LBI-38686A

Operator's Manual



M-PA[™] SELECT MODEL PORTABLE RADIO (DES ALGORITHM)





TABLE OF CONTENTS

INTRODUCTION	5
CONTROLS	5
INDICATORS	7
UNIVERSAL DEVICE CONNECTOR	8
<i>ALERT TONES</i>	8
OPERATION	9
<i>POWER-UP</i>	9
CRYPTOGRAPHIC KEY HANDLING	9
RECEIVING A MESSAGE	10
TRANSMITTING A MESSAGE	11
EMERGENCY OPERATION	12
OPERATING TIPS	12
OPERATING RULES AND	
REGULATIONS	13

TABLE OF CONTENTS (CONT.)	
BATTERY PACKS	14
INSTALLING THE BATTERY PACK	14
REMOVING THE BATTERY PACK	15
CHARGING THE BATTERY PACKS	15
RECHARGEABLE BATTERY PACK DISPOSAL	16
SWIVEL MOUNT REMOVAL AND REPLACEMENT	16
NTRINSICALLY SAFE USAGE	16
BATTERY PACKS	17
ACCESSORIES	17
GLOSSARY	18
<i>WARRANTY</i>	20
NICKEL-CADMIUM WARRANTY	21

This manual is published by Ericsson Inc., without any warranty. Improvements and changes to this manual necessitated by typographical errors, inaccuracies of current information, or improvements to programs and/or equipment, may be made by Ericsson Inc., at any time and without notice. Such changes will be incorportated into new editions of this manual. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose, without the express written permission of Ericsson Inc.

Copyright © December 1991, Ericsson GE Mobile Communications Inc.

PRODUCT SPECIFICATION FOR CE MARKED EQUIPMENT

The M-PA Portable conforms to the following Product Specifications.

EUROPEAN STANDARDS:

Safety: Not Applicable

- EMC: prETS 300 279 (August 1995)
- TTD: Not Applicable

SUPPLEMENTARY INFORMATION:

At this time, the M-PA portable radio may not be operated while in a vehicular charger in the European Community since it has not been evaluated for operation in this mode.

The M-PA portable radio may be used in both trunked and conventional applications.

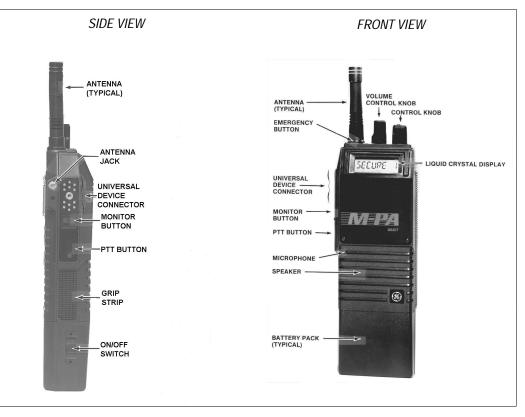


Figure 1 - M-PA Select Model Radio

INTRODUCTION

This manual describes the operation of the M-PA[™] Voice Guard[®] Select model radio. This full-featured portable radio provides Voice Guard two-way communications using the Data Encryption Standard (DES) algorithm. The M-PA Voice Guard radio provides full-range performance for private (guarded) and clear communications.

The cryptographic key in the radio provides the encryption and decryption code necessary for private communications. Only radios with the same cryptographic key can monitor and communicate. Cryptographic keys are transferred into the radio using DES Keyloader, Option V4025.

Operating controls on the radio include a rotatable control knob, rotatable volume control, push-to-talk, emergency and monitor buttons. The on/off power switch for the unit is located on the removable battery pack.

The 8-digit alphanumeric liquid crystal display (LCD) on the front of the radio displays the operating status of the radio. This backlit display also has eight status flags that indicate various operating conditions such as private communications enabled, transmitter on, or emergency mode enabled.

The exact operation of your radio will vary depending upon the mode of operation, the radio's programming, and the particular radio system. Consult your radio system's representative for particular features that are programmed into your radio.

CONTROLS

ON/OFF SWITCH

The ON/OFF SWITCH is located on the battery pack. Sliding this switch up will supply power to the radio from the battery pack. An audible click will be heard and the "ON" indicator will be exposed. When the radio is turned on, it will perform a power-up self test and then resume operation on the previous operating channel as displayed in the LCD. Sliding the switch down will turn the radio off.

VOLUME CONTROL KNOB

The VOLUME CONTROL KNOB is a rotatable control on the top of the radio used to adjust the receiver's audio level in the speaker. Rotating this knob in a clockwise direction will increase the audio level. Counter-clockwise rotation will decrease the audio level. Minimum levels may be programmed into the radio to prevent missed calls due to too low of a volume setting.

CONTROL KNOB

The rotatable 16-position CONTROL KNOB located on the top of the radio selects the operating channel. A stop plate may be installed under the knob to limit the maximum number of positions to less than sixteen (16). It is normally factory installed for fifteen (15) positions.

PTT BUTTON

Pressing the PTT BUTTON on the side of the radio will enable the radio's transmitter. The "TX" status flag in the display will turn on when the radio is transmitting. Releasing the PTT BUTTON will return operation to receive mode.

MONITOR BUTTON

The MONITOR BUTTON is used to unsquelch the receiver. Momentarily pressing this button will disable

squelch and the receiver noise will be heard in the speaker.

If programmed enabled for the selected channel, Channel Guard (CG) and/or Type 99 (T99) signalling will be enabled when the channel is selected. If CG and/or T99 are enabled, the appropriate status flag "CG" and/or "T99" will turn on. The MONITOR BUT-TON may then be used to toggle CG and/or T99 between disabled and enabled by pressing and holding the it for at least one (1) second; the appropriate status flag will toggle on or off. The MONITOR BUT-TON is also used to reset T99 operation after a call is received.

EMERGENCY BUTTON

The EMERGENCY BUTTON is the small red button located on top of the radio near the antenna. If this button is programmed for emergency operation, pressing it for at least one (1) second will cause the radio to transmit GE-STAR emergency signalling. The "EMG" status flag will turn on. GE-STAR is transmitted according to one of several different programmable methods. See **EMERGENCY OPERATION** for details. This button may also be programmed as a home mode button. If programmed in this manner, pressing it will switch operation to the programmed home mode.

INDICATORS

The radio's liquid crystal display (LCD) located on the front panel has eight (8) alphanumeric characters and eight (8) status flags. This display indicates the current operating channel and various messages.

LCD backlighting will turn on for a short period anytime an active button is pressed or the CONTROL KNOB is rotated. Backlighting may be programmed to remain off at all times.



Figure 2 - Liquid Crystal Display

The eight (8) status flags located along the top and bottom of the display indicate operating status as follows:

- **EMG** EMerGency mode On indicates emergency GE-STAR signalling has been initiated by the user.
- *HI HIgh power transmit On indicates the selected channel has been programmed for high power transmit operation. Off indicates low power transmit.*
- **T99** Type 99 tone decode On indicates Type 99 tone decoding is enabled on the selected channel. Flashing indicates a T99 selective call has been received and the radio must be reset to receive another T99 call.
- **PVT** PriVaTe mode On indicates private mode is enabled and the radio will transmit encrypted messages on the selected channel. Flashing indicates an encrypted message is being received.
- **TX** Transmitter enabled On when the radio is transmitting.
- **BSY** BuSY On indicates a carrier is being received (the channel is busy). Note that if the selected channel is programmed for

Channel Guard (CG), Digital Channel Guard (DCG), or Type 99 (T99) tone decode operation, the radio may not unsquelch if a valid tone(s) is not received; the BSY status flag will be on.

- *CG* Channel Guard On indicates tone Channel Guard (CG) or Digital Channel Guard (DCG) encode/decode is enabled on the selected channel.
- **BAT** BATtery low On indicates the battery pack's charge is low.

UNIVERSAL DEVICE CONNECTOR

The Universal Device Connector (UDC) is located on the side of the radio just above the PTT and MONITOR BUTTONS. This connector provides connections for the external accessories such as a headset, a speaker-mike, or an emergency lanyard. When the radio is locked in a vehicular charger/repeater the UDC provides the audio and control connections between the radio and the vehicular charger/repeater. The UDC is also used by the maintenance personnel when the radio is programmed.

ALERT TONES

The M-PA uses alert tones or "beeps" to indicate various operating conditions. The alert tones may be disabled when the radio is programmed.

CARRIER CONTROL TIMER

This feature, programmable on a per channel basis, prevents unnecessary channel traffic and radio damage in the event of a "stuck" mic. If the programmed timer times-out during a transmission the radio will sound an alert tone and disable the transmission. The beeping tone will continue until the PTT BUTTON is released. Releasing the PTT BUTTON resets the timer.

CHANNEL BUSY

If the radio is receiving a signal when the PTT BUTTON is pressed, an alert tone will warn the operator that the radio is receiving a carrier and the transmission will not occur. "RX BUSY" is displayed and the alarm is sounded as long as the PTT BUTTON is pressed. This feature is programmable on or off on a per channel basis.

RECEIVE ONLY CHANNEL

If the selected channel is programmed as receive only the radio will sound an alert tone if a transmission is attempted. "RX ONLY" is displayed.

RADIO/CHANNEL FAILURE

If the synthesizer is unable to lock correctly on the selected channel, or another radio failure occurs, an alert tone will sound. If incorrect programming is detected or the synthesizer fails to lock, the display flashes "NO LOCK" then the selected channel's name.

OPERATION

POWER-UP

After the battery pack and antenna have been installed, turn the radio on by sliding the ON/OFF SWITCH on the battery pack up. After the radio has completed a power-up self-test, it will begin operation on the last operating state as displayed in the LCD. If programmed on, the power-up alert tone (beep) will be heard.

CRYPTOGRAPHIC KEY HANDLING

Cryptographic keys are transferred into the radio using the Keyloader, Option V4025. Refer to the Keyloader operator's manual (LBI-31541) for detailed instructions on how to load keys into the Keyloader.

The radio is capable of storing up to seven (7) different cryptographic keys in its memory. It is programmed for key selection on a per channel basis.

NOTE

Before private messages can be sent or received, one or more cryptographic keys must be transferred into the radio from the Keyloader.

Transferring Keys Into The Radio

The following procedure outlines basic key transferring steps. See LBI-31541 for more details.

- 1. Turn the radio off.
- Plug the modular connector of the Keyloader cable into the Keyloader's modular jack.

- 3. Connect the Keyloader cable to the UDC on the radio.
- 4. Press the PWR button on the Keyloader and wait for the Keyloader to display "MASTER MODE".
- 5. Press the TRN button on the Keyloader. If necessary, select a different cryptographic key to be transferred into the radio.
- 6. Turn the radio on. The display should read "KEY LOAD".
- 7. Press the EXE button on the Keyloader to transfer the key. The Keyloader will display "GOOD 1.x TRANSFER" where "x" is the selected cryptographic key number.
- 8. Disconnect the cable from the radio's UDC. A single beep will be heard from the radio's speaker if the power-up alert tone is enabled. The radio will change to the selected channel as indicated in the display.

Key Zero

All cryptographic keys stored in the radio can be zeroed or "dumped" by removing the battery pack for several minutes (typically three). When the battery pack is later reinstalled and the radio is powered-up, it will display "KEY ZERO" and emit a series of beeps. If cryptographic key(s) are zeroed, one or more keys must be transferred into the radio from the Keyloader before private communications may continue. Disassembling the front half of the radio from the rear half will also zero all keys.

RECEIVING A MESSAGE

- 1. Slide the ON/OFF SWITCH on the battery pack to the on position. The radio will initiate and complete the power-up self-test and beep if the power-up alert tone is programmed on.
- 2. Select the desired channel.
- 3. Press the MONITOR BUTTON to disable squelch and adjust the VOLUME CON-TROL for the approximate desired speaker audio level. Pressing the MONITOR BUT-TON may affect Channel Guard and/or Type

99 tone operation if programmed for the selected channel.

4. If the selected channel is programmed for private operation, the radio will automatically switch between clear or private receive operation.

When an encrypted transmission is received, the "PVT" status flag will flash, the receiver will unsquelch, and the Voice Guard message will be heard in the speaker. The selected channel must be programmed for private operation and the correct cryptographic key must be loaded into the radio for this to occur.

If a clear mode (non-encrypted) transmission is received, the receiver will unsquelch and it will be heard in the speaker. However, if the selected channel is programmed for Channel Guard or Type 99 tone operation, the receiver will not unsquelch unless the correct CG or T99 tone is received.

5. Adjust the volume as necessary.

TRANSMITTING A MESSAGE

- 1. Select the desired channel. If a channel programmed for private operation is selected and there is no key in the radio for the selected channel "NO KEY x" (where "x" is the key number) will periodically flash in the display. If a transmission is attempted, "NO KEY x" will show in the display and the radio will emit a series of beeps and will not transmit.
- 2. Ensure no one is transmitting on the selected channel by pressing the MONITOR BUTTON to disable squelch or observing the display for the absence of the "BSY" status flag. If the Channel Busy Lockout feature is programmed for the selected channel, the radio will not transmit when the channel is busy.
- 3. Press and hold the PTT BUTTON. The "TX" and "BSY" status flags are displayed.
- 4. Hold the radio approximately three inches from your mouth and speak into the microphone in a normal voice.

- 5. Release the PTT BUTTON when the transmission is complete. If the transmission exceeds the programmed Carrier Control Timer limit, the radio will unkey and an alert tone will sound.
- 6. Listen for a reply.

EMERGENCY OPERATION

The radio may be programmed to transmit GE-STAR emergency signalling when the EMERGENCY BUTTON is pressed or from a UDC connected lanyard. If the EMERGENCY BUTTON is programmed for GE-STAR emergency activation, press it for approximately one (1) second to activate the transmission. If the lanyard is programmed for activation, follow the instructions provided with it. GE-STAR is programmed to transmit in one of the following methods:

 GE-STAR is transmitted on a predetermined channel regardless of the selected channel. In this case the selected channel is available for voice and the radio will periodically "jump" to the predetermined channel and send the emergency message and then "jump back" to the selected channel for voice operation.

- GE-STAR is transmitted on the selected channel. If the channel is changed the emergency bursts will follow the newly selected channel.
- The radio switches to and stays on a predetermined channel and GE-STAR is transmitted on that channel. Rotating the CONTROL KNOB will not change channels. Turning the radio off and back on will reset this condition.
- GE-STAR is sent on the selected channel and the radio locks onto that channel. Rotating the CONTROL KNOB will not change channels. Turning the radio off and then back on will reset this condition.

OPERATING TIPS

Antenna location and condition is important when operating a portable radio. Operating the radio in low areas of terrain, under power lines or bridges, inside of a vehicle or in a metal or steel framed building can severely reduce the range of the unit. Mountains and buildings can also reduce the range of the unit.

In areas where transmission or reception is poor, some improvement may be obtained by insuring that the antenna is vertical. Moving a few yards in another direction or moving to a higher elevation may also *improve communication. Vehicular operation can be aided with the use of an externally mounted antenna.*

Battery condition is another important factor in the trouble free operation of a portable radio. Always properly charge the batteries.

Always observe all of the Federal Communication Commission's rules and regulations.

OPERATING RULES AND REGULATIONS

Two-way FM radio systems must be operated in accordance with the rules and regulations of the Federal Communications Commission (FCC). As an operator of two-way radio equipment, you must be thoroughly familiar with the rules that apply to your particular type of radio operation. Following these rules will help eliminate confusion, assure the most efficient use of the existing radio channels, and result in a smoothly functioning radio network.

When using your two-way radio, remember these rules:

 It is a violation of FCC rules to interrupt any distress or emergency message. As your radio operates in much the same way as a telephone "party line", always listen to make sure that the channel is clear and/or observe the display for the absence of the "BSY" status flag before transmitting. Emergency calls have priority over all other messages. If someone is sending an emergency message - such as reporting a fire or asking for help in an accident - KEEP OFF THE AIR!

- 2. The use of profane or obscene language is prohibited by Federal law.
- 3. It is against the law to send false call letters, or false distress or emergency messages.
- 4. The FCC requires that you keep conversations brief and confine them to business. To save time, use coded messages whenever possible.
- 5. Using your radio to send personal messages (except in an emergency) is a violation of FCC rules. You may send only those messages that are essential for the operation of your business.

- 6. It is against Federal law to repeat or otherwise make known anything you overhear on your radio. Conversations between others sharing your channel must be regarded as confidential.
- 7. The FCC requires that you identify yourself at certain specific times by means of your call letters. Refer to the rules that apply to your particular type of operation for the proper procedure.
- 8. No changes or adjustments shall be made to the equipment except by an authorized or certified electronic technician.

BATTERY PACKS

INSTALLING THE BATTERY PACK

- 1. Ensure the ON/OFF SWITCH on battery pack is in the off position.
- 2. Hold the radio and battery pack with the back of them facing you.

- 3. Align the battery pack and radio slide grooves. See Figure 3.
- 4. Slide the battery pack fully into the radio until the battery release latch clicks into place.

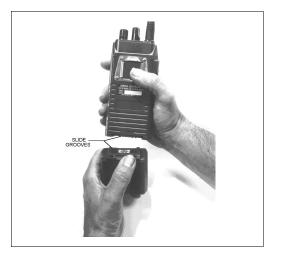


Figure 3 - Installing the Battery Pack

REMOVING THE BATTERY PACK

- 1. Ensure the ON/OFF SWITCH on the battery pack is in the off position.
- 2. Press down on the battery release latch and slide the battery pack out in the direction of the release latch. See Figure 4.



Figure 4 - Removing the Battery Pack

CHARGING THE BATTERY PACKS

After receiving a new rechargeable battery pack from the factory, it should be fully charged before placing it into service. This also applies to rechargeable batteries that have been stored for long periods. When the battery pack requires charging the radio will signal the operator with an alert tone and the "BAT" status flag will turn on.

Chargers are available with nominal charge times of 1 hour (rapid) and 14 hours (standard). Combinations include single (1) and multi (5) position, standard and rapid charge units. In addition, the vehicular chargers/repeaters simultaneously charge the battery packs while the radio is operating. For specific instructions refer to the applicable charger Operating Manual.

The rechargeable batteries used with the radio can develop a reduced capacity condition sometimes called the "Memory Effect". This condition can occur when a battery is continuously charged for long periods or when a regularly performed duty cycle allows the battery to expend only a limited portion of its capacity. The battery pack may show a severe decrease in its ability to deliver full capacity for an extended period. Any rechargeable battery pack showing signs of reduced capacity should be returned to a qualified service center for inspection.

RECHARGEABLE BATTERY PACK DISPOSAL



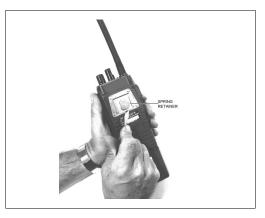
The product that you have purchased contains a rechargeable, recyclable battery. At the end of it's useful life, under various state and local laws, it may be illegal to dispose of this battery

into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal. Call Toll Free 1-800-8-BAT-TERY for information and/or procedures for returning rechargeable batteries in your state.

SWIVEL MOUNT REMOVAL AND REPLACEMENT

To remove the swivel mount, slide a flat blade screwdriver underneath the spring retainer and twist. While twisting, slide the swivel mount out from under the holder.

To replace the swivel mount, place the end of the swivel in the grooves in the radio and slide the mount up until it snaps in place.





INTRINSICALLY SAFE USAGE

Selected portable radios with appropriate factory installed F4 Options are certified as Intrinsically Safe by the Factory Mutual Research Corporation. Intrinsically Safe approval includes Class I, II, III, Division 1 hazardous locations in the presence of Groups C, D, E, F and G atmospheres. Non-Incendive approval includes Class I, Division 2 hazardous locations in the presence of Groups A, B, C and D atmospheres. Hazardous locations are defined in the National Electrical Code. Useful standards NFPA 437A and NFPA 437M for the classifications of hazardous areas can be ordered from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

BATTERY PACKS

Only battery packs identified with a green latch shall be used with a portable radio that is rated and labeled as Factory Mutual Intrinsically Safe. Use of nonspecified battery packs voids Factory Mutual approval. The following battery pack options are approved for use in intrinsically safe radios.

PAPA1F	Rechargeable Battery Pack, Extra High Capacity (Tall Case)
PAPA1G	Rechargeable Battery Pack, High Capacity (Short Case)

ACCESSORIES

The accessories that follow are approved for use with intrinsically safe radios. Use of accessories other than those listed voids Factory Mutual approval.

PAPAB1A	Headset/Microphone	PAHC1
PAAC1J	Earpiece Kit	PAHC5
PAAC1B	GE-STAR Lanyard	

PAAE3R	Speaker/Microphone
PAAE1B	Speaker/Microphone with GE- STAR Lanyard
PAAE3T	Speaker/Microphone/Antenna
PANC1B	Antenna, 136-151 MHz, Helical
PANC1F	Antenna, 440-470MHz, Helical
PANC1L	Antenna,378-440MHz, Whip
PANC1N	Antenna,440-512MHz, Whip
PANC1H	Antenna, 806 - 870 MHz, Ele- vated Feed
PANC1K	Antenna, 806-870MHz, Flex
PANC1U	Antenna, 378-440MHz, Helical
PANC1Z	Antenna,896-941MHz, Whip
PAHC1C	Belt Clip
PAHC1D	Swivel Mount with Belt Loop
РАНСЗШ	Case, Leather, with Belt Loop (Short Case)
РАНС1К	Shoulder Strap, Leather, with Mounting Plate
PAHC5R	Holster, Plastic.

clear mode -	GLOSSARY communicating in a non-en- crypted format (non-scrambled)	DES -	Data Encryption Standard - a Federally accepted encryp- tion/decryption algorithm used to scramble or descramble a sig- nal
cryptographic key -	the number or code used by the encryption and decryption cir- cuitry to encode and decode a signal	decryption -	the process of decoding or de- scrambling a signal according to a predetermined algorithm
CCT -	Carrier Controlled Timer - a pro- grammable timer that will disable a transmission if the timer length is exceeded	encryption -	the process of encoding or scrambling a signal according to a predetermined algorithm
CG -	Channel Guard - a method of controlling squelch with a tone or	private mode -	communicating in an encrypted format (scrambled)
	digital code (Channel Guard is tradename for coded squelch)	T99 -	<i>Type 99 - a method of opening squelch for selective page operations using sequential tones</i>

 RADIO TYPE ______

 FREQUENCY BAND ______

 OPERATOR'S NAME ______

MODE NUMBER	MODE NAME	CHANNEL NUMBER	CHANNEL NAME	VG	CG/ T99	USE

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 tille, 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 change 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 Service's place of business vill 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. 1-800-592-7711 (Outside USA, 804-592-7711).

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. 1-800-592-7711 (Outside USA, 804-592-7711).

ECX-841C

EMERGENCY NUMBERS

Police	
State Police	
Fire	
Poison Control	
Ambulance	
Life Saving and Rescue Squad	

Ericsson Inc. Private Radio Systems Mountain View Road Lynchburg, Virginia 24502 1-800-592-7711 (Outside USA, 804-592-7711)

Printed in U.S.A.