



Mobile Communications



**EDACS™ FMD™
SELECT MODEL**

Operator's Manual

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INTRODUCTION

The EDACS FMD is a synthesized mobile radio designed for high reliability and ease of operation. Its small size makes the radio ideal for front mounting. All operating controls and indicators are located on the front panel (Figure 1). A few features of the radio are listed below:

- Clear display, even in bright sunlight
- Accommodates both voice and data transmission
- Button and display backlighting for nighttime operation
- Adaptable for remote mounting
- External switch sends instant emergency signal
- Multiple Systems, Groups, and Channels
- Special call for radio-to-radio or telephone interconnect calls

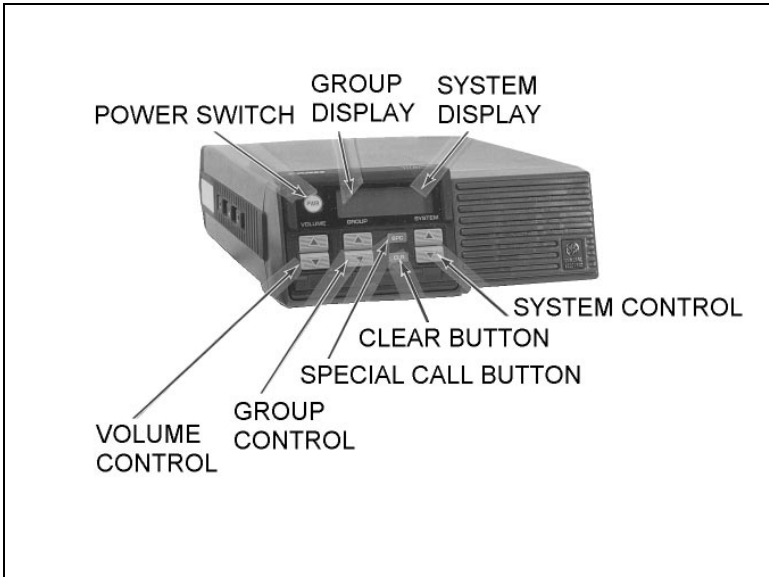


FIGURE 1 - EDACS FMD SELECT CONTROL PANEL

CONTROLS AND DISPLAYS

Controls and displays on the EDACS FMD Select model are described in this section.

DISPLAYS

The display shows current operating information including Group, System, or Channel. It also shows when the radio is in emergency operation and shows different status flags. An example of the display is shown below with all the status flags displayed. When you are using the radio, only the active performance indicators and characters will show. When the radio is turned on, the display will show the system and group selection.



- TX** Transmit status flag. This status flag is on when the radio is transmitting.
- BSY** Channel busy status flag. This status flag is on when the radio receives a call or when a conventional channel is in use.
- NC** No control channel status flag. This status flag is on when the control channel is not available (out of range or not operating). On supervisory units, the flag flashes when site equipment is in failsoft.
- CNV** Conventional system status flag. This status flag is on when operating on a conventional system.
- EMER** Emergency status flag. Displayed when the external emergency switch (optional) is activated and when an emergency call is received.
- CALL** Flashes when programmed calls are received.
- SPC** Special call status flag. Displayed when an individual call is received or a special call is selected.

SYSTEM Shows the selected system number.

GROUP Shows the selected group number.

The display has a backlight so you can read the display at night or in dimly lit areas.

CONTROLS

PWR A red pushbutton is used to turn the radio on and off.
(Power)

VOLUME These buttons set the receive volume level. Press the ▲ button to increase the volume or press the ▼ button to lower the volume. Hold the button down until the desired audio tone is heard (a tone will not be heard if the BSY status flag is on). The radio stores the selected volume level even when power is off.

GROUP The GROUP buttons change the group selection. Pressing ▲ or ▼ will change the group selection. The ▲ button selects the next group, and ▼ button selects the previous group.

SYSTEM These buttons change the system selection. Pressing ▲ or ▼ will change the system selection. The ▲ button selects the next system, and ▼ button selects the previous system.

SPC Pressing this button causes the radio to enter the special Call mode. Special Call allows you to place calls to individual radios or telephone numbers. Use the GROUP ▲ and ▼ buttons to select Special Calls in Special Call mode.

CLR Used to clear an emergency (supervisory units only), clear Special Calls, and when setting the backlight level.

EMERGENCY FEATURE

Your radio is equipped with an emergency communications feature that may be activated through an optional externally mounted switch. When you activate the external emergency switch (optional), you will be given the highest priority for voice communication. An emergency

message with your radio ID will be sent to the dispatcher and your radio display will show the EMER status flag. Everyone in your group will see an emergency indication on their radios.

OPERATION

GROUP SELECTION

The GROUP buttons change your Group (or conventional channel) selection. Press the ▲ button to view the next Group choice or ▼ to view the previous Group choice. Release the button when the display shows the Group you want. If the displayed Group does not change, you have reached the limit and will have to press the opposite direction to see other selections. These buttons will automatically ramp when held down.

SYSTEM SELECTION

Select a trunked or conventional System by pressing the SYSTEM buttons. Press the ▲ button to see the next System choice or press the ▼ button to see the previous System choice. Release the button when the display shows the System you want. If the System message does not change, you have reached the limit and will have to press the button in the opposite direction to see other selections. These buttons will automatically ramp when held down.

NOTE

The group may change when the system selection is changed. This happens when the selected system does not contain the previously selected group. Make sure the GROUP selection is correct after selecting a SYSTEM.

GETTING STARTED

1. Press the red PWR button to turn the radio on. The display will become visible.
2. Adjust the volume using the VOLUME buttons.

Your radio is now set up for basic operation. The BSY status flag will be on when a call is received.

SETTING BACKLIGHT LEVEL

The level of backlighting for the LCD may be adjusted as follows:

NOTE

Pressing the CLR button disables the squelch on conventional channels. You may want to reduce the volume before setting the backlight level to prevent excessive noise in the speaker.

1. Press and hold the CLR button.
2. Press the GROUP ▲ or ▼ button until the desired level of backlighting (off, low, medium, or high) is obtained. The backlight level is stored when the radio is turned off.
3. Release the CLR button.

SENDING AND RECEIVING TRUNKED MESSAGES

When operating in a trunked system (normal operation), use the procedures in this section. Operation in the conventional channel mode is described under SENDING AND RECEIVING CONVENTIONAL MESSAGES.

Receiving A Message

1. Press the VOLUME button and listen for the desired level of audio tone.
2. Select the trunked system by operating the SYSTEM buttons.
3. Select the desired group by operating the GROUP buttons.

The radio will now receive calls directed to the selected system and group. If an individual call (call directed only to your radio) is received, the SPC and BSY status flags will be displayed.

Sending A Message

1. Select the desired system by operating the SYSTEM buttons.

2. Select the desired group by operating the GROUP buttons.
3. When the BSY status flag is off, press the PTT button on the microphone. Wait until the TX and BSY status flags are displayed and a tone is heard.
4. Hold the microphone about six inches from your mouth and speak normally.
5. Release the PTT button when the transmission is complete, and listen for any reply. The TX and BSY status flags will go off.

SENDING AND RECEIVING CONVENTIONAL MESSAGES

The procedures described here are for operating in a conventional channel mode. Use these procedures if you have a conventional system, or in the event of a failure of the trunked system.

Receiving A Message

1. Press the VOLUME button and listen for the desired level of audio tone.
2. Select a conventional channel system by operating the SYSTEM buttons.
3. Select the desired channel by operating the GROUP buttons. The radio will now receive messages over the channel.

Sending A Message

1. Select a conventional channel system by operating the SYSTEM buttons.
2. Select the desired channel by operating the GROUP buttons.
3. Insure that there is no other transmission on the channel (BSY status flag off).
4. Press the PTT button on the microphone and wait until the TX status flag is displayed and a tone is heard.

5. Hold the microphone about six inches from your mouth and speak normally.
6. Release the PTT button when the transmission is complete, and listen for any reply. The TX status flag will go off.

SPECIAL FEATURES

ALERT TONES

Your radio produces audio tones when the buttons are pressed and at other times during normal operation.

- Short tone when a button is pressed.
- Short tone when emergency operation is used.
- Short tone after PTT is pressed and radio is ready to transmit.
- Call-queued tone. A high pitched beep signalling the call has been queued and will be placed as soon as a channel is assigned. Wait until call is placed. The radio flashes the BSY status flag and disables PTT when a call is queued.
- System busy. Three low pitched beeps indicating the system is busy. Try your call later.
- Auto-key tone. A long tone if the PTT is not pressed when the site equipment assigns a channel. You have up to two seconds to press the PTT after the tone to keep the assigned channel.
- Carrier Control Timer (CCT) Tone. A warning signal which sounds after the radio has been continuously transmitting for a pre-programmed time. The signal turns off when PTT is released. A five-beep signal followed by a low tone is used on trunked systems. On conventional systems, the low tone beep sounds until PTT is released.

RECEIVING AN EMERGENCY CALL

When you receive an emergency call a short beep will sound, the EMER status flag will flash, and the BSY status flag will come on. Follow your standard emergency procedures.

SENDING AN EMERGENCY CALL

To send an Emergency call proceed as follows:

1. Activate the external emergency switch (optional). The EMER and TX status flags will come on (unless programmed off).
2. Press the PTT button on the microphone, and speak into the microphone in a normal voice.
3. Release the PTT button when the transmission is completed, and listen for any reply. The TX status flag will go out.

CLEARING AN EMERGENCY CALL

If your radio has been programmed as a supervisory unit, you may clear emergency calls. When the emergency is no longer in effect, the emergency call may be cleared as follows:

1. Press and hold the CLR button while pressing the external emergency switch (optional).
2. Wait for the EMER status flag to go off.
3. Release both buttons.

SPECIAL CALL

Receiving An Individual Call (Trunked Mode)

When you receive an individual call (call directed only to your radio), the CALL and BSY status flags will be displayed. If you want to respond to the call, you have up to five seconds to press the PTT button. Your call will automatically be directed to the station calling you.

Sending A Special Call

You may make Special Calls with your radio through the Special Call feature.

1. Press and release the SPC button. The SPC status flag will come on and the system display will change to SP. The group display will change to the previously selected special call number.
2. Press the GROUP buttons to search (forward or reverse direction) through the displayed list of Special Call numbers. When the desired Special Call number appears on the display, release the GROUP button.
3. Press the PTT button on the microphone and make your call.
4. Release the PTT button when you are done talking, and listen for any reply.
5. When the call is finished, press the CLR button or hang up the microphone. The display will change to the previously selected group and system.

Telephone Interconnect

You may make telephone calls using the Special Call feature and an optional DTMF microphone. Make a telephone interconnect call as follows:

1. Press the SPC button, the SPC status flag will come on. The system display will change to the letters SP. The group display will change to one of the previously selected special call numbers.
2. Press the GROUP buttons until the special call number for telephone interconnect appears in the group display.
3. Press the PTT button on the microphone and wait for a dial tone (or ringing if the number is pre-stored).
4. Enter the telephone number followed by * (star) using the keypad on the microphone. Allow enough time for the transmitter to key

when dialing telephone numbers. If the number is pre-stored, skip this Step. Release the PTT button.

NOTE

You cannot talk and listen at the same time as with a regular telephone. Whenever you talk you will not hear the other party.

5. When the call is answered, press the PTT button and wait for the tone before speaking.
6. Release the PTT button and listen for any reply.
7. When your call is finished, press the CLR button. The previously selected group and system will appear on the display.

IN CASE OF DIFFICULTY

The following suggestions should be tried before returning your radio for service.

PROBLEM	SOLUTION
First part of message not sent.	Channel not assigned before transmitting (trunked system). Wait for beep tone before beginning message.
Messages not received.	<ol style="list-style-type: none">1. Volume level set too low. Increase setting of VOLUME control.2. Out of range of repeater or station.
Messages not transmitted.	<ol style="list-style-type: none">1. Radio not turned on.2. PTT not fully pressed. Make sure TX status flag is on before transmitting.3. Out of range of repeater or station.
Transmitted messages are garbled.	<ol style="list-style-type: none">1. Too close or too far from microphone. Try different distance from microphone, and/or different speaking level.2. Out of range of repeater or station.

OPERATING TIPS

- Remember to wait for the beep before speaking when transmitting.

The following conditions tend to reduce the effective range of two-way radios and should be avoided whenever possible.

- Operating the radio in low areas of the terrain, or while under power lines or bridges.
- Obstructions such as mountains or buildings between the repeater site and the individual receiving the message.

Moving in another direction (towards the strongest signal), or moving to a higher elevation, may also improve communication.

SAFETY INFORMATION

The operator of any mobile radio should be aware of certain hazards common to the operation of vehicular radio transmissions.

A list of the possible hazards are:

- **Explosive Atmospheres**

Just as it is dangerous to fuel a vehicle with the motor running, be sure to turn the radio off while fueling the vehicle. Do Not carry containers of fuel in the trunk of the vehicle when the radio is mounted in the trunk.

- **Interference To Vehicular Electronic Systems**

Electronic fuel injection systems, electronic anti-skid breaking systems, electronic cruise control systems, etc., are typical of the types of electronic devices that may malfunction due to the lack of protection from radio frequency energy present when transmitting. If the vehicle contains such equipment, consult the dealer for the make of vehicle and enlist his aid in determining if such electronic circuits perform normally when the radio is transmitting.

- **Dynamite Blasting Caps**

Dynamite blasting caps may be caused to explode by operating a radio within 500 feet of the blasting caps. Always obey the "Turn Off Two Way Radio" signs posted where dynamite is being used. When transporting blasting caps in your vehicle:

- a. Carry the blasting caps in a closed metal box with a soft lining.
- b. Leave the radio OFF whenever the blasting caps are being put into or removed from the vehicle.

- **Radio Frequency Energy**

To prevent burns or related physical injury from radio frequency energy, do not operate the transmitter when anyone outside of the vehicle is within two feet of the antenna.

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.

This warranty applies only within the United States.
1-800-528-7711 (1-800-237-0138 in Virginia).

EMERGENCY NUMBERS

Police

State Police

Fire

Poison Control

**Ambulance
Life Saving and Rescue Squad**



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