

Channel	Description
1 / 101	Ch1 Simplex
2 / 102	Ch2 Simplex
3 / 103	Ch3 Simplex
4 / 104	Ch4 Simplex
5 / 105	Ch5 Simplex
6 / 106	Ch6 Simplex
7 / 107	Ch7 Simplex
8 / 108	Ch8 Simplex
9 / 109	Ch9 Simplex
10 / 110	Ch10 Simplex - 4WD / Off-road
11 / 111	Ch11 Simplex - Call channel
12 / 112	Ch12 Simplex
13 / 113	Ch13 Simplex
14 / 114	Ch14 Simplex
15 / 115	Ch15 Simplex
16 / 116	Ch16 Simplex
17 / 117	Ch17 Simplex
18 / 118	Ch18 Simplex - Motor-homes
19 / 119	Ch19 Simplex
20 / 120	Ch20 Simplex
21 / 121	Ch21 Simplex
22 / 122	Disabled - Telemetry Only
23 / 123	Disabled - Telemetry Only
24 / 124	Ch24 Simplex
25 / 125	Ch25 Simplex
26 / 126	Ch26 Simplex
27 / 127	Ch27 Simplex
28 / 128	Ch28 Simplex
29 / 129	Ch29 Simplex
30 / 130	Ch30 Simplex
31 / 131	Ch1 Repeater Input
32 / 132	Ch2 Repeater Input
33 / 133	Ch3 Repeater Input
34 / 134	Ch4 Repeater Input
35 / 135	Ch5 Repeater Input
36 / 136	Ch6 Repeater Input
37 / 137	Ch7 Repeater Input
38 / 138	Ch8 Repeater Input
39 / 139	Ch39 Simplex
40 / 140	Ch40 Simplex – Road Channel
41 / 141	Ch41 Simplex
42 / 142	Ch42 Simplex
43 / 143	Ch43 Simplex
44 / 144	Ch44 Simplex

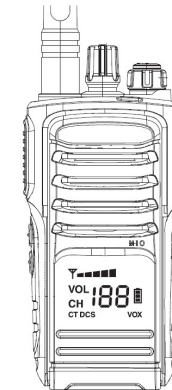
45 / 145	Ch45 Simplex
46 / 146	Ch46 Simplex
47 / 147	Ch47 Simplex
48 / 148	Ch48 Simplex
49 / 149	Ch49 Simplex
50 / 150	Ch50 Simplex
51 / 151	Ch51 Simplex
52 / 152	Ch52 Simplex
53 / 153	Ch53 Simplex
54 / 154	Ch54 Simplex
55 / 155	Ch55 Simplex
56 / 156	Ch56 Simplex
57 / 157	Ch57 Simplex
58 / 158	Ch58 Simplex
59 / 159	Ch59 Simplex
60 / 160	Ch60 Simplex
61 / 161	Disabled - Telemetry Only
62 / 162	Disabled - Telemetry Only
63 / 163	Disabled - Telemetry Only
64 / 164	Ch64 Simplex
65 / 165	Ch65 Simplex
66 / 166	Ch66 Simplex
67 / 167	Ch67 Simplex
68 / 168	Ch68 Simplex
69 / 169	Ch69 Simplex
70 / 170	Ch70 Simplex
71 / 171	Ch71 Simplex
72 / 172	Ch72 Simplex
73 / 173	Ch73 Simplex
74 / 174	Ch74 Simplex
75 / 175	Ch75 Simplex
76 / 176	Ch76 Simplex
77 / 177	Ch77 Simplex
78 / 178	Ch78 Simplex
79 / 179	Ch79 Simplex
80 / 180	Ch80 Simplex
81	Ch1 Repeater (Semi Duplex)
82	Ch2 Repeater (Semi Duplex)
83	Ch3 Repeater (Semi Duplex)
84	Ch4 Repeater (Semi Duplex)
85	Ch5 Repeater (Semi Duplex)
86	Ch6 Repeater (Semi Duplex)
87	Ch7 Repeater (Semi Duplex)
88	Ch8 Repeater (Semi Duplex)

# TECHOMAN TM820P

[www.techoman.co.nz](http://www.techoman.co.nz)

5 Watt 168 Channel UHF CB Radio  
 With LED Hidden Display & Voice Prompts

## USER INSTRUCTIONS



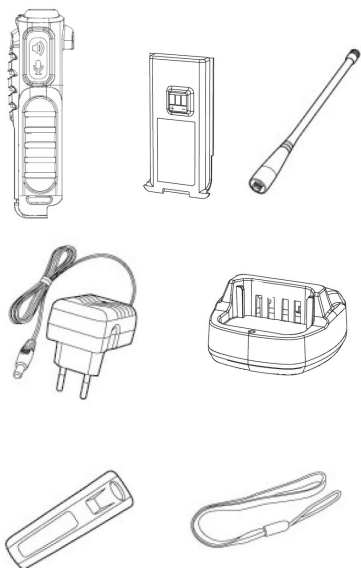
Thank you for purchasing your new TM820P Portable Radio. This fully pre-programmed radio is easy to use and designed to deliver you instant and reliable communications at peak efficiency. Please read this manual carefully before use. The information will help you to enjoy maximum performance from your radio.

PLEASE NOTE: CHANNELS 81 TO 88 ARE PROGRAMMED FOR REPEATER USAGE ONLY AND USABLE ONLY IF A REPEATER IS AVAILABLE IN YOUR AREA.

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## 1 EQUIPMENT



## 2 ACCESSORIES

A full range of parts and accessories available from [www.techoman.co.nz](http://www.techoman.co.nz)

- Extended flexible antennas
- External whip antennas
- Vehicle antennas
- Additional batteries (standard and high capacity)
- Earpiece/microphones
- Tactical headset/microphones
- Handheld microphone/speakers
- Charger cradles and USB cords
- Waterproof bag covers
- Car cigarette lighter charge cables
- Antenna tuning/power meters, and more

## 3 SAFETY WARNINGS

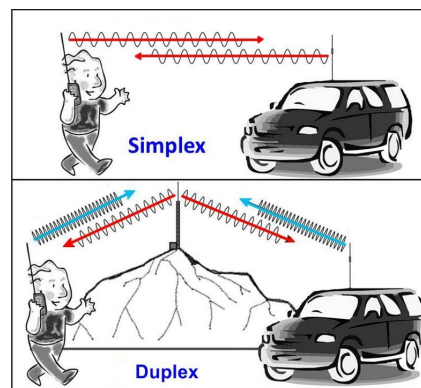
- This radio is a transmitting device.
- When transmitting, keep the antenna more than 25 mm from any part of the head or body.
- Do not transmit near flammable or explosive atmospheres.
- Do not allow children to operate a radio transmitter unsupervised.

## 4 IMPORTANT

**READ ALL INSTRUCTIONS** carefully and completely before operating your radio and retain this manual for future reference. **NEVER** connect the radio to a power source other than the supplied battery. This may damage your product. **DO NOT** use your radio with a damaged antenna. **AVOID** storing or charging your radio in direct sunlight.

## 14 CHANNELS 81 TO 88

Your radio is programmed for channels 81 to 88 to work via a radio repeater (semi-duplex), if one is available in your area, otherwise use channels 1 to 80 to talk direct (simplex).



## 15 QUIET MODE

Channels 101 to 180 have been programmed to the identical channels as 1 to 80 however a special digital tone is now transmitted continuously by your radio and this same tone is required to receive other radio transmissions. This is a great way to reduce interference from other regular users in the vicinity on the same channel or where nearby signals or interference (examples: computer, microwave, cellphones, etc) cause static and odd noises during normal usage.

Setting channels between 101 and 180 will therefore allow each radio to only receive and hear your group conversations on each channel.

PLEASE NOTE: THIS DOES NOT MAKE YOUR CONVERSATIONS 'SECURE' AS THEY ARE STILL ANALOGUE TRANSMISSIONS AND OTHERS LISTENING ON RADIOS WITHOUT THESE DIGITAL CODES WILL STILL HEAR YOU. JUST THEY CANNOT COMMUNICATE WITH YOU BUT THEY COULD JAM YOUR CONVERSATIONS.

## 16 VOX FUNCTION

VOX (Voice Operated Transmit) eliminates the need for using the PTT button to transmit. The transmitter starts automatically when the VOX circuit senses you are speaking into the microphone.

This function is turned on using the SK2 button (long press) on the side of the radio

## 17 SPECIFICATIONS

### Voltage

- Battery Voltage: 7.4 Volts

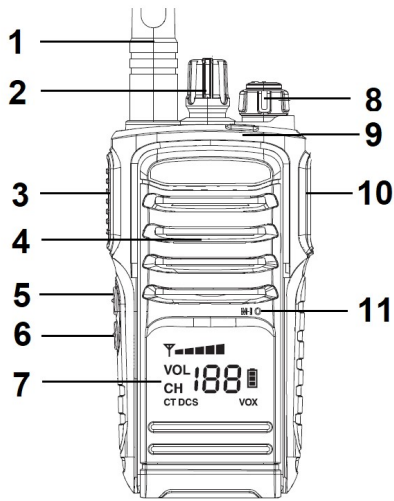
### Transmitter

- Output Power: 5 Watts (high) /1 Watt (low)
- Transmission: Narrow Band FM (F3E)
- Frequency Range: 476.425 to 477.4125 MHz
- Maximum Frequency Deviation: +/- 2.5kHz
- Adjacent channel power: <-60dB

### Receiver

- Sensitivity: -122dBm(12dB SINAD)

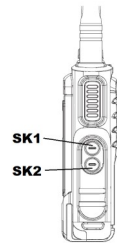
## 12 RADIO OVERVIEW



1. Antenna - SMA male 50 ohm antenna connector
2. Knob - Channel Selector
3. Press to Talk (PTT) - Press to transmit
4. Speaker
5. Function Button SK1
6. Function Button SK2
7. User Display
8. Knob (ON/OFF/Volume) - Power on/off and audio speaker volume
9. Indicator lights—Green for receive, red for transmit
10. [Microphone and Speaker Sockets (must use a Baofeng/Kenwood external microphone/earpiece with K type connector
11. Microphone

## 13 SIDE BUTTONS

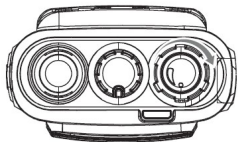
The TM820P has 2 side function buttons for to access functions on the radio. The top button SK1 and the lower one SK2. To access the functions the buttons respond to a quick press for one set of function and a long (4 second) press to access the 2nd set of functions.



SK1 Quick Press - Battery Level Check  
SK1 Long Press - Low / High Power

SK2 Quick Press - Open Squelch / Mute  
SK2 Long Press - VOX function ON / OFF

## 11 CHANNEL SELECTOR



Turn the centre channel selector knob.

The display and voice prompt will indicate your selected channel number.

## 5 ABOUT UHF CB RADIO

**AVOID** storing or using your radio where temperatures are below -20°C or above +60°C.

**ALWAYS** charge your radio at normal room temperature.

**ONLY** use Techoman approved rechargeable batteries with the supplied charger.

**ALWAYS** switch off your radio where notices restrict the use of two-way radio or mobile telephones.

**AVOID** exposing your radio to water, moisture or dust. It is not waterproof!

**DO NOT** attempt to modify your radio in any way.

The use of the Citizen Band radio service is licensed in New Zealand by the Ministry of Economic Development New Zealand (MED). Users can use these Citizens Band channels for free but are subject to operational conditions of the licence.

Your TM820P meets the latest UHF CB 477 MHz band plan with 80 channels — standard AS/NZS 4365:2011

The same amount of spectrum is available; however, radio transceivers can now operate in a narrower bandwidth and hence use less spectrum. These radios are generally referred to as narrowband or 12.5 kHz radios. By using 12.5 kHz channel spacing instead of 25 kHz, the 40 channels originally allocated has now expanded to 80 channels thereby doubling the channel capacity and relieving congestion in the UHF CB band.

Original 40 channel wideband radios will continue to operate on the original 40 channels, however they will not be able to

converse on the newer channels 41 – 80. The newer narrowband radios will be able to converse with all older 40 channel wideband radios on all channels 1 to 40 as well as the newer channels allocated from 41 to 80.

The mixing of narrowband and wideband radios in the same spectrum can cause some possible operating issues of interference and varying levels of received volume.

When a new narrowband radio receives a transmission from an older wideband radio the speech may sound loud and distorted – simply adjust your radio volume for best performance. When an older wideband radio receives a signal from a new narrowband radio, the speech may sound quiet - simply adjust your radio volume for best performance.

Depending on how close your receiving radio is to another transmitting radio, there can be interference from the transmitting radio if it is using a channel adjacent to the channel you are listening to. Simply try going up or down a few channels from the currently selected channel.

## 6 UNUSABLE CHANNELS

ACMA regulations have allocated channels 22, 23, 61, 62 & 63 for telemetry only applications and have prohibited the transmission of speech on these channels. Consequently the TM820P will skip these channels

22, 23, 61, 62, 63, 122, 123, 161, 162 & 163

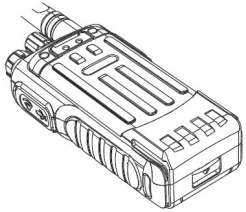
## 7 FITTING BATTERY

### TO INSTALL BATTERY

Place the battery bottom about 1 to 2 cm below the bottom of the radio's body.

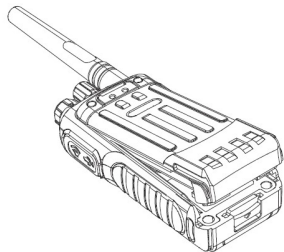
Make sure the battery is in parallel and in good contact with the aluminium chassis.

Align the battery with the guide rails on the aluminium chassis and slide it upwards until a 'click' is heard.



### TO REMOVE BATTERY

Turn off the radio before removing the battery. Push the battery latch underneath the in a direction indicated by the arrow on the latch.



Slide down the battery for about 1 centimetre, and then remove the battery from the radio's body.

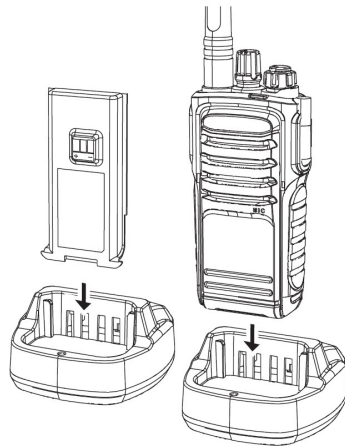
## 8 BATTERY CHARGING

Use only the charger specified by the manufacturer. The charger's LED indicates the charging progress.

**WARNING:** Turn off the radio before charging otherwise battery will not fully charge.

Please follow these steps:

1. Plug the AC connector of the power pack into the AC outlet socket.
2. Place the radio with the battery attached, or the battery alone, in the charger.
3. Make sure the battery is in good contact with the charging terminals. The charging process initiates when the red LED lights.
4. The green LED lights indicating the battery is fully charged. Remove the radio with the battery attached or the battery alone from the charger.



## 9 BATTERY TIPS

1. When your radio battery is getting low a voice prompt will indicate 'Battery Low'.
2. When charging your battery, keep it at a temperature between 5C and 40C. Temperature out of the limit may cause battery leakage or damage.
3. When charging a battery attached to a radio, turn the radio off to ensure a full charge.
4. Do not turn off the power supply or remove the battery when charging a battery.
5. Never charge a battery that is wet. Dry it with a soft cloth prior to charging.
6. The battery will eventually wear out when the operating time (talk-time and standby time) is noticeably shorter than normal performance. It is time to buy a new battery.

### INITIAL USE

New batteries are shipped uncharged from the factory. Charge a new battery for 5 hours before initial use. The maximum battery capacity and performance is achieved after three full charge/discharge cycles. If you notice the battery power runs low, please recharge the battery.

### TO PROLONG BATTERY LIFE:

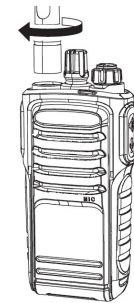
1. Battery performance will be greatly decreased at a temperature below 0C . A spare battery is necessary in cold weather. A cold battery is unable to work in this situation will work when back to room temperature.
2. Dust on the battery contacts may cause the battery to not work or charge. Please use a clean dry cloth to wipe them before attaching the battery to the radio.

## BATTERY STORAGE:

1. Fully charge a battery before you store it for a long time to avoid battery damage due to over-discharge.
2. Recharge a battery after 6 months storage to avoid battery capacity reduction due to over-discharge.
3. Store your battery in a cool and dry place under room temperature to reduce self-discharge.

## 10 FITTING ANTENNA

Install the antenna as shown as below:



**NOTE:** - When installing the antenna, don't rotate it by its top,. Hold it by its base and turn clockwise. Don't over-tighten.

If you use an external antenna, make sure the 'SWR' is about 1.5:1 or less to avoid damage to the transceiver's final transistors.



**NEVER TRANSMIT WITHOUT AN ANTENNA**