

**MAINTENANCE MANUAL  
REMOTE MOUNT OPTION  
19A705306G3  
FOR MTD, MVS, TMX-8825 AND TMX-8810**

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## DESCRIPTION

The Remote Mount option allows for controlling the main radio assembly remotely from the Front Cap Assembly. The option includes remote mount kit 19A705306G3 and mounting bracket (for remote control unit) 19A705306G2. The Front Cap is removed from the main radio assembly and mounted to a rear housing containing the Front cap Interface Board. A blank remote mount front cap (without any controls or display) containing the Radio Interface Board is mounted to the radio assembly. A system cable (normally 18 feet supplied) is used between the two units.

## CIRCUIT ANALYSIS

### RADIO INTERFACE BOARD

The Radio Interface Board interfaces the radio to the system cable connector J1001 through J901 and P701. RF bypass capacitors are provided on all lines of J1001.

A jumper on J1002 selects either a MVS or TMX and MTD radio. In MVS, U1001A buffers ATTENUATED RX AUDIO from the System Board. In TMX and MTD, U1001A buffers RX AUDIO from Logic Board.

U1001A, B, and C buffer the receiver audio and VOL-SQ HI audio to reduce alternator whine, noise, and other ground loop problems between the radio and the remote control unit. U1001a buffers the receiver audio to provide a constant source impedance to the (-) input of differential amplifier U1001B. The (+) input of U1001B receives a ground return from the remote control unit on BUF ATTENUATED RX AUDIO LO. Differential amplifier U1001C provides the same function as U1001B, except it buffers the VOL-SQ HI audio.

Regulator U1002 and U1001B provide a low noise and a low impedance 5.8 volt bias source for the op-amps.

### FRONT CAP INTERFACE BOARD

The Front Cap Interface Board is mounted inside the remote control unit rear housing. The board interconnects system cable connector J1101 with option connector J1102 and with connectors P901 and J701 which feed the Control Board. RF bypass capacitors are on all lines of the system cable and option connectors. C1130 provides filtering of SW A+ for the 3 Watt audio PA on the Control Board.

Option connector J1102 provides the same option connections which J905 provided on the System Board in the normal front mount radio. However, in the remote mount configuration, the following lines are no longer available at J905 on the

System Board: SPKR HI, SW SPKR HI,  $\overline{\text{CG DISABLE}}$  (HOOKSWITCH), and GE STAR.

A jumper plug placed on J905A brings the  $\overline{\text{RELAY}}$  and VOL-SQ HI option lines to J1102 option connector in the remote control unit.

## MODIFICATION INSTRUCTIONS

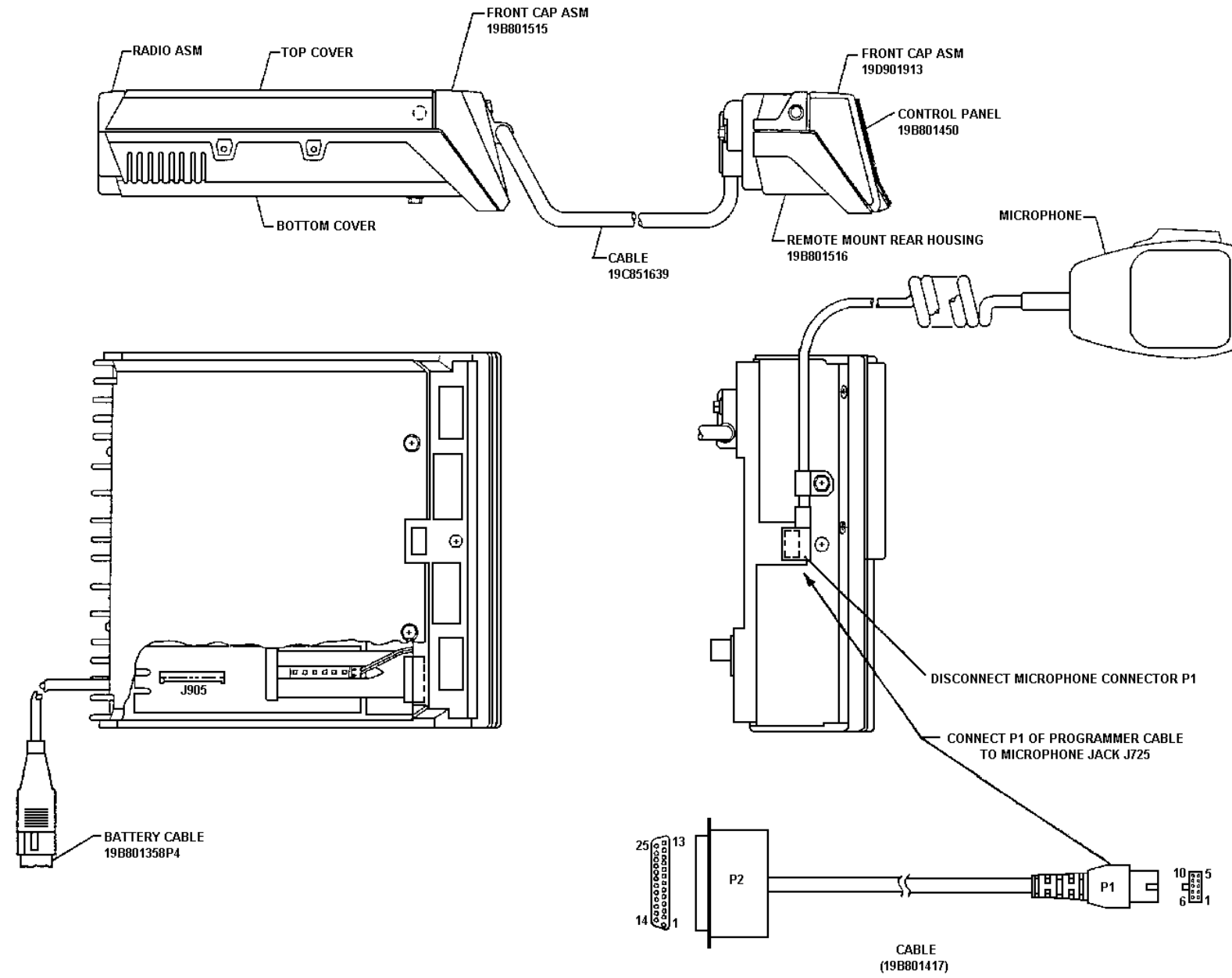
This section contains modification instructions for changing the MTD, MVS, TMX-8825 or TMX-8810 front mount radio to a remote mount radio. Refer to the Remote Mount Installation Diagram, and the Front Cap Outline Diagram Provided.

1. Unplug the microphone cable from the radio.
2. Remove the two Torx head screws which hold the bottom cover and unplug the speaker cable from the System Board. Install jumper plug at J905 on the System Board. Replace the bottom cover and reinstall the two Torx head screws without the mic cable clamp.
3. Remove the top cover.
4. Remove the five screw that hold the front cap to the radio.

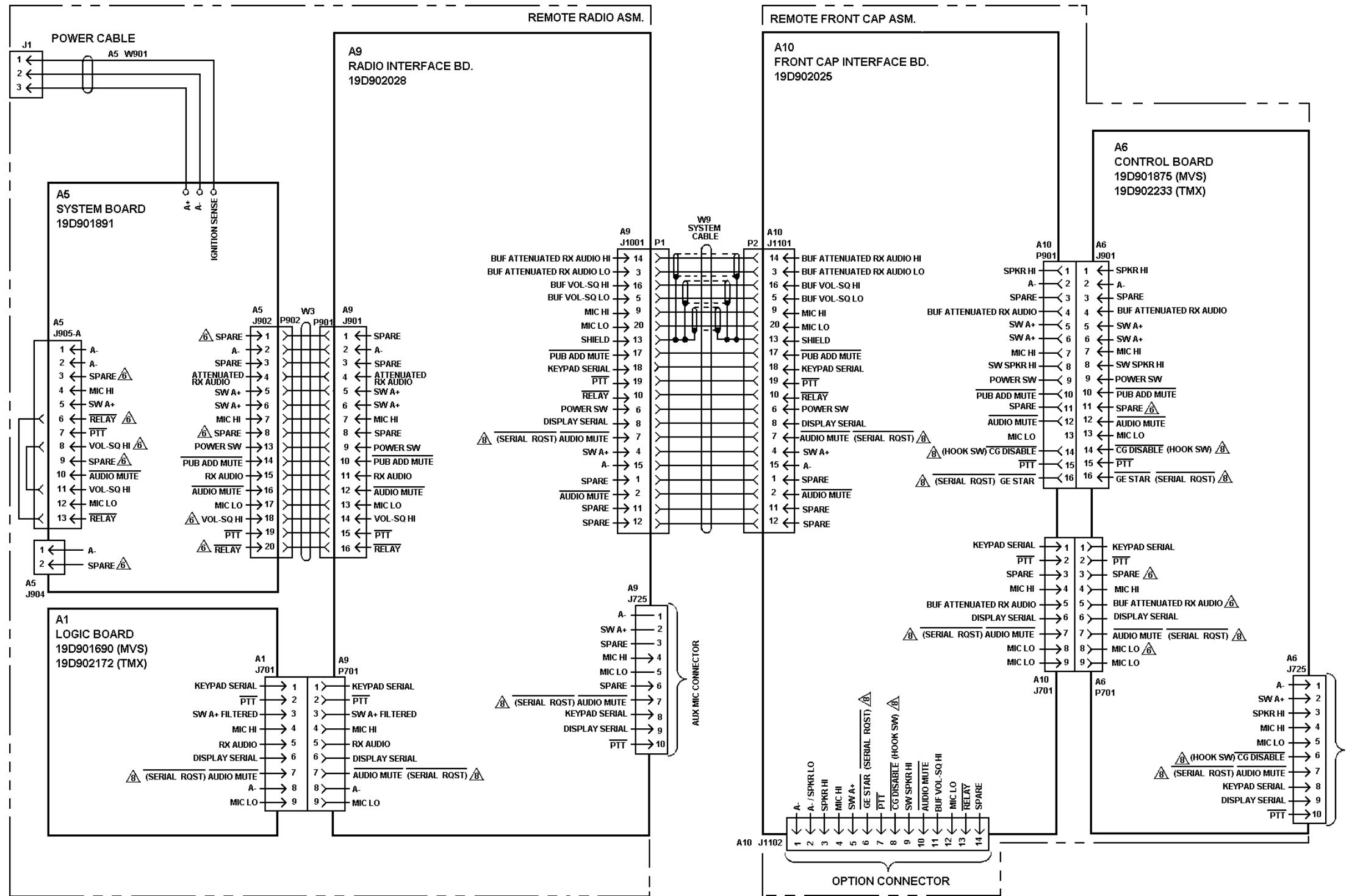
5. Unplug the Control/System ribbon cable at the front cap and install the cable on similar pins of the blank remote mount front cap. Move jumper P1002 on J1002 to either the MVS or TMX position. Mount the blank remote mount front cap to the radio housing using two flathead and one pan head screw.
6. Plug speaker cable to J801 on control board which is part of front cap. Mount front cap to remote mount rear housing using two M3.5-0.6x8 flathead machine head screws and three M3.5-0.6x8 pan head machine screws.
7. Plug system cable to radio and control unit. Secure cable using two M4-0.7x13 hex head machine screws supplied.
8. Plug the microphone cable control unit. Secure cable using M4-0.7x8 hex head machine screw and cable clamp supplied.

### CAUTION

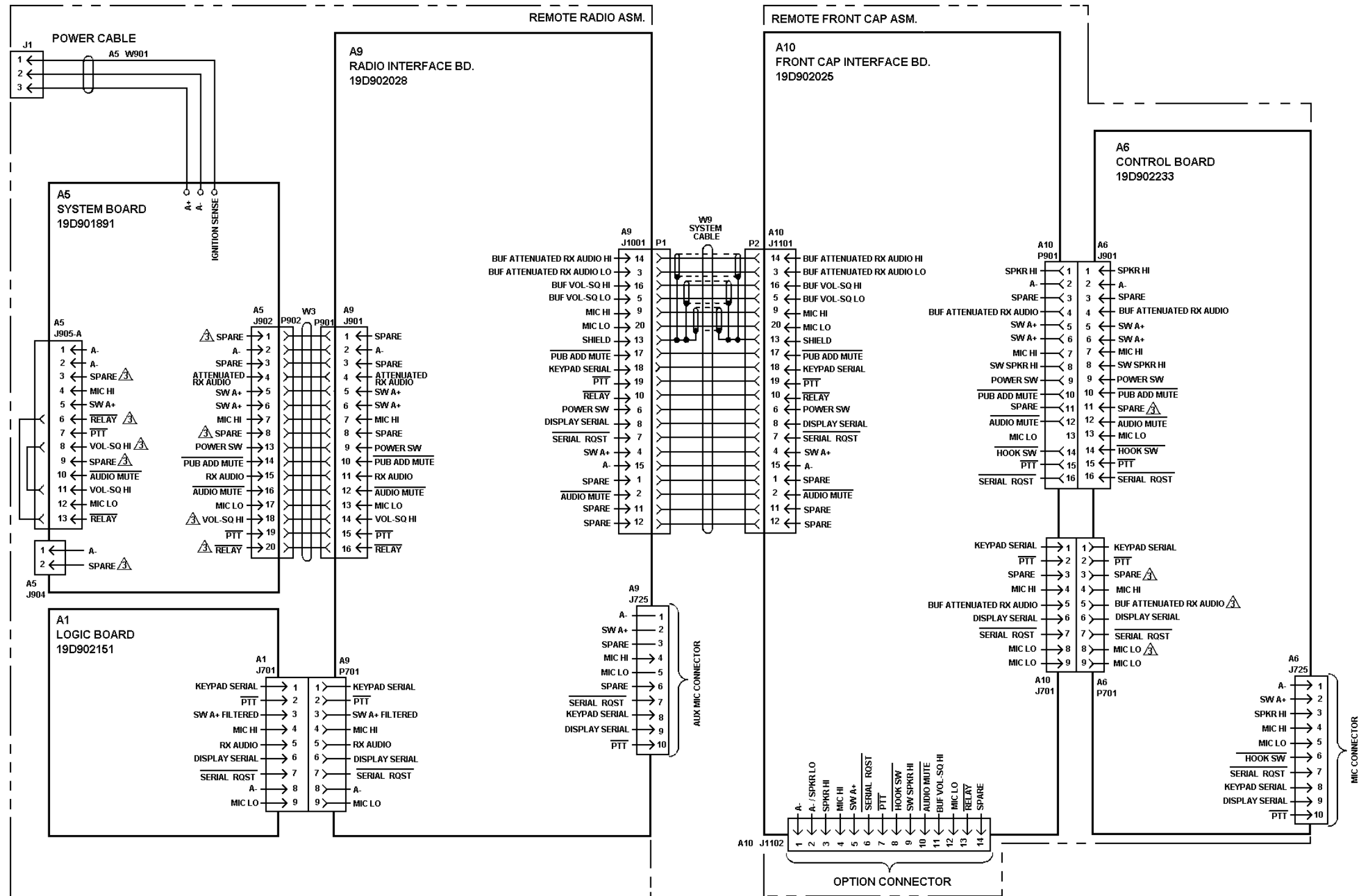
When programming the radio, be sure to connect the programming cable (TQ3315 for MVS, TMX-8825 and TMX-8810 or TQ3354 for MTD) to the microphone jack J725 on the Remote Mount Rear Housing Assembly. Connecting the cable to the microphone jack on the main radio will result in incorrect programming.



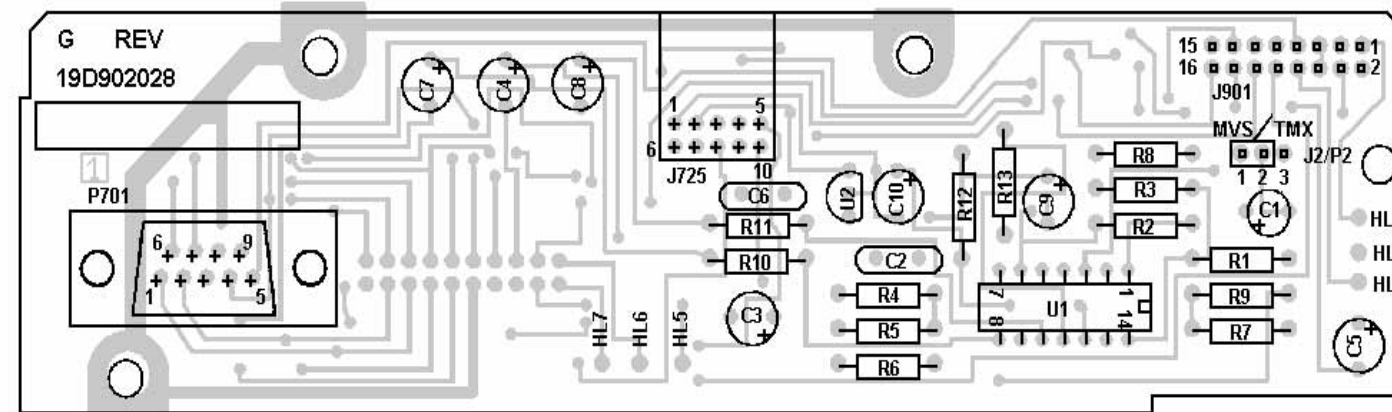
REMOTE MOUNT INSTALLATION



NOTES:  
 ⚠ NEW PIN NAMES FOR REMOTE MOUNT.  
 ⚠ PIN NAMES ( ) FOR TMX - 8825 OR TMX8810.



COMPONENT SIDE



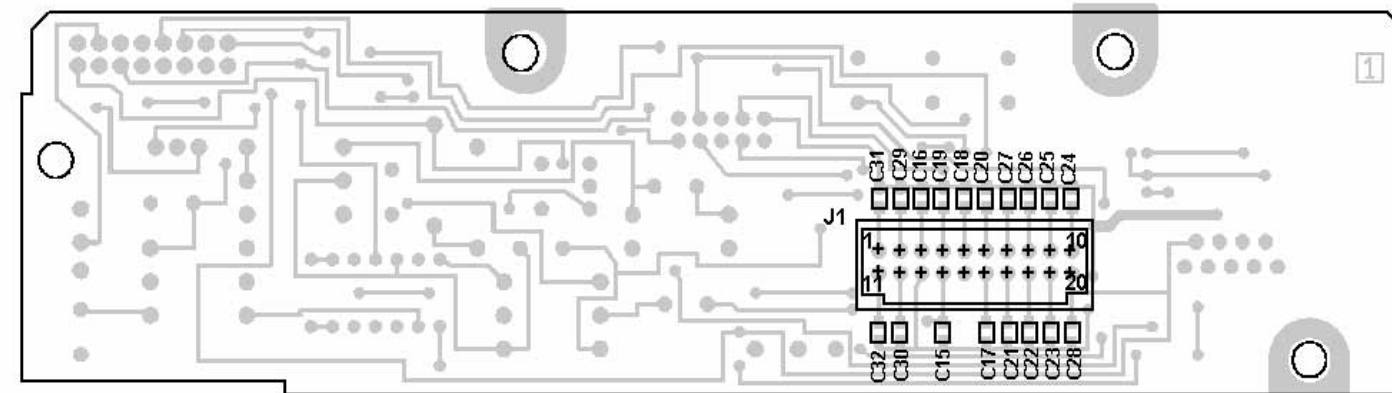
LEAD IDENTIFICATION FOR U2



NOTE:  
CASE SHAPE IS DETERMINING FACTOR FOR LEAD IDENTIFICATION

(19D902028, Sh. 2, Rev. 0)  
(19D902367, Component Side, Rev. 2A)

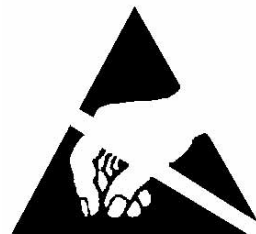
SOLDER SIDE



NOTES:

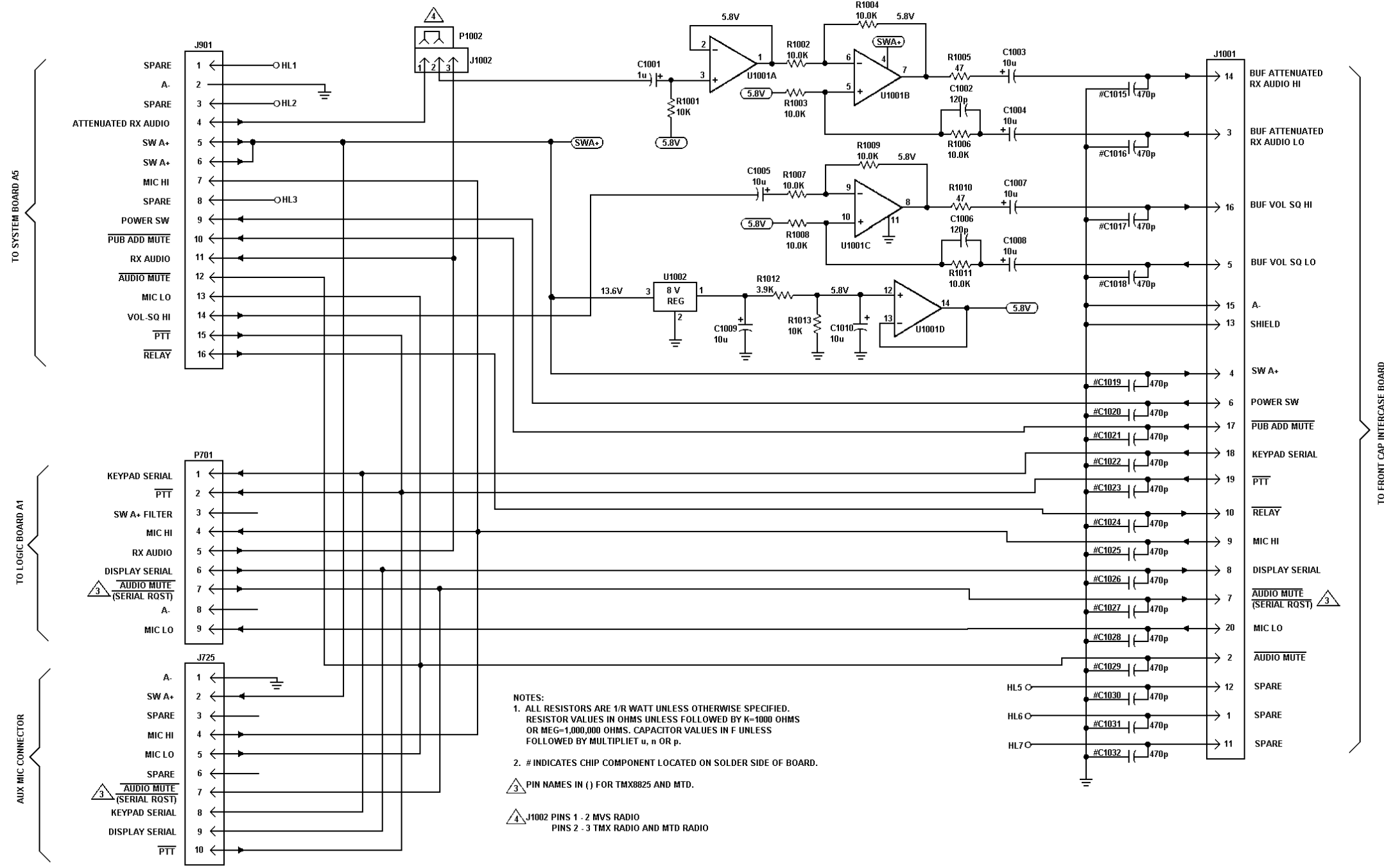
1. REFERENCE DESIGNATIONS SHOWN ARE ABBREVIATED:  
FOR COMPLETE DESIGNATION ADD 1000 TO NUMBER SHOWN EXCEPT J725, J901 AND P701  
J1 = J1001 AND ETC.
2. INSTALL P1002 JUMPER ON J1002 PINS 1 AND 2 FOR MVS  
MOVE JUMPER TO PINS 2 AND 3 FOR TMX.

(19D902028, Sh. 2, Rev. 0)  
(19D902367, Solder Side, Rev. 2A)



**CAUTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
SENSITIVE  
DEVICES

**RADIO INTERFACE BOARD**  
**19D902028G2**

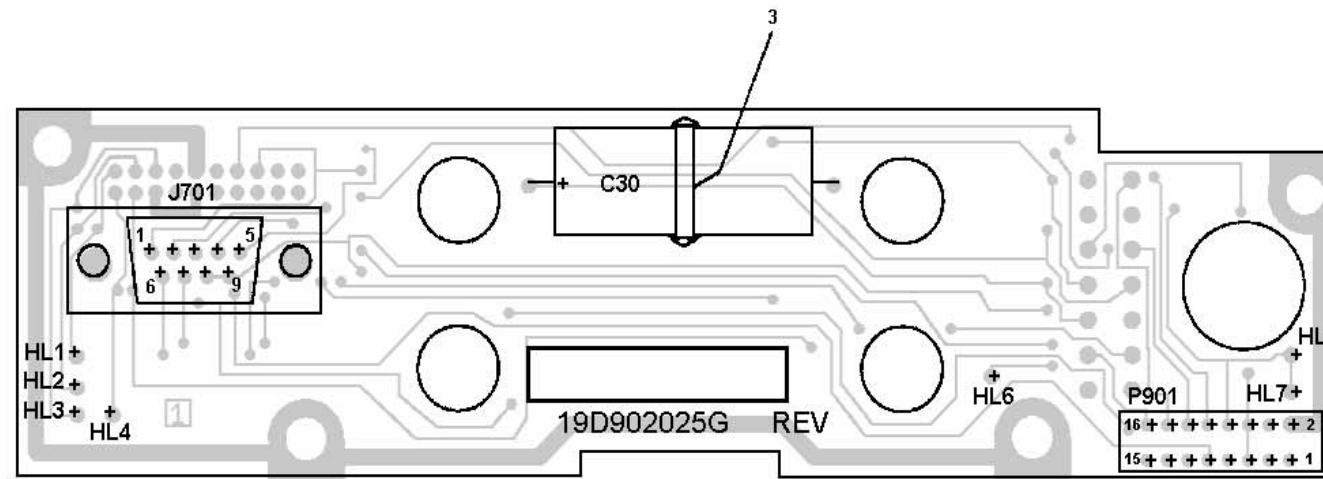


NOTES:  
 1. ALL RESISTORS ARE 1/8 WATT UNLESS OTHERWISE SPECIFIED.  
 RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K-1000 OHMS  
 OR MEG-1,000,000 OHMS. CAPACITOR VALUES IN F UNLESS  
 FOLLOWED BY MULTIPLIER u, n OR p.  
 2. # INDICATES CHIP COMPONENT LOCATED ON SOLDER SIDE OF BOARD.  
 ( ) PIN NAMES IN ( ) FOR TMX8825 AND MTD.  
 J1002 PINS 1 - 2 MVS RADIO  
 PINS 2 - 3 TMX RADIO AND MTD RADIO

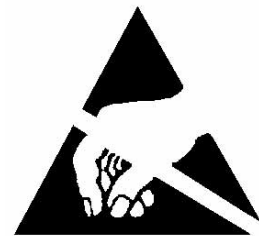
**RADIO INTERFACE BOARD  
 19D902028G2**

(19D902366, Sh. 1, Rev. 1)

COMPONENT SIDE

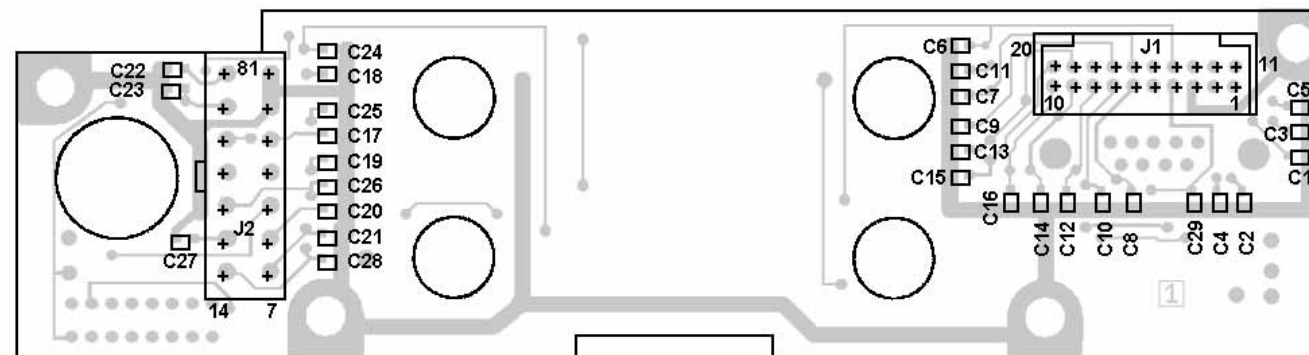


(19D902025, Sh. 2, Rev. 0)  
(19D902365, Component Side, Rev. 3)



**CAUTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
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SENSITIVE  
DEVICES

SOLDER SIDE

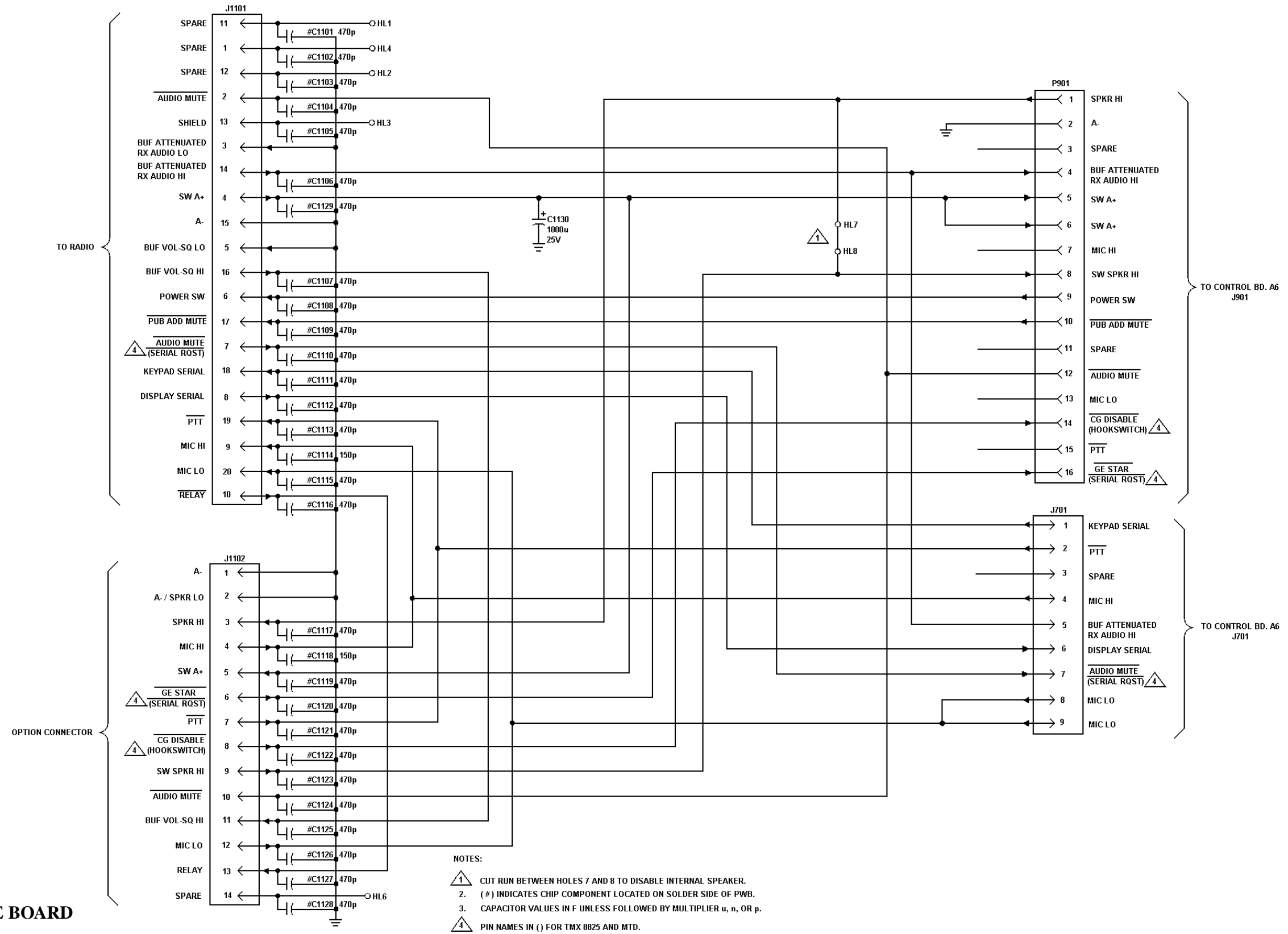


(19D902025, Sh. 2, Rev. 0)  
(19D902365, Solder Side, Rev. 3)

4. REFERENCE DESIGNATIONS SHOWN ARE ABBREVIATED:  
FOR COMPLETE DESIGNATION ADD 1000 TO NUMBER SHOWN  
J1 = J1001 AND ETC. EXCEPT P901 AND 701.

**FRONT CAP INTERFACE BOARD**  
**19D902028G2**





**FRONT CAP INTERFACE BOARD  
19D902025G2**

(19D902368, Sh. 1, Rev. 1)

PARTS LIST

REMOTE MOUNT OPTION  
19A705306G3  
ISSUE 2

SYMBOL	PART NO.	DESCRIPTION
		REMOTE MOUNT KIT 19A705306G3
P1002	19A702362P908 19A702364P408 19A705406P413 19B801358P4 19C851639P1 19A149448P1 19A701863P17 19A705406P408	Machine screw, TORX Drive, M3.5 - 8. Machine screw, TORX Drive, M3.5 - 0.6 x 8. Machine bolt: M4 - 0.7 x 13. Cable, power. (Battery cable - 20 feet). Cable, system. (18 feet). Jumper. (Used with J905). Cable clamp. (Secures microphone cable). Machine bolt, hexagon: M4 - 0.7. (Secures cable clamp).
A9		REMOTE MOUNT FRONT CAP ASSEMBLY 19B801515G2
		RADIO INTERFACE BOARD 19D902028G2
		CAPACITORS
C1001	19A701534P4	Tantalum: 1 uF ± 20%, 35 VDCW.
C1002	19A700235P26	Ceramic: 120 pF ± 5%, 50 VDCW, temp coef -750 PPM.
C1003 thru C1005	19A701534P7	Tantalum: 10 uF ± 20%, 16 VDCW.
C1006	19A700235P26	Ceramic: 120 pF ± 5%, 50 VDCW, temp coef -750 PPM.
C1007 thru C1010	19A701534P7	Tantalum: 10 uF ± 20%, 16 VDCW.
C1015 thru C1032	19A702061P77	Ceramic: 470 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
		JACKS
J725	19A702333P52	Printed wire, sim to Dupont 78207 - 110.
J901	19A703248P17	Post: Gold Plated, 14 mm length.
J1001	19A702333P53	Connector, sim to Dupont 68664 - 008.
J1002	19A703248P17	Post: Gold Plated, 14 mm length.
		PLUGS
P701	19B209727P31	Connector.
P1002	19A702104P2	Connector : 2 Position Shorting, Gold Plated; sim to Berg 65474 - 003.
		RESISTORS
R1001	H212CRP310C	Deposited carbon: 10K ohms ± 5%, 1/4 w.
R1002 thru R1004	19A701250P301	Metal film: 10K ohms ± 1%, 1/4 w.
R1005	H212CRP047C	Deposited carbon: 47 ohms ± 5%, 1/4 w.
R1006 thru R1009	19A701250P301	Metal film: 10K ohms ± 1%, 1/4 w.
R1010	H212CRP047C	Deposited carbon: 47 ohms ± 5%, 1/4 w.
R1011	19A701250P301	Metal film: 10K ohms ± 1%, 1/4 w.
R1012	H212CRP239C	Deposited carbon: 3.9K ohms ± 5%, 1/4 w.
R1013	H212CRP310C	Deposited carbon: 10K ohms ± 5%, 1/4 w.

\* COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

SYMBOL	PART NO.	DESCRIPTION
U1001	19A704883P1	INTEGRATED CIRCUITS Linear: Quad Op Amp; sim to MC3303P.
U1002	19A704073P2	Linear: 8 Volt Regulator; sim to MC78L08CP.
		MISCELLANEOUS
	19D901889G1	Can, Shield.
	19A705381P3008	Screw, thread forming. (Secures shield can).
	19A702381P508	Screw, thd. form: No. 3.5 - 0.6 x 8. (Secures shield can).
	19A705381P13004	Screw, thread forming. (Secures shield can).
	19D902023P2	Front cap.
		REMOTE MOUNT REAR HOUSING 19B801516G2
A10		FRONT CAP INTERFACE BOARD 19D902025G2
		CAPACITORS
C1101 thru C1113	19A702061P77	Ceramic: 470 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
C1114	19A702061P65	Ceramic: 150 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/C.
C1115 thru C1117	19A702061P77	Ceramic: 470 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
C1118	19A702061P65	Ceramic: 150 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM/C.
C1119 thru C1129	19A702061P77	Ceramic: 470 pF ± 5%, 50 VDCW, temp coef 0 ± 30 PPM.
C1130	19A702581P2	Electrolytic: 1000 uF ± 20%, 25 VDCW.
		JACKS
J701	19B209727P32	Connector, power: 9 contacts, sim to AMP 208006-2.
J1101	19A702333P53	Connector, sim to Dupont 68664 - 008.
J1102	19A705449P1	Connector, sim to Molex 39 - 28 - 8140.
		PLUGS
P901	19A116572P6	Connector.
		MISCELLANEOUS
	19D902011G1	Housing, remote mount.
	19A702381P508	Screw, thd. form: No. 3.5 - 0.6 x 8. (Secures A10).
	19A705503P1	Connector, sim to Molex 39 - 01 - 2140.
		MOUNTING BRACKET 19A705306G2
	19A700033P7	Lockwasher, external tooth: #4.
	19A701312P6	Flatwasher: 1.7 - 1.85 ID.
	19A705406P413	Machine bolt: M4 - 0.7 x 13.
	19C851635P1	Mounting support.
	4029387P6	Nut, sheet spring: sim to Timmerman C7000-8.
	N193P1412J2	Screw, thread forming: #8 x 3/4.