Maintenance Manual

MDX™
UHF MOBILE RADIO

TABLE OF CONTENTS

ERICSSON

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Private Radio Systems
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Lynchburg, Virginia
1-800-528-7711 (Outside USA, 804-528-7711)

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TABLE OF CONTENTS

NOTICE!

Repairs to this equipment should be made only by an authorized service technician or facility designated by the supplier. Any repairs, alterations or substitution of recommended parts made by the user to this equipment not approved by the manufacturer could void the user's authority to operate the equipment in addition to the manufacturer's warranty.

SPECIFICATIONS*

GENERAL

Operating Voltage	13.8 Volts ±15%
Battery Drain	
Receiver (13.8 Vdc)	
Off	0.01 Amperes (Maximum)
Squelched	0.75 Amperes (Maximum)
Unsquelched	3.5 Amperes (Maximum at 10 Watts audio, External Speaker)
Transmitter (13.8 Vdc)	13.0 Amperes (Maximum)
Channel Spacing	12.5 kHz
Frequency Stability	± 2.5 PPM (± 0.00025%)
Temperature Range	-20°C to +55°C (-22°F to +140°F)
Dimensions (H X W X D) (Less Accessories)	
Height	5.3 cm (2.1 inches)
Width	18.2 cm (7.2 inches)
Depth	24.0 cm (9.5 inches)
Weight	3.0 kg (6.6 pounds)
Antenna Impedance	50 Ohms

TRANSMITTER

Frequency Range	
High Split Radio	485 - 505 MHz
Output Power	25 Watts (Intermittent duty cycle; EIA 20%)
Audio Sensitivity	110 mV RMS (typical)
Spurious and Harmonics	-70dBc
Audio Distortion	5% (maximum)

Continued

Continued

SPECIFICATIONS*

RECEIVER

Frequency Range	
High Split Radio	485 - 490 MHz
Sensitivity (12 dB SINAD)	-116 dBm (maximum)
Spurious Rejection	-70 dB (maximum)
Image Rejection	-70 dB (maximum)
Adjacent Channel Selectivity	-60 dB (maximum at ± 12.5 kHz)
Intermodulation Distortion	-65 dB (maximum)
Audio Output	10 Watts (External Speaker); 4 Watts (Internal Speaker) 7.5 Watts (External Speaker with remote mount kit)
Audio Distortion	5% (maximum at 1 kHz)
Hum and Noise	-35 dB (maximum)

ENVIRONMENTAL

STANDARD	METHODS PROCEDURES		
	Mil-810C	**Mil-810D**	**Mil-810E**
High Temperature	501.1/Proc 2	501.2/Proc 2	501.3/Proc 2
Low Temperature	502.1/Proc 2	502.2/Proc 2	502.3/Proc 2
Low Pressure	500.1/Proc 1	500.2/Proc 1	500.3/Proc 1, 2
Solar Radiation	505.1/Proc 1	505.2/Proc 1	505.3/Proc 1
Temperature Shock	503.1/Proc 2	503.2/Proc 1	503.3/Proc 1
Vibration	514.2/C8, P1	514.3/Proc 8	514.4/C8, P1

Continued

Continued

ENVIRONMENTAL

STANDARD	METHODS PROCEDURES		
Mechanical Shock	516.2/Proc 1	516.3/Proc 1-6	516.4/Proc 1-6
Humidity	507.1	507.2	507.3
Salt Fog	509.1/Proc 1	509.2/Proc 1	509.3/Proc 1
Blowing Dust	510.1/Proc 1	510.2/Proc 1	510.3/Proc 1
Driven Rain	506.1/Proc 1	506.2/Proc 1	506.3/Proc 1

U.S. Forest Service

Vibration: Methods 7.15.1 and 8.11.1

EIA

Vibration: RS152B Method 14.3 and RS206C Method 24.2
Shock: RS152B Method 15 and RS204C Method 25

* These specifications are intended primarily for use by a service technician. Refer to the appropriate Specification Sheet for complete specifications.

DESCRIPTION

The UHF MDX™ Mobile Radio is a synthesized, wide band radio that uses integrated circuits and microcomputer technology to provide high performance in conventional communications systems. The UHF MDX Mobile radio provides 40 Watts of RF power output in the 403-440, 440-470 or 470-512 MHz bands.

All radio functions are stored in a programmable Electrically Erasable **PROM (EEPROM)**.

- Serial Programming Interface Module TQ3370
- Programming Cable (19B801417P10) TQ3372
- MDX Series Programming Software TQ3346

With the interface equipment and software, the computer can be used to program (or re-program) customer system frequencies, and options. Selection of options is done during radio initialization using the PC programmer.

The UHF MDX Mobile Radio assembly contains the following circuit boards and assemblies:

- Power Amplifier 19D904792
- RF Board 188D5062
- System Board 19D901891
- Audio/Logic Board 19D903963
- Audio Amplifier Board 19D904025
- Front Cap Assembly 19D904151

The circuit boards are all mounted on a main casting to provide easy access for servicing. Interconnect plugs are used to connect the boards to eliminate pinched wires and other wiring problems.

RF BOARD

The RF Board includes the programmable frequency synthesizer, transmitter exciter, receiver front-end and **I**ntermediate **F**requency (**IF**) circuitry.

Synthesizer

The synthesizer circuit generates all transmit and receive RF frequencies. The synthesizer frequency is controlled by the microprocessor located on the Audio/Logic Board. Frequency stability is maintained by a temperature compensated reference oscillator module. Transmit audio is processed on the Audio/Logic Board and applied to the synthesizer to modulate the **V**oltage **C**ontrolled **O**scillator (**VCO**) and the **T**emperature **C**ontrolled **X**tal (crystal) **O**scillator (**TCXO**). The buffered VCO output drives both the transmitter exciter and the receiver mixer.

Transmitter

The transmitter consists of a fixed-tuned exciter module, PA module and a power control circuit. The PA module provides RF output to drive the antenna. The power control circuit controls the PA module to maintain constant output power across the band. The RF output level is internally adjustable for rated power. A thermistor control circuit protects the PA from overheating by linearly reducing the power output level with increasing temperature.

Receiver

The dual conversion receiver circuit consists of a front-end section, 45 MHz first IF, a 455 kHz second IF and **F**requency **M**odulation (**FM**) detector. All audio processing and squelch functions are accomplished on the Audio/Logic Board.

POWER AMPLIFIER BOARD

The PA Board amplifies the RF board output, then connects it back to the RF board where it is coupled through a **PIN** diode antenna switch, a low-pass filter and a directional coupler to provide 40 watts power output at the antenna connector.

AUDIO/LOGIC BOARD

The Audio/Logic Board provides all audio and digital processing of the receive and transmit audio for digital processing by the Logic Board. This board also contains audio filtering, conventional analog tone processing and the receiver squelch. The Audio/Logic Board controls the operation of the radio and digitally processes the receiver and transmit audio. The board contains a microprocessor and associated memory circuits including an **E**lectrically **P**rogrammable **R**ead **O**nly **M**emory (**EPROM**) for controlling the processor and a programmable "**personality**" memory, an EEPROM to store customer frequencies, tones and options. The microprocessor provides control data to the **A**udio **S**ignal **P**rocessor (**ASP**) conventional tone generation and detection, frequency data for the synthesizer and sends and receives data to/from another microprocessor on the Display Board for the alphanumeric LED display.

FRONT CAP ASSEMBLY

The Front Cap Assembly contains the Audio Amplifier Board. The Audio Amplifier Board provides compression of the microphone audio. It also provides audio compression for the received audio in the discriminator and internal/external speaker audio paths. A 10-watt power amplifier is provided on the board to drive a 4-ohm internal/external speaker.

The Front Cap Assembly also contains the display board which includes the LED Display, the keyboard and interface/drive circuitry. In Scan models the internal speaker is mounted in the front cap. In System radios there is no speaker, to allow room for the additional keys.

SYSTEM BOARD

The system board controls the main input power to the radio. The **IGNITION SENSE** input lead provides the necessary signals to the **MOSFET** switching circuit. The board also interfaces all option connections from the internal boards in the radio with the optional items outside of the radio. All external options for the radio, interconnect to the System Board through the back of the radio using an optional cable.

ACCESSORIES AND OPTIONS

PC PROGRAMMER OPTIONS

The radio is programmed using an IBM compatible **P**ersonal **C**omputer (**PC**) equipped with an RS-232 serial interface unit and the cable between the PC and the unit. An auxiliary power supply for the unit is also included but is not needed to program the radio.

Option TQ3372 provides the MDX UHF radio programming cable between the PC interface unit and the radio microphone jack.

PC PROGRAMMED OPTIONS

Carrier Control Timer (CCT)

The Carrier Control Timer turns off the transmitter after the microphone PTT switch has been keyed for a pre-programmed time period. A pulsing alert tone warns the operator to unkey and then key again the PTT to continue the transmission. The timer can be programmed, using the PC programmer. Any time period between 0 seconds and 4.1 minutes can be programmed in 10 second increments. The timer can be enabled or disabled for each channel.

HARDWARE AND HARDWARE OPTIONS

The location and placement of system hardware options is shown on the MDX Conventional Mobile Radio Interconnection Diagram 188D5198.

OPTION INTERFACE CABLE

Option Interface Cable (19C851585P18) is used to bring all option connections from the System Board through the back of the radio to the outside. This cable is required with all external options. Option Interface Cable (19C851585G14) can be used for all external options except data.

NOISE SUPPRESSION KIT

Noise Suppression Kit consists of filter 19A148539G1 and Installation Manual LBI-31363. This kit is available for installations where excessive alternator or electrical noises, present on the power cable, do not permit the radio to operate properly. Refer to the Interconnect Diagram for the radio and options.

POWER CABLE

The 18-foot Power Cable (19B801358P17) is available for installations requiring more than the standard 9-foot cable.

EXTERNAL SPEAKER

External Speaker and Cable provides the user a 5-inch waterproof speaker in a LEXAN housing (19A149590P1), an 18-inch, external speaker cable (19A149590P8) is included. A 16-foot cable (19A149590P10) is also available.

When using the external speaker, the internal speaker should be disconnected. The internal/external speaker switch option PMPL3D allows use of both speakers (Refer to the Interconnection Diagram).

EXTERNAL ALARM HORN RELAY

External Alarm Horn Relay (19A705499P1) can sound the vehicle horn when a call is received. The option connects to Pin 13 of cable (19C851585P14) and is enabled through the front panel switch.

RADIO OPERATION

A complete set of operating instructions for the **MDX UHF** radio are provided in Operator's Manual.

In the conventional mode of operation, the user selects a channel and communicates on that channel in the conventional mode. A system refers to a set of channels and a channel is a transmit/receive radio frequency pair.

The exact operation of any radio depends upon the operating mode, the programming of the radio and the particular radio system. Most features described in these operating instructions can be enabled or disabled through programming. Both of these important factors must be considered when addressing the following instructions.

USER INTERFACE

Operating controls are located on the radio front panel and microphone.

The Front panel **L**ight **E**mitting **D**iode (**LED**) display provides radio status and communication control information for the operator. The keypad is used for activation of various features and functions.

Turning The Radio On/Off

The radio is turned On/Off by pressing the **PWR** button in the upper left corner of the front panel. To turn the radio OFF press the **PWR** button again.

SCAN OPERATION

The SCAN function allows monitoring of receive groups. All scan functions are retained in memory, even if the 12 Volt battery is disconnected.

TO PROGRAM SCAN GROUPS

The selection of scan groups is front panel programmable using the programmed flex key or the menu mode.

NOTE

The following details how to add/delete groups using the flex key mapped to scan add/delete. The alternative is to select "**SCAN A/D**" in the menu mode. Select the desired group using the "-" button and add/delete group using the "+" button.

1. Confirm that the radio is turned on. If not, press the **POWER** switch.
2. If the SCAN indicator is lit, press and release the SCAN switch to disable the scan function.
3. Select the desired group using the **CHANNEL UP** and **DOWN** switch.
4. Press the programmed flex key mapped to scan add/delete to add the group to the scan list. The **S** indicator will be shown in the display to indicate that the group is now in the scan program.
5. Repeat steps 2 through 5 for each group to be added to the scan list.

DELETE SCAN GROUP(S)

1. Confirm that the radio is on. If not, press the power switch.
2. If **SCN** indicator is lit, press and release the **SCAN** switch to disable scan function.
3. Select the desired group to be removed from the scan list using the **CHANNEL UP** or **DOWN** switches.
4. Press the programmed flex key mapped to scan add/delete until the scan indicator is off. This removes the selected group from the scan list.
5. Repeat preceding steps 2 through 5 for each group to be removed from the scan list.

REVIEWING THE SCAN LIST

1. Confirm that the radio is turned on. If not, press the **POWER** switch.
2. If the **SCAN** indicator is lit, press and release the **SCAN** switch to disable the scan function.
3. Select each group (one at a time) using the **CHANNEL UP** or **DOWN** switch and confirm groups included on the scan list. The scan indicator (**S**) will light for each group programmed.

USING THE RADIO WITH SCAN

THE SELECTED GROUP

The SELECTED group is the group in the display when scan is turned on by pushing the **SCAN** switch. When a signal is not being received, the radio reverts to this channel for transmitting. When a signal is being received, the radio reverts to this group for transmitting. When a signal is being received, the radio can be PC programmed to either revert to the SELECTED group or remain on the received group.

The SELECTED group does not necessarily have to be a group in the scan list. The SELECTED group will be temporarily entered into the scan list and scanned until the SELECTED group is changed.

When scan is turned off by pushing the **SCAN** switch, the radio will return to the SELECTED group.

DISPLAY

Channel Indicator

While no signal is being received, the channel indicator will always show the **SELECTED** group. When an active group is received, the channel indicator will show the received group.

SCN Indicator

When the **SCAN** button is pushed, the radio will light the **SCAN** indicator and begin scanning.

TRANSMITTING WHILE IN SCAN

Transmitter operation in scan is determined by the PC programming of the radio personality.

Off-Hook Scan Not Enabled (default):

With off-hook scan not enabled (normal default condition), all scanning will stop when the microphone is placed off-hook. The SCN indicator will flash to show all scanning has stopped. If a signal is not being received when the microphone is placed off-hook, the radio will transmit on the SELECTED group. If a signal is being received when the microphone is placed off-hook, the radio can be PC programmed (using the "**scan transmit option**" to either stay on the receive group or revert to the SELECTED group. When the microphone is placed back on-hook, the radio will immediately start scanning, even if the received group was still active.

Off Hook Scan Enabled:

With off-hook scan enabled, moving the microphone off - hook will not affect scan operation. The radio will continue scanning. If a signal is not being received, the radio will transmit on the SELECT group. If a signal is being received, the radio can be PC programmed (using the "scan transmit group" option) to either stay on the receive group or revert to the SELECTED group when the microphone PTT is keyed.

PC PROGRAMMING SCAN OPTIONS

1. **Scan Transmit Group:**

   SELECTED group (default): The radio will always revert to SELECTED group when the microphone PTT is keyed or when the microphone is placed off-hook (if off-hook scan is disabled). If signals not being received, the radio will transmit on the SELECTED group.

2. **Off-Hook Scan Enable:**

   NO: (default): The radio will stop scanning and flash the SCN indicator when the microphone is off-hook. See the "scan transmit group" description above to program where the radio will transmit.

   YES: The radio will continue scanning with the microphone off-hook. See the "scan transmit group" description above to program where the radio will transmit.

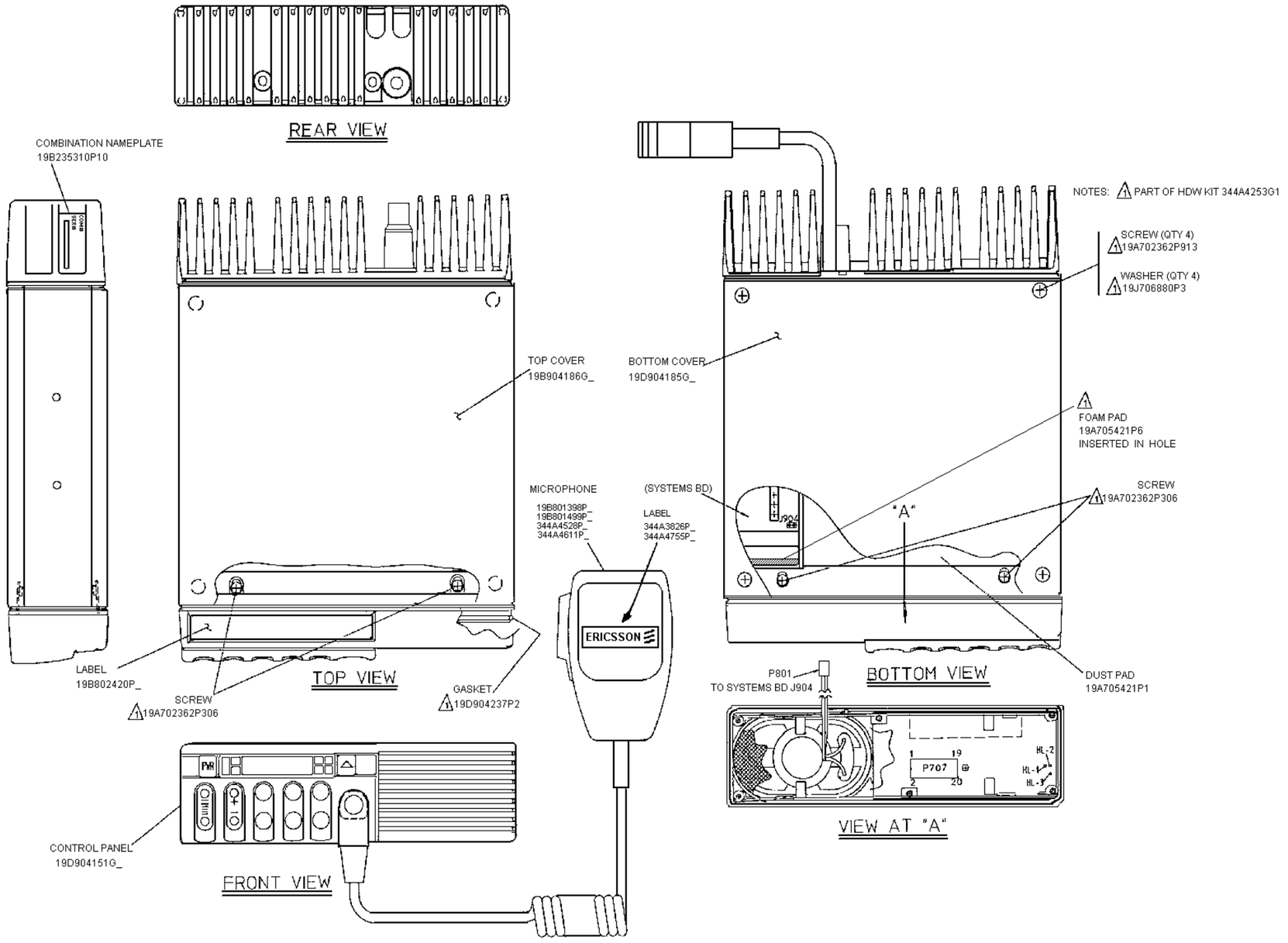
PUBLIC ADDRESS OPTION OPERATION

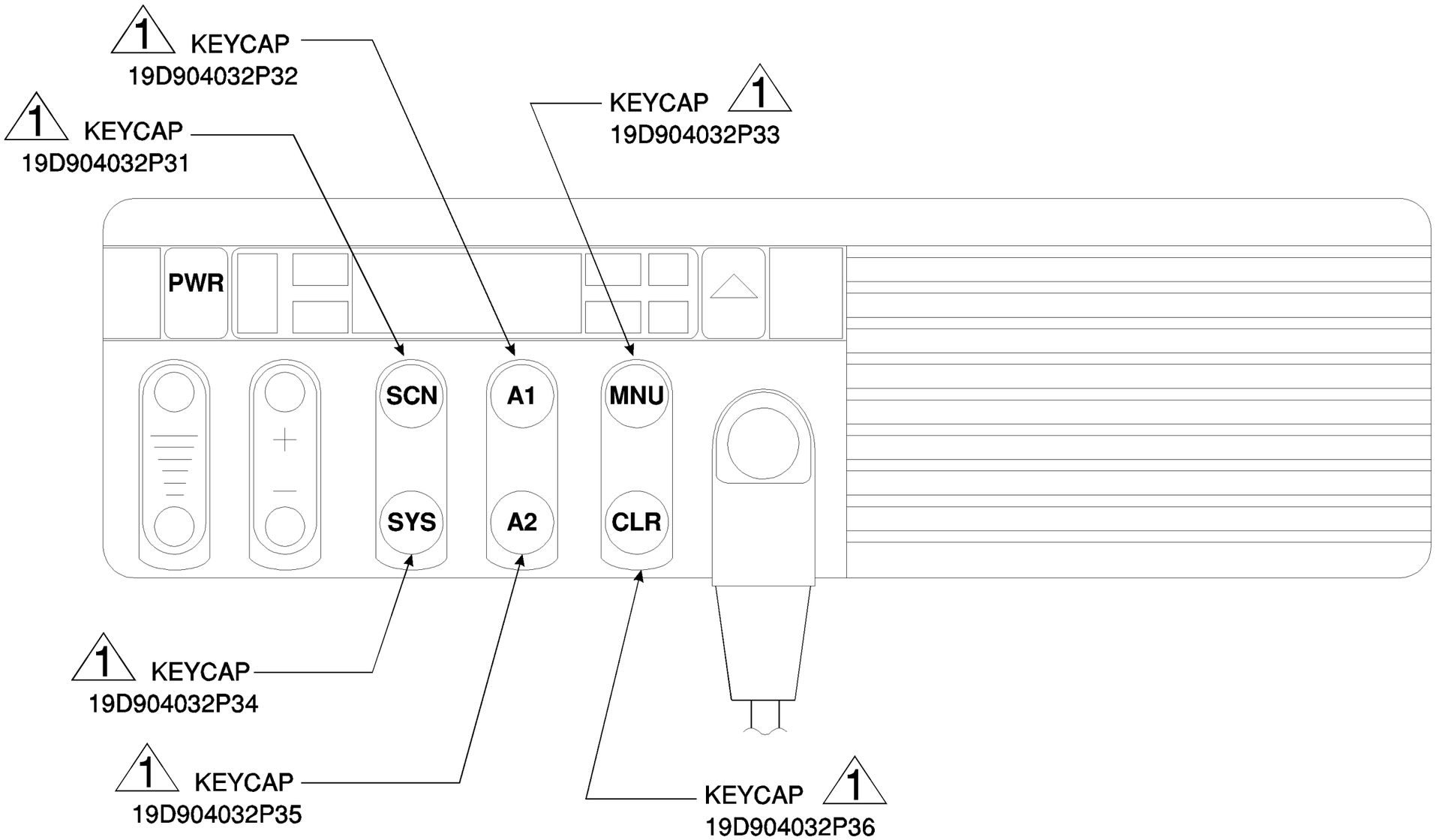
If the Public Address Option is present, the radio may be used as public address amplifier. Press the programmed flex key or scroll through the menu to select the PA option (Scan must be off). The LED display will show "**Pub Addr**". When the microphone is keyed, the radio no longer transmits, but allows the microphone audio to feed the speaker. Adjust the VOLUME for the desired level. Press the programmed flex key or scroll through the menu a second time to disable the PA option. The display will return to normal channel display. Changing groups or turning on Scan will also turn the operation off.

The Public Address microphone audio normally feeds an external speaker. An **ON/OFF** switch, which is mounted on or near the radio, allows selecting either the internal or external speaker for the receiver audio. The **ON/OFF** switch turns the receiver audio on or off to the external speaker. This switch still functions for the receiver audio with the PA option disabled.

MDX™ UHF MOBILE RADIO ASSEMBLY
19D904183P5
Issue 1

SYMBOL	PART NO.	DESCRIPTION
		----------ASSEMBLIES----------
A1	188D5062G4	RF Board (470 - 512 MHz)
A3	19D901891G3	System Board
A4	19D904025G2	Audio Amplifier Board
A5	19D903963G2	Audio/Logic Board
	19D904792G3	Power Amplifier Board (470 - 512 MHz)
		----------KITS----------
	344A4253G1	Hardware Kit No. 1
	344A4256G5	Hardware Kit No. 2 (470 - 512 MHz)
		----------CABLES----------
	19A704884P4	J1 To J103
	19A704884P4	J2 To J102
	19B801467P1	J3 to J705 to J704
	19B801253P5	Cable, Ribbon, between J707 on Audio Amplifier Board to P707 on Display Board
	19A705235P3	Cable, Ribbon, between J901 on Audio Amplifier Board to J902 on System Board
		----------MISCELLANEOUS----------
	19D904027P1	Casting
	19C337683G2	Bracket
	19D904185G1	Cover, Bottom
	19D904186G1	Cover, Top
	19D904187G1	Panel, Front
	19B801358P18	Cable, 9 Foot, Power
	19B235310P10	Nameplate, Combination

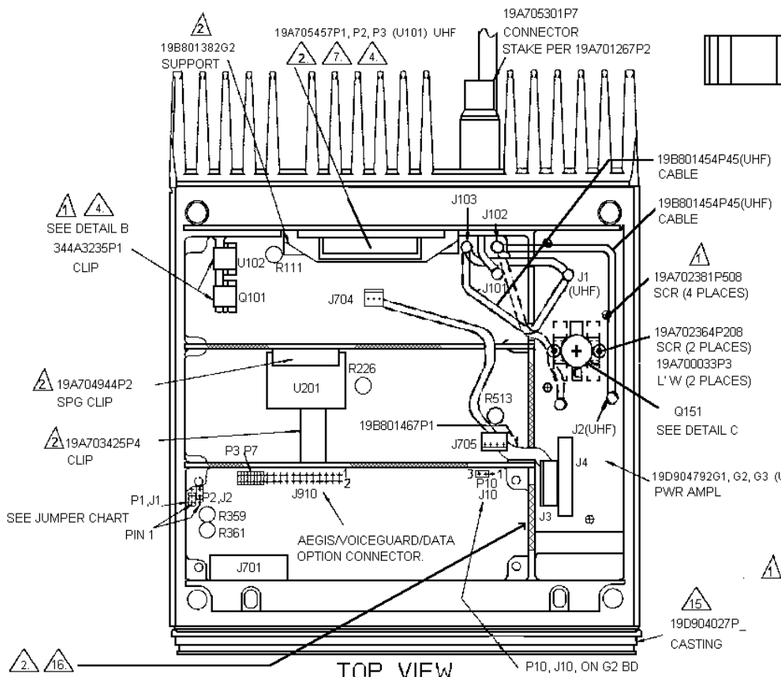


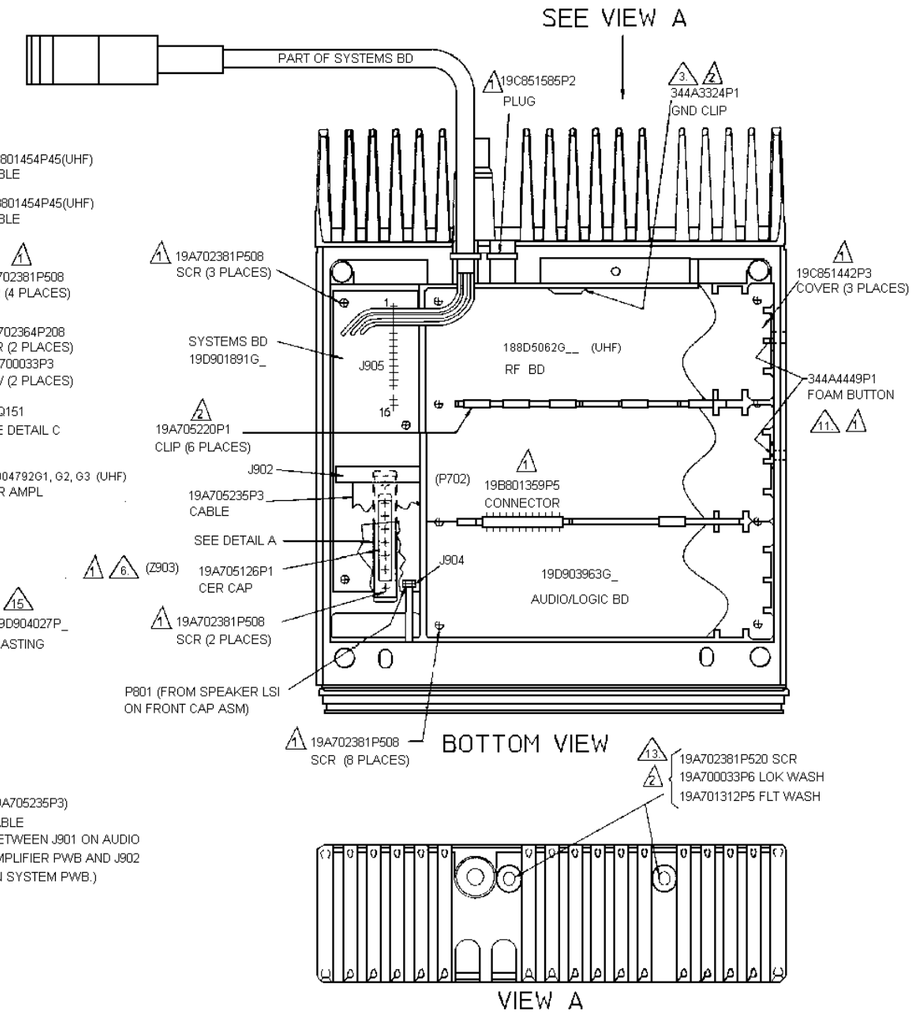


MDX (SIMPLEX)

MDX UHF Mobile Radio

(19D904183, Sh. 5, Rev. 0)

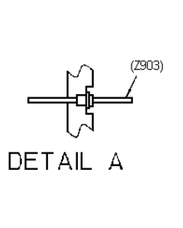


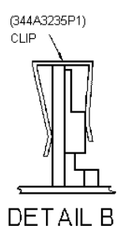


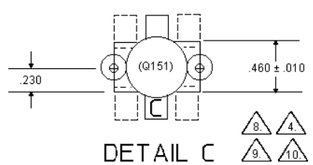
MDX UHF

NOTES :

1. PART OF MDX MARRIAGE HARDWARE KIT 344A4253G1.
2. PART OF RF BD HARDWARE KIT 344A4255G3,4,5,9
3. INSTALL BETWEEN PWB AND CASTING, SOLDER TO PWB.
4. APPLY SILICONE GREASE (19A701337P1) TO PA MOD, Q101 AND U102 ON RF BD AND Q151 ON PA BD ALSO U801 AND U727 ON AUDIO AMPLIFIER BD.
5. DIP ENDS OF SCREWS THAT GO INTO CASTING IN GREASE (19A115204P1) BEFORE INSTALLING INTO CASTING. TORQUE TO 15 INCH-POUNDS, 6 INCH POUNDS FOR PA BOARD (SEE NOTE 8).
6. LUBRICATE Z903 PINS WITH GREASE (19A704532P1).
7. INSTALL U101 FLUSH TO PWB AND FASTEN WITH SUPPORT TO CASTING BEFORE SOLDERING LEADS TO PWB. TOP OF U101 SHALL NOT EXTEND MORE THAN 0.25 ABOVE ADJACENT CASTING.
8. RECOMMENDED ASSEMBLY PROCEDURE FOR Q151.
   A. ASSEMBLE ALL MOUNTING HARDWARE LOOSE.
   B. ALIGN LEADS ON DEVICES WITH MICROSTRIP. POSITION THEM SO THAT MAXIMUM AMOUNT OF LEAD IS IN CONTACT WITH MICROSTRIP.
   C. TIGHTEN MOUNTING HARDWARE TO 4 ± 1 IN. LBS.
   D. PRE TIN LEADS, THEN SOLDER LEADS TO MICROSTRIP USING 2% SILVER.
   E. TIGHTEN MOUNTING HARDWARE. TORQUE TO 0.6 N.M. (6 IN. LBS.)
9. CARE MUST BE USED IN SOLDERING LEADS OF Q151 TO BD. (A1) TO AVOID SHORTING SOLDER TABS TOGETHER.
10. PART OF PA BD KIT 344A4256G3, 4, 5, (UHF)
11. APPLY OVER TWO HOLES ON INSIDE OF CASTING.
12. P1001 PART OF REMOTE MOUNT.
13. WEATHERPROOF HOLES AROUND SCREWS USING RTV162 (19A701648P2).
14. ROUTE THE TWO PA CABLES AS SHOWN, J103-J1 CABLE THROUGH THE LARGE NOTCH NEAREST HEATSINK. J102-J2 CABLE THROUGH SMALL NOTCH.
15. SECURE GASKET TO CASTING USING RTV3140.
16. 19A803825P1 CLIP, GND, 6 PLACES DENOTED BY CROSS HATCH







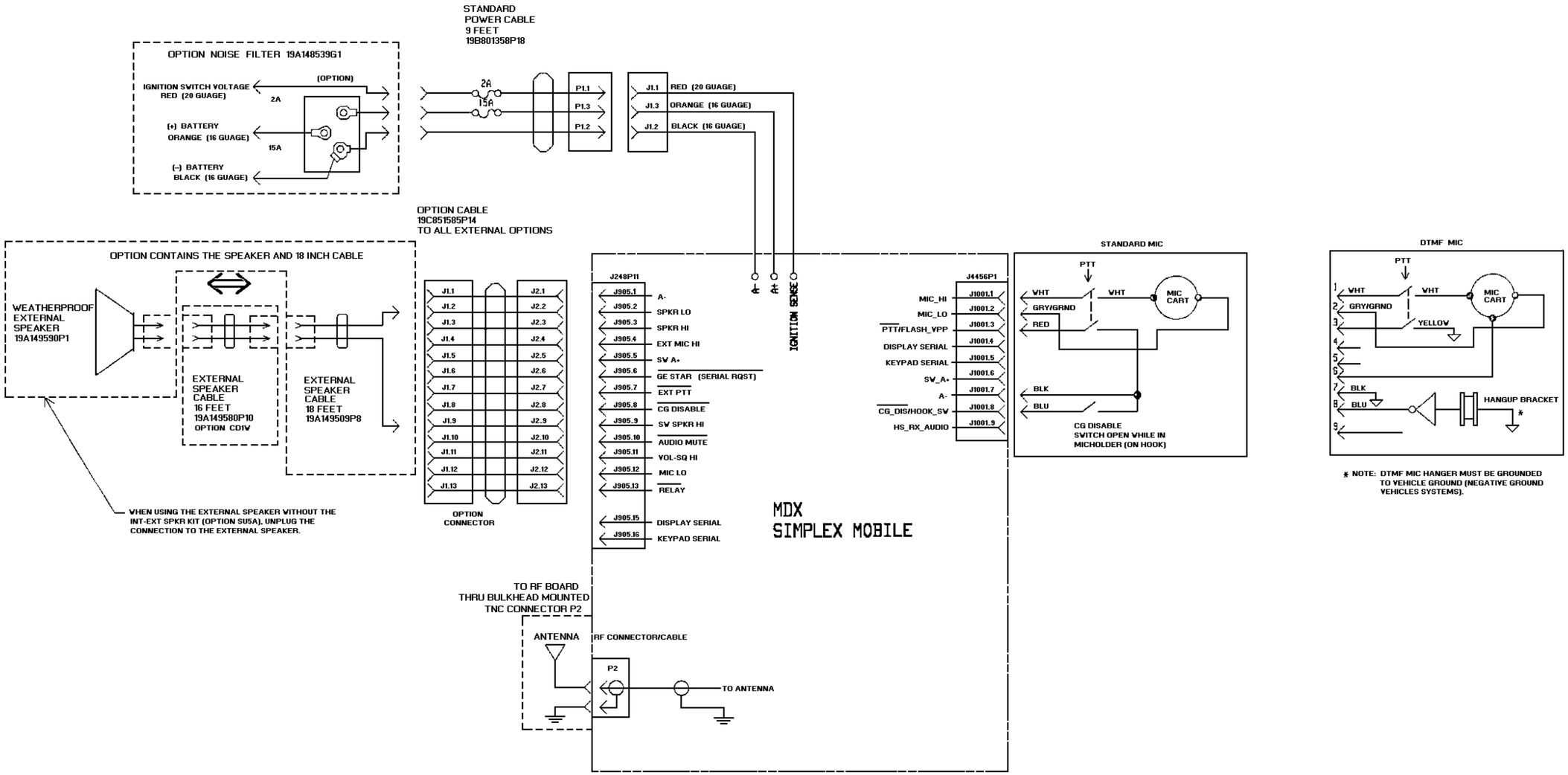
AUDIO/LOGIC BD JUMPER CHART		
JUMPER	INSTALLATION	NOTES
P1	J1-1&2	BASE BOOST DISABLED
P2	J2-2&3	TX SIDETONE NEG. POLARITY
P3	J910-23 & 24	NO OPTION INSTALLED
P4	J910-25 & 26	NO OPTION INSTALLED
P5	J910-27 & 28	NO OPTION INSTALLED
P6	J910-29 & 30	NO OPTION INSTALLED
P7	J910-31 & 32	NO OPTION INSTALLED
P10	NOT INSTALLED	MDX, 900 MHZ UHF, VHF

* 900 MHZ ONLY

AUDIO AMPLIFIER BD JUMPER CHART		
JUMPER	INSTALLATION	NOTES
P1	J1-1&2	12V SW PW CONTROLLED
P3	J3-1&2	MODE SELECT LOW
P7	J7-2&3	SWITCHED SPKR HI AUDIO

MDX UHF Mobile Radio

(Made From 19D904183, Sh. 7, Rev. 12)



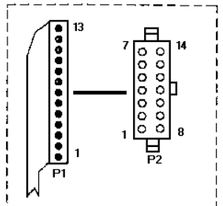
MDX UHF Mobile Radio

(188D5198, Sh. 1, Rev. 0)

OPTION NUMBER	OPTIONS AVAILABLE	EGE NUMBER
AW1R	ANTENNA, UHF / VHF, ROOFTOP TNC	19B203568P6
CD7W	POWER CABLE, 9 FEET	19B301358P18
CD3A	POWER CABLE, 18 FEET	19B301356P17
MC5P,MC5N	STANDARD MICROPHONE	344A4528P1
MC3W,MC3Z	MIL SPEC MICROPHONE	344A4528P55
MN1A	MIC HANGER	344A4678P1
MC5K,MC5A	DTMF MIC	344A4611P1
LS1F,LS1H	WATER-PROOF SPEAKER 5" X 5"	19A149590P1
CC9M	EXTERNAL SPEAKER CABLE, 18 INCHES	19A149509P8
CD1W	EXTERNAL SPEAKER CABLE, 16 FEET (REQUIRES CC9M)	19A149590P10
ZM1K,ZM5T	SPEAKER KIT (LS1F, CC9M)	—
CD7Z	OPTION CABLE	19C851585P14
PD1A	NOISE SUPPRESSION KIT	19A148539G1
SU1C	HORN ALARM RELAY KIT	19A705499P1
TQ3372	PC PROGRAMMER CABLE	19B801417P9
TQ3373	PC PROGRAMMING SOFTWARE (EDACS, GEMARC&CONV)	—
TQ3346	PC PROGRAMMING SOFTWARE (GEMARC&CONV)	—
*	MOUNTING BRACKET KIT	19A138051G11
ZM5S	18 FEET REMOTE MOUNT KIT	—
SU5A	PUBLIC ADDRESS RELAY/EXT SPEAKER RELAY KIT	19C851585P17
CY1B	DC REMOTE CONTROL	19A704666P7
TQ3370	PC PROGRAMMING/FLASH INTERFACE BOX	19D438367G2
ZM5R,ZM5U	MIC AND HANGER, MIL SPEC.	
VS026	QUICK RELEASE SLIDE MOUNT KIT	

* OPTIONS ARE STANDARD

NOTE :
FOR A COMPLETE LISTING OF OPTIONS SEE YOUR AUTHORIZED EGE DEALER.

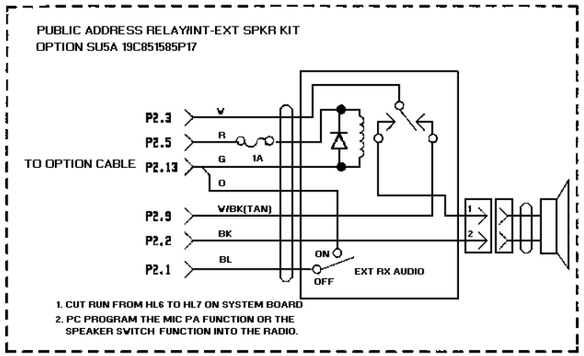


OPTION CABLE
19C851585P14

P1 CONNECTS TO A5
SYSTEM BOARD @ J905

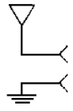
WIRE CONNECTION CHART		
FROM	COLOR	TO
P1-1	BLACK	P2-1
P1-2	RED	P2-2
P1-3	BROWN	P2-3
P1-4	WHITE	P2-4
P1-5	GREY	P2-5
P1-6	PINK	P2-6
P1-7	BLUE	P2-7
P1-8	YELLOW	P2-8
P1-9	ORG/WHITE	P2-9
P1-10	GREEN	P2-10
P1-11	VIOLET	P2-11
P1-12	ORANGE	P2-12
P1-13	TAN	P2-13
	(SPARE)	P2-14

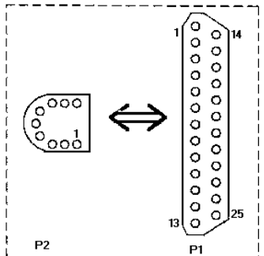
PUBLIC ADDRESS RELAY/INT-EXT SPKR KIT
OPTION SU5A 19C851585P17



1. CUT RUN FROM HL6 TO HL7 ON SYSTEM BOARD
2. PC PROGRAM THE MIC PA FUNCTION OR THE SPEAKER SWITCH FUNCTION INTO THE RADIO.

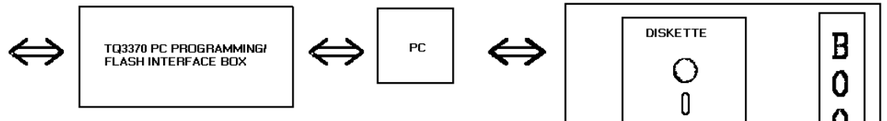
ANTENNA
OPTION
TO TNC CONNECTOR

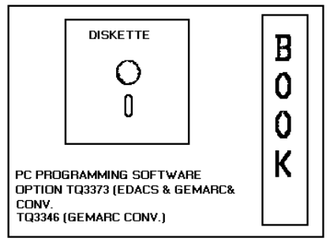


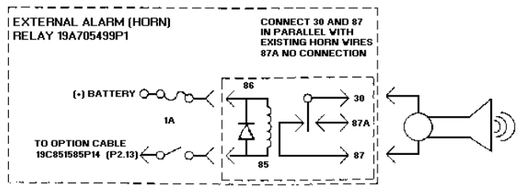


PC PROGRAMMER CABLE
OPTION TQ3372 19B801417P10

WIRE CONNECTION CHART		
FROM	TO	FUNCTION
P1-3	P1-4	AGND
P1-2	P2-2	AGND
P1-5	P2-3	PTT/FLASH_VPP
P1-6	P1-18	SW_A+
P1-18	P2-6	SW_A+
P1-9	P1-25	CTS
P1-14	P2-9	HS_RX_AUDIO
P1-11	P2-4	DISPLAY
P1-12	P2-5	KEYPAD
P1-13	P2-7	A-
P1-16	P2-1	TX AUD
P1-5	P1-15	PTT/VPP

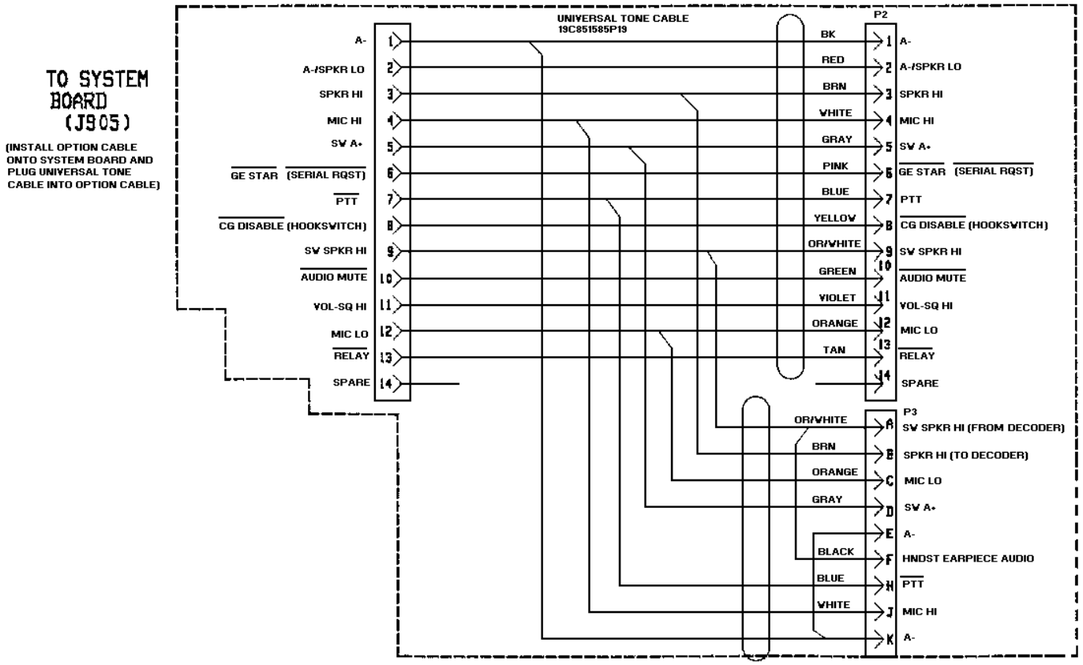


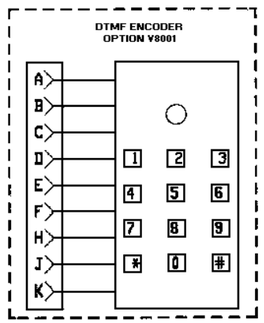


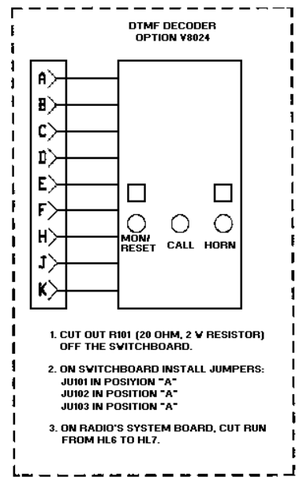


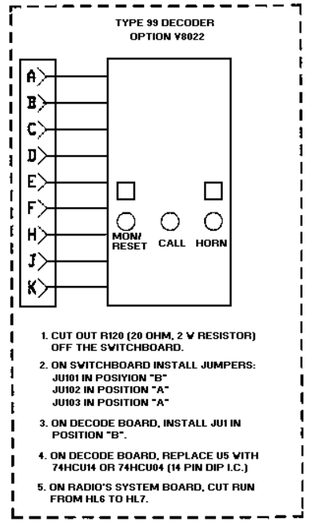
MDX UHF Mobile Radio

(188D5198, Sh. 3, Rev. 0)









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