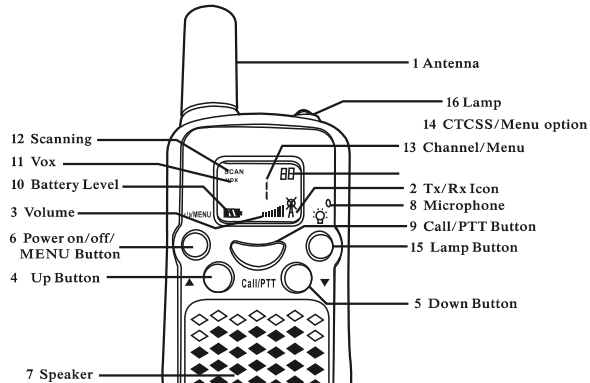

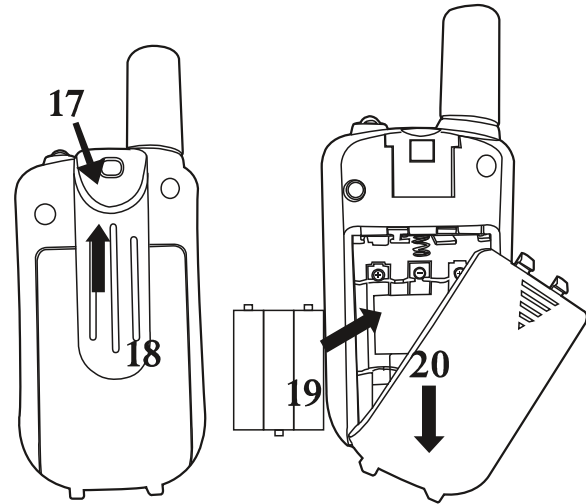


PIC 01



- | | | |
|---|-----------------------------|--|
| 1: Antenna | 7: Loudspeaker | 12: Scanning Indicator – displayed during scanning |
| 2: RX Icon  Displayed when Receive | 8: Microphone | 13: Channel Menu Item |
| 3: Volume Level Indicator | 9: Call Button (CALL/TALK) | 14: CTCSS/Menu Option |
| 4: Adjuster Button UP | 10: Battery level Indicator | 15: Lamp Button |
| 5: Adjuster Button Down | 11: VOX indicator | 16: Lamp |
| 6: On/Off/Menu Button | | |

PIC 02



- | |
|------------------------------|
| 17: Belt Attachment Clip |
| 18: Belt Attachment |
| 19: Batteries (not supplied) |
| 20 : Battery Compartment |

Safety Information and Warnings

Information on Safe Operation

Read This Information Before Using Your CRYSTAL Radio. The operation of your UHF radio in Australia is subject to conditions in the following license:

In Australia the ACMA Radio communications (Citizen Band Radio Stations) and in New Zealand by MED the General User Radio License for Citizen Band Radio.

Radio Antenna

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

Unauthorized antennas, modifications, or attachments could damage the radio and violate compliance. Do NOT change or modify the antenna.

Do NOT hold the antenna when the radio is "IN USE." Holding the antenna reduces range and may cause bodily harm.

Safety and general use whilst in a vehicle

Check the State and Federal laws and regulations regarding the use of two way radios in the area where you drive, and always obey them.

For Vehicles fitted with Air Bags

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

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.

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

Potentially Explosive Atmospheres

Turn your radio OFF when in any area with a potentially explosive atmosphere. Sparks in such areas could cause an explosion or fire resulting in injury or even death.

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.

Blasting Caps and Areas

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

Exposure to Radio Frequency Energy

Your CRYSTAL two-way radio complies with Australian Communications Authority Radio communications (Electromagnetic Radiation-Human Exposure) Standard, 2003. To assure optimal radio performance and make sure human exposure to radio frequency electromagnetic energy is within the guidelines set out in the above standards always adhere to the following procedures.

Transmit and Receive Procedure

Your two-way radio contains a transmitter and a receiver. To control your exposure and ensure compliance with the general population/uncontrolled environment exposure limits, always adhere to the following procedure: • Transmit no more than 50% of the time.

- To receive calls, release the PTT button.
- To transmit (talk), press the Push to Talk (PTT) button.

Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy exposure only when transmitting (in terms of measuring standards compliance). Always hold the radio approximately 5cm in front of your mouth with the antenna pointing away from your head.

Radio Operation and EME Exposure

Unauthorised antennas, modifications, or attachments could damage the radio and violate compliance. Do NOT hold the antenna when the radio is "IN USE." Holding the antenna reduces the effective range. Do not use the radio if the antenna is damaged. If a damaged antenna makes contact with your skin, a minor burn can result. If you wear a radio on your body when transmitting, always fit the radio on the belt clip (supplied). Always ensure the radio and it's antenna are at least 5cm from your body when transmitting.

Electromagnetic Interference/Compatibility

Nearly every electronic device is susceptible to electromagnetic interference (EMI). To avoid the possibility of electromagnetic interference and/or compatibility conflicts, turn off your radio in any location where posted notices instruct you to do so such as health care facilities.

Aircraft

When instructed to do so, turn off your radio when onboard an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

Medical Devices – Pacemakers

The Advanced Medical Technology Association recommends that a minimum separation of 6 inches (15cm) be maintained between a handheld wireless radio and a pacemaker. These recommendations are consistent with the independent research by and recommendations of the U.S. Food and Drug Administration. People with pacemakers should: • ALWAYS keep the radio more than 15cm from their pacemaker when the radio is turned ON. • Not carry the radio in the breast pocket.

• Use the ear opposite the pacemaker to minimize the potential for interference. • Turn the radio OFF immediately if there is any reason to suspect that interference is taking place.

Medical Devices - Hearing Aids

Some radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

General warnings

Never use your radio outdoors during a thunderstorm. Keep the radio out of reach of babies and young children.

Duplex Operation

Channel 5 and 35 (paired for Duplex repeaters) are reserved as emergency channels and should be used only in an emergency. CTCSS and DCS will not operate on channels 5 and 35.

A list of currently authorised channels can be obtained from the ACMA website in Australia and the MED website in New Zealand. Channel 11 is a calling channel generally used to call others and channel 40 is the customary road vehicle channel.

Once contact is established on the calling channel, both stations should move to another unused "SIMPLEX" channel to allow others to use the calling channel.

Duplex operation via Repeaters

This feature allows to use local repeater stations that are designed to automatically re-transmit your broadcast over a large area thus giving you increased range.

Repeaters stations are privately operated radio systems installed throughout Australia.

For example, if you wish to access a repeater station in your area which operates on channel 2 you only need to set the Duplex access on this Channel.

So, if you are in the range of a local repeater which transmits on channel 2, after setting your radio to allow access of the repeater on that channel, you will select channel 2 as normal, but during transmit operation your radio will automatically transmit to the repeater on channel 32.

Turning on/off Duplex on channels

- Select the required channel to suit the repeater station you wish to access (Channels 1 - 8 and 41 - 48) .
- Press the **Menu** button six times, " **RP** " icon will be displayed
- Press the **UP** or **Down** button to set the Duplex function to **On** or **Off** .
- Press the **CALL/PTT** button to confirm your setting .

Receive Channel	1	2	3	4	5*	6	7	8
Transmit channel	31	32	33	34	35*	36	37	38
Receive Channel	41	42	43	44	45	46	47	48
Transmit channel	71	72	73	74	75	76	77	78

* Channel 5 is emergency channel only

Channels 22 and 23 are for Telemetry and Telecommand use, voice communications are not allowed on these channels by law. Channel 9 and above are the best choices for general use in Simplex mode.

Radiocommunications (Citizen Band Radio Stations)

Class Licence 2002

No licence is required to own or operate this radio in Australia and New Zealand. The Radiocommunications (Citizen Band Radio Stations) Class Licence 2002 contains the technical parameters, operating requirements, conditions of licence and relevant standards for Citizen Band (CB) radios. CB radios must comply with the class licence for their use to be authorised under the class licence.

UHF channels and frequencies

IMPORTANT NOTE: The operation of your UHF radio in Australia and New Zealand is subject to conditions in the following licenses: In Australia the ACMA Radio communications (Citizen Band Radio Stations) and in New Zealand by MED the General User Radio License for Citizen Band Radio.

Channel:	Frequency:	Use:	Channel Spacing:
Channel 1	476.4250	Duplex - Repeater Output	12.5 KHz
Channel 2	476.4500	Duplex - Repeater Output	12.5 KHz
Channel 3	476.4750	Duplex - Repeater Output	12.5 KHz
Channel 4	476.5000	Duplex - Repeater Output	12.5 KHz
Channel 5	476.5250	Duplex - Repeater Output (Emergency use only)	12.5 KHz
Channel 6	476.5500	Duplex - Repeater Output	12.5 KHz
Channel 7	476.5750	Duplex - Repeater Output	12.5 KHz
Channel 8	476.6000	Duplex - Repeater Output	12.5 KHz
Channel 9	476.6250	Simplex	12.5 KHz
Channel 10	476.6500	Simplex 4WD Drivers - Convoy, Clubs & National Parks	12.5 KHz
Channel 11	476.6750	Simplex Call Channel	12.5 KHz
Channel 12	476.7000	Simplex	12.5 KHz
Channel 13	476.7250	Simplex	12.5 KHz
Channel 14	476.7500	Simplex	12.5 KHz
Channel 15	476.7750	Simplex	12.5 KHz
Channel 16	476.8000	Simplex	12.5 KHz
Channel 17	476.8250	Simplex	12.5 KHz
Channel 18	476.8500	Simplex Caravan & Campers Convoy Channel	12.5 KHz
Channel 19	476.8750	Simplex	12.5 KHz
Channel 20	476.9000	Simplex	12.5 KHz
Channel 21	476.9250	Simplex	12.5 KHz
Channel 22	476.9500	Data Only (No Voice - No Packet)	25 KHz
Channel 23	476.9750	Data Only (No Voice - No Packet)	25 KHz

Channel 24	477.0000	Simplex	12.5 KHz
Channel 25	477.0250	Simplex	12.5 KHz
Channel 26	477.0500	Simplex	12.5 KHz
Channel 27	477.0750	Simplex	12.5 KHz
Channel 28	477.1000	Simplex	12.5 KHz
Channel 29	477.1250	Simplex Pacific Hwy (NSW) & Bruce Hwy (Qld) Road Channel	12.5 KHz
Channel 30	477.1500	Simplex <u>UHF CB Broadcasts</u>	12.5 KHz
Channel 31	477.1750	Repeater Input	12.5 KHz
Channel 32	477.2000	Repeater Input	12.5 KHz
Channel 33	477.2250	Repeater Input	12.5 KHz
Channel 34	477.2500	Repeater Input	12.5 KHz
Channel 35	477.2750	Repeater Input (Emergency Use Only)	12.5 KHz
Channel 36	477.3000	Repeater Input	12.5 KHz
Channel 37	477.3250	Repeater Input	12.5 KHz
Channel 38	477.3500	Repeater Input	12.5 KHz
Channel 39	477.3750	Simplex	12.5 KHz
Channel 40	477.4000	Simplex Highway Channel	12.5 KHz
Channel 41	054*015*	Duplex - Repeater Output	12.5 KHz
Channel 42	476.4625	Duplex - Repeater Output	12.5 KHz
Channel 43	054*055*	Duplex - Repeater Output	12.5 KHz
Channel 44	476.5125	Duplex - Repeater Output	12.5 KHz
Channel 45	054**15*	Duplex - Repeater Output	12.5 KHz
Channel 46	476.5625	Duplex - Repeater Output	12.5 KHz
Channel 47	054**55*	Duplex - Repeater Output	12.5 KHz
Channel 48	476.6125	Duplex - Repeater Output	12.5 KHz
Channel 49	054*415*	Simplex	12.5 KHz
Channel 50	476.6625	Simplex	12.5 KHz
Channel 51	054*455*	Simplex	12.5 KHz
Channel 52	476.7125	Simplex	12.5 KHz
Channel 53	054*515*	Simplex	12.5 KHz
Channel 54	476.7625	Simplex	12.5 KHz
Channel 55	054*555*	Simplex	12.5 KHz
Channel 56	476.8125	Simplex	12.5 KHz
Channel 57	054*515*	Simplex	12.5 KHz
Channel 58	476.8625	Simplex	12.5 KHz
Channel 59	054*555*	Simplex	12.5 KHz
Channel 60	476.9125	Simplex	12.5 KHz
Channel 61		Reserved for Future Expansion	

Channel 62		Reserved for Future Expansion	
Channel 63		Reserved for Future Expansion	
Channel 64	477.0125	Simplex	12.5 KHz
Channel 65	055*%15*	Simplex	12.5 KHz
Channel 66	477.0625	Simplex	12.5 KHz
Channel 67	055*%655*	Simplex	12.5 KHz
Channel 68	477.1125	Simplex	12.5 KHz
Channel 69	477.1375	Simplex	12.5 KHz
Channel 70	477.1625	Simplex	12.5 KHz
Channel 71	477.1875	Repeater Input	12.5 KHz
Channel 72	477.2125	Repeater Input	12.5 KHz
Channel 73	477.2375	Repeater Input	12.5 KHz
Channel 74	477.2625	Repeater Input	12.5 KHz
Channel 75	477.2875	Repeater Input	12.5 KHz
Channel 76	477.3125	Repeater Input	12.5 KHz
Channel 77	055*115*	Repeater Input	12.5 KHz
Channel 78	477.3625	Repeater Input	12.5 KHz
Channel 79	055*155*	Simplex	12.5 KHz
Channel 80	477.4125	Simplex	12.5 KHz

Licenses for Repeater Channels 44 & 45 will not be licensed for an additional 6 to 12 months to allow extra time for owners of Channel 5 Emergency repeaters to upgrade equipment to meet the new standards

Channels 1 to 8 and 41 to 48 - Repeater Channels Press the DUPLEX button on your radio to used any available repeaters

Channel 5 & 35 - Emergency use only - Monitored by Volunteers, No general conversations are to take place on this channel

Channels 22 & 23 - Data transmissions only (Excluding Packet)

Channels 31 to 38 and 71 to 78 - Repeater inputs - Do not use these channels for simplex transmissions as you will interfere with conversations on channels 1 to 8 and 41 to 48

The Australian Government has legislated that channels 5 & 35 on the UHF CB Band are reserved for emergency use only

As at January 2007 the maximum penalties for the misuse of the legally allocated CB emergency channels are:

For general misuse - if an individual 2 years imprisonment, otherwise

\$165,000 (a \$220 on-the-spot fine can be issued in minor cases); or

For interference to an Emergency call - if an individual 5 years imprisonment, otherwise \$550,000

If you do find you are interfering with another persons conversation, just select another channel.

Technical Assistance

If you need assistance setting up or using your CRYSTAL product now or in the future, call CRYSTAL Support.

Australia

TEL: 03 – 8587 8898

FAX: 03 – 8587 8866

Mon-Fri 9am – 5pm AEST



Please retain this user guide for future reference.

BEFORE USE (Pic 02)

To insert batteries into the devices, first remove the belt attachment: lift the attachment clip (17) and press the belt attachment upwards (18)

Open the battery compartment (20) and insert 3 AAA batteries (19) (not supplied), ensuring that the poles are correctly aligned. Then close the lid.

USING THE TWINTALKER

1. Turning the device on/off: To turn the device on or off, hold down the on/off button (6) for 3 seconds a BEEP sound will be played to confirm.


2. Adjusting the volume: To increase the volume, press the Up adjustor button ▲ (4) and press the Down ▼ (5) button to decrease volume.

Note: The volume level (3) is displayed on the screen.

3. Low Battery Indication

The battery is indicated by number of squares present inside the battery icon on the LCD screen.

Battery Full 

Battery empty 

When the battery is low, the battery icon will flash and a beep will be heard to indicate that the batteries need to be replaced

4. Receiving/transmitting communications:

The devices are in 'Reception' mode when lit up, i.e. they are ready to receive a call or sound transmitted on the activated frequency.

When you press the Call tone button (12), the device switches to 'Transmission' mode. You are then transmitting a sound signal to the other device.

To send a voice message press the TALK button (9) and speak into the microphone (8). Continue to press the button until you have finished transmitting your message.

Hold the microphone a minimum of 5 cm from your face.

5. Changing Channels

Press the MENU button (6) once, the current channel number flashes on the display.

Press the - ▲ button (4) or the - ▼ button (5) to change the channel. Press the TALK -button to (9) confirm and return to stand-by Mode.

Note: If no button is pressed within 9 seconds during setting, the unit will return to standby.

6. Monitor

You can use the monitor feature to check for weaker signals in the current channel.

Press the ▼ -button for three seconds to activate channel monitoring. Release the ▼ - button to stop channel monitoring.

7. VOX Selection

The Radio's is capable of voice activated (VOX) transmission. In VOX mode, the radio will transmit a signal when it is activated by your voice or other sound around you. VOX operation is not recommended if you plan to use your radio in a noisy or windy environment.

Note: VOX mode will be overridden when you press the TALK-button "9".

Press the MENU- button (6) three times, the current VOX setting flashes on the display and the VOX icon is displayed.

Press ▲-button (4) to set the VOX sensitivity level between 1 and 3 (level 3 is the most sensitive level).

Press ▼-button (5) until "OF" appears on the display, to turn VOX OFF.

Press the TALK-button (9) to confirm and return to stand-by mode.

8. Scanning for an active radio channel

Press the ▲3 Sensn SCAN-button ▲(4): The 'Scan' function indicator (12) will appear on the screen and the channel (13) will scan continuously from 1 to 80.

Press the ▼-button (5) to start the channel scan from 80 to 1. Once an active channel is found, the scanning will stop and you can listen to the transmission.

When the transmission on the found channel stops, the scanning will resume automatically.

***NOTE:** If you press the TALK button (9) while listening to a found channel, the Radio's will go back in stand-by mode on the found channel.*

9. Call tones

A call tone alerts others that you want to start talking.

9.1. Setting the Call Tone

The Twintalker has 10 call tones.

Press the MENU-button (6) four times, "CA" is displayed and the current call tone is flashing.

Press the ▲-button (4) or the ▼-button (5) to change to another Call Tone.

Press the TALK- button (6) to confirm and return to stand - by Mode.

9.2 Sending a call Tone

Press the CALL-button (9) briefly. The call tone will be transmitted on the set channel.

10. Key-Tone On/Off

When a button is pressed, the unit will beep briefly.

To set the key-tone.

Press the MENU-button (9) five times "tO" will be displayed.

Press ▲ to enable (ON) or ▼ disable the Key Tones (OF).

Press the TALK-button (9) to confirm your selection and return to the standby mode.

11. Roger Beep On/Off

After the TALK-button is released, the unit will send out a roger beep to confirm that you have stopped talking.

To set the Roger Beep.

Press the MENU-button (6) six times. "rO" will be displayed.

Press ▲ to enable (ON) or ▼ disable the Roger Beep (OF).

Press the TALK-button (9) to confirm your selection and return to the standby mode.

12. Display backlight

To activate the backlight of the LCD display, press any button except the MENU-**▼**-button(6) or the Down **▼**-button (5)
The LCD back light will light up for 5 seconds.

13. BUILT-IN FLASHLIGHT

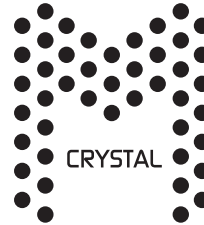
As an added feature, you Radio's has a built-in flashlight that can be used insending light signals or for your lighting needs

14. Technical specifications

Channels	80
Frequency	400-470MHz
Range	Up to 5 Km (Open field)
Battery	3AAA
Transmission Power	=> 500mW
Modulation Type	FM -F3E
Channel spacing	12,5/25kHz



Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems) This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office or your household waste disposal service.



DBHO3 User Manual



NOTE: Please read these user instructions carefully before using the equipment and retain for future consultation!