GME

TX670

POCKET SIZE
2 WATT HANDHELD
UHF CB RADIO

TX670

2 Watt

M ▼ ▲ S

GME

INSTRUCTION MANUAL

WARNING: SAFETY INFORMATION

The TX670 is a radio frequency transmitting device.

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

ACCESSORIES

Supplied

- TX670 2/1 Watt UHF Handheld Radio with flexible antenna.
- 3 rechargeable AA batteries
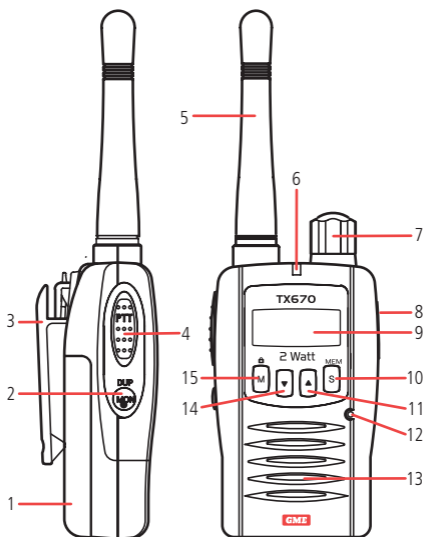- 240 V AC adapter
- Instruction manual

Optional

- Speaker microphone
- Hands-free ear microphone
- Neck lanyard
- Vehicle cigarette lighter trickle charger.
- Leather case

CONTENTS

1 Battery Compartment	9 LCD Display
2 Duplex/Monitor Key	10 Scan/Memory
3 Belt Clip	11 Channel Up
4 Push-To-Talk (PTT) Switch	12 Microphone
5 Antenna	13 Speaker
6 Indicator LED	14 Channel Down
7 Volume On/Off	15 Mode/Lock Key
8 External Speaker/Mic	
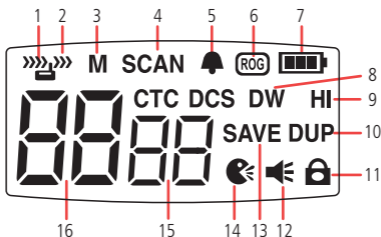
1. **Receiver Busy Icon:** Appears when receiving.

2. **Transmit Icon:** Appears when transmitting.

3. **Memory Icon:** Appears when the selected channel is stored in the Scan memory.

4. **Scan Indicator Icon:** Appears when SCAN is enabled and the radio is scanning.

5. **Button Beep Tone Icon:** Appears when the button beep confirmation tone is selected.

6. **Roger-Beep Tone Icon:** Appears when the Roger-Beep tone is enabled.

7. **Battery Level Icon:** Indicates battery charge level. Flashes when battery is almost empty.

8. **Dual Watch Icon:** Appears when Dual Watch mode is active.

9. **High Power Icon:** Appears when High transmitter power is selected.

10. **Duplex Icon:** Indicates that Duplex communication has been enabled.

11. **Key-Lock Icon:** Appears when the keypad is locked.

12. **Monitor Icon:** Appears when Monitor function is activated.

13. **Power Save Icon:** Appears when the radio is in the power save mode.

14 **Voice Activated Transmission (VOX) Icon:** Appears when the VOX mode is activated.

15 **CTCSS Tone:** Displays the selected CTCSS tone (from 00 - 38) on the selected channel.

16 **Channel Display:** Indicates the channel number in use.

POWERING THE RADIO

Your TX670 is powered by three AA batteries (Ni-MH). If left unused, the batteries will discharge within a few months. If you have not used your TX670 for some time, you will need to recharge your batteries before use.

Installing the Batteries

Battery installation is more convenient when the belt clip is removed. To do this, release the spring clip and slide the belt clip downward and away from the radio body.

1. Press the centre top area of the battery cover and slide downwards.

2. Install the three rechargeable batteries as indicated on the battery housing, slide cover back into position until it 'clicks' into place.

Positive Terminals **+**

Negative Terminals **−**

Spring Clip

Belt Clip

Battery Cover

+ − +
− + −
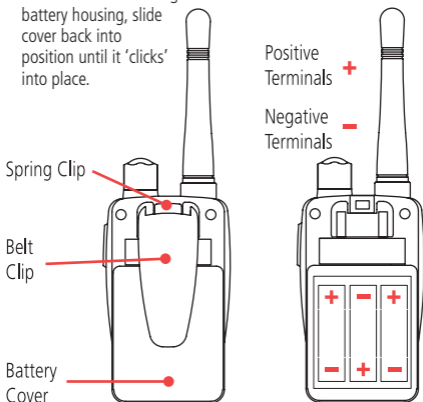
Charging the Batteries

Your TX670 is supplied with an AC adapter which will recharge a fully discharged set of 1500 mAh batteries to full capacity in around 15-16 hours.

1. Plug the charger into a standard 240 Volt AC outlet.

2. Connect the charger to mic/charge socket on the radio.

Battery Low Alert

When the battery icon blinks on the display, the battery level is low and the batteries should be recharged or replaced. If the batteries are not charged, an audio tone will then sound to warn the user that the batteries are almost discharged.

Battery Usage

The time taken to discharge the batteries will depend on how you use the TX670. The 1500 mAh batteries supplied are powerful enough for a full days use under average conditions.

Conserving Battery Power

The TX670 has built-in power saving features to help you get the maximum amount of time between charges. If you need to operate your TX670 in a situation where you require maximum battery life (e.g. a remote site where there is no convenient recharging facility nearby) the following hints can greatly reduce the amount of power drawn from the batteries.

Standby Mode

The TX670 will automatically enter the 'Standby' mode when it is inactive (i.e. not transmitting or receiving signals). While in Standby mode it will still check for incoming signals but it will draw considerably less power from the batteries. As soon as a signal is heard or the keys are pressed the TX670 will 'wake up' again. This Standby mode is automatic and by itself can extend the battery life by many hours.

Using CTCSS

If you are expecting to receive signals on a busy channel, you can program that channel for CTCSS operation and get the

other person to call you using the same CTCSS tone. Your radio will then remain in Standby and ignore all other signals until your selected CTCSS tone is received.

Scanning

The TX670 draws more power from the batteries when scanning than when monitoring a single channel. This is because it must 'wake up' more often to monitor each channel for activity. You can lengthen the battery life by avoiding any unnecessary scanning. In addition, scanning increases the chance of finding a signal thereby keeping the receiver 'awake' and the Squelch open more often.

Low Transmit Power Settings

The transmitter has both high and low power settings. If you are only operating over short distances, are in a reasonably high location or are close to a local repeater, try using the Low transmitter power setting. This reduces the transmitter power from 2 Watts to 1 Watt effectively doubling the talk time available.

GENERAL OPERATION

Power On/Off

Rotate the **Volume** control clockwise past the 'click' to turn the radio ON. Rotate the control counter-clockwise past the click to turn the radio OFF again.

Adjusting the Volume

With the unit powered on, rotate the **Volume** control clockwise to increase the volume and counter-clockwise to decrease the volume.

Display Lighting

The LCD backlighting activates automatically whenever a key is pressed and turns off automatically after about 5 seconds.

Receiving signals

While the TX670 is not receiving signals, it will remain in the Standby mode to conserve battery power.

When a signal is received, the LED indicator on the upper edge of the radio will light green and the 🔊 icon will appear on the display. Adjust the **Volume** control for a comfortable listening level.

If the incoming signal is encoded with a CTCSS tone that matches the one set in your radio, the LED indicator will light orange and you will be able to hear the signal in the speaker.

If the LED indicator lights green and the 🔊 icon appears but you cannot hear the signal, it is likely that your radio has CTCSS enabled and the incoming signal is not using your selected CTCSS tone (see 'Mode Settings' for more details on CTCSS settings).

If no further signals are received, the unit will revert to Standby mode.

Transmitting

To transmit, press and hold the Push-To-Talk (**PTT**) switch. The other radio you are talking to must be set to the same channel (and CTCSS code if applicable). Hold the TX670 approximately 5 to 8 cms from your face with the antenna vertical and speak into the built-in microphone.

While the **PTT** switch is pressed, the LED indicator on the upper edge of the radio will light red and the 📢 icon will appear on the LCD.

When you have finished speaking, release the **PTT** switch to receive incoming signals (it is not possible to transmit and receive at the same time). If no further signals are received, the unit will revert to Standby mode.

TIP: The PTT switch can also be used to transmit a Call Alarm melody. When the Call Alarm melody is enabled (see Mode settings for more details on the Call Alarm settings), pressing the **PTT** switch twice quickly will call another party on the same channel and play the Call Alarm melody in their radio's

speaker. When this happens, the 🔊 icon will appear and the LED indicator will light red for about 3 seconds. The call alarm can only be sent once per minute.

Duplex/Monitor Key

The Duplex/Monitor key is a dual function key that controls both the Duplex and Monitor functions.

DUP Key

Duplex operation allows the TX670 to transmit on a different frequency to that which it receives. This allows operation through repeater stations in your area. Repeaters automatically re-transmit your signal over a much wider area, providing greatly increased range. The Duplex mode only works on channels 1 - 8. With Duplex selected, your TX670 actually transmits 30 channels higher than it receives.

Channel Selected	1	2	3	4	5	6	7	8
Receive Channel	1	2	3	4	5	6	7	8
Transmit Channel	31	32	33	34	35	36	37	38

To switch between Simplex and Duplex modes, select a duplex channel (1-8) then briefly press the **DUP** button. When Duplex mode is selected, 'DUP' appears on the display on that channel.

MON Key

To open the Squelch, press and hold the **MON** key. This will allow you to check the current channel for activity before transmitting, particularly if you have CTCSS enabled. When the Squelch is open, the LED indicator on the upper edge of the radio will light green, the 🔊 icon will appear on the display and you will hear static or hiss if the channel is clear. Do not transmit if you hear any conversations. Press and hold the **MON** key again to close the Squelch.

CTCSS

To activate or deactivate CTCSS, the current channel must have a CTCSS code selected via the **MODE** key, (see **MODE** key settings for more details).

SCAN/Memory Key

The SCAN key is a dual function key that controls both Scan and Memory Functions.

Scanning Function

Channel Scanning allows you to monitor channels that have been included in the active scan list. The active scan list includes all channels which display the icon '**M**' on the LCD.

To enable channel scanning, briefly press the **SCAN** key. 'SCAN' will be displayed and the radio will show rapidly changing channel numbers as it scans through the channels. While scanning, briefly press the ▲ or ▼ keys to select the scan direction.

To exit the Scan mode, briefly press the **SCAN** key again. The TX670 will return to normal operation and 'SCAN' will disappear from the display.

Scanning Features

• If a signal is received, the scan is paused, allowing you to transmit and receive on that channel. The radio will automatically resume scanning a few seconds after the last reception or transmission.

• Press the **PTT** switch while the unit is scanning to jump to the home channel (the home channel is the channel the radio was on at the time scanning was activated). You can then transmit and receive on that channel. The radio will automatically resume scanning a few seconds after the last reception or transmission.

• When the unit has stopped on a busy channel, press the ▲ or ▼ keys to 'skip' over the busy channel and continue scanning.

TIP: The Scan mode will reduce the overall battery life because the Standby (battery saver) feature is overridden.

You should avoid scanning if the batteries are running low and you need to conserve power.

Memory Function

The Memory function enables and disables the current channel to be memorised into the scanning list. When the channel is memorised with the 'MEM' icon on the LCD, scanning will include the channel. When the channel is deleted from the scanning list, the channel will be skipped upon scanning. All channels are saved to Memory during manufacture. To disable the Memory, press and hold the **SCAN/MEM** key.

Mode/Key-Lock Key

MODE function

The **MODE** key is used to set the various feature settings of the TX670. The following chart shows the order of these selections:

Standby Mode:

1. CTCSS Code Selection
2. Transmitter Power
3. VOX Settings
4. Dual Watch Channel
5. Squelch Settings
6. Roger Beep Tone Selection
7. Button Beep Tone Selection
8. Call Alarm Selection

Key-Lock Function

The Key-Lock function disables the keys to prevent accidental key presses from changing the preferred settings of the radio. When the keys are locked, the 🔒 Icon is displayed and all key presses are ignored except for the PTT and Key-Lock functions.

To activate the Key-Lock, press and hold the **Mode** button for about 2 seconds. The 🔒 icon will appear on the display.

To cancel the Key-Lock, press and hold the **Mode** button again. The 🔒 icon will disappear from the display.

Selecting Channels

In the 'Standby' mode, press the ▲ or ▼ key to step up/down one channel. Press and hold the ▲ or ▼ keys to quickly scroll up/down through the channels.

In 'Mode edit' mode, press the ▲ or ▼ key to step upwards or downwards through the selected mode settings.

1. CTCSS Code Selection

The Continuous Tone Coded Squelch System (CTCSS) is a Squelch quieting system that allows groups of users to share the same channel without disturbing each other. It uses 1 of 38 low frequency tones to open and close the Squelch on the radio. The CTCSS codes do not prevent others from hearing your transmission. They simply provide you with a quieter channel by preventing you from hearing transmissions that are not using the same code as you and are therefore not directed at you.

Note: To communicate with other UHF radios using CTCSS, all radios you wish to communicate with must be switched to the same channel and have the same CTCSS code selected. If you wish to receive signals from UHF radios that are not using CTCSS you will need to either disable CTCSS on that channel or set the CTCSS code to '**oF**' as described in the following 'note'.

To select a CTCSS code

From the 'Standby' mode:

1. Select the required channel using the ▲ or ▼ keys.

2. Press the **MODE** key ONCE (1) to select the CTCSS setting mode. 'CTC' will flash on the display.

3. Press the ▲ or ▼ keys to select the required CTCSS code. (A list of available codes is shown in the chart on page 17).

Note: To turn CTCSS off on this channel, set the CTCSS code to '**oF**'.

4. Press the **MODE** or **PTT** key momentarily to confirm and store your selection.

Note: CTCSS is only enabled on those channels with CTCSS codes selected. All other channels will continue to operate normally.

2. Transmitter Power

The transmitter power can be set to High (2 Watts) or Low (1 Watt). The power setting applies to all channels.

To set the Transmit Power

From the 'Standby' mode:

1. Press the **MODE** key TWICE (2) to select the power setting mode. 'Po' will be displayed and 'HI' or 'LO' will be flashing on the display.

2. Press the ▲ or ▼ keys to select the required power setting. Select 'HI' for high power or 'LO' for low power.

3. Press the **MODE** or **PTT** key momentarily to confirm and store your selection.

The TX670 should now display the selected channel number along with 'HI' if you have selected high power. If you have selected low power, this setting will not be indicated.

3. VOX Settings

The VOX feature lets you have hands-free conversations. When you speak, the microphone automatically detects your voice (or other nearby sound) causing the radio to transmit without the need to press the **PTT** switch.

To set radio for VOX operation

From the 'Standby' mode:

1 Press the **MODE** key THREE (3) times to select the VOX setting mode. 'VOX' will flash on the display.

2. Press the ▲ or ▼ keys to select the sensitivity from 1 (minimum) to 3 (maximum). The minimum setting requires a

louder voice to activate the VOX. The maximum setting will activate the VOX with a much softer voice.

3. To disable the VOX completely, set the VOX sensitivity to **oF.**

4. Press the **MODE** or **PTT** key momentarily to confirm and store your selection. When the VOX is enabled, 'VOX' is visible on the display.

4. Dual Watch Settings

The Dual Watch mode lets you monitor two channels at the same time. While in Dual Watch mode, the unit will monitor both the currently selected channel and a second dual watch channel.

To set the Dual Watch Mode

From the 'Standby' mode:

1. Press the **MODE** key FOUR (4) times to select the Dual Watch setting mode. The '**DW'** icon will flash on the display.

2. Press the ▲ or ▼ keys to select the Dual Watch channel number (1 – 40). To disable the Dual Watch Mode altogether select '**oF**'.

3. Press the **MODE** or **PTT** key momentarily to confirm and store your Dual Watch channel selection '**DW'** will be displayed at the top of the LCD and the display will now alternate between the currently selected channel and the Dual Watch channel.

To EXIT the Dual Watch mode, momentarily press the **SCAN** key. This is equivalent to setting the '**DW**' mode to '**oF**'.

Dual Watch Operation

• If a signal is received on the Dual Watch channel, the radio will pause on that channel for as long as it remains busy, then resume the Dual Watch five (5) seconds after the last transmission has ceased.

- If you wish to talk on the busy channel, press the **PTT** switch while the radio is locked onto that channel then talk in the usual way.

- If you wish to talk on the selected channel, press the **PTT** switch while no signals are being received. The radio will switch to the selected channel.

5. Squelch Settings

The 'Squelch' mode lets you adjust the receiving sensitivity. The higher the Squelch level is set, the stronger the signal needs to be for it to be received by the radio.

To set the 'Squelch' mode

1. Press the **MODE** key FIVE (5) times to select the Squelch setting mode. The '**SЯ₀**' icon will flash on the display.

2. Press the ▲ or ▼ keys to select the Squelch level from 01 (lowest) to 03 (highest) setting.

3. Press the **MODE** or **PTT** key momentarily to confirm and store your Squelch mode selection.

6. Roger Beep Tone Selection

The Roger Beep is a tone which is automatically transmitted whenever the **PTT** switch is released. This tone alerts the receiving party that your transmission has ended.

To enable or disable the Roger Beep tone

From the 'Standby' mode:

1. Press the **MODE** key SIX (6) times to select the Roger Beep setting mode. 'Rb' will be displayed along with a flashing ᴿᴼᴳ.

2. Press the ▲ or ▼ keys to set the beep to '**On**' or '**oF**' as desired.

3. Press the **MODE** or **PTT** key momentarily to confirm and store your selection. If the Roger Beep function is on, the ᴿᴼᴳ icon will remain steady on the display.

7. Button Beep Tone Selection

The Button beep tone feature allows the radio to sound a confirmation tone whenever the **MON**, **SCAN**, **MODE**, ▲ or ▼ keys are pressed.

To turn the Button Beeps Tones On or Off

From the 'Standby' mode:

1. Press the **MODE** key SEVEN (7) times to select the Button Beep setting mode. '**bP**' will be displayed along with a flashing 🔔 icon.

2. Press the ▲ or ▼ keys to set the beep to '**On**' or '**oF**' as desired.

3. Press the **MODE** or **PTT** key momentarily to confirm and store your selection. If the Button Beep function is on, the 🔔 icon will remain steady on the display and a beep will be heard in response to key activation.

8. Call Alarm Selection

The TX670 provides 5 user selectable call alarm melodies to alert other users to your incoming call. When enabled, the melody can be transmitted to another user where it will be heard in the speaker of the receiving radio.

To select your favourite call alarm melody

From the 'Standby' mode:

1. Press the **MODE** key NINE (9) times to select the Call Alarm setting mode. '**C**' will be displayed.

2. Press the ▲ or ▼ keys to preview (listen) to the 5 available call melodies.

3. To turn the call melodies off, select '**oF**'.

4. Press the **MODE** or **PTT** key momentarily to confirm and store your selection.

To send the call alarm melody

Press the **PTT** switch twice quickly. The LED indicator will light red for a few seconds as the melody is sent. The melody will be heard in the speaker of the receiving radio.

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

CHANNEL FREQUENCY MHz

Carrier Frequency MHz

CH	Half-Duplex		Simplex	
	Tx	Rx	Tx	Rx
1*	477.175	476.425	476.425	476.425
2*	477.200	476.450	476.450	476.450
3*	477.225	476.475	476.475	476.475
4*	477.250	476.500	476.500	476.500
5*	477.275	476.525	476.525	476.525
6*	477.300	476.550	476.550	476.550
7*	477.325	476.575	476.575	476.575
8*	477.350	476.600	476.600	476.600
9			476.625	476.625
10			476.650	476.650
11			476.675	476.675
12			476.700	476.700
13			476.725	476.725
14			476.750	476.750
15			476.775	476.775
16			476.800	476.800
17			476.825	476.825
18			476.850	476.850
19			476.875	476.875
20			476.900	476.900
21			476.925	476.925
22	#		476.950	476.950
23	#		476.975	476.975
24			477.000	477.000
25			477.025	477.025
26			477.050	477.050
27			477.075	477.075
28			477.100	477.100
29			477.125	477.125
30			477.150	477.150
31			477.175	477.175
32			477.200	477.200
33			477.225	477.225
34			477.250	477.250
35			477.275	477.275
36			477.300	477.300
37			477.325	477.325
38			477.350	477.350
39			477.375	477.375
40			477.400	477.400

\# Telemetry channels only, no voice communications allowed.

SPECIFICATIONS

GENERAL

Frcuency Range:	476.425 - 477.400 MHz
Channel Spacing:	25 kHz
No. of channels:	40, (38 voice, 2 Teletetry).
CTCSS Codes:	38
Dimensions (W x H x D):	62 mm x 98 mm x 30 mm (without antenna).
Complies with:	AS/NZS 4365

POWER SUPPLY

Power Source:	Ni-MH rechargeable 3 x 1.2 V 1500 mAh
Operating Time:	10 Hours (High Power) (Transmit 5%, Receive 5%, Standby 90%)

RECEIVER

Usable Sensitivity:	-121 dBM
Maximum Audio Output:	>0.3 Watt max. (8 Ohm)
Modulation Distortion:	<5% (1 kHz 70%)

TRANSMITTER

RF Output Power:	Low: 1 Watt
	High: 2 Watts.
Maximum Deviation:	+/- 5 kHz.
Modulation Distortion:	<5% (1 kHz. 70%)

Specifications are subject to change without notice or obligation.

WARRANTY

GME limit this warranty to the original purchaser of the equipment. GME warrant the TX670 to be free from defects in material and workmanship for a period of twelve (12) months from the date of purchase from their authorised dealer.

Should the product require servicing during this period, all labour and parts used to effect repairs will be supplied free of charge. GME reserve the right to determine whether damage has been occasioned by accident, misuse or improper installation whereby the warranty would be void, including radios which have been damaged due to:

1. Incorrect or reverse polarity connection to a battery/power supply.
2. Connection to an incorrect supply voltage.
3. Operation without an antenna or by connection to an antenna which has been incorrectly installed, resulting in damage to the radio's output circuit.
4. Effects of water or moisture penetration.
5. Non-factory modifications.

Procedure to be followed by claimant: In the event of a defect occurring during the warranty period, the original purchaser may return the defective unit along with suitable proof of purchase date (i.e. receipt, docket, credit card slip etc.) and a full description of the defect to the dealer from whom the unit was purchased. All freight charges incurred for transportation by the dealer or GME are the purchaser's responsibility.

GME after sales service

Your radio is especially designed for the environment encountered in portable applications. The use of all solid state circuitry, careful design and rigorous testing, result in high reliability. Should failure occur however, GME maintain a fully equipped service facility and spare parts stock to meet the customer's requirements long after expiry of the warranty period.