



Operating Instructions

DBH03R -80 Channel 0.5 watt UHF Hand held CB radios with rechargeable batteries & USB charge cable.

DBH03RTC -80 Channel 0.5 watt UHF Hand held CB radios with rechargeable batteries, USB charge cable, dual USB car charger & dual USB AC wall charger



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 jewellery, 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

Unauthorized 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 minimise 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.

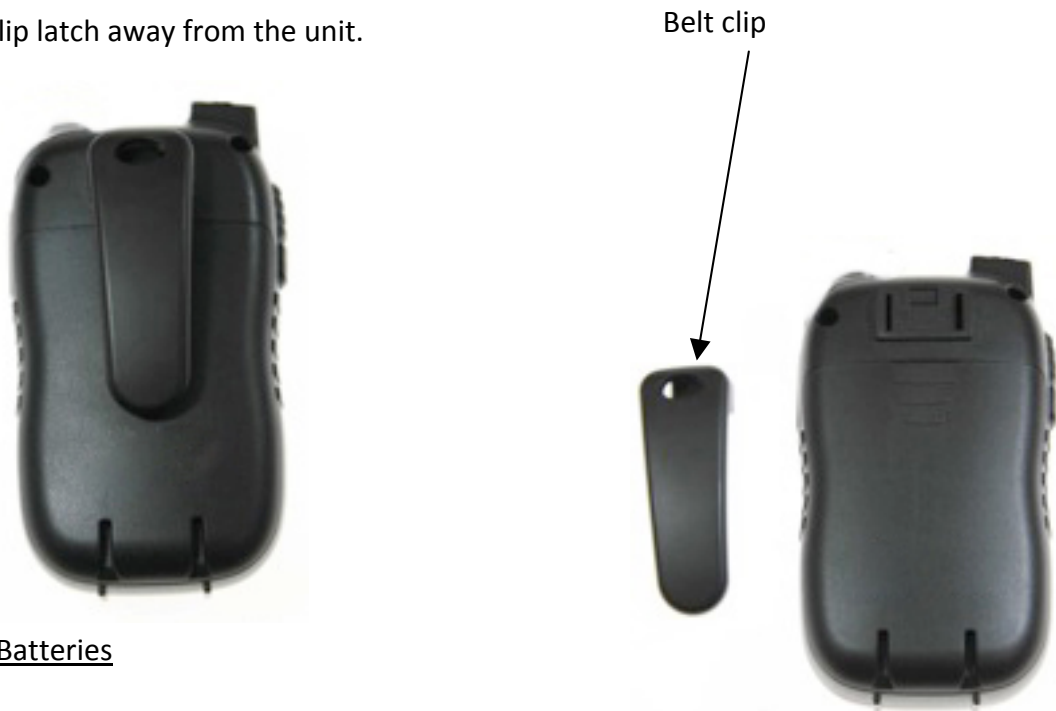
General warnings

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

INSTALLATION

Removing the belt clip

Pull the belt clip latch away from the unit.



Installing the Batteries

FOR USE OF RECHARGEABLE BATTERIES:

Your walkie-talkie comes with a rechargeable battery pack & micro USB cable for charging. (DBH03RTC model comes with dual USB adaptor and dual USB car charger).

The fully charging time is about 12 hours.

The adaptor and car charger will only charge the battery pack provided and not other types of rechargeable batteries.

After placing batteries into correct positions, replace the battery cover.

FOR USE OF NON RECHARGEABLE BATTERIES:

- ✦ Slide down the battery compartment cover.
- ✦ Insert 3 x AAA batteries (not included).
- ✦ Position the batteries according to the polarity marking on the battery compartment.
After placing batteries into correct positions, replace the battery cover.

Low Battery Meter Indicator

The radio can detect the low battery level when the battery voltage goes low. The battery icon will display the low battery status. When battery voltage is low, the empty battery symbol will appear and continue to blink. The battery symbol will continuously blink until it totally drains the battery voltage where then you will have to replace the batteries.

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Optional charger available

Aerpro AC USB charger model number ADM72

Transmitting Range

The talk range will depend on your surroundings and environment it will be affected by obstructions such as hills or buildings.

Don't try to use two radio units when less than 1.5m (5 feet) apart. Otherwise, you may experience interference. Talk range depends on the terrain. It will be affected by concrete structures, heavy foliage and by operating radios indoors or in vehicles.

DBH03R Functions



88 CTCSS Code. Changes from 1 to 38 as selected by the user.

Battery Displays the Battery change level. When the bars are reduced, the battery needs recharging.

TX Displayed when transmitting a signal.

RX Displayed when receiving a signal.

DCM Displayed when the Dual Watch function is turned ON.

VOX Displayed when the VOX feature is enabled.

Operating the unit

Turning unit on/off:

1- Switching on

Press and hold the *MENU/PWR* until you hear a beep sound.

2- Switching off

Press and hold the *MENU/PWR* until you hear a beep sound.

Adjusting the Volume:

You have 8 preset volume levels. They are displayed on the LCD screen. To raise the volume press the up button (SCAN) and to decrease the volume, press the down button (MONI).

Auto scan.

Press & hold the UP button for 3 seconds to activate auto scan.

Press Menu/PWR button to deactivate auto scan.

Monitor (Zero squelch)

Press & hold the DOWN button for 3 seconds to activate monitor.

Press & hold the DOWN button for 3 seconds to deactivate monitor.

Changing Channels:

You have channels with the legal frequency at your disposal. To communicate with another device, you must both be on the same channel.

To change channels, once you have turned your unit on, you need to press the *MENU/PWR* once and use the up/down buttons to scroll through to your desired channel. To set your desired channel, press the *PTT* button to confirm changes.

Your unit is simplex “one way at a time”. While you are speaking, you can not receive a transmission.

Your unit is an open-license band. Always identify yourself when transmitting on the same channel.

IMPORTANT: Before transmitting on a UHF channel listen to ensure it is not already in use.

Functions via MENU PWR button

CTCSS = Coded tone controlled squelching system. This allows you to talk on a private sub channel on an active channel. DCS is a digital extension of CTCSS.

VOX = voice operated transmitter it allows you to transmit with you voice without pressing the button.

CA = call allows you to adjust different tones for calling the operator from the same channel.

TO = time out is when the unit turns off after 30sec or 60sec when activated.

RO = roger beep means a tone added to the end of broadcast, it indicates that the user/operator has conclude speaking.

BELL =symbol on the display = turn off/on the beep when using any buttons.

DCM = dual channel monitoring you can monitor between two channels eg: 1 to 22 or 50 to55.

DCS = DCS is a digital extension of CTCSS. It provides extra, digitally coded, squelch codes that follow after the 38 CTCSS codes. CTCSS 1□38, followed by DCS 39-83.

Transmitting (sending speech)

The unit is continuously in the Receive mode when the unit is turned ON and not transmitting.

When a signal is received on the current channel, "RX" icon will be displayed on the LCD screen. a. Press and hold the PTT (Push to Talk) button to transmit your voice. The transmit signal icon "TX" will display on the LCD screen. b. Hold the unit in a vertical position with the Mic (Microphone) 5 cm away from the mouth. While holding the PTT button, speak into the microphone in a normal tone of voice. c. Release the PTT button when you have finished transmitting. For others to receive your transmission, they must be on the same channel as you.

Call-Ring tone

You can press PTT button twice quickly to send a tone to other users on the same channel. To activate this feature. With the unit in normal mode, press twice quickly and release the PTT button. The unit will transmit a 2-second page tone to the other unit/s set with the same channel within transmitting range. NOTE: This function is only possible every 60 seconds.

Roger Beep

This is a tone which is automatically transmitted whenever the PTT button is released. This alerts the receiving party that you have ended the transmission, and you are now in receive mode.

CTCSS/DCS

Press the Menu button twice and use the up/ down to introduce CTCSS/DCS Continuous Tone-Coded Squelch System or **CTCSS** is a circuit that is used to reduce the annoyance of listening to other users on a shared two-way radio communications channel. It basically allows a private CH on a busy stream.

Channel and Frequency (MHz)

Australia (80CHS)

Channel		Tx Freq MHZ	Rx Freq MHZ	Channel		Tx Freq MHZ	Rx Freq MHZ
01*		476.4250	476.4250	21		476.9250	476.9250
	41*	-	476.4375		61 * *	-	-
02*		476.4500	476.4500	22 *		476.9500	476.9500
	42*	-	476.4625		62 * *	-	-
03*		476.4750	476.4750	23 *		476.9750	476.9750
	43*	-	476.4875		63 * *	-	-
04*		476.5000	476.5000	24		477.0000	477.0000
	44*	-	476.5125		64	477.0125	477.0125
05*		476.5250	476.5250	25		477.0250	477.0250
	45*	-	476.5375		65	477.0375	477.0375
06*		476.5500	476.5500	26		477.0500	477.0500
	46*	-	476.5625		66	477.0625	477.0625
07*		476.5725	476.5750	27		477.0750	477.0750
	47*	-	476.5875		67	477.0875	477.0875
08*		476.6000	476.6000	28		477.1000	477.1000
	48*	-	476.6125		68	477.1125	477.1125
9		476.6250	476.6250	29		477.1250	477.1250
	49	476.6375	476.6375		69	477.1375	477.1375
10		476.6500	476.6500	30		477.1500	477.1500
	50	476.6625	476.6625		70	477.1625	477.1625
11		476.6750	476.6750	31*		477.1750	477.1750
	51	476.6875	476.6875		71*	477.1875	-
12		476.7000	476.7000	32*		477.2000	477.2000
	52	476.7125	476.7125		72*	477.2125	-
13	53	476.7250	476.7250	33*		477.2250	477.2250

		476.7375	476.7375		73*	477.2325	-
14		476.7500	476.7500	34*		477.2500	477.2500
	54	476.7625	476.7625		74*	477.2625	-
15		476.7750	476.7750	35*		477.2750	477.2750
	55	476.7875	476.7875		75*	477.2875	-
16		476.8000	476.8000	36*		477.3000	477.3000
	56	476.8125	476.8125		76*	477.3125	
17		476.8250	476.8250	37*		477.3250	477.3250
	57	476.8375	476.8375		77*	477.3375	
18		476.8500	476.8500	38*		477.3500	477.3500
	58	476.8625	476.8625		78*	477.3625	
19		476.8750	476.8750	39		477.3750	477.3750
	59	476.8875	476.8875		79	477.3875	477.3875
20		476.9000	476.9000	40		477.4000	477.4000
	60	476.9125	476.9125		80	477.4125	477.4125

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.

* The primary use for these channels is repeater operation using 750kHz offset. Channels 1-8 and 41-48 inclusive are used for mobile reception and channels 31-38 and 71-78 for mobile transmission. In addition, any designated repeater channel maybe used for simplex operation in areas where it is not used for repeater operation.

* Speech telephony shall be inhibited on these channels.

* At the time of production channels 61,62 and 63 are guard channels and are not available for use.

A list for currently authorized channels can be obtained from the ACMA.

website in Australia and 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.

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.

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.

Radio communications (Citizen Band Radio Stations) Class Licence 2002

No licence is required to own or operate this radio in Australia and New Zealand. The Radio communications (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

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38 CTCSS CODE LIST

CODE	Frequency(Hz)	CODE	Frequency(Hz)
OFF	OFF	20	131.8
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		

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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.

