	130-05303-0023	RES CHIP 30KEW5%		EA	1.00	.	.	.
R	12	130-05151-0023	RES CHIP 150EW5%		EA	.	.	.	1.00
R	12	130-05301-0023	RES CHIP 300 EW 5%		EA	1.00	1.00	1.00	.
R	13	130-05100-0023	RES CH 10 EW 5%		EA	1.00	1.00	1.00	1.00
R	14	130-05124-0023	RES CHIP 120KEW5%		EA	1.00	1.00	1.00	1.00
R	15	130-05392-0023	RES CHIP 3.9KEW5%		EA	1.00	1.00	1.00	1.00
R	16	130-05392-0023	RES CHIP 3.9KEW5%		EA	1.00	1.00	1.00	1.00
R	17	130-05301-0023	RES CHIP 300 EW 5%		EA	1.00	.	.	.
R	19	130-05100-0023	RES CH 10 EW 5%		EA	.	.	.	1.00
R	19	130-05101-0023	RES CH 100 EW 5%		EA	.	1.00	1.00	.
R	20	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00	1.00
R	21	130-05822-0023	RES CHIP 8.2KEW5%		EA	.	1.00	1.00	1.00
R	22	130-05152-0023	RES CHIP 1.5KEW5%		EA	1.00	1.00	1.00	1.00
R	23	130-05152-0023	RES CHIP 1.5KEW5%		EA	1.00	1.00	1.00	1.00
R	24	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	25	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	26	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	27	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	28	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	29	130-05821-0023	RES 820 EW 5%		EA	1.00	1.00	1.00	1.00

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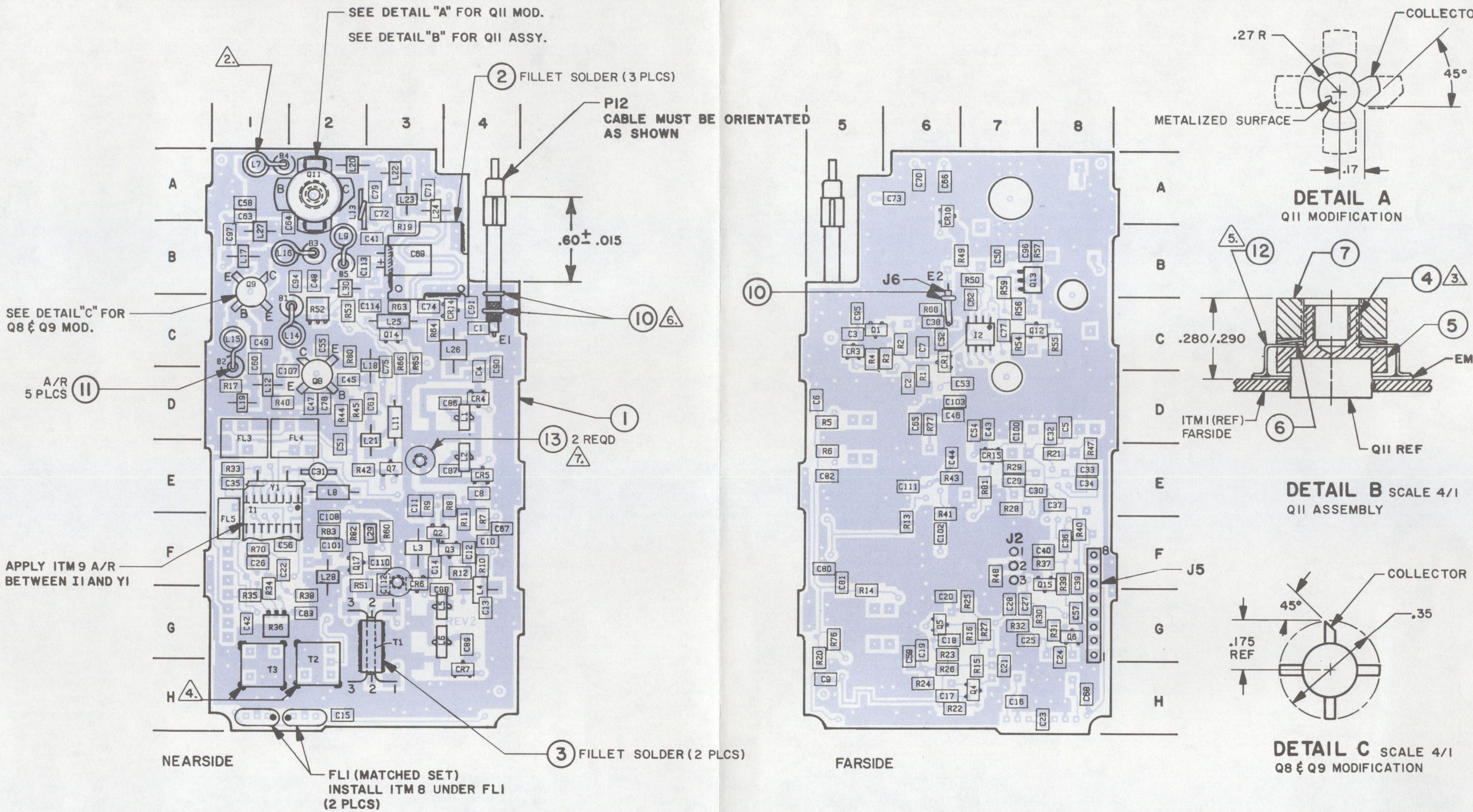
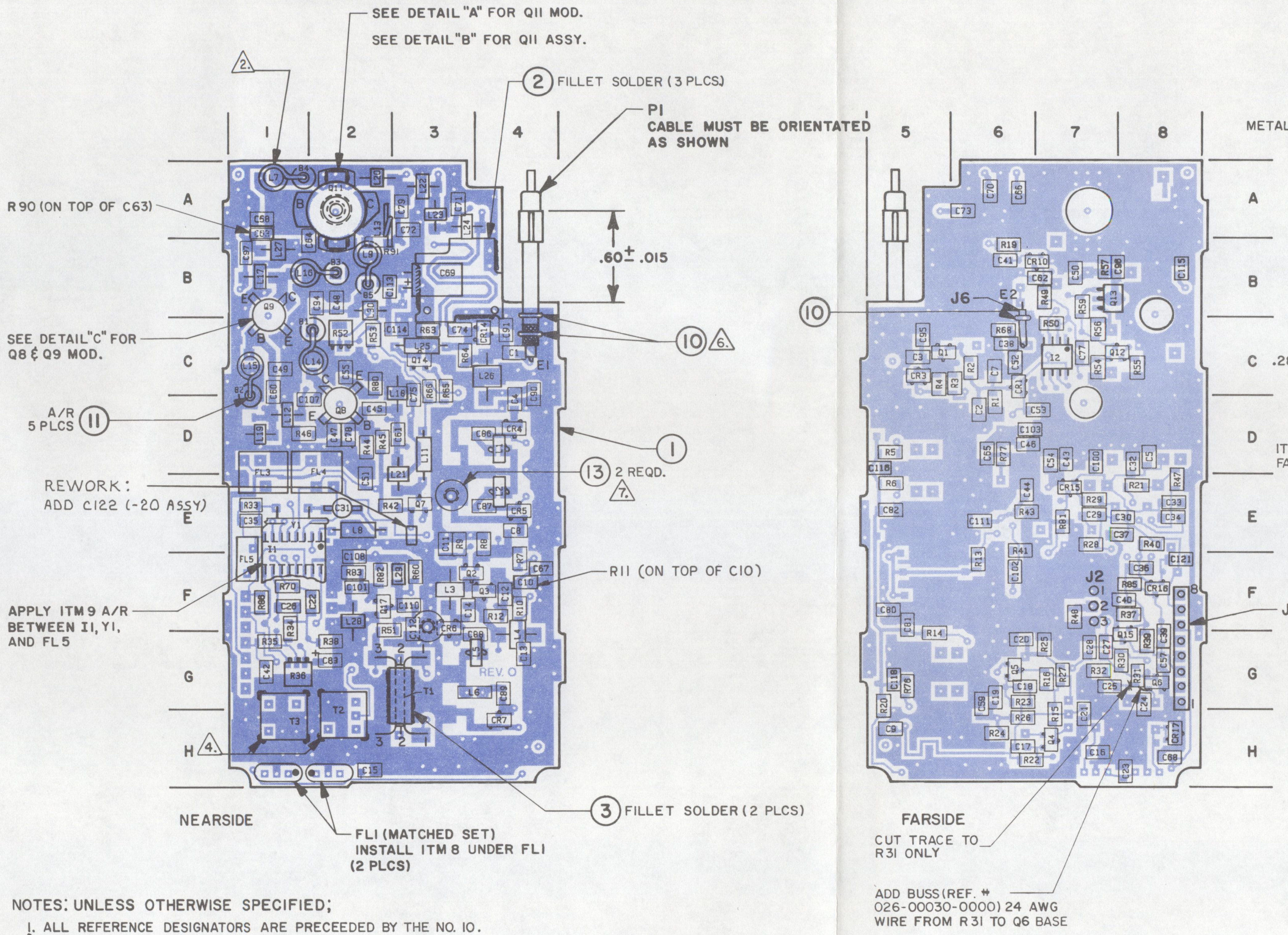
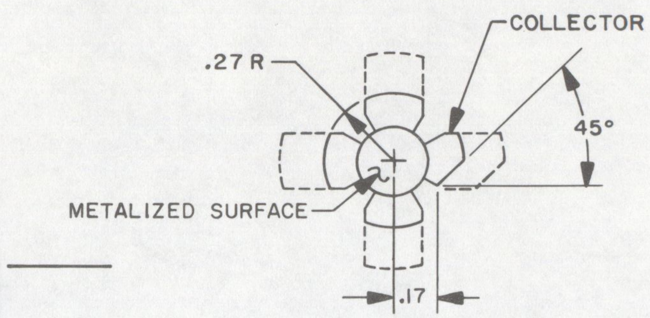
SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0010	0013	0020
R	30	130-05102-0023	RES CH 1K EW 5%		EA	1.00	.	.	.
R	30	130-05242-0023	RES CHIP 2.4KEW5%		EA	.	1.00	1.00	1.00
R	31	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	.	.	.
R	31	130-05472-0023	RES CHIP 4.7KEW5%		EA	.	1.00	1.00	1.00
R	32	130-05202-0023	RES CHIP 2K5%EW		EA	.	1.00	1.00	1.00
R	32	130-05472-0023	RES CHIP 4.7KEW5%		EA	1.00	.	.	.
R	33	130-05302-0023	RES CHIP 3K EW 5%		EA	1.00	1.00	1.00	1.00
R	34	130-05123-0023	RES CHIP 12K5%EW		EA	.	1.00	1.00	1.00
R	34	130-05202-0023	RES CHIP 2K5%EW		EA	1.00	.	.	.
R	35	130-05471-0023	RES CHIP 470EW5%		EA	1.00	.	.	.
R	35	130-05752-0023	RES CHIP 7.5KEW5%		EA	.	1.00	1.00	1.00
R	36	133-00271-0012	RES VAS 10K 100V	A	EA	1.00	1.00	1.00	1.00
R	37	130-05104-0023	RES CH 100K EW 5%		EA	1.00	1.00	1.00	1.00
R	38	130-05471-0023	RES CHIP 470EW5%		EA	.	1.00	1.00	1.00
R	38	130-05511-0023	RES CHIP 510 EW 5%		EA	1.00	.	.	.
R	39	130-05104-0023	RES CH 100K EW 5%		EA	.	1.00	1.00	1.00
R	39	130-05304-0023	RES CHIP 300KEW5%		EA	1.00	.	.	.
R	40	130-05684-0023	RES CHIP 680KEW5%		EA	1.00	1.00	1.00	1.00
R	41	130-05562-0023	RES CHIP 5.6KEW5%		EA	1.00	1.00	1.00	1.00
R	42	130-05332-0023	RES CHIP 3.3KEW5%		EA	1.00	1.00	1.00	1.00
R	43	130-05101-0023	RES CH 100 EW 5%		EA	.	1.00	1.00	1.00
R	43	130-05151-0023	RES CHIP 150EW5%		EA	1.00	.	.	.
R	44	130-05202-0023	RES CHIP 2K5%EW		EA	1.00	1.00	1.00	1.00
R	45	130-05152-0023	RES CHIP 1.5KEW5%		EA	1.00	1.00	1.00	1.00
R	46	130-05510-0023	RES CHIP 51 EW 5%		EA	.	1.00	1.00	1.00
R	46	130-05620-0023	RES CH 62 EW 5%		EA	1.00	.	.	.
R	47	130-05182-0023	RES CHIP 1.8KEW5%		EA	.	1.00	1.00	1.00
R	48	130-05151-0023	RES CHIP 150EW5%		EA	1.00	1.00	1.00	1.00
R	49	130-05103-0023	RES CH 10K EW 5%		EA	.	1.00	1.00	.
R	49	130-05104-0023	RES CH 100K EW 5%		EA	1.00	.	.	1.00
R	50	130-05104-0023	RES CH 100K EW 5%		EA	1.00	1.00	1.00	1.00
R	51	130-05200-0023	RES CHIP 20 EW 5%		EA	1.00	1.00	1.00	1.00
R	52	133-00271-0018	RES VA 100K 20%		EA	1.00	1.00	1.00	1.00
R	53	130-05104-0023	RES CH 100K EW 5%		EA	1.00	.	.	.
R	53	130-05154-0023	RES CHIP 150K5%EW		EA	.	1.00	1.00	1.00
R	54	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00	1.00
R	55	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00
R	56	130-05103-0023	RES CH 10K EW 5%		EA	1.00	1.00	1.00	1.00
R	57	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00
R	59	130-05202-0023	RES CHIP 2K5%EW		EA	1.00	1.00	1.00	1.00
R	60	130-05561-0023	RES CHIP 560EW5%		EA	1.00	1.00	1.00	1.00
R	63	130-05510-0022	RES CH 51 EW 2%		EA	1.00	1.00	1.00	1.00
R	64	130-05334-0023	RES CHIP 330KEW5%		EA	1.00	1.00	1.00	1.00
R	65	130-05331-0023	RES CHIP 330 EW5%		EA	1.00	1.00	1.00	1.00
R	66	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	68	130-05203-0023	RES CHIP 20K EW 5%		EA	1.00	1.00	1.00	1.00
R	70	130-05154-0023	RES CHIP 150K5%EW		EA	.	1.00	1.00	1.00
R	70	130-05273-0023	RES CHIP 27K EW 5%		EA	1.00	.	.	.
R	76	130-05124-0023	RES CHIP 120KEW5%		EA	1.00	1.00	1.00	1.00
R	77	130-05271-0023	RES CHIP 270EW5%		EA	1.00	1.00	1.00	1.00
R	80	130-05510-0023	RES CHIP 51 EW 5%		EA	.	1.00	1.00	1.00
R	80	130-05620-0023	RES CH 62 EW 5%		EA	1.00	.	.	.
R	81	130-05161-0023	RES CHIP 160EW5%		EA	1.00	1.00	1.00	1.00
R	82	130-05223-0023	RES CHIP 22K EW 5%		EA	1.00	1.00	1.00	1.00
R	83	130-05153-0023	RES CHIP 15K EW 5%		EA	1.00	1.00	1.00	1.00
R	85	130-05823-0023	RES CHIP 82KEW5%		EA	.	1.00	1.00	1.00
R	86	130-05103-0023	RES CH 10K EW 5%		EA	.	1.00	1.00	1.00
R	90	130-05301-0013	RES CHIP 300 TW 5%		EA	.	1.00	1.00	1.00
R	91	130-05201-0013	RES CHIP 200 TW 5%		EA	.	1.00	1.00	1.00
REF	1	300-06904-0000	UHF RX/TX BD ASSY		RF	X.	.	.	.
REF	1	300-06904-0010	UHF RX/TX BD ASSY	A	RF	X.	X.	X.	X.
REF	2	002-06904-0000	SCH UHF RX/TX BD		RF	X.	.	.	.
REF	2	002-06904-0010	SCH UHF RX/TX BD	A	RF	.	X.	X.	.
REF	2	002-06904-0020	SCH T/X BD UHF	A	RF	.	.	.	X.
T	1	019-03160-0000	XFMR TRIFILAR		EA	1.00	1.00	1.00	1.00
T	2	019-08143-0000	MIXER OUTPUT TRANS		EA	1.00	.	.	.
T	2	019-08147-0000	MIXER OUTPUT XFMR		EA	.	1.00	1.00	1.00
T	3	019-08142-0000	TRANSFORMER IF		EA	1.00	1.00	1.00	1.00
Y	1	044-00154-0000	44.545MHZ XTAL		EA	1.00	1.00	1.00	1.00



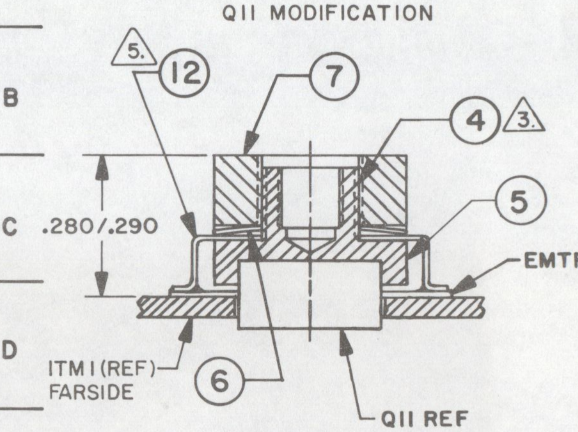
NOTES: UNLESS OTHERWISE SPECIFIED;

1. ALL REFERENCE DESIGNATORS ARE PRECEDED BY THE NO. 10.
2. VERTICAL MOUNT COILS (L7, L9, L14, L15, L16) NOT TO EXCEED .225 IN. ABOVE BOARD SURFACE.
3. APPLY THERMAL JOINT COMPOUND (ITM 4) TO THREADS OF HEAT SINK STUD (ITM 5).
4. SOLDER CORNERS OF T2 & T3 TO GROUND PLANE 3 PLCS & 4 PLCS RESPECTIVELY.
5. SOLDER "FEET" OF TRANSISTOR LUG (ITM 12) TO EMITTER LEADS OF Q11, 2 PLCS.
6. AFTER INSTALLATION OF STRAIN RELEIF WIRES (ITM 10), SOLDER METAL BRAID OF COAX CABLE (P12) TO GROUND PLANE.
7. SOLDER TO GROUND PLANE AFTER SWAGING FARSIDE OF STAND-OFF.

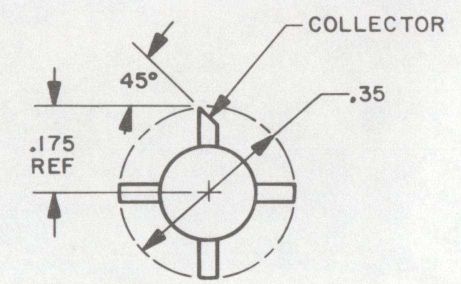




DETAIL A
Q11 MODIFICATION



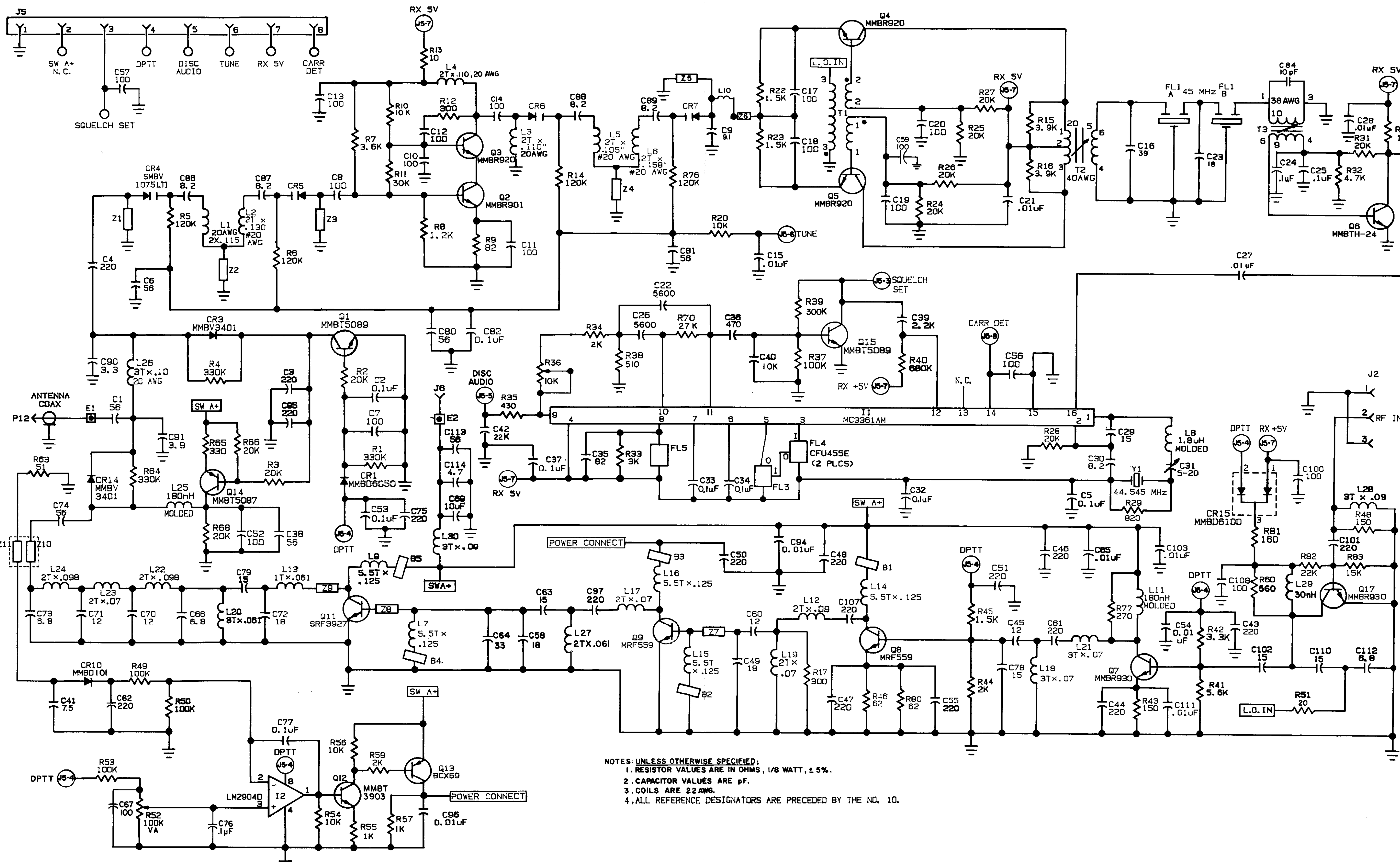
DETAIL B SCALE 4/1
Q11 ASSEMBLY



DETAIL C SCALE 4/1
Q8 & Q9 MODIFICATION

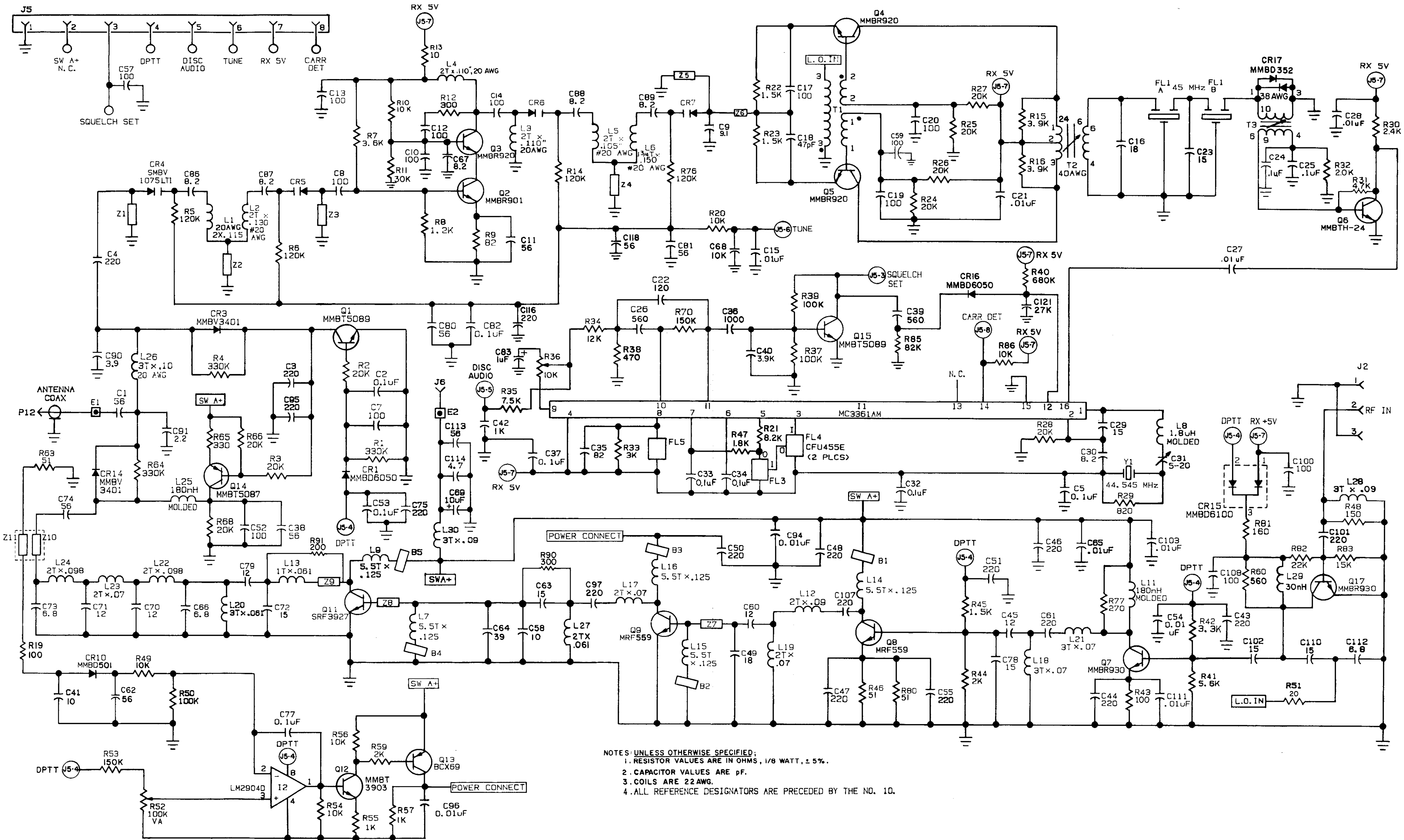
NOTES: UNLESS OTHERWISE SPECIFIED;

1. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NO. 10.
2. VERTICAL MOUNT COILS (L7, L9, L14, L15, L16) NOT TO EXCEED .225 IN. ABOVE BOARD SURFACE.
3. APPLY THERMAL JOINT COMPOUND (ITM 4) TO THREADS OF HEAT SINK STUD (ITM 5).
4. SOLDER CORNERS OF T2 & T3 TO GROUND PLANE 3 PLCS & 4 PLCS RESPECTIVELY.
5. SOLDER "FEET" OF TRANSISTOR LUG (ITM 12) TO EMITTER LEADS OF Q11, 2 PLCS.
6. AFTER INSTALLATION OF STRAIN RELIEF WIRES (ITM 10), SOLDER METAL BRAID OF COAX CABLE (P12) TO GROUND PLANE.
7. SOLDER TO GROUND PLANE AFTER SWAGING FARSIDE OF STAND-OFF.

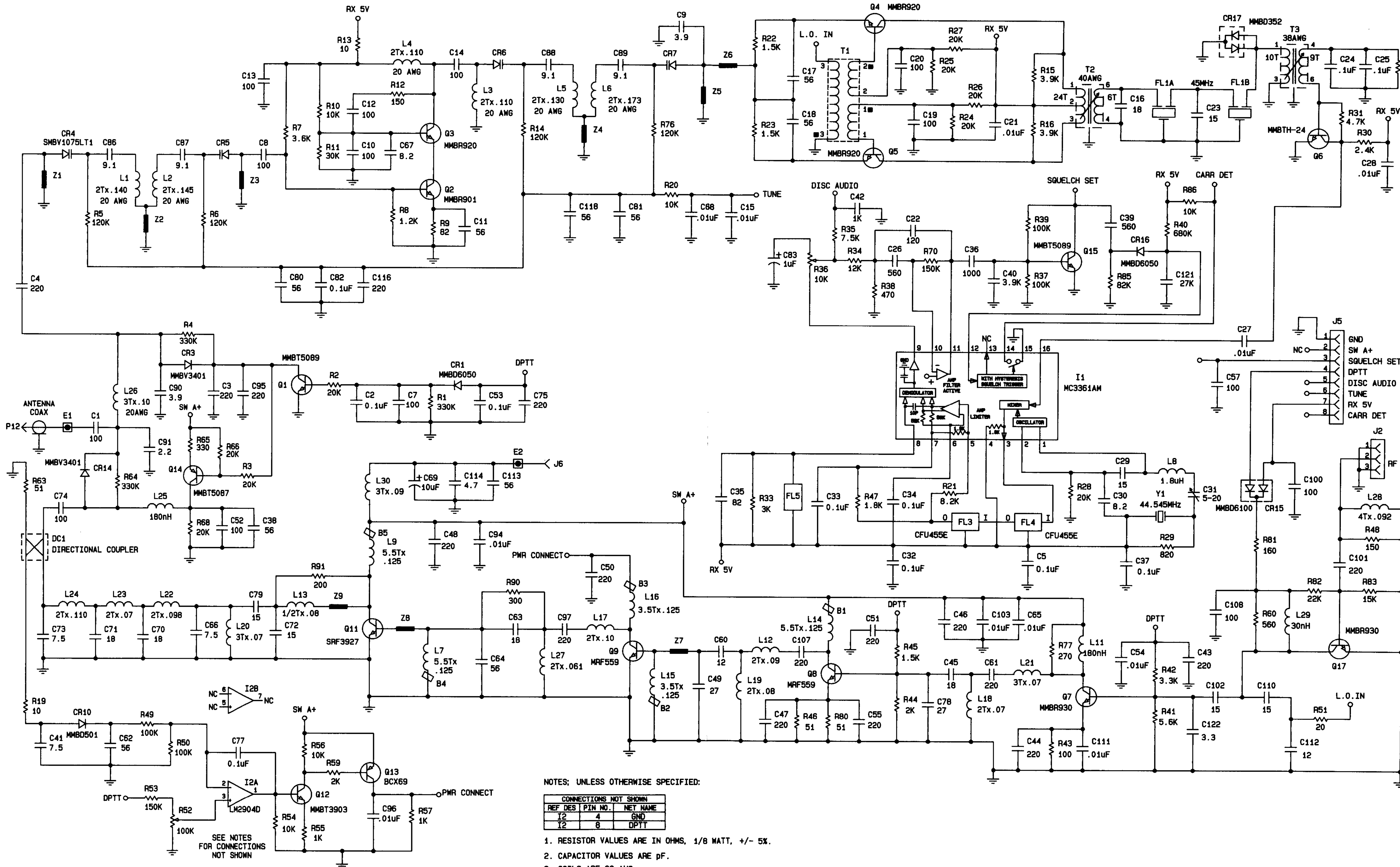


NOTES: UNLESS OTHERWISE SPECIFIED;
1. RESISTOR VALUES ARE IN OHMS, 1/8 WATT, ± 5%.
2. CAPACITOR VALUES ARE pF.
3. COILS ARE 22 AWG.
4. ALL REFERENCE DESIGNATORS ARE PRECEDED BY THE NO. 10.

RX/TX BOARD SCHEMATIC
002-06904-0000



NOTES: UNLESS OTHERWISE SPECIFIED;
1. RESISTOR VALUES ARE IN OHMS, 1/8 WATT, ± 5%.
2. CAPACITOR VALUES ARE pF.
3. COILS ARE 22 AWG.
4. ALL REFERENCE DESIGNATORS ARE PRECEDED BY THE NO. 10.



NOTES; UNLESS OTHERWISE SPECIFIED:

CONNECTIONS NOT SHOWN		
REF DES	PIN NO.	NET NAME
I2	4	GND
I2	8	DPTT

1. RESISTOR VALUES ARE IN OHMS, 1/8 WATT, +/- 5%.
2. CAPACITOR VALUES ARE pF.
3. COILS ARE 22 AWG.
4. ALL REFERENCE DESIGNATORS ARE PRECEDED BY THE NO. 10.

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
FRONT COVER ASSEMBLY

200-03477-0000	LPU
200-03477-0001	LPU
200-03477-0002	LPU
200-03477-0003	LPU
200-03477-0004	MPU
200-03477-0005	MPU
200-03477-0012	LQU
200-03477-0013	LQU

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY							
						0000	0001	0002	0003	0004	0005	0012	0013
		200-03477-0099	COMMON BOM	A	EA	1.00	1.00	1.00	1.00	1.00	1.00	.	.
ASY	1	200-06907-0000	UHF OPTION BD	A	EA	1.00	1.00	.	.	.	.	.	.
ASY	1	200-06907-0020	OPTION BD ASSY	A	EA	.	.	1.00	1.00	1.00	1.00	.	.
ASY	1	200-06907-0023	FM OP BD ASSY	A	EA	.	.	.	.	.	.	1.00	1.00
ASY	2	200-03223-0005	KBD/DSPL ASSY MOD	A	EA	.	1.00	.	1.00	.	1.00	.	1.00
ITM	1	073-00613-0001	FRT CVR INSERT W/F		EA	.	.	.	.	1.00	.	.	.
ITM	1	088-01315-0000	INSRT FRNT CVR BLK		EA	1.00	.	1.00	.	.	.	1.00	.
ITM	2	091-00408-0000	SPACER BD		EA	1.00	.	1.00	.	1.00	.	1.00	.
ITM	3	187-01696-0000	KYBD DSPLY GASKET		EA	.	.	.	.	.	.	1.00	1.00
ITM	4	088-02080-0000	INLAY NAMEPLATE		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	5	073-00608-0001	FRONT COVER	A	EA	.	.	.	.	1.00	1.00	.	.
ITM	5	088-02077-0010	FRONT COVER MOD	A	EA	1.00	1.00	1.00	1.00	.	.	1.00	1.00
ITM	6	091-00187-0000	SHOULDER WASHER		EA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ITM	7	088-01322-0000	BUSHING MICROPHONE		EA	.	.	.	.	.	.	1.00	1.00
ITM	8	047-06715-0000	SPEAKER CLIP		EA	.	.	.	.	.	.	2.00	2.00
ITM	9	089-06292-0002	SCR PHP 2-56X1/78		EA	.	.	.	.	.	.	2.00	2.00
ITM	12	076-01463-0000	STANDOFF SPKR MT		EA	.	.	.	.	.	.	1.00	1.00
ITM	13	076-01440-0002	STANDOFF 1.105		EA	.	.	.	.	.	.	2.00	2.00
ITM	14	089-06292-0006	SCR PHP 2-56X3/8		EA	.	.	.	.	.	.	1.00	1.00
ITM	15	089-06414-0004	SCR PHP 2-28X1/4		EA	4.00	4.00	4.00	4.00	.	4.00	4.00	4.00
ITM	15	089-06615-0008	SCR PHP M2X.2		EA	.	.	.	.	4.00	.	.	.
ITM	16	090-00459-0001	NUT HEX M2.5X0.45		EA	.	.	.	.	.	.	2.00	2.00
ITM	17	088-01306-0000	DOOR KEYBOARD BLK	A	EA	.	1.00	.	1.00	.	1.00	.	1.00
ITM	20	025-00001-0000	WIRE 26 BLK		IN	.	.	.	.	.	.	2.25	2.25
ITM	21	025-00001-0006	WIRE 26 BLU		IN	.	.	.	.	.	.	3.00	3.00
ITM	22	150-00042-0010	SHRINK TUBING .187		IN	.	.	.	.	.	.	0.90	0.90
ITM	23	016-01112-0000	HOT MELT 1943		AR	.	.	.	.	.	.	1.00	1.00
ITM	24	187-01319-0000	GRILL CLOTH, SPEAK		EA	.	.	.	.	.	.	1.00	1.00
ITM	25	016-01011-0000	ADH PLIOBOND 20		AR	.	.	.	.	.	.	1.00	1.00
LS	1	038-00030-0000	SPEAKER 45MM	A	EA	.	.	.	.	.	.	1.00	1.00
MK	1	038-00026-0020	MIC CRTRDG MOD	A	EA	.	.	.	.	.	.	1.00	1.00
REF	1	300-03477-0000	FRONT COVER ASSY	A	RF	.	.	.	.	.	.	X	X

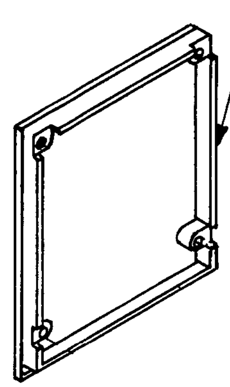
FRONT COVER ASSEMBLY

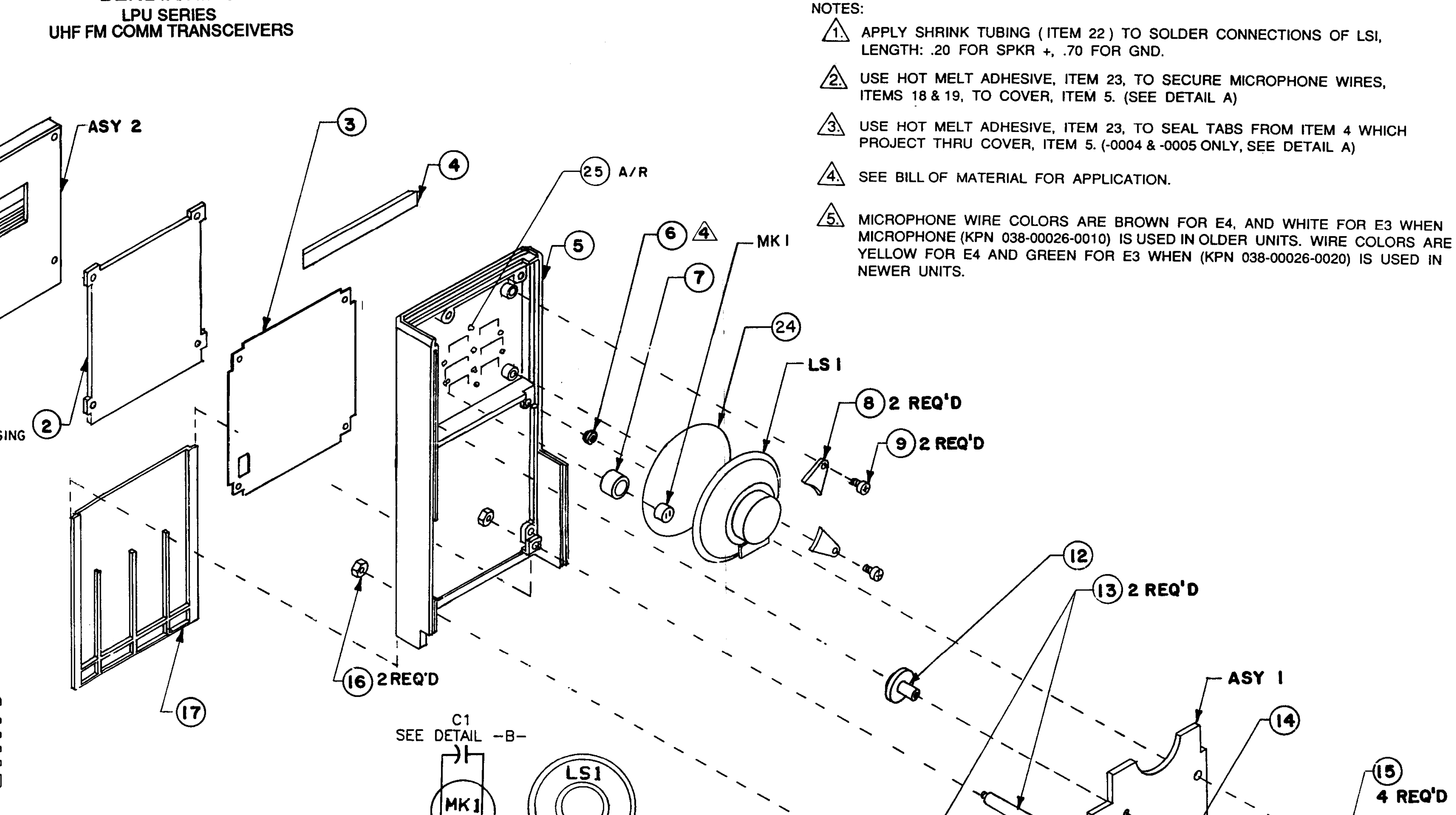
200-03477-0014 MQU
200-03477-0015 MQU
200-03477-0099 COMMON BOM LPU

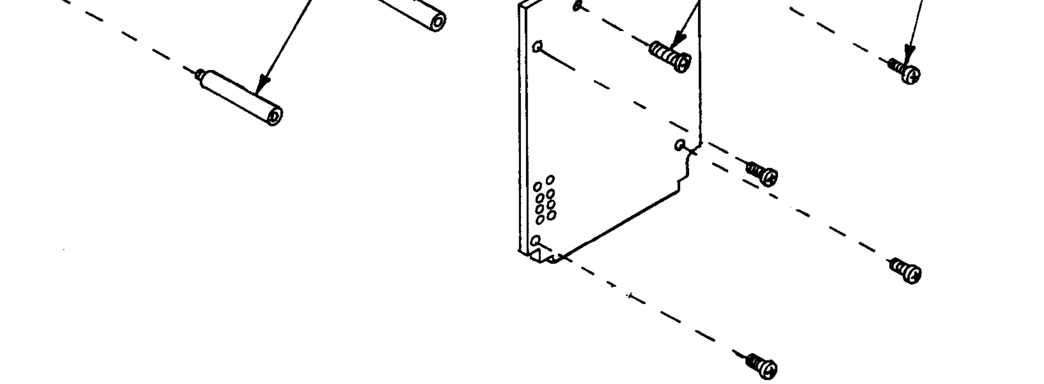
SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0014	0015	0099
ASY	1	200-06907-0023	FM OP BD ASSY	A	EA	1.00	1.00	.
ASY	2	200-03223-0005	KBD/DSPL ASSY MOD	A	EA	.	1.00	.
ITM	1	073-00613-0001	FRT CVR INSERT W/F		EA	1.00	.	.
ITM	2	091-00408-0000	SPACER BD		EA	1.00	.	.
ITM	3	187-01696-0000	KYBD DSPLY GASKET		EA	1.00	1.00	1.00
ITM	4	088-02080-0000	INLAY NAMEPLATE		EA	1.00	1.00	.
ITM	5	073-00608-0001	FRONT COVER	A	EA	1.00	1.00	.
ITM	6	091-00187-0000	SHOULDER WASHER		EA	1.00	1.00	.
ITM	7	088-01322-0000	BUSHING MICROPHONE		EA	1.00	1.00	1.00
ITM	8	047-06715-0000	SPEAKER CLIP		EA	2.00	2.00	2.00
ITM	9	089-06292-0002	SCR PHP 2-56X1/78		EA	2.00	2.00	2.00
ITM	12	076-01463-0000	STANDOFF SPKR MT		EA	1.00	1.00	1.00
ITM	13	076-01440-0002	STANDOFF 1.105		EA	2.00	2.00	2.00
ITM	14	089-06292-0006	SCR PHP 2-56X3/8		EA	1.00	1.00	1.00
ITM	15	089-06414-0004	SCR PHP 2-28X1/4		EA	.	4.00	.
ITM	15	089-06615-0008	SCR PHP M2X.2		EA	4.00	.	.
ITM	16	090-00459-0001	NUT HEX M2.5X0.45		EA	2.00	2.00	2.00
ITM	17	088-01306-0000	DOOR KEYBOARD BLK	A	EA	.	1.00	.
ITM	20	025-00001-0000	WIRE 26 BLK		IN	2.25	2.25	2.25
ITM	21	025-00001-0006	WIRE 26 BLU		IN	3.00	3.00	3.00
ITM	22	150-00042-0010	SHRINK TUBING .187		IN	0.90	0.90	0.90
ITM	23	016-01112-0000	HOT MELT 1943		AR	1.00	1.00	1.00
ITM	24	187-01319-0000	GRILL CLOTH, SPEAK		EA	1.00	1.00	1.00
ITM	25	016-01011-0000	ADH PLIOBOND 20		AR	1.00	1.00	1.00
LS	1	038-00030-0000	SPEAKER 45MM	A	EA	1.00	1.00	1.00
MK	1	038-00026-0020	MIC CRTRDG MOD	A	EA	1.00	1.00	1.00
REF	1	300-03477-0000	FRONT COVER ASSY	A	RF	X.	X.	X.

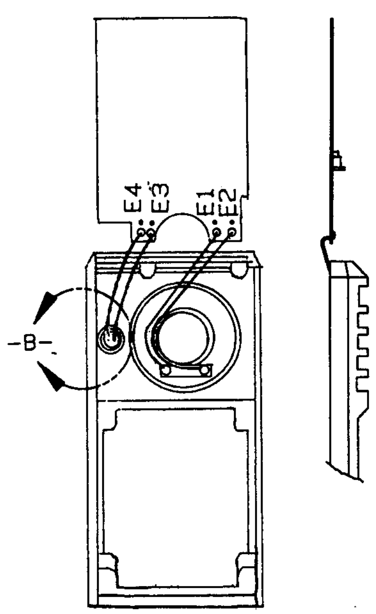
NOTES:

1. APPLY SHRINK TUBING (ITEM 22) TO SOLDER CONNECTIONS OF LSI, LENGTH: .20 FOR SPKR +, .70 FOR GND.
2. USE HOT MELT ADHESIVE, ITEM 23, TO SECURE MICROPHONE WIRES, ITEMS 18 & 19, TO COVER, ITEM 5. (SEE DETAIL A)
3. USE HOT MELT ADHESIVE, ITEM 23, TO SEAL TABS FROM ITEM 4 WHICH PROJECT THRU COVER, ITEM 5. (-0004 & -0005 ONLY, SEE DETAIL A)
4. SEE BILL OF MATERIAL FOR APPLICATION.
5. MICROPHONE WIRE COLORS ARE BROWN FOR E4, AND WHITE FOR E3 WHEN MICROPHONE (KPN 038-00026-0010) IS USED IN OLDER UNITS. WIRE COLORS ARE YELLOW FOR E4 AND GREEN FOR E3 WHEN (KPN 038-00026-0020) IS USED IN NEWER UNITS.

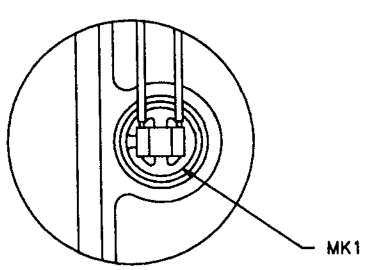




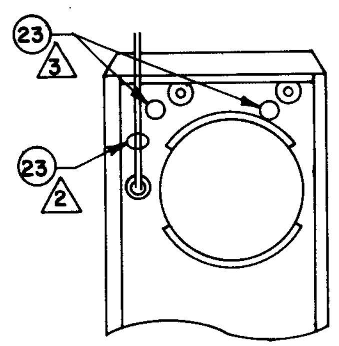




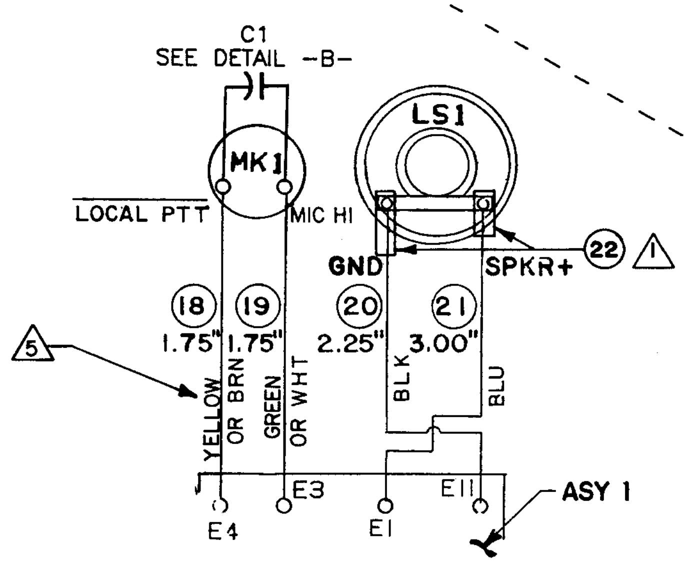
WIRE ROUTING DIAGRAM



DETAIL -B-
NOT TO SCALE



DETAIL A
HOTMELT ADHESIVE



SCHEMATIC

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
OPTIONS BOARD ASSEMBLY

200-06907-0000	
200-06907-0010	LPU MPU
200-06907-0013	LQU MQU
200-06907-0020	EPH
200-06907-0023	LQU

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0010	0013	0020	0023
C 1	106-04102-0047	CH 1K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 2	106-04561-0014	CAP CH560PF NPO 2%		EA	1.00	1.00	1.00	1.00	1.00
C 3	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 4	106-04561-0014	CAP CH560PF NPO 2%		EA	1.00	1.00	1.00	1.00	1.00
C 5	106-04182-0014	CAP CH1.8K NPO 2%		EA	1.00	1.00	1.00	1.00	1.00
C 6	106-04182-0014	CAP CH1.8K NPO 2%		EA	1.00	1.00	1.00	1.00	1.00
C 7	106-00077-0000	CAP CH 15K NPO 2%	A	EA	1.00	1.00	1.00	1.00	1.00
C 8	106-00077-0000	CAP CH 15K NPO 2%	A	EA	1.00	1.00	1.00	1.00	1.00
C 9	106-04103-0046	CAP CH 10K X7R/50V		EA	.	.	.	1.00	1.00
C 9	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	.	.
C 10	106-04103-0046	CAP CH 10K X7R/50V		EA	.	.	.	1.00	1.00
C 10	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	.	.
C 11	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	.	.
C 11	106-04152-0016	CAPCH1500PFNPO/50V		EA	.	.	.	1.00	1.00
C 12	096-01186-0062	CAP 1.0UF 16V 20%		EA	.	.	.	1.00	1.00
C 12	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	.	.
C 13	096-01113-0067	CAP CH 1.5UF20%15V		EA	1.00	1.00	1.00	.	.
C 13	096-01186-0064	CAP 10UF 16V 20%		EA	.	.	.	1.00	1.00
C 14	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 15	096-01113-0071	CAP CH.47UF20%20V		EA	1.00	1.00	1.00	1.00	1.00
C 16	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 17	106-04272-0046	CAP CH 2.7KX7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 18	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 19	106-04103-0046	CAP CH 10K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 20	106-04272-0046	CAP CH 2.7KX7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 21	106-04822-0046	CAPCH.0082MX7R/50		EA	1.00	1.00	1.00	1.00	1.00
C 22	106-04151-0016	CAP CH150PF NPO 5%		EA	1.00	1.00	1.00	1.00	1.00
C 26	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 30	106-04102-0047	CH 1K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 31	106-04102-0047	CH 1K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 32	106-04102-0047	CH 1K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 33	106-04102-0047	CH 1K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 34	106-04104-0047	CH 100KX7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 35	106-04333-0046	CAP CH 33K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 36	106-04222-0046	CAP CH 2.2K 50V 5%		EA	1.00	1.00	1.00	1.00	1.00
C 37	106-04563-0046	CAP CH 56K X7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 38	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	.	.
C 38	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 39	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	.	.
C 40	106-00072-0040	CAP CH100PFNPO/50V		EA	1.00	1.00	1.00	.	.
C 40	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 41	106-04104-0047	CH 100KX7R/50V		EA	.	1.00	1.00	1.00	1.00
C 41	111-00001-0001	CAP CR .1UF 50V		EA	1.00	.	.	.	.
C 42	106-00072-0040	CAP CH100PFNPO/50V		EA	.	1.00	1.00	.	.
C 42	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 42	106-05221-0048	CAP CH 220X7R/50V		EA	1.00	.	.	.	.
C 45	106-04101-0016	CH 100PF NPO/50V		EA	.	.	.	1.00	1.00
C 45	111-00002-0013	CAP CER 22PF X7R		EA	1.00	1.00	1.00	.	.
C 46	106-04101-0047	CAPCH 100PFX7R/50V		EA	1.00	1.00	1.00	1.00	1.00
C 47	106-04101-0016	CH 100PF NPO/50V		EA	.	.	.	1.00	1.00
C 47	111-00002-0013	CAP CER 22PF X7R		EA	1.00	1.00	1.00	.	.
C 51	106-04471-0026	CH 470PF NPO/100V		EA	.	1.00	1.00	1.00	1.00
C 52	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 53	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 54	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 55	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 56	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 57	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 58	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 59	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 60	096-01186-0064	CAP 10UF 16V 20%		EA	.	.	.	1.00	1.00
C 61	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 62	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 63	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 64	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 65	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 66	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 67	106-04101-0047	CAPCH 100PFX7R/50V		EA	.	.	.	1.00	1.00
C 68	106-04391-0016	CH 390PF NPO/50V		EA	.	.	.	1.00	1.00

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
OPTIONS BOARD ASSEMBLY

200-06907-00XX

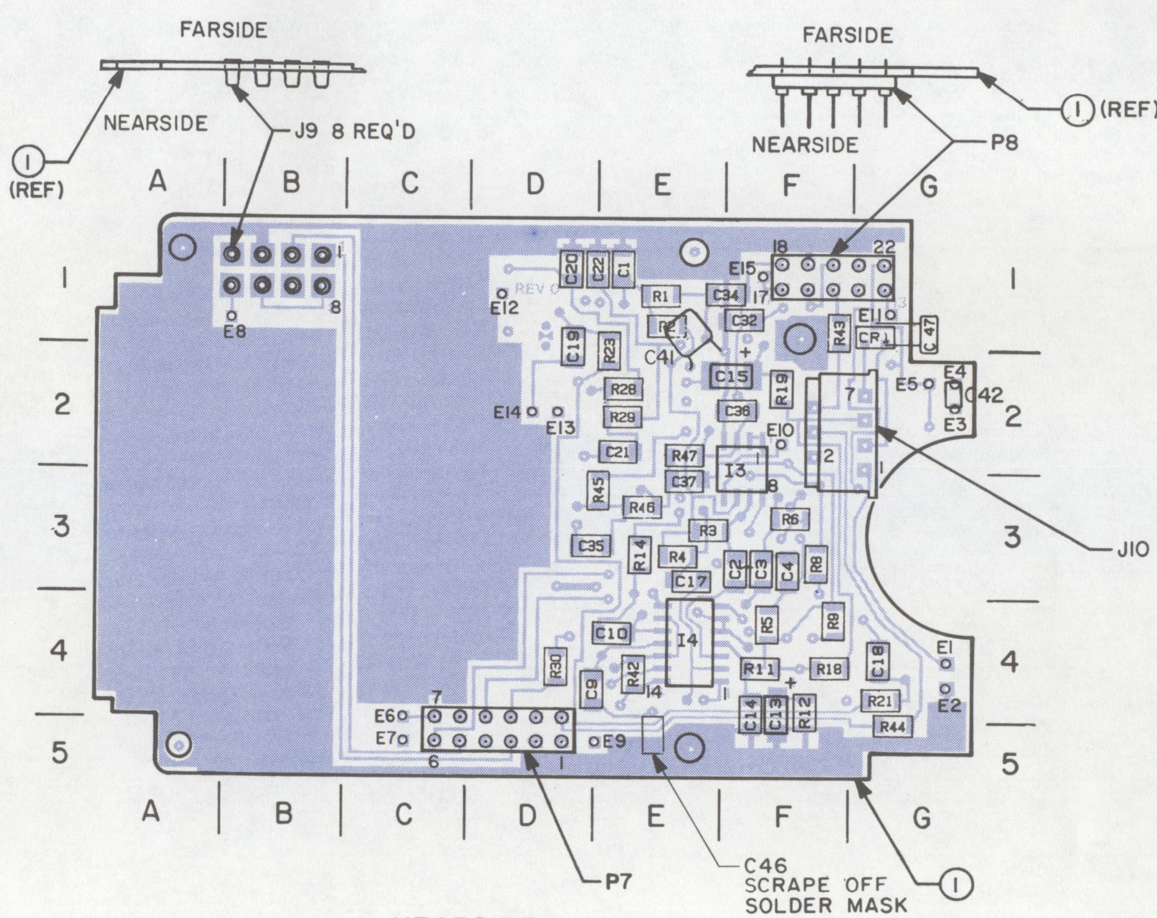
SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0010	0013	0020	0023
CR	1	007-06181-0000	DIO DUAL MMBD2835		EA	1.00	1.00	1.00	1.00	1.00
I	1	120-03196-0000	IC LM2902D	A	EA	1.00	1.00	1.00	1.00	1.00
I	2	120-03426-0000	LMC660M	A	EA	1.00	1.00	1.00	1.00	1.00
I	3	120-03195-0000	IC LM2904D		EA	1.00	1.00	1.00	1.00	1.00
I	4	120-06131-0000	IC QUAD ANLG SW	A	EA	1.00	.	.	.	.
I	4	120-06131-0001	IC QUAD ANLG SW	A	EA	.	1.00	1.00	1.00	1.00
ITM	1	009-06907-0000	OPTION BOARD		EA	1.00	.	.	.	.
ITM	1	009-06907-0010	PCBD UHF OPTIONS		EA	.	1.00	1.00	.	.
ITM	1	009-06907-0020	PCBD OPTIONS	A	EA	.	.	.	1.00	1.00
ITM	6	012-01440-0000	SPACER RESILIANT		EA	1.00	1.00	1.00	1.00	1.00
J	9	030-01249-0004	SCKT MIN SPRING		EA	8.00	8.00	8.00	8.00	8.00
J	10	030-02905-0007	FLEX 7 POS		EA	1.00	1.00	1.00	1.00	1.00
P	7	030-02899-0006	PIN STRIP 6 POS		EA	1.00	.	.	.	.
P	7	030-03053-0006	2500 SQ TERM STRIP		EA	.	1.00	1.00	1.00	1.00
P	8	030-02899-0005	PIN STRIP 5 POS		EA	1.00	.	.	.	.
P	8	030-03053-0005	2500 SQ TERM STRIP		EA	.	1.00	1.00	1.00	1.00
Q	1	007-08064-0000	XSTR PNP 10K, 10K	A	EA	1.00	1.00	1.00	1.00	1.00
Q	2	007-08064-0016	XSTR PNP 47K. 47K		EA	1.00	1.00	1.00	1.00	1.00
R	1	130-05163-0023	RES CHIP 16KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	2	130-05823-0023	RES CHIP 82KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	3	130-05164-0023	RES CHIP 160K EW5%		EA	1.00	1.00	1.00	1.00	1.00
R	4	130-05334-0023	RES CHIP 330KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	5	130-05514-0022	RES CH 510K EW 2%		EA	1.00	1.00	1.00	1.00	1.00
R	6	130-05274-0022	RES CHIP 270KEW2%		EA	1.00	1.00	1.00	1.00	1.00
R	7	130-05824-0022	RES CH 820K EW 2%		EA	1.00	1.00	1.00	1.00	1.00
R	8	130-05623-0022	RES CHIP 62KEW2%		EA	1.00	1.00	1.00	1.00	1.00
R	9	130-05474-0022	RES CH 470K EW 2%		EA	1.00	1.00	1.00	1.00	1.00
R	10	130-05272-0022	RES CH 2.7K 2%		EA	1.00	1.00	1.00	1.00	1.00
R	11	130-05204-0023	RES CHIP 200KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	12	130-05204-0023	RES CHIP 200KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	14	130-05224-0023	RES CHIP 220K5%EW		EA	.	.	.	1.00	1.00
R	14	130-05393-0023	RES CHIP 39K EW 5%		EA	1.00	1.00	1.00	.	.
R	15	130-05123-0023	RES CHIP 12K5%EW		EA	1.00	1.00	1.00	.	.
R	15	130-05224-0023	RES CHIP 220K5%EW		EA	.	.	.	1.00	1.00
R	16	130-05154-0023	RES CHIP 150K5%EW		EA	.	.	.	1.00	1.00
R	16	130-05824-0023	RES CHIP 820K5%EW		EA	1.00	1.00	1.00	.	.
R	17	130-05510-0023	RES CHIP 51 EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	18	130-05392-0023	RES CHIP 3.9KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	19	130-05432-0023	RES CHIP 4.3KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	20	130-05563-0023	RES CHIP 56K5%EW		EA	1.00	1.00	1.00	1.00	1.00
R	21	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	22	130-05304-0023	RES CHIP 300KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	23	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	24	130-05304-0023	RES CHIP 300KEW5%		EA	1.00	1.00	1.00	1.00	1.00
R	25	130-05124-0023	RES CHIP 120KEW5%		EA	1.00	.	.	.	.
R	25	130-05204-0023	RES CHIP 200KEW5%		EA	.	1.00	1.00	1.00	1.00
R	26	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	27	130-05124-0023	RES CHIP 120KEW5%		EA		1.00	1.00	1.00	1.00
R	27	130-05683-0023	RES CHIP 68K EW 5%		EA	1.00	.	.	.	.
R	28	130-05563-0023	RES CHIP 56K5%EW		EA	1.00	1.00	1.00	1.00	1.00
R	29	130-05393-0023	RES CHIP 39K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	30	130-05103-0023	RES CH 10K EW 5%		EA	1.00	.	.	1.00	1.00
R	30	130-05153-0023	RES CHIP 15K EW 5%		EA	.	1.00	1.00	.	.
R	33	130-05244-0023	RES CHIP 240K5%EW		EA	1.00	1.00	1.00	1.00	1.00
R	34	130-05244-0023	RES CHIP 240K5%EW		EA	1.00	1.00	1.00	1.00	1.00
R	39	130-05124-0023	RES CHIP 120KEW5%		EA	1.00	.	.	.	.
R	39	130-05134-0023	RES CHIP 130KEW5%		EA	.	1.00	1.00	1.00	1.00
R	40	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	41	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	42	130-05104-0023	RES CH 100K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	43	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	44	130-05102-0023	RES CH 1K EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	45	130-05823-0022	RES CHIP 82KEW2%		EA	1.00	1.00	1.00	1.00	1.00
R	46	130-05104-0022	RES CHIP 100KEW2%		EA	1.00	1.00	1.00	1.00	1.00
R	47	130-05913-0022	RES CHIP 91KEW2%		EA	1.00	1.00	1.00	1.00	1.00
R	48	130-05105-0023	RES CHIP 1M EW 5%		EA	1.00	1.00	1.00	1.00	1.00
R	49	130-05103-0013	RES CH 10K TW 5%		EA	1.00	1.00	1.00	.	.
R	49	130-05103-0023	RES CH 10K EW 5%		EA	.	.	.	1.00	1.00

BENDIX/KING

LPU SERIES
UHF FM COMM TRANSCEIVERS
OPTIONS BOARD ASSEMBLY

200-06907-00XX

SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0000	0010	0013	0020	0023
R	52	130-05100-0023	RES CH 10 EW 5%		EA	.	.	.	1.00	1.00
R	53	130-05100-0023	RES CH 10 EW 5%		EA	.	.	.	1.00	1.00
R	54	130-05100-0023	RES CH 10 EW 5%		EA	.	.	.	1.00	1.00
R	55	130-05100-0023	RES CH 10 EW 5%		EA	.	.	.	1.00	1.00
R	56	130-05100-0023	RES CH 10 EW 5%		EA	.	.	.	1.00	1.00
R	57	130-05273-0023	RES CHIP 27K EW 5%		EA	.	.	.	1.00	1.00
R	58	130-05134-0023	RES CHIP 130KEW5%		EA	.	1.00	1.00	1.00	1.00
REF	1	300-06907-0000	OPTION BOARD ASSY		RF	X	.	.	.	.
REF	1	300-06907-0010	UHF BD OPT ASSY	A	RF	.	X	X	.	.
REF	1	300-06907-0020	OPTIONS BD PC ASSY	A	RF	.	.	.	X	.
REF	1	300-06907-0023	FM OP BD ASSY	A	RF	.	.	.	.	X
REF	2	002-06907-0000	SCH DUMMY OPTION		RF	X	.	.	.	.
REF	2	002-06907-0010	SCH OPTIONS BD		RF	.	X	X	.	.
REF	2	002-06907-0020	SCH OPTIONS BD		RF	.	.	.	X	.
REF	2	002-06907-0023	SCH FM OP BD	A	RF	.	.	.	.	X



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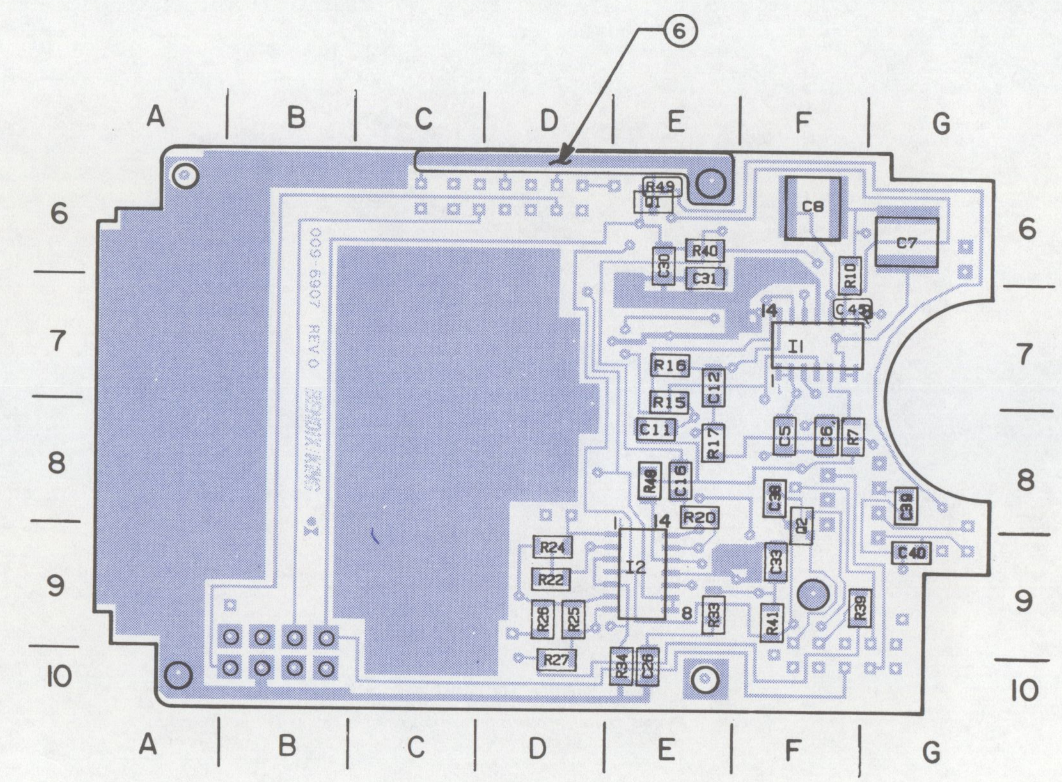
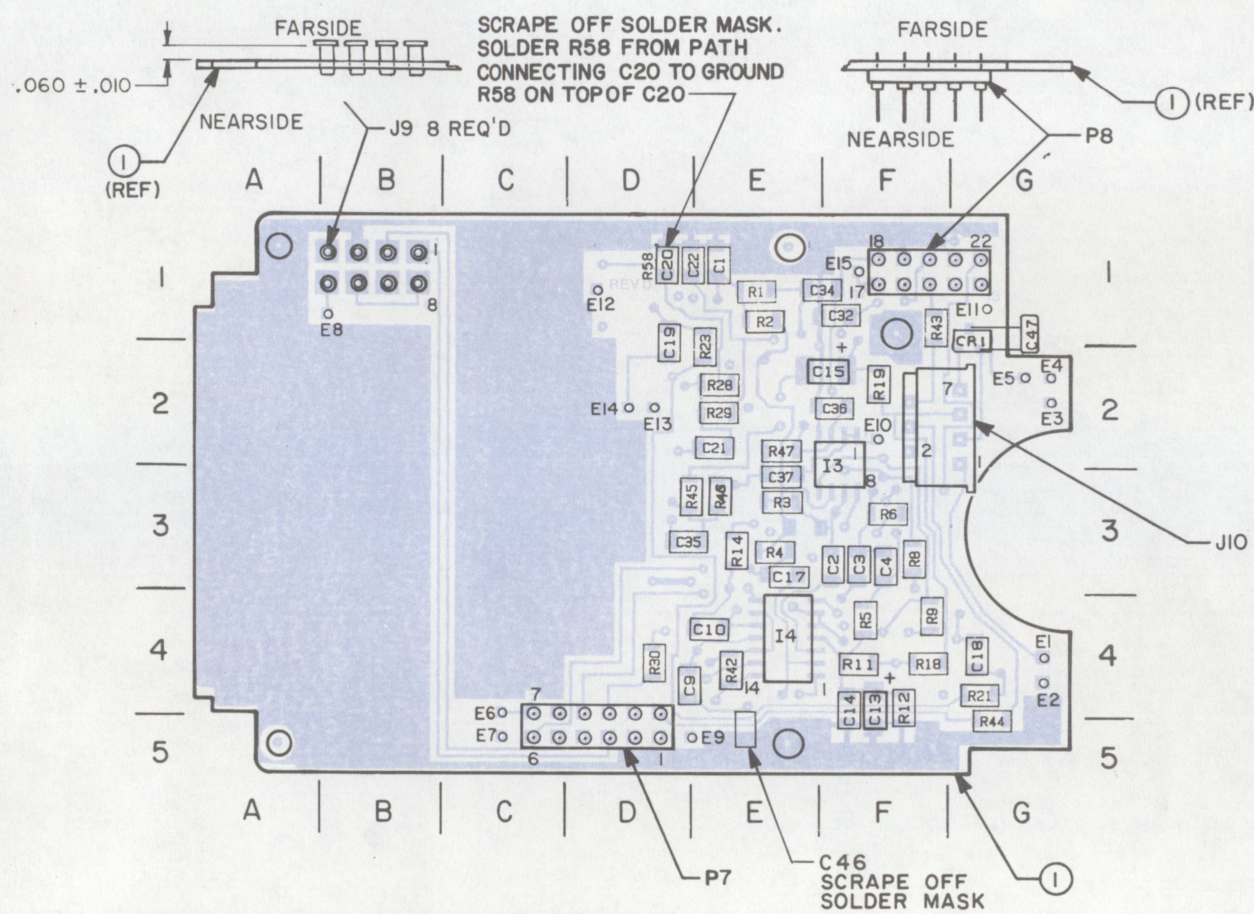


FARSIDE

NOTES:

1. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NUMBER 90. FOR EXAMPLE C34 IS 90C34.



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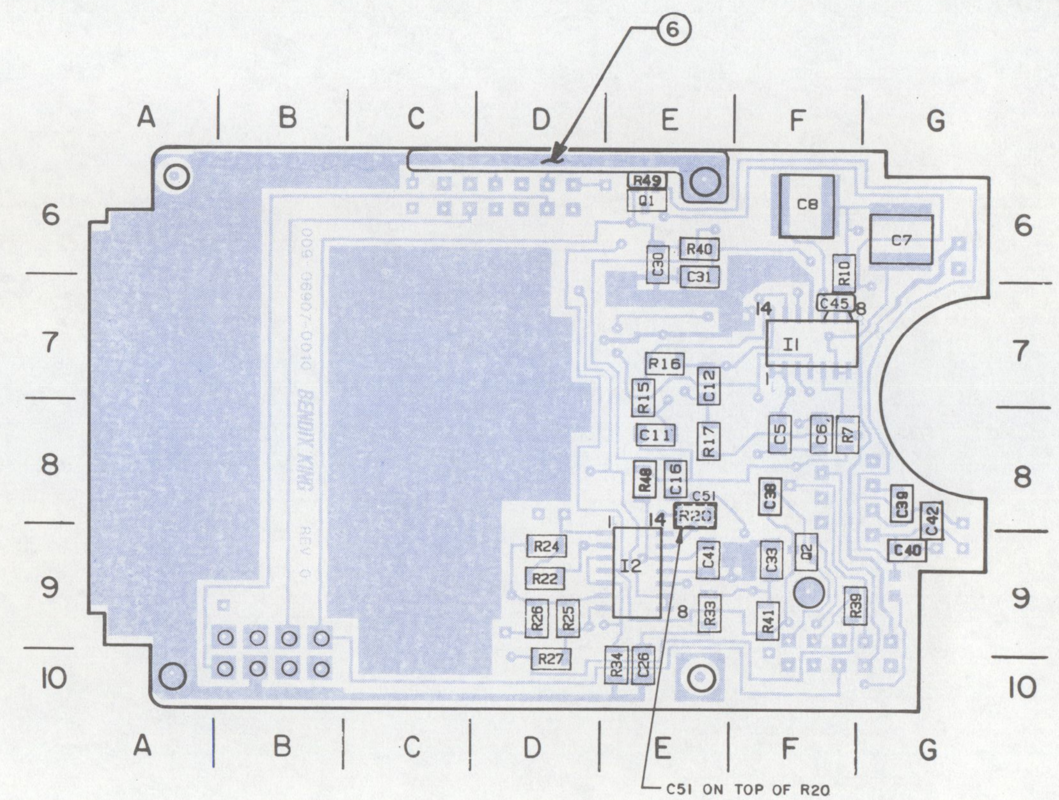
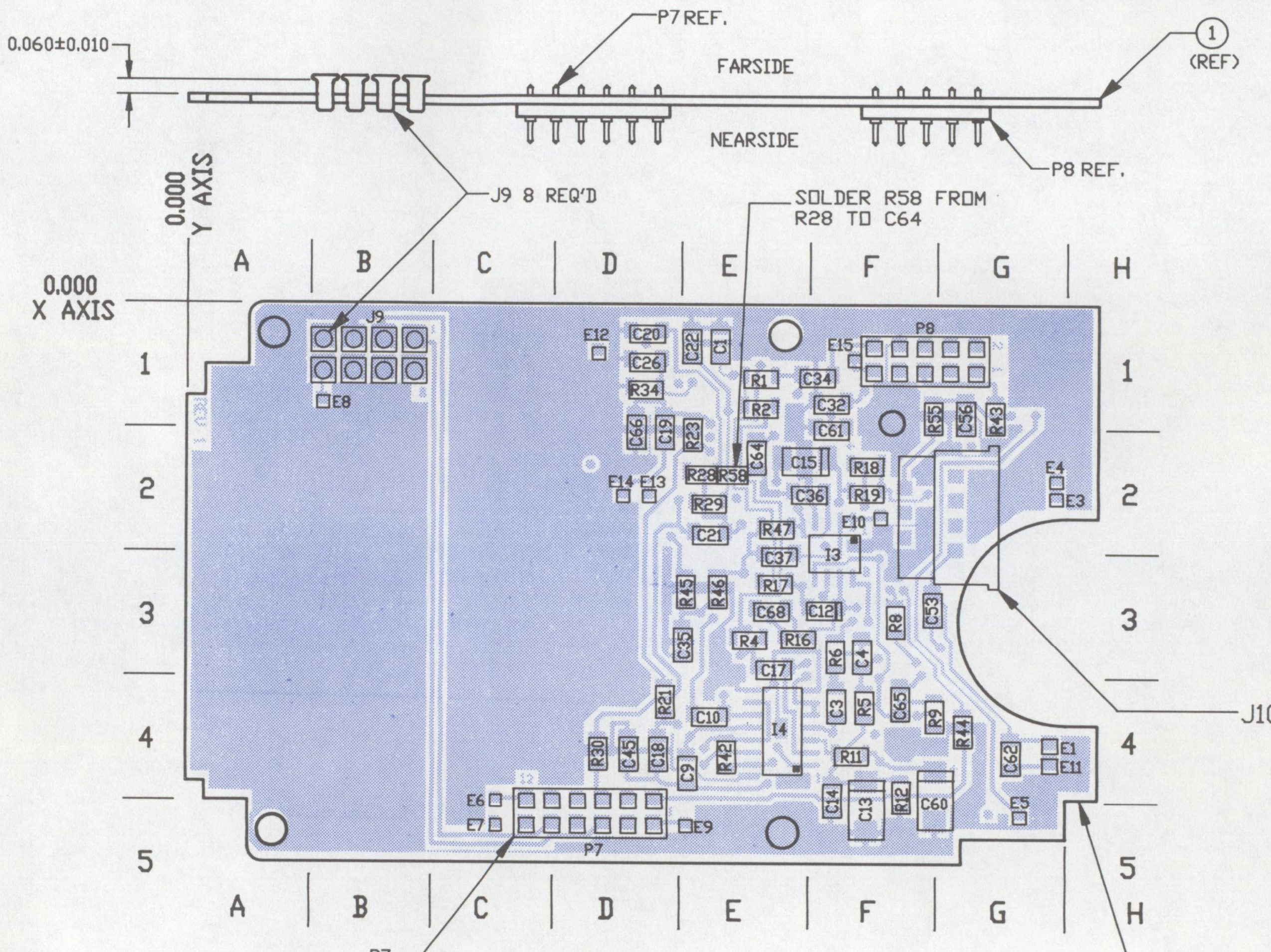


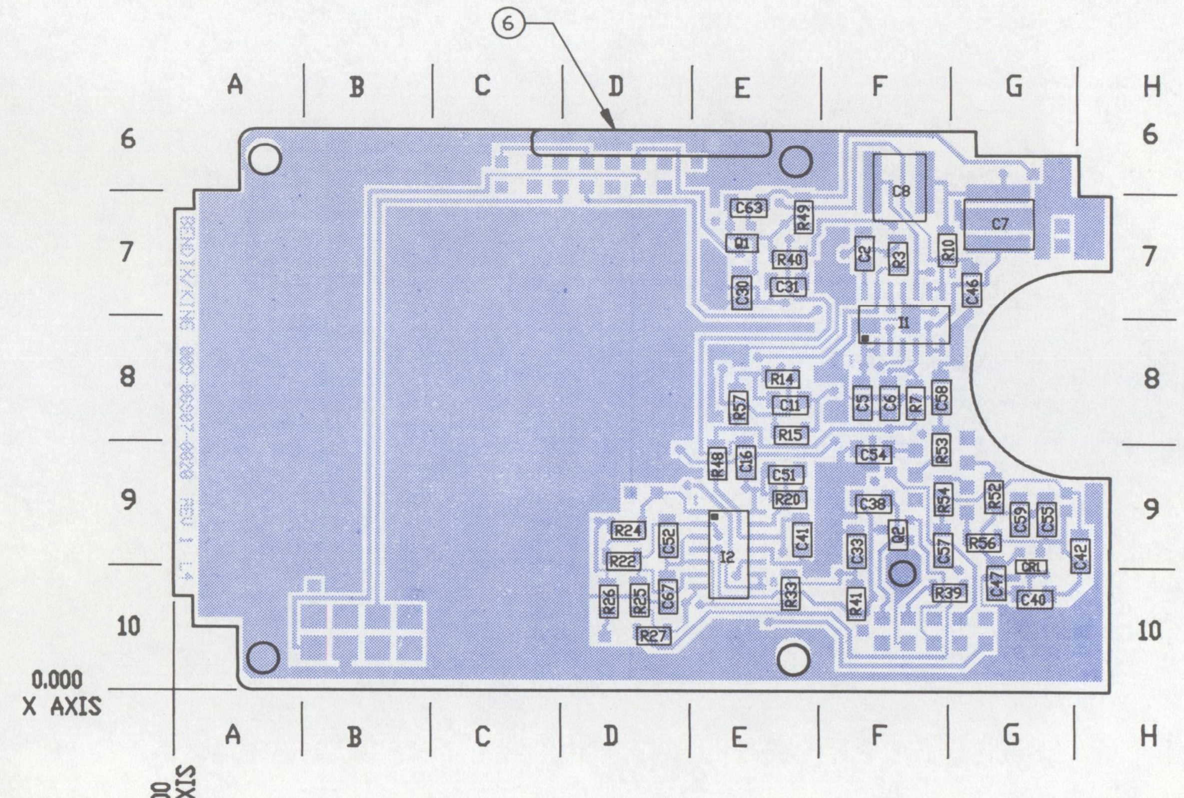
FARSIDE

NOTES:

1. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NUMBER 90. FOR EXAMPLE C34 IS 90C34.



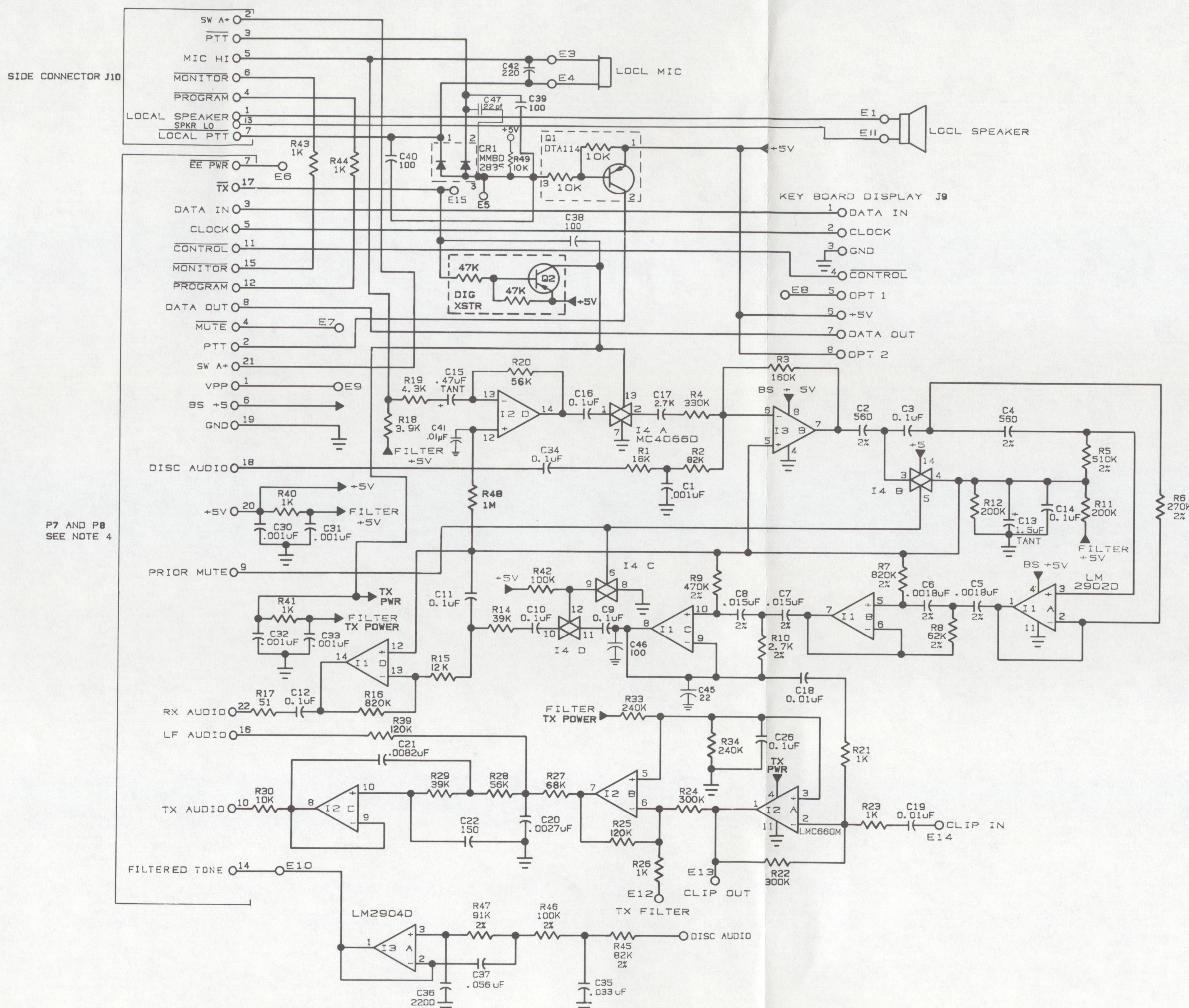
NEARSIDE



FARSIDE

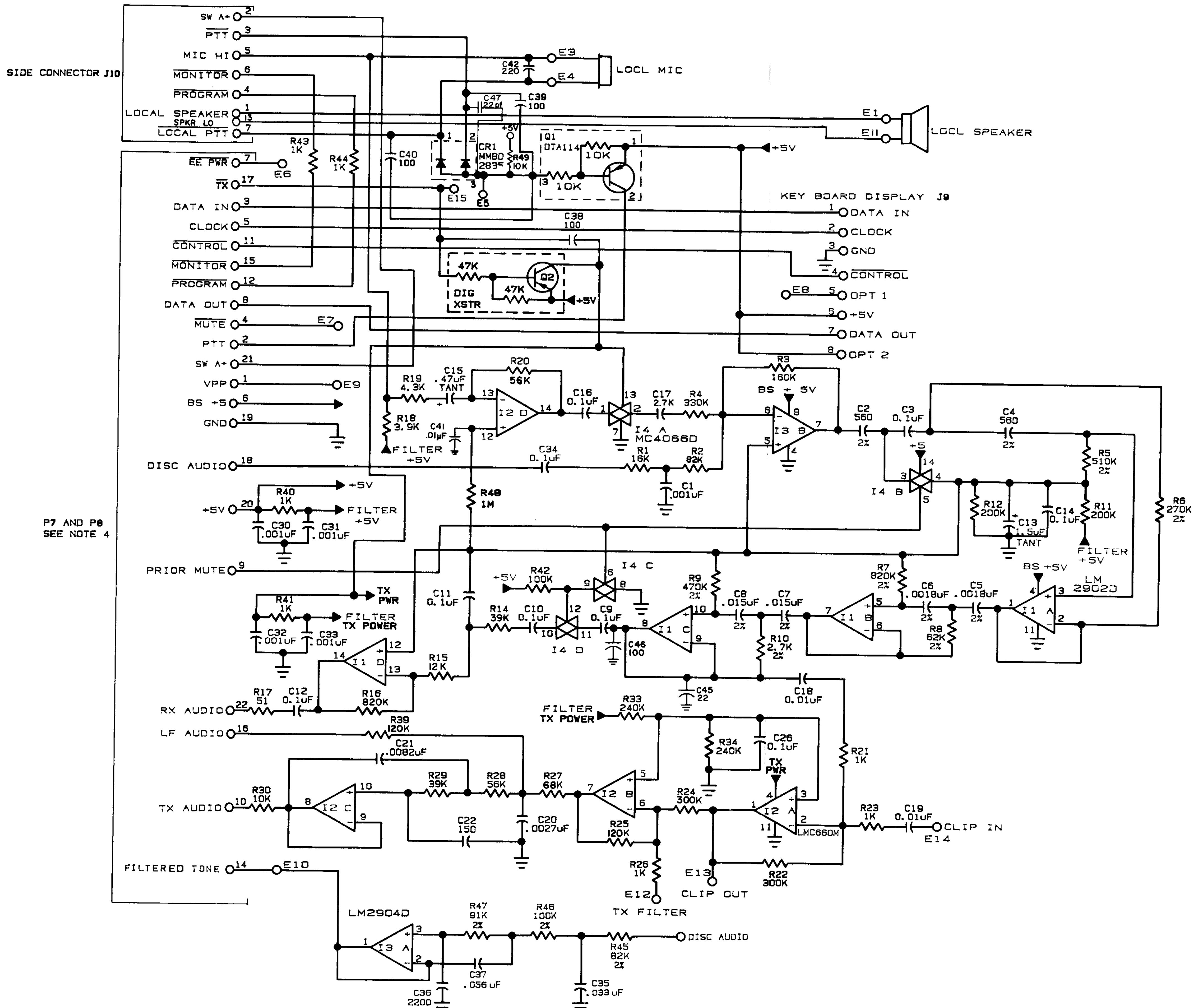
NOTES:

1. ALL REFERENCE DESIGNATORS ARE PRECEDED BY THE NUMBER 90. FOR EXAMPLE C34 IS 90C34.



NOTES: UNLESS OTHERWISE SPECIFIED

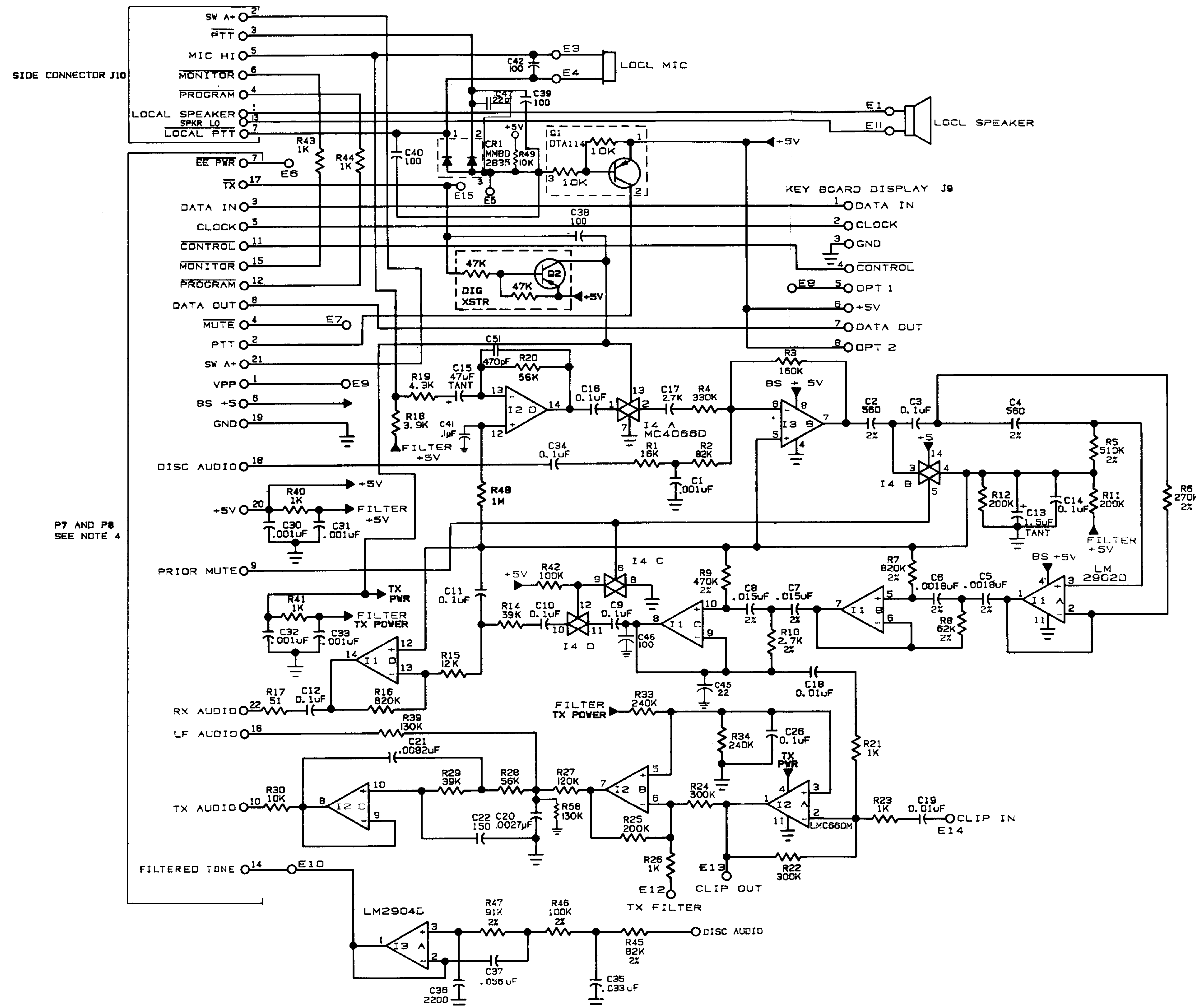
1. CAPACITOR VALUES ARE IN pF, UNLESS OTHERWISE NOTED.
2. RESISTOR VALUES ARE IN OHMS.
3. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NUMBER 90. FOR EXAMPLE C34 IS 90C34.
4. P8 CONTAINS PIN NUMBERS 13 THRU 22, P7 CONTAINS PIN NUMBERS 1 THRU 12.



NOTES: UNLESS OTHERWISE SPECIFIED

1. CAPACITOR VALUES ARE IN pF, UNLESS OTHERWISE NOTED.
2. RESISTOR VALUES ARE IN OHMS.
3. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NUMBER 90. FOR EXAMPLE C34 IS 90C34.
4. P8 CONTAINS PIN NUMBERS 13 THRU 22, P7 CONTAINS PIN NUMBERS 1 THRU 12.

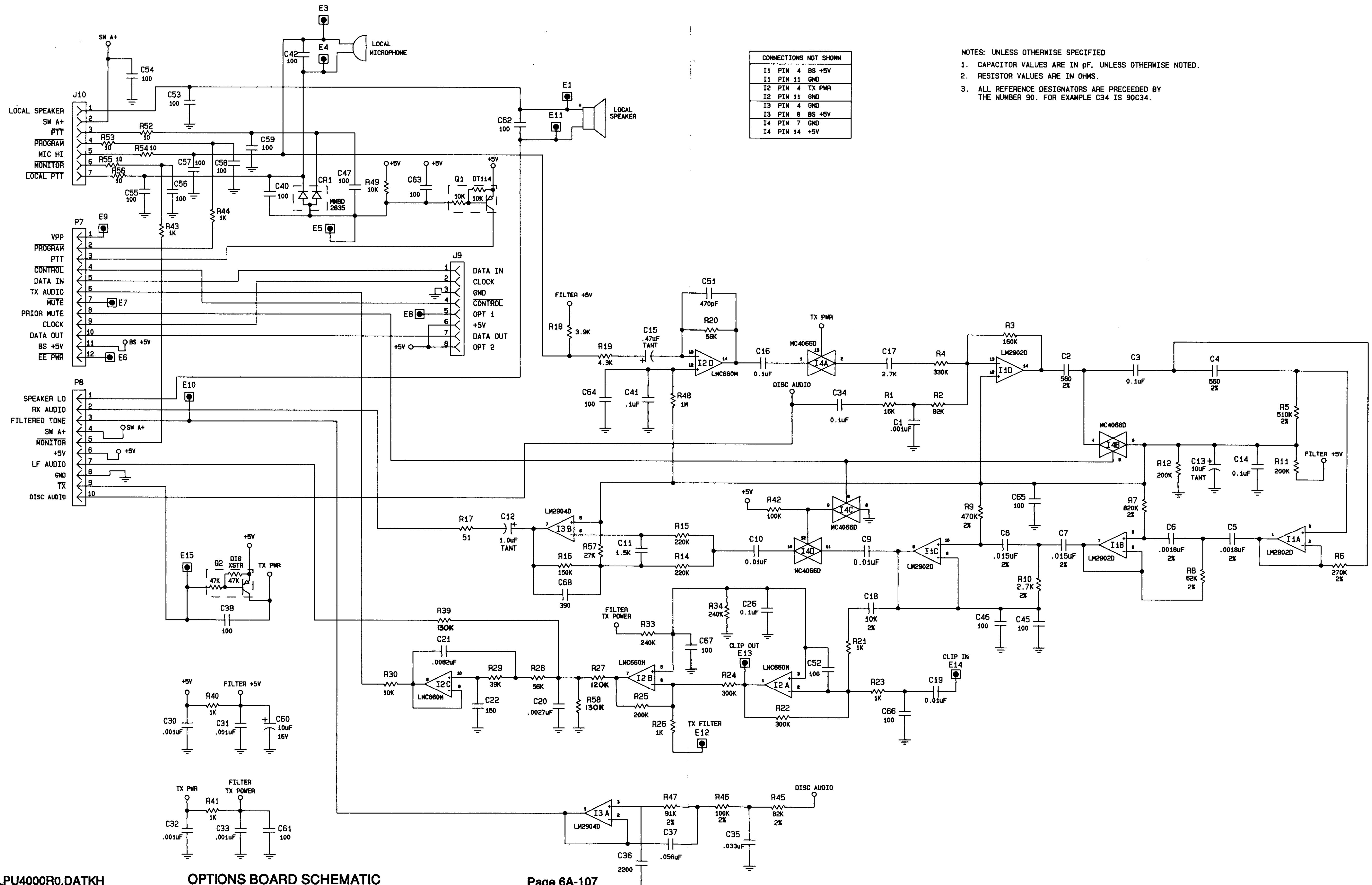
OPTIONS BOARD SCHEMATIC
002-06907-0000



NOTES: UNLESS OTHERWISE SPECIFIED

1. CAPACITOR VALUES ARE IN pF, UNLESS OTHERWISE NOTED.
2. RESISTOR VALUES ARE IN OHMS.
3. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NUMBER 90. FOR EXAMPLE C34 IS 90C34.
4. P8 CONTAINS PIN NUMBERS 13 THRU 22, P7 CONTAINS PIN NUMBERS 1 THRU 12.

OPTIONS BOARD SCHEMATIC
002-06907-0010



CONNECTIONS NOT SHOWN		
I1 PIN 4	BS +5V	
I1 PIN 11	GND	
I2 PIN 4	TX PWR	
I2 PIN 11	GND	
I3 PIN 4	GND	
I3 PIN 8	BS +5V	
I4 PIN 7	GND	
I4 PIN 14	+5V	

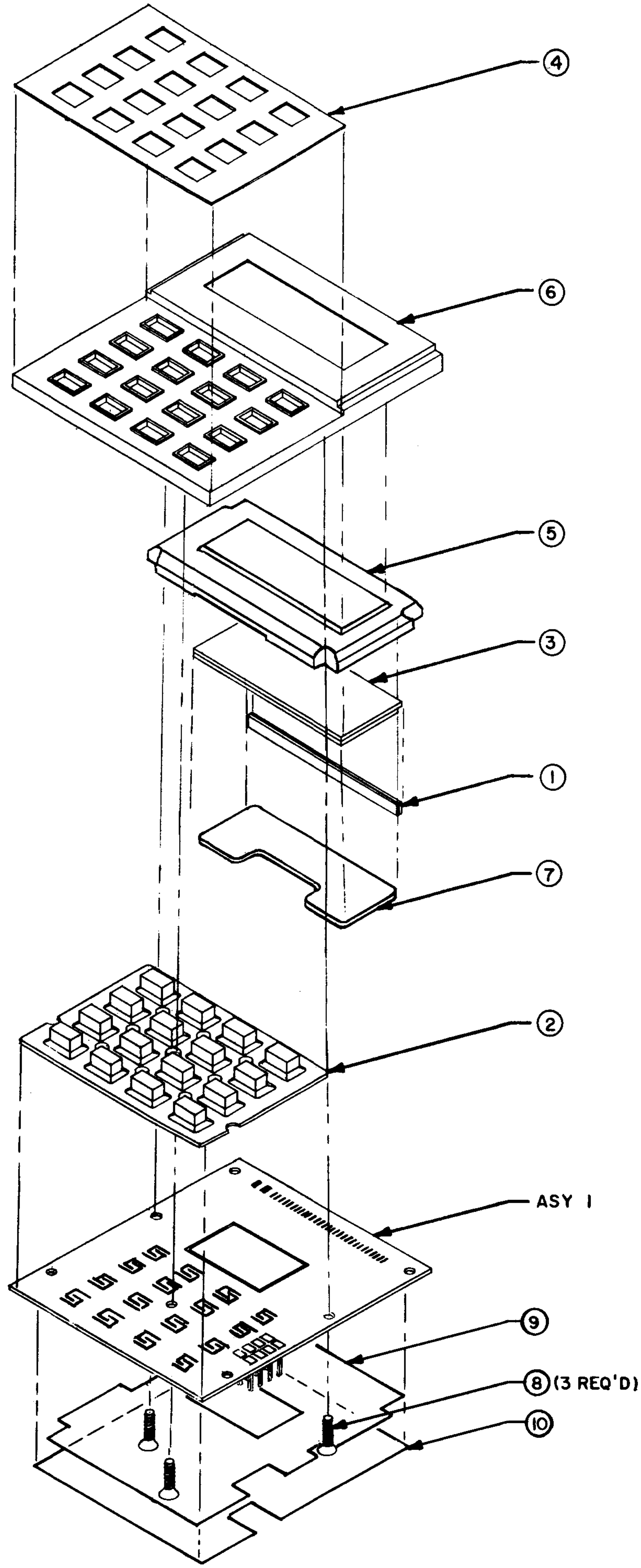
NOTES: UNLESS OTHERWISE SPECIFIED

1. CAPACITOR VALUES ARE IN pF, UNLESS OTHERWISE NOTED.
2. RESISTOR VALUES ARE IN OHMS.
3. ALL REFERENCE DESIGNATORS ARE PRECEEDED BY THE NUMBER 90. FOR EXAMPLE C34 IS 90C34.

KEYBOARD / DISPLAY ASSEMBLY

200-03223-0005 LPU
200-03223-0013 LQH 5143B

SYMBOL	PART NUMBER	DESCRIPTION	A	UM	QUANTITY 0005	0013
ASY 1	200-06878-0001	KYBD/DSPL BD TONE	A	EA	1.00	.
ASY 1	200-06878-0013	FM KYBD/DSPL BD	A	EA	.	1.00
ITM 1	030-03025-0000	LCD CONNECTOR		EA	1.00	1.00
ITM 2	031-00472-0005	KEYPAD BLK	A	EA	1.00	1.00
ITM 3	043-00011-0002	LAND MOBILE LCD		EA	1.00	1.00
ITM 4	057-02846-0000	OVERLAY KYBD BLK		EA	1.00	1.00
ITM 5	088-02074-0000	DISPLAY LENS		EA	1.00	1.00
ITM 6	088-02079-0000	KEYBD DSPLY INSERT	A	EA	.	1.00
ITM 6	088-02079-0010	KYBD DISP MOD	A	EA	1.00	.
ITM 7	187-01325-0000	DISPLAY SPACER		EA	1.00	1.00
ITM 8	089-06297-0003	SCR 2-56X3/16 FH		EA	3.00	3.00
ITM 9	012-01463-0000	INSUL KYBD		EA	1.00	.
ITM 10	047-09106-0000	SHIELD FOIL TAPE		EA	1.00	.
REF 1	300-03223-0000	KBD/DSPLY ASSY		RF	X.	.
REF 1	300-03223-0013	FM KBD/DSPL ASSY		RF	.	X.

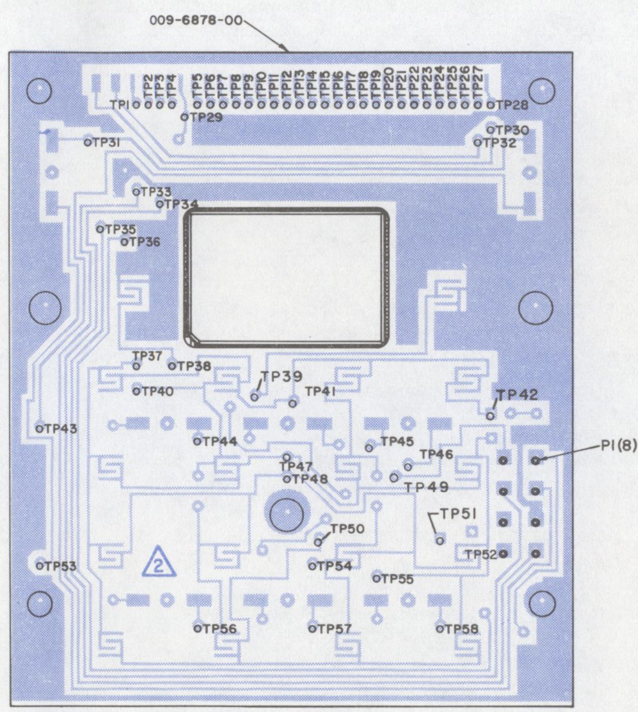

4
6
5
3
1
7
2
ASY 1
9
8 (3 REQ'D)
10

BENDIX/KING

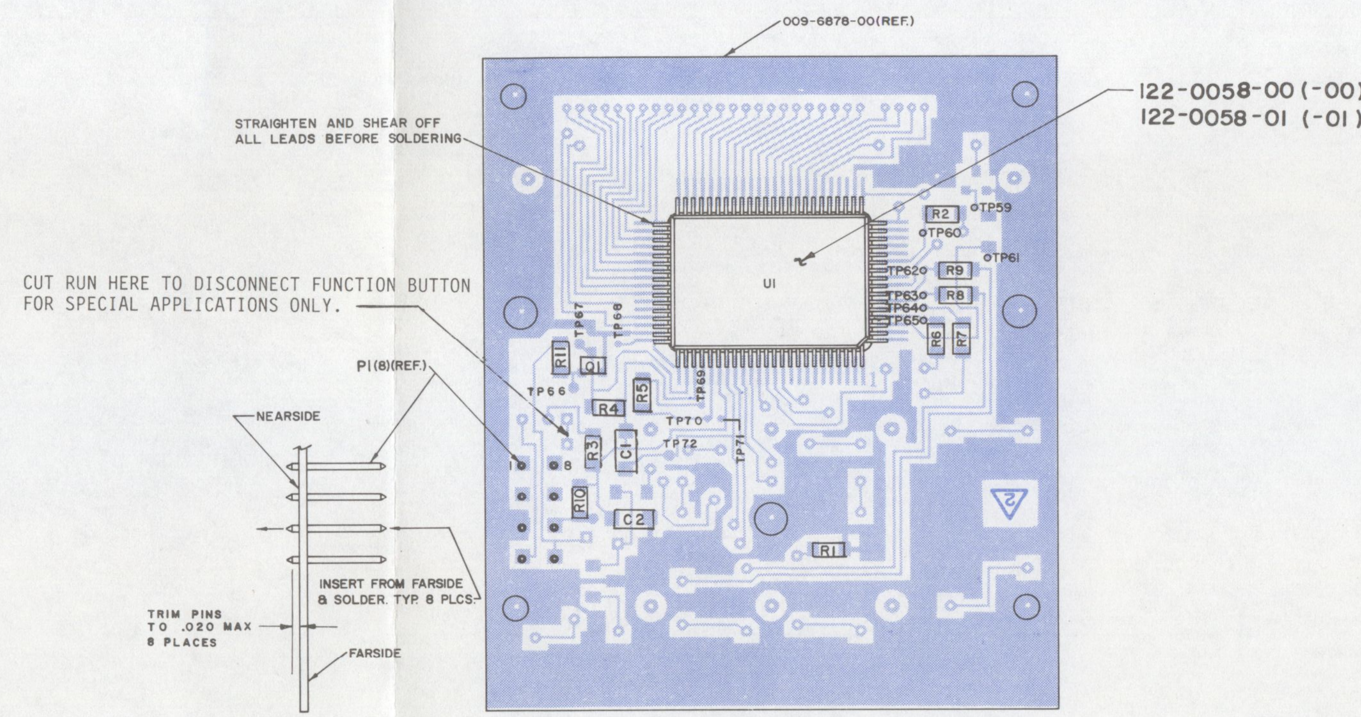
LPU SERIES
UHF FM COMM TRANSCEIVERS
KEYBOARD / DISPLAY P.C. ASSEMBLY

200-06878-0001	LPH 0514	
200-06878-0013	LQH 5142B	
200-06878-0098	COMMON BOM	LQH
200-06878-0099	COMMON BOM	LPH

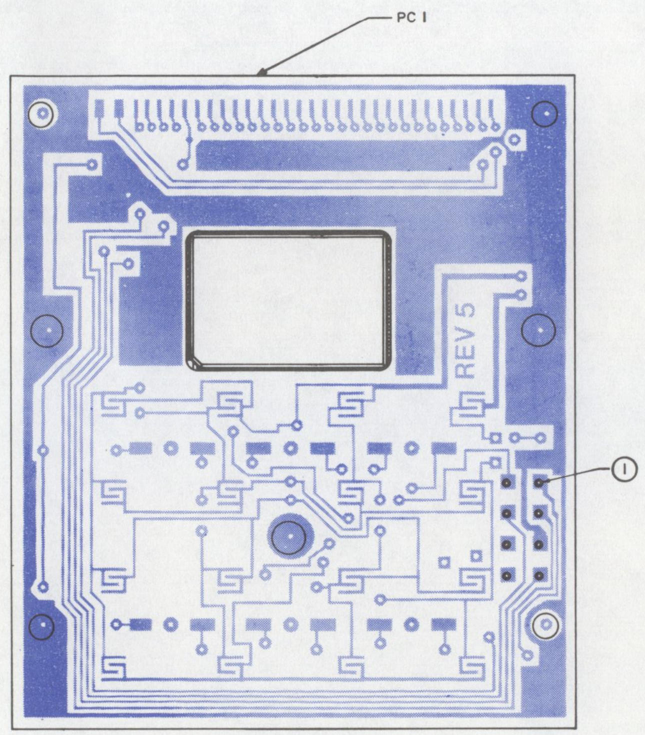
SYMBOL		PART NUMBER	DESCRIPTION	A	UM	QUANTITY			
						0001	0013	0098	0099
		200-06878-0098	KYBD/DSPL BD	A	EA	.	1.00	.	.
		200-06878-0099	KYBD/DSPLY BD	A	EA	1.00	.	.	.
C	1	106-04104-0047	CH 100KX7R/50V		EA	.	.	1.00	1.00
C	2	106-04104-0047	CH 100KX7R/50V		EA	.	.	1.00	1.00
CJ	1	130-05000-0025	RES CHIP 0 EW CJ		EA	1.00	1.00	.	.
I	1	122-00058-0001	LMR/KYBD/DSPL/PROC	A	EA	1.00	1.00	.	.
ITM	1	030-02174-0004	PIN CONTACT		EA	.	.	8.00	8.00
PC	1	009-06878-0011	PCBD KYBD/DSPL		EA	.	.	1.00	1.00
Q	1	007-00530-0000	XSTR NPN MMBT3903	A	EA	.	.	1.00	1.00
R	1	130-05103-0023	RES CH 10K EW 5%		EA	.	.	1.00	1.00
R	2	130-05202-0023	RES CHIP 2K5%EW		EA	.	.	1.00	1.00
R	3	130-05103-0023	RES CH 10K EW 5%		EA	.	.	1.00	1.00
R	4	130-05103-0023	RES CH 10K EW 5%		EA	.	.	1.00	1.00
R	5	130-05104-0023	RES CH 100K EW 5%		EA	.	.	1.00	1.00
R	6	130-05202-0023	RES CHIP 2K5%EW		EA	.	.	1.00	1.00
R	7	130-05202-0023	RES CHIP 2K5%EW		EA	.	.	1.00	1.00
R	8	130-05202-0023	RES CHIP 2K5%EW		EA	.	.	1.00	1.00
R	9	130-05202-0023	RES CHIP 2K5%EW		EA	.	.	1.00	1.00
R	10	130-05101-0023	RES CH 100 EW 5%		EA	.	.	1.00	1.00
R	11	130-05203-0023	RES CHIP 20K EW 5%		EA	.	.	1.00	1.00
REF	1	300-06878-0010	KYBD/DSPLY BD ASSY		RF	.	.	.	X.
REF	1	300-06878-0013	FM KYBD/DSPL BD		RF	.	.	X.	.
REF	2	002-06878-0010	SCH KYBD DSPL		RF	.	.	.	X.
REF	2	002-06878-0013	SCH FM KYBD DSPL		RF	.	.	X.	.



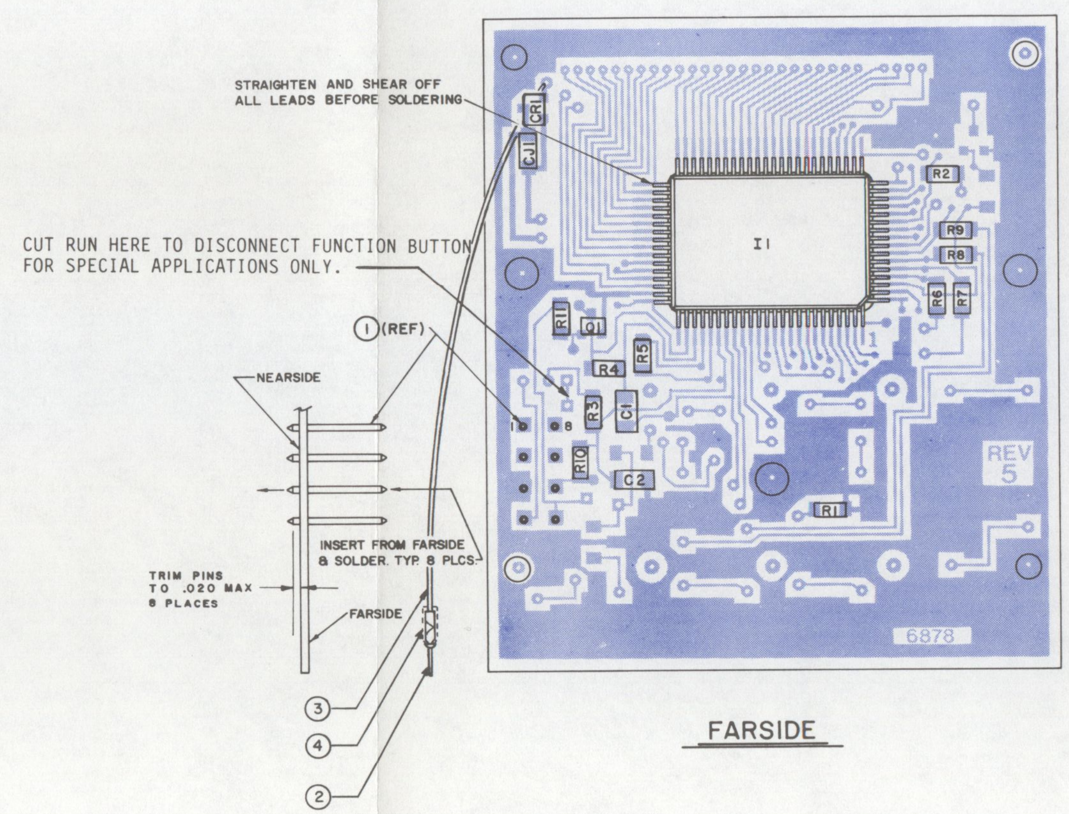
NEARSIDE



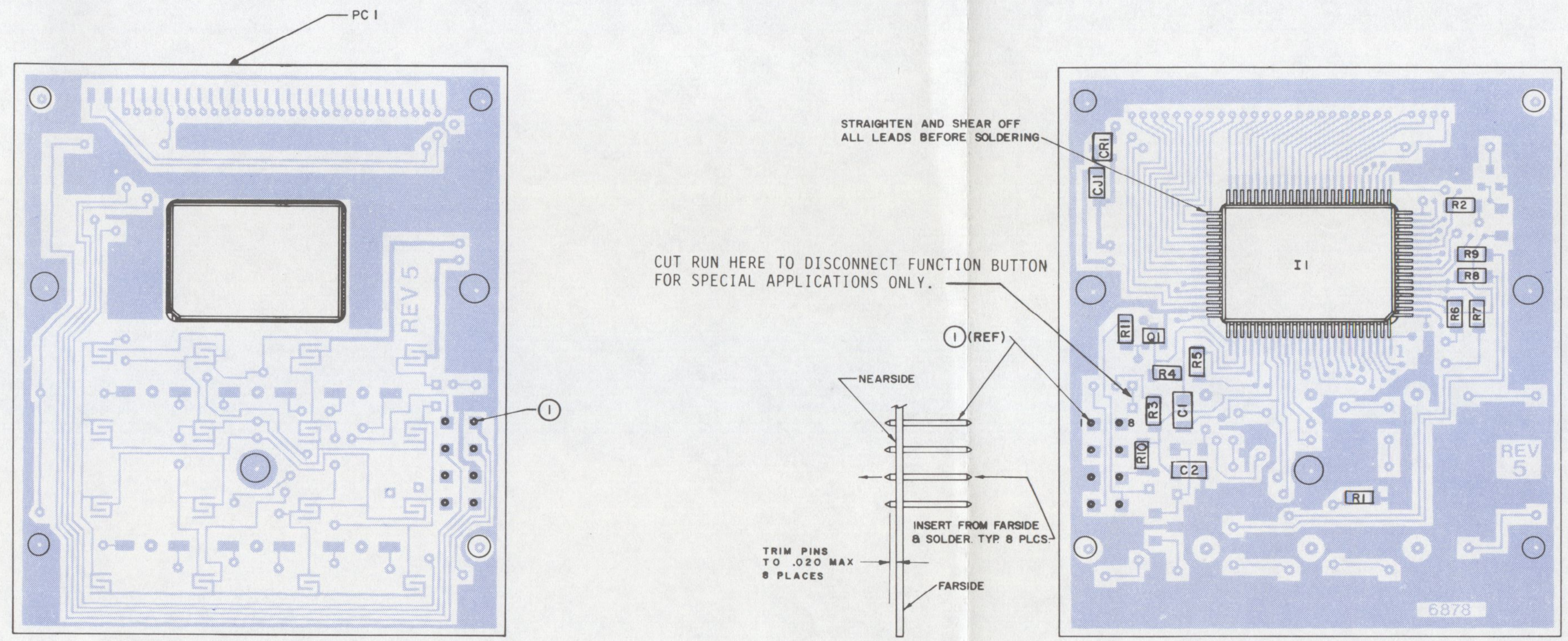
FARSIDE



NEARSIDE

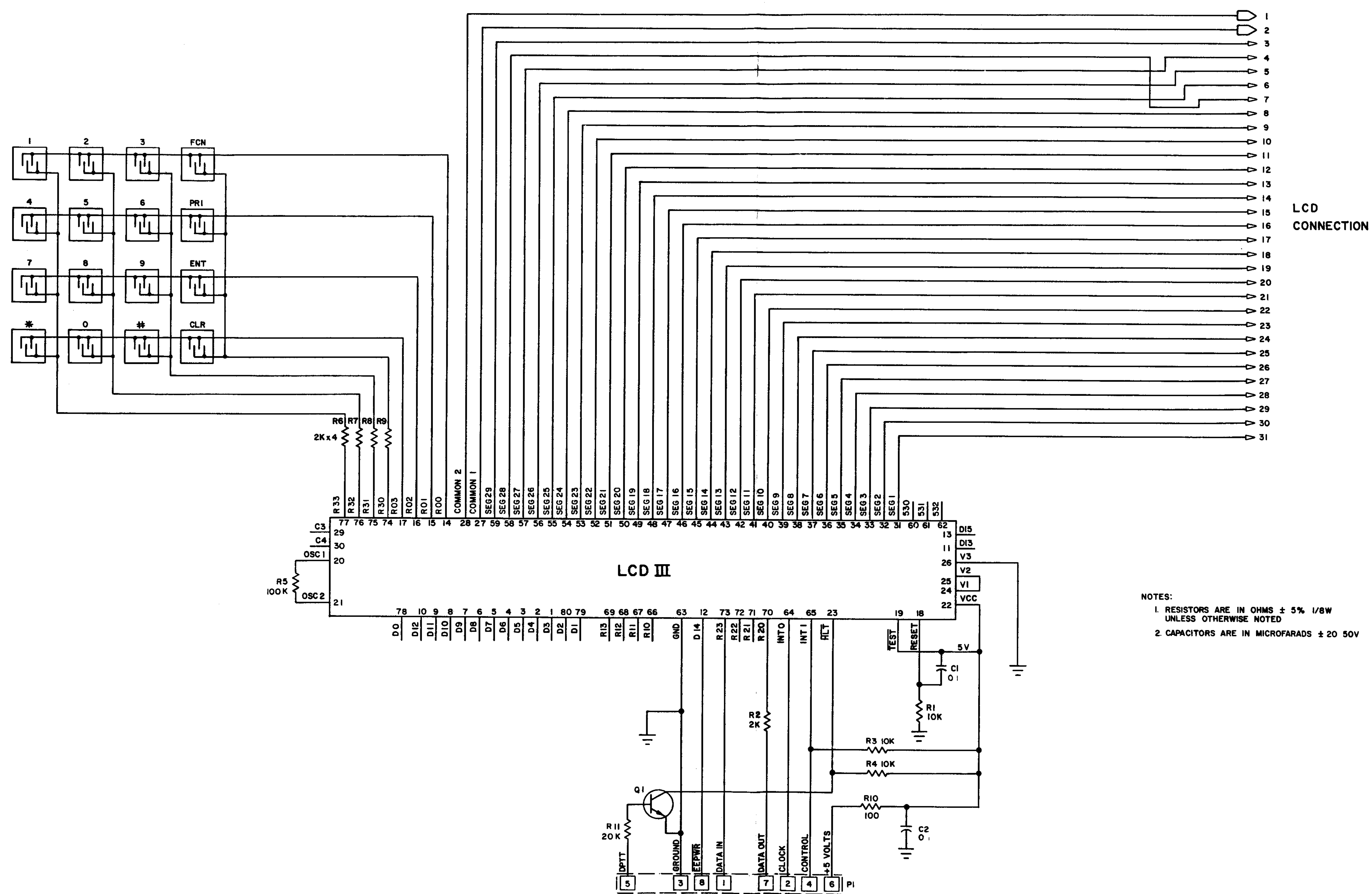


FARSIDE



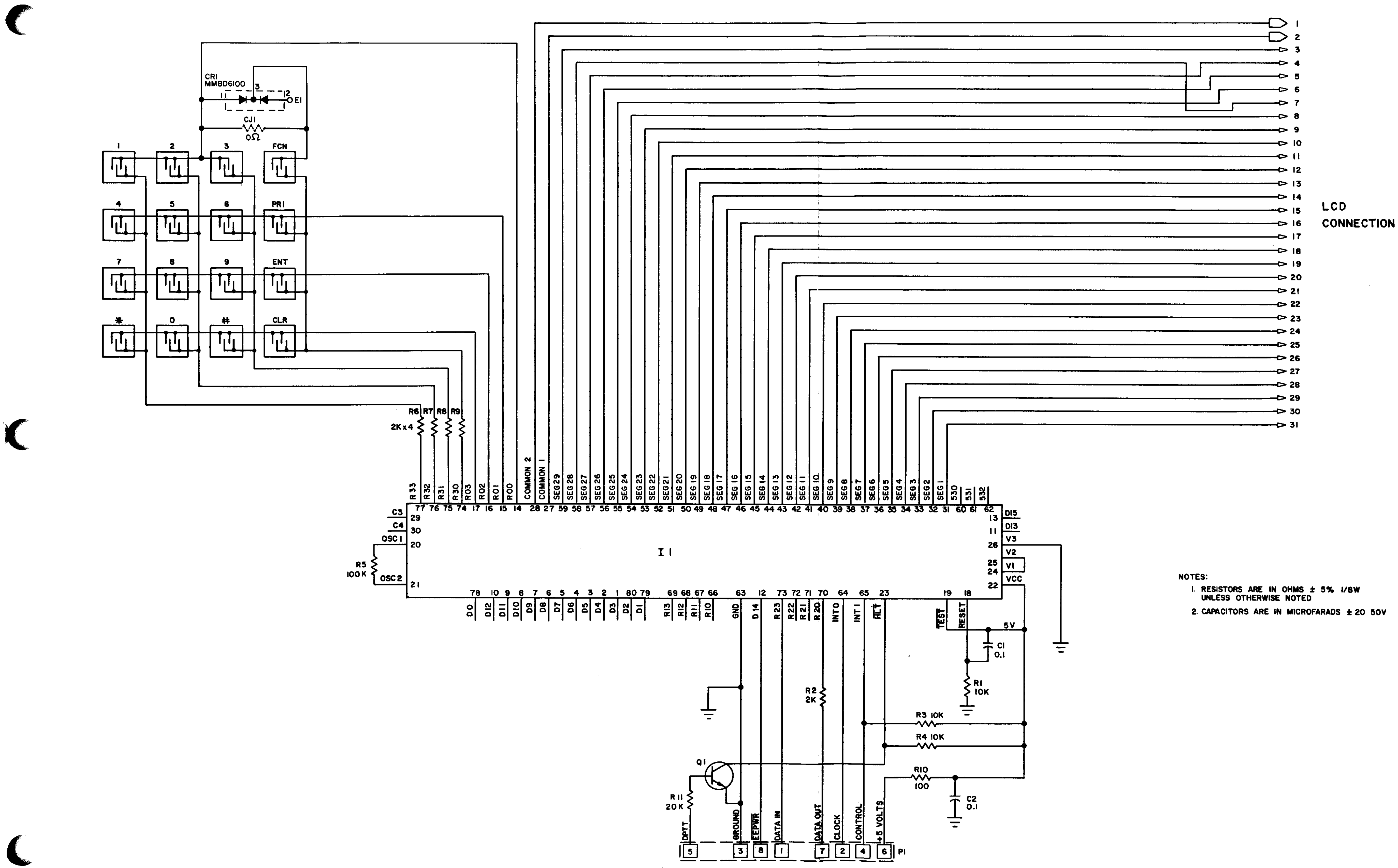
NEARSIDE

FARSIDE



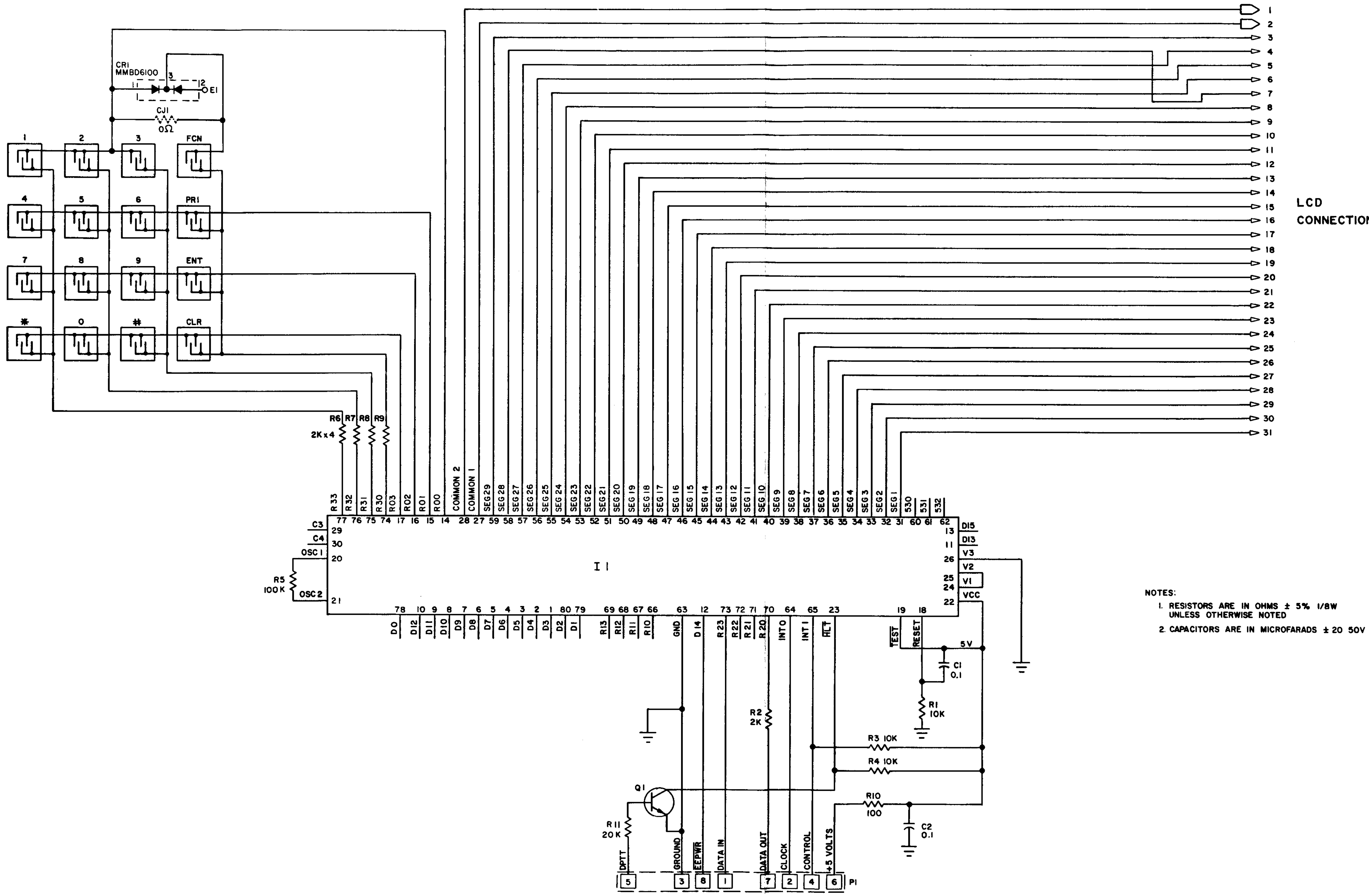
NOTES:

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



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

KEYBOARD / DISPLAY SCHEMATIC
002-06878-0010



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

APPENDIX A

INTEGRATED CIRCUIT DATA

1. INTRODUCTION

This appendix contains descriptions of certain integrated circuits as an aid to understanding the operation of this equipment. Detailed information on IC's containing basic logic elements, op-amps, and other simple circuits are not included in this appendix as their theory of operation is summarized below and the operation of such circuits within this equipment may be readily understood from a review of this summary and the schematic diagrams included in Section VI of this manual.

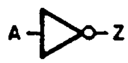
2. BASIC LOGIC ELEMENTS

BUFFER

$Z = A$

A	Z
0	0
1	1

INVERTER



$Z = \overline{A}$

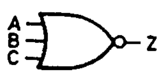
A	Z
0	1
1	0

OR GATE

$Z = A+B+C$

A	B	C	Z
0	0	0	0
1	0	0	1
0	1	0	1
0	0	1	1
1	1	0	1
1	0	1	1
0	1	1	1
1	1	1	1

NOR GATE



$Z = \overline{A+B+C}$

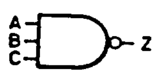
A	B	C	Z
0	0	0	1
1	0	0	0
0	1	0	0
0	0	1	0
1	1	0	0
1	0	1	0
0	1	1	0
1	1	1	0

AND GATE

$Z = ABC$

A	B	C	Z
0	0	0	0
1	0	0	0
0	1	0	0
0	0	1	0
1	1	0	0
1	0	1	0
0	1	1	0
1	1	1	1

NAND GATE



$Z = \overline{ABC}$

A	B	C	Z
0	0	0	1
1	0	0	1
0	1	0	1
0	0	1	1
1	1	0	1
1	0	1	1
0	1	1	1
1	1	1	0

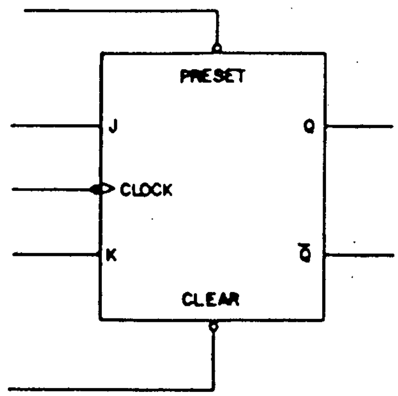
EXCLUSIVE OR GATE

$Z = A \oplus B$

A	B	Z
0	0	0
1	0	1
0	1	1
1	1	0

J K FLIP-FLOP

The flip-flop logic element is the basic data storage element of digital logic. It has two outputs that are always at opposite logic levels. That is, when one output is HI the other is LO. The flip-flop will remain in a particular state until that state is changed by an input signal.



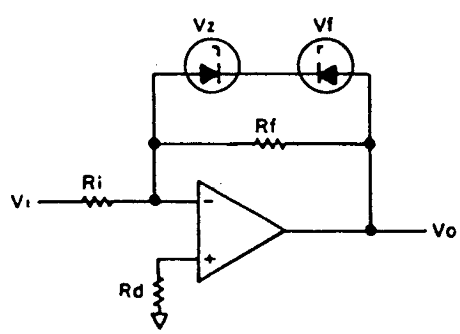
J	K	Q $\overline{Q}$
L	L	Qo $\overline{Qo}$
H	L	H L
L	H	L H
H	H	Toggle

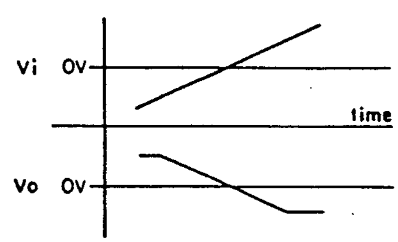
3. BASIC OP-AMP CIRCUITS

LIMITER

An output voltage may be limited to certain levels by selection appropriate zener diodes and placing them in parallel with the feedback resistor. Voltage limiting can be accomplished in both directions in this manner.

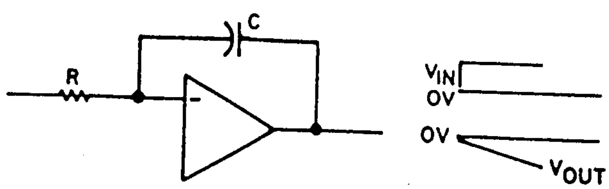
Vo (max) = Vz + Vf





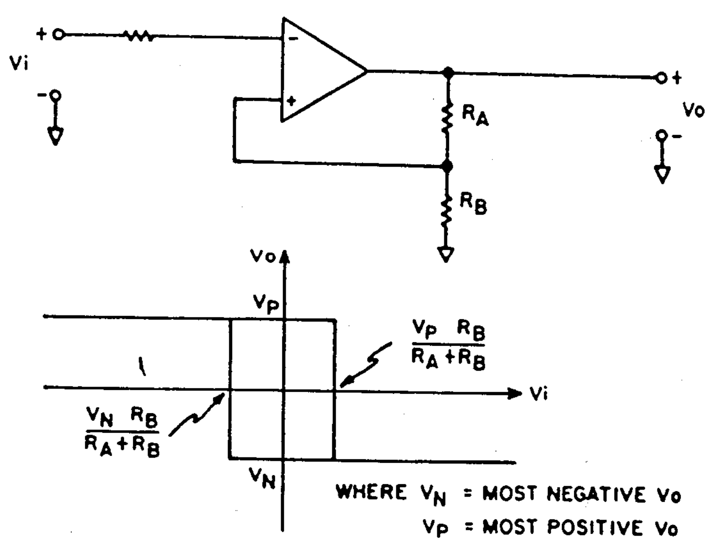
INTEGRATOR

An op-amp in which the only feedback element is a capacitor. The output of an integrator is a ramp, the slope of which is determined by the amplitude of the steady state input and the RC time constant.



ZERO CROSSING DETECTOR

The positive feed back path causes the output voltage to drive to the saturation potential of opposite polarity as the input voltage. Ideally, the output switches from one saturation level to the opposite saturation level as the input voltage passes through zero. Noise immunity demands the addition of R_B which requires that the input reach a certain magnitude after passing zero before the output will switch.

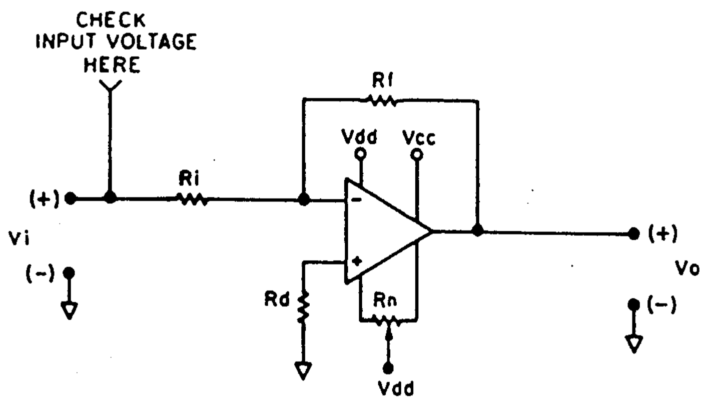


INVERTING OP-AMP AMPLIFIER

A voltage applied at the inverting (-) input will cause an output voltage (Vo) of opposite polarity as the applied voltage. The relationship of the input and output voltages is shown in the following equations:

$Vo = (Rf/Ri)\ Vi$ GAIN $= -(Rf/Ri)$

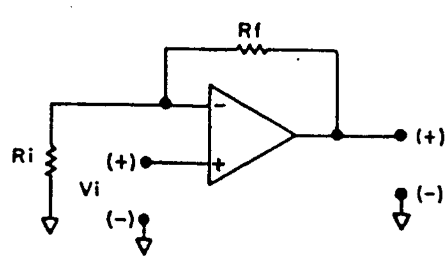
From the above equation, a zero input voltage should give a zero output if Rn has been adjusted to the null of the amplifier.



NON-INVERTING OP-AMP AMPLIFIER

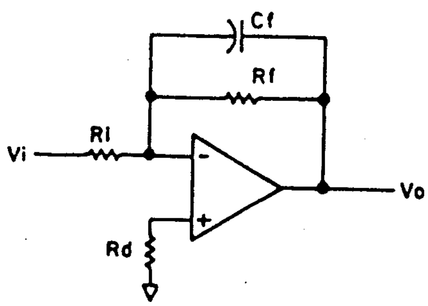
A voltage applied at the non-inverting (+) input will cause an output voltage (Vo) of the same polarity as the applied voltage. The relationship of the input and output voltages is shown in the following equations:

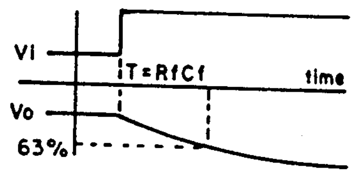
$Vo = [1 + (Rf/Ri)]\ Vi$ GAIN $= 1 + (Rf/Ri)$



LOW PASS FILTER

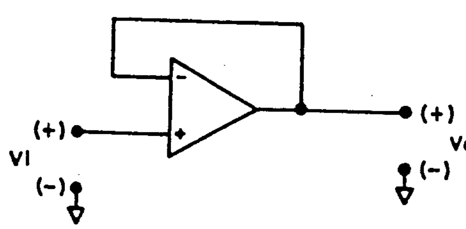
The low pass filter is a variation of an inverting op-amp circuit. The addition of capacitor Cf to the feedback network around the amplifier provides low pass filtering to the input voltage. The expression T = RfCf gives the time required for Vo to reach 63% of the final value.





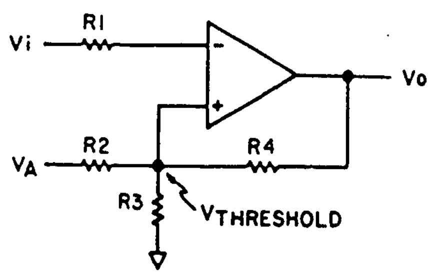
VOLTAGE FOLLOWER AMPLIFIER

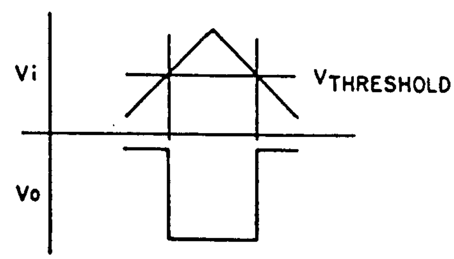
This configuration is a special case of the non-inverting amplifier previously discussed, with Rf equal to zero. Therefore the relationship of the input and output voltage reduces to Vo = Vi, or unity gain. It is used to provide high input impedance and buffering action.



THRESHOLD DETECTOR

Treshold detectors use positive feedback to toggle the op-amp output when the input voltage (Vi) is above or below a voltage level (V threshold) set by R2 and R3. R4 provides the positive feedback required for a clean switch from one saturation level to another. The voltage polarity (V_A) determines the initial output state of the amplifier and the polarity of the threshold being detected.

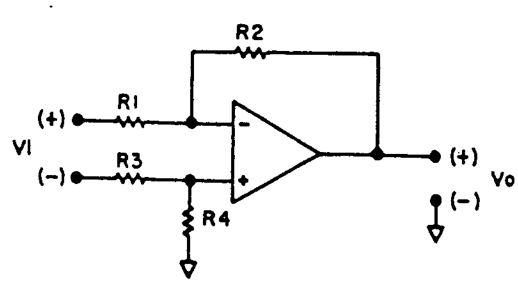




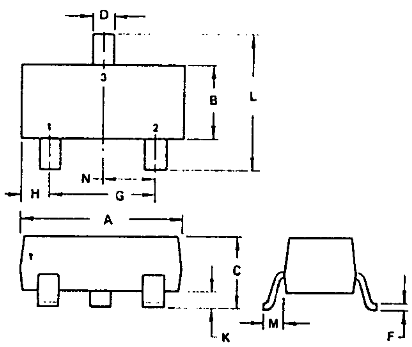
DIFFERENTIAL AMPLIFIER

The principal use of the differential amplifier is to translate signals, from sources referenced to some level other than signal ground, to signals referenced to signal ground. The relationship of the input and output voltages is shown in the following equations:

Vo = -(Rf/Ri) Vi, if R1 = R3 and R2 = R4 GAIN = -(Rf/Ri)



Package Dimensions

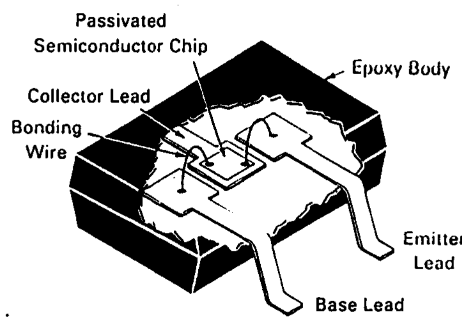


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.

DIM	MILLIMETERS MIN	MILLIMETERS MAX	INCHES MIN	INCHES MAX
A	2.80	3.04	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	0.89	1.04	0.035	0.0412
D	0.37	0.46	0.015	0.0177
F	0.085	0.13	0.0034	0.0051
G	1.78	2.04	0.0701	0.0807
H	0.51	0.60	0.020	0.0236
K	0.013	0.10	0.0005	0.0040
L	2.10	2.50	0.083	0.0984
M	0.45	0.60	0.018	0.0236
N	0.89	1.02	0.035	0.0401

SOT-23
CASE 318-03
TO-236AB
Low Profile

SOT-23 Internal Construction
(Maximum die size 30 mil × 30 mil)

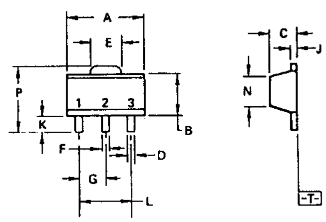


TRANSISTOR (SOT-23 Package)

Pin Configuration: 1. Base/Gate 2. Emitter/Source 3.Collector/Drain

KING PART NUMBER	DEVICE	MARKING	DESCRIPTION
007-0187-02	MMBT5089	1R	NPN
007-0529-00	MMBTH24	3A	NPN
007-0530-00	MMBT3903	1Y	NPN
007-535-00	MMF4393	6G	FET
007-0536-00	MMBR920	7B	NPN
007-0537-00	MMBT5089	2Q	PNP
007-0813-00	MMBTA14	1N	NPN DARLINGTON
007-0815-00	MMBFU310	6C	FET
007-0821-00	MMBR901	7A	NPN
007-0822-00	MMBR930	7C	NPN

PACKAGE DIMENSIONS

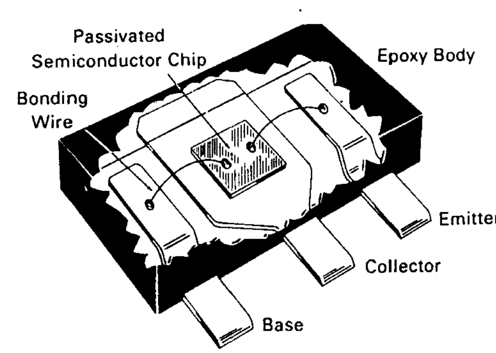


NOTES:
1. DIMENSION A AND DIMENSION B ARE DATUMS.
2. -T- IS SEATING PLANE.
3. POSITIONAL TOLERANCES FOR LEADS:
   ⌖ | 0.10 (0.004) Ⓜ | T | B Ⓢ | A Ⓢ
4. DIMENSIONING AND TOLERANCING PER ANSI Y14.5, 1973.
5. CONTROLLING DIM: MILLIMETERS.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.40	4.60	0.174	0.181
B	2.29	2.60	0.091	0.102
C	1.40	1.60	0.056	0.062
D	0.36	0.48	0.015	0.018
E	1.62	1.80	0.064	0.070
F	0.44	0.53	0.018	0.020
G	1.50 BSC		0.059 BSC	
J	0.35	0.44	0.014	0.017
K	0.80	1.04	0.032	0.040
L	3.00 BSC		0.118 BSC	
N	2.04	2.28	0.081	0.089
P	3.94	4.25	0.156	0.167

SOT-89
CASE 345-01

SOT-89 Internal Construction
(Maximum die size 60 mil × 60 mil)

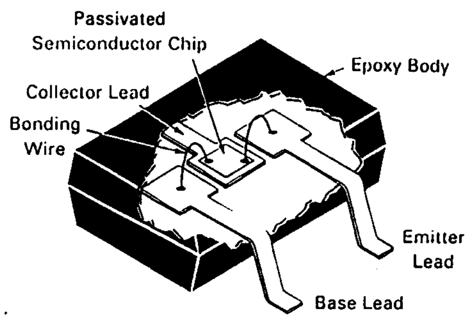


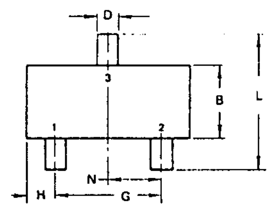
TRANSISTOR (SOT-89 Package)

Pin Configuration 1. Base 2. Emitter 3. Collector

KING PART NUMBER	DEVICE	MARKING	DESCRIPTION
007-0900-00	BCX69	BCX	PNP

SOT-23 Internal Construction
(Maximum die size 30 mil × 30 mil)





DIODE (SOT-23 Package)

Pin Configuration 1. Anode 2. No connection 3. Cathode

KING PART NUMBER	DEVICE	MARKING	DESCRIPTION
007-4057-00	MMBV105G	4E	TUNING
007-4064-00	SMBV1075LTI	KV	VARICAP
007-5117-07	MMBZ5234	8J	6.2V ZENER
007-6178-00	MMBV3401	4D	PIN
007-6180-00	MMBD6050	5A	SWITCHING
007-6188-00	MMBD101	4M	HOT CARRIER

DIODE (SOT-23 Package)

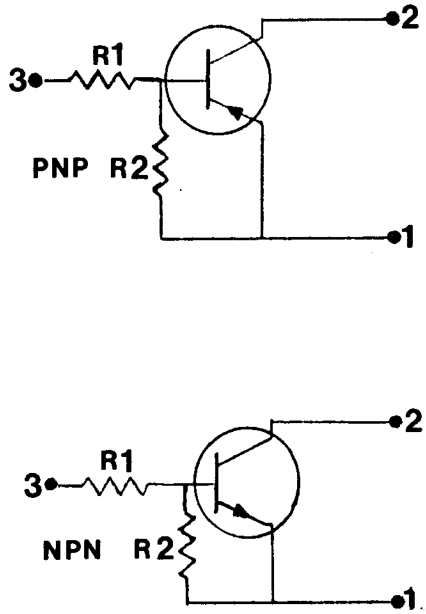
Pin Configuration 1. Anode 2. Anode 3. Cathode

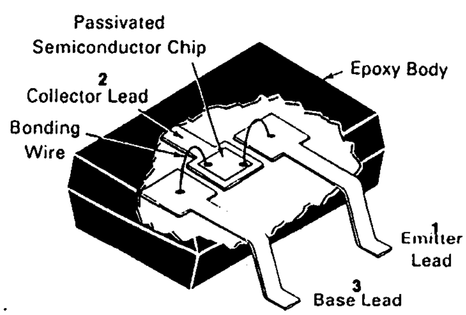
KING PART NUMBER	DEVICE	MARKING	DESCRIPTION
007-4066-00	MMBV432I	4B	Dual Veractor
007-6181-00	MMBD2835	A3	Dual Switching
007-6227-00	MMBD6100	5B	Dual Switching

Pin in configuration 1. Anode 2. Cathode 3. Anode and Cathode

007-6184-00	MMBD7000	5C	Dual Switching

DIGITAL TRANSISTOR SCHEMATIC





DIGITAL TRANSISTOR (DTA/DTC Series K)

Pin Configuration 1. Emitter 2. Colletor 3. Base

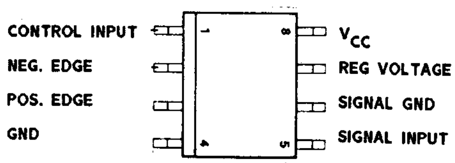
KING PART NUMBER	MARKING	DESCRIPTION
007-8064-00	14	PNP
007-8064-14	33	PNP
007-8064-16	16	PNP
007-8064-17	26	NPN

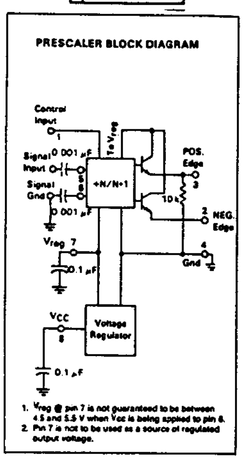
Surface Mount Devices (SMD)

P/N 120-0204-00

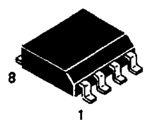
MC12018D

÷128/129
LOW-POWER
TWO-MODULUS
PRESCALER

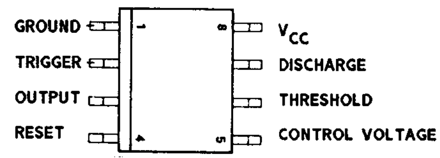




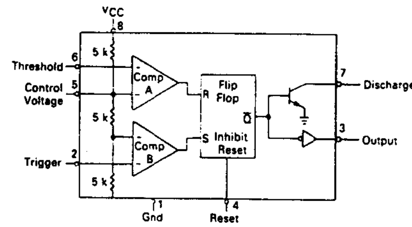
CASE 751-01
S0-8
Plastic Package
$R_{\theta JA}$ = 180° C/W



120-3195-00



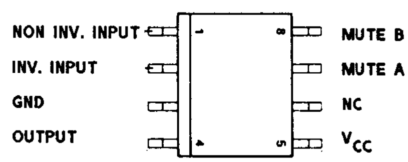
TIMING CIRCUIT



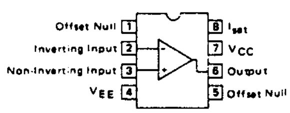
P/N 120-3428-00

SL6310C

SWITCHABLE AUDIO AMPLIFIER



P/N 120-3191-00

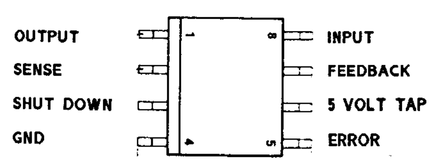


PROGRAMMABLE
OPERATIONAL AMPLIFIER

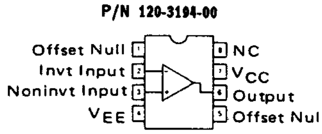
P/N 120-3274-00

LP2951CM

VOLTAGE REGULATOR

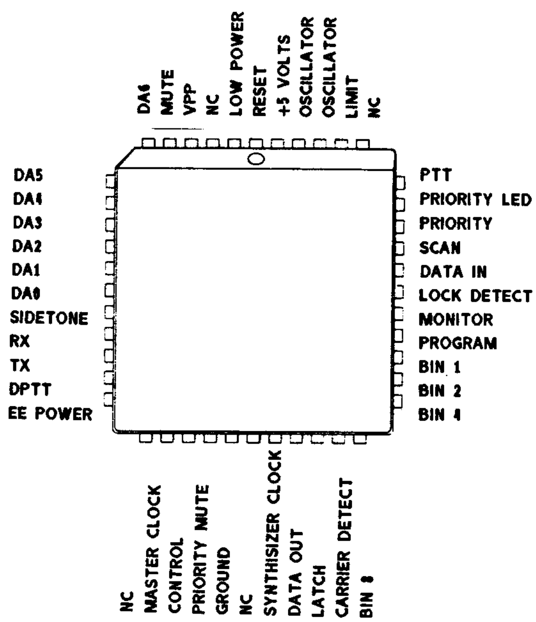


P/N 120-3194-00



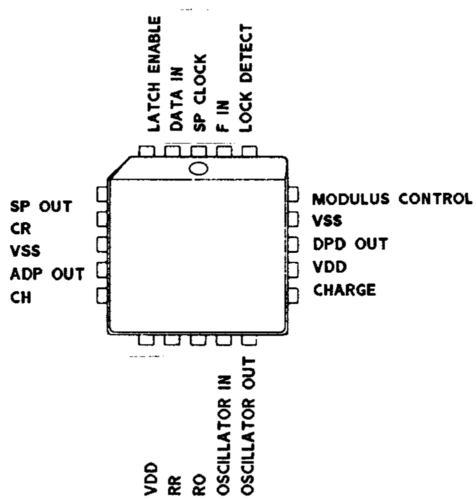
OPERATIONAL AMPLIFIER

P/N 122-0886-00
MC68H05C4
8-BIT MICRO COMPUTER



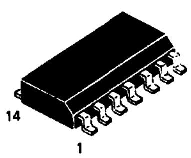
P/N 120-6132-02

MC145159

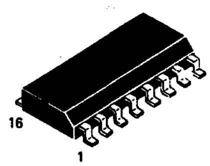


Surface Mount Devices

CASE 751A-01
S0-14
Plastic Package
$R_{\theta JA}$ = 145° C W

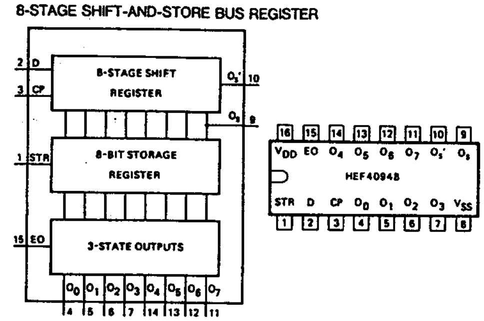


CASE 751B-01
S0-16
Plastic Package
$R_{\theta JA}$ = 135° C/W

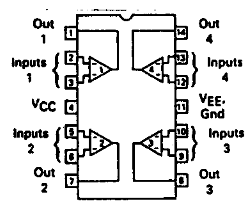


P/N 120-6056-03

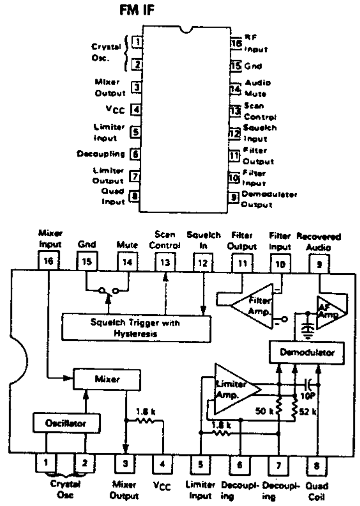
8-STAGE SHIFT-AND-STORE BUS REGISTER



P/N 120-3196-00
QUAD DIFFERENTIAL
INPUT
OPERATIONAL AMPLIFIERS

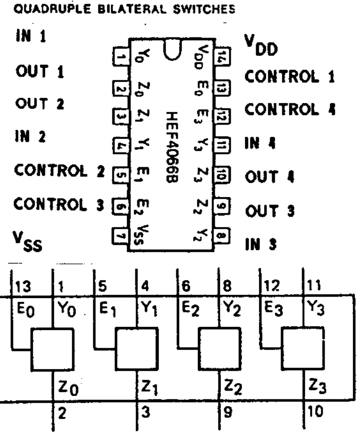


P/N 120-3199-00
LOW POWER
FM IF



P/N 120-6131-00

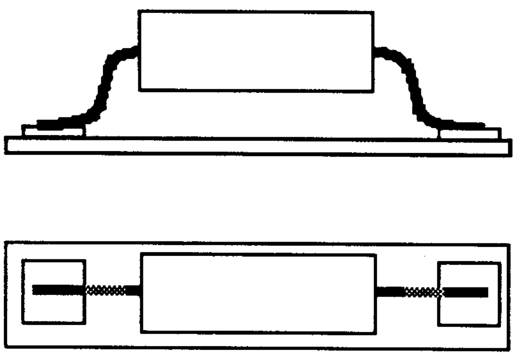
QUADRUPLE BILATERAL SWITCHES



11.0 SURFACE MOUNT COMPONENTS

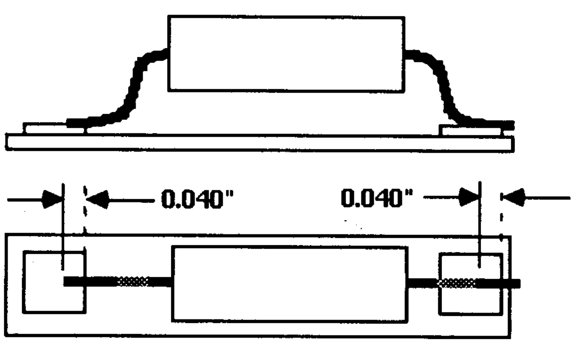
11.1 Round leaded and flat leaded components can be mounted on the surface of a board rather than through plated holes on a board.

11.1.1 The illustrations below demonstrate acceptable mounting practices for round leaded components on surface mount boards.



PREFERRED

1. Lead is centered on the pad. At least 0.040" (the thickness of a dime) is in contact with the pad. The lead does not overhang the pad.

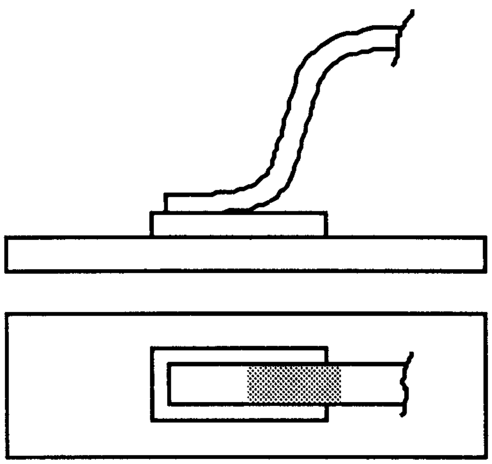


ACCEPTABLE MINIMUM

1. The lead has a minimum of contact area and has a slight overhang. The lead is not centered on the pad. The lead is at the edge of the pad. The contact area is not less than 0.040".

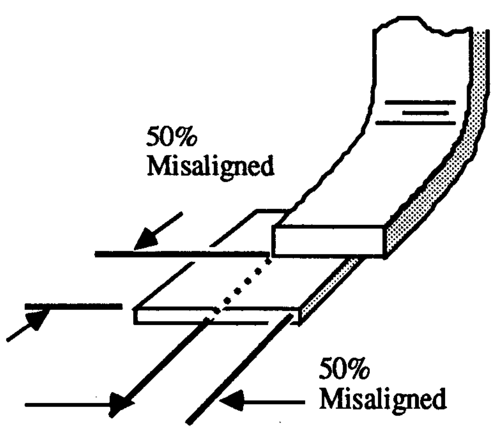
11.0 <u>SURFACE MOUNT COMPONENTS (CON'T)</u>

11.1.2 The illustrations below show acceptable ways of mounting flat leaded components.



PREFERRED

1. Lead is centered within the confines of the pad.
2. Heel rises before leaving pad area.

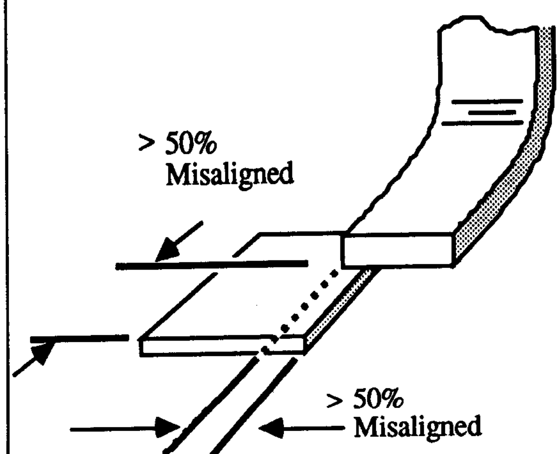


MINIMUM ACCEPTABLE

1. Lead misalignment is not more than 50%.

11.0 SURFACE MOUNT COMPONENTS (CON'T)

11.1.2.1 The illustration below shows an unacceptable way of mounting a flat leaded component.



UNACCEPTABLE - REWORK

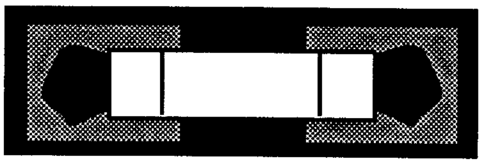
1. Lead is misaligned with the side of the pad or the length of the pad by more than 50%.

11.0 SURFACE MOUNT COMPONENTS (CON'T)

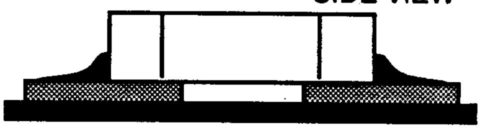
11.1.3 The following illustrations show acceptable solder height, amount of fillet, conductor spacing, and amount of allowable chip float.

11.1.3.1 The illustrations below show acceptable fillet heights.

TOP VIEW



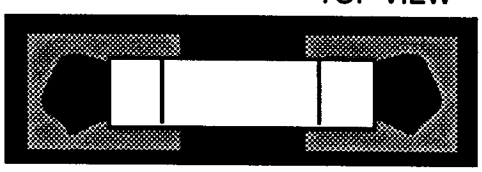
SIDE VIEW



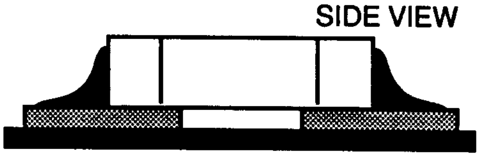
PREFERRED

1. Solder fillet height is 30% of the end height.
2. There is complete wetting of the pad and device end termination.
3. When the chips are wave soldered, it is permissible for the solder to come to the top or even over the cap of the end termination.

TOP VIEW



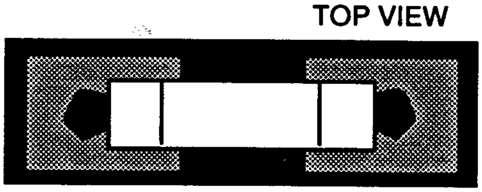
SIDE VIEW



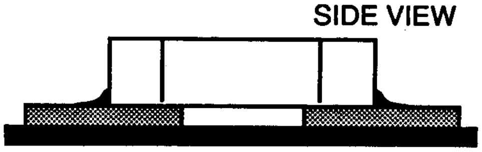
ACCEPTABLE

1. Solder fillet height is to the top of the end termination.
2. There is good wetting.

TOP VIEW



SIDE VIEW

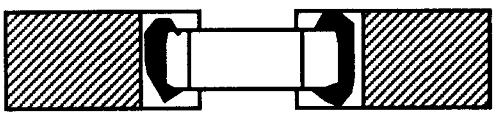


MINIMUM
ACCEPTABLE

1. The fillet height is 10% of the end termination.
2. There is incomplete wetting of the pad and termination.

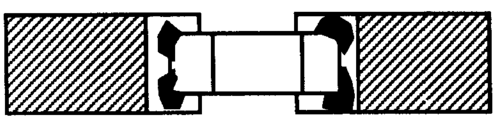
11.0 SURFACE MOUNT COMPONENTS (CON'T)

11.1.3.2 The illustrations below show acceptable amounts of solder applied to surface mount chips.



PREFERRED

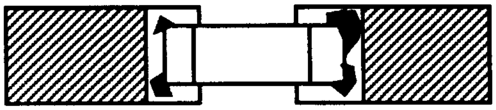
1. The solder fillet is continuous around the perimeter of the chip termination.
2. There is good wetting of the land and termination.
3. Fillet height is approximately 30% of the termination height.

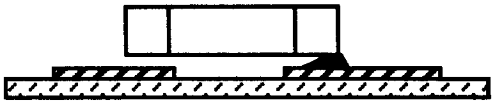


MINIMUM ACCEPTABLE

1. There is 50% solder coverage of the perimeter of the chip.
2. The fillet height is at least 10% of the termination height.

11.1.3.3 The illustration below shows a chip component that should be reworked because of insufficient solder. There is less than 50% solder coverage around the perimeter and bottom of the chip.



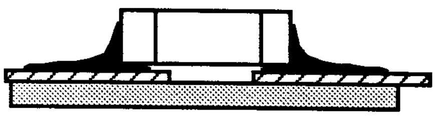


UNACCEPTABLE - REWORK

1. There is less than 50% solder coverage on the perimeter of the chip.
2. There is less than 50% solder coverage on the bottom of the chip.
3. The solder fillet is insufficient.

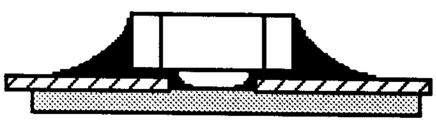
11.0 SURFACE MOUNT COMPONENTS (CON'T)

11.1.3.4 The two illustrations below show acceptable conductor spacing after solder flow. The spacing is not less than 50% of the original width or less than 0.005".



PREFERRED

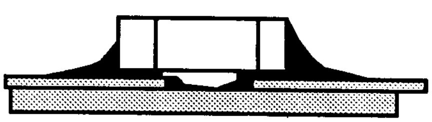
1. The solder holds the chip to the pads and normal conductor spacings are maintained.



MINIMUM ACCEPTABLE

1. The spacing between the pads is reduced to 50% of the original spacing.

11.1.3.5 The illustration below shows an unacceptable chip component, where the spacing between pads is reduced by more than 50% because of excess solder. This component must be reworked.

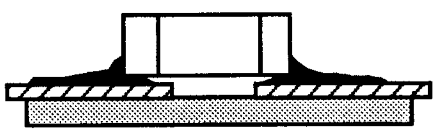


REWORK - UNACCEPTABLE

1. The spacing between the pads is reduced by more than 50% because of excess solder.

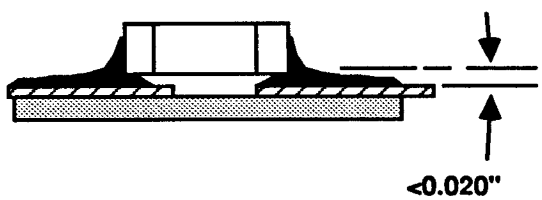
11.0 SURFACE MOUNT COMPONENTS (CON'T)

11.1.3.6 The illustrations below show acceptable components that have not floated higher than 0.020" above their pads.



PREFERRED

1. The solder height is minimal.
2. The fillet is concave.
3. There is good wetting.
4. The chip is raised less than 0.020".



ACCEPTABLE

1. The solder has floated the chip off its adhesive (if used) but the amount of float is not greater than 0.020".

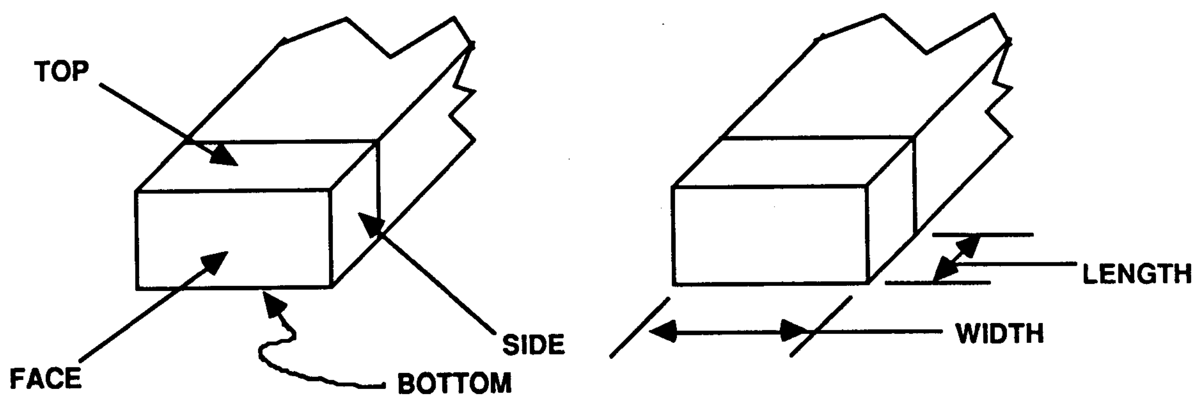
11.0 SURFACE MOUNT COMPONENTS (CON'T)

11.1.4 The criteria for acceptable and unacceptable end conditions in chip components are listed below.

11.1.4.1 You cannot have more than **20% of any one of the surfaces** of the end termination removed as a result of the soldering operation.

11.1.4.1.1 The end termination consists of five surfaces.

a. top
b. bottom
c. left side
d. right side
e. face



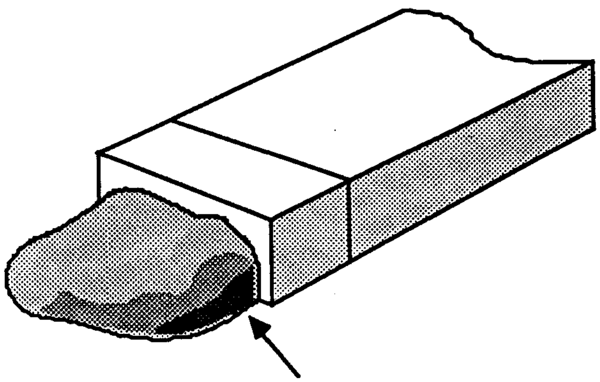
11.1.4.2 There shall be no visible evidence of a fractured solder connection.

11.1.4.3 Voids and pin holes are acceptable if the bottom of the hole is visible and good wetting is present - the fillet should be concave.

11.1.4.4 All deposits or residues of activated, RA, fluxes must be removed.

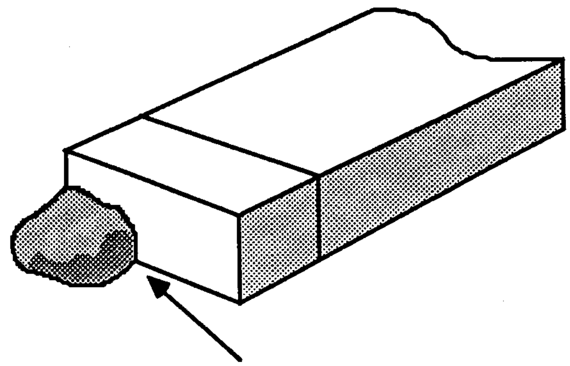
11.0 SURFACE MOUNT ASSEMBLIES (CON'T)

11.1.4.5 On mini-mica chip capacitors, the solder fillet shall be continuous on two sides for at least 50% of the component width.



GREATER THAN 50% COVERAGE OF CHIP WIDTH

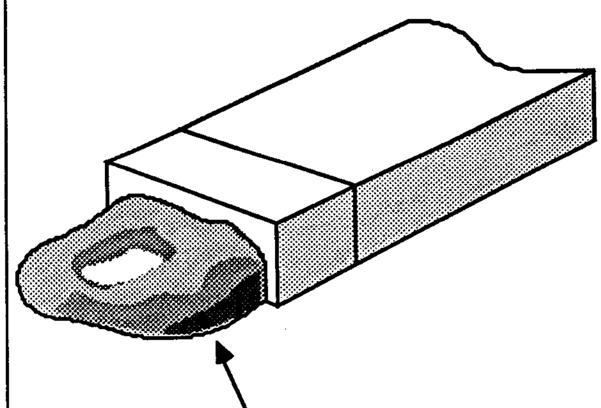
ACCEPTABLE



LESS THAN 50% COVERAGE OF CHIP WIDTH

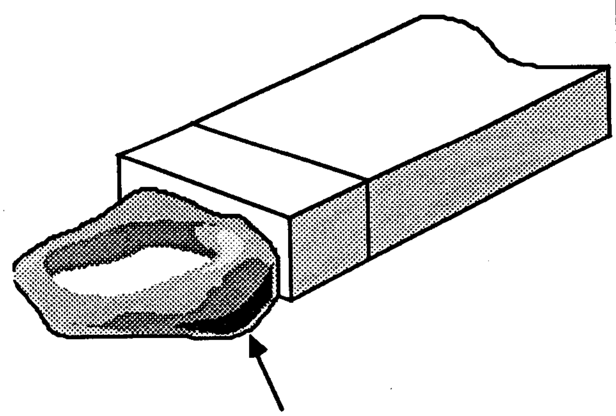
REWORK

11.1.4.6 Voids are permissible up to 80% of the coverage requirement.



VOID IS LESS THAN 80% OF THE SOLDER WIDTH

ACCEPTABLE



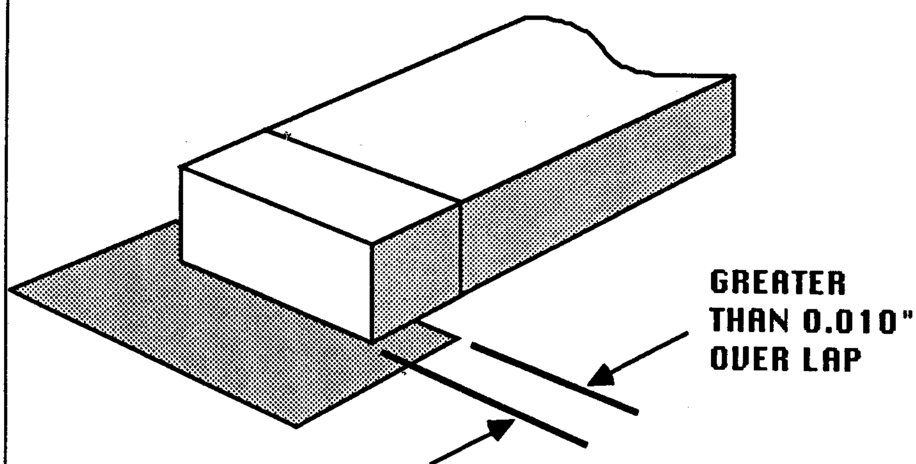
VOID IS GREATER THAN 80% OF THE SOLDER WIDTH

REWORK

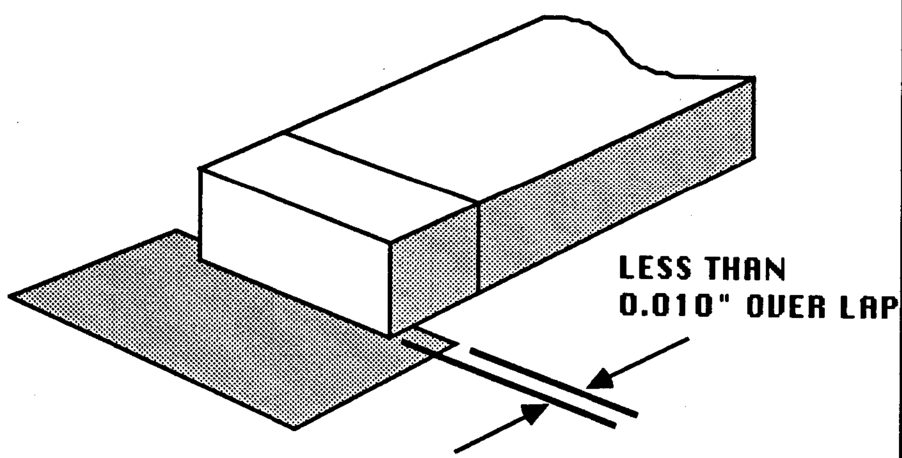
11.1.4.7 The minimally acceptable fillet shall rise from the pad to the edges of the capacitor that normally contacts the board and shall show a concave fillet (See the discussion in Paragraph 11.1.3.1 for fillet height requirements).

11.0 SURFACE MOUNT COMPONENTS (CON'T)

11.1.4.8 The length part of the solderable end cap of the device should overlap the mounting pad by at least 0.010" (the thickness of two pieces of notebook paper).



ACCEPTABLE

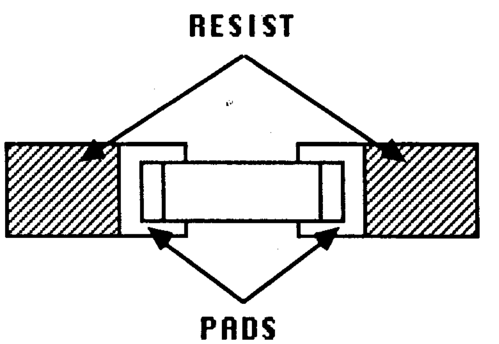


REWORK

11.0 SURFACE MOUNT COMPONENTS (CON'T)

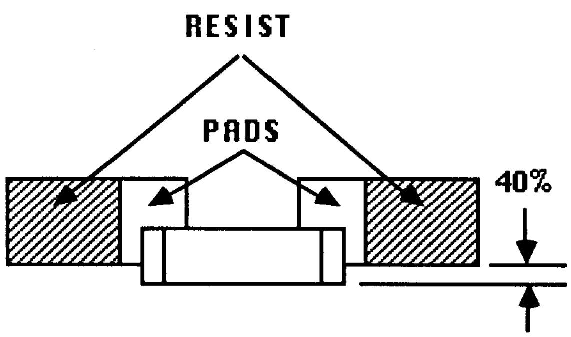
11.2 The illustrations below show the amount of chip misalignment that is acceptable.

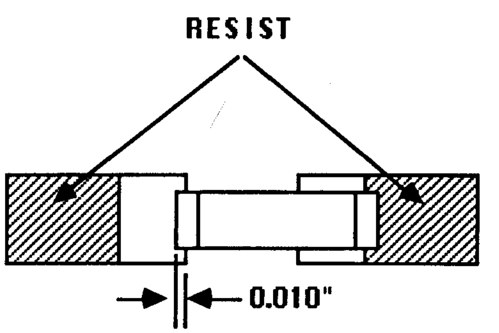
11.2.1 The length part of the solderable end cap of the device should not be misaligned with the mounting pad by more than 50% of its length.



PREFERRED

1. The part is evenly aligned between the two conductor lands (solder is not shown).



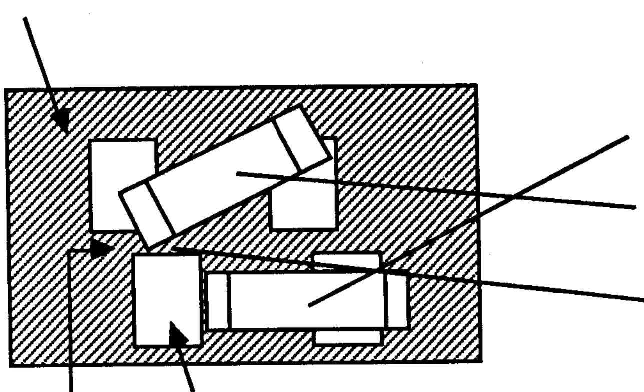


MINIMUM ACCEPTABLE

1. Part misalignment does not exceed 40% of the width.
2. Part overlap on the pads is not less than 0.010".

11.0 SURFACE MOUNT COMPONENTS (CON'T)

11.2.2 The illustration below shows an unacceptable amount of misalignment that should be reworked.



REWORK

1. The part does not overlap the pads.
2. Misalignment exceeds 50% of the width of the pad.
3. Poor positioning creating a potential short **(closer than 0.010" - the thickness of two sheets of paper).**

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Allied-Signal Aerospace Company

Allied Signal

LAA 0006
006-05689-0001