



MK1996

User's Guide

22 Channel GMRS Radio



**Before operating this product,
please read these instructions completely.**

Thank you for purchasing this Memorex product.

The serial number of your unit can be found on a label on the back of the cabinet. We suggest that you record the serial number in the space provided below in case this information is ever needed at a future date.

PLEASE KEEP ALL PACKAGING MATERIAL FOR AT LEAST 90 DAYS IN CASE YOU NEED TO RETURN THIS PRODUCT TO YOUR PLACE OF PURCHASE OR MEMOREX.

Model Number: MK1996

Serial Number: _____

SAFETY PRECAUTIONS



ATTENTION:

This radio complies with the FCC RF exposure limits for Occupational Use Only.

FCC WARNINGS:

This device complies with part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference.

Safety Training Information:

Your FM handheld transceiver generates RF electromagnetic energy during Transmit mode. This radio is designed for and classified as "Controlled Exposure/Occupation Environment", meaning it must be used only during the course of employment by individuals aware of the hazards and the ways to minimize such hazards. This radio is NOT intended for use by the "General" population/uncontrolled environment.

This radio complies with FCC RF radiation exposure limits set forth for a controlled environment. This radio should be installed and operated with a minimum distance of one inch (2.5 centimeters) between the radio and your body. Therefore, to ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use, always follow below information.

- Do not operate the radio without a proper antenna as this may damage the radio and may also cause you to exceed FCC RF radiation exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.
- Do not transmit for more than 50% of the total radio use time ("50% duty cycle"). Transmitting for more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded.
- Always use memcorp supplied antennas, batteries, belt clips, speaker, mic, etc. Use of unauthorized accessories can cause the FCC RF compliance requirements to be exceeded.
- Always keep the antenna at least one inch (2.5 centimeters) away from the body when transmitting and only use the belt clip when attaching the radio to your belt, etc to ensure that FCC RF exposure compliance requirements are not exceeded.

SAFETY PRECAUTIONS (CONTINUED)

IMPORTANT:
**PLEASE KEEP ALL PACKAGING MATERIAL FOR AT LEAST 90 DAYS
IN CASE YOU NEED TO RETURN THIS PRODUCT TO YOUR PLACE OF
PURCHASE OR MEMOREX.**

SAFETY INFORMATION:

- Do NOT hold the unit in such a manner that the antenna is next to, or touching exposed parts of the body - especially the face or eyes, while transmitting.
- Do NOT allow children to operate transmitter-equipped radio equipment.
- Do NOT operate the unit near unshielded electrical blasting caps or in an explosive atmosphere, unless it is especially designed and qualified for such use.
- Do NOT press and hold the PTT button when not actually transmitting.
- Do NOT tamper with the internal radio adjustments. Damage to the equipment and/or improper operation may result. There are no user-serviceable parts inside. It is recommended that you return the unit to a qualified Memorex radio communications dealer for any service or parts.
- Do NOT carry the unit by the antenna.
- Avoid extremes in exposure to heat and cold.
- This unit is splash resistant to water. Do not submerge in water.
- Do NOT expose the transceiver to long periods of direct sunlight, nor should the transceiver be placed close to heating appliances.
- Do NOT place the transceiver in excessively dusty areas, humid areas, wet areas, or on unstable surfaces.

MAINTENANCE:

This unit is designed to be maintenance free, but can be kept in good working condition by following these few recommendations:

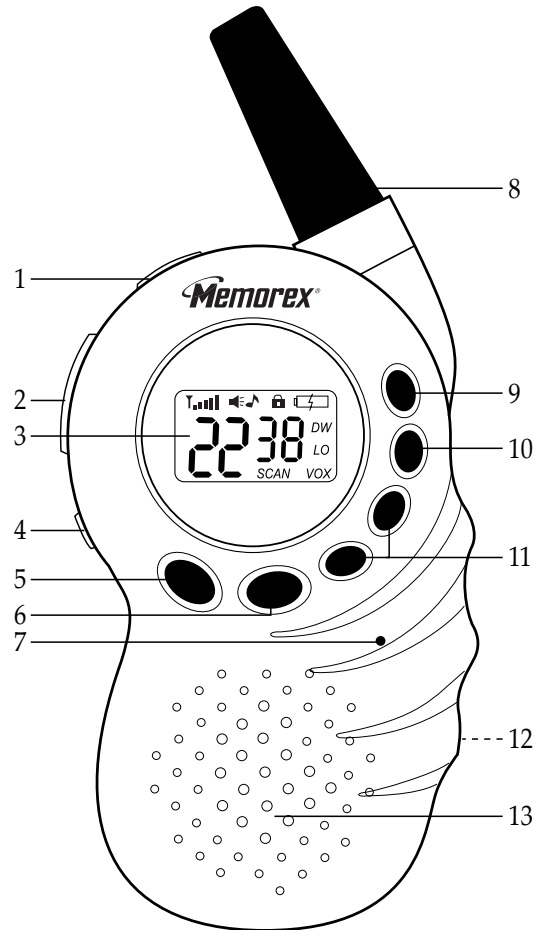
- Clean all external surfaces with a clean cloth, dampened in a mild solution of dishwasher detergent diluted in water. Apply the solution sparingly to avoid any moisture leaking into the cracks. Dry the surface thoroughly with a soft, lint-free cloth.
- Do NOT use solvents or spirits for cleaning, they may permanently damage the unit.
- Clean the battery jack contacts with a lint-free cloth to remove dirt.

WARNING:

Do not operate this unit unless you are licensed to do so.

LOCATION OF CONTROLS

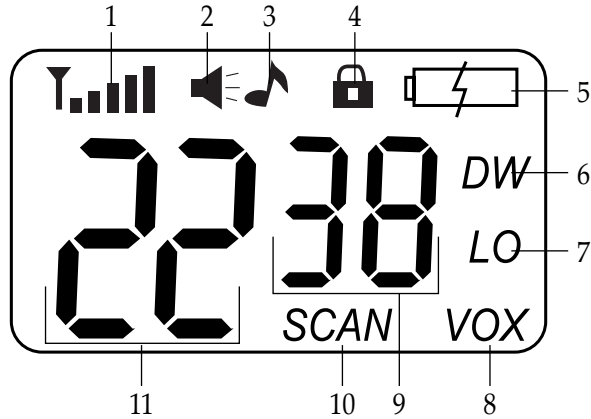
FRONT



- | | |
|--|---|
| <ol style="list-style-type: none"> 1. SPK (Speaker)/MIC (Microphone)/CHG (Charger) Jack 2. PTT (Push To Talk) Button 3. Display 4. MON (Monitor) Button 5. FUNC (Function) Button 6. CALL Button 7. Built-in Microphone | <ol style="list-style-type: none"> 8. Antenna 9. Power Button 10. SCAN Button 11. CHANNEL/VOLUME Up/Down Buttons 12. Battery Compartment (Rear of Unit) 13. Speaker |
|--|---|

LOCATION OF CONTROLS (CONTINUED)

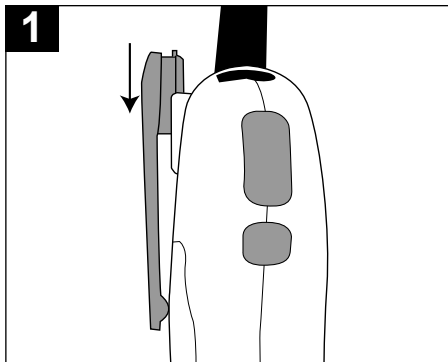
DISPLAY



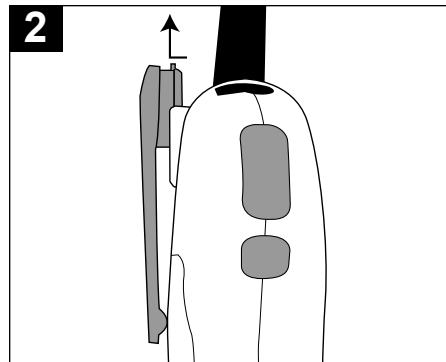
- | | |
|-------------------------------|-----------------------------|
| 1. Signal Strength Indicators | 7. LO Indicator |
| 2. Monitor Indicator | 8. VOX Indicator |
| 3. Roger Beep Indicator | 9. CTCSS Sub Channel Number |
| 4. Key Lock Indicator | 10. SCAN Indicator |
| 5. Battery Status Indicator | 11. Main Channel Number |
| 6. DW (Dual Watch) Indicator | |

INSTALLATION

TO USE THE BELT CLIP






1
TO INSERT, slide the Belt Clip downward until it snaps in place.

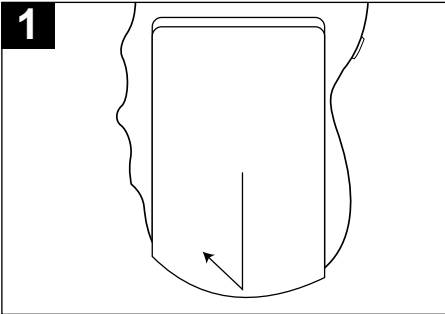


2
TO REMOVE, push in on the tab, then slide the Belt Clip out.

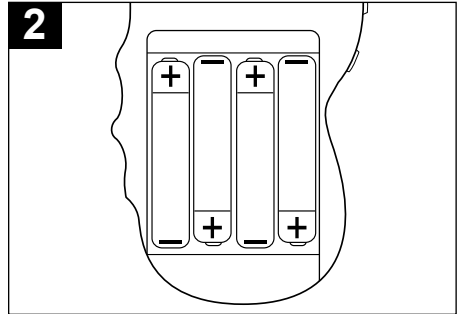
INSTALLATION (CONTINUED)

INSTALLING STANDARD BATTERIES

When battery power is full,  will not be displayed. When battery power is low,  will appear in the display. When battery power is almost empty,  will blink in the display. When the Battery Status indicator is empty, it is time to replace your batteries as follows:



Slide the battery compartment out, and then lift off to remove.

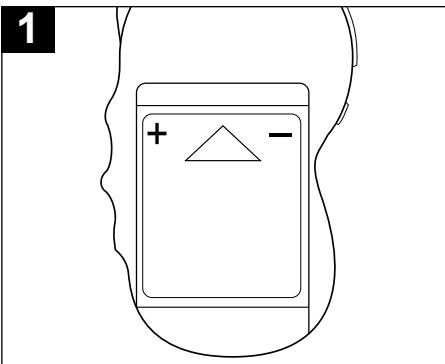


Insert four (4) "AAA" size batteries (not included) following the polarity diagram. Put the battery compartment cover back into place.

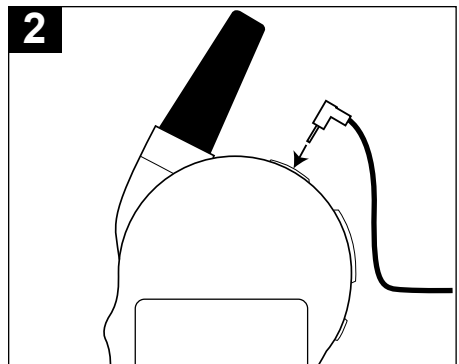
INSTALLING AND CHARGING THE RECHARGEABLE BATTERY PACK

When the Battery Status indicator is empty, it is time to replace your batteries or recharge the battery pack.

IMPORTANT: Do not attempt to charge AAA Alkaline batteries, only use the 4 AAA Ni-MH rechargeable battery pack (included) and the adaptor (included).



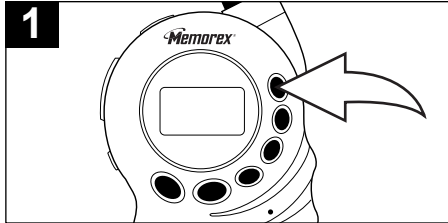
Slide the battery compartment out, and then lift off to remove as described in figure 1 above. Insert the battery pack (included) following the polarity diagram. Put the battery compartment cover back into place.



To charge, insert the adaptor's plug into the SPK/MIC/CHG jack while the unit is off; the LED on the adaptor will light.

OPERATION

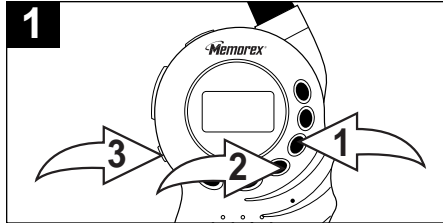
TURNING THE UNIT ON/OFF



1

Press and hold the POWER button for over one second; a confirmation tone will sound. Press and hold the POWER button again for over two seconds to turn the power off.

ADJUSTING THE VOLUME

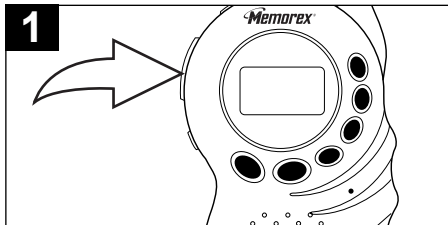


1

Press the CHANNEL/VOLUME Up **1** or Down **2** button to raise/lower the volume. The number on the display will indicate the volume level. If necessary, press and hold the Monitor button **3** for two seconds so sound will be heard through the speaker.

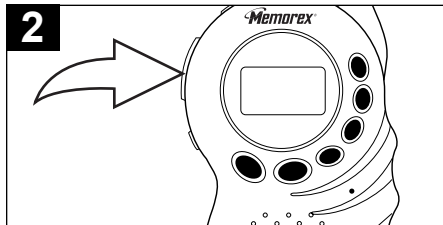
TALKING TO ANOTHER PARTY (TRANSMITTING)

To send your outgoing messages and to communicate with another party, see the following:



1

Press and hold the PTT button and speak into the built-in microphone (or the external microphone, if connected). When the PTT button is pressed, the Signal Strength indicators will light to indicate the signal strength and the speaker will be muted.



2

When the PTT button is released, you can now listen to incoming messages.

LISTENING TO TRANSMISSIONS:

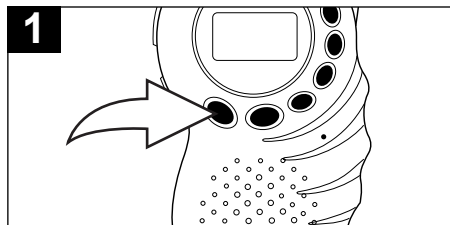
When the unit is on, it will automatically broadcast the incoming signal when a strong incoming signal is received on the selected channel.

NOTE: When transmitting, hold the unit in a vertical position with the microphone one to two inches (2.5 to 5 cm) away from your mouth. Keep the antenna at least one inch (2.5cm) from your head and body.

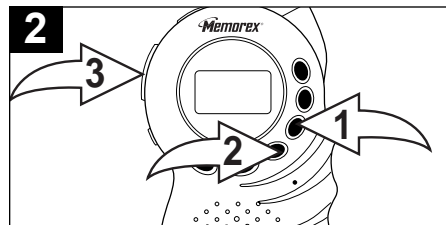
OPERATION (CONTINUED)

SELECTING ONE OF THE 22 MAIN CHANNELS

Select one of the 22 main channels as follows:



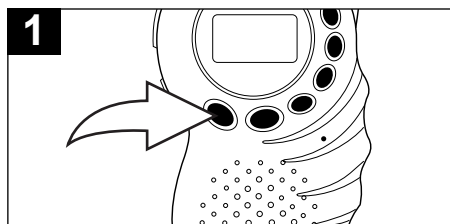
1 Press the FUNC button; the main channel number will blink.



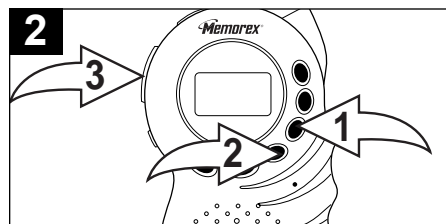
2 Within eight seconds, press the CHANNEL/VOLUME Up **1** or Down **2** button to raise/lower the main channel number. Press the PTT button **3** or wait eight seconds to confirm and exit.

SELECTING ONE OF THE 38 CTCSS SUB-CHANNEL CODES

This feature allows you to utilize the codes squelch tones (00-38) within one of the 22 main channels. This enables you to communicate with another party on the same main channel using the same sub channel and filters out unwanted transmissions without the same coded tone code. Select as follows:



1 Press the FUNC button twice; the CTCSS code will blink.

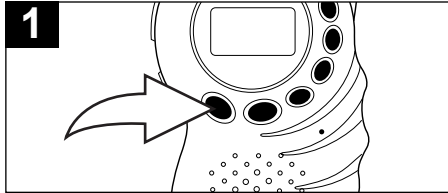


2 Press the CHANNEL/VOLUME Up **1** or Down **2** button to raise/lower the CTCSS code. To choose no CTCSS code, select "oF". Press the PTT button **3** or wait eight seconds to confirm and exit.

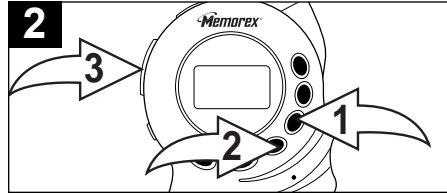
OPERATION (CONTINUED)

SETTING THE TRANSMIT POWER

Set the transmit power to Hi (1.8W TX power) or Low (500mW TX power) as follows:



1
Press the FUNC button three times; "P" will appear and "H" or "L" will blink.

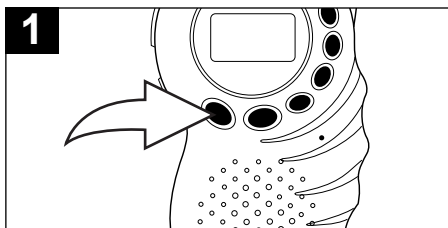


2
Within eight seconds, press the CHANNEL/VOLUME Up ① or Down ② button to select H" (High) or "L" (Low). Press the PTT button ③ or wait eight seconds to confirm and exit.

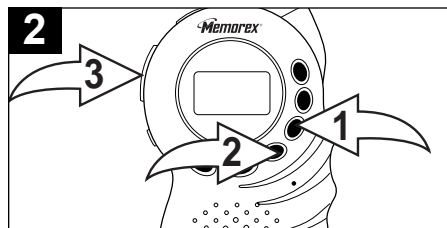
NOTE: If the battery is low, the TX power will be automatically switched to LO. On FRS frequencies (8-14CH), the power goes to 0.5W automatically. FCC requires that the transmitting power for FRS channel (8-14CH) must be less than 0.5W

SETTING THE DW (DUAL WATCH)

This feature allows you to monitor two channels at the same time. While in the Dual Watch mode, the unit will continuously monitor both the primary and dual watch channel. Received signals will be heard for five seconds, then the unit will resume scanning the two channels. Pressing the PTT button during a received transmission will set the unit to transmit on the same channel. Pressing the PTT button when no signal is received will set the unit to transmit on the primary channel. Set as follows:



1
Press the FUNC button four times; "DW" will appear and "d" and "oF" or a number will blink.



2
Within eight seconds, press the CHANNEL/VOLUME Up ① or Down ② button to select the desired channel. (Select "d" and "oF" for cancelling or turning off the Dual Watch function.) Press the PTT button ③ or wait eight seconds to confirm and exit.

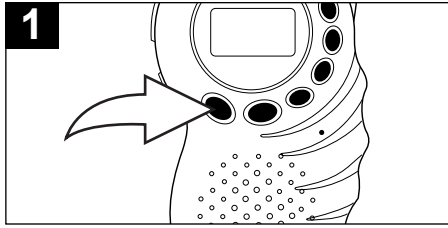
TO CANCEL THE DUAL WATCH

To cancel, simply press the SCAN or FUNC button.

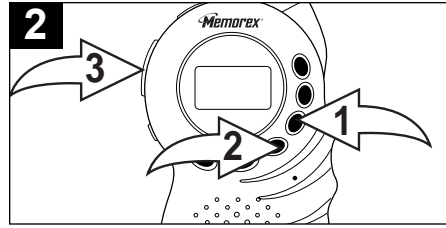
OPERATION (CONTINUED)

SETTING THE VOX (VOICE OPERATED TRANSMISSION) SENSITIVITY

This feature will enable you to have hands-free conversation. Your voice or nearby sounds are detected and the radio transmits without the need to press the PTT button. Set the sensitivity as follows:



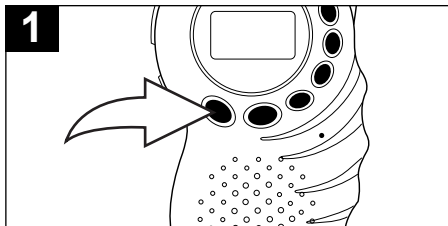
1 Press the FUNC button five times; "U" will appear and the sensitivity level and "VOX" will blink.



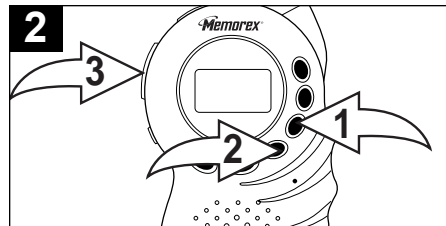
2 Within eight seconds, press the CHANNEL/VOLUME Up ❶ or Down ❷ button to set the sensitivity level (3 is most sensitive and 1 is least sensitive). To disable, select "oF". Press the PTT button ❸ or wait eight seconds to confirm and exit.

SETTING THE ROGER BEEP

This feature will give a tone signal to other parties when finished transmitting (when the PTT button is released). Turn this feature On or Off as follows:



1 Press the FUNC button six times; "b" will appear and the Roger Beep indicator and "on" or "oF" will blink.

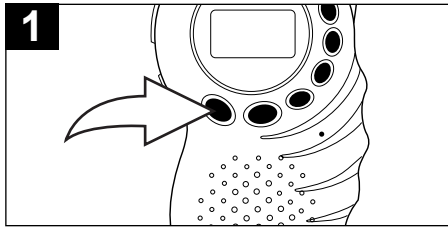


2 Within eight seconds, press the CHANNEL/VOLUME Up ❶ or Down ❷ button to turn the Roger Beep on ("on") or off ("oF"). Press the PTT button ❸ or wait eight seconds to confirm and exit.

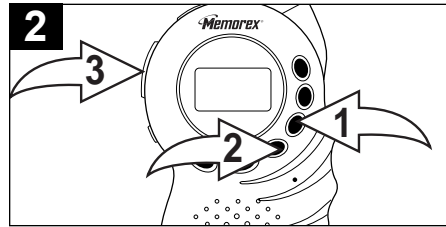
OPERATION (CONTINUED)

SETTING THE CALL TONES

This unit will provide three user selectable call ringer signals to alert you of an incoming signal. Set the call tone as follows:



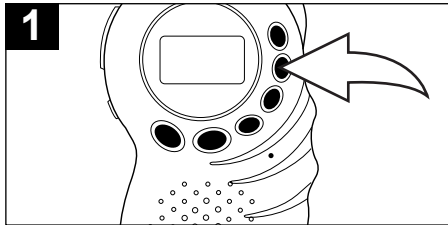
Press the FUNC button seven times; "C" will appear and the call tone number will blink.



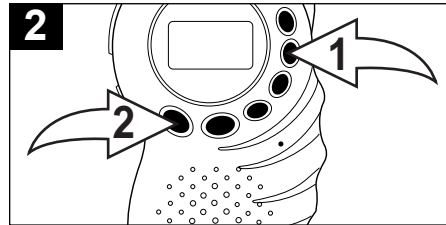
Within eight seconds, press the CHANNEL/VOLUME Up ① or Down ② button to set the call tone (1 to 3); the selected call tone will sound. Press the PTT button ③ or wait eight seconds to confirm and exit.

SCANNING CHANNELS

This feature will allow you to monitor all channels automatically for valid signals. While scanning, you can transmit and receive. When a signal is received, scan is interrupted and you will hear the channel for five seconds. After five seconds, the unit will resume scanning unless the SCAN button is pressed again as follows:



To start Scan mode, press and release the SCAN button; "SCAN" will appear in the display and the unit will scan through the 22 main channels. When an active channel is found, it will be heard for five seconds, and then scanning will resume.

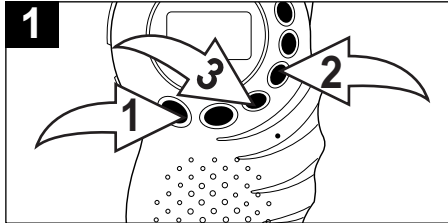


To exit the Scan mode, press the SCAN ① or FUNC ② button; "SCAN" will disappear from the display.

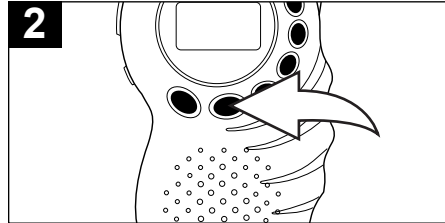
OPERATION (CONTINUED)

CALLING ANOTHER PARTY

To alert another party that you wish to communicate with them, perform the following:



Press the FUNC button ❶, then select a desired channel using the CHANNEL/VOLUME Up ❷ or Down ❸ buttons. Press the FUNC button ❶ again to confirm the channel.



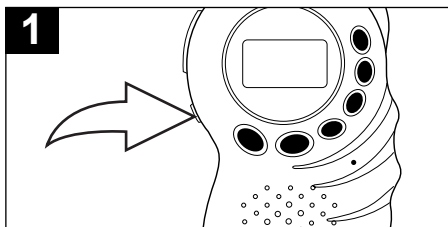
Press the CALL button once and wait for the party's response.

NOTES:

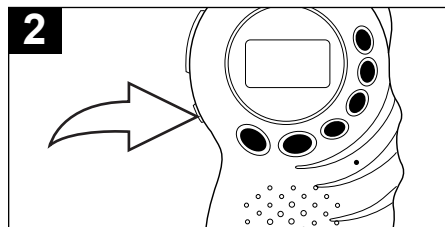
- Note that both the calling and receiving units must be on the same main channel and sub-channel for the call function to work.
- When the CALL button is pressed, the Signal Strength indicators will appear in the display.

MONITORING THE CHANNEL

This feature is used for listening to weak signals or to hear all activities on the channel by manually overriding the channel sub-tone code setting as follows:



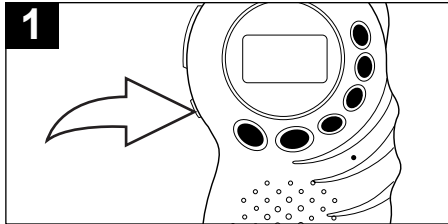
To activate, press and hold the Monitor button for two seconds; the Monitor indicator will appear.



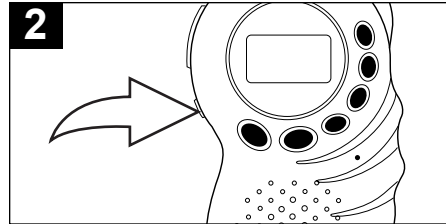
To disable and return to normal operation, press the Monitor button again for two seconds; the Monitor indicator will disappear.

OPERATION (CONTINUED)

BACKLIGHT



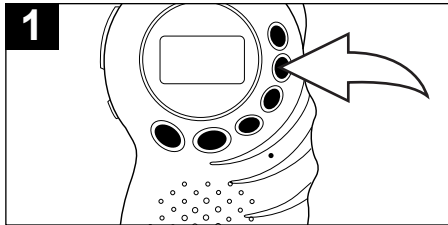
1
To turn on the backlight, press and release the Monitor button; the backlight will come on for five seconds.



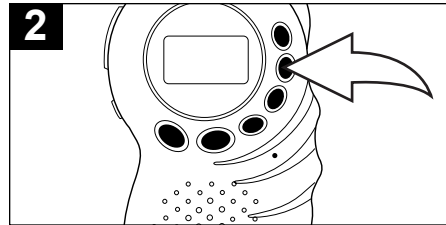
2
To turn off the backlight, press and release the Monitor button; the backlight will turn off.

USING THE KEY LOCK

This feature prevents accidental channel change to the preferred settings of the unit. The key lock feature will temporarily disable the CHANNEL/VOLUME, SCAN and FUNC buttons. Activate/deactivate Key Lock as follows:




1
To activate, press and hold the SCAN button for two seconds; the Key Lock indicator will appear in the display and the Key Lock feature will be activated.



2
To deactivate, press and hold the SCAN button for two seconds; the Key Lock indicator will disappear in the display and the Key Lock feature will be deactivated.

OPERATION (CONTINUED)

Low Battery Indicator

When the batteries are low and need to be replaced or recharged, the Battery () icon will blink and audible beep tones will sound. If using standard batteries, replace them. If using rechargeable batteries, recharge them.

NOTE: When the batteries are low, the unit may not work properly. Please recharge battery pack or replace batteries in this case.

Auto Power Saver

This unit has a unique circuit designed to extend battery life. If there are no transmissions within 15 seconds, the unit will automatically switch to Battery Save mode.

NOTE: The Auto Battery Save Circuit does not affect the unit's ability to receive incoming transmissions.

SPECIFICATIONS

MAIN CHANNEL FREQUENCIES (MHz)

CHANNEL	CH FREQ (MHz)	CHANNEL	CH FREQ (MHz)
1	462.5625	12	467.6625
2	462.5875	13	467.6875
3	462.6125	14	467.7125
4	462.6375	15	462.5500
5	462.6625	16	462.5750
6	462.6875	17	462.6000
7	462.7125	18	462.6250
8	467.5625	19	462.6500
9	467.5875	20	462.6750
10	467.6125	21	462.7000
11	467.6375	22	462.7250

CTCSS (Continuous Tone Code Squelch System) Tone Frequencies (Hz)

CTCSS	CH FREQ (Hz)	CTCSS	CH FREQ (Hz)
1	67.0	21	136.5
2	71.9	22	141.3
3	74.4	23	146.2
4	77.0	24	151.4
5	79.7	25	156.7
6	82.5	26	162.2
7	85.4	27	167.9
8	88.5	28	173.8
9	91.5	29	179.9
10	94.8	30	186.2
11	97.4	31	192.8
12	100.0	32	203.5
13	103.5	33	210.7
14	107.2	34	218.1
15	110.9	35	225.7
16	114.8	36	233.6
17	118.8	37	241.8
18	123.0	38	250.3
19	127.3		
20	131.8		

SPECIFICATIONS (CONTINUED)

1. General Specifications

Frequency Range (22CH GMRS)462.5500-462.7250
467.5625-467.7125
Channel Spacing12.5KHz
Sub-Tone Code (CTCSS)38 for each main channel
Dimensions w/o Antenna.....103.5mm (H) x 62mm (W) x 33mm (D)
Standard Batteries.....Alkaline 1200mA AAA (4), 6V DC
Rechargeable BatteriesNi-MH AAA (4), 4.8V DC
Operation Time (5-5-90)20 Hours

2. Receiver

Useable Sensitivity.....>-119 dBm
Maximum Audio Output Power> 0.3 Watt Max (8 Ohm)
Modulation Distortion<10% (1KHz)

3. Transceiver

RE Output Power1.8W (at Hi) 0.5W (at Low)
Max Deviation± 2.5KHz
Modular Distortion<5% (1KHz 70%)

Specifications subject to change without notice.

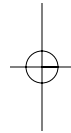
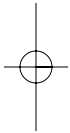
FOR ADDITIONAL SET-UP OR OPERATING ASSISTANCE, PLEASE VISIT OUR WEBSITE AT

WWW.MEMOREXELECTRONICS.COM

OR CONTACT CUSTOMER SERVICE AT 1-800-919-3647.

PLEASE KEEP ALL PACKAGING MATERIAL FOR AT LEAST 90 DAYS IN CASE YOU NEED TO RETURN THIS PRODUCT TO YOUR PLACE OF PURCHASE OR MEMOREX.

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Memcorp, Inc.
Weston, FL
Printed in Hong Kong

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