

**UHF FM TRANSCEIVER** 

INSTRUCTION MANUAL



JVCKENWOOD Corporation

B5A-0805-00 (X)



#### **THANK YOU**

We are grateful for your purchase of this **KENWOOD** product for your Citizen Band mobile radio applications.

#### **NOTICES TO THE USER**

- Illegal operation is punishable by fine and/or imprisonment.
- ◆ Refer service to qualified technicians only.

Safety: It is important that the operator is aware of, and understands, hazards common to the operation of any transceiver

#### **Firmware Copyrights**

The title to and ownership of copyrights for firmware embedded in KENWOOD product memories are reserved for JVC KENWOOD Corporation.

# **PRECAUTIONS**

- Do not charge the transceiver and battery pack when they are wet.
- Ensure that there are no metallic items located between the transceiver and the battery pack.
- Do not use options not specified by KENWOOD.
- If any transceiver part is damaged, do not touch the damaged parts.
- If a headset or headphone is connected to the transceiver, reduce the transceiver volume. Pay attention to the volume level when turning the squelch off.
- Do not place the cable of the clip microphone with earphone/hanger around your neck while near machinery that may catch the cable.
- · Do not place the transceiver on unstable surfaces. If the transceiver switches OFF/ON as a result of falling
- or hard impact, the volume and channel configurations may reset • Ensure that the end of the antenna does not touch your eyes.
- Do not immerse the transceiver in water
- Always switch the transceiver power off before installing optional accessories.



Turn the transceiver power off in the following locations:

- In explosive atmospheres (inflammable gas, dust particles, metallic powders, grain powders, etc.).
- While taking on fuel or while parked at gasoline service stations.
- Near explosives or blasting sites.
- In aircraft. (Any use of the transceiver must follow the instructions and regulations provided by the airline crew.)
- Where restrictions or warnings are posted regarding the use of radio devices, including but not limited to medical facilities.
- Near persons using pacemakers.

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- Do not modify the transceiver for any reason.
- Do not place the transceiver on or near airbag equipment while the vehicle is running. When the airbag inflates the transceiver may be ejected and strike the driver or passengers.
- Do not transmit while touching the antenna terminal or if any metallic parts are exposed from the antenna
- covering. Transmitting at such a time may result in a high-frequency burn
- If an abnormal odor or smoke is detected coming from the transceiver, switch the transceiver power off immediately, remove the battery pack from the transceiver, and contact your KENWOOD dealer
- Use of the transceiver while you are driving may be against traffic laws. Please check and observe the vehicle regulations in your area.
- Do not expose the transceiver to extremely hot or cold conditions.
- Do not carry the battery pack (or battery case) with metal objects, as they may short the battery terminals.
- Danger of explosion if the battery is incorrectly replaced; replace only with the same type.
- When operating the transceiver in areas where the air is dry, it is easy to build up an electric charge (static electricity). When using an earphone accessory in such conditions, it is possible for the transceiver to send an electric shock through the earphone and to your ear. Do not use an earphone/microphone accessory in areas where static electricity can be easily generated.
- When attaching a commercial strap to the transceiver, ensure that the strap is durable. In addition, do not swing the transceiver around by the strap; you may inadvertently strike and injure another person with the transceiver.

#### Information concerning the battery pack:

The battery pack includes flammable objects such as organic solvent. Mishandling may cause the battery to rupture producing flames or extreme heat, deteriorate, or cause other forms of damage to the battery. Please observe the following prohibitive matters.



#### Do not disassemble or reconstruct the battery!

The battery pack has a safety function and protection circuit to avoid danger. If they suffer serious damage, the battery may generate heat or smoke, rupture, or burst into flame.

Do not short-circuit the battery!

Do not join the + and - terminals using any form of metal (such as a paper clip or wire). Do not carry or store the battery pack in containers holding metal objects (such as wires, chain-necklaces or hairpins). If the battery pack is short-circuited, excessive current will flow and the battery may generate heat or smoke, rupture, or burst into flame. It will also cause metal objects to heat up.

Do not incinerate or apply heat to the battery!

If the insulator is melted, the gas release vent or safety function is damaged, or the electrolyte is ignited, the battery may generate heat or smoke, rupture, or burst into flame.

- Do not leave the battery near fire, stoves, or other heat generators (areas reaching over 60°C)! If the polymer separator is melted due to high temperature, an internal short-circuit may occur in the individual cells and the battery may generate heat or smoke, rupture, or burst into flame.
- Do not immerse the battery in water or get it wet by other means!

If the battery's protection circuit is damaged, the battery may charge at extreme current (or voltage) and an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into

- Do not charge the battery near fire or under direct sunlight!
- If the battery's protection circuit is damaged, the battery may charge at extreme current (or voltage) and an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into
- Use only the specified charger and observe charging requirements!
- If the battery is charged in unspecified conditions (under high temperature over the regulated value. excessive high voltage or current over regulated value, or with a remodeled charger), it may overcharge or an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into
- Do not pierce the battery with any object, strike it with an instrument, or step on it! This may break or deform the battery, causing a short-circuit. The battery may generate heat or smoke, rupture, or burst into flame
- Do not jar or throw the battery!
- An impact may cause the battery to leak, generate heat or smoke, rupture, and/or burst into flame. If the battery's protection circuit is damaged, the battery may charge at an abnormal current (or voltage), and an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into flame.
- Do not use the battery pack if it is damaged in any way!
- The battery may generate heat or smoke, rupture, or burst into flame.
- Do not solder directly onto the battery! If the insulator is melted or the gas release vent or safety function is damaged, the battery may generate
- heat or smoke, rupture, or burst into flame. Do not reverse the battery polarity (and terminals)!

When charging a reversed battery, an abnormal chemical reaction may occur. In some cases, an unexpected large amount of current may flow upon discharging. The battery may generate heat or smoke,

- rupture, or burst into flame. Do not reverse-charge or reverse-connect the battery!
  - The battery pack has positive and negative poles. If the battery pack does not smoothly connect with a charger or operating equipment, do not force it; check the polarity of the battery. If the battery pack is reverse-connected to the charger, it will be reverse-charged and an abnormal chemical reaction may occur. The battery may generate heat or smoke, rupture, or burst into flame.
- Do not touch a ruptured and leaking battery!

If the electrolyte liquid from the battery gets into your eyes, wash your eyes with fresh water as soon as possible, without rubbing your eyes. Go to the hospital immediately. If left untreated, it may cause eye problems.

### Do not charge the battery for longer than the specified time!

- If the battery pack has not finished charging even after the regulated time has passed, stop it. The battery may generate heat or smoke, rupture, or burst into flame
- Do not place the battery pack into a microwave or high pressure container!
- The battery may generate heat or smoke, rupture, or burst into flame. Keep ruptured and leaking battery packs away from fire!

generate heat or smoke, rupture, or burst into flame.

- If the battery pack is leaking (or the battery emits a bad odor), immediately remove it from flammable areas. Electrolyte leaking from the battery can easily catch on fire and may cause the battery to generate smoke or burst into flame.
- Do not use an abnormal battery!

If the battery pack emits a bad odor, appears to have different coloring, is deformed, or seems abnormal for any other reason, remove it from the charger or operating equipment and do not use it. The battery may

#### UNPACKING AND CHECKING EQUIPMENT

Carefully unpack the transceiver. If any of the items listed below are missing or damaged, file a claim with the carrier immediately.

#### SUPPLIED ACCESSORIES

Li-ion battery pack (KNB-71L)	1
Belt clip (KBH-20)	1
Screw (M3 x 6 mm with washer)	
Instruction manual	

Note: Refer to "PREPARATION" for accessory installation instructions.

### ORIENTATION

#### 1) 3.5 mm phone jack

Connect the earphone/ microphone plug to this jack.

#### ② Micro USB jack (B Type)

Connect a USB cable to this jack to charge the transceiver battery

#### 3 PF-1 key

Press or hold this key for 1 second to activate its programmable functions. The default setting is [None].

For function descriptions and details on how to change the key functions, refer to "KEY ASSIGNMENT MODE".

#### 4 PTT (Push to Talk) switch

Press and hold, then speak into the microphone to transmit.

#### ⑤ Power switch

Hold for 1 second to turn the transceiver power ON. Hold for 2 seconds to turn the transceiver power OFF.

Momentarily press this key while the transceiver power is ON to activate the Battery Level Guide. Refer to the "BATTERY LEVEL GUIDE" table.

#### ⑥ LED indicator

Refer to the "LED INDICATOR STATUS" table.

#### 7 PF-2 key

Press this key to toggle the function of the Up/Down keys between Volume Adjustment mode and Channel Select mode. Hold this key for 1 second to activate its programmable function. The default setting is [None].

• For function descriptions and details on how to change the key functions, refer to "KEY ASSIGNMENT MODE".

### ® Up/Down keys

- Press these keys to adjust the volume and change the channel.
- Press the **PF-2** key to toggle the function of the Up/Down keys between Volume Adjustment mode and Channel Select mode.
- To change the operating frequency or CTCSS/DCS settings of a channel, refer to "CHANNEL SETUP MODE".
- Strap hole

Connect a commercially available strap here.

When using the belt clip, the strap hole will be covered and cannot be used. Instead, use the strap hole of the belt clip.

# **PREPARATION**

# CHARGING THE BATTERY PACK

The battery pack is not charged at the factory; charge it before use. Average battery pack life (calculated using 5% transmit time, 5% receive time, and 90% standby time) is 15 hours.

- ◆ The ambient temperature should be between 0°C and 40°C while charging is in progress. Charging
- outside this range may not fully charge the battery. The battery pack life is over when its operating time decreases even though it is fully and correctly charged (approximately 500 cycles). Replace the battery pack.

♦ While operating the transceiver using a Li-ion battery pack in areas with an ambient temperature close

# ATTENTION: Switch OFF a transceiver equipped with a battery pack before charging.

- Use a commercially available USB cable (Micro USB B Type) Charge the transceiver through a commercially available PC or AC adapter
- 1 Plug the USB cable (B Type) into the Micro USB jack.

to 0°C, the operating time may be shortened.

2 Connect the USB cable to your PC or AC adapter.

· The LED indicator lights blue.



- 3 When charging is complete, the LED indicator turns off.
- It takes approximately 4 hours to charge the battery pack.

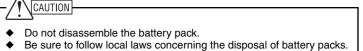
We recommend using a short USB cable (low loss) for charging.

# LED Indicator

◆ Use a USB cable shorter than 3 meters.

REPLACING THE BATTERY PACK

Replace an expired battery pack with a newly purchased KNB-71L battery pack.



- 1 Pull back the battery pack latch, then remove the battery cover from the transceiver.
- When using the belt clip, be sure to remove it before removing the batter

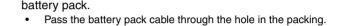


**2** Lift the battery pack and its packing away from the transceiver.



3 Remove the old battery pack from the packing and insert the new

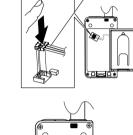
Lift the battery pack cable and remove the connector from the PCB





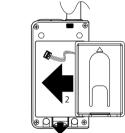
4 Insert the connector of the new battery pack into the PCB terminal by pressing down on it.





5 Pull back the battery pack latch, then insert the battery pack into

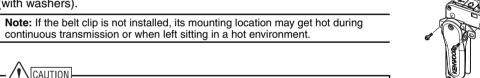
· Failure to pull back the battery pack latch will cause the battery pack to be misaligned.



**6** Replace the battery cover over the battery pack. • Ensure that the battery pack latch locks the cover in place.

INSTALLING THE BELT CLIP If necessary, attach the belt clip using the two supplied M3 x 6 mm screws

(with washers). Note: If the belt clip is not installed, its mounting location may get hot during



contained in these glues, may crack the transceiver's back panel.

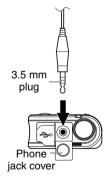
CONNECTING AN EARPHONE/ MICROPHONE Connect an earphone/ microphone to the phone jack on the top of the

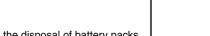
Do not use glue which is designed to prevent screw loosening when installing

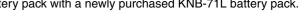
the belt clip, as it may cause damage to the transceiver. Acrylic ester, which is

-/ CAUTION

- ◆ Be sure to connect an earphone/ microphone to the phone jack fully and tightly. If the pin jack of an earphone/ microphone is not inserted fully, a pin
- contacting error will happen and a noise may occur. Depending on the sleeve shape of an earphone/ microphone jack foot, it may be difficult to judge the inserted condition. Before using the radio, confirm the Transmit/ Receive operation with an earphone/ microphone.
- ◆ To keep the transceiver water resistant, the phone jack cover must remain closed.





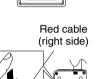




















### **BASIC OPERATIONS**

#### **POWER AND VOLUME**

- 1 Hold the **Power** switch for approximately 1 second to switch the transceiver power ON. · A beep sounds and the LED indicator blinks blue a number of times as described in the "BATTERY LEVEL GUIDE'
- To turn the power OFF, hold the Power switch for 2 seconds.
- 2 In Volume Adjustment mode, press the **Up/Down** keys to adjust the volume.
- Press the key programmed as [Squelch Off] to hear background noise. • Press the PF-2 key to switch between Volume Adjustment mode and Channel Select mode.

### TRANSMITTING AND RECEIVING

1 In Channel Select mode, press the **Up/Down** keys to select your desired channel.

Channel No.	LED	Voice Announcement	Number of times LED blinks
1		"One"	1
2	Yellow	"Two"	2
3		"Three"	3
4		"Four"	4
5		"Five"	1
6	Plus	"Six"	2
7	Blue	"Seven"	3
8	]	"Eight"	4

- After selecting a channel, the transceiver announces the channel number and the LED indicator blinks yellow or blue for a number of times corresponding to the channel number. For example, when selecting channel 3, "three" is announced and the LED indicator blinks yellow 3 times.
- Press the PF-2 key to switch between Volume Adjustment mode and Channel Select mode
- 2 To make a call, press and hold the PTT switch, then speak into the microphone using your normal speaking voice.
- Hold the microphone approximately 3 to 4 cm from your mouth.
- 3 Release the PTT switch to receive.

- When the battery pack voltage becomes too low, transmission will stop and an alert tone will sound. (Low Battery Warning: While operating the transceiver, the Low Battery Warning sounds an alert tone every 30 seconds and the LED indicator blinks red when the battery needs recharged or replaced.)
- Even when setting the volume to 0, the transceiver will continue to emit beep sounds and channel announcements.
- Continuously transmitting when the transceiver becomes too hot will cause the output power to decrease and may eventually stop transmission. Stop transmitting for a while to allow the transceiver to
- ♦ You may sometimes hear noise during communications, depending on the caller's transceiver.

#### **LED INDICATOR STATUS**

Indicator Color	Meaning
Red	Transmitting
Green	Receiving a call
Blinking green	Scanning
Blinks light blue 1 time	Standby state *
Blinking red	Battery power is low

\* The transceiver has not been used for at least 10 seconds

#### BATTERY LEVEL GUIDE

You can determine the remaining battery power level by pressing the Power switch while the transceiver power is ON. The LED indicator will blink blue a number of times corresponding to the battery power remaining.

Indicator Status	Battery Level
Blinks 3 times	High
Blinks 2 times	Medium
Blinks 1 time	Low

### TIME-OUT TIMER (TOT)

The Time-out Timer prevents callers from using a channel for an extended duration (default 60 seconds). If you continuously transmit for the duration, transmission will stop and an alert tone will sound. To stop the tone, release the PTT switch.

# **VOICE OPERATED TRANSMISSION (VOX)**

VOX operation allows you to transmit hands-free. VOX can only be used if you are using a supported clip microphone with earphone/hanger. This function can be turned off for specific channels. To activate VOX and set the VOX Gain level, perform the following steps:

- 1 Connect the microphone with earphone/hanger to the transceiver.
- The VOX function does not activate when a microphone with earphone/hanger is not connected to the accessory terminal of the transceive 2 With the transceiver power OFF, press and hold the **Up** key while turning the transceiver power ON.
- The LED indicator lights yellow and "VOX" and the channel number are announced.
- 3 Press the PF-1 key to select the VOX Gain level of the radio (from 1 ~ 5 or Off).
  - The transceiver will announce the VOX Gain level. If the VOX Gain level is Off, a double beep sounds. Press the PF-2 key to enable or disable the VOX function for the current channel (you can change this setting for each channel by selecting a channel with the **Up/Down** keys). When VOX is turned ON, a beep sounds.
- While adjusting the level, speak into the microphone to test the sensitivity level. When sound is
- recognized, the LED lights red.
- 5 Press and hold the PTT switch for 3 seconds to save the setting.

When it is turned OFF, a double beep sounds.

A beep will sound.

6 Turn the transceiver power OFF and then ON again to activate VOX.

signals may cause the transceiver to start transmitting.

- The transceiver will automatically return to normal operation if no action is performed for 20 seconds. ♦ VOX Gain level 1 is the least sensitive and VOX Gain level 5 is the most sensitive. ◆ When the microphone with earphone/hanger is inserted and the VOX function is enabled, battery save
- ◆ If a microphone with earphone/hanger is connected to the transceiver while the VOX function is switched ON and the VOX Gain level is configured to a higher, more sensitive level, louder received

#### **CHANNEL SETUP MODE**

This transceiver allows you to reprogram each of the channels with different frequencies and CTCSS (Continuous Tone-Coded Squelch System)/ DCS (Digital Coded Squelch) settings. The table below lists the default channel settings.

Channel No.	Table No.	Frequency	CTCSS/DCS Setting
1	12	476.7000 MHz	OFF
2	13	476.7250 MHz	OFF
3	14	476.7500 MHz	OFF
4	15	476.7750 MHz	OFF
5	50	476.6625 MHz	OFF
6	51	476.6875 MHz	OFF
7	52	476.7125 MHz	OFF
8	53	476.7375 MHz	OFF

#### OPERATING FREQUENCY AND CTCSS/ DCS SETTING

To change the operating frequency of a channel:

- 1 With the transceiver power OFF, press and hold the PTT switch and Up key while turning the transceiver power ON.
  - Continue to hold the Power switch, PTT switch, and Up key until the LED indicator lights yellow and the transceiver announces "Self"
- 2 Release the **Power** switch, **PTT** switch and **Up** key.
- · The transceiver announces "Channel Number".
- 3 Press the Up/Down key to select your desired channel, then press the PTT switch to confirm the selected channel.
- · Upon releasing the PTT switch, a beep will sound and the transceiver announces "Table Zero".
- 4 Press the Up/Down key to increment/ decrement the Table number, to select the new channel frequency.
- · Press and hold the Up/Down key to continuously increment/ decrement the number.
- Table numbers and their corresponding operating frequencies are provided in the tables below.
- · A voice announcement will inform you of the selected Table number
- 5 Press the PTT switch to save the setting and switch to the CTCSS/ DCS setting.
- A beep will sound and the transceiver announces "QT" (Continuous Tone-Coded Squelch System). 6 Press the Up/Down key to select CTCSS or DCS, then press the PTT switch to confirm the
- · When selecting CTCSS, a beep will sound and the transceiver announces "QT", and when selecting
- DCS, a beep will sound and the transceiver announces "DQT" (Digital Coded Squelch). 7 Press the Up/Down key to increment/ decrement the CTCSS/ DCS number, to select the new
- · Press and hold the Up/Down key to continuously increment/ decrement the CTCSS/ DCS number.
- CTCSS/ DCS numbers and their corresponding settings are provided in the tables below.
- A voice announcement will inform you of the selected CTCSS/ DCS number.
- 8 Press the PTT switch to save the setting.
- · A beep will sound and the transceiver announces "Channel Number".
- · Repeat steps 3 to 8 to set up another channel.
- 9 Press and hold the PF-2 key and PTT switch to store the settings and return to normal

Note: The transceiver will automatically return to normal operation if no action is performed for 20 seconds.

Table No. Frequency

#### **UHF CB CHANNELS & FREQUENCIES**

Table No. Frequency

1 476.4250 Duplex Transmit Frequency CH No. 31 Tuplex Transmit Frequency 41 476.4375 Duplex Transmit CH No. 71	Freqency
2 476.4500 Duplex Transmit Frequency CH No. 32 476.4625 Duplex Transmit CH No. 72	
3 476.4750 Duplex Transmit Frequency CH No. 33 476.4875 Duplex Transmit CH No. 73	Freqency
4 476.5000 Duplex Transmit Frequency CH No. 34 476.5125 Duplex Transmit CH No. 74	Freqency
5 Upplex Transmit Frequency CH No. 35 (Emergency use only) 45 476.5375 Duplex Transmit CH No. 75	Freqency
6 476.5500 Duplex Transmit Frequency CH No. 36 Duplex Transmit CH No. 76	
7 476.5750 Duplex Transmit Frequency CH No. 37 476.5875 Duplex Transmit CH No. 77	Freqency
8 476.6000 Duplex Transmit Frequency CH No. 38 476.6125 Duplex Transmit CH No. 78	Freqency
9 476.6250 49 476.6375	
10 476.6500 50 476.6625	
11 476.6750 (Call Channel) 51 476.6875	
12 476.7000 52 476.7125	
13 476.7250 53 476.7375	
14 476.7500 54 476.7625	
15 476.7750 55 476.7875	
16 476.8000 56 476.8125	
17 476.8250 57 476.8375	
18 476.8500 58 476.8625	
19 476.8750 59 476.8875	
20 476.9000 60 476.9125	
21 476.9250 61 - Reserved for Fut Expansion	ture
22 476.9500 (RX Only) 62 - Reserved for Fut Expansion	ture
23 476.9750 (RX Only) 63 – Reserved for Full Expansion	ture
24 477.0000 64 477.0125	
25 477.0250 65 477.0375	
26 477.0500 66 477.0625	
27 477.0750 67 477.0875	
28 477.1000 68 477.1125	
29 477.1250 69 477.1375	
30 477.1500 70 477.1625	
31 477.1750 71 477.1875	
32 477.2000 72 477.2125	
33 477.2250 73 477.2375	
34 477.2500 74 477.2625	
35 477.2750 (Emergency Use Only) 75 477.2875	
36 477.3000 76 477.3125	
37 477.3250 77 477.3375	
38 477.3500 78 477.3625	
39 477.3750 79 477.3875	
40 477.4000 80 477.4125	

#### CTCSS/ DCS

CTCSS (Continuous Tone-Coded Squelch System) and DCS (Digital Coded Squelch) are functions that reject undesired signals on your channel. You will hear a call only when you receive a signal that contains a matching CTCSS tone or DCS code. If a call containing a different tone or code is received, squelch will not open and you will not hear the call. Likewise, when transmitting using CTCSS or DCS, the receiving station must have a matching tone or code to hear your call.

Be aware that other parties can still hear your calls if they set up their transceiver with the same

Follow the steps described in "OPERATING FREQUENCY AND CTCSS/ DCS SETTING".

#### **CTCSS Channel Settings:**

CTCSS No.	CTCSS Frequency								
1	67.0 Hz	12	97.4 Hz	23	141.3 Hz	34	179.9 Hz	45	225.7 Hz
2	69.3 Hz	13	100.0 Hz	24	146.2 Hz	35	183.5 Hz	46	229.1 Hz
3	71.9 Hz	14	103.5 Hz	25	151.4 Hz	36	186.2 Hz	47	233.6 Hz
4	74.4 Hz	15	107.2 Hz	26	156.7 Hz	37	189.9 Hz	48	241.8 Hz
5	77.0 Hz	16	110.9 Hz	27	159.8 Hz	38	192.8 Hz	49	250.3 Hz
6	79.7 Hz	17	114.8 Hz	28	162.2 Hz	39	196.6 Hz	50	254.1 Hz
7	82.5 Hz	18	118.8 Hz	29	165.5 Hz	40	199.5 Hz	0	OFF
8	85.4 Hz	19	123.0 Hz	30	167.9 Hz	41	203.5 Hz		
9	88.5 Hz	20	127.3 Hz	31	171.3 Hz	42	206.5 Hz		
10	91.5 Hz	21	131.8 Hz	32	173.8 Hz	43	210.7 Hz		
11	94.8 Hz	22	136.5 Hz	33	177.3 Hz	44	218.1 Hz		

#### DCS Channel Settings:

No.	Code										
1	D023N	19	D116N	37	D225N	55	D325N	73	D452N	91	D631N
2	D025N	20	D122N	38	D226N	56	D331N	74	D454N	92	D632N
3	D026N	21	D125N	39	D243N	57	D332N	75	D455N	93	D645N
4	D031N	22	D131N	40	D244N	58	D343N	76	D462N	94	D654N
5	D032N	23	D132N	41	D245N	59	D346N	77	D464N	95	D662N
6	D036N	24	D134N	42	D246N	60	D351N	78	D465N	96	D664N
7	D043N	25	D143N	43	D251N	61	D356N	79	D466N	97	D703N
8	D047N	26	D145N	44	D252N	62	D364N	80	D503N	98	D712N
9	D051N	27	D152N	45	D255N	63	D365N	81	D506N	99	D723N
10	D053N	28	D155N	46	D261N	64	D371N	82	D516N	100	D731N
11	D054N	29	D156N	47	D263N	65	D411N	83	D523N	101	D732N
12	D065N	30	D162N	48	D265N	66	D412N	84	D526N	102	D734N
13	D071N	31	D165N	49	D266N	67	D413N	85	D532N	103	D743N
14	D072N	32	D172N	50	D271N	68	D423N	86	D546N	104	D754N
15	D073N	33	D174N	51	D274N	69	D431N	87	D606N	0	OFF
16	D074N	34	D205N	52	D306N	70	D432N	88	D612N		
17	D114N	35	D212N	53	D311N	71	D445N	89	D624N		
18	D115N	36	D223N	54	D315N	72	D446N	90	D627N		

### CHANNEL CONFIRMATION MODE

To confirm your channel settings:

- 1 With the transceiver power OFF, press and hold the PTT switch while turning the transceiver power ON.
  - Continue to hold the PTT switch until the LED indicator lights yellow and the transceiver announces
- 2 Release the PTT switch.
- The transceiver announces the channel number, frequency table number, CTCSS/DCS number of the selected channel and "VOX"
- 3 Press the Up/Down keys to confirm additional channels within 20 seconds, otherwise the operation will cancel
- The transceiver announces the channel table number and tone number of the selected channel.

# Note: The transceiver will automatically return to normal operation if no action is performed for 20 seconds.

### **UHF CB CHANNEL GUIDELINES**

- Use of the citizen band radio service is licensed in Australia by the ACMA Radiocommunications (Citizens Band Radio Stations) Class Licence and in New Zealand by the Ministry of Business, Innovation and Employment (MBIE) General User Radio Licence (GURL) for Citizens Band Radio. CB Radio operation is subject to the conditions contained in those licences
- Channels 5 and 35 (Australia only) are Emergency channels. Use these channels only for emergencies. CTCSS/DCS will not operate on these channels.
- Channels 22 and 23 (Australia only) are data (telemetry/telecommand) channels. Voice transmissions are inhibited on these channels. The ACMA reserves the right to add additional channels for telemetry/ telecommand, should they be necessary.
- Channel 11 (Australia only) is designated as the normal Call channel.
- Channel 40 (Australia only) is designated as the Road Vehicle channel.
- Channels 31 to 38 and 71 to 78 are repeater input channels.
- Table numbers 1 to 8 and 41 to 48 are repeater receiving channels. Do not use these channels unless long distance communication is specifically required.
- Before transmitting on a channel, ensure that the channel is not in use by listening on the channel or observing the channel busy indicator.

- The ACMA has implemented a changeover in CB channel capacity. The current wideband system is being replaced with a narrowband system. Thus, newly purchased CB radios will have a larger channel capacity than older CB radios. You can obtain a list of currently authorized channels from the ACMA website in Australia and the MBIE website in New Zealand
- · Transmitting and receiving between old wideband radios and new narrowband radios is possible, although you may experience poor audio quality. When receiving a call on a new narrowband radio, from an old wideband radio, the sound level may be higher than normal. When receiving a call on an old wideband radio, from a new narrowband radio, the sound level may be lower than normal. This is not a malfunction of the CB radios, but a result of differing bandwidths of the radios. Adjust your volume levels accordingly, for
- · Interference may occur on some channels, when receiving a call from an old wideband radio. The wideband radio uses a larger bandwidth, which may in turn cause cross-channel interference. With a larger number of channels being available, the new channel bandwidth size has been reduced. As more people shift from old wideband radios to new narrowband radios, this chance of cross-channel interference will be reduced.

### **KEY ASSIGNMENT MODE**

This transceiver allows you to reprogram the PF-1 key (press/hold) and PF-2 key (hold only) with any of the functions listed in the table below. Explanations on the use of each function are provided under "PROGRAMMABLE FUNCTIONS".

Table No. Function Name		Table No.	Function Name
0	None (no function)	5	Squelch Off
1	Low Transmit Power	6	Super Lock-C
2	Monitor	7	Super Lock-P
3	RX/TX Frequency Scan	8	Tone Alert
4	Scan		

To change the functions of the PF-1 and PF-2 keys:

- 1 With the transceiver power OFF, press and hold the **Up** and **PF-2** keys while turning the transceiver power ON.
- . Continue to hold the Power switch, Up key, and PF-2 key until the LED indicator lights yellow and the transceiver announces "Setup"
- 2 Release the Power switch, Up key, and PF-2 key.
  - The transceiver announces "Table Zero".
- 3 Press the **Up/Down** keys to increment/ decrement the number, to select the new key function.
- Table numbers and their corresponding functions are provided in the table above.
- A voice announcement will inform you of the currently selected Table number
- 4 Press the PF-1 key or hold the PF-1 or PF-2 key to program the new function onto the desired
  - A tone sounds after pressing the PF-1 key, confirming that the function has been stored to the PF-1 Two tones sound after holding the PF-1 key, confirming that the function has been stored to the PF-1
  - Three tones sound after holding the PF-2 key, confirming that the function has been stored to the PF-2
  - hold operation
- The press operation of the PF-2 key cannot be reprogrammed. Attempting to do so causes an error
- 5 Repeat steps 2 and 3 to reprogram additional functions.

6 Hold the PTT switch for 3 seconds to save the settings and exit Setting mode.

Note: The transceiver will automatically return to normal operation if no action is performed for 20 seconds.

#### PROGRAMMABLE FUNCTIONS

#### ■ None

No function is programmed for the key.

#### **■ Low Transmit Power**

Press to toggle the transmit power between high and low.

■ Monitor

# ■ RX/TX Frequency Scan

mode is set to duplex.

Press this key to switches the RX/TX Frequency Scan on or off for a channel with operation

Press this key to deactivate CTCSS or DCS signaling. Press the key again to return to normal

#### ■ Scan

Press this key to turn the Scan function on and off.

Scan is useful for monitoring signals on the transceiver channels. When scanning, the transceiver checks for a signal on each channel and only stops if a signal is present. If the CTCSS/DCS matches, the transceiver stops at the channel and opens the squelch so you can listen to the call. If the CTCSS/DCS does not match, the call is ignored and scanning

# ■ Squelch Off

Press this key to hear background noise. Press the key again to return to normal operation.

#### ■ Super Lock-C

Press and hold this key for 4 seconds to lock the transceiver keys. Super Lock-C locks the transceiver keys to prevent accidental operation. Turning the transceiver power OFF and then ON again will not disable Super Lock-C. To deactivate Super Lock-C, with the transceiver power OFF, press and hold the **PF-2** key while turning the transceiver power ON.

- When the LED lights yellow, release the PF-2 key. · While Super Lock-C is activated, you can still perform the following actions: PTT, Squelch Off, Monitor, Power, Volume, Channel Up/Down.
- Super Lock-P Press and hold this key for 4 seconds to lock the transceiver keys. Super Lock-P locks the transceiver keys to prevent accidental operation. Turning the transceiver power OFF and then ON
- again will not disable Super Lock-P. To deactivate Super Lock-P, with the transceiver power OFF, press and hold the PF-2 key while turning the transceiver power ON. When the LED lights yellow, release the PF-2 key.
- · While Super Lock-P is activated, you can still perform the following actions: PTT, Squelch Off, Monitor,

#### Power, Volume. ■ Tone Alert

Press this key to toggle Tone Alert on and off. Tone Alert provides an audible alarm when signals are received on the frequency you are monitoring.

- When Tone Alert turns ON, the LED indicator color cycles through green, light blue, blue, purple, red, and yellow, and white approximately every 30 seconds.
- When a signal is received, the LED indicator color cycles through green, light blue, blue, purple, red,
- yellow, and white approximately every 5 seconds. Tone Alert ends once a signal is received. To reactivate Tone Alert, press this key again. Press any key to stop the 5 second LED indicator cycle.

### TROUBLESHOOTING GUIDE

Problem	Solution
Cannot turn the transceiver power ON.	<ul> <li>The battery pack may be dead. Recharge or replace the battery pack.</li> <li>The battery pack may not be installed correctly. Remove the battery pack and install again.</li> </ul>
Battery power dies shortly after charging.	The battery pack life is finished. Replace the battery pack with a new one.
Cannot talk to nor hear other members in your group.	<ul> <li>Make sure you are using the same frequency and CTCSS/DCS settings as the other members in your group.</li> <li>Other group members may be too far away. Make sure you are within range of the other transceivers.</li> </ul>
Other voices (besides group members') are	Change the CTCSS/DCS settings. Make sure all group members change the settings on their transceivers to match the new CTCSS/

# **ALL RESET MODE**

At some point in time, you may desire to reset the transceiver settings to their default values. This function will reset all channels to their default frequencies and CTCSS/DCS, the VOX function to its default status, and all keys to their default functions.

### To reset the transceiver:

resent on the channel

- 1 With the transceiver power OFF, press and hold the PTT switch, the Up key, and the Down key while turning the transceiver power ON
- Continue to hold the keys for 2 seconds, until the LED indicator lights yellow.

- The transceiver announces "Confirm" and returns to normal operation.
- If the keys are released before the LED indicator lights yellow, All Reset mode will cancel.