Triton MP100 / MP100c / MP100is

Portable Marine Radios

Operating Instructions

MOTOROLA

6880603Z76-O

Triton MP100/ MP100c / MP100is

Radios marinos portátiles

Instrucciones de operación

MOTOROLA

6880603Z79-O

WARNING

Certain combinations of chemical environments can adversely affect thermoplastic resins. For this reason, lubricants, cleaning agents, solvents or any other material which may come in contact with the finished parts should be carefully evaluated for compatibility. We recommend a mild dishwashing soap for cleaning the exterior of the product.

Recycling or Disposal of Batteries

This product is powered by a nickel-cadmium (Ni-Cad) 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 Ni-Cad batteries as hazardous waste, unless certain exemptions apply.

Motorola fully endorses and encourages the recycling of Ni-Cad batteries. If you are located in the United States, you can ship post paid your used Ni-Cad batteries to INMETCO, an EPA approved recycling facility, at this address:

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

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

Motorola, as a responsible corporate citizen, has always been concerned with the protection of the environment. Please feel free to call 1-800-422-4210 for further information.

Contents

Introduction

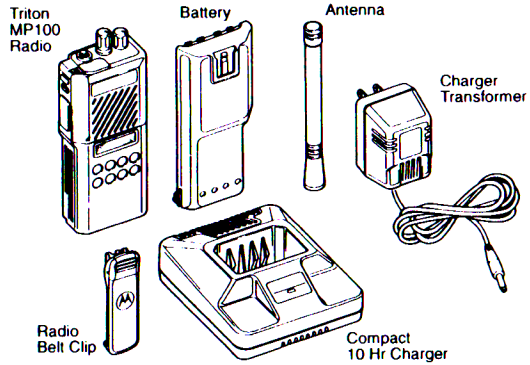
Welcome to the Motorola Triton MP100 Radio

Triton MP100 radio's meet tough environmental demands while providing cost effective and reliable communications. It meets the U.S. Government Military Standards 810C, 810D and 810E for low pressure, high temperature, low temperature, temperature shock, solar radiation, rain, humidity, salt fog, dust, vibration, and shock. Triton MP100 radio's also meet the Electronic Industry Association RS316B electrical and mechanical specifications. The Motorola Accelerated Life Test (ALT) assures that possible failures brought on by field stress and abuse are identified and designed out of your radio before it reaches your hands.

All of these features provide for better, yet more cost effective communications for you.

Inspection

When you receive your packaged Triton MP100 Radio, inspect the shipping carton for any signs of damage. Next, remove and check the contents of the packing case to be sure that all items ordered have been included. Contents of the packing case may be different from those listed if optional accessories were ordered.



Packaged Model Contents

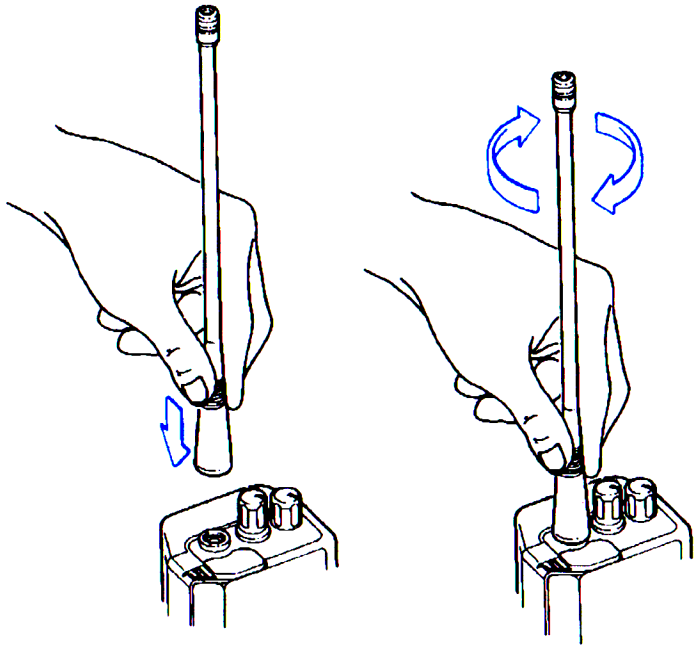
- Triton MP100 Radio
- Heliflex Antenna
- Rapid Charge High Capacity Nickel-Cadmium Battery (1200 mAH)
  OR
  Rapid Charge High Capacity Nickel-Cadmium Battery (600 mAH) (Triton MP100is only)
- Radio Belt Clip
- Operator Quick Reference Card
- Compact 10 Hour Charger and Transformer (Unless specifically deleted)

Inspect the equipment ***thoroughly***. If any part of the equipment has been damaged in transit, report the extent of the damage to the transportation company or the Motorola marine dealer from whom you purchased the unit immediately.

Getting Started

Installing the Antenna

1. Fasten the antenna to the radio by placing the threaded end of the antenna into the large threaded antenna bushing on top of the radio.
2. Rotate the antenna clockwise until hand tight.



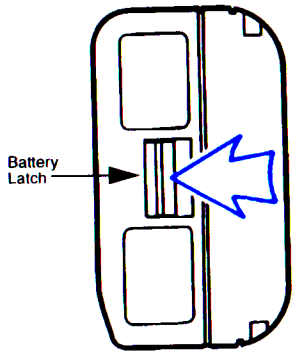
Installing the Battery

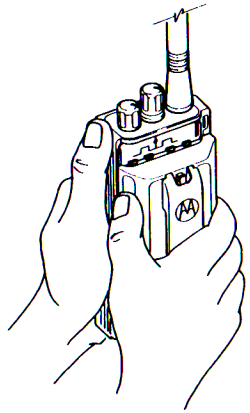
NOTE
Nickel-Cadmium batteries should be fully charged before their first use.

1. To install the new or freshly charged battery, align the top of the battery (belt clip end) with the stamped housing figure showing the correct battery positioning. Slide the battery toward the top of the radio until it is fully engaged by the battery latch.

Removing the Battery

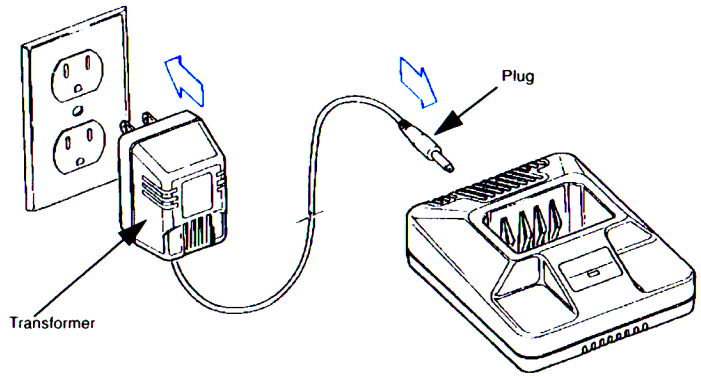
1. Turn off the radio and hold it in the left hand with the back of the radio facing up.
2. Disengage the battery latch on the bottom of the radio by pushing and holding the latch towards the front of the radio.
3. With the battery latch disengaged, slide the battery down from the top of the radio about 1/2 of an inch. Once the battery is free from the control rails, lift it directly upward to remove the battery from the radio housing.





Operating the Charger

1. Insert the battery, with or without the radio, into the charger pocket. (Be sure that the radio is off).
2. Put plug into the charger and plug the transformer into the appropriate AC power outlet.
3. When the battery is fully inserted, the LED continuously glows red. The LED continues to glow red while the battery is charging



Single-Unit Standard Rate Battery Chargers

When battery reaches full charge, no change in the LED occurs (red glow remains). The battery fully charges in 10 hours.

NOTE

You can turn the radio on while it is in the charger and it will receive normally. However, allow at least 25% more time for the battery to reach full capacity. DO NOT TRANSMIT WHILE THE RADIO IS IN THE CHARGER.

Rapid-Rate Battery Chargers

The LED glows red indicating that rapid-rate charging is in progress. The LED glows green indicating CHARGE COMPLETE when the battery reaches full charge. the battery then charges at a slow trickle-rate. If the battery is too drained, the LED flashes red indicating that the battery is charging at a slow trickle-rate. Once the battery has been partially recharged, the rapid-rate charge automatically begins. Typical charge times for the Rapid-Rate Chargers (Single-Unit and Multi-Unit) are as follows:

1.0 Hr - 1.2 Hr for High Capacity Battery

0.5 Hr - 0.8 Hr for Slimline Battery

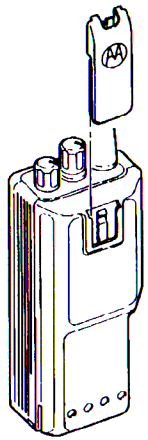
NOTE

A new battery or one which has not been used for several months may cause a premature fully charged indication. These batteries should be slow trickle-charged overnight before putting them into service.

If the LED does not glow red when the battery is inserted in the charger, check the battery and charger contacts to be sure they are clean. There are no user serviceable parts in the charger. If the charger fails to operate, contact Motorola Inc., U.S. Products Customer Service at 1-800-356-1520.

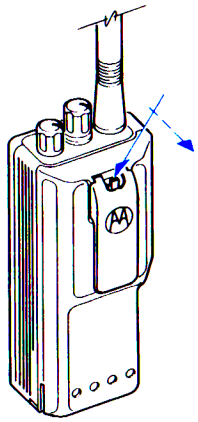
Installing the Belt Clip

To facilitate installation, refer to the diagram while performing the following steps:



Attaching the Belt Clip to the Radio

1. Locate the mounting rails on the back side of the radio.
2. Position the belt clip, Motorola logo facing up, so the logo end of the clip is nearest the mounting rails, and the other end of the clip is toward the bottom of the radio.
3. Align the mounting rails with the grooves in the belt clip. Slide the belt clip onto the mounting rails until it latches into place (indicated by a click).

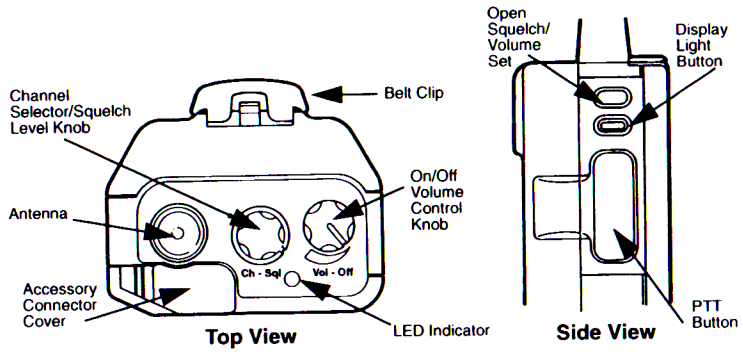


Removing the Belt Clip

1. Locate the belt clip release tab on the underside of the belt clip (Motorola logo end).
2. Lift the release tab by inserting a key or coin between the release tab and the back surface of the radio.
3. While holding the key or coin firmly under the release tab, pry up until the belt clip slides slightly toward the bottom of the radio.
4. With the belt clip fully released (when the release tab is pressed against the inside surface of the belt clip), slide the belt clip off the mounting rails.

HOW TO OPERATE YOUR TRITON MP100 RADIO

Basic Functions



Power-Up/Adjusting Volume

1. To power-up the radio rotate the volume control 1/2 turn clockwise. A power-up alert tone is generated for approximately 1/8 second to indicate that the radio has passed a self-test of the microcomputer.

> **NOTE**
> If the short power-up alert tone is not generated, or if a second low alert tone is generated, turn the radio off, check the battery (charge or replace if necessary), and turn the radio back on again. If the power-up alert tone is still not generated, a fault exists in the radio. Contact your local Motorola marine dealer.

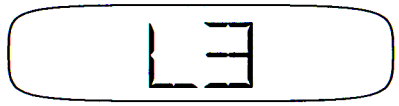
2. To adjust volume, press the open squelch/volume set button while turning the volume control knob.
3. To turn radio off, rotate volume control knob counter-clockwise past click stop.

Activating the Display Light

1. Press the Display Light Button to activate light for 8 seconds. Each time you press any other button on the front of the radio, the light remains on for an additional 5 seconds.
2. Press the Display Light Button a second time to turn off the Display Light before the 8 second time interval.

Receiving

1. Rotate channel selector knob to the desired channel.
2. Press **[Sql]** to enter the squelch setting mode.
3. Rotate the channel select/squelch knob until background noise is eliminated. Squelch level 0-9 is displayed; 0=open, 9=tight. The display symbol **L** flashes, and the level number is displayed.



4. Press **[Sql]** again to exit the squelch setting mode. Inactivity for 5 seconds also exits the squelch setting mode.

Transmitting

1. Rotate channel selector knob to the desired channel position.
2. Do not interrupt another user. Press the open squelch/volume set button and listen for activity on your channel.
3. Hold the radio in a vertical position with the speaker-microphone grille 2 to 3 inches from your mouth.
4. Press the PTT button on the side of the radio and speak slowly and clearly into the grille area. When finished transmitting, release the PTT button to receive. When the PTT button is pressed, the LED glows red and remains on for the entire length of the transmission, and turns off when the PTT button is released.

NOTE

While the PTT button is pressed, the battery voltage is automatically monitored. The LED flashes red to alert you of the low battery condition. Another indicator of a low battery condition is a double alert tone, sounded when the PTT button is released.

Time-Out-Timer

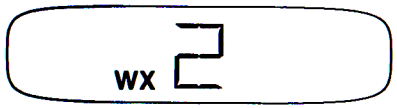
The Time-Out-Timer (T.O.T.) feature alerts you if the transmitter is keyed for a long period. This feature prevents channel tie-up and excess battery drain in case of an accidental keying of the transmitter. In the transmit mode, an accidental pressing of the PTT button "times-out" the radio after three minutes. The radio reverts back to the receive mode, even while the PTT button remains pressed. After the three minute time out, a continuous alert tone is generated in the receive mode until the PTT button is released.

Advanced Functions

To fit your particular needs, a number of features are available to enhance the operation of your Triton MP100 radio. These features are described for you in this section.

Selecting Weather Channel Bank

1. Press [**Wx**] to select or exit weather channel bank. The **WX** display symbol lights indicating when active.
2. Rotate the channel selector knob to scroll the weather channels.



Selecting Distress, Safety, and Calling Channel (16)

1. Press [**16**] to provide instant access to channel 16.
2. Press [**16**] a second time to return to the previous operating channel.

Selecting High and Low Power

Press [**Hi/Lo**] to toggle the radio between high power (5 Watts), no display symbol; and LOW (1 Watt) **LO** symbol. Pressing [**Hi/Lo**] on a Low Power Only channel results in a "bad" tone.

Locking and Unlocking the Radio

1. Press [**Lock**] to lock the channel selector and the front panel buttons (with the exception of [**16**] and [**Lock**]). The **LOCK** display symbol lights indicating Lock mode is activated.

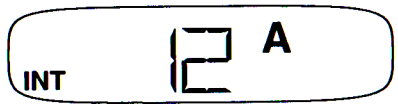
This prevents accidentally having the radio status changed. Pressing any button or the channel selector knob results in a "bad" tone, and the action does not take place. In the Locked mode, the volume knob, monitor, light, PTT, 16, and Lock functions are still active.

2. Press [**Lock**] a second time, or press [**16**] to take the radio out of locked mode.

Accessing Canadian and International Channel Banks

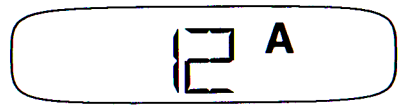
The radio has the ability to access four channel banks (U.S., International, Canadian, and Weather channel banks. Refer to page 12 to access to the weather channel bank). The radio always powers-up on the U.S. channel bank, and the display shows no symbol.

1. Press [**Bank**] once to access the International channel banks. The **INT** display symbol lights.



2. Press [**Bank**] twice to access the Canadian channel banks. The **CAN** display symbol lights.

3. Press [**Bank**] a third time to access the User Channel Bank. (See next page for the description of User Channel Bank.)
4. Press [**Bank**] a fourth time to return to the U.S. channel banks (no display symbol).



Operating User Channel Bank

The radio has the ability to create a separate User Channel Bank from any of four channel banks (U.S., International, Canadian, and Weather channels). To access the User Channel Bank from the U.S. channel bank:

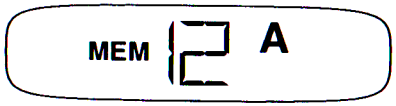
1. Press [**Bank**] (3 times) until the **USER** display symbol lights. If the list is empty, the **LE** display symbol lights.
2. Once in the User Channel Bank mode, rotate the channel selector knob to scroll through channels programmed into the User Channel Bank.

Adding Channels to User Channel Bank Memory

1. Press [**Sel**] from any of the channel banks (U.S., International, Canadian, or Weather) to add any channel that is currently displayed, into the User Channel Bank memory. The **MEM** display symbol lights, indicating that the channel selected has been added to the User Channel Bank memory.

> **NOTE**
> On the MP100c model only, the [**Sel**] button also activates the scrambler with a quick double press of the [**Sel**] button. For adding channels to the User Channel Bank memory, allow 1.5 seconds between pressing [**Sel**] before pressing [**Sel**] again to add another channel.

2. Rotate the channel selector knob until the next channel you would like to program in the User Channel Bank appears.
3. Repeat Steps 1 and 2 until all the desired channels are entered into the User Channel Bank memory.



Channel 12 in User Channel Bank Memory

Removing Channels From User Channel Bank Memory

1. Press [**Sel**] to remove a channel from the User Channel Bank memory. The **MEM** display symbol disappears. This can be done from any of the five channel banks (U.S., International, Canadian, Weather, and the User Channel Bank).
2. Repeat Step 1 until the desired channels are removed from the User Channel Bank memory. If there are no channels in the User Channel Bank, the **LE** display symbol lights indicating that the list is empty.

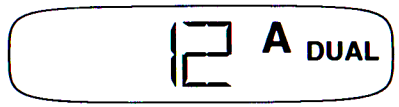
Operating Scan Functions

Your Triton MP100 has three types of scan to fit your particular needs; Dual Watch Scan, User Channel Bank Scan, and User Channel Bank Scan w/ 16 Priority. The [**Scan**] button toggles through the three types of scan modes. The first press activates Dual Watch Scan; a second press activates User Channel Bank Scan; a third press activates User Channel Bank Scan w/16 Priority; and a fourth press exits scan mode.

Dual Watch Scan

The Dual Watch Scan operation allows the radio to scan and monitor two channels; channel 16 (Distress Channel) and one displayed channel from the U.S., International, Canadian, or Weather channel banks.

The **DUAL** display symbol lights indicating that the radio is now scanning the channel shown and channel 16.



Dual Watch

If a transmission is received on either of the channels that the radio is scanning, the display shows the active channel and you will be able to hear the conversation. Dual Watch Scan is a talk-back type of scan which allows you to transmit on the current active channel during scan operation. After the incoming transmission ends, the length of transmit hang time (time after a transmission the radio stays on that channel) is 3 seconds.

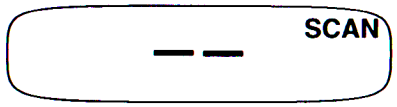
Changing the Dual Watch Scan Channel

Rotate the channel selector knob to choose another desired channel to be used in the Dual Watch Scan (channel 16 is fixed in the Dual Watch Scan list and cannot be removed). The **DUAL** display symbol remains lit during the process of selecting another channel.

User Channel Bank Scan

The User Bank Scan operation allows you to scan the entire set of channels that are programmed into the User Channel Bank. (Refer to pages 14 and 15 for User Channel Bank programming.)

The **SCAN** display symbol lights, as well as a double hyphen in the channel designator location (--) indicating that the radio is scanning. If the User Channel Bank is empty, the **LE** (list empty) display symbol lights.



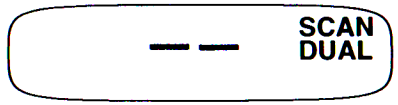
User Channel Bank Scan

The radio is now in the process of monitoring all of the channels in the User Channel Bank. If a conversation is initiated on any of the channels that the radio is scanning, the display changes to show the active channel and you will be able to hear the conversation. User Channel Bank Scan is a talk-back type of scan, and you will have 3 seconds of transmit hang time in order to respond before the scan resumes.

User Channel Bank Scan with 16 Priority

The User Channel Bank Scan with 16 Priority operation allows you to scan the entire set of channels that are programmed into the User Channel Bank alternately with channel 16. For example: the radio will scan channel 1 then channel 16, channel 2 then channel 16, etc.

The **SCAN**, and **DUAL** display symbols light, as well as a double hyphen in the channel designator location (--) indicating that the radio is scanning.



User Channel Bank Scan w/16 Priority

The radio is now in the process of monitoring all of the channels in the User Channel Bank with channel 16 as a priority. When the radio receives a transmission on channel 16, it automatically switches to channel 16 even if the radio was receiving on another frequency. All other features of User Channel Bank Scan with 16 Priority operate the same as the standard User Channel Bank Scan.

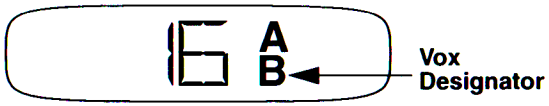
Operating Voice Activated Transmission (VOX)

NOTE

Always turn the radio off before inserting or removing audio accessories. The Accessory Connector Cover protects the Accessory Connector. This cover should remain in place whenever the radio is not being used with an accessory.

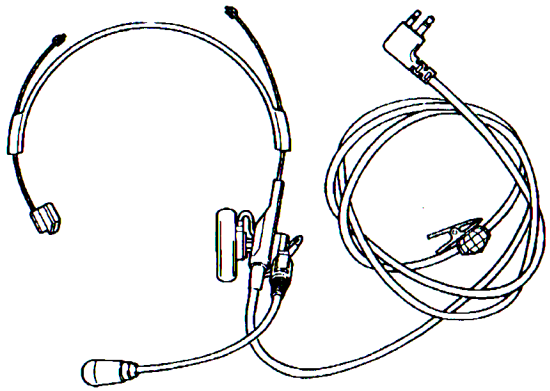
When hands-free operation is desired, the Triton MP100 can be activated by voice alone using the VOX feature. The radio has circuitry and software internal to the radio that senses when you speak through an accessory headset and automatically transmits. Operation is totally automatic; no external controls are required. To activate the VOX feature:

1. Turn the radio off.
2. Insert a headset without a PTT button in the accessory connector.
3. Power-up the radio.



When the radio is on, the VOX feature is ready to function, and the **B** display symbol lights. You will know you are transmitting when you hear yourself in the headset speaker.

4. To manually operate the radio, at any time, press the PTT button. In order to restart the VOX feature after over-riding with the PTT button, the radio must be turned off and then on again.



Operating the Scrambler (MP100c Only)

The Triton MP100c model is equipped with an analog voice scrambler to provide private communications with other Triton MP100c portables, Triton IIc, and Triton M200c fixed mount radios set to the same code. There are 300 different codes which you can change yourself.

To Transmit in Scrambled Mode

NOTE
The radio does not scramble on channel 16.

1. A quick double-press of **[Sel]** activates the scrambler, and the **SCRAM** display symbol lights. All transmissions from this point are scrambled.
2. You will notice a couple of changes. First, the LED now continuously glows green during transmission instead of red.
3. Then, you will hear a tone, and you will not be able to transmit voice for about one-half second each time you press the PTT button. (The scrambler is variable split inversion, not just a simple inversion scrambler. The tone that is transmitted is required to start the scrambler on the receiving radio at the same time as the transmitting radio.).

To De-activate Scrambling

A second quick double-press of **[Sel]** de-activates the scrambler. The **SCRAM** display symbol disappears.

To Change the Scrambler Code

1. To change the scrambler code, turn the radio on while holding the **[Sel]** button. The **SCRAM** display symbol flashes and the code is shown.
2. Release the **[Sel]** button.
3. Rotate the channel selector knob to choose code 0-99, 0A-99A, and 0B-99B; 300 codes total. For two radios to work together, the codes must be identical.
4. To exit the scrambler change code mode, after you have selected the code you wish to use, press **[Sel]** and begin normal operation.

Understanding the Alert Tones and LED Indicator

Multifunction LED Indicator

A bi-colored light-emitting diode (LED) indicates the radio's status:

In Transmit Mode (PTT button pressed)

- Continuous Red Light — Normal Transmission
- Flashing Red Light — Transmitting with Low Battery

MP100c only

- Continuous Green Light — Transmitting in Scrambler mode
- Flashing Green Light — Transmitting with Low Battery in Scrambler mode

In Receive Mode (PTT button released)

- Flashing Red LIght — Receiving Transmission

Alert Tone Indicators

Power-Up

Each time the radio is turned on, a microcomputer and synthesizer self-test occurs. A high pitched alert tone is generated for approximately 1/8 second to indicate that the microcomputer and synthesizer are functioning properly. This is then followed by the channel 16 beep.

Transmitting on Receive-Only Channels

Pressing the PTT button while tuned to a blank or a "receive-only" channel causes an alert tone. The tone continues as long as the PTT button is pressed. The radio transmitter is not enabled.

Time-Out Timer

The time-out timer limits the amount of transmission time to three minutes. At the end of this time, an alert tone indicates that your transmission has been cut off. The alert continues as long as the PTT button is pressed.

Low Battery Alert

The radio alerts the presence of a low battery condition whenever it exists during the transmit or receive mode with an audible alert tone. The presence of low battery condition in the transmit mode causes the radio to emit two medium pitched chirps on the release of the PTT button. When the radio is in the standby mode and experiences a low battery condition, it emits two medium pitched chirps. This condition repeats approximately every 20 minutes, until the battery is completely drained of power.

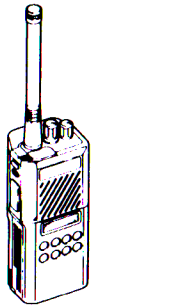
General Tones

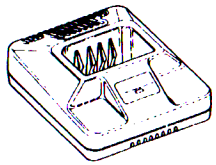
There are various other times when the radio acknowledges a good button press or alerts you to a invalid button press. These occur in situations such as pressing **[Hi/Lo]** on a Low Power Only channel, or attempting a locked function in the Lock mode. The five alert tones in the radio are:

Tones Reference	Occurrence
Good Key Press	"High Pitched Beep"
Invalid Key Press	Short "Medium Pitched Beep"
PTT Transmit Inhibit	Long "Medium Pitched Beep"
Low Battery Alert Tone	"Chirp-Chirp"
Channel 16 Tone	"High Pitched Beep"

BATTERY INFORMATION

The Triton MP100 radio receives its power (7.5 V dc) from a rechargeable nickel-cadmium battery as listed in the accessories section. These batteries, designed specifically for use in the Triton MP100 radio, are a safe, dependable power source. Proper care of the battery will ensure its effectiveness and allow for peak performance of the radio.





Battery Considerations

Improper care and use of the batteries can lead to damage of equipment, possible injury or affects on health. The proper care for these batteries includes:

WARNING
To prevent injury or burn, do not allow metal objects to contact or short circuit the battery terminals.

- **DO NOT** use new batteries before they are charged! New batteries are not charged.
- **DO NOT** rapid-rate charge new batteries. New batteries must be slow trickle-rate charged the first time.
- **DO NOT** transmit on a radio when the battery is being charged.
- Use ***only*** Motorola Triton MP100 Chargers. Use of other chargers will void battery warranty and may damage the battery and/or the charger.
- Charge batteries at about 77˚F (25˚C). Charging below 45˚F (8˚C) may cause damage and leakage. Charging batteries over 95˚F (34˚C) reduces the battery charging capacity.
- **DO NOT** get the battery and/or charger wet during installation or charging.

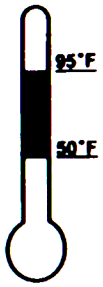
Recharging Nickel-Cadmium Batteries

Recharge the battery before use to ensure optimum capacity and performance. The battery was designed to be used only with a Motorola Triton MP100 charger. Charging in non-Motorola equipment may lead to battery damage and void the battery warranty.

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

Charging Temperature

The battery should be about 77˚ (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 (about 95˚ F) results in reduced discharge capacity, affecting the performance of the radio. Triton MP100 rapid-rate battery chargers contain a temperature sensing circuit to ensure that the battery is charged within these temperature limits. If the charger is not performing a rapid-rate charge, the LED on the charger flashes red to indicate that the battery is being charged at a slow trickle-rate. For additional information on batteries and battery charging, refer to the battery charger information in your Motorola marine dealer's maintenance manual.



Short Circuit

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

CAUTION
A sustained high rate discharge (e.g., 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.

Memory Effect (Reduced Charge Capacity)

The Memory Effect was a phenomenon which caused a temporary loss in battery capacity or voltage due to repetitive shallow discharging or low term overcharging. This Memory Effect has been virtually eliminated in Motorola batteries with the use of the latest in cell technology from our selected cell suppliers.

Nickel-Cadmium Battery Disposal

For disposition, Nickel-Cadmium sealed rechargeable batteries should be delivered to an authorized metals reclamation dealer. Also, refer to the inside front cover of this manual.

WARNING
DO NOT DISPOSE OF ANY BATTERIES IN A FIRE AS THEY MAY EXPLODE!

SAFETY AND SERVICE

For Use in Hazardous Atmospheres

For information referencing the Factory Mutual approved Triton MP100 Models, Options, and Accessories, refer to ***Factory Mutual Approval Manual Supplement.***

Troubleshooting

If you experience difficulty, check the following items before requesting service.

1. Review steps under HOW TO OPERATE.
2. Be sure the rotary channel selector knob is set to the correct channel.
3. Replace or recharge the battery.
4. If reception is poor, check the antenna. It must be undamaged and operated in the vertical position for best reception.
5. Try several different operating locations, especially when operating the radio inside buildings.
6. Check transmitter by transmitting to another portable radio or communications receiver.

Service

Because this unit contains a radio transmitter, most local governments prohibit anyone from making any internal adjustments to the transmitter unless specifically licensed to do so by government regulations. If your radio fails to operate, contact your local Motorola marine dealer.

Proper repair and maintenance procedures assure efficient operation and long life for this radio.

General Radio Care

1. Avoid physical abuse of your radio such as carrying it by the antenna or remote microphone.
2. Wipe the battery contacts with a lint-free cloth to remove dirt, grease, or other material which may prevent good electrical connections.
3. When not in use, keep the accessory jack covered with the protective cap.
4. Clean the radio exterior using a cloth moistened with water.

CAUTION

Use of chemicals such as detergents, alcohol, aerosol spray, and/or petroleum products may be harmful and damage the radio housing and cover.

Safety Information

In the U.S., 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 results in user exposure substantially below the FCC recommended limits.

- **DO NOT** hold the radio such that the antenna is very close to, or touching exposed parts of the body, especially the face or eyes while transmitting. The radio will perform best if the microphone is two or three inches away from the lips and the radio is vertical.
- **DO NOT** hold the transmit PTT button on when not actually desiring to transmit.
- **DO NOT** allow children to play with any radio equipment containing a transmitter.
- **DO NOT** operate a portable transmitter near unshielded electrical blasting caps or in an explosive atmosphere unless it is a type especially qualified for such use.
- **DO NOT** operate the portable with a headset or other audio accessories at high volume levels. Hearing experts advise against continuous high volume operation. If you experience a ringing in your ears, reduce the volume level or discontinue use.

Battery Chargers Safety Information

NOTE

THE BATTERY IS SHIPPED FROM THE FACTORY UNCHARGED AND MUST BE CHARGED BEFORE USE.

WARNING

TO REDUCE RISK OF INJURY, CHARGE ONLY MOTOROLA NICKEL-CADMIUM TYPE RECHARGEABLE BATTERIES LISTED. OTHER TYPES OF BATTERIES MAY BURST, CAUSING PERSONAL INJURY AND DAMAGE.

- Do not expose charger to rain or snow.
- Use of an attachment not recommended or sold by Motorola may result in a risk of fire, electric shock, or injury to persons.
- To reduce risk of damage to electric plug and cord, pull by the plug rather than the cord when disconnecting charger.
- Located cord so that it is not stepped on, tripped over, or otherwise subjected to damage or stress.
- An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If extension cord must be used make sure:

  (1) That pins on plug of extension cord are the same number, size and shape as those on plug of charger,

  (2) That extension cord is properly wired and in good condition, and

  (3) The cord size is 18AWG for lengths of up to 100 feet, and 16AWG for lengths up to 150 feet.

- Do not operate charger with damaged cord or plug - replace them immediately.
- Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.
- Do not disassemble charger; take it to a qualified Motorola marine dealer when service or repair is required. Incorrect reassembly may result in risk of electric shock or fire.
- To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

Computer Software Copyrights

The Motorola products 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 products described in this manual may not be copied or reproduced in any manner without the express written permission of Motorola. Furthermore, the purchase of Motorola products 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 non-exclusive royalty-free license to use that arises by operation of law in the sale of a products.

Licensing Information

The following paragraphs refer to licensing requirements in the United States (FCC) and Canada (DOC). To license your radio in countries other than these, contact your local communications government agency.

FCC License Requirements

You are required to obtain both a ship license and an operators permit before operating the transmitter.

Ship Station License

All radio stations aboard ships must be licensed by the Federal Communications Commission. The licensee is responsible at all times for the lawful and proper operation of his station. Application for a ship radiotelephone is made on FCC Form 506, which is available from the FCC licensing office.

Federal Communications Commission
Equipment Approval Services
P.O. Box 358315
Pittsburgh, PA 15251-5315
Tel: (301) 725-1585

Operator License

The radio telephone transmitter in a ship station may be operated only by a licensed radio operator. The licensed operator may permit others to speak over the microphone if he starts, supervises and ends the operation, makes the necessary log entries, and gives the necessary identification. The license usually held by the operators aboard small vessels that are not required to carry a radio installation for safety purposes is the Restricted Radiotelephone Operator Permit and must be posted or kept on the operator's person. A permit is usually obtained by mailing an FCC Form 753 to the Federal Communications Commission. No oral or written examination is required.

You are required to have an up-to-date copy of the FCC Rules and Regulations Part 80 aboard the vessel at all times. Send in the order form included with Form 506.

Additional information on the current Maritime rules and regulations can be obtained by writing:

Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

DOC Information

Canadian Department of Communication (DOC) license information and application are available at their local field or regional offices. The mailing address for this organization is:

Department of Communication
300 Slater Street
Ottawa, Ontario
K1A OC8
Attn: DOS-PP

Distress Procedures

Distress, Safety and Calling Channel

Channel 16 (156.8 MHz) is the worldwide distress, safety and calling channel. It is the channel used for emergency calls and is used for initial contact of other vessels and shore stations. All vessels with operating radios are required by law to monitor channel 16 when not transmitting. As this channel is also monitored by the U.S. Coast Guard, harbor masters, marinas, fuel docks and all other shore stations, it insures that the most number of people will hear an emergency call or request for contact from another vessel. For regulations that apply to U.S. licensed radios, refer to FCC rule 83.233 (b) and other rules in subpart J of part 83.

Distress and Urgency Signals

The primary distress signal is **MAYDAY**, to be used only when there is immediate danger of loss of life or property. **MAYDAY** has absolute priority over all other communications. The urgency signal, **PAN**, is used when the safety of the vessel or persons on it are in jeopardy, or for the transmission of an urgent storm warning by an authorized coast station. **PAN** has priority over all other communications except **MAYDAY**. The procedures for both signals is:

If You are in Distress

1. **SEND** radiotelephone alarm signal, if possible, to attract the attention of other ships.

2. **PRESS** the PTT button and say slowly and distinctly on channel 16:

- **MAYDAY, MAYDAY, MAYDAY** (or **PAN, PAN, PAN**) this is (Call Sign, repeated 3 times).
- Give the name of your Ship (repeated 3 times).
- Tell the nature of the distress.
- Explain what kind of assistance you need.
- Give any other information that will help you to be rescued, such as color and type of ship, length, etc.

3. **REPEAT** distress calls and messages at intervals until you get an answer.
4. If you do not get an answer to your distress call on channel 16, try other channels.

Safety Messages

Messages concerning navigation and important meteorological warnings are called, "safety messages". The safety signal is **SECURITY**, and has priority over all communications except **MAYDAY** and **PAN**. To send a safety message, make an initial call on channel 16, then switch to another working channel to transmit the safety message. The procedure is:

1. Press the PTT button and say slowly and distinctly on channel 16:

- **SECURITY, SECURITY, SECURITY**, This is (Call Sign).
- Give the name of your ship.
- Announce working channel.

2. Say on working channel:

- **SECURITY, SECURITY, SECURITY**, This is (Call Sign).
- Give the name of your ship.
- Give safety message

NOTICE

To insure optimum performance the Nickel-Cadmium Battery must be charged before operating your radio.

Refer to "Commercial Warranty for Nickel-Cadmium" on reverse side

GARANTIA COMERCIAL PARA LAS BATERIAS DE NIQUEL-CADMIO

Las baterías de Níquel-Cadmio que vende Motorola están garantizadas como libres de defectos de mano de obra y materiales durante un período de 12 meses a partir de la fecha de envio. Esto significa que la garantía la extiende Motorola, Inc. únicamente al comprador original y sólo a aquellas personas que adquieren productos con el objeto de constituir un leasing o sólo para fines comerciales, industriales o gubernamentales.

ESTA GARANTIA SE EXTIENDE EN LUGAR DE TODAS LAS OTRAS GARANTIAS EXPRESAS O IMPLICITAS QUE SON ESPECIFICAMENTE EXCLUIDAS, INCLUYENDO LAS GARANTIAS DE COMERCIALIZACION O PARA UN PROPOSITO ESPECIFICO. DE NINGUN MODO SE HARA A MOTOROLA RESPONSABLE POR LOS DAÑOS INCIDENTALES O CONSECUENTES HASTA LA TOTALIDAD DEL MONTO ESTABLECIDO POR LA LEY.

Las baterías de NIQUEL-CADMIO se reemplazarán sin cargo durante dicho período de 12 meses siempre que:

1. la capacidad de la batería sea inferior al 80% de la capacidad promedio, o
2. la batería tenga una pérdida.

El comprador deberá hacerse responsable de todos los gastos en que incurra por la devolución de las baterías. Motorola se hará responsable de todos los gastos incurridos al enviar las baterías de reemplazo al comprador. Las baterías de reemplazo sólo están garantizadas por el período restante del de la garantía de la batería original. Esta garantía se convertirá en nula si:

a. Las baterías son cargadas en otros cargadores que no sean los cargadores de baterías aprobados por Motorola especificados para la carga de la batería.

b. Cualquiera de los sellos de los estuches o celdas de la batería están rotos o constituyen una evidencia de alteración de la batería.

c. La batería se usa en un equipo o servicio distinto del equipo de radio específico para el cual estaba destinada.

Para activar esta garantía, el comprador debe comunicarse con un distribuidor de Motorola Marino.

Esta garantía sólo es válida dentro de EE.UU.

NOTA

PARA ASEGURAR UN RENDIMIENTO OPTIMO, LA BATERIA DE NIQUEL-CADMIO DEBE CARGARSE ANTES DE OPERAR LA UNIDAD.

COMMERCIAL WARRANTY FOR NICKEL-CADMIUM BATTERIES

Nickel-cadmium batteries sold by Motorola are warranted to be free from defects in workmanship and material for a period of 12 months from the date of shipment. This express warranty is extended by Motorola, Inc. to the original purchaser only, and only to those purchasing for purpose of leasing or solely for commercial industrial, or governmental use.

THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED WHICH ARE SPECIFICALLY EXCLUDED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL MOTOROLA BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES TO THE FULL EXTENT SUCH MAY BE DISCLAIMED BY LAW.

NICKEL-CADMIUM Batteries will be replaced without cost during this 12-month period if:

1. the battery capacity falls below 80% of rated capacity, or
2. the battery develops leakage.

Purchaser shall be responsible for all charges incurred in returning batteries to Motorola. Motorola will be responsible for all charges incurred in shipping replacement batteries to the purchaser. Replacement batteries are warranted only for the remaining unexpired warranty period of the original battery. This warranty becomes void if:

a. the batteries are charged by other than Motorola approved battery chargers specified for the charging of the battery.

b. any of the seals on the battery enclosure or cells are broken or show evidence of tampering.

c. the battery is used in equipment or service other than the radio equipment for which it is specified.

In order to obtain performance of this warranty, purchaser must contact a Triton Dealer.

This warranty applies only within the United States.

NOTICE

TO INSURE OPTIMUM PERFORMANCE THE NICKEL-CADMIUM BATTERY MUST BE CHARGED BEFORE OPERATING YOUR UNIT.