

MTX Series Model B3

Privacy Plus® Portable Radios
operating instructions

1 | MTX Series Model B3 Privacy Plus® Portable Radios

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Introduction

Getting Started

Basic Radio Operation

General Radio Features Operation

Trunked Radio Features Operation



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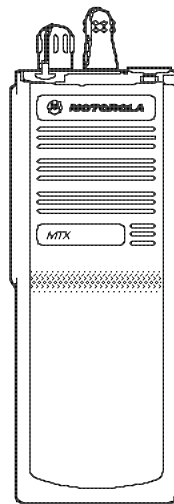


Batteries and Accessories

General Information

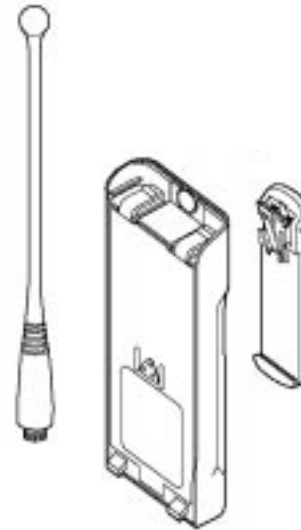
3 Introduction

Inspect the shipping carton for any signs of damage. Remove and check the contents to be sure that all ordered items have been shipped. Inspect all items thoroughly. If any items have been damaged during transit, report the damage to the shipping company immediately.



Radio Packing Box Contents

- Radio
- Antenna
- Nickel-Cadmium Battery
- Belt Clip
- Radio Information Sheet
- Operating Instructions Manual



Throughout this publication, you will notice the use of **WARNINGS**, **CAUTIONS**, and **Notes**. These notations are used to emphasize that safety hazards exist, and care must be taken or observed.



WARNING

An operational procedure, practice, or condition, etc., which may result in injury or death if not carefully observed.

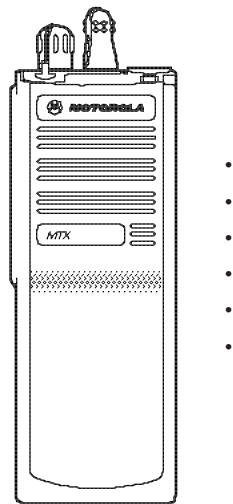


CAUTION

An operational procedure, practice, or condition, etc., which may result in damage to the equipment if not carefully observed.

Note: An operational procedure, practice, or condition, etc., which is important to emphasize.

Inspection and Unpacking



Warnings, Cautions, and Notes

4 | Getting Started

Radio/Antenna Identification

An information label is attached to the back of your radio (chassis), just under the battery contacts. A radio model number is identified on this label. A typical model number might be HO1UCC6DB3AN. The fourth position of the model number (in this case "U") identifies the operating frequency band of the radio. The Radio Operating-Frequency Chart lists all fourth-position alpha characters and corresponding frequency band.

Radio Operating-Frequency Chart

Fourth-position Character	Frequency Band	Fourth-position Character	Frequency Band	Fourth-position Character	Frequency Band
K	136-178 MHz	R S	403-470MHz 450-520MHz	U W	806-870MHz 896-941MHz

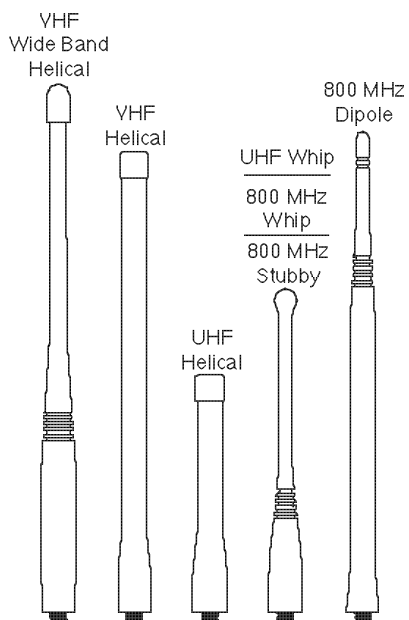
Antennas are frequency sensitive and are color coded according to the frequency range of the antenna. The color code indicator is the insulator in the center of the base of the antenna. The following illustrations and chart will help identify the antenna, antenna frequency range, and corresponding color code.

Refer to the **Radio Operating-Frequency Chart** and the **Antenna Identification Chart** to ensure that the match between your radio and antenna is correct.



Antennas

5 | Getting Started (cont.)

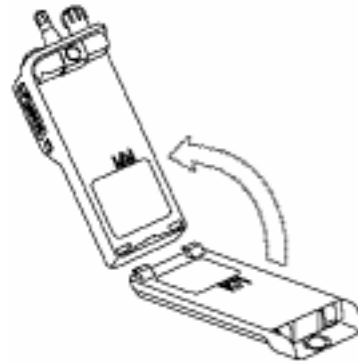


Antenna Identification Chart

Antenna Type	Approx. Length		Insulator Color Code	Frequency Range
	In.	MM		
VHF Wide Band Helical	8.1	203	RED	136-174 MHz
VHF Helical	7.8	195	YELLOW	136-151 MHz
	7.3	183	BLACK	151-162 MHz
	6.9	172	BLUE	162-174 MHz
UHF Helical	3.3	83	RED	403-435 MHz
	3.2	80	GREEN	435-470 MHz
	3.2	79	BLACK	470-512 MHz
UHF Wide Band Whip	5.2	130	GREY	403-512 MHz
800/900 MHz Stubby, Quarterwave	3.3	83	WHITE	806-941 MHz
800 MHz Dipole	8	200	RED	806-870 MHz
900 MHz Dipole	8	200	BLUE	896-941 MHz
800 MHz Whip	7	175	RED	806-870 MHz
900 MHz Whip	6.6	165	BLUE	896-941 MHz



6 Getting Started (cont.)



1. Turn off the radio and hold it with the back of the radio facing up.
2. Place the two notched tabs of the battery (located at the inside base of the battery) into the metal cutouts of the radio (located at the inside base of the radio).
3. Rotate the battery toward the radio and press the top of the battery into the radio until both battery release levers "click" into place.

Note: The battery is shipped uncharged. Batteries must be charged before use. (See "Battery Information" section.)



1. Turn off the radio and hold it so that the battery side of the radio is tilted down.
2. Press down on the two battery release levers.



3. With the release levers pulled down, the top of the battery will come apart from the radio.
4. Remove the battery completely away from the radio.

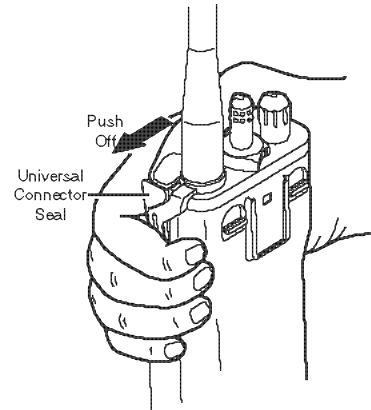
MAEPF-22057-B



Battery Installation

Battery Removal

7 | Getting Started (cont.)



WARNING

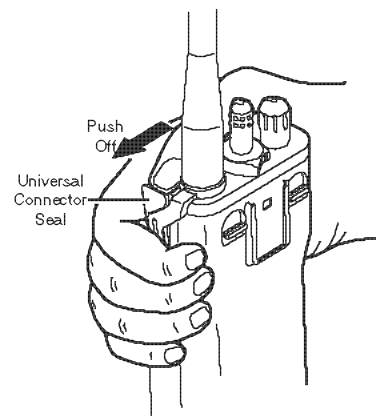
- When not in use, keep the side connector covered using the universal connector seal provided.
- Touching the top two contacts of the universal connector when transmitting could result in a radio frequency burn.

If the universal connector seal is attached to the radio:

1. Grasp the radio as illustrated, and push your thumb against the tabbed portion of the seal with enough force to unsnap the universal connector seal from the radio.

Note: An arrow on the top surface of the seal indicates the direction of thumb pressure to unsnap the seal.

2. Rotate the seal around the antenna to move it away from the universal connector; slide the seal off of the antenna and completely away from the radio.



Universal Connector Seal Removal

8 | Getting Started (cont.)

Note: To avoid damage to the radio's surface, installation and removal of the belt clip assembly should be done with the battery removed from the radio.

Installing the Belt Clip

1. Insert a pencil or equivalent size instrument between the inside of the belt clip and the metal clip assembly so as to hold the metal clip partially sprung (metal clip should be approximately parallel with the plastic portion of the belt clip).
2. Align the metal tabs of the belt clip with the plastic slots of the battery housing.
3. Slide the belt clip onto the battery, pushing firmly until a click is heard.
4. Remove the pencil from the clip.





Belt Clip Installation and Removal

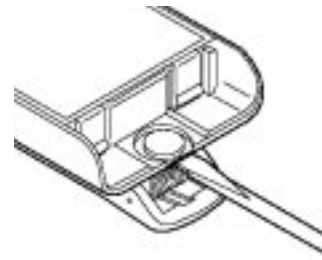
9 Getting Started (cont.)

Removing the Belt Clip

1. Insert a pencil, or equivalent size instrument between the inside of the belt clip and the metal clip assembly to hold the metal clip partially sprung (metal clip should be approximately parallel with the plastic portion of the belt clip).



2. Push the flat blade of a #2 slotted screwdriver (or like instrument) between the battery housing and the belt clip release tab.
3. While performing step 2, slide the belt clip out and away from the battery, and remove the screwdriver.
4. Remove the pencil from the clip.



10 | Getting Started (cont.)

Turns the radio on or off, and adjusts the volume level.

Selects the operating system and mode.

Programmed at shipment to turn scan on (position B) and turn scan off (position A). Position C not programmed at shipment.

Indicates the radio's operating status; green/red light-emitting diode (LED). (See "Indicator LED Indications" paragraph.)

Programmed at shipment as telephone receive button. Programmable via RSS for volume set.

Programmed at shipment to delete "nuisance mode".

Unprogrammed at shipment, but programmable via RSS for volume set.

Programmed at shipment as the "Private Conversation™" receive button.

Puts the radio in the transmit mode.

Accepts voice input to the radio's microphone.

Provides access for programming, testing, and accessory connections.

Reduces background noise during transmit.

Controls, Switches, Indicators, and Connectors

- 1 On/Off/Volume Control
- 2 Rotary Mode Selector Knob
- 3 Three-Position (A B C) Toggle Switch
- 4 LED Indicator
- 5 Orange Top Button
- 6 Side Button 1
- 7 Side Button 2
- 8 Side Button 3
- 9 Push-To-Talk (PTT) Switch
- 10 Microphone Port
- 11 Universal Connector
- 12 Noise-Cancelling Port

12 | Getting Started (cont.)

The MTX Series radio generates a number of audible tones to indicate radio operating conditions:

Note: Some tones are programmable.

A low-battery condition is indicated by a high-pitched, cricket-like "chirp-chirp" when the PTT switch is released following a transmission.

A short, medium-pitched tone when the radio is first turned on indicates that the radio has passed its power-up self test and is ready for use. (Optional).

A short, low-pitched tone when the radio is first turned on indicates that the radio has failed its power-up self test and is not ready for use. Contact your service representative for service.

If you press the PTT switch while the channel is busy, you will hear a continuous, low-pitched alert tone, indicating that no transmission is possible on this channel. This tone will continue until the PTT switch is released. (Optional).

A continuous, low-pitched tone is heard when an invalid or unprogrammed operation is attempted on the radio.

A short, medium-pitched tone when a keypad key is pressed indicates that the keypress was accepted.

A short, low-pitched tone when a keypad key is pressed indicates that the keypress was rejected.

A faint "beeping" tone every ten seconds indicates that the radio is operating in the failsoft mode.

Your radio's time-out timer limits the length of your transmission time. When you are pressing the PTT switch (transmitting), a short, low-pitched warning tone will sound four seconds before the allotted time will expire.

If you hold down the PTT switch longer than the time-out timer's allotted time, a continuous, low-pitched tone will sound, indicating that your transmission has been cut off. This tone will continue until the PTT switch is released.

A group of four medium-pitched tones every five seconds indicates that a Call Alert page has been received.

A group of two medium-pitched tones (800MHz radios only) indicates that your radio has received a private conversation call. For all other frequency radios and for enhanced private conversation, this sequence will be repeated every five seconds for approximately 20 seconds.

A "bah-bah-bah-bah" tone when a trunked system is accessed indicates that all available modes are busy and the radio is in queue for the next available mode.

Alert Tone Indications

- Low Battery -
- Successful Power-Up -
- Unsuccessful Power-Up -
- Smart PTT (Conventional Modes Only) -
- Invalid Mode -
- Valid (Good) Keypress -
- Invalid (Bad) Keypress -
- Failsoft (Trunked Systems Only) -
- Time-Out Timer Warning -
- Time-Out Timer Timed-Out -
- Call Alert™ (Page) Received -
- Private Conversation™ Call Received -
- Trunked System Busy (Trunked Systems Only) -

13 | Getting Started (cont.)

The indicator LED on top of the radio indicates radio operating conditions:

- A. With the PTT switch pressed (radio transmitting)
 - Continuous red LED—normal transmission
 - LED unlit—radio is not transmitting
 - Blinking red light—low battery
- B. With the PTT switch released (radio receiving)
 - Blinking red light—mode busy (conventional modes only)
 - Blinking green light—receipt of a telephone call, Private Conversation call, or Call Alert page

The time-out timer feature limits the amount of time you can continuously transmit on a mode. If you hold down the PTT switch longer than the allotted time:

- a tone will be generated four seconds before termination of your transmission to warn you that your conversation is about to be cut off.

- your transmission is terminated and an alert tone is emitted until the PTT switch is released.

Your MTX Series radio is capable of both trunked and conventional operation:

- During trunked operation, your MTX Series radio offers a number of advantages, including fast system access, enhanced privacy, and ease of operation. In a trunked system, there is no need for you to monitor a mode before transmitting.

- During conventional operation, your MTX Series radio performs like a conventional two-way radio. That is, you must monitor the selected mode before transmitting. If the radio's red LED is blinking in the receive mode, the channel is busy. As an option, the Smart PTT feature is available via RSS programming. If the PTT switch is pressed and the channel is busy, a continuous low-pitched tone will be heard. The tone will continue until the PTT switch is released. This will ensure that you are observing standard two-way radio transmission protocol by not "talking over" someone who is already transmitting.

Indicator LED Indications

-
-
-
-
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Time-Out Timer

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Trunked or Conventional Radio Operation

- **Trunked Operation** –
- **Conventional Operation** –

14 | Basic Radio Operation

1. Turn the radio on by rotating the volume control clockwise. The radio goes through a power-up self check and, if it passes the check. A high-pitched tone sounds to indicate that the radio has passed the self check. (tone optional via RSS).

If the radio fails the self check, you will hear a low-pitched tone. Turn the radio off, check the battery, and turn the radio back on. If the radio still does not pass the self check, a problem exists in the radio. Contact your nearest Motorola Service Shop.



Note: The power-up self check verifies that the radio's microprocessor-based systems are working, but it does not check all of the RF components, nor does it check the operation of all customer-specific features. Motorola recommends that the functionality of the radio be periodically checked by an authorized Motorola service shop.

2. Turn the radio off by rotating the volume control counterclockwise until you hear a click.



Before you can send or receive on a trunked system, the radio must be set to the desired system and mode. *In trunked operation, a mode is a trunked talkgroup and all features "slaved" to it.* Your radio can support up to four different trunked systems, selected by mode selector knob positions 1 through 16. Each system can have up to four different modes associated with it. When you move to a position, such as mode 1, you are selecting both a system and talkgroup. For example, mode 1 could select system 1/talkgroup 1; mode 2 could select system 1/talkgroup 2. To select a system and mode:

1. Turn the radio on and set the mode selector knob to the desired mode position (1 through 16).



Radio On/Off and Power-Up

Selecting a Trunked System and Mode

15 | Basic Radio Operation (cont.)

Before you can send or receive in conventional operation, the radio must be set to the desired mode and programmed via RSS with the appropriate conventional frequencies (positions 2 through 16 on rotary mode selector). *In conventional operation, a mode is a conventional channel and all features "slaved" to it.*

Four conventional channels replace every one trunked system.

Trunked Systems and Conventional Modes

1. Turn the radio on and select the desired system and mode (see "Selecting a Trunked System and Mode" or "Selecting a Conventional Mode").
2. Listen until you hear a transmission, then adjust the volume control for a comfortable listening level.
3. Your radio is now set to receive calls on the selected system and mode.

Notes:

If the mode selector knob is placed on an unprogrammed system (blank system), you will hear an "invalid mode" tone until the mode selector knob is rotated to a programmed (valid) system.

If the mode is busy during conventional operation, the radio's red LED will blink in the receive mode.



Selecting a Conventional Mode

Receiving

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16 | Basic Radio Operation (cont.)

Trunked Systems

1. Turn the radio on and select the desired system and mode (see "Selecting a Trunked System and Mode").
2. Press and hold the PTT switch on the side of the radio and speak slowly and clearly into the microphone area. The red LED will light while the radio is transmitting. When you have finished talking (transmitting), release the PTT to listen (receive).

Notes:

If you hear a busy signal (a low-frequency "bah-bah-bah-bah"), release the PTT switch and wait for a call-back tone (sounds like "di-di-dit"). When you hear the call-back tone you will have three seconds to press the PTT switch. This lets you make your call without getting another busy signal.

If you hear a continuous talk-prohibit tone when you press the PTT switch, you will not be able to transmit. The radio may be out of range.

To take full advantage of the radio's noise-cancelling feature, do not block the noise-cancelling port when transmitting.

Conventional Modes

1. Turn the radio on and select the desired mode (see "Selecting a Conventional Mode").
2. Listen for a transmission and adjust the volume control for a comfortable listening level.
3. Do not interrupt another user. When the radio is receiving, the Smart PTT feature (optional) causes the red LED to blink indicating that the mode is currently busy and that you should not transmit.
4. When the mode is clear, press and hold the PTT switch on the side of the radio, and speak slowly and clearly into the microphone area. The red LED will light while the radio is transmitting. When you have finished talking (transmitting), release the PTT to listen (receive).

Notes:

If a conventional mode is programmed for receive-only operation, any attempt to transmit on that mode will cause an invalid-mode tone to sound until the PTT is released.

To take full advantage of the noise-cancelling feature, do not block the noise-cancelling port when transmitting.



Transmitting

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17 | General Radio Features Operation

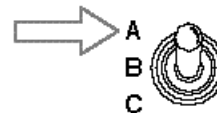
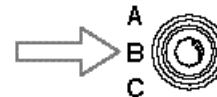
The radio will emit an alert tone to indicate a low-battery condition if the battery voltage falls below the low-voltage level. When the radio is transmitting, the tone is emitted when the PTT is released; when the radio is receiving, the tone is emitted when the low-battery condition is detected.



The scan feature allows you to monitor activity on different trunked or conventional modes by scanning a “scan list” of modes. The list can contain up to 16 members, and can be programmed with the radio service software (RSS).

All MTX Series radios support automatic scanning (autoscan), which is programmed into the radio through the RSS. With this feature, the radio begins scanning whenever you select a mode to which a scan list is assigned (strapped). The radio will continue autoscanning until you select a mode that does not have autoscan enabled.

Turning Scan On/Off

1. To turn scan on, place the toggle switch in the “B” (scan on) position. The radio begins scanning.
2. To turn scan off, place the toggle switch in the “A” (scan off) position. The radio stops scanning.





Low-Battery Alert (Programmable)

Scan Operation

18 | General Radio Features Operation (cont.)

Deleting Nuisance Modes

When the radio scans to a mode that you do not wish to hear (nuisance mode), you can temporarily delete the mode from the scan list.

1. When the radio is locked onto the mode to be deleted, press the nuisance mode delete button (normally side button 1). A valid-keypress chirp is heard, indicating that the mode has been deleted.
2. The radio continues scanning the remaining modes in the list. To resume scanning the deleted mode, you must either leave and reenter scan operation, or delete a different nuisance mode.

19 | Trunked Radio Features Operation

The “failsoft” feature ensures that you will continue to have radio communications capability in the event of trunked system failure. During trunked operation, the radio will automatically go into failsoft operation if the central trunking controller fails for any reason. While in failsoft, your radio will transmit and receive on a predetermined frequency in a conventional, as opposed to trunked, mode. When the trunked system returns to normal operation, the radio will automatically leave failsoft operation and return to trunked operation.

When the radio is in failsoft operation, you will hear a faint “beeping” sound every ten seconds, and the radio will become unscelched.

The trunked telephone feature allows you to receive calls similar to a standard telephone.

Answering a Telephone Call

1. When a telephone call is being received, you will hear telephone-type ringing.
2. To answer the call, press the phone button (normally the orange top button).
3. Begin your conversation. Press the PTT switch to talk; release the PTT to listen.
4. When you have finished your conversation, press the phone button to hang up.



Failsoft Operation

Trunked Telephone Operation

20 | Trunked Radio Features Operation (cont.)

The Private Conversation feature (Private Conversation I and II for 800 MHz; Enhanced Private Conversation for 900 MHz, VHF, and UHF) allows you to carry on a conversation that is heard only by the two parties involved. Enhanced Private Conversation operation is similar to telephone operation.

Answering a Private Conversation Call

1. When your radio receives a Private Conversation call, you will hear two alert tones (once for 800 MHz; repeated for 900 MHz VHF, and UHF). The green LED flashes to indicate that a call is being received. Also, 800 MHz radios will hear the caller's voice. You will have 20 seconds to answer the call.
2. Press the call response button (normally side button 3).
Note: If you press the PTT switch before you press the call response button, the response will be transmitted to everyone in the talkgroup.
3. Press the PTT switch to carry on a Private Conversation with the caller.
4. When you have finished your conversation, press the **call response** button to hang up.

The Call Alert page feature lets your radio function like a pager (beeper).

Answering a Call Alert Page

1. When a Call Alert page is being received, you will hear a recurring four-beep tone until you answer the call or reset the radio. The green LED will flash.
Note: Any button press, keypad press, or mode change will turn the Call Alert audible and visual indicators off.
2. To answer the page, press the PTT switch. The green LED will turn off.
3. Begin your conversation; all members of your talkgroup will hear your response. Press the PTT switch to talk; release the switch to listen.



Private Conversation™ Call Operation

Call Alert™ Page Operation

21 | Batteries and Accessories

The MTX Series radio receives its power (7.5Vdc) from a rechargeable nickel-cadmium battery as listed in the accessories section. These batteries are a safe, dependable power source for your radio. Proper care of the battery will ensure its effectiveness and allow for peak radio performance.

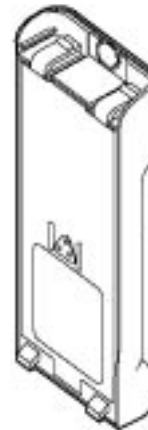
Recharge the battery before use to ensure optimum capacity and performance. The battery was designed specifically to be used with a Motorola MTX Series charger. Charging in non-Motorola equipment may lead to battery damage and void the battery warranty.



WARNING

Do not attempt to change or charge the battery in a hazardous atmosphere.

Note: When charging a battery that is attached to the radio, turn the radio off to ensure a full charge.



The battery should be at about 77°F (room temperature) whenever possible. Charging a cold battery (below 50° F) may result in leakage of electrolyte and ultimately, in failure of the battery. Charging a hot battery (above 95°F) results in reduced discharge capacity, affecting the performance of the radio. MTX Series rapid-rate battery chargers contain a temperature-sensing circuit to ensure that the battery is charged within these temperature limits.

Care should be taken to avoid external short circuiting of the battery.



WARNING

A sustained high-rate discharge (for example, a paper clip placed accidentally across the battery contacts) may permanently damage the battery, void the battery warranty, and create a burn or fire hazard.



Battery Information

Recharging Nickel-Cadmium Batteries

Charging Temperature

Short Circuit

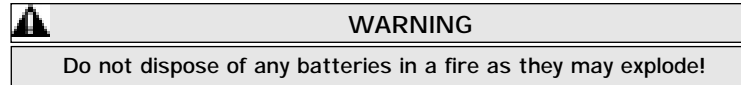
22 | Batteries and Accessories (cont.)

Memory effect was a phenomenon which caused a temporary loss in battery capacity or voltage due to repetitive shallow discharging or long-term overcharging. This memory effect has been virtually eliminated from Motorola batteries through the use of new cell technology.



For disposal, nickel-cadmium sealed rechargeable batteries should be delivered to an authorized metals-reclamation dealer.

Nickel-metal-hydride batteries, although they contain no designated toxic metals, are recommended to be disposed of through an authorized metals-reclamation dealer.



This product is powered by a nickel-cadmium rechargeable battery. At the end of its useful life, the battery can be recycled. However, recycling facilities may not be available in all areas. Under various state or local laws, the battery must be recycled or disposed of properly, and cannot be disposed of in landfills or incinerators.

In addition, U.S. Environmental Protection Agency (EPA) regulations classify used nickel-cadmium batteries as hazardous waste, unless certain exemptions apply.

Motorola fully endorses and encourages the recycling of nickel-cadmium batteries. If you are located in the United States, you can ship, postpaid, your used Motorola nickel-cadmium batteries to **INMETCO**, an EPA-approved recycling facility, at the address given on the next page. We recommend used batteries be sent to the nickel-cadmium recycling facility most convenient for you. If you are not located in the United States, you may ship your used Motorola nickel-cadmium batteries to one of the nearest international locations listed on the next page. Should you have any questions, contact the facility first.

Consideration should be given to the methods of collecting, labeling, and shipping used nickel-cadmium batteries. Your federal, state, or local EPA should be consulted for specific requirements and for recycling options in your area.

Motorola, as a responsible corporate citizen, has always been concerned with the protection of the environment. For further information, you may call the Motorola America's Parts Division, Customer Service Department, toll-free at 1-800-422-4210.



Memory Effect (Reduced Charge Capacity)

Battery Disposal

23 | Batteries and Accessories (cont.)**INMETCO, Bin #M1**

P.O. Box 720
245 Portersville Road
Ellwood City, PA 16117
Phone: (412) 758-5515
Fax: (412) 758-9311

HANIL METAL RECYCLE CO., LTD.

24-4, Palryong-dong, Changwon-Shi
Kyongsangnam-Do, Korea
Phone: 082 551 93 1911
Fax: 082 551 96 0050

S.N.A.M.

Rue de la Gareene
Z.I. Chesnes-Tharabie-BP733
Saint Quentin fallavier
3827 La Verpilliere Cedex, France
Phone: 033 74 94 59 85
Fax: 033 74 94 13 18

NIPPON RECYCLE CTR. CORP.

6-13-19, Nishitama, Kita-Ku
Osaka, 530, Japan
Phone: 081 6 311 9071
Fax: 081 6 311 0949

For additional information on Motorola's batteries, write to:

Motorola
Energy Products Division
Customer Care Department
1700 Belle Meade Court
Lawrenceville, GA 30243-5854



MAEPF-

MAEPF-

MAEPF-

MAEPF-

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Nickel-Cadmium Battery Recycling Facilities

24 | Batteries and Accessories (cont.)

Motorola offers several accessories to increase communications efficiency. Many of the accessories available are listed below, but for a complete list, consult your local Motorola representative.

Antennas:

NAD6566	Helical (136-151MHz)
NAD6567	Helical (151-162MHz)
NAD6568	Helical (162-174MHz)
NAD6563	Helical, Wide Band (136-174MHz)
NAE6546	Helical (403-435MHz)
NAE6547	Helical (435-470MHz)
NAE6548	Helical (470-512MHz)
NAE6549	Whip (403-512MHz)
NAF5037	Whip (800MHz)
NAF5038	Whip (900MHz)
NAF5039	Dipole (800MHz)
NAF5040	Dipole (900MHz)
NAF5042	Quarter Wave, Stubby (800MHz, 900MHz)

Batteries:

NTN7143	High-Capacity Nickel-Cadmium
NTN7144	Ultra-High-Capacity Nickel-Cadmium
NTN7146	High-Capacity Nickel-Cadmium FMRC Intrinsically Safe (groups D, F, G)
NTN7147	Ultra-High-Capacity Nickel-Cadmium FMRC Intrinsically Safe (groups D, F, G)
NTN7341	Ultra-High-Capacity Nickel-Cadmium FMRC Intrinsically Safe (groups C, D, E, F, G)
NTN7372	Ultra-High-Capacity Nickel-Cadmium FMRC Intrinsically Safe (groups C, D, E, F, G)

Single-Unit Slow-Charge Battery Chargers, 50/60Hz Desk-Top:

NTN1174	117Vac, with 117Vac Wall-Mount Transformer
NTN1175	220Vac with International 220Vac Wall-Mount Transformer
NTN1176	240Vac with International 240Vac Wall-Mount Transformer

Single-Unit Rapid-Charge Battery Chargers, 50/60Hz Desk-Top:

NTN1171	117Vac, with 117Vac Cord and Plug
NTN1172	International 220Vac with International 220Vac Cord and 2-Prong Plug
NTN1173	International 240Vac with International 240Vac Cord and 3-Prong Plug

Single-Unit Dual-Rate Battery Chargers, 50/60Hz Desk-Top:

NTN1168	117Vac with 117Vac Cord and Plug
NTN1169	International 220Vac with International 220Vac Cord and 2-Prong Plug
NTN1170	International 220Vac with International 240Vac Cord and 3-Prong Plug

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Accessories List

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25 | Batteries and Accessories (cont.)

Multi-Unit Battery Chargers, Six-Pocket Dual-Rate 50/60Hz:

NTN1177	90-240Vac, with 117Vac Cord and Plug
NTN1178	90-240Vac with International 220Vac Cord and 2-Prong Plug
NTN1179	90-240Vac with International 240Vac Cord and 3-Prong Plug

Remote Speaker/Microphones:

NMN6191	Noise-Canceling Microphone; Includes Coiled Cord Assembly, 3.5mm Earjack, and Swivel Clip
NMN6193	Standard Microphone; Includes Coiled Cord Assembly, 3.5mm Earjack, and Swivel Clip
NMN6228	Public Safety Speaker/Microphone; Includes Antenna (S.M.A.) UHF (VHF Capable), Straight Cord Assembly, 3.5mm Earjack, Swivel Clip, and Receive Audio High-/Low-Volume Toggle Switch

Carry Accessories:

NLN6042	3" Black Belt
NLN6349	Shoulder Carry Strap
NLN8410	Velcro Patch Pin Attachment
NTN7238	Leather Carry Case with Belt Loop and T-Strap for High-Capacity
NTN7239	Leather Carry Case with Belt Loop and T-Strap for Ultra-High-Capacity
NTN7241	Leather Carry Case with 2.5" Swivel Belt Loop and T-Strap for High-Capacity
NTN7242	Leather Carry Case with 2.5" Swivel Belt Loop and T-Strap for Ultra-High-Capacity
NTN7244	Leather Carry Case with 3" Swivel Belt Loop and T-Strap for High-Capacity
NTN7245	Leather Carry Case with 3" Swivel Belt Loop and T-Strap for Ultra-High-Capacity
NTN7247	Fabric Carry Case with Belt Loop for High- and Ultra-High-Capacity
NTN7317	Belt Clip (Fits 2.5" Belt)
NTN7318	Belt Clip (Fits 3.5" Belt)

These accessories are approved as being intrinsically safe by Factory Mutual Research Corporation (FMRC). Refer to the radio label for intrinsic safety ratings and required batteries. Only the accessories and antennas noted (by) may be used on approved radios.



WARNING

Substitution of components may impair the intrinsic safety of the radio.



Accessories List (cont.)

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26 | General Information

Several conditions determine the distance that your radio will transmit a clear data/voice communication. The following list describes many conditions and their typical affect on your radio's transmitting distance.

Condition	Description	Effect
radio's power	more power	longer distance
radio's frequency	lower frequency (VHF compared to UHF)	longer distance
radio's tuning	properly tuned radio (on frequency, more power)	longer distance
stormy weather	adverse atmospheric conditions	shorter distance
at sea	better ground plane (clearer line-of-site)	longer distance
city	large/tall buildings (interference problems)	shorter distance
in a building	structural boundaries (interference problems)	shorter distance
on a tall building's roof	less interference (clearer line-of-site)	longer distance

Cleaning

Clean external surfaces of the radio with a mild detergent and a stiff, non-metallic, short-bristled brush. A suitable detergent solution may be mixed by adding one teaspoon of mild dishwashing detergent to one gallon of water (0.5% solution). Apply the detergent solution sparingly with the brush, being careful not to allow excess detergent to remain entrapped near connectors and controls or in cracks and crevices. Do not submerge the radio in the detergent solution. Dry the radio thoroughly with a soft, lint-free cloth.

Clean all battery contacts with a lint-free cloth to remove dirt, grease, or other foreign material that may prevent good electrical connections.

Handling

Avoid physical abuse; do not pound, drop, or throw the radio unnecessarily. Do not carry the radio by the antenna.

Avoid subjecting the radio to an excess of liquids. Never allow the radio to become submersed.

Avoid subjecting the radio to corrosives, solvents, or spirits.



CAUTION

Clean the radio with the recommended solution only. Cleaning the radio with solvents or spirits may be harmful and permanently damage the radio housing.

Do not disassemble the radio in any way. Keep the connector cover in place until ready to use the accessory connector. Replace the cover immediately after



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Transmitting Distance

Radio Care

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27 | General Information (cont.)

The Federal Communications Commission (FCC), with its action in General Docket 79-144, March 13, 1985, has adopted a safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated equipment. Motorola subscribes to the same safety standard for the use of its products. Proper operation of this radio will result in user exposure substantially below FCC recommended limits:

Do not hold the radio with the antenna very close to, or touching, exposed parts of the body, especially the face, ears, or eyes, while transmitting. Hold the radio in a vertical position with the microphone two to three inches away from the lips.

Do not hold the transmit switch (PTT) on when not actually desiring to transmit.

Do not allow children to play with any radio equipment containing a transmitter.

Do not operate radio transmitters near explosive blasting caps. The transmitted radio energy may trigger a blasting cap and cause an explosion.

Do not operate radio transmitters in an explosive atmosphere unless it is a type especially qualified for such use. An explosion may result.

Do not replace or charge batteries in a hazardous atmosphere. Contact sparking may occur while installing or removing batteries and cause an explosion.

Turn radio off when removing or installing a battery.

Anyone intending to use a radio in a hazardous area is advised to become familiar with the subject of intrinsic safety and with Section 70 of the National Fire Code, which is commonly referred to as Article 500 of the National Electric Code. Use of anything but factory supplied components may affect the approval and safety of the radio. Likewise, it is advised that servicing should be performed only by qualified personnel who adhere to the following Factory Mutual (FM) required warning:



WARNING

Modification of FMRC-Approved intrinsically safe radios will negate Factory Mutual Research Corporation (FMRC) Approval.



FCC Safety Standards

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Because this radio contains a transmitter, federal law prohibits unauthorized, non-licensed personnel from adjusting or maintaining it. If any operational difficulties should arise while using this product, report them to authorized service personnel as soon as possible.

**WARNING**

Do not attempt any unauthorized modification to the radio or accessories.

**WARNING****VEHICLES EQUIPPED WITH AIR BAGS**

An air bag inflates with great force. **DO NOT** place objects, including communication equipment, in the area over the air bag or in the air bag deployment area. If the communication equipment is improperly installed and the air bag inflates, this could cause serious injury.

- Installation of vehicle communication equipment should be performed by a professional installer/technician qualified in the requirements for such installations. An air bag's size, shape and deployment area can vary by vehicle make, model and front compartment configuration (e.g., bench seat vs. bucket seats).
- Contact the vehicle manufacturer's corporate headquarters, if necessary, for specific air bag information for the vehicle make, model and front compartment configuration involved in your communication equipment installation.



Restrictions

Airbag Warning Statement

29 | General Information (cont.)

Proper repair and maintenance procedures will assure efficient operation and long life for this product. A Motorola maintenance agreement will provide expert service to keep this and all other communication equipment in perfect operating condition. A nationwide service organization is provided by Motorola to support maintenance services. Through its maintenance and installation program, Motorola makes available the finest service to those desiring reliable, continuous communications on a contract basis.

Motorola's Customer Service Division is the largest service organization specializing in mobile communications. It includes over 900 authorized or company-owned stations. In addition, our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations. For a contract service agreement, please contact your nearest Motorola service representative, authorized Motorola dealer, or Motorola sales representative. If you suspect a radio problem, check the following items before requesting service.

1. Radio Checks

Be sure the radio is turned on and the mode selector is in the proper position.

Replace or recharge the battery. The first time a new battery is used, it should charge a minimum of 16 hours.

The antenna must be screwed on properly, with its base flush against the top of the radio.

Could your radio problem be caused by accessories improperly connected?

Try operating the radio from several different locations, especially when using the radio inside buildings.

Check the transmitter by transmitting to an alternate portable radio.

2. Operating Instructions

Review your operating instructions and ensure that you are using the radio properly.

3. Problem Not Solved

If, after following steps 1 and 2, your radio still has a problem, review your service agreement and call the applicable Motorola service representative. If you do not have a service agreement on your radio, contact your nearest authorized Motorola service shop for guidance toward a prompt and expedient evaluation and/or repair.



Service

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30 | General Information (cont.)

Express Service Plus (ESP) is an optional extended service coverage plan. ESP provides for the repair of this product, at the Motorola Service Depot listed in step 3, below, for a period of three years (one year warranty plus two years of extended service) from the date of shipment from the factory, or the date of delivery if purchased from an authorized Motorola two-way radio dealer. If ESP has been purchased, the serial number of this product has been registered for coverage under Express Service Plus at the depot listed in step 3, below.

To obtain service under Extended Service Plus:

1. Check to make sure the battery or battery charger of the unit is not defective. (Batteries and chargers are excluded from this service plan).

2. Include the following information:

Your name

Company name

Address

Telephone number

A brief description of the nature of the problem or failure (be specific)

3. Pack and ship the unit (prepaid) to:

Motorola Factory Service Center

1318 N. Plum Grove Road

Schaumburg, IL 60173

Express Service Plus is subject to Motorola standard terms and conditions. ESP does not include repairs which will be necessary due to damage caused by accidents, physical abuse or misuse of the product(s), acts of God, and fires. Batteries, battery chargers, and external accessories are excluded from this plan. Service under ESP is available only at the service center listed herein.

If you are unsure as to whether your radio is covered under Express Service Plus, call the depot at (305) 475-6408.



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Express Service Plus (ESP)

31 | General Information (cont.)

The Motorola equipment described in this manual may include copyrighted Motorola computer programs stored in semiconductor memories or other media. Laws in the United States and other countries preserve for Motorola certain exclusive rights for copyrighted computer programs, including the exclusive right to copy or reproduce in any form the copyrighted computer program. Accordingly, any copyrighted Motorola computer programs contained in the Motorola equipment described in this manual may not be copied or reproduced in any manner without the express permission of Motorola. Furthermore, the purchase of Motorola equipment shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license under the copyrights, patents or patent applications of Motorola, except for the normal nonexclusive, royalty free license to use that arises by operation of law in the sales of a product.

Patent Disclosure

This product is covered by one or more of the following United States patents:

4,512,035	4,551,856	4,653,117	4,816,774
4,829,594	4,837,853	4,864,252	4,885,550
4,914,321	4,918,403	4,959,617	4,975,650
4,994,768	5,006,730	5,021,754	5,079,526

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Computer Software Copyrights



OPERATING INSTRUCTIONS QUESTIONNAIRE

We believe that reports from users provide valuable information for producing quality operating instructions. Your comments and answers to the following questions will aid us in preparing manuals that contain accurate and complete information of maximum benefit to you.

In reference to Manual No. 68P81072C10-A

MTX Series Model B3 Privacy Plus® Portable Radios

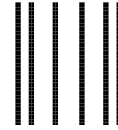
1. Please check all the appropriate boxes:

		None	Very Little	Some	Quite a Bit	Very Much	Extremely Much
Controls and Features	Text						
	Illustrations						
Operating Procedures	Text						
	Illustrations						
Alert Time Expiration							
Battery Information							
Options							
Model Information							
Accessories							
General Care Information							
Other (Specify)							

2. For illustrating procedures, do you prefer:
 - photographs
 - line drawings
 - no preference
3. How would you rate the overall organization of this manual?
 - excellent
 - very good
 - good
 - fair
 - poor
- 4a. If this manual has a "quick reference card," do you use it?
 - yes
 - no
- 4b. If yes, how useful is it to you?
 - extremely
 - very
 - somewhat
 - not very
5. How do you rate this manual overall?
 - excellent
 - very good
 - good
 - fair
 - poor
6. Comments/Recommendations for improving operating instructions.

68P81072C10-A

From: _____



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