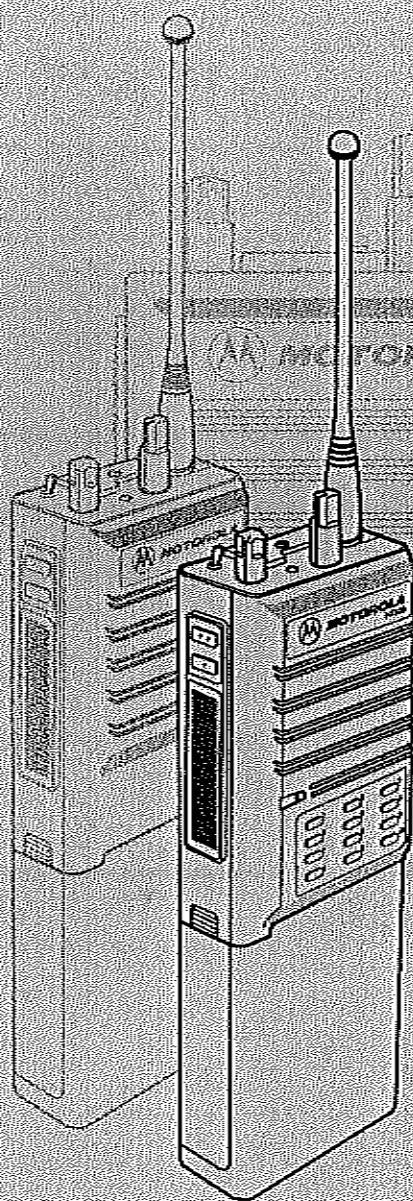


# HT600™

## Portable Radios

operating instructions

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**MOTOROLA INC.**

## HT600™ Portable Radios

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## Introduction

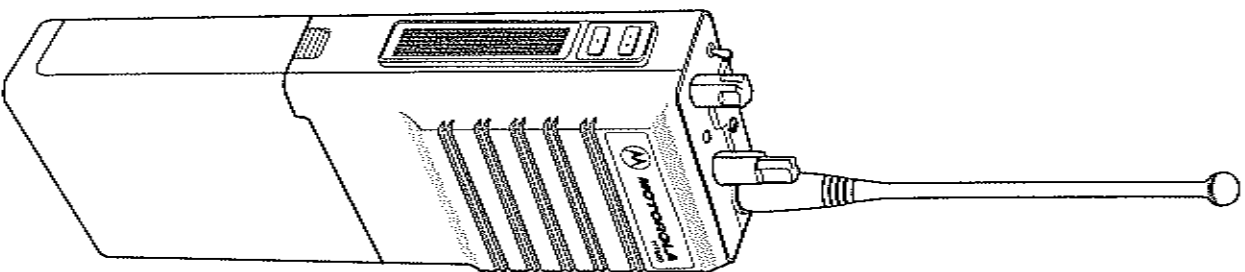
### Motorola HT600 Radio

The HT600 Handie-Talkie® Portable Radio is a sophisticated state-of-the-art unit. It incorporates the latest technology available in two-way radio communications.

The use of microcomputer technology makes changing radio characteristics such as operating frequencies and squelch codes both economical and fast. Any computer-equipped Motorola Service Shop can easily reprogram your radio's operating characteristics, or your radio can be "cloned" from a radio already programmed to your desired frequencies and codes.

The HT600 radio meets tough environmental demands while providing cost effective, reliable communications. It meets the U.S. Government Military Standards 810C and 810D for low pressure, high pressure, low temperature, temperature shock, solar radiation, rain, humidity, salt, fog, dust, vibration, and shock. The HT600 radio also meets 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.



## General Information

### Unpacking

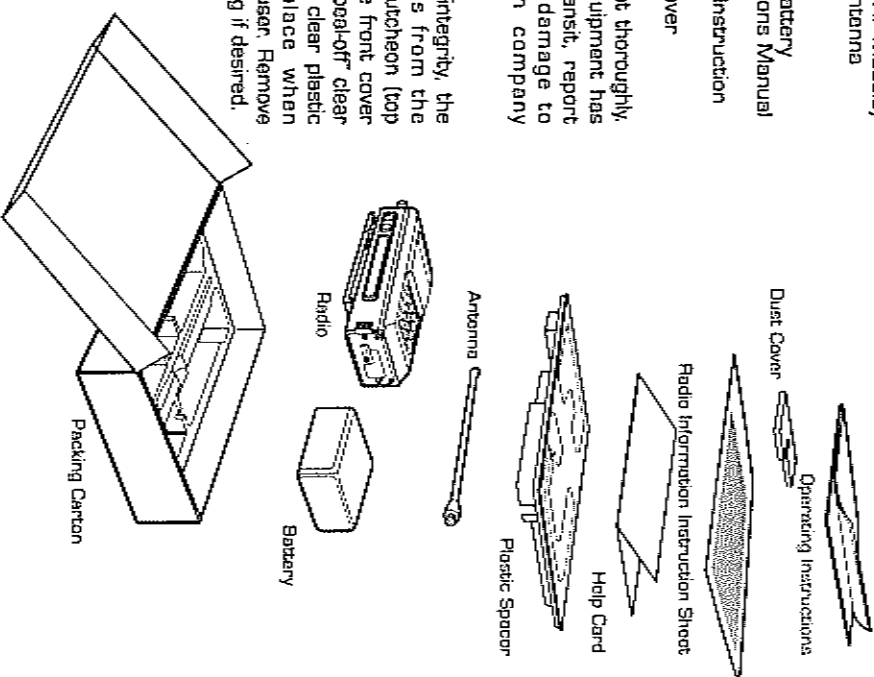
When you receive your packaged HT600 Radio, inspect the shipping carton for any signs of damage. Next, remove and check the contents of the packing case to be certain that all items ordered have been included. Contents of the packing case may be different from those listed if optional accessories were ordered.

#### Packaged Model Contents

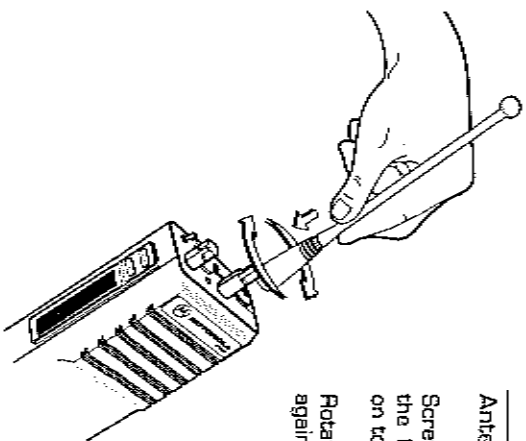
- HT600 Radio with Belt Clip
- Heliflex Antenna (VHF Models) or Flexible Whip Antenna (UHF Models)
- Dual Charge
- Nickel-Cadmium Battery
- Operating Instructions Manual
- Help Card
- Radio Information Instruction Sheet
- Protective Dust Cover

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 immediately.

To ensure cosmetic integrity, the HT600 Radio ships from the factory with the escutcheon (top of the radio) and the front cover label protected by a "pop-off" clear plastic covering. The clear plastic may still be in place when delivered to the end user. Remove the protective covering if desired.



The HT600 Radio ships from the factory with a dust cover to protect the universal connector (on top of the radio). Whenever the universal connector is not being used, attach the protective dust cover with screw.



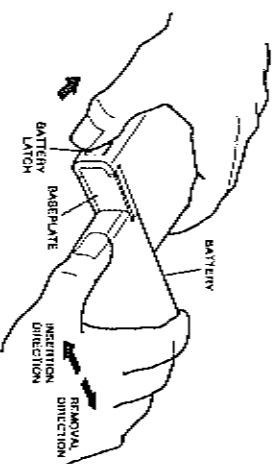
### Antenna Installation

Screw the threaded end of the antenna into the large threaded antenna bushing located on top of the radio.

Rotate the antenna clockwise until it fits firmly against the bushing.

### Battery Installation

Align the notched end of the battery with the grooves in the radio baseplate. Mate the notches and the grooves and slide the battery toward the battery latch until the battery "clicks" into place.

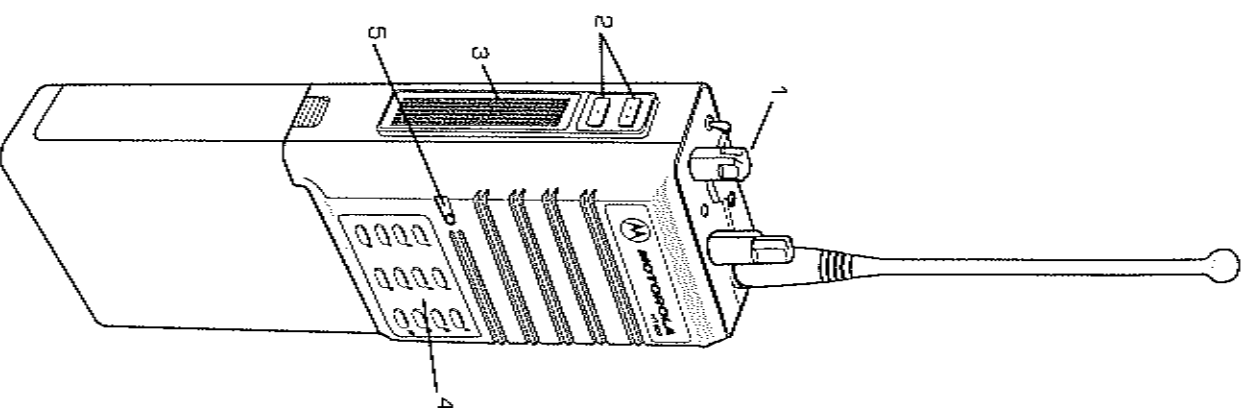


Remove the battery by holding the battery latch up toward the top of the radio. With the battery latch held up, slide the battery away from the latch until it is clear of the radio baseplate.

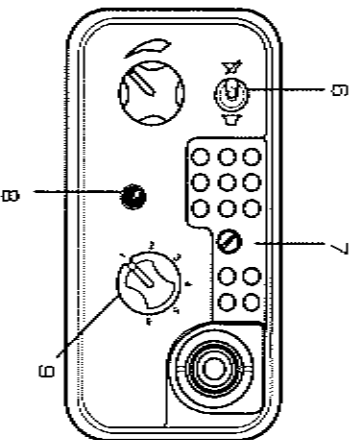
**Note:** The battery is shipped uncharged. Batteries must be charged before use.

### Controls, Indicators, and Connectors

- 1 **On-Off/Volume Control**  
Turns the radio on and off and adjusts the volume level.
- 2 **Monitor Buttons**  
When depressed, this monitors the channel for any activity. Neither carrier, tone nor digital Private-Line™ (PL) squelch is active when monitoring. Both buttons on the side of the radio above the PTT are monitor buttons.
- 3 **Push-to-Talk (PTT) Switch**  
When depressed and held, engages the transmitter and puts radio in the transmit mode. When released, the radio operates in the receive mode.
- 4 **Keypad**  
Telephone-type push buttons used in accessing a phone patch.
- 5 **Program Button**  
(Standard DTMF Option Only)  
When depressed and held, this programs and stores telephone numbers in locations 1 through 9. To store a number, press and hold the program button, enter the telephone numbers via the Touch-Code™ keypad, press the \*\* button, and then enter the memory location number (1 through 9).



- 6 Squelch Select Switch**  
Selects the mode of operation, carrier squelch (P) or PL/DPL squelch (S) in standard models. When equipped with the PAC•RT option, this switch selects portable-to-base operation in the PL (S) position or portable-to-portable operation; in the carrier squelch (P) position. When equipped with the Quick-Call II™ option, the switch enables Quick-Call operation in the PL (S) position or enables carrier squelch operation in the carrier squelch (P) position.



- 7 Universal Connector**  
Provides accessibility for programming and testing the radio; also allows for connection to remote accessories such as a remote speaker microphone. The universal connector is fitted with a protective dust cover which should be left in place when the connector is not being used.
- 8 LED Indicator**  
A bi-color light-emitting diode (LED) indicates normal transmission (continuous red/orange), low battery (flashing red/orange), or channel busy (flashing green-PL application only).
- 9 Channel Selector Switch**  
Selects the operating channel.

## Alert Tone Indicators

### Power-Up

Each time the radio is turned on, a microcomputer self-test occurs. An alert tone is generated for approximately 1/2 second to indicate that the microcomputer is functioning properly. Following the microcomputer self-test, a synthesizer self-test occurs. A continuous alert tone is generated if the synthesizer test is not successful.

### Receive-Only Channel

Pressing the PTT switch while tuned to a "receive-only" channel or a blank channel will cause an alert tone. The tone will continue as long as the PTT switch is depressed. The radio transmitter is not enabled and radio-frequency (rf) is not transmitted.

### Time-Out-Timer (TOT, 60-second) (optional)

Transmission time is limited to 60 seconds. An alert tone indicates that your transmission has been cut off. The alert will continue as long as the PTT switch is depressed.

### Quick-Call II (optional)

An interrupted alert tone is generated whenever a page is received.

## LED Display Indicators

### Transmit Mode (PTT Switch Depressed)

- Continuous red/orange light—Normal transmission.
- Flashing red/orange light—Low battery.
- No light—Indicates no PTT closure; no rf power being sent to the antenna.

### Receive Mode (PTT Switch Not Depressed)

- Flashing green—Channel-Busy Light, indicates the presence of activity on the operating channel when the radio is in the coded squelch (S) mode and programmed for Private-Line or Quick-Call II operation.

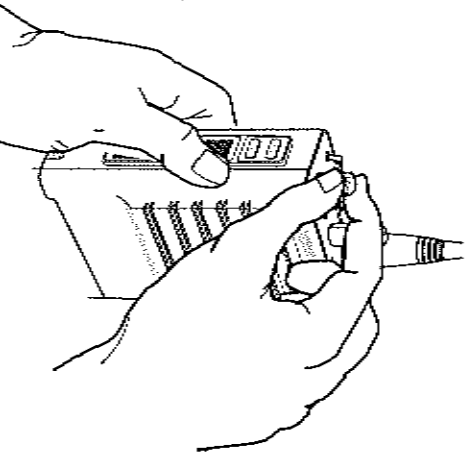
## Operating Procedures, Standard Radio

After a fully charged battery and an antenna have been connected to the radio, you may begin operating your radio. If necessary, review the preliminary information to be sure you understand the radio's features, controls, and indicators.

### To Turn the Radio On and Off

Turn the on/off switch in a clockwise direction. If the radio is not already turned on, the knob will click as it is turned. Refer to Alert Tone Indicators, Power-up.

To turn the radio off, turn the switch counterclockwise until it clicks.

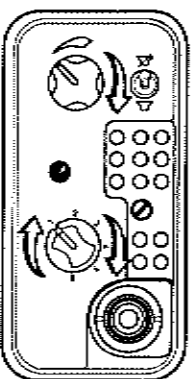


To increase the volume level, turn the volume control knob clockwise. To decrease the volume level, turn the knob counterclockwise.

### To Receive

1. Set the frequency switch to the desired channel position.

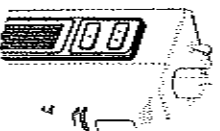
2. Listen for a transmission and adjust the volume control to a comfortable listening level. If no transmission is heard, depress and hold the monitor button to unsquelch the radio, and adjust the background noise to a comfortable listening level.



### NOTE:

All HTSDD radio models have an internal squelch setting which is adjusted at the factory. The squelch level setting is not a user-operated control; however, it may be reprogrammed at a Motorola Service Shop.

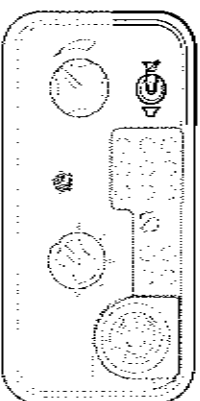
3. The radio is now set to receive all calls on the assigned or selected frequency.



4. For PL receive operation, place the mode select switch in the PL (P) position, and the unit will respond to only those calls with the proper frequency and PL code combination.

### NOTE:

When a PL message is received, and for the entire length of the reception, the LED indicator flashes green. The LED also flashes green whenever the channel is active.



### To Transmit

1. Set the frequency switch to the desired channel position (1-6).

2. Do not interrupt another user. Listen for activity on your channel. If the channel on which you are transmitting is programmed to receive PL and the squelch switch is in the PL (P) position, momentarily depress the monitor button to listen for channel activity. The channel must be clear before transmitting.

3. While holding the radio in a vertical position with the speaker-microphone grille two to three inches from your mouth, press the push-to-talk switch on the side of the radio and speak slowly and clearly into the grille area. When finished transmitting, release the push-to-talk switch to receive.

### NOTE:

When the push-to-talk switch is depressed, the red/orange LED turns on, remains on for the entire length of the transmission, and turns off when the PTT switch is released.

### Low Battery Check

When the push-to-talk switch is depressed (and as long as the push-to-talk switch remains depressed), the battery voltage is automatically monitored and if the voltage is low, the red/orange LED flashes to alert the user of the low battery condition.

### Blank Channel Alert or Receive Only Channel Alert

When the push-to-talk switch is depressed and the channel selector is set to a blank transmitter frequency, a continuous alert tone is generated.

## Operating Procedures, Radio with Options

To fit your particular needs, a number of options can be ordered to enhance the operation of your HT6000 Handle-Talkie radio. These options are described for you in this section.

### PAC•RT Transmit Only

Radios equipped with this option are used with the PAC•RT Portable/Mobile Vehicular Repeater System. When the mode select switch is in the PL (P) position, the radio operates in the portable-to-base mode. This results in all messages from the portable radio being transmitted through the PAC•RT Vehicular Repeater (at a greatly increased power level) to the base station. When the mode select switch is in the carrier squelch (S) position, the radio operates in the portable-to-portable mode and does not activate the PAC•RT Vehicular Repeater.

### Quick-Call II

The Quick-Call II option provides the user with the talk-back pager feature. As in a standard radio, when the unit is turned on, a short power-up alert is generated. The radio then operates in the carrier squelch mode as described in the basic operating procedure. (Also during this power-up period, the Quick-Call decoder is active and will omit an alert tone on detection of a valid code.)

To put the radio in the Quick-Call II (paging) mode, set the squelch select switch to the enable (E) position, then momentarily depress the monitor button. When paged, an interrupted alert tone is generated, the radio is put in the carrier squelch mode and the caller's message is heard. The radio will remain in the carrier squelch mode for six seconds after the loss of carrier. If the carrier is lost, but for less than six seconds, an auto timer will reset, which permits normal transmit and receive operation as described in the basic operating procedure. If no transmission is made within six seconds, the radio will automatically revert to the Quick-Call II (paging) mode.

**NOTE:** On later model radios, the automatic reset feature can be disabled and the radio reprogrammed for "manual only reset". Contact your nearest Motorola service shop for details.

When in the Quick-Call II mode of operation, initiate a transmission (radio not paged), exactly the same as you would for standard operation. Transmit and receive as described in the basic operating procedure. When the conversation has ended, the radio resets in the carrier squelch mode. To reset the radio to the paging mode, momentarily depress the monitor button.

**NOTE:** On earlier model radios, to initiate a transmission when in the Quick-Call II mode, the squelch select switch must be set to the carrier squelch (C) position. Then transmit and receive as described in the basic operating procedure. When the conversation has ended, the radio resets in the carrier squelch mode. To reset the radio to the paging mode, set the squelch select switch to the enable (E) position and then momentarily depress the monitor button.

Note that even in the carrier squelch mode the Quick-Call II decoder is active and will respond to a valid Quick-Call II code. The radio will emit an interrupted alert tone on receiving a valid code.

### Touch-Code Dual Tone Multiple Frequency (DTMF)

Three different DTMF options are available with the HT6000 radio:

- Standard DTMF
- Continuous Tone DTMF
- DTMF with Automatic Number Identification (ANI)

### Standard DTMF

#### Manual Dialing (Encoding)

Turn the radio on, depress and hold the PTT switch down for at least one second, and then press the appropriate Touch-Code key buttons. To dial a "\*" or "#" the corresponding key must be pressed twice.

#### Storage of "Touch-Code" Numbers in Memory (Program Mode)

Press and hold the program button firmly. Then push the Touch-Code key buttons that correspond to the numbers to be stored. A beep tone should be heard with each keystroke. After the entire number sequence to be stored has been entered, press the "\*" key button followed by the number of the memory location (1-9). Continue to hold down the program button for one second after the memory location has been entered to allow time for memory storage. A maximum of sixteen characters can be stored in each memory location.

#### **NOTE:**

To store or manually dial the Touch-Code tones for "\*" or "#" in memory, the corresponding button ("\*" or "#") must be pushed twice ("\*" or "#").

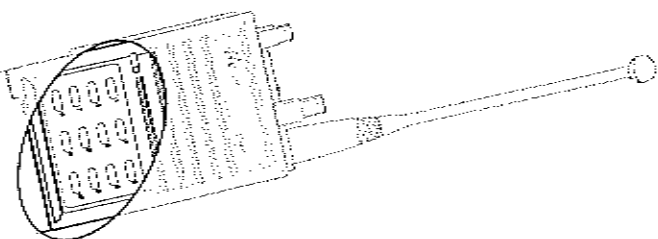
It is necessary to hold the program button for one second after the storage command, otherwise an error may occur.

#### Last Number Redial Memory

Automatically stores the numbers last entered in manual dial, program mode, or scratchpad memory. To automatically dial this number, depress and hold the PTT switch down and press "\*", then 0. Release the PTT switch after the last tone is heard.

#### **NOTE:**

The last number redial memory will be altered by pushing Touch-Code key buttons whenever the radio is on.



## Standard DTMF (cont.)

### **Scratchpad Memory**

Feature gives you the ability to store a number in the **last number redial memory** or in standard memory while receiving someone else on the radio. For example, you are communicating with John (portable-to-portable) and he gives you a phone number to call later. Scratchpad memory lets you store the number immediately by simply entering the numbers from the keypad. When the phone number is entered, it is automatically stored in the **last number redial memory** (location 0). To store the number in another location, press the program button and press "\*" followed by the desired memory location. After entering the storage command, hold down the program button for one second and then release.

### **To Automatically Dial Numbers Stored in Memory**

Depress and hold the PTT switch down and press "\*" followed by the number corresponding to the desired memory location (0-9). For example, to dial the number stored in location 5, depress and hold the PTT switch down, press "\*", then press 5. Release the PTT switch after the last tones are heard.

### **IMPORTANT**

Numbers in memory will be erased or altered if the battery is removed from the radio and left off for more than two minutes.

### **Indefinite Pause**

May be programmed in memory to allow for storage of more than one number sequence per memory location. For example, if you want to store a repeater access code and phone number in the same memory location, depress and hold the program button while you do the following:

1. Enter the access code
2. Press "\*"
3. Press "#"
4. Enter the phone number
5. Press "\*" and the desired memory location (1-9)

To dial this sequence, depress and hold the PTT switch down, press "\*", then press the proper memory location (1-9). The access code will be transmitted followed by a pause. The pause gives the system time to check the access code and send out a dial tone. After you receive the dial tone, the phone number may be dialed by holding the PTT switch down again and pressing any digit (not "\*" or "#").

## Continuous Tone DTMF

This option is identical to the standard DTMF option, except that no memory features are available and the tones generated by the depression of a keypad button are not of a fixed duration. Instead, the tones will continue for as long as a button is depressed.

## DTMF with ANI

With this option installed in your radio, the memory contains pre-stored telephone numbers and is not available for manual storage or erasure of telephone numbers by the radio operator. A special fixture is required for changing preprogrammed numbers. The **last number redial** and **automatic dialing** features are still functional.

**CAUTION:** DTMF with ANI is in a volatile memory. If the battery is removed for more than two minutes, the programmed information may be lost, and reprogramming with the ANI fixture would be required.

### Time-Out-Timer (60-Second)

The Time-Out-Timer (T.O.T.) option alerts the user if the transmitter is inadvertently keyed, preventing channel tie-up and battery drain. Operation is exactly the same as a standard model in the receive mode. In the transmit mode, however, a single transmission (uninterrupted depression of the PTT) times out after 60 seconds and the radio reverts back to the receive mode, even with the PTT switch remaining depressed. After the 60-second time out, a continuous alert tone is generated in the receive mode until the PTT switch is released.

Another transmission may be initiated immediately after releasing the PTT switch by depressing the PTT switch again. If the PTT switch is released before the 60-second time out, the radio operates as normal (reverts to the receive mode with no alert tone).

### Omit Alert Tones

Transmit and receive functions are normal, except that all alert tones (power-up, transmit inhibit, and T.O.T.) are muted.

### Omit Power-Up Alert Tone

Transmit and receive functions are normal, except that the power-up alert tone is muted.

### LED Disable

Transmit and receive functions are normal, except that all LED indications (low battery, normal transmission, and channel busy) are disabled.



## Battery Information

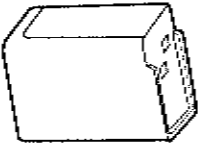
### Battery Types

The HT600 radio gets its power (10Vdc) from an alkaline or rechargeable nickel-cadmium battery as listed in the accessories section. These batteries, designed specifically for use in the HT600 radio, are a safe, dependable power source. Proper care of the battery will ensure its effectiveness and allow for peak performance of the radio. Alkaline batteries are not rechargeable.



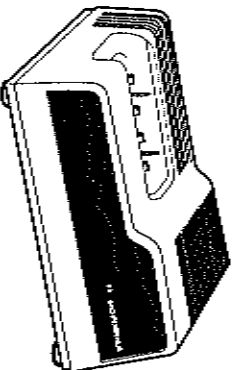
### Recharging Nickel-Cadmium Batteries

**Charge the battery before use** to ensure optimum capacity and performance. The battery was designed to be used only with a Motorola 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°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. HT600 rapid rate battery chargers contain a temperature sensing circuit to ensure that the battery is charged within these temperature limits. For additional information on batteries and battery charging, refer to the appropriate Motorola battery charger 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 warranty, and create a burn or fire hazard.

### Memory Effect (Reduced Charge Capacity)

May be caused by continuous overcharging for long periods of time or by repetitive shallow cycling.

If the battery is lightly or infrequently used and is allowed to charge over a long period (30-60 days), it may develop memory effect. That is, the voltage may be sufficiently lower on the first discharging cycle to reduce the effectiveness of radio transmission.

A more common type of memory effect is induced by uniform shallow cycling. For example, if the battery is operated so that it repeatedly delivers 50% of its full capacity, it can temporarily become inactive, and when current demand is increased, it may show a sharp decrease in its ability to deliver proper terminal voltage.

Any nickel-cadmium battery that shows early signs of reduced capacity should be checked for memory effect before it is returned under warranty or discarded. If the battery is exhibiting memory effect, memory can be easily eliminated by completely discharging the battery (deep discharge), and recharging again. One or two deep discharge cycles are usually sufficient to restore the battery to full capacity.

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

Battery Marketing Department  
Motorola, Inc.  
8000 West Sunrise Boulevard  
Ft. Lauderdale, Florida 33322

(305) 475-6125  
FAX Numbers: (305) 475-6053 or (305) 475-8006  
TELEX Number: 441 464  
MOT-MONN-FTL-TWX Number: 510-965-4090

#### WARNING

ALKALINE BATTERIES ARE NOT RECHARGEABLE. DO NOT ATTEMPT RECHARGING ALKALINE BATTERIES. DO NOT DISPOSE OF ANY BATTERIES IN A FIRE AS THEY MAY EXPLODE.



## General Radio Care

### 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.

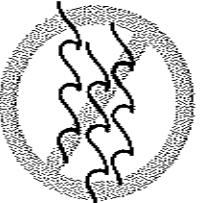
Clean all battery contacts with a lint-free cloth to remove dirt, grease, or other foreign material that may prevent good electrical connections.

### Handling

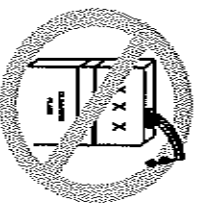
Avoid physical abuse; do not pound, drop, or throw the radio unnecessarily. Do not carry the radio by the antenna.



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

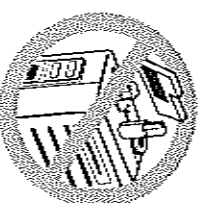


Avoid subjecting the radio to corrosives, solvents, or spirits.



**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.

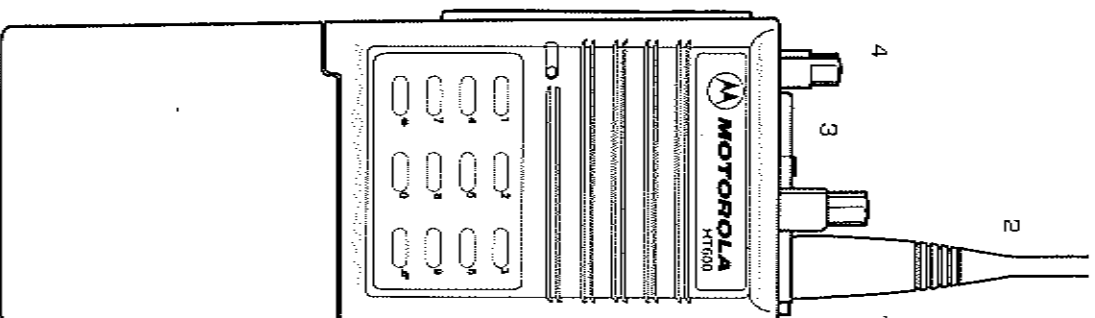
Do not disassemble the radio in any way. Keep the connector cover in place until ready to use the accessory connector. Replace the cover immediately after the accessory has been disconnected.



### Operating Hints

In case of difficulty, review the operating instructions to ensure that all directions are clearly understood and closely followed. If difficulties persist, please check the following items before requesting service.

1. Check the antenna; it must be undamaged and seated firmly against the antenna bushing.
2. Make sure the antenna is held in a vertical position while operating. Performance may be improved by trying different operating positions and locations, especially if you are inside a building. Communication range will be greatly reduced if the unit is operated at waist level and close to the body. The Public Safety Remote Speaker Microphone with Antenna will improve performance for UHF radios under these conditions.
3. Check the transmit LED. Transmitter performance may be measured by the LED; it should glow brightly while transmitting. A flashing red LED may indicate a discharged battery or transmitter fault condition.
4. Check the rotary and toggle switch settings. Programmed channels are specified on the Radio Information Instruction Sheet.
5. Check the battery and replace it if weak or damaged. Charge the battery if necessary.



5

## Administration and Regulations

### FCC Safety Standards



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 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.
- Do not dispose of batteries in fire. Batteries may explode when subjected to extremely high temperatures.
- Do not short circuit the radio. An accidental short circuit, such as a paper clip dropped across the battery terminals, may generate enough heat to spark a fire.
- Turn radio off when removing or installing a battery.

### Hazardous Atmosphere Operation

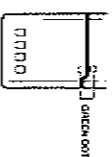
Anyone intending to use a radio in a hazardous area is advised to become familiar with the subject of intrinsic safety and with Section 70 of the National Fire Code, which is commonly referred to as Article 500 of the National Electric Code. Use of anything but factory supplied components may affect 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 FM required warning:

**WARNING:** Modification of FM approved intrinsically safe radios will negate FM approval.

### Hazardous Atmosphere Operation (cont.)

Certain HT600 radios and batteries have been declared intrinsically safe by Factory Mutual Research Corp. (FMRC) of Norwood, Massachusetts, for use in hazardous atmospheres. FM approved radios are identified by attached certification labels and by matching green dots found on the backs of radios and batteries. The intrinsically safe rating by Factory Mutual states that electrical equipment is incapable of releasing sufficient electrical or thermal energy, under normal or abnormal operating conditions, to cause ignition of a specific hazardous atmosphere. This means the HT600 radio has been thoroughly tested by Factory Mutual and carries its certification for operation in the hazardous atmospheres designated on the radio label. **Radios must ship from the Motorola factory with the hazardous atmosphere options and cannot be modified in the field.** Failure to use the radio with the approved battery will negate the approval. HT600 radios that are approved by Factory Mutual can be used in those applications requiring reliable two-way hand-held radios in the listed specific hazardous atmospheres. Motorola approved equipment and accessories, along with competitive equipment approvals, are listed in the yearly approval guide published by Factory Mutual Research Corporation. This guide can be ordered from the following address:

Resource Center for Loss Control Management  
Factory Mutual Research Corp.,  
1151 Boston-Providence Turnpike  
P.O. Box 688, Norwood, MA 02062



### Restrictions

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.

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 National Service Organization 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 contract service requirements, please contact the nearest Motorola service representative.

## Accessories

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

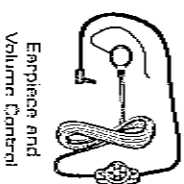
### Antennas:

- NAD6282A \* Heliflex (136-150.799MHz)
- NAD6283A \* Heliflex (150.8-161.999MHz)
- NAD6294A \* Heliflex (162-174MHz)
- NAE6131A Antenna (403-430MHz)

### NAE6132A

### NAE6133A

- NAE6231A \* Requires NTN5050A Public Safety Remote Speaker Microphone
- NAE6232A \* Heliflex (438-459.999MHz)
- NAE6233A \* Heliflex (470-512MHz)
- NAE6350A \* Flexible Whip (403-512MHz)
- MKN6408A Mobile Antenna Cable
- NTN5368A Mobile Antenna Adaptor



Emergency and Volume Control

### Batteries:

- NTN4564B \* Nickel-Cadmium Medium Capacity, Dual Charge Intrinsically Safe / Factory Mutual Approved
- NTN4584B Nickel-Cadmium Medium Capacity, Dual Charge
- NTN5414B Nickel-Cadmium High Capacity, Dual Charge
- NTN5415B \* Nickel-Cadmium High Capacity, Dual Charge Intrinsically Safe / Factory Mutual Approved



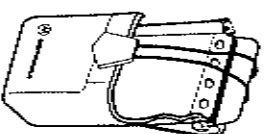
Compact Charger

### Nickel-Cadmium Battery Chargers:

- NTN4633B Single-Unit Desk-Top (Rapid Rate 117V)
- NTN4634B Single-Unit Desk-Top (Rapid Rate 220V) with European Plug
- NTN4635A Single-Unit Desk-Top (Standard Rate 117V)
- NTN4636A Single-Unit Desk-Top (Standard Rate 220V) with European Plug
- NTN4666A Compact (117V)
- NTN4667A Compact (220V) with European Plug
- NTN4668A Multi-Unit (Rapid Rate 117V)
- NTN4922A Multi-Unit (Rapid Rate 220V / 240V)

### Carrying Accessories:

- NLN8410A Velcro Patch Pin Attachment
- NTN4813B Belt Clip (fits 1-1/2" belt)
- NTN5389B Belt Clip (fits 2-1/4" belt)
- NTN5602 Belt Clip (fits 3" belt)
- NTN5450B Leather Swivel Case with T-Strap and DTMF Access
- NTN5460B Leather Case with T-Strap
- NTN5461B Leather Swivel Case with T-Strap
- NTN5787A Belt Clip Carry Holder
- NTN6349B Carrying Strap



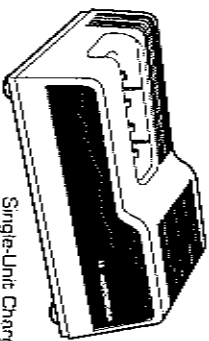
Leather Case and T-Strap

\* Accessories are approved as Intrinsically Safe by FACTORY MUTUAL. Refer to the radio label for intrinsic safety ratings and required batteries. Only these accessories and antennas may be used on approved radios.

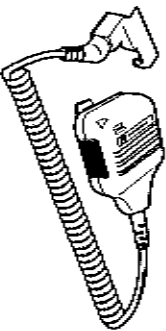
## Accessories (cont.)

### Audio Accessories:

- NKNG375A
- Remote Speaker Microphone with Belt Clip, Coil Cord, and 2.5mm Jack
- NMNG145A \*
- Remote Speaker Microphone with VELCRO patch and Coil Cord
- NMNG155A \*
- (requires NLNB410A Mic Holder)
- NMNG156A \*
- Remote Speaker Microphone with Belt Clip and Coil Cord
- NSN5011A
- 2.5mm Earpiece with Volume Control
- NTN4812A \*
- 3.5mm Earpiece Adaptor
- NTN5043A \*
- 3.5mm Earpiece with Volume Control
- NTN5050A
- Public Safety Remote Speaker / Microphone with VELCRO patch
- (requires NLNB410A Mic Holder and NAE6131A, NAE6132A, or
- NAE6133A Antenna.
- NTNBD75B \*
- 2- or 3-Wire Surveillance Adapter
- NTN5483A
- Public Safety Remote Speaker / Microphone with Belt Clip
- ZMNG032A
- Earpiece Speaker / Microphone PTT Assembly



Single-Unit Charger



Remote Speaker / Microphone

\* Accessories are approved as Inherently Safe by FACTORY MUTUAL. Refer to the radio label for intrinsic safety ratings and required batteries. Only these accessories and antennas may be used on approved radios.

## Computer Software Copyrights

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