DIGITECH

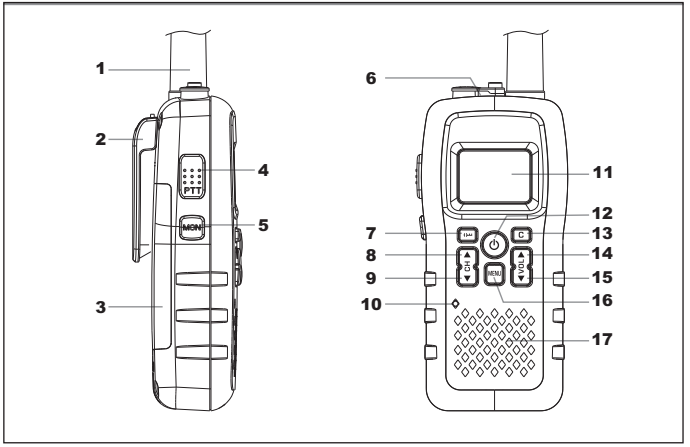
DC-1074

Professional FM Transceiver

Instruction Manual

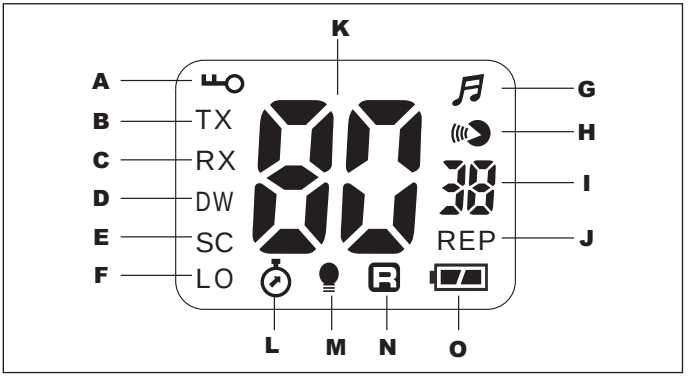
Use of the citizen band radio service is licensed in Australia by ACMA Radiocommunications (Citizen Band Radio Stations) Class Licence and in New Zealand by MED General User Radio Licence for Citizens Band Radio. Operation is subject to conditions contained in those licences.

Controls and Indicators



1. High efficiency antenna
2. Belt Clip
3. Battery door
4. PTT (Push-To-Talk) PTT button
5. Lamp/Monitor MON button
6. External earset-microphone jack
7. Key Lock button
8. Channel UP ▲ button
9. Channel DOWN ▼ button
10. Built-in Microphone
11. Backlighted LCD display
12. ON-OFF button
13. Call Tone C button
14. Volume UP ▲ button
15. Volume DOWN ▼ button
16. Menu button
17. Built-in Speaker

LCD Display



A. Keypad LOCK icon - is lighted when buttons are locked.
B. TX icon - is lighted on when the radio is in transmit mode.
C. RX icon - is lighted on when the radio is in receive mode.
D. DW icon - Dual Watch function
E.Scan icon - Automatic channels or CTCSS code scanning
F. LO icon - Transmitter Low Power icon
G. Keypad Beep Tone icon
H. VOX (handsfree use) icon
I. CTCSS Code number(1-38)
J. REP icon - is lighted when the repeater function is activated.
K. Selected Channel Indication (1-80)
L. Stop Watch function icon
M. Power save function icon
N. Roger Beep function icon
O. Battery Status Indicator

Feature

- FM transmission
  Frequency:476.425 - 477.4125MHz
  1~88 channels
- 0.5W/3W output power selection
- TOT timer
- External headset (earphone, microphone and ext PTT)
- VOX function (off, 1,2,3,4,5)
- Call tone melody (5 songs)
- LCD back-light function
- Automatic squelch function
- Key lock function
- Key tone function (selectable on/off)
- Roger tone function (selectable on/off)
- Auto power saver /w indication
- Tx and Rx icon
- Dual watch function
- Scan channel
- Stop watch function (<59'59")
- IPX7* water proof
- 950mAh Li-ion battery pack
- Charging indication (icon flashing)
- Cigarette car charger plug (optional)

IPX7- The short-time immersion test - Leaching tank. Its size should be make the sample in the leaching tank, the distance to the surface at the bottom of the sample at least 1 m. At the top of the sample to the surface at least for 30 minutes from a distance of 0.15 m.

Installation

1. Removing the Belt Clip
   a. Pull the Belt Clip Latch away from the unit.
   b. While pulling the Belt Clip Latch, push up the Belt Clip as shown in Figure 1.
2. Installing the Belt Clip
   a. Slide the Belt Clip into the slot as shown in Figure 2.
   b. A “click” indicates the Belt Clip is locked into position.

Belt clip latch

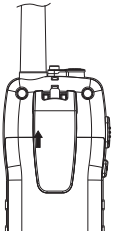


Figure 1

Figure 2

3. Installing the supplied Li-ion Rechargeable Battery .
   a. Unscrew the screw and then remove the battery door;
   b. Insert the battery connector in the connector located inside the battery compartment and install the battery pack;
   c. Re-install the battery door and tighten the screw.

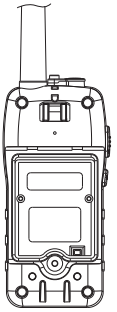


Figure 4

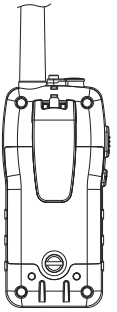


Figure 5

4. Charging the Rechargeable Battery pack.
   Recommend to turning OFF the unit while charging.
   Charge the Battery pack 10-14 hrs. prior to initial use.

When the battery capacity is low, the bA Lo indication and the battery status icon will flash on the LCD display. Recharge the battery pack at this time, please refer to the following item "BATTERY CHARGING".

Battery Charging

The units must be used with original Charger Base and AC -DC Adaptor.
* AC -DC Adaptor: input 230V AC 50Hz - Output 12V DC 200mA.

1. Turn the unit OFF (Recommend to turning OFF the unit while charging).
2. Install original Rechargeable Battery Pack into the battery compartment of unit.
3. Connect the jack of the AC-DC adaptor to the socket at the back of the charger base (make sure the jack has been fully inserted into the socket with some force). Connect the AC-DC adaptor to the mains power supply.
4. Place the unit into the Charger Base.
5. The LED Indicators on the Charger Base will turn RED once electricity get connected.
6. The LED will turn Green when the battery is fully charged.
7. Unplug the Adaptor. Turn the unit ON.

The charger base is not water proof, ensure the radio is dry before connecting to the charger.

NOTE:
1. LED Indicators on the charger base will NOT turn OFF automatically, except take out the unit from the charger base and disconnect the electricity.
2. It takes approximately 6 hours to fully charge the battery pack if they are at their lowest level or takes around 14 hours to fully charge the new battery pack.
   The LED indicators will turn green when the battery is fully charged.
3. In case LED Indicators on the Charger Base do not turn RED with units placed inside, please double check if units being put in proper position, or change battery pack and retry the recharge process.

Battery Pack Warning

1. If you're not going to use the unit for a long period of time e.g. several week, please take out the battery.
2. Please dispose of old and defective batteries in a safe & environmentally friendly manner.
3. Do not dispose of batteries in fire.
4. Only replace batteries with the same or equivalent type recommended by the manufacturer.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Floating/Waterproof

The radio is designed to meet the water proofing standard of IPX7 and will float in water. It can withstand immersion in water up to 1m depth for 30 min.
This is not suitable for scuba diving.

The radio will only meet this rating if fully assembled and all rubber seals are well maintained and correctly fitted.
After your radio is submerged in water, you might notice that the sound is distorted. This is because there is still water remaining in and around the speaker and microphone.

Just shake the radio to clear excess water, and the sound should return to normal.

If your radio is exposed to salt water, clean your radio thoroughly with fresh water, and dry it before turning it on.

Operation

Power ON-OFF

1. To turn on the unit, press and hold the **ON-OFF** button, the LCD display will show the channel number and the CTCSS code number.

2 . To turn off the unit, press and hold again the **ON-OFF** button.

Using the radio

The unit has 80 main channels (Channel 22,23,61,62 & 63 being inhibited) and
38 CTCSS codes for each channel. You can communicate with any other radios
that is using the same main channel & CTCSS code.
In Australia,

1. Except in an emergency, the unit must not be operated on channel 5 and 35;
2. Channel 11 is the customary calling channel for establishing communication;
3. Channel 40 is the customary road vehicle channel.

Speaking to other radios

1. Press and hold the **PTT** button, the **TX** icon will be lighted on the LCD display.
2. Hold the unit in a vertical position with the Microphone at 5-8 cm from the mouth and then speak.
3. When you have finished speaking, release the **PTT** button.
4. Now you are ready to receive incoming signal. Adjust the volume to the desired level if necessary.

Time-out Timer (TOT)

A timer disables transmitting after 3 minutes maximum transmission period.
Transmitting can only be reactivated by releasing and pressing the **PTT** button again.

Using the earset-microphone

1. Plug the earset-microphone into the earphone.
2. Press the **PTT** button on the earphone to speak and release it to listen.
3. Adjust volume control if necessary.

Channel Selection
Press the **CH UP** or **CH DOWN** to select the desired channel (1-80).
The factory default start up channel is channel 1 and sub-channel 00.
Before selecting a channel for communication, always listen on it and ensure it is not already being used. Always avoid selecting a busy channel when the unit keeps on receiving signal from unknown party.
Adjust speaker volume (8 Levels)
1. Press the **VOL UP** to increase the volume.
2. Press the **VOL DOWN** to decrease the volume.
The **LE** icon and the selected volume level (01-08) will appear on the LCD display.

Repeater function
Repeater facility is a third party facility which is only available in some local areas.
Only use this function for extending your communication range when you know the channel of the repeater facility in your area.

1. Pre-set the channel (channel 1-8 or 41-48) to the channel as specified by your local repeater station.
2. Press **LOCK** button(12) for 1 second to activate / deactivate the Repeater function.
3. The Radio will automatically send the signal at 30 Channels (Channel 31-38 or 71-78) above the original in order to access the repeater station. After transmitting, the radio reverts back to its original operating channel.

ADDITIONAL FUNCTIONS

Menu Operation
Press MENU button to select the functions.
Menu --> CTCSS - TX Power selection --> VOX --> VOX sensitivity --> Channel SCAN --> CTCSS tone SCAN --> Dual Watch --> CALL Tone --> Roger Beep --> Keypad Beep Tone --> Stop Watch

CTCSS Code Selection
The radio has 38 CTCSS private codes available Different

CTCSS tones may be associated to different channels. To choose the desired CTCSS code, please proceed as follows:

1. Press the **MENU** button until the CTCSS code number blinks on the LCD display. The CTCSS code 00 indicates that no CTCSS tone is programmed on that channel.
2. Press the **CH UP** or **CH DOWN** buttons to select the desired CTCSS code number.

Pressing and holding the **CH UP** or **CH DOWN** buttons, the selection will move quicker.

3. To confirm the selection and exit the Menu mode, press the **LOCK** button or **MENU** button to move to the next function.

Selecting a CTCSS code of 00 will disable the CTCSS feature. To communicate between two or more radios, both the channel and CTCSS code selections mst be the same. To communicate with other models and brands of radios, the actual radio frequency and CTCSS frequency must be matched. The frequency chart and CTCSS code chart are included to help with this selection.

Transmitter RF Power Setting

Your radio has a HI/LO Power selection function. This function is very convenient to reduce the current drain and extend battery life when communicating within short distance. To select the output power proceed as follows:

1. Press the **MENU** button twice, until the HI or Lo icon will blink on the LCD display.
2. Press the **CH UP** or **CH DOWN** button to select the desired power level HI (high power) or LO (low power).
3. To confirm the selection and exit the Menu mode, press **LOCK** button or **MENU** button to move to the next function.

VOX (Handsfree use) Function

Your radio is equipped with a user selectable Voice Operated Transmitter function (VOX), that is used for automatic voice transmission (handsfree use or baby room monitor use). In this mode, transmission is automatically initiated by speaking into the microphone and there is no need to push the PTT button. To enable the VOX function, please proceed as follows:

1. Press the **MENU** button three time, until the **VOX** icon and the **OFF** indication appear on the LCD display.

2. Press the **CH UP** or **CH DOWN** buttons to enable the VOX function; the **On** indication will appear on the LCD display.
3. To confirm the selection and exit the Menu Mode, press **LOCK** button or **MENU** button to move to the VOX sensitivity level selection function.

VOX Sensitivity Level Selection

1. Press the **MENU** button four times, until the **LE** indication, the **VOX** icon and the selected VOX level will blink on the LCD display.
2. Press the **CH UP** or **CH DOWN** buttons to select the level of sensitivity (from 01 to 05). The VOX level 05 indicates the highest VOX sensitivity.
3. To confirm the selection and exit the Menu mode, press **LOCK** button or **MENU** button to move to the next function.
4. When VOX feature is on, the **VOX** icon will appear on the LCD display.
5. You can plug in the earset-microphone for handsfree talking and listening.

Please speak close to the mic in order to activate the VOX function.

Channel Scanning

To start the channel SCAN function proceed as follows:

1. Press the **MENU** button five times, until the channel number and the **SC** icon will blink on the LCD display.
   Press the **CH UP** or **CH DOWN** buttons to start the automatic channel scanning.
   SCAN will automatically stop when a signal is detected on one channel, in order to listen to the communication and SCAN will re-start when no more signal is detected on that channels.
2. If you press the **PTT** or **LOCK** buttons during the SCAN operation, SCAN will stop automatically and radio will set the last used channel.

CTCSS tone Scanning

This function allows CTCSS tone scanning on the selected channel.
Please proceed as follows:

1. Select the desired channel number, the CTCSS tone scanning will be activated on this channel.
2. Press the **MENU** button six times, until the CTCSS tone number and the SC icon will blink on the LCD display.
3. Press the **CH UP** or **CH DOWN** buttons to start the automatic CTCSS tone scanning on the selected channel; the SC icon will be lighted on the LCD display.
SCAN will automatically stop when a signal is detected on the active channel, in order to listen to the communication and SCAN will re-start when no more signal is detected on that channel.
4. If you press the **PTT** or **LOCK** buttons during the SCAN operation, SCAN will stop and radio will return to the the last used channel.

Dual Watch Function

The radio is equipped with a Dual Watch function that allows to monitor 2 different channels without the CTCSS code.
To set the Dual Watch function, please proceed as follows:
1. Select the first channel to be monitored.
2. Press the **MENU** button seven times, until the DW icon and the selected channel will blink on the LCD display.
3. Press the **CH UP** or **CH DOWN** buttons to select the second channel to be monitored.
4. Now the radio will start monitoring the two channels and will stop when a signal is received on one of the two stored channels.
5. To disable the Dual Watch function and return to Stand-by mode, press the **LOCK** button.

Call Tone Setting

Call tone can only be transmitted once (not more than 3 sec.) in any 60 sec period.
It means that the unit will not transmit a call tone more than once no matter how many times you press the "**Call**" button within a minute.
The radio is equipped with 5 user selectable Call tone melodies. To set the desired Call tone melody, please proceed as follows:
1. Press the **MENU** button eight times, until the C indication

and melody number will blink on the LCD display.
2. Press the **CH UP** or **CH DOWN** buttons to set the desired melody, between the 5 available melodies.
3. To confirm the selection and exit the Menu mode, press **LOCK** button or **MENU** button to move to the next function.
4. Press the **Call** button to transmit the Call Tone Melody.

Roger Beep Tone Setting

The radio is equipped with a user selectable Roger Beep Tone feature, which enables you to send a Beep Tone at the end of each transmission after every release of the **PTT** button. This will prompt any receiving unit that your transmission has ended. To enable or disable this function, please proceed as follows:

1. Press the **MENU** button nine times, until the Roger Beep icon and the **On** or **OFF** indications will blink on the LCD display.
2. Press the **CH UP** or **CH DOWN** buttons to set the desired selection On (Roger Beep tone enabled) or OFF (Roger Beep tone disabled). If the Roger Beep function is enabled, a beep tone is heard to confirm the selection.
3. To confirm the selection and exit the Menu mode, press **LOCK** button or **MENU** button to move to the next function.
4. When the Roger Beep tone is enabled, the tone icon appears on the LCD display.

Keypad Program Tone Setting

When a key is pressed, a beep tone is heard to confirm your command. The user may enable or disable this keypad program tone.

1. Press the **MENU** ten times, until the keypad tone icon and the On and OFF indications will blink on the LCD display.
2. Press the **CH UP** or **CH DOWN** buttons to set the desired selection on (keypad tone enabled) or OFF (keypad tone disabled). If the keypad tone is enabled, a beep tone is heard to confirm the selection.
3. To confirm the selection and exit the Menu mode, press **LOCK** button or **MENU** button to move to the next function.
4. When the Keypad tone is enabled, the tone icon appears on the LCD display.

Stop Watch function
This function will enable a one hour timer function.
1. Press the **MENU** button eleven times, until the Stop Watch icon and the 00:00 indication will blink on the LCD display.
2. Press the **CH UP** button to start counting and press the **CH DOWN** button to stop the function. The radio can still operate in this mode.
3. Press the **CH UP** button again to re-start.
4. To reset the timer press the **CH DOWN** button two times.
5. To exit to Stand-by mode press the **LOCK** button.

ADDITIONAL FUNCTIONS

Keypad Lock
To avoid entering unwanted command, press and hold the **LOCK** button for about 2 seconds. The Lock icon will appear on the LCD display. When the keypad is locked, the **PTT**, **CALL** and **Monitor** buttons are enabled. To unlock the keypad press and hold the **LOCK** button for about 2 seconds.

LCD Backlight
Shortly press the **MONITOR** button to backlight the LCD display. Press this button again to turn OFF the LCD backlight.

Monitor Function
Press and hold the **MONITOR** button for about 4 seconds to activate the Monitor function. Press **MONITOR** button once to return.
If require to listen to weak signal with background noise temporarily, press and hold **MONITOR** button for about 2 seconds. You will hear background noise and possible weak signal from the unit. Release **MONITOR** button within 2 seconds to return.

Automatic Power Save
The radio has a Automatic Power Save circuit designed to extend battery life. If it senses no signal within 10 seconds, it automatically switches to the Power Save mode. The Power Save icon will appear on the LCD display.
The radio can still receive transmission in this mode.

Channel Table

Channel Number	Frequency (MHZ)	Channel Number	Frequency (MHZ)	Channel Number	Frequency (MHZ)
1*	476.4250	28	477.1000	55	476.7875
2*	476.4500	29	477.1250	56	476.8125
3*	476.4750	30	477.1500	57	476.8375
4*	476.5000	31*	477.1750	58	476.8625
5*	476.5250	32*	477.2000	59	476.8875
6*	476.5500	33*	477.2250	60	476.9125
7*	476.5750	34*	477.2500	61++	–
8*	476.6000	35*	477.2750	62++	–
9	476.6250	36*	477.3000	63++	–
10	476.6500	37*	477.3250	64	477.0125
11	476.6750	38*	477.3500	65	477.0375
12	476.7000	39	477.3750	66	477.0625
13	476.7250	40	477.4000	67	477.0875
14	476.7500	41*	476.4375	68	477.1125
15	476.7750	42*	476.4625	69	477.1375
16	476.8000	43*	476.4875	70	477.1625
17	476.8250	44*	476.5125	71*	477.1875
18	476.8500	45*	476.5375	72*	477.2125
19	476.8750	46*	476.5625	73*	477.2375
20	476.9000	47*	476.5875	74*	477.2625
21	476.9250	48*	476.6125	75*	477.2875
22+	476.9500	49	476.6375	76*	477.3125
23+	476.9750	50	476.6625	77*	477.3375
24	477.0000	51	476.6875	78*	477.3625
25	477.0250	52	476.7125	79	477.3875
26	477.0500	53	476.7375	80	477.4125
27	477.0750	54	476.7625		

* Channel 5 and 35 are for emergency calling. Please do not use these sub-channels in non-emergency cases.

+ Speech telephony is inhibited on Channel 22 and 23.

* Channel 1-8 and 31-38, 41-48 and 71-78 are used as repeater channels with 750kHz offset. Channels 1-8 and 41-48 are used for mobile reception and channels 31-38 and 71-78 for mobile transmission.
Only use this repeater function when a long distance communication via the local repeater facility is specifically required. Unless it is necessary, to avoid operation on locally used repeater input channels (channels 31 to 38 and channels 71 to 78) or locally used repeater receiving channels (channels 1 to 8 and channels 41 to 48) is recommended.

++ Channel 61, 62 and 63 are reserved for future use. They cannot be activated until approved by the ACMA CBRS Class Licence in Australia.

CTCSS Frequency Table

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

Specifications

General

Frequency Control		PLL
Frequency Tolerance	Transmit	3.5PPM (at 25°C)
	Receive	3.5PPM (at 25°C)
Operation Temperature		0°C to +55°C
Antenna		Integral Antenna
Microphone		Built-in Electret type
Display		Liquid Crystal Display
Speaker		8Ω, 1 Watt
Power Source		Rechargeable Li-ion Battery pack 7.4V 950mAh

Transmitter

Frequency Range	476.425 - 477.4125MHz
Frequency Stability	±10 PPM
Power Output	0.5W & 3W
Spurious Emissions	0.25 µW
Current Drain	500mA (0.5W), 1200mA (3W)

Receiver

Receiver Type		Double Conversion Super Heterodyne Phase Locked Loop system for Local Oscillator
Frequency Range		476.425 - 477.4125MHz
Sensitivity (20dB SINAD)		-3 dBµV (emf)
Squelch Sensitivity		Tight 1µV
Audio Frequency Response		±6 dB 500 to 2000Hz
Adjacent Channel Selectivity		70 dB @ ±25 kHz
Audio Output Power		0.5W @ 10% THD
Current Drain	Squelched	40mA
	Max. Audio	350mA

Troubleshooting

• No power.

Check battery. Ensure that the battery are installed properly.
The battery may be weak.
Charge the supplied battery.

• Reception is weak.

Press the VOL UP button to increase Volume.
The receiving signal may be weak and/or out of range.
If this happens, press the MONITOR button.

• Cannot Change Channels.

To change channels, press the MENU button until the channel number flashes on the LCD display.
Press the CH UP or DOWN buttons to change channels.
Battery may be weak.
Keypad Lock must be deactivated.

• Range is limited.

BATTERY may be weak.
Charge the battery 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 10Km in clear unobstructed conditions.