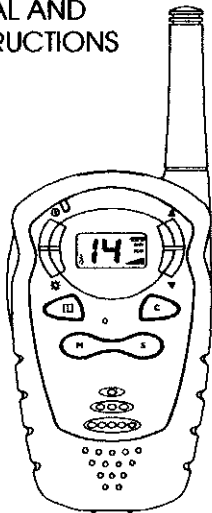




COMMUNICATOR FRS0017
OWNER'S MANUAL AND
OPERATING INSTRUCTIONS

PLEASE READ THIS
OWNER MANUAL
CAREFULLY BEFORE USE.
KEEP FOR YOUR
REFERENCE.



FOR INSTALLATION INSTRUCTIONS PLEASE SEE PAGE 8.

Special Features

PRODUCT DESCRIPTION

The COMMUNICATOR is the newest generation in personal two-way communications. The COMMUNICATOR operates in a license-free radio band (no FCC license is needed for its operation), on any of the 14 license-free channels.

The COMMUNICATOR is a lightweight, compact two-way communication device that can be used to communicate with family or friends at parks, shopping malls, sporting events, concerts – any indoor or outdoor activity!

The COMMUNICATOR is compatible with other brands utilizing the same frequency band (operating in the frequency range from 462.5625MHz to 467.7125MHz).

The COMMUNICATOR has 14-CHANNELS, featuring a multi-functional LCD Screen (which displays the current channel and various status icons).

Other features include ELECTRONIC VOLUME CONTROL and BATTERY SAVE CIRCUITRY.

Please read this Owner's Manual carefully to get the most out of your TWO-WAY COMMUNICATOR.

NOTE: The maximum transmission range will vary depending on terrain and environment. Range will be greater in open fields, while range is shorter within and around buildings or large structures.

This unit may not ensure privacy of communication.

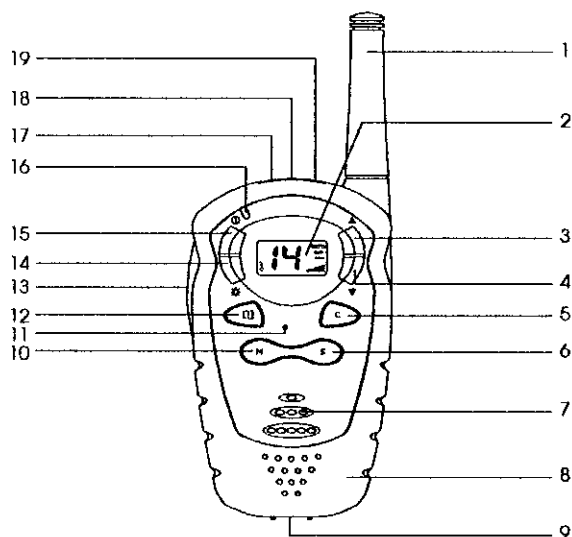
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Communicator Controls



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Communicator Controls

1. **Antenna** (Pg. 17)
2. **LCD Screen**: Displays current channel selection and other radio status symbols. (Pgs. 10-13, 15)
3. **Up ▲ button (VOLUME/CHANNEL)**: Press to adjust volume level and change channels. (Pgs. 11, 12, 16)
4. **Down ▼ button (VOLUME/CHANNEL)**: Press to adjust volume level and change channels. (Pgs. 11, 12, 16)
5. **Call C button**: Press to transmit CALL TONES. (Pg. 12-14)
6. **Scan S button**: Used to activate/deactivate CHANNEL SCAN. (Pg. 13)
7. **Speaker** (Pg. 11)
8. **Battery Compartment** (LOCATED ON THE REAR): Houses 4 x "AAA" alkaline or NI-MH rechargeable batteries (not included). (Pgs. 9, 16)
9. **Battery Compartment Cover Latch** (LOCATED ON THE REAR): Secures Battery Compartment cover. (Pg. 9)
10. **Monitor M button**: Press to tune in and hold onto weak signals. (Pgs. 11-13, 16)
11. **Mic**: Microphone. (Pgs. 11, 16)
12. **Menu** button: Allows you to change channels. (Pgs. 12, 16)
13. **PUSH TO TALK PTT button**: Press to transmit. (Pgs. 11-13)
14. **Lamp+ / Lock** button: Used to turn LCD Screen LAMP ON/OFF. Buttons are locked when pressed and held. (Pgs. 10, 12)
15. **Power on/off** button: Press and hold the button to turn your unit ON/OFF. (Pgs. 9, 11)
16. **TX (Transmission) LED Indicator**: Illuminates red when transmitting. (Pgs. 11, 14)
17. **SP Jack**: When earphone is connected into this Jack, voice of the speaker will shift to earphone.
18. **Belt Clip** (LOCATED ON THE REAR) (Pg. 8)
19. **Mic Jack / Battery Charge Jack** (Pg. 15)

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FCC Notice

Warning: Adjustment to this unit or replacement of any transmitter component (crystal, semiconductor, etc.) to this unit that could result in a violation of the rules.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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FCC Notice

Safety Information:

Your wireless hand-held portable transceiver contains a low power transmitter. When the Push-to-Talk (PTT) button is pushed it sends out radio frequency (RF) signals. The device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for hand-held wireless devices.

Important: To maintain compliance with the FCC's RF exposure guidelines hold the transmitter and antenna at least 1 inch (2.5 centimeters) from your face and speak in a normal voice, with the antenna pointed up and away from the face. If you wear the handset on your body while using the headset accessory, use only the supplied belt clip for this product and when transmitting, take it out of the belt to ensure that the antenna is at least 1 inch (2.5 centimeters) from your body.

Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the transmitter and may violate FCC regulations.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

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Getting Started

Carefully remove your communicator from its Blister Pack. If there is any visible damage, do not attempt to operate this communicator. Return it to the place of purchase.

Removing the BELT CLIP:

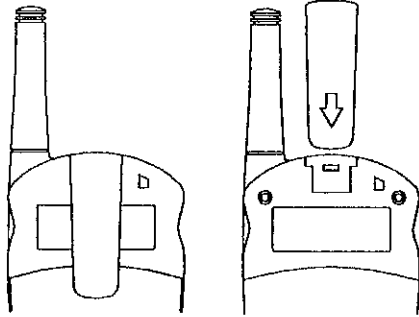


Figure 1.

Figure 2.

1. Pull the BELT CLIP LATCH away from the unit.
2. While pulling the BELT CLIP LATCH, push up on the BELT CLIP to remove it from the unit. See Figure 1.

Installing the Belt Clip:

1. Slide the BELT CLIP into the BELT CLIP SLOT. See Figure 2.
2. A "click" indicates the BELT CLIP is locked into position.

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Getting Started

Battery Installation:

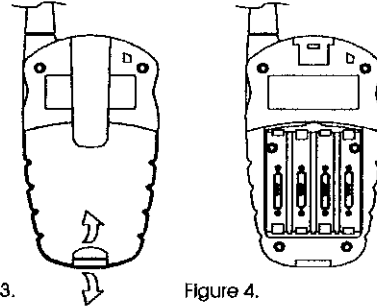


Figure 3.

Figure 4.

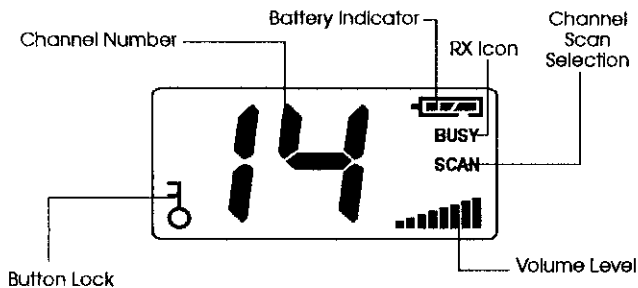
1. Release the BATTERY COMPARTMENT COVER LATCH located on the rear side of the unit (see Figure 3) and remove the BATTERY COMPARTMENT COVER from the BATTERY COMPARTMENT (See Figure 4).
2. Install 4x1.5V AAA alkaline batteries or NI-MH rechargeable batteries (not included) as shown.
3. Reinstall the BATTERY COMPARTMENT COVER and lock the BATTERY COMPARTMENT COVER LATCH into position.

The COMMUNICATOR has a built in POWER SAVER feature for maximum battery life. But when the COMMUNICATOR is not being used, conserve battery power by pressing the **⓪** button to OFF. Remove the batteries if the unit will not be used for a long period of time.

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Getting Started

LCD Screen:



SCAN

Displayed during CHANNEL SCAN mode.



Press and hold the LAMP+ button until the BUTTON LOCK symbol is displayed.

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Channel Number changes from 1 to 14 as selected by user.



Displays current BATTERY LEVEL.



Displays current VOLUME LEVEL.

BUSY

Displayed when receiving a signal.

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Getting Started

Turning the Unit ON:

Press and hold the **⓪** button. The unit will "beep" with dual tone and the LCD SCREEN will briefly display a SELF-TEST Screen.

Turning the Unit OFF:

Press and hold the **⓪** button. The unit will "beep" with a signal tone and the LCD Screen will turn blank.

Adjusting Speaker Volume:

1. Press the Up **▲** button to increase the Speaker Volume.
2. Press the Down **▼** button to decrease the Speaker Volume.
3. The Speaker Volume level is indicated by the number of bars displayed in the lower right corner of the LCD Screen.

NOTE: Volume Up **▲** and Down **▼** buttons are disabled during BUTTON LOCK mode.

Receiving a Signal:

The unit is continuously in the RECEIVE mode when the unit is ON and not Transmitting. When you receive a signal on the current channel, the RX icon (BUSY) is displayed. (See "LCD SCREEN" for details).

Transmitting a Signal:

1. Check the channel activity by pressing and holding the MONITOR **M** button. You'll hear static if the channel is unoccupied. Don't TRANSMIT if someone is talking on the channel. Press and hold the **PTT** button to TRANSMIT. The TX LED Indicator will light up in red. Hold the unit in a vertical position with the MICROPHONE 2 to 3 inches from the mouth.
2. While holding the **PTT** button, speak into the unit using a normal tone of voice.
3. Release the **PTT** button when you have finished transmitting.

NOTE: In order for other people to receive your transmission, they must also be on the same channel you are currently using. Refer to the "Changing Channels" section for more information.

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Operation

Changing Channels:

The COMMUNICATOR has 14 available channels. To change channels:

1. Press the MENU  button until the current channel number flashes on the LCD Screen.
2. While the channel number is flashing:
 - Press the Up  button to move to a higher channel.
 - Press the Down  button to move to a lower channel.
 - The channel changes from 1 to 14, or from 14 to 1.
3. Press the MENU  button or PTT button to select the desired channel and return to the NORMAL mode, or press CALL  button to confirm the channel and TRANSMIT.
4. Channel change operations are disabled during BUTTON LOCK mode.

NOTE: Refer to the "Channel Table" section of this Owner's Manual for detailed frequency listings.

Monitor:

You can use the MONITOR feature to check for weak signals in the current channel.

1. Press the MONITOR  button.
2. Press and hold the MONITOR  button until it "beeps" for continuous monitoring.

Lamp+ (LAMP/LOCK button):

1. Press and immediately release the LAMP+  button to light up the LCD Screen. The BACKLIGHT will automatically shut off after 4 seconds if no other buttons have been pressed.
2. Press and hold the LAMP+  button until the BUTTON LOCK icon is displayed on the LCD Screen.

NOTE: Volume and Channel Change Operations are disabled during BUTTON LOCK mode. Press and hold the LAMP+  button again to deactivate BUTTON LOCK mode.

Operation

Channel Scan:

CHANNEL SCAN performs searches for active signals in an endless loop from 1 to 14.

1. Press and release the SCAN  button to activate CHANNEL SCAN. The channel number on the LCD Screen changes rapidly until an active signal is detected.
During CHANNEL SCAN mode:
 - Press SCAN  button and the channel will return to the original default channel automatically.
 - Press the CALL  button to change to CALL function and to send a CALL TONE on that active channel.
2. When an active signal (one of 14 channels) is detected, CHANNEL SCAN pauses keeping the active signal broadcasted.
3. Press the PTT button to communicate through the active signal channel and CHANNEL SCAN is deactivated.
4. When an active signal (one of 14 channels) is detected, but another channel is desired, press the MONITOR  button to bypass the current channel and continue to search for another active channel.
5. Press the SCAN  button to deactivate CHANNEL SCAN mode.

Battery Level Indicator:

1. The BATTERY LEVEL is indicated by the number of squares present inside the BATTERY icon on the LCD Screen.
2. When the BATTERY LEVEL is low, the BATTERY icon will flash to indicate that the batteries need to be replaced.
3. Do not charge this unit using an AC/DC adapter with regular "AAA" alkaline batteries installed. Only use optional AC/DC adapter with "AAA" NI-MH rechargeable batteries (not included).

Operation

Sending Call Tones

You can use CALL TONES to alert the other when you are attempting to contact them. You can also use CALL TONES to signal the beginning or the end of a transmission.

1. Press the CALL  button, the red TX LED indicator will light up and the CALL TONE continues for 3 seconds.
2. Release the CALL  button, your CALL TONES will transmit to nearby receivers set to the same channel.

Battery Charge Indication

The TX LED indicator illuminates green when the BATTERY CHARGE mode (with rechargeable batteries) is activated.

NOTE: Please ensure that the unit is turned off during BATTERY CHARGE mode.

Operation

To Charge The COMMUNICATOR

In the event you wish to use the unit with rechargeable batteries (not included) you will be required to use an AC/DC adaptor - Input 120 VAC 60 Hz - Output 6 VDC 100MA (not included).

- Insert 4 "AAA" NI-MH rechargeable batteries (not included)
- Turn the unit OFF
- Plug the adaptor into the wall and insert the round end into the CHARGE JACK marked CHG on the top of the COMMUNICATOR.
- Unplug the adaptor, turn the unit ON. The BATTERY LEVEL INDICATOR on the LCD Screen will display the new BATTERY LEVEL.

Note: It takes approximately 6 hours to fully charge the batteries if they are at their lowest level.

Troubleshooting

SYMPTOM	SOLUTION
No power.	● Check batteries. Ensure that the batteries are installed properly. ● The batteries may be weak. ● Replace old batteries with four (4) new "AAA" alkaline batteries or Ni-MH rechargeable batteries.
Reception is weak.	● Press the Up ▲ button to increase VOLUME. ● The receiving signal may be weak and/or out of range. ● If this happens, press the MONITOR M button.
Cannot change channels.	● To change channels, press the MENU □ button until the channel number flashes on the LCD Screen. ● Press the Up ▲ or Down ▼ buttons to change channels. ● Batteries may be weak.
Range is limited.	● BATTERIES may be weak. ● Replace with new batteries if the BATTERY LEVEL indicator is low. ● The maximum range will vary depending on terrain and environment. ● Open fields provide the maximum range, while steel/concrete structures, heavy foliage and use in buildings and in vehicles may limit the range significantly. ● Wearing the radio close to the body, such as in a pocket or on a belt, will decrease range; change the location of the radio.
Sound distortion problems.	● If you are transmitting, speak in a normal tone of voice, 2 to 3 inches away from the MICROPHONE. ● If you are receiving, lower the volume to a comfortable level. ● Radios too close. Radios must be at least 5 feet apart; increase your distance. ● Radios too far apart. Obstacles interfere with transmission. Talk range is up to 2 miles in clear unobstructed conditions.

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Care and Maintenance

! CAUTION

Damaged ANTENNA:

Do not use any COMMUNICATOR that has a damaged ANTENNA. If a damaged ANTENNA comes in contact with the skin, a minor burn may result.

Batteries:

All batteries can cause property damage and/or bodily injury such as burns if conductive material such as jewelry, keys or beaded chains touches exposed terminals. The material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse or other container with metal objects.

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Care and Maintenance

! WARNING

For Vehicles with an Air Bag:

Do not place your COMMUNICATOR in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a COMMUNICATOR is placed in the air bag deployment area and the air bag inflates, the COMMUNICATOR may be propelled with great force and cause serious injury to the occupants of vehicle.

Potentially Explosive Atmospheres:

Turn your COMMUNICATOR OFF when in any area with a potentially explosive atmosphere, unless it is a type specifically qualified for such use (for example, Factory Mutual Approved). Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Batteries:

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

Blasting Caps and Areas:

To avoid possible interference with blasting operations, turn your COMMUNICATOR OFF near electrical blasting caps or in a "blasting area" or in areas posted: "Turn off two-way radio". Obey all signs and instructions.

NOTE: Areas with potentially explosive atmospheres are often, but not always, clearly marked. They include fueling areas such as below deck on boats, fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

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Care and Maintenance

Care and Maintenance

To clean the unit, wipe with a soft cloth dampened with water. Don't use cleaner or solvents on the unit; they can harm the case and leak inside, causing permanent damage. Battery contacts may be wiped with a dry, lint-free cloth.

If the unit gets wet, turn it off and remove the batteries immediately. Dry the BATTERY COMPARTMENT with a soft cloth to minimize potential water damage. Leave the cover off the BATTERY COMPARTMENT overnight or until completely dry. Do not use the unit until completely dry.

Exposure to Radio Frequency Energy:

The design of your COMMUNICATOR, which generates radio frequency (RF) electromagnetic energy (EME), complies with the following national and international standards and guidelines.

The Relevant Guidelines and Standard are:

- FCC Report and Order FCC 96-326 (August, 1996)
- American National Standards Institute (C95-1-1992)
- National Council on Radiation Protection and Measurements (NCRP-1986)
- International Commission on Non-Ionizing Radiation Protection (ICNRP -1986)

To ensure optimal unit performance and to ensure that exposure to RF energy is within the guidelines in the above standards, the following operating procedures should be observed:

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Care and Maintenance

For Portable Two-way Communicators:

- When transmitting with a COMMUNICATOR, hold the COMMUNICATOR in a vertical position with its MICROPHONE 1 to 2 inches (2.5 to 5.0 cm) away from your mouth. Keep the ANTENNA at least 1 inch (2.5 cm) from your head and body.
- If you wear a COMMUNICATOR on your body, ensure that the ANTENNA is at least one inch (2.5 cm) from your body when transmitting.

Electromagnetic Interference/Compatibility:

Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed or otherwise configured for electromagnetic compatibility.

- Turn your unit OFF in any facilities where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy.
- Turn your unit OFF when on board an aircraft when instructed to do so. Any use of the unit must be accordance with airline regulations or crew instructions.

Specifications

Channels Available	14 Channels
Output Power (TX)	80mW
Battery Life	30 Hours (typical)
Range	About 2 Miles

Channel Frequencies	
CHANNEL NUMBER	FREQUENCY (MHz)
1	462.5625
2	462.5875
3	462.6125
4	462.6375
5	462.6625
6	462.6875
7	462.7125
8	467.5625
9	467.5875
10	467.6125
11	467.6375
12	467.6625
13	467.6875
14	467.7125

NOTE: The maximum transmission range will vary depending on terrain and environment.