



LBI-38976A

## *Mobile Communications*

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# MDX/ORION DESK TOP STATION

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## Operator's Manual

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# INTRODUCTION

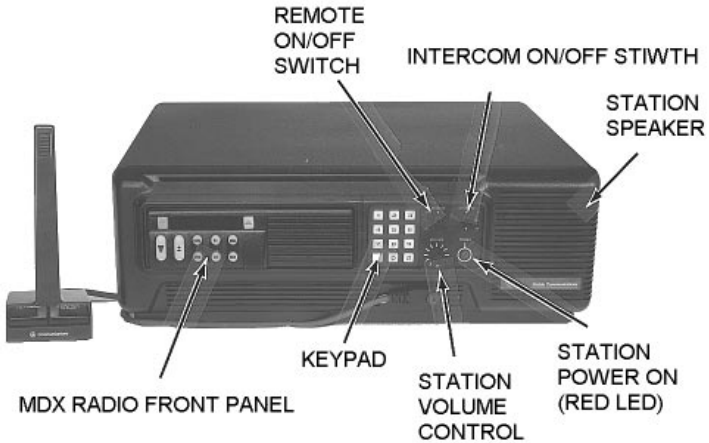


Figure 1 - Base Station Controls and Indicators

The Desk Top Station, in Figure 1, shows the front of an **MDX** conventional/ **EDACS™** radio, as well as a Control Panel with keypad option. The **ORION** radio unit is also available for the Desk Top Station application, but will not use the keypad options panel. The Station is assembled as a standard Station with or without one of the combinations of options. The control panel is illustrated for each combination:

- **Standard Desk Top Station, Without Options** - The standard Station has only a single RED LED to indicate when the power supply is **ON** (see Figure 2).

The power supply **ON/OFF** switch is mounted on the rear of the Station housing.

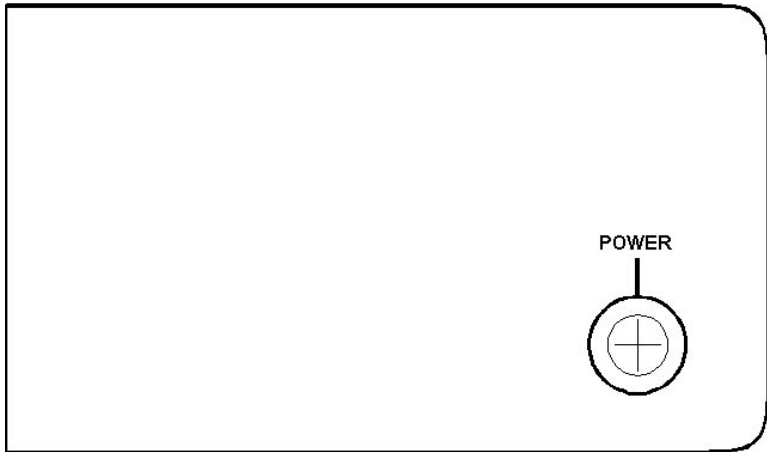


Figure 2 - Control Panel With Single LED Power Indicator

- **Standard Station with Remote Option** - In addition to the LED **POWER** indicator, there is a **REMOTE ON/OFF** switch, an **INTERCOM ON/OFF/Momentary** switch and a **VOLUME** control (see Figure 3).

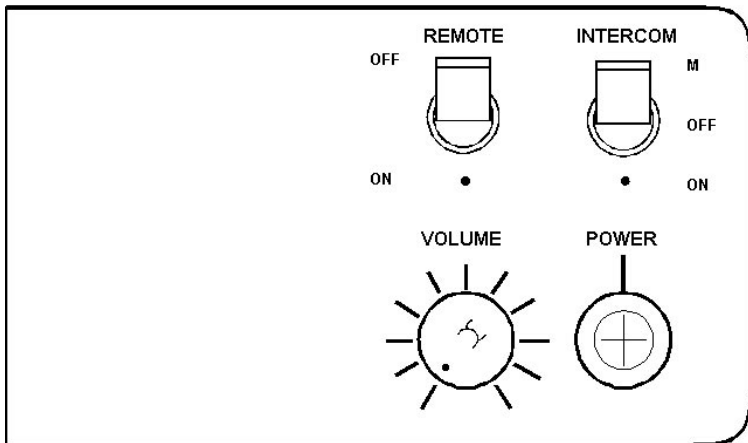


Figure 3 - Control Panel With Remote Option

## **OPERATION OF THE STANDARD STATION WITHOUT OPTIONS**

Operation of the Standard Station without any option begins with turning **ON** the **POWER** switch. The **POWER** switch is located on the rear of the power supply, accessible at the rear of the Desk Top Station housing. The **POWER** indicator lights, showing that the power supply is **ON**. The radio is not **ON** yet. The Power Supply provides power to the Station cooling fan. The fan operation is temperature controlled. Internal cabinet temperature determines when the fan runs. The radio has its own **ON/OFF POWER** Switch.

The radio uses the Station Speaker mounted behind the front cap of the Station. When a MDX radio is installed, the radio's internal speaker is not used. The radio must be programmed for a variable volume control.

Refer to the applicable Operator's Manual for more detailed information on MDX and ORION equipped stations.

## **STATION WITH REMOTE OPTION**

The DC/Tone Remote Options permit use of RCN-1000 Remote Control Consoles with the Desk Top Station. Any of these options require that the Station have a DC or Tone Remote Board with a Remote Interface Board. These options provide for a two or four wire interface to the consoles for these functions:

- Transmit, Receive and Intercom Audio
- Transmit Keying (PTT) Control
- Channel Guard Monitor

## **OPERATION OF THE STATION WITH REMOTE OPTION**

Operation of the Desk Top Station is described for four combinations of the **INTERCOM** switch and the **REMOTE** switch positions. These two switches control the various audio paths between remote and local microphones, the radio, and remote and local speakers.

## 1. Desk Top Intercom Switch ON, Remote Switch ON

With this switch arrangement, intercom communication is possible between the Desk Top Station and the Remote Console. Also, the Remote Console can key the radio transmitter and hear the receiver's audio output.

When the Desk Mic PTT is keyed, there is no connection to the radio transmitter. If the radio receiver is squelched, the speaker at the Remote Console hears the audio as an intercom conversation. Should the radio receiver be unsquelched, receiver audio is heard on both the Desk Top speaker and the Remote Console speaker, with priority over the intercom message from the Desk Mic to the Remote speaker.

The audio from the microphone at the Remote Console is heard on the Desk Top Station speaker. The Remote Console's **INTERCOM** switch must be **OFF** to key the station's radio transmitter.

The audio from the unsquelched radio receiver is heard on both the Station speaker and the Remote Console speaker.

Intercom messages from the Remote Consoles are muted when radio messages are being received, or when the Desk Top Station operator is using the Desk Mic PTT.

## 2. Desk Top Intercom Switch ON, Remote Switch OFF

This arrangement offers intercom service only. Neither the Desk Top Station nor the Remote Console microphone can be used to key the radio transmitter. The radio receiver's audio can be heard on the Station speaker, but not on the Remote Console speaker.

A message from the Desk Mic is heard on the Remote speaker.

An intercom message from the Remote Mic can be heard on the Station speaker, but only if the Desk Mic is not active. The Desk Mic has priority over the Remote Console microphone in the intercom connection.

### 3. Desk Top Intercom Switch OFF, Remote Switch ON

These switch settings are for remote control of the radio, without an intercom connection.

When the Desk Mic is keyed, the radio transmitter is keyed and the Remote Console is able to monitor the transmission.

The Remote Console microphone is connected to the radio transmitter if the Remote Console Mic is keyed and the Desk Mic is not keyed. Also, the Remote Console Mic is connected to the Station speaker if the radio receiver is squelched and the Desk Mic is not keyed (so that the "**Desk Mic Audio to Line Path**" is inactive).

The radio receiver audio is connected to the Remote Console speaker if the receiver is unsquelched. The P.A. output from the receiver is unconditionally connected to the Station speaker, but is subject to the radio's internal squelch.

### 4. Desk Top Intercom Switch OFF, Remote Switch OFF

This arrangement is for operating the Desk Top Station as a radio.

The Desk Mic is connected only to the radio transmitter, when the Desk Mic is keyed.

The radio receiver's P.A. audio output is connected only to the Station speaker.

A summary of the audio path connections for the four combinations of **INTERCOM** and **REMOTE** Switches is given in the **Remote and Intercom Audio Interface Summary**.

The **VOLUME** Control is a rotary potentiometer on the Desk Top Station Control Panel which controls the level of the audio signal fed to the Station speaker as determined by the choice of **INTERCOM** and **REMOTE** switch positions.

The volume control on the mobile must be variable for the local control station only.

With the **MDX** remote radio, the rotary **VOLUME** control adjusts both the receiver and the intercom audio levels. The radio volume control buttons are disabled by a PC programming option so that the receiver audio volume level is fixed and the internally adjusted "**Intercom Level**" adjusts the intercom audio relative to the receiver audio. This arrangement allows all Alert Tones generated by the radio to pass to the Remote Consoles at a suitable level independent of the Desk Top Station rotary **VOLUME** control. Refer to applicable Operator's Manual for specific information on setting the audio level of the particular radio installed.

## **KEYPAD/FREQUENCY SELECT BOARD OPTION**

The Keypad Option is compatible with the **MDX** radio (see Figures 4 & 5). When the desktop station is equipped with the Keypad/Remote board, the unit is capable of placing individual calls to other mobiles on the system as well as making interconnect calls. The board also allows operation with a five (5) function remote RC-1000 controller when tone remote control board 19A704686P8 is installed in the station.

## **KEYPAD OPERATION (MDX RADIO ONLY)**

### **To Make An Individual Call From The Keypad**

1. Push the **MENU** button on the radio to select the special call mode.
2. Enter the unit ID of the radio to be called using the keypad. The allowed range is from 1 to 16382 (this range may be restricted by the PC programmer).
3. Key the desk microphone to call the individual unit. The radio will transmit and receive only to the individual radio in this mode and no other units in the fleet can hear the call. The individual unit ID will be displayed on the radio as long as the call is in progress.
4. Push either the **CLR** button on the radio or the pound (#) key on the keypad to end the call and return to normal operation.



**To Make A Telephone Interconnect Call From The Keypad:**

1. Push the **MENU** button on the radio to select the special call mode.
2. Enter the desired phone number using the keypad.
3. Push the star (\*) key on the keypad and wait for the radio to dial the number.
4. Key the desk microphone PTT switch to talk and release it to listen.
5. Push either the CLR button on the radio or the pound (#) key on the keypad to end the call and return to normal operation.

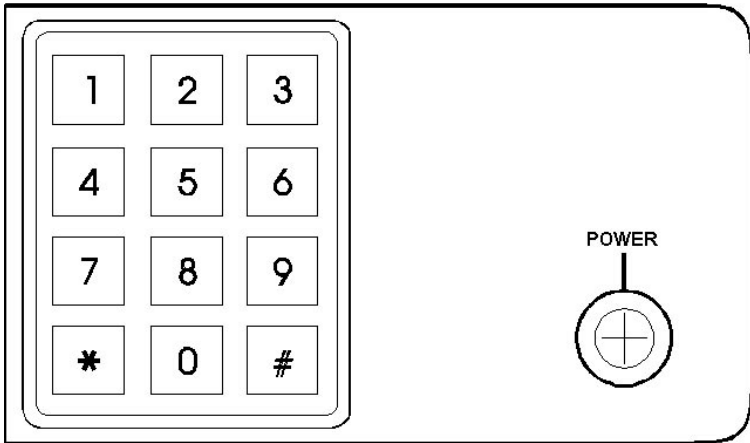


Figure 4 - Control Panel with Remote Options and Keypad  
(MDX Radio Only)

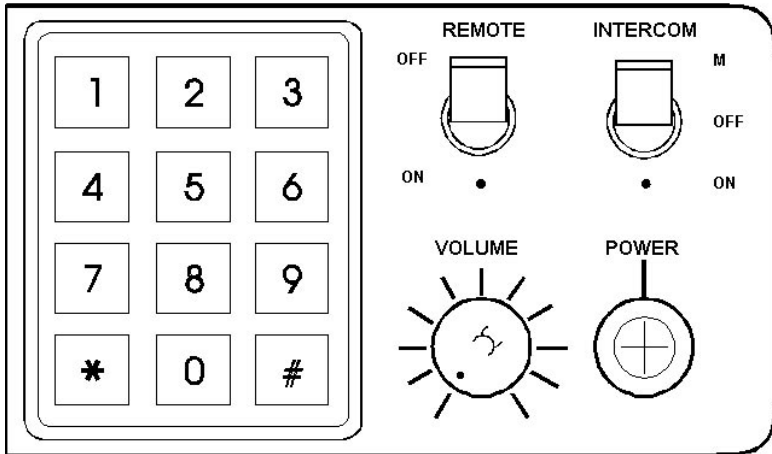


Figure 5 - Control Panel With Remote and Keypad Options  
(MDX Radio Only)

## EDACS REMOTE OPERATION

The RCN-1000 Remote Controller is capable of selecting up to five (5) predefined radio system/group/special call combinations. The presets are programmed into the radio by the PC Programmer.

The remotes and desktop station can operate as an intercom by setting the **INTERCOM** switch to **ON** or **M**.

Remotes can be disabled by setting the station **REMOTE** switch to **OFF**.

To Place A Call From The Remote:

1. Select the desired **SF** function switch on the RCN-1000. The LED next to the function switch will illuminate.
2. Key the microphone PTT switch and wait for a short beep before beginning to speak. Release the PTT when you're finished.
3. Adjust the volume as needed while receiving a call.

## REMOTE & INTERCOM AUDIO INTERFACE SUMMARY

<b>Desk Top Intercom Switch ON, Remote Switch ON</b>	
	Remote Mic ———>Radio Xmtr
	Remote Mic ———>Station Spkr
	Desk Mic —/—>Radio Xmtr
	Desk Mic ———>Remote Spkr, If Rx is muted, otherwise Rx——>Remote Spkr and Station Spkr
	Rx Audio ———>Station Spkr & Remote Spkr
<b>Desk Top Intercom Switch ON, Remote Switch OFF</b>	
	Remote Mic —/—>Radio Xmtr
	Remote Mic——>Station Spkr, if Desk Mic PTT inactive
	Desk Mic —/—>Radio Xmtr
	Desk Mic ———>Remote Spkr
	Rx Audio —/—>Remote Spkr
	Rx Audio ———>Station Spkr
<b>Desk Top Intercom Switch OFF, Remote Switch ON</b>	
	Remote Mic——>Radio Xmtr, if no Desk Mic; otherwise with Desk Mic PTT, Desk Mic ———>Radio Xmtr
	Remote Mic——>Desk Spkr, if Desk Mic PTT inactive, otherwise Remote Mic muted
	Desk Mic ———>Radio Xmtr with Desk Mic PTT
	Desk Mic ———>Remote Spkr
	Rx Audio ———>Remote Spkr, if Rx unmuted
	Rx PA Audio ——>Station Spkr
<b>Desk Top Intercom Switch OFF, Remote Switch OFF</b>	
	Remote Mic—/—>Radio Xmtr
	Remote Mic—/—>Station Spkr
	Desk Mic ———>Radio Xmtr
	Desk Mic —/—>Remote Spkr
	Rx Audio —/—>Remote Spkr
	Rx PA Audio ——>Station Spkr
<b>Key:</b>	Connection = ——>
	No Connection = —/—>

## CLOCK/VU METER OPTION

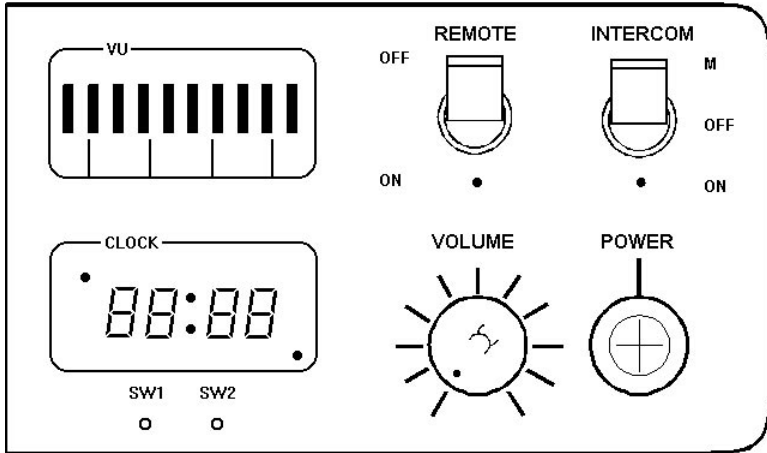


Figure 6 - Control Panel With Remote and Clock/VU Meter Options.

### Clock Settings

#### **NOTE**

The VU meter bar graphic display is inactive during the time setting mode.

- Press SW1 approximately 1 second.  
A "12\_\_" or "24\_\_" will display indicating the 12/24 hour display mode. Press SW2 to alternate between modes. When the correct mode is displayed,
- Press SW1 approximately 1 second.  
The time will display (no flashing colon) with hours intensified. Press SW2 to advance the hours. Holding SW2 down will auto increment at about 3 counts per second. Note the dot in the upper left indicates PM. When the correct hour is displayed,

- Press SW1 approximately 1 second.  
The time will display with minutes intensified. Press SW2 to advance the minutes. When the correct minutes are displayed,
- Press SW1 approximately 1 second.  
The time will display at the set intensity (no flashing colon). SW2 changes the intensity. Four intensities are available. When the correct intensity is displayed and the reference clock advances to the next minute,
- Press SW1  
The colon will now flash and the time keeping continues.

### **VU Meter**

A lighted indicator in the lower right corner of the clock display indicates that the internal battery of the Clock/VU Option is defective or the VU meter calibration data has been lost. Contact a service technician to correct the problem.

## NOTES

# WARRANTY

A. Ericsson GE Mobile Communications Inc. (hereinafter "Seller") warrants to the original purchaser for use (hereinafter "Buyer") that Equipment manufactured by Seller shall be free from defects in material, workmanship and title, and shall conform to its published specifications. With respect to any Equipment not manufactured by Seller (except for integral parts of Seller's Equipment to which the warranties set forth above shall apply). Seller gives no warranty, and only the warranty, if any, given by the manufacturer shall apply. Batteries are excluded from this warranty but are warranted under a separate Nickel-Cadmium Battery Warranty.

B. Seller's obligations set forth in Paragraph C below shall apply only to failures to meet the above warranties (except as to title) occurring within the following periods of time from date of sale to the Buyer and are conditioned on Buyer's giving written notice to Seller within thirty (30) days of such occurrence:

1. for fuses, incandescent lamps, vacuum tubes and non-rechargeable batteries, operable on arrival only.
2. for parts and accessories (except as noted in B.1) sold by Seller's Service Parts Operation, ninety (90) days.
3. for all other Equipment of Seller's manufacture, one (1) year.

C. If any Equipment fails to meet the foregoing warranties, Seller shall correct the failure at its option (i) by repairing any defective or damaged part or parts thereof, or (ii) by making available at Seller's factory any necessary repaired or replacement parts. Any repaired or replacement part furnished hereunder shall be warranted for the remainder of the warranty period of the Equipment in which it is installed. Where such failure cannot be corrected by Seller's reasonable efforts, the parties will negotiate an equitable adjustment in price. Labor to perform warranty service will be provided at no charge only for the Equipment covered under Paragraph B.3, and only during the first three (3) months following the date of sale to the Buyer. Thereafter, labor will be charged at prevailing rates. To be eligible for no-charge labor, service must be performed by an authorized General Electric Service Station or other Servicer approved for these purposes either at its place of business during normal business hours, for mobile or personal equipment, or at the Buyer's location, for fixed location equipment. Service on fixed location equipment more than thirty (30) miles from the Service Station or other approved Servicer's place of business will include a charge for transportation. Equipment located off-shore is not eligible for no-charge labor.

D. Seller's obligations under Paragraph C shall not apply to any Equipment, or part thereof, which (i) has been modified or otherwise altered other than pursuant to Seller's written instructions or written approval or, (ii) is normally consumed in operation or, (iii) has a normal life inherently shorter than the warranty periods specified in Paragraph B, or (iv) is not properly stored, installed, used, maintained or repaired, or, (v) has been subjected to any other kind of misuse or detrimental exposure, or has been involved in an accident.

E. The preceding paragraphs set forth the exclusive remedies for claims (except as to title) based upon defects in or nonconformity of the Equipment, whether the claim is in contract, warranty, tort (including negligence), strict liability or otherwise, and however instituted. Upon the expiration of the warranty period, all such liability shall terminate. The foregoing warranties are exclusive and in lieu of all other warranties, whether oral, written, expressed, implied or statutory. NO IMPLIED OR STATUTORY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE SHALL APPLY. IN NO EVENT SHALL THE SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, INDIRECT OR EXEMPLARY DAMAGES.

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