

GME

TX650

**COMPACT
UHF RADIOS**



I N S T R U C T I O N M A N U A L

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WARNING: SAFETY INFORMATION

The TX650 is a radio 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.

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 place your radio in front of a vehicle airbag.

DO NOT use your radio with a damaged antenna.

DO NOT attempt to modify your radio in any way.

ALWAYS charge your radio at normal room temperature.

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

ALWAYS replace the accessory jack cover (if applicable) when the jack is not in use.

ONLY use GME approved rechargeable batteries with the supplied charger.

AVOID exposing your radio to water. It is not waterproof.

AVOID storing or charging your radio in direct sunlight.

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

EQUIPMENT AND ACCESSORIES

- 2 x TX650 radio (with internal battery)
- Instruction Manual
- Smart Twin Charger with Adaptor
- 2 x Ear Microphone
- 2 x Neck Lanyard

BATTERIES AND CHARGING

FITTING THE BATTERIES

The TX650 uses an internal Lithium Ion battery which has been pre-installed. For removal or replacement please contact your local Dealer. Unauthorised attempts to remove or replace the battery will void your warranty and may damage your radio.

CHARGER INSTALLATION

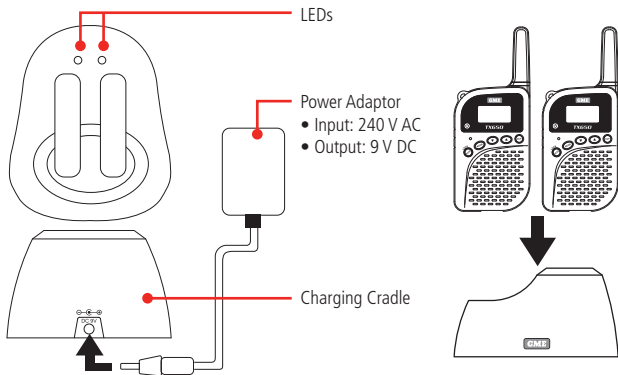
Connect the power adaptor to the mains power supply and connect the adaptor's power plug to the charger cradle. The LED's will not be lit.

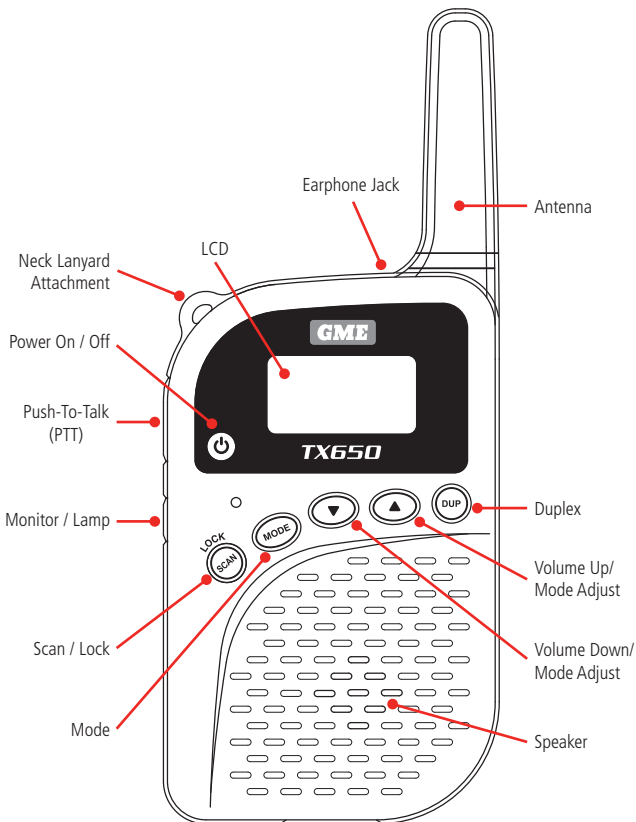
BATTERY CHARGING

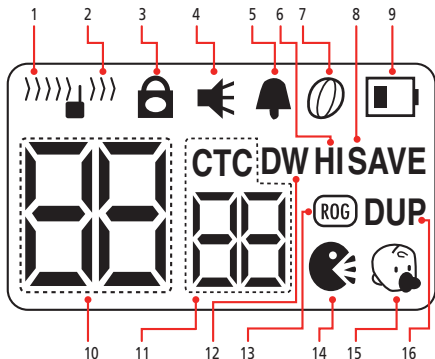
Insert your radios in the charging compartment until they click into place. The charger LED's will light RED and the radios will start charging. If the LEDs do not light RED or they blink in RED and GREEN, remove and refit the radios into the cradle again until the LEDs light RED.

The charging time for a fully discharged battery is typically 12 to 15 hours. When the battery is fully charged the charger LED's will light green.

CONTROLS







- | | |
|---------------------------|-----------------------------|
| 1. Receiving/Busy Icon | 9. Battery Warning Icon |
| 2. Transmit Icon | 10. Channel Display |
| 3. Lock Icon | 11. CTCSS Code Icon/Display |
| 4. Monitor Icon | 12. Dual Watch Icon |
| 5. Key Tone Icon | 13. Roger Beep Icon |
| 6. Hi Transmit Power Icon | 14. VOX Icon |
| 7. Scan Icon | 15. Room Monitor Icon |
| 8. Power Save Icon | 16. Duplex Icon |

CONTROL DESCRIPTIONS

POWER BUTTON

Press and hold the **POWER** button for about 2 seconds. You will hear a confirmation tone to indicate the radio is on. To turn the radio off, press and hold the **POWER** button for about 2 seconds.

PUSH-TO-TALK (PTT) BUTTON

Press and hold this button to speak (transmit). Release the button to listen (receive). You can only communicate with other UHF CB radios when their channel and CTCSS code settings are the same as yours.

UP BUTTON

Pressing this button will increase the volume. In Menu mode this button is used to adjust the mode setting.

DOWN BUTTON

Pressing this button will decrease the volume. In Menu mode this button is used to adjust the mode setting.

MODE BUTTON

Press this button briefly to enter the Menu setting mode. Press again (repeatedly) to step through the menus and select different setting options.

MONITOR/LAMP BUTTON

Press and hold this button for about 2 seconds to open or close the Squelch. When the squelch is open and no signals are present a background hiss will be heard. Press this button briefly to switch the backlight lamp on or off. The lamp will stay alight for 5 seconds then will switch off automatically

DUPLEX BUTTON

Press this button to select Duplex mode on channels 1 - 8.

Duplex operation allows the TX650 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 TX650 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 activate the 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 channels 1 - 8.



Press this button briefly to activate or deactivate the scanning where appropriate. Press and hold this button for 2 seconds to activate or deactivate the keypad lock.

BASIC RADIO OPERATION

The Citizens Band Radio Service operates on a shared channel basis. This means that other users and groups may be using any channel (and CTCSS code combination). To communicate with other UHF CB radios, all units must be switched to the same channel (and CTCSS code if activated).

If the combination you have selected is already in use please make an alternative selection.

1. Switch on your radio by pressing the **POWER** button for 2 seconds.
2. Check and if necessary change the channel (and CTCSS code settings). (see Mode and Radio Features Explained).
3. To speak, hold the radio upright, about 10 cm from your mouth and press the **PTT** button. Speak slowly and clearly towards the radio. Release the **PTT** button when you have finished speaking.

You will hear messages from other radios within range, with the same channel and CTCSS code setting (when enabled). The appropriate icon will appear in the radio display when you receive or transmit a message.

MENU MODE

The Menu Mode allows you to program user preferences, activate features and use advanced functions.

To access the Menu mode

Press the **MODE** button briefly. Each press of the **MODE** button steps the radio sequentially through the available functions.

The radio display indicates the current function. The present setting and associated icon will flash. Use the ▲ or ▼ buttons to change the setting.

Press the **PTT** or wait for 5 seconds to store your choice. If you do not press any key for 5 seconds your radio will exit the menu and return to stand by automatically.

MENU FUNCTIONS

Display	Functions	Settings
'Flashing'	Change Channel	01 - 40
CTC	Change Privacy Code	01 - 38, oF
Po	Set TX Power	Lo, HI
dh	Select Dual Watch Mode	01 - 40, oF
Uo	Select Hands Free (VOX)	Lo, HI, oF
rb	Activate Rodger Beep	on / oF
bP	Activate Key Beep	on / oF
bb	Activate Room Monitor	on / oF
CA	Change Call Tone	01 - 03

VOLUME LEVEL

There are 7 volume levels to suit your personal preference. To adjust the volume level, press the ▲ or ▼ button. 'UL' will be displayed along with a volume level setting between 1 and 7. A beep tone will also indicate an increase or decrease in volume.

Note: The volume level cannot be adjusted when Scan or Dual Watch modes are selected.

CHANNELS

This radio communicates on 38 of the available 40 UHF CB channels (channels 22 and 23 are reserved for telemetry use and are disabled for voice transmissions). To communicate with other UHF CB radios, all units must be switched to the same channel.

To change the radio channel

Press the **MODE** button. The channel number will flash. Use the ▲ or ▼ buttons to select the desired channel. Press the **PTT** button or wait for 5 seconds to store your choice.

CTCSS CODES

The TX650 is fitted with 38 different CTCSS codes (see code chart on page 17). You can select or change the current CTCSS code via the MODE Menu. If the other radios you are communicating with do not have CTCSS codes, set your TX650's CTCSS code to **oF**.

Note: CTCSS codes do not prevent other radio users from hearing your conversation. They simply allow you to ignore messages from radios that are using a different CTCSS code to you.

To change the CTCSS code on the selected channel

Press the **MODE** button repeatedly until 'CTC' flashes. Use the ▲ or ▼ buttons to select the desired code. Select **oF** to turn CTCSS off. Press the **PTT** button or wait for 5 seconds to store your choice. The CTCSS icon will appear when a CTCSS code is enabled on the selected channel.

TX POWER SETTING

The TX650 has two transmitter power settings - High and Low. When you are transmitting in close range to other radios you can conserve battery power by using the Low power setting. Select the High power setting only when you need increased range.

To change the power setting

Press the **MODE** button repeatedly until 'Po' is displayed. Use the ▲ or ▼ buttons to select the desired power setting. Select **Hi** for high power or **Lo** for Low power. Press the **PTT** button or wait for 5 seconds to store your choice. The 'Hi' icon will appear when the High power setting is selected.

DUAL WATCH

Dual Watch mode allows you to monitor two channels - a primary channel and Dual Watch channel. When a signal is received on either channel the unit will pause for 5 seconds before resuming the Dual Watch.

To activate the Dual Watch mode

First select your primary channel using the ▲ or ▼ buttons. To select the Dual Watch channel press the **MODE** button repeatedly until 'dh' appears. Use the

▲ or ▼ buttons to select the desired Dual Watch channel. Press the **PTT** button or wait for 5 seconds to store your choice and activate the Dual Watch.

When Dual Watch is active, the display will alternate between the primary and Dual Watch channels and the Dual Watch icon will appear.

To deactivate Dual Watch mode

Press the **SCAN** button.

Pressing the **PTT** button while receiving a signal in Dual Watch mode will transmit on the currently displayed channel.

Pressing the **PTT** button when no signal is present will transmit on the primary channel.

Note: The **MODE** button will not function while the Dual Watch mode is selected.

HANDS FREE (VOX) MODE

When Hands Free (VOX) mode is selected the radio will automatically transmit when the microphone detects your voice (or other noise). It can be used with the internal microphone or an appropriate audio accessory.

To avoid accidental operation and reduce the effect of background noise there are two microphone sensitivity settings - High and Low.

To activate or deactivate the Hands Free (VOX) mode

Press the **MODE** button repeatedly until 'Uo' appears. Use the ▲ or ▼ buttons to change the sensitivity level (HI or Lo) . Press the **PTT** button or wait for 5 seconds to store your choice and activate the VOX mode. The VOX icon will appear when VOX mode is active.

Repeat this process and change the sensitivity setting to **oF** to deactivate the Hands Free (VOX) mode.

ROGER BEEP

The Roger Beep is a short tone that is automatically added to the end of your transmissions to tell other users that you have finished speaking.

To activate or deactivate the Roger Beep

Press the **MODE** button repeatedly until 'rb' appears. Use the ▲ or ▼ buttons to change the setting to **on** or **oF**. Press the **PTT** button or wait for 5 seconds to store your choice. The Roger Beep icon will appear when Roger Beep is active.

KEY BEEP

If the Key Beep is activated, your radio will emit a confirmation tone with every key press (excluding the **PTT**).

To activate or deactivate the Key Beep

Press the **MODE** button repeatedly until 'bP' appears. Use the ▲ or ▼ buttons to change the setting to **on** or **oF**. Press the **PTT** button or wait for 5 seconds to store your choice. The Key Beep icon will appear when Key Beep is active.

ROOM MONITOR

The Room Monitor is similar to Hands Free (VOX) mode, except that it ignores short, brief noises and uses only the highest microphone sensitivity level. When Room Monitor mode is activated, the radio will transmit for 15 seconds when it detects a continuous noise for 5 seconds or more. If the noise persists the radio will continue to transmit for another 15 seconds.

To activate the Room Monitor mode

Press the **MODE** button repeatedly until 'bb' appears. Use the ▲ or ▼ buttons to change the setting to **on** or **oF**. Press the **PTT** button or wait for 5 seconds to store your choice. The Room Monitor icon will appear when the Room Monitor is active.

Note: The Squelch must be closed for the room monitor to operate correctly.

IMPORTANT: The Room Monitor function is not a replacement for regularly checking the safety and security of children. If you move out of communication range you will not hear transmissions.

CALL ALERT

To alert others to your call you can send a Call Alert Melody. There are three different call Call Alert Melodies available.

To change the melody

Press the **MODE** button repeatedly until 'CA' appears. The presently selected Call Melody will be heard. Use the ▲ or ▼ buttons to change the melody. Press the **PTT** button or wait 5 seconds to store your choice.


To send the Call Alert

Double click the **PTT** button. The Call Melody will be transmitted on the selected channel and will also be heard in your radio's speaker.

MONITOR

The Squelch function is used to check for activity on the current channel regardless of CTCSS code settings. It also sets the squelch to minimum which will allow weaker signals to be heard.

To activate or deactivate the Monitor

Press and hold the **MONITOR/LAMP**  button (below the **PTT** button) for about 2 seconds. The Monitor icon will appear when the Monitor is active. When Monitor is activated and there are no signals present, it is normal to hear background static noise.

DISPLAY BACKLIGHT

This display backlight will illuminate for approximately 5 seconds whenever the **MONITOR/LAMP** button is briefly pressed. To switch this light off before the automatic turning off, press this button briefly again.

KEYLOCK

To avoid changing the channel or function settings accidentally this radio has a Key Lock function.

To activate or deactivate the Key Lock

Press and hold the **SCAN** button for about 2 seconds. The Key Lock icon will appear when the Key Lock is active. The Power, PTT, Monitor and Volume adjustment are unaffected by the Key Lock.

CHANNEL SCAN

The Channel Scan can be used to find users on other channels.

To activate or deactivate the Channel Scan

Press the **SCAN** button briefly. The Scan icon will appear when the Channel Scan is active.

The radio will scan through all 40 channels searching for signals. If your radio detects a valid signal the scan will pause for 5 seconds.

If you press the **PTT** button when the scan is paused, the radio will transmit on the paused channel. Scanning will resume after approximately 15 seconds. Press the **▲** or **▼** buttons to resume scanning immediately.

If you press the **PTT** button during scanning, the radio will return to your original channel. Scanning will resume after approximately 15 seconds.

Press the **SCAN** button again to deactivate the Scan function.

Note: The MODE Menu and Volume adjustments are disabled whilst scanning, however, pressing **▲** or **▼** will select the direction of the scan. To increase battery life, use the Scan Mode sparingly.

CTCSS CODE SCAN / DECODE

This radio has CTCSS code scan function which can be used to determine the CTCSS Code currently in use on the selected channel.

To activate the CTCSS code scan

Press the **MODE** button repeatedly until the CTCSS code number flashes, then press the **SCAN** button briefly. The Scan icon will appear.


The radio will scan through all 38 CTCSS codes. If your radio detects a valid signal containing a CTCSS code, the scan will pause for 5 seconds. If you press the **PTT** button when your radio detects a signal, the radio will transmit using the same CTCSS code as the signal that was detected during Scan.

Scanning will resume after approximately 15 seconds. Press the **▲** or **▼** buttons to resume scanning immediately. If you press the **PTT** button during scanning, the radio will return to your original CTCSS code. Scanning will resume after approximately 15 seconds.

The **MODE** Menu and Volume ▲ or ▼ are disabled whilst scanning.

To increase battery life, use the Scan Mode sparingly.


BATTERY WARNING INDICATOR

The Battery Warning icon  indicates when the battery level is low and the battery needs recharging. If necessary, refer to the instructions to recharge the battery. Operating the radio with a low battery will reduce performance.

POWER SAVE

To conserve battery power the radio will automatically enter Power Save mode after a short period of inactivity. The Save icon will appear to indicate that Power Save is active. There is no user setting for Power Save.

TROUBLESHOOTING

If you experience problems with your TX650 first check the battery warning icon  as low batteries can cause problems such as no transmission, weak reception and poor sound quality.

Check the manual and radio display to ensure that functions (such as VOX, Scan or DW) have not been activated by accident.

In case of further difficulty please consult your Dealer.

OPERATING FREQUENCIES

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

- (1) Repeater Channels
 (2) Emergency use only
 (3) Telemetry/Selcall use only. Voice
 Transmission is inhibited (Class Licence 2002)

- (4) Call Channel
 (5) Road Channel
 (6) CTCSS Not Permitted

CTCSS

No.	Frequency	No.	Frequency	No.	Frequency
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	oF	0
(CTCSS Frequency shown in Hz)					

TECHNICAL SPECIFICATIONS

General

Complies with: AS/NZS 4365:2002 for radio communications equipment in the UHF CB and personal radio service.

Frequency Range: 476.425 - 477.400 MHz

Number of Channels: 40 (38 Voice and 2 Telemetry receive channels)

Channel Spacing: 25 kHz

Operating Mode: Simplex or half duplex

Privacy Codes: 38

Operating Temperature: - 10°C to + 60°C

Battery Source: Li-Ion 3.7 V DC 720 mAh rechargeable battery pack

Operating Time: 10 Hrs (Transmit 5%, Receive 5%, Standby 90%)

Transmitter

RF Output: Hi - 1 Watt Low - 0.5 Watts

Modulation: FM

Max. Deviation: ± 5 kHz

Modulation Distortion: < 5% (1 kHz 70%)

Receiver

Usable Sensitivity: > - 118 dBm

Maximum Audio Output: > 0.3 Watts maximum (8 Ohms)

Modulation Distortion: < 5% (1 kHz 70%)

Specifications are typical unless otherwise indicated and may be subject to change without notice or obligation.

WARRANTY

GME limit this warranty to the original purchaser of the equipment.

GME warrant the TX650 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.

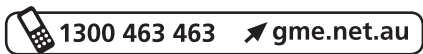
Should the product require servicing during this period, all labour and parts used to effect repairs will be supplied free of charge. GME reserve the right to determine whether damage has been occasioned by accident, misuse or improper installation whereby the warranty would be void, including equipment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

- (a) Incorrect or reverse polarity connection to a battery or power supply or to an incorrect supply voltage.
- (b) Operation without an antenna or by connection to an antenna which has been incorrectly installed, resulting in damage to the radio's output circuit.
- (c) Effects of water or moisture penetration.
- (d) 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 land 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.



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