

# ***Operator's Manual***

Monogram Series  
EDACS<sup>®</sup>  
Trunking Portable

## NOTICE!

This manual covers Ericsson and General Electric products manufactured and sold by Ericsson Inc.

## 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.

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## **SAFETY INFORMATION**

The Federal Communications Commission (FCC), with its action in General Docket 79-144, March 13, 1985, has adopted a safety standard for the human exposure to radio frequency (RF) electromagnetic energy emitted by FCC regulated equipment. Proper operation of this radio will result in user exposure far below the Occupational Safety and Health Act and Federal Communication Commission limits.

**DO NOT** hold the radio in such a manner that the antenna is close to, or touching, exposed parts of the body -- especially the eyes or face --while the radio is transmitting.

**DO NOT** operate the radio near unshielded electrical blasting caps or in an explosive atmosphere, unless it is a type specifically designed and qualified for such use.

**DO NOT** operate the radio unless the antenna connector is secure and any open connectors are properly terminated.

**DO NOT** allow children to operate transmitter-equipped radio equipment.

**This device complies with Part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference.**

## BATTERY CHARGING AND CARE

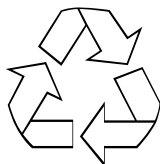


Do not dispose of the battery pack in fire - it may explode, causing injury or death.

Do not replace the battery in hazardous atmosphere locations.

Do not carry battery loose in your pocket or purse.

Do not attempt to repair battery.



**Ni-Cd**

The product you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life under various state and local laws it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details concerning recycling options or proper disposal in your area. Call Toll Free 1-800-8-BATTERY for information and/or procedures for returning rechargeable batteries in your state.

Your radio comes supplied with one 7.5 volt 1100 mAh Ni-Cd battery pack, which can be recharged from 500 to 1000 times before requiring replacement. The actual number of charge / recharge cycles vary depending upon usage. We recommend that the battery

be charged 14 to 16 hours on the first charge cycle and then in accordance with the charger model instructions thereafter.

To remove the battery pack, push up on the battery latch and slide the battery pack to the right. To replace the battery, align the battery on the track and slide to the left until a click is heard, indicating the battery is correctly installed.

If the battery is to be charged on the radio, ensure that the power switch on the radio is in the off position before charging. Failing to turn the power switch to off during the charge cycle will result in a less than full charge condition, which will noticeably reduce the operating time between charges!

Normal battery operation time is 8 hours. This may vary depending upon how much the receiver audio is present and how much you transmit. The actual time may vary from day to day depending upon operational requirements.

## **FOR BEST PERFORMANCE**

1. Charge battery to full capacity, 14 hours at the standard C/10 rate (capacity X .10). For "rapid" chargers, allow additional time (2-3 hours) for "topping off" the charge after it switches from "fast" to "slow".
2. Use the battery soon and use as much of the battery capacity as possible or practical. A battery that is charged and discharged completely will maintain the



longest running time capacity. Also, several charge/discharge cycles are recommended to bring a new battery up to its rated capacity.

3. Store and charge the batteries at room temperature 65°F to 75°F. Batteries that have been stored for over a month should be recharged before putting into service due to chemical self-discharge which occurs at a rate of approximately 1% per day. Do not charge cold batteries (40°F or below).
4. Reduced capacity or "memory effect" may result from repeated identical shallow discharge/full recharge cycles. If such a condition is suspected, run the battery until the instrumentation loses all power, then fully recharge and discharge again. Repeat this cycle 3-4 times.

## **EXTENDED OPERATIONS**

When operating in "Fringe Areas" at some distance from the System, the other party may not receive your transmission clearly. Also you may notice that the background noise will increase on received signals. Moving to higher ground or moving closer to the System will help alleviate these problems. If moving closer to the System is not practical, communication may be improved by moving away from shielding structures. If you are in a building interior, move closer to a window (preferably one generally in the direction of the System). At 800 MHz the wave length is very short, sometimes moving a few inches to a few feet can make significant signal strength changes. Finding the best location can also be done

while listening to the background noise while moving about; attempt to find a spot where the background noise is reduced to a minimum or eliminated entirely. This may make the difference from not being heard, to being heard loud and clear when operating in the fringe areas of your System coverage.

The fringe distance will vary greatly from plains areas, hilly terrain and mountain top sites.

## **FCC LICENSING**

This unit may or may not require a specific FCC license to operate. The FCC requires all transmitters in the conventional and some Trunked Systems to be licensed by the Federal Communications Commission. Some Trunked operations now are exempt from individual licensing requirements but must be operated in a licensed System.

Consult your dealer regarding specific licensing information, or contact the Federal Communications Commission.

For more information regarding the FCC license application (Form 571), call 717-337-1212 for additional information or contact the FCC District Office nearest your location.

## **TRANSCIVER SERVICE**

There are no user serviceable components inside the radio. Altering the internal components or

adjustments may result in illegal emissions, including off-frequency operation, or damage to the radio.

Should an **UNLOCK** condition be shown in the LCD display, or the LCD fails to display information, or all icons and display segments are shown, turn the ON/OFF/VOLUME control OFF then ON to reset the microprocessor. Ensure that the battery is fully charged and check that the antenna is securely tightened.

If the unit still fails to operate properly, refer to an Authorized Service Center for servicing.

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## INTRODUCTION

The Monogram Series EDACS Trunking Portable Radio provides reliable trunked communication in the 800 MHz band. Advanced Dual Format technology allows the radio to operate within the EDACS Trunked system and the GE-MARC Trunked system. The radio will also operate in a Conventional system.

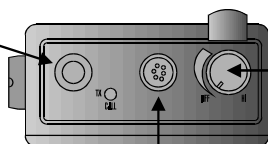
The unit is lightweight and easy to carry. A backlit alpha-numeric display provides clear visibility for night-time operation.

This manual provides instructions for operating in either of the 3 systems (EDACS, GE-MARC and Conventional). A separate section is provided for each System (EDACS, GE-MARC and Conventional), with a complete set of instructions for operating the radio within that system. The DESCRIPTION section which follows and the Battery information at the back of the manual, is applicable to all users.

### NOTE

This radio allows the operator to switch between an EDACS system, a GE-MARC system and a Conventional system. Special attention should be given to the system selected and the operating characteristics of the radio working within that system.

**Antenna  
Connection**



**On/Off  
Volume  
Control**

**Ext. Speaker/Mic  
Connection**

**LCD Display**

**Backlight**

**Shift/  
Clear  
Monitor**

**PTT  
Button**

**Keypad**

## FEATURES

- Up to 9 Areas x 9 Groups (GE-MARC)
- Combined maximum of 128 System/Groups (EDACS), 16 standard
- System scan
- System lockout when scanning
- Group Scan automatically or manually
- First Available System Scan when out of range of Systems
- 7-character alpha-numeric LCD display with backlight for System and Group identification and other status information
- Operation in both Trunked and Conventional (non-Trunked) modes
- Repeater talkaround in Conventional and Trunked modes
- Standard telephone keypad for placing telephone interconnect calls
- Call indicator
- User-programmable storage of up to 10 telephone numbers and up to 10 individual numbers of up to 18 digits in length
- Automatic System ringback if System is busy
- Transmit inhibit with busy tone
- Clear-to-Talk beep tone signal indicates when speaking can begin

### NOTE

System setup determines the specific operation of some of the above features. Refer to the descriptions in this manual for more information.

## QUICK REFERENCE GUIDE

### CONTROLS

On/Off  
Volume



The top, right clockwise rotation applies power with a mechanical click sound, and a full counter clockwise rotation, removes power with a click sound. A clockwise rotation makes the volume level increase and a counter clockwise rotation decreases the volume level. The radio can be programmed to beep once after power is applied, indicating it is ready for use.

PTT Button



Pressing the PTT button (located on the side of the radio) will key the radio's transmitter and perform the necessary steps to acquire a communication channel.

Shift/Clear/  
Monitor



All alternate key functions are accessed by pressing the Shift/Clear/Monitor button and then pressing the desired function key.

Trunked - Pressing the Shift/Clear/Monitor button twice (double click) will invoke the CLEAR function which is used to exit the Special Call mode and return to the normal System/Group display.



Conventional - Pressing and holding the Shift/Clear/Monitor button twice (double click) will enable MONITORING the channel for activity by unsquelching the receiver. All transmissions will be heard, even if Channel Guard protected.





Backlight



The side, uppermost mounted momentary switch when pressed illuminates the LCD for a pre-programmed time period.

System/Group  
Select Switch



The Select buttons  and  switches are used to increment or decrement the current Group/Channel selection. Pressing the Shift button and then the  and  buttons will increment or decrement the System selection. The Select buttons are also used to increment or decrement the Special Call selection while in the Special Call mode.

**HOME**

The HOME/Emergency key is used to automatically select a desired Group and/or System by pressing and holding the key for a programmed duration. The HOME/Emergency key is also used to declare emergencies by pressing and holding the key for a pre-programmed duration. Emergency messages may only be issued on

EDACS systems.

## **SPC**

Pressing the SPC (Special) key will put the radio in the Special Call mode. From the Special Call mode the radio is able to make individual and interconnect calls. The key is active with trunked systems only.

## **SCN**

The SCAN-Add/Delete key is used to enable the Scan mode and to add or delete Groups/Channels to the scan list. It is also used as a backspace key in trunked systems only.

## **STO**

The STORE key is used to store individual call numbers and interconnect calls. This key is active with trunked systems only.

## **MUTE**

The MUTE key in conjunction with the SHIFT/CLR/MONITOR button is used to mute/unmute the radio.

## **LOCK**

The LOCK key in combination with the SHIFT/CLR/MONITOR button is used to lock the keypad. All buttons and keys will be locked except the PTT, **HOME**, SHIFT/CLR/MONITOR, and the LOCK.

## **RCL**

The **RCL** (Recall) key can be used to recall manually entered individual and interconnect calls in the EDACS and GE-MARC systems.

## INDICATORS

Alpha-numeric display, is a 7 character display that identifies the selected System/Group and those operating modes or error conditions. In addition there are 12 status indicators that are described on the following pages.







The LCD backlighting can be programmed to turn on anytime the backlight switch is pressed or anytime a button or key is pressed. It will remain on for a programmable length of time after the button or key is released. Backlighting is programmed on a per Group/Channel basis or it may be programmed to remain off at all times. Each radio that is programmed with backlighting may also be programmed to remain on or off when the PTT bar is pressed.

### SYS AND GRP/CHANNEL INDICATORS

#### SYS

The SYSTEM display indicates the number of the current EDACS, GE-MARC, or Conventional system selected.

## STATUS INDICATORS

|   |  |
|---|--|
| BUSY  | The Channel Busy flag is on when the radio receives a call or when a conventional channel is in use. The flag is also on when transmitting on a trunked channel. |
|           | The Battery flag is on when the battery power is low and needs charging.   |
| SCAN  | The SCAN flag is on when Scan is activated.  |
| LOCK  | The LOCK flag is on when the keypad lock function is active.   |
|           | The ◀ flag is used to indicate when a trunked group or conventional channel is scan enabled.   |
| PHONE<br> | In EDACS or GE-MARC, the PHONE and ☎ status flags will be illuminated when the radio is placed in the Special Call mode.   |
| CALL  | The CALL flag will be illuminated when the radio receives an individual call in EDACS or GE-MARC modes.  |
|         | Indicates that the “key press” tones are heard.  |
| Monitor   | Indicates that the monitor mode has been enabled in a conventional   |

system.

## **ALERT TONES**

The radio generates a number of alert tones to indicate various events. The following section describes the alert tones.

### **STANDARD TONES**

|                       |  |
|-----------------------|--|
| Power-UP              | If programmed, a tone will sound on power-up after the radio passes the self test.   |
| Low Battery           | A low pitch tone will sound every 130 seconds when the battery is low and needs charging.  |
| Carrier Control Timer | The Carrier Control Timer (CCT) alert is a pulsed tone signal that sounds whenever the PTT button is continuously pressed for a pre-programmed length of time. After nine seconds of pulsing the transmitter shuts down and communications is interrupted. To maintain communications, release and re-key the PTT switch. This resets the timer and turns the transmitter back on. The CCT is a built-in precaution against inadvertent use of the system. |

## TONES FOR TRUNKED OPERATION ONLY

|                          |   |
|--------------------------|---|
| Call Originate (EDACS)   | If programmed, a short tone is sounded whenever the Push-To-Talk (PTT) button is keyed and the radio has acquired a channel. This tone indicates the user may proceed to talk.  |
| Call Originate (GE-MARC) | If programmed, a three tone alert is sounded whenever the Push-To-Talk (PTT) button is keyed and the radio has acquired a channel. This tone indicates the user may proceed to talk.  |
| Call Received            | If programmed, a single alert tone sounds when a group call is received and a two tone alert (one high followed by one low tone) is sounded for an individual call.   |
| Call Queued (EDACS)      | If one short, high pitched tone sounds after the transmitter is keyed, this indicates that the system has placed the request in a queue. This tone sounds at both the transmitting unit and the receiving unit(s), indicating to the user on the receiving end that they will receive a call shortly. If the PTT is unkeyed while in the queue, the radio will autokey (automatically key the PTT) when a channel becomes available. (See |

Autokey below).

Autokey  
(EDACS)

When the PTT is keyed to place a call on the system, but the PTT is released before getting to the channel (e.g. a queued call), the radio automatically keys on the channel when it gets the assignment. The radio generates a long beep and holds the transmitter keyed for two seconds. Pressing the PTT button keeps the channel and sends the message before this two second time-out has expired.

System Busy

EDACS - If you key the PTT bar and hear three short, medium pitched tones, this indicates that the receiving party is already engaged in another call or the system is busy and its queue is full. You must rekey later to access the system.

GE-MARC - If you key the PTT bar and hear a low frequency tone for 1 second this indicates all channels are busy.

Call Denied  
(EDACS)

A single low pitch beep will sound when the PTT switch is keyed and the request is denied by the system. This happens if the unit is an invalid user or if the unit is requesting an

unavailable service.

Out of Range/  
System

EDACS - A single pitched tone will sound immediately after the PTT switch is keyed indicating the radio is out of range of the repeater. The radio tries to place the call for a short period (3 seconds) after the initial attempt. The radio generates a second low pitched tone when it gives up trying to place the call. The system is off the air or the radio needs servicing when the radio is within calling range, and these tones are heard.

GE-MARC - Five beeps will sound shortly after the PTT switch is keyed when the radio is out of range of the repeater or the radio is inoperative. If the "Call Retry" is active, the radio will try the channel at twenty second intervals for five minutes.



## ERROR MESSAGES

**SYN LOC**, if at anytime the Synthesizer is unable to load and lock on the channel property, a **SYN LOC** message will be displayed. If the **SYN LOC** message is displayed on all systems, the radio has failed or has not been programmed properly. The radio's buttons and keys will still operate with a **SYN LOC** message displayed.

**PRS ERR**, message indicates the personality has not been programmed into the radio.

## KEYPAD LOCK

The keypad can be locked at any time to prevent undesired key presses. To lock the keypad when it is in the unlocked state, press and release the **LOCK** (shifted **RCL**) key. All buttons and keys except the **PTT**, **HOME**, **SHIFT/CLR/MONITOR** and **LOCK** (shifted **RCL**) will now be inhibited. If the Emergency function of the **HOME** key is disabled, the **HOME** key will also be inhibited. If the key is programmed for **Emergency** or **Emergency/Home**, then the key is not inhibited and an emergency can still be declared on the Home System/Group or the current System/Group (however programmed). To unlock the keypad when it is in the locked state, press and release the **LOCK** (Shifted **RCL**) key.

## KEYPAD MUTE





The keypad can be muted at anytime. To mute the keypad when it is in the unmute state, press and release the **MUTE** (shifted **STO**) key. All buttons will be muted. To unmute the keypad, press and release the **MUTE** (shifted **STO**), the keypad is now unmuted.

## SCAT OPERATION

A SCAT (Single Channel Autonomous Trunking) System operates with same set of features as a standard EDACS system. The only user change relates to the **BUSY** indicator. Since only one channel, operating as both control and working channel, exists in a SCAT System, the **BUSY** indicator will be ON when the SCAT channel is in the working channel mode. When the transmission on the channel is completed, the indicator turns OFF and indicates the return of SCAT control channel signaling.

## EDACS OPERATION

### RECEIVING A MESSAGE

1. Turn the radio on by rotating the ON/OFF/VOLUME control clockwise from the OFF detent position. After the radio has passed the power-up self test an optional tone will sound and the current System and Group will be displayed. If the unit does not pass the test, an error message will be displayed (see **ERROR MESSAGES** section) or the display will be blank.
2. Press the **SHIFT/CLR/MONITOR** button and then use the **SELECT** buttons  or  to select an **EDACS** system. Press the **SHIFT/CLR/MONITOR** button to exit system select.
3. Use the **SELECT** buttons  or  to select the desired group. The GRP icon will indicate the current Group selected. The radio is now ready to receive messages.
4. **INDIVIDUAL CALL** - If an individual call (call directed only to your radio) is received, the radio unsquelches on the assigned channel. The **BUSY** flag lights. If programmed on, the individual call received tones (one high followed by one low) will sound and the originator's ID or just "ID" (dependent upon programming) is displayed for a short time.

To answer call, simply press PTT and begin talking if caller's ID is still in display. If caller's ID is no longer in display, the **CALL** indicator will be illuminated, indicating the radio received an Individual call. Press the **(SPC)** key to display caller's ID, then press PTT and begin talking.

**GROUP CALL** - When the radio receives a group call, it unsquelches on the assigned channel and lights the **BUSY** flag. If programmed on, the group call received tone (single tone) will sound. The radio can also be programmed to display the Group name originators ID.

**INTERCONNECT CALL** - If an interconnect call (telephone call directed to your radio) is received, the radio unsquelches on the assigned channel. The radio displays **PHN CAL** and the **CALL** and **BUSY** flags turn on. If programmed on, the interconnect call received tones (one high followed by one low) will sound. The **PHONE** and **)** status flags will be displayed.

### NOTE

The optional call received tones are programmed off by default.





5. Using the **VOLUME** knob, adjust the volume as necessary.

## SENDING A MESSAGE

1. Turn the radio on and set the desired System and Group as described under **RECEIVE A MESSAGE** steps 1-3.
2. Observe the display for the absence of both the **BUSY** indicator and the **NC** indicator to ensure that no one is transmitting on the selected Group and ensuring radio is in service area.
3. Press and hold the PTT bar. The radio will perform the necessary signalling required to obtain a communication channel. If the signalling is unsuccessful, the radio will sound the appropriate alert tone(s).
4. When the channel has been acquired, the red TX LED on top panel and the **BUSY** status flag in the display are illuminated and, if programmed, the Call Originate tone will sound.
5. Hold the radio about 3 inches from your mouth and speak as you would normally into the microphone.
6. Release the PTT bar when the transmission is complete and listen for any reply.

## SQUELCH ADJUSTMENT





In normal operation the squelch is automatically set by the radio and does not need adjusting. If it becomes necessary to adjust the squelch, the squelch may be adjusted using the following procedure:

1. Press and hold the **SHIFT/CLR/MONITOR** button.
2. Use the **SELECT**  or  buttons to adjust the squelch. Pressing the **SELECT**  will open the squelch and pressing the **SELECT**  will close the squelch.

### NOTE

The radio must be on a Conventional System or an EDACS working Channel (i.e. receiving a voice call) to adjust the squelch. It is recommended to adjust squelch from a Conventional System.

## SENDING A SPECIAL CALL

1. Press the  key to put the radio into Special Call mode and provide access to a pre-programmed special call alpha-numeric list. Each selection from the list is pre-programmed with either an individual number or an interconnect number. If programmed, the special call alpha-numeric will be displayed. The **PHONE** and  status flags will also be illuminated while in the Special Call mode.
2. Press the **SELECT**  or  buttons to increment or decrement through the special call list.

## NOTE

To display the individual or interconnect number currently selected, press and hold the **SHIFT/CLR/MONITOR** button and then press the **SPC** key.

3. Individual - Once the desired individual special call number is displayed, press and hold the PTT to initiate the call. The radio performs the necessary signaling required to obtain a working channel.

Interconnect - Once the desired interconnect special number is displayed, press and release the PTT to initiate the call. The radio performs the necessary signaling required to obtain a working channel.

4. Individual - When the signaling is successfully completed the **BUSY** flag turn on and the Call originate tone sounds. Speak directly into the microphone. Release the PTT bar as soon as you stop talking and wait for a reply.

Interconnect - When the signaling is successfully completed the **BUSY** flag turns on and the proper DTMF tones will be sent and heard at the speaker. When someone answers, press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking. Messages cannot be received when the PTT bar is pressed.

If the signaling is unsuccessful, the radio will remain in the Special Call Mode and sound the appropriate alert tone(s).

5. When the Call is complete, double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal System/Group display.

The radio is also capable storing and/or recalling up to 10 individual and 10 interconnect numbers in 2 separate storage locations. These numbers are manually entered and recalled from the keypad.

## SENDING A MANUALLY ENTERED INDIVIDUAL CALL



1. Press the **SPC** key to put the radio into Special Call mode. The display displays the last accessed Special Call name/number from the pre-programmed Special Call selection. The **PHONE** and **📞** status flags will also be illuminated while in the Special Call mode.
2. Enter the ID number of the radio to be called. The last digit entered will always be displayed in the far right hand side of the display. Any previously entered digits will scroll left. Only the last seven characters will be visible at a time with the leading character scrolling off the display upon each new key entry. To backspace and clear a digit, press the **SCN** key.



## NOTE

To recall the last individual number entered manually from the key pad, press the **RCL** key.

3. Press and hold the PTT bar to initiate the call. The radio performs the necessary signaling required to obtain a working channel.
4. When the signaling is successfully completed the **BUSY** flag turns on and the Call originate tone sounds. Speak directly into the microphone. Release the PTT bar as soon as you stop talking and wait for a reply. Messages cannot be received when the PTT bar is pressed. If the signaling is unsuccessful, the radio will remain in the Special Call Mode and sound the appropriate alert tone(s).
5. When the call is complete, double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal System/Group display.

## SENDING A MANUALLY ENTERED INTERCONNECT CALL



1. Press the **SPC** key to put the radio into Special Call mode. The radio displays the last accessed call number from the pre-programmed Special Call

selection. The **PHONE** and **📞** status flags will also be illuminated while in the Special Call Mode.

2. Enter the telephone number to be called. The last digit entered will always be displayed in the far right hand side of the display. Any previously entered digits will scroll left. Only the last seven digits will be visible at a time with the leading digit scrolling off the display upon each new key entry. To backspace and clear a digit, press the **[SCN]** key.

### NOTE

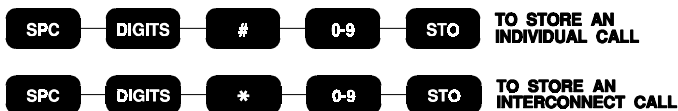
To recall the last interconnect number entered manually from the keypad, press the **[RCL]** key.

3. Complete the telephone entry by pressing the **[\*]** key. The **[\*]** key indicates the digits are for an interconnect call. This will not be displayed but a tone will sound.
4. Press and release the PTT bar to initiate the call. The radio performs the necessary signaling required to obtain a working channel. When the signaling is successfully completed the **BUSY** flag lights and the proper DTMF tones will be sent and heard at the speaker. If the interconnect signaling is unsuccessful, the radio will remain in the Special Call Mode and sound the appropriate alert tone(s).
5. When someone answers, press the PTT bar and speak directly into the microphone. Release the

PTT bar as soon as you stop talking. Messages cannot be received when the PTT bar is pressed.

- When the call is complete, double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal system/group display.

## STORING INDIVIDUAL AND INTERCONNECT NUMBERS

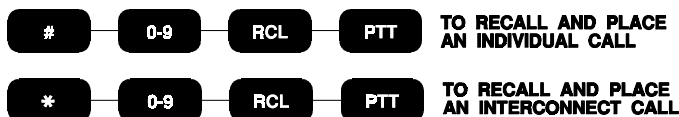


- Press the **[SPC]** key to put the radio into Special Call mode. The radio displays the last accessed call number from the pre-programmed Special Call selection. The **PHONE** and **)** status flags will also be illuminated while in the Special Call Mode.
- Enter the ID number or telephone to be stored. The last digit entered will always be displayed in the far right hand side of the display. Any previously entered digits will scroll left. Only the last seven digits will be visible at a time with the leading digit scrolling off the display upon each new key entry. To backspace and clear a digit, press the **[SCN]** key.
- Complete the entry by pressing the **[#]** key for individual numbers and the **[\*]** key for telephone interconnect numbers. The **[#]** key indicates the digits entered are for an individual call and **[\*]** key

indicates the digits are for an interconnect call. They will not be displayed but a tone will sound.

4. Enter a digit between 0 and 9 to select a storage location. The storage location will not be displayed, but a tone will sound. There are 10 storage locations for individual numbers and 10 storage locations for interconnect numbers.
5. Press the **[STO]** key to complete the storage procedure.
6. Double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal System/Group display.

## RECALLING MANUALLY STORED INDIVIDUAL AND INTERCONNECT NUMBERS



1. Press the **[#]** key to recall the individual call list or the **[\*]** key to specify the interconnect call list. The display will blank and a tone will sound.
2. Enter the desired storage location number (0-9).
3. Press the **[RCL]** key and the radio will switch to the Special Call mode. If the number is from the individual call list, the ID number will be displayed. If the number is from the interconnect call list, the last

seven digits of the telephone number will be displayed.

If the memory location is blank the radio will sound a low pitch tone after the **RCL** is pressed.

4. Individual - Once the desired individual call number is displayed, press and hold the PTT to initiate the call. The radio performs the necessary signaling required to obtain a working channel.

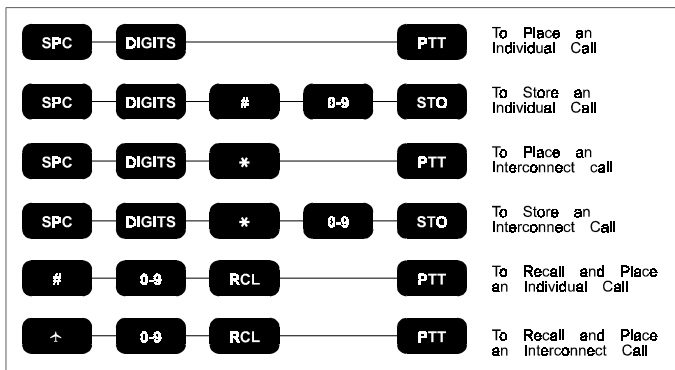
Interconnect - Once the desired interconnect special call number is displayed, press and release the PTT to initiate the call. The radio performs the necessary signaling required to obtain a working channel.

5. Individual - When the signaling is successfully completed the **BUSY** flag turns on, TX indicator turns red and the Call originate tone sounds. Speak directly into the microphone. Release the PTT bar as soon as you stop talking and wait for a reply.

Interconnect - When the signaling is successfully completed the **BUSY** flag turns on and the proper DTMF tones will be sent and heard at the speaker. When someone answers, press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking. Messages cannot be received when the PTT bar is pressed.

If the signaling is unsuccessful, the radio will remain in the Special Call mode and sound the appropriate alert tone(s).

- When the call is complete, double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal System/Group display.



### EDACS Special Call Flowchart

## DTMF OVERDIAL

After the radio has acquired a working channel, if programmed, to make a message trunked call, DTMF tones can be sent by:

- Pressing and holding the PTT bar.
- Manually entering the desired numbers from the keypad.

In the same manner, stored interconnect numbers (tones) may be sent by:

1. Recalling the desired storage location as described previously in the ***Recalling Manually Stored Individual and Interconnect Numbers*** section.
2. Pressing the PTT bar to send the tones.

## SCAN OPERATION

### ENABLE/DISABLE SCAN

To enable Group scanning, press and release the **(SCN)** key. The **SCAN** flag will illuminate to indicate scan is active. When scan is on, press and release the **(SCN)** key to disable scan operation. The **SCAN** flag will be extinguished when scan is turned off.

### ADD/DELETE GROUPS

Groups can be added or deleted from the scan list as necessary. To add Groups to the Scan list:

1. Select the desired Group to be added. If the current group is already included in the scan list, the ◀ flag will be illuminated.
2. To add the group to the scan list, press the **SHIFT/CLR/MONITOR** button and then press the **(SCN)** key. The ◀ flag will turn on and the group will be included.

## NOTE

Scan must be disabled to add a Group to the scan list.

## DELETE GROUPS

1. Select the desired Group to be deleted. If the current group is already included in the scan list, the ◀ flag will be illuminated.
2. To delete the group from the scan list, press the **SHIFT/CLR/MONITOR** button and then press the **(SCN)** key. The ◀ flag will turn off and the group will be removed from the scan list.

## WIDE AREA AND PRIORITY SYSTEM SCANNING (OPTIONAL)

Radios operating within an EDACS system may be programmed for Wide Area Scan operation for multi-site applications. Upon the loss of the currently selected system's control channel, radios may be programmed to automatically scan other systems. If a new control channel is found, the radio will switch to the new system and sound and alert tone. Group selection may change upon switching to the new system.

The radio may also be programmed for priority wide area system scan. A priority system may be assigned to each system programmed into the radio. Radios programmed in this manner will scan the priority trunked



system's control channel once every one, two, three, or four minutes (programmable). This priority scan timer is reset each time the PTT bar is pressed.

## **PROSOUND™ (OPTIONAL)**

The radio may be programmed for ProSound system scan operation for multi-site applications. ProSound scanning is an enhanced replacement for wide area system scanning. This algorithm insures that the radio continually receives high quality audio. When the selected system degrades to a pre-programmed level, the radio begins searching for the best adjacent system on a part time basis. Once a better system is found the radio changes to the new system and sounds a tone. should the control channel be lost completely, the radio will scan the adjacent systems until a suitable one is found.

## **DYNAMIC REGROUPING (OPTIONAL)**

Dynamic Regrouping is a feature which allows the System Manger to dynamically program new groups into selected radios. Upon development of the regrouping plan, the site controller sends each radio the regroup plan number, "group position", and activate/deactivate commands. When the radio is regrouped, it will alert the user and displays the regroup number "(nn = 01 - 08)".

## NOTE

The regroup is identified by the leading zero in the 6th digit of the Display field. This zero is normally suppressed in Group 1-8.

## HOME/EMERGENCY KEY DEFINITION

The **HOME** key can be programmed in one of the following configurations:

1. Emergency Enabled and Home Enabled - The radio will switch to the programmed home System and/or Group, and send an emergency transmission.
2. Emergency Enabled and Home Disabled - The radio will send an emergency transmission on the Current System/Group.
3. Emergency Disabled and Home Enabled - The radio will switch to the home System and/or Group.
4. Emergency Disabled and Home Disabled - The key is not active.

## EMERGENCY OPERATION (OPTIONAL)

If the radio receives an Emergency Channel Assignment, an alert tone will sound if programmed and **EMRGNCY** will be displayed.

## **Sending An Emergency Call**

To enable an Emergency transmission:


1. Press and hold the **HOME** key for the programmed duration. If programmed, **EMRGNCY** will be displayed and a alert tone will sound.

### **NOTE**

The radio may be programmed for both Quiet and/or Blind mode in which case no alert tone is heard and/or the display does not change respectively. If programmed to display an **EMRGNCY**, the radio's display will return to normal operation once the PTT is pressed.





2. The radio transmits an emergency message until an Emergency Channel Assignment is received.
3. Upon receipt, the radio begins operation on the programmed System/Group (see the ***Home/Emergency Key Definitions*** section).
4. Press the PTT bar and speak directly into the microphone in a normal voice.
5. Release the PTT bar when the transmission is complete and listen for a reply.

## HOME

The radio can be programmed to automatically switch to a home System and/or Group by pressing and holding the  key for the programmed duration. The radio will also transmit an emergency message on the home System and/or Group if programmed (see the ***Emergency Operation*** section).

## GE-MARC OPERATION

### RECEIVING A MESSAGE

1. Turn the radio on by rotating the ON/OFF/Volume control clockwise from the OFF detent position. After the radio has passed the power-up self test an optional tone will sound and the current System and Channel will be displayed. If the unit does not pass the test, an error message will be displayed, or the display will be blank.
2. Press the **SHIFT/CLR/MONITOR** button and then use the **SELECT** buttons  or  select a GE-MARC system. Press **SHIFT/CLR/MONITOR** button to exit system select.
3. Use the **SELECT** buttons  or  select the desired Group. The **GRP** icon will indicate the current Group selected. The radio is now ready to receive messages.
4. **INDIVIDUAL CALL** - If an individual call (call directed only to your radio) is received, the radio unsquelches on the assigned channel and the **BUSY** flag lights. The individual call received tones (one high followed by one low) will sound and the display changes to **\*INDV\***. The call received tones may be programmed off.

**GROUP CALL** - When the radio receives a group call, it unsquelches on the assigned channel and lights the “**BUSY**” flag. The group call received tone (single tone) will sound (unless programmed off).

**INTERCONNECT CALL** - If an interconnect call (telephone call directed to your radio) is received, the radio unsquelches on the assigned channel and the **BUSY** flag turns on and the display shows **PHN CAL**. If the received tone set was the selected group tone set, then the radio will operate as it does when it receives a group call from another radio. If the tone set was the selected system’s individual call tone set, the radio will operate as if it had received an individual call from another radio.

5. Using the **VOLUME** knob, adjust the volume as necessary.

## **SENDING A MESSAGE**

1. Turn the radio on and set the desired System and Group as described under **RECEIVE A MESSAGE** steps 1-3.
2. Observe the display for the absence of the **BUSY** indicator to ensure that no one is transmitting on the selected Group.
3. Press and release the PTT bar. The display changes and shows **WAIT** while the radio performs

the necessary signaling required to obtain a communication channel.

If the radio is out of range or the radio is operative when the signaling is unsuccessful, a **NO SRVC** message is displayed and a sequence of five beeps are heard at the speaker. Any subsequent attempt to initiate a call within the next 20 seconds will be ignored.

If all available repeaters are busy when the call is attempted, one long beep is heard and **BUSY** is displayed. The call will not be retried automatically.

#### NOTE

If the "Call Retry" option is active, the radio will display **RETRYNG** and try the channel at twenty second intervals for five minutes before returning to the normal System/Group display.

4. When the channel has been acquired, the **BUSY** flag is illuminated and, if programmed, the Call Originate tones (three tone alert) will sound.
5. Press PTT bar. The TX indicator will light red. Hold the radio about three inches from your mouth and speak as you would normally into the microphone.
6. Release the PTT bar when the transmission is complete and listen for any reply.

## SENDING A SPECIAL CALL

1. Press the **(SPC)** key to put the radio into Special Call mode which also provides access to a pre-programmed special call list. Each selection from the list is programmed with either an individual number or an interconnect number. If programmed, the special call list is capable of displaying an alpha-numeric field. The **PHONE** and **📞** flags will also be illuminated while in the Special Call mode. If no Special Calls are programmed, the radio displays **SPC CAL**.
2. Press the **SELECT** **(▲)** or **(▼)** buttons to increment or decrement through the special call list.

### NOTE

To display the last seven digits of the individual or interconnect number currently selected, press and hold the **SHIFT/CLR/MONITOR** button and then press the **(SPC)** key.

3. Individual Call - Once the desired individual special call number is displayed, press and release the PTT to initiate the call. The radio displays **WAIT** and performs the necessary signaling required to obtain a working channel.

Interconnect Call - Once the desired interconnect special call number is displayed, press and release the PTT to initiate the call. The radio displays **WAIT**



and performs the necessary signaling required to obtain a working channel.

4. Individual Call - When the signaling is successfully completed the **BUSY** flag turns on and the Call originate tones (three tone alert) sound. Press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking and wait for a reply.

Interconnect Call - When the signaling is successfully completed the **BUSY** flag turns on and the proper DTMF tones will be sent and heard at the speaker. When someone answers, press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking. Messages cannot be received when the PTT bar is pressed.

5. The radio is out of range or the radio is inoperative when the signaling is unsuccessful, the **NO SRVC** will be displayed, and a sequence of five beeps are heard at the speaker. Any subsequent attempt to initiate a call within the next 20 seconds will be ignored.

All channels are busy when the signaling is unsuccessful and a one second low frequency tone is heard at the speaker. The call will not be retried automatically.

## NOTE

If the "Call Retry" option is active, the radio will display **RETRYNG** and try the channel at twenty second intervals for five minutes before returning to the normal System/Group display.

6. When the call is complete, double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal System/Group display.

The radio is capable of the following from the Special Call Mode:

- Storing and/or recalling up to 10 individual and 10 interconnect numbers in 2 separate storage locations. These numbers are manually entered from the keypad.
- Initiating individual and interconnect calls that are manually entered from the keypad.

Each of these features are discussed in detail in the following sections.

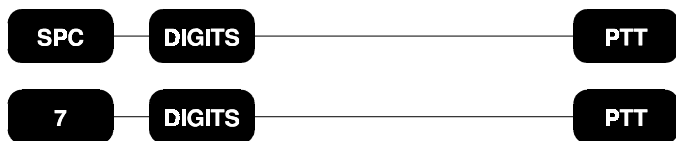
## SENDING A PRE-PROGRAMMED SPECIAL CALL IN CONFERENCE CALL

1. Preprogrammed Special Calls can also be initiated using the selected group tone set. To initiate a special call in Conference Call mode, press **7** to put the radio into Conference Call mode, if

programmed, the Special Call list is capable of displaying an alpha-numeric field. If no special calls are programmed, the radio displays **CNF CAL**.

2. The programmed call may now be sent following the procedure described in **SENDING A SPECIAL CALL** section.

## SENDING A MANUALLY ENTERED INDIVIDUAL CALL



1. Press the **(SPC)** key to put the radio into Special Call mode or **(7)** to put the radio into Conference Call mode. The radio displays the last accessed special call number from the preprogrammed Special Call selection. The **PHONE** and **)** flags will also be displayed. If no Special Calls are programmed, the radio displays **SPC CAL**.
2. Enter the tone set of the radio to be called. The last digit entered will always be displayed in the right hand side of the display. Any previously entered digits will scroll left. Only seven digits will be visible at a time with the leading digit scrolling off the display upon each new key entry. To backspace and clear a digit, press the **(SCN)** key.

## NOTE

To recall the last individual number entered manually from the key pad, press the **(RCL)** key.

3. Press and release the PTT bar to initiate the call. The radio displays **WAIT** and performs the necessary signalling required to obtain a working channel.
4. When the signalling is successfully completed the **BUSY** flag turns on and the Call Originate tones (three tone alert) sound. Press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking and wait for a reply. Messages cannot be received when the PTT bar is pressed.

The radio is out of range or the radio is inoperative when the signalling is unsuccessful, the **NO SRVC** indicator is illuminated and a sequence of five beeps are heard at the speaker. Any subsequent attempt to initiate a call within the next 20 seconds will be ignored. The radio can be cleared from this mode by double clicking the **SHIFT/CLR/MONITOR** button.

All channels are busy when the signalling is unsuccessful and a one second low frequency tone is heard at the speaker. The call will not be retried automatically.

## NOTE

If the "Call Retry" option is active, the radio will display **RETRYNG** and try the channel at twenty second intervals for five minutes before returning to the normal System/Group display.

- When the call is complete, double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode or Conference Call mode and return to the normal System/Group display.

## SENDING A MANUALLY ENTERED INTERCONNECT CALL



- Press the **SPC** key to put the radio into Special Call mode. or **7** to put the radio into Conference Call mode. The radio displays the last accessed special call number from the preprogrammed Special Call selection. The **PHONE** and **)** flags will also be displayed. If no Special Calls are programmed the radio displays **SPC CAL**.

2. Enter the telephone number to be called. The last digit entered will always be displayed in the far right hand side of the display. Any previously entered digits will scroll left. Only seven digits will be visible at a time with the leading digit scrolling off the display upon each new key entry. To backspace and clear a digit, press the **[SCN]** key.

### NOTE

To recall the last interconnect number entered manually from the key pad, press the **[RCL]** key.

3. Complete the telephone entry by pressing the **[\*]** key. The **[\*]** key indicates the digits are for an inter-connect call. This will not be displayed but a tone will sound.
4. Press and release the PTT bar to initiate the call. The radio displays **WAIT** and performs the necessary signalling required to obtain a working channel. When the signalling is successfully completed the **BUSY** flag lights and the proper DTMF tones will be sent and heard at the speaker.

The radio is out of range or the radio is inoperative when the signalling is unsuccessful, the **NO SRVC** indicator is illuminated and a sequence of five beeps are heard at the speaker. Any subsequent attempt to initiate a call within the next 20 seconds will be ignored. The radio can be cleared from this mode by double clicking the **SHIFT/CLR/MONITOR** button.

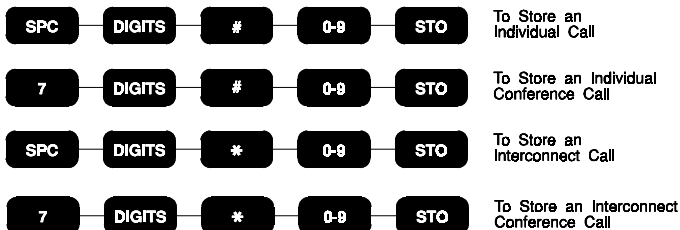
All channels are busy when the signalling is unsuccessful and a one second low frequency tone is heard at the speaker. The call will not be retried automatically.

### NOTE

If the "Call Retry" option is active, the radio will display **RETRYNG** and try the channel at twenty second intervals for five minutes before returning to the normal System/Group display.

5. When someone answers, press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking. Messages cannot be received when the PTT bar is pressed.
6. When the call is complete, double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal system/group display.

## STORING INDIVIDUAL AND INTERCONNECT NUMBERS



1. Press the **SPC** key to put the radio into Special Call mode. or **7** to put the radio into Conference Call mode. The radio displays the last accessed call number from the preprogrammed Special Call selection. The **PHONE** and **)** flags will also be displayed. If no Special Calls are programmed the radio displays **SPC CAL**.
2. Enter the tone set (individual call) or telephone number to be stored. The last digit entered will always be displayed in the far right hand side of the display. Any previously entered digits will scroll left. Only seven digits will be visible at a time with the leading digit scrolling off the display upon each new key entry. To backspace and clear a digit, press the **SCN** key.

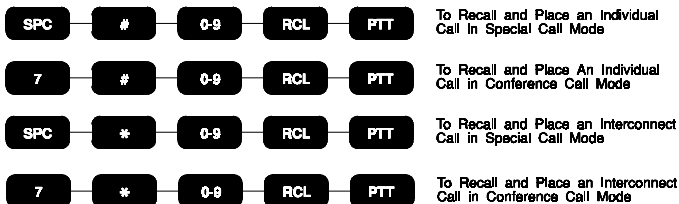
### NOTE

To recall the last interconnect number entered manually from the key pad, press the **RCL** key.



3. Complete the entry by pressing the **#** key for individual calls and the **\*** key for telephone interconnect calls. The **#** key indicates the digits entered are for an individual call and **\*** key indicates the digits are for an interconnect call. They will not be displayed but a tone will sound.
4. Enter a digit between 0 and 9 to select a storage location. The storage location will not be displayed, but a tone will sound. There are 10 storage locations for individual numbers and 10 storage locations for interconnect numbers.
5. Press the **STO** key to complete the storage procedure.
6. Double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal System/Group display.

## RECALLING MANUALLY STORED INDIVIDUAL AND INTERCONNECT NUMBERS



1. Press the **[SPC]** key to put the radio into Special Call mode to send a stored call using the programmed special call tone set, otherwise the call will be sent using the selected group tone set. Press the **[#]** key to recall the individual call list or the **[\*]** key to recall the interconnect call list. The display will blank and a tone will sound.
2. Enter the desired storage location number (0-9).
3. Press the **[RCL]** key. If the number is from the individual call list, the last seven digits of the tone set will be displayed. If the number is from the interconnect call list, the last seven digits of the telephone number will be displayed.

If the memory location is blank the radio will sound a low pitch tone after the **[RCL]** is pressed.

4. Individual - Once the desired individual call number is displayed , press and release the PTT to initiate the call. The radio displays **WAIT** and performs the

necessary signalling required to obtain a working channel.

Interconnect - Once the desired interconnect special call number is displayed, press and release the PTT to initiate the call. The radio displays **WAIT** and performs the necessary signalling required to obtain a working channel.

5. Individual - When the signalling is successfully completed the **BUSY** flag turns on and the Call Originate tones (three alert tone) sound. Press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking and wait for a reply.

Interconnect - When the signalling is successfully completed the **BUSY** flag turns on and the proper DTMF tones will be sent and heard at the speaker. When someone answers, press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking. Messages cannot be received when the PTT bar is pressed.

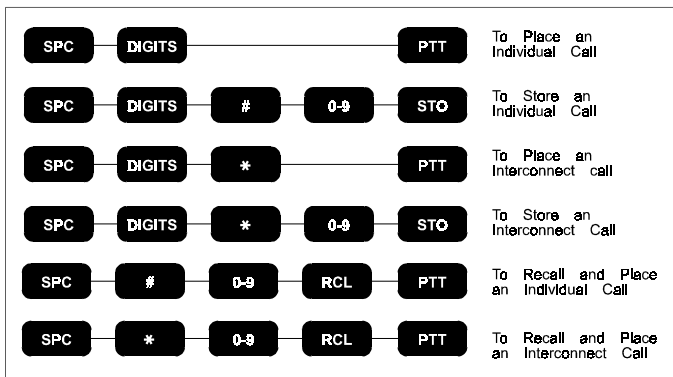
6. The radio is out of range or the radio is inoperative when the signalling is unsuccessful, the **NO SRVC** indicator is illuminated and a sequence of five beeps are heard at the speaker. Any subsequent attempt to initiate a call within the next 20 seconds will be ignored. The radio can be cleared from this mode by double clicking the **SHIFT/CLR/MONITOR** button.

All channels are busy when the signalling is unsuccessful and a one second low frequency tone is heard at the speaker. The call will not be retried automatically.

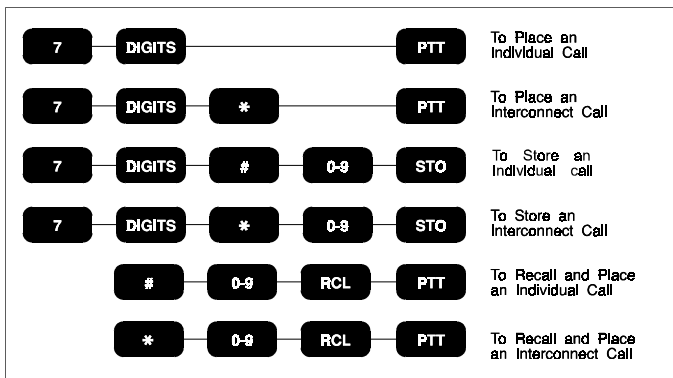
## NOTE

If the "Call Retry" option is active, the radio displays **RETRYNG** and will try the channel at twenty second intervals for five minutes before returning to the normal System/Group display.

- When the call is complete, double click the **SHIFT/CLR/MONITOR** button to exit the Special Call mode and return to the normal System/Group display.



**GE-MARC Special Call Flowchart**



## GE-MARC Conference Call Flowchart





### WIDE AREA SYSTEM SCAN

The Monogram Series EDACS Trunking Portable radio operating within a GE-MARC system may be programmed to scan up to 20 channels from other GE-MARC systems. The radio will scan the channels in the selected system and if its programmed collect tone is not seen, then it will proceed to scan the channels of the systems in its wide area scan list. The group selection may change upon switching to the new system.

### DIRECT MODE

The following section describes how to operate the radio within a Direct Mode System (radio-to-radio). Follow these procedures while operating on a Direct Mode channel.

## Receiving A Message

1. Press the **SHIFT/CLR/MONITOR** button and then use the **SELECT** buttons  or  to select a Direct Mode System. The SYStem display will indicate the current System selected.
2. Use the SElect buttons  or  to select the desired Channel. The radio is now ready to receive message.
3. Press the **SHIFT/CLR/MONITOR** button twice (“double click”) and hold to disable squelch and monitor the channel. Adjust the VOLUME control to the desired audio level.

### **NOTE**

Pressing the **SHIFT/CLR/MONITOR** twice (“double click”) to monitor the channel may affect Busy Tone signalling if programmed for the select channel.



4. When a message is received (and the correct Busy Tone signal is decoded, if programmed and enabled) the receiver will unsquelch and the message will be heard.

## Sending A Message

1. Turn the radio on and set the desired System and Channel as described in the previous section.

2. Ensure no one is transmitting on the selected channel by pressing the **SHIFT/CLR/MONITOR** button twice (“double click”) and hold and/or observing the display for the absence of the **BUSY** indicator to ensure that no one is transmitting on the selected Channel.
3. Holding the radio about 3 inches from your mouth, press the PTT bar and speak as you would normally into the microphone.
4. Release the PTT bar when the transmission is complete and listen for any reply.

### **Sending A Manually Entered Interconnect Call**

1. Select a channel in your radio system that has telephone interconnect capability. The radio should be programmed for DTMF operation on this channel.
2. Press and hold the PTT bar to key the transmitter.
3. While holding the PTT bar, press either the  key or the  key as required by the radio system to obtain a telephone line. The radio will transmit the selected tone.
4. Release the PTT bar and listen for a dial tone. When the dial tone is received, press and hold the PTT bar and enter the desired telephone number. As you enter each digit, the DTMF sidetone will be heard in the speaker as the radio transmits the DTMF tone.

5. After all the digits have been keyed in, release the PTT bar.
6. When someone answers, press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking. Messages cannot be received when the PTT bar is pressed.
7. At the completion of the call, press and hold the PTT bar and then enter the **[\*]** or **[#]** key as the telephone interconnect system requires. Release the PTT bar.

## SCAN OPERATION

### Enable/Disable SCAN

To enter Channel scanning, press and release the **[SCN]** key. The **SCAN** flag will illuminate to indicate scan is active. When scan is on, press and release the **[SCN]** key to disable scan operation. The **SCAN** flag will be extinguished when scan is turned off.

### Add/Delete Channels

Channels can be added or deleted from the scan list as necessary. To add channels to the scan list:

1. Select the desired channel to be added. If the current channel is already included in the scan list, the ◀ flag will be illuminated.



## NOTE

Scan must be disabled to add a channel to the scan list.

2. To add the channel to the scan list, press the **SHIFT/CLR/MONITOR** button and then press the **(SCN)** key. The ◀ flag will illuminate and the channel will be included.

To delete Channels from the scan list:





1. Select the desired channel to be deleted. If the current channel is already included in the scan list, the ◀ flag will be illuminated.
2. To delete the channel from the scan list, press the **SHIFT/CLR/MONITOR** button and then press the **(SCN)** key. The ◀ flag will turn off and the channel will be removed from the scan list.

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## CONVENTIONAL MODE OPERATION

The procedures in the following section describes Conventional Mode operation. Each conventional channel may be programmed with one or more features such as Channel Guard or telephone interconnect capability. Follow these procedures if operating in a conventional system.

### RECEIVING A MESSAGE

1. Turn the radio on by rotating the ON/OFF/VOLUME control clockwise from the OFF detent position. After the radio has passed the power-up self test an optional tone will sound and the current System and Group/Channel will be displayed. If the unit does not pass the test, the display will be blank.
2. Press the SHIFT/CLR/MONITOR button and then use the SELECT buttons  or  to select a Conventional system. Press **SHIFT/CLR/MONITOR** to exit from System select.
3. Use the SELECT buttons  or  to select the desired Channel. The radio is now ready to receive messages.

4. Press the **SHIFT/CLR/MONITOR** button twice ("double click") and hold to disable squelch and monitor the channel. Adjust the VOLUME control to the desired audio level.
5. When a message is received (and the correct Channel Guard signal is decoded, if programmed and enabled) the receiver will unsquelch and the message will be heard.

## **SENDING A MESSAGE**

1. Turn the radio on and set the desired System and Channel as described in the previous section.
2. Ensure no one is transmitting on the selected channel by pressing the **SHIFT/CLR/MONITOR** button twice ("double click") and hold and/or observing the display for the absence of the **BUSY** indicator to ensure that no one is transmitting on the selected Channel.
3. Holding the radio about 3 inches from your mouth, press the PTT bar and speak as you would normally into the microphone.
4. Release the PTT bar when the transmission is complete and listen for any reply.





## **SQUELCH ADJUSTMENT**

In normal operation the squelch is automatically set by the radio and does not need adjusting. If it becomes



necessary to adjust the squelch, the squelch may be adjusted using the following procedure:

### NOTE

The radio must be on a Conventional System or an EDACS working Channel (i.e. receiving a voice call) to adjust the squelch. It is recommended to adjust squelch from a Conventional System.

1. Press and hold the **SHIFT/CLR/MONITOR** button.
2. Use the  or  keys to adjust the squelch. Pressing the  will open the squelch and pressing the  will close the squelch.

## SENDING A MANUALLY ENTERED INTERCONNECT CALL

1. Select a channel in your radio system that has telephone interconnect capability. The radio should be programmed for DTMF operation on this channel.
2. Press and hold the PTT bar to key the transmitter.
3. While holding the PTT bar, press either the  or the  key as required by the radio system to obtain a telephone line. The radio will transmit the selected tone.

4. Release the PTT bar and listen for a dial tone. When the dial tone is received, press and hold the PTT bar and enter the desired telephone number. As you enter each digit, the DTMF sidetone will be heard in the speaker as the radio transmits the DTMF tone.
5. After all the digits have been keyed in, release the PTT bar.
6. When someone answers, press the PTT bar and speak directly into the microphone. Release the PTT bar as soon as you stop talking. Messages cannot be received when the PTT bar is pressed.
7. At the completion of the call, press and hold the PTT bar and then enter the **[\*]** or **[#]** key as the telephone interconnect system requires. Release the PTT bar.

## **SCAN OPERATION**

### **Enable/Disable SCAN**

To enable Channel scanning, press and release the **[SCN]** key. The **SCAN** flag will illuminate to indicate scan is active. When scan is on, press and release the **[SCN]** key to disable scan operation. The **SCAN** flag will be extinguished when scan is turned off.

### **Add/Delete Channels**

Channels can be added or deleted from the scan list as necessary. To add channels to the scan list:

## NOTE

Scan must be disabled to add a channel to the scan list.

1. Select the desired channel to be added. If the current channel is already included in the scan list, the ◀ flag will be illuminated.
2. To add the channel to the scan list, press the **SHIFT/CLR/MONITOR** button and then press the **SCN** key. The ◀ flag will illuminate and the channel will be included.

To delete Channels from the scan list:

1. Select the desired channel to be deleted. If the current channel is already included in the scan list, the ◀ flag will be illuminated.
2. To delete the channel from the scan list, press the **SHIFT/CLR/MONITOR** button and then press the **SCN** key. The ◀ flag will turn off and the channel will be removed from the scan list.

## OPERATOR'S RADIO SETUP

RADIO TYPE: \_\_\_\_\_

FREQUENCY BAND: \_\_\_\_\_

OPERATOR'S NAME: \_\_\_\_\_

EMERGENCY GROUP: \_\_\_\_\_

| SYSTEM<br>NUMBER | SYSTEM<br>NAME | TRK/CNV | GRP/CHN<br>NUMBER | GRP/CHN<br>NAME | USE |
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| SYSTEM<br>NUMBER | SYSTEM<br>NAME | TRK/CNV | GRP/CHN<br>NUMBER | GRP/CHN<br>NAME | USE |
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## NICKEL CADMIUM BATTERY WARRANTY

- A. Ericsson Inc. (hereinafter "Seller") warrants to the original purchaser for use (hereinafter "Buyer") that nickel-cadmium batteries supplied by Seller shall be free from defects in material and workmanship, and shall conform to its published specifications for a period of twelve (12) months from the date of purchase.
- B. For purposes of this warranty, batteries shall be deemed defective if (1) the battery capacity is less than 80% of rated capacity, or (2) the battery develops leakage.
- C. If any battery fails to meet the foregoing warranty, Seller shall correct the failure by issuing a replacement battery upon receipt of the defective battery at an Authorized Service Center (ASC). To obtain the name and address of an ASC, ask your salesperson, consult the Yellow Pages, or call the number printed at the bottom of this page.
- D. Replacement batteries shall be warranted only for the remaining unexpired warranty period of the original battery. This warranty becomes void if:
  - (1) The battery has been subjected to any kind of misuse, detrimental exposure, or has been involved in an accident.
  - (2) The battery is used in equipment or service other than the radio equipment for which it is specified.
- E. The preceding paragraphs set forth the exclusive remedies for claims (except as to title) based upon defects in or non-conformity of any battery, 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 COMPANY BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, INDIRECT OR EXEMPLARY DAMAGES.

This warranty applies only within the United States.  
1-800-528-7711 (Outside USA, 804-528-7711)

ECX-841C

# WARRANTY

- A. Ericsson 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 Service Center 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 Center or other approved Servicer's place of business will include a charge for transportation.
- 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 (Outside USA, 804-528-7711)

## EMERGENCY NUMBERS

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Police

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State Police

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Fire

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Poison Control

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Ambulance

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Life Saving and  
Rescue Squad

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### **Ericsson Inc.**

Private Radio Systems  
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