

GME *Electrophone*

INSTRUCTION MANUAL



TX835 ***27MHz AM CITIZEN*** ***BAND TRANSCEIVER***

COMPLIES WITH AUSTRALIAN/NEW ZEALAND STANDARDS AS/NZS 4355

STANDARD COMMUNICATIONS
PTY. LTD.

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SPECIFICATIONS

GENERAL

Frequency Range:	26.965 - 27.405 MHz
Frequency Control:	Phase Locked Loop
No. of Channels:	40 as per AS/NZS 4355
Antenna Impedance:	50 Ohm
Antenna Connector:	Fly Lead with SO239 Socket
Voltage Range:	10.9 - 15.2 Volts DC
Nominal Voltage:	13.8 Volts DC
Polarity:	Negative earth
Temperature Range:	0° C to 55° C
Internal Speaker:	8 Ohm 2 Watt
Extension Speaker:	8 Ohm via 3.5mm Mono Jack
Channel Display:	Red LED
Current Protection:	2 Amp 3AG (30mm) fuse plus internal fusible link
Reverse Polarity and Overvoltage Protection:	Transient Voltage Regulator and Shunt Diode
Dimensions:	172mm (W) x 52mm (H) x 173mm (D)

TRANSMITTER

RF Power Output:	4 Watts maximum legal power
Frequency Stability:	0.001%
Modulation Mode:	AM
Modulation Sensitivity:	30% Modulation @ 1 Pascal
Frequency Response:	-12dB @ 300Hz, -8dB @ 3 kHz (relative to 1 kHz)
Hum and Noise:	Better than 40dB
Modulation Distortion:	Better than 3% @ 50% modulation

Microphone:	Electret type
Current Consumption:	1.6 Amps @ full modulation
Harmonic and Spurious Suppression:	Better than -70dBc

RECEIVER

System:	Dual Conversion Superheterodyne
IF Frequencies - 1st:	10.695 MHz
-2nd:	455 kHz
Frequency Stability:	0.001%
Sensitivity:	0.6 μ V for 12dB SINAD
Selectivity:	-36dB @ \pm 6 kHz, -60dB @ \pm 10 kHz
Image Rejection:	-70dB
Intermodulation: Blocking:	-60dB -90dB
Squelch Range:	Tight = 20 μ V, Threshold = 0.4 μ V
AGC Range:	Less than 10dB change in audio output over 1 μ V to 200 mV RF input range
Audio Output:	3 Watts into 8 Ohms (10% distortion)
Current Consumption:	Full volume = 810 mA Squelched = 320 mA
Spurious Emissions:	-70dBm
Hum and Noise:	-50dB @ 1 mV RF input
Local/Distant:	-20dB typical

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

INTRODUCTION

The GME Electrophone TX835 is a high quality 27 MHz AM CB transceiver. The TX835 is wholly designed by Standard Communications Pty Ltd in Australia. The outer case is made from Versiclad PVC coated steel. The low profile microphone plug is protected by a rubber "boot". The high intensity LED display provides good visibility under a wide range of viewing conditions. A channel 8 button is fitted to the

microphone to allow instant access to the road channel (an exclusive GME design feature). In addition, the TX835 features a display "DIM" function for night time use, a Local/Distant button for use in strong signal conditions and an advanced, user selectable, impulse-noise suppression circuit (ISC) to provide clean, clear reception even under the noisiest electrical conditions.

FEATURES

■ Front mounted Speaker

Projects the sound forward for greater clarity and less distortion, essential for panel mounted installation.

■ Interference Suppression Circuit

Uses a noise blanker circuit combined with an automatic noise limiter to almost totally eliminate impulse noise caused by electrical equipment and car ignition systems, leaving voice signals crystal clear.

■ Channel 8 recall Button

Pressing the "R/C" button conveniently located on the microphone gives immediate access to road alert channel 8.

■ Last Channel Memory

Automatically returns to the last selected channel when the "R/C" button is released.

■ Local/Distance Button

Use the Local/Distance button to improve the clarity of strong signals when the channel is congested or to reduce the effects of overload from very strong local signals.

■ Dim Function

Allows the LED display to be dimmed for night viewing to prevent distraction while driving.

■ Signal Level Indicator

Four blocks of LED's light in sequence according to the incoming signal level to indicate relative signal strength.

■ Power/Modulation Level Indicator

The LED blocks which show signal strength when receiving, also show relative power output and modulation when transmitting.

■ Electret Microphone

The electret microphone provides a higher voice level and an improved frequency response for crisper, clearer, more natural audio.

■ Miniature Microphone Plug

Utilises a 6 pin telephone style plug and socket combining superior cord grip strength with a low profile installation.

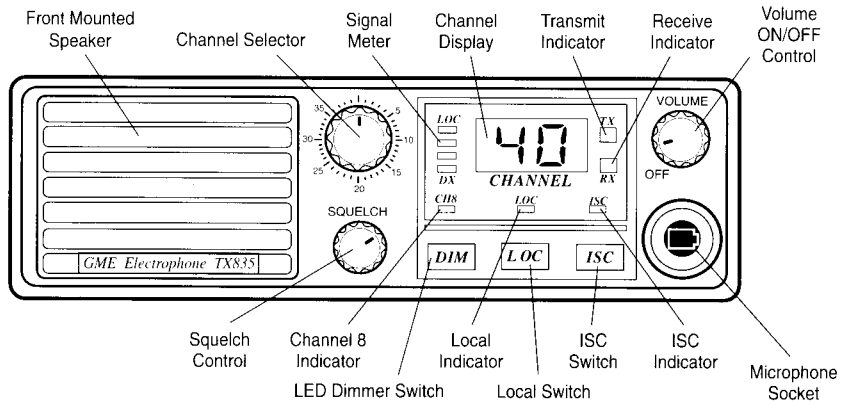
■ Built-in Speech Processor Circuitry

Automatically raises the average level of your transmitted voice for greater clarity and better penetration under poor signal conditions.

■ Superior Receiver Performance

The receiver has been specifically designed to provide high sensitivity to weak signals and superior noise performance with minimum background noise.

CONTROLS AND FUNCTIONS



VOLUME ON/OFF CONTROL: Rotate the Volume control clockwise past the click to turn the TX835 on. Adjust the volume control for a comfortable listening level.

SQUELCH CONTROL: The Squelch control is used to eliminate any annoying background noise when there are no signals present. To adjust the squelch, first rotate the control fully counterclockwise until the background noise is heard. Then advance the squelch control clockwise until the noise just disappears. The receiver will now remain quiet as long as there are no signals present, but an incoming signal will override the squelch and be heard in the speaker. As the control is advanced further clockwise, the squelch action is progressively increased and stronger incoming signals are needed to overcome it. To receive extremely weak signals or to disable the squelch, simply turn the control fully counterclockwise.

CHANNEL SWITCH: Select the required channel by rotating the channel switch either clockwise or counterclockwise. The selected channel is shown in the LED channel display. Note that if full strength sunlight falls on the channel display it may be hard to see, in which case, refer to the numbers around the channel switch knob.

ISC SWITCH: The ISC switch activates an extremely effective Interference Suppression Circuit (noise blander). When selected, the ISC combines with a built in Automatic Noise Limiter (ANL) to almost

totally eliminate electrical impulse interference, allowing clean reception of weak signals even under the noisiest electrical conditions. When the ISC switch is pressed in, the red LED above it lights.

LOC SWITCH: The LOC switch is used to activate an attenuator within the receiver. With the LOC button pressed IN, the attenuator significantly reduces the strength of incoming signals. This means that when the channel is congested, the weaker signals will disappear altogether, allowing the stronger signals to be heard more clearly. In addition, the attenuator will prevent distortion caused by overload from very strong local stations. The red LED above the LOC button lights to indicate that the LOC button has been pressed IN. Press the LOC button again to release it and return the receiver to its full sensitivity.

DIM SWITCH: The channel display and function indicators use bright LED's to enable viewing in daylight conditions. However, the high intensity of these LED's could cause distraction when driving at night. To alleviate this, a DIM function is provided to allow the display to be dimmed at night. To reduce the brightness of the display, press the DIM button IN. Press the DIM button again to release it and return to full display brightness.

CHANNEL 8 SELECTION: A Road Channel 'R/C' button is incorporated into the top of the microphone. This button allows instant access to the channel 8 road channel. When the 'R/C' button is pressed, the TX835 switches immediately to channel

8 and the CH8 LED will light. Rotating the channel switch during this time has no effect on the displayed channel. Pressing the 'R/C' button again returns control to the rotary channel switch and causes the TX835 to automatically return to the last selected channel.

SIGNAL METER: The LED signal meter displays relative signal strength in the receive mode and transmitter output power and modulation when transmitting. When receiving, the LED's light in sequence according to the signal strength received. When transmitting, the lower sections indicate the relative RF power output while the upper section flashes with modulation peaks.

RX INDICATOR: The green RX LED remains lit while the TX835 is in the receive mode and extinguishes in the transmit mode.

TX INDICATOR: The red TX LED lights only when the PTT switch is pressed.

CH8 INDICATOR: The red CH8 LED lights to indicate that channel 8 has been selected from the 'R/C' button on the microphone. The rotary channel switch will have no effect while this LED is on.

LOC INDICATOR: The red LOC LED lights to indicate that the LOC (Local) button has been pressed.

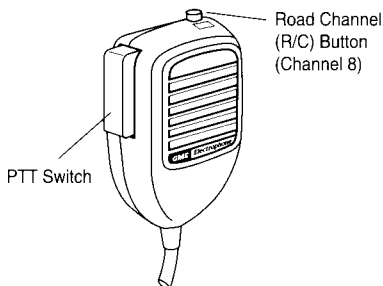
ISC INDICATOR: The red ISC LED lights to indicate that the ISC button has been pressed and the Interference Suppression Circuit is active.

MICROPHONE SOCKET: The microphone attachment on the TX835 is a unique arrangement which utilises a 6 pin telephone style plug and socket. This provides superior cord grip strength and a low profile installation. The rubber grommet at the cord entry helps to resist the entry of dust and moisture.

LED CHANNEL DISPLAY: The LED channel display shows the currently selected channel.

TRANSMITTING: To transmit, press the PTT switch on the microphone. Hold the microphone 2 - 6 cm from your mouth and slightly to one side, so that your voice does not project directly into the microphone. Speak at a normal voice level.

The TX835 has a built-in speech processor circuit which automatically controls the average level of your transmitted voice giving greater clarity and better "penetration" under poor signal conditions. It is not necessary to raise your voice or shout into the microphone.



INSTALLATION

The TX835 is supplied with a double action mounting bracket and vibration proof washers. The mounting bracket can be secured in any convenient location (i.e. under dash, above dash, on the centre console etc.).

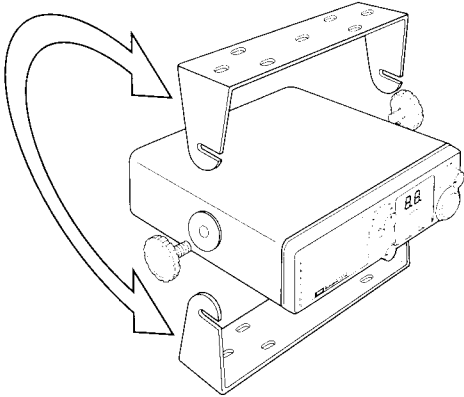
First choose a suitable location

Hold the TX835 with the mounting bracket attached, in the desired position and roughly mark the bracket's location. Then remove the bracket, and using it as a template, mark the location of the mounting bolts.

Before drilling the holes, make sure nothing will interfere with the installation of these bolts.

Avoid mounting too close to heaters or air conditioners.

The vibration proof washers have an adhesive backing on one side to enable them to be affixed directly to either the mounting bracket or the TX835's case. This allows them to remain in position when removing or refitting the radio.



DC POWER CONNECTION

The TX835 has been designed to be installed into negative earth vehicles

WARNING: Accidental reversal of the positive and negative connections may cause serious damage to the transceiver which would void the warranty. If the fuse blows, replace it with a 2 Amp 3AG (30mm) type.

There are two recommended methods of installation. You can either install the TX835 so that it remains on even when the vehicle's ignition is turned off or install it so that it turns off automatically with the vehicle's ignition key.

Radio remains on when the ignition key is off:

Connect the radio's Negative (BLACK) lead directly to the battery's negative terminal or to a suitable point on the vehicle's chassis. The radio's Positive (RED) lead should be connected directly to the positive terminal of the vehicle's battery.

Radio turns off with the ignition switch:

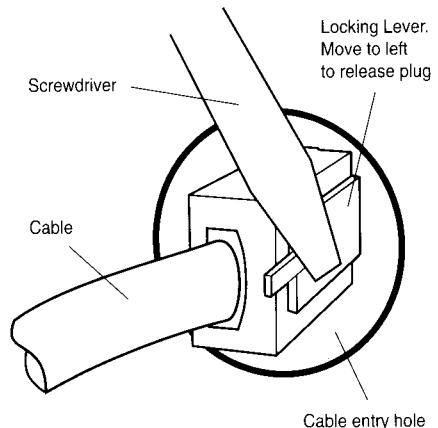
Connect the radio's Negative (BLACK) lead directly to the battery's negative terminal or to a suitable point on the vehicle's chassis. Connect the Positive (RED) lead to an accessory point in the vehicle's fuse box. This point should supply +13.8 Volts ONLY when the ignition switch is ON or in the ACCESSORY position.

MICROPHONE REMOVAL

It is recommended that the microphone be left permanently connected to the TX835, but if it must be disconnected proceed as follows:

- 1) Insert a small screwdriver between the rubber boot and the lip of the raised area on the front panel.
- 2) Ease the rubber boot out of the cable entry hole and slide it along the cable away from the front panel.
- 3) Identify the plug locking lever, work the screwdriver blade behind it and move the lever towards the plug body. At the same time gently pull the plug from the socket (see diagram). Do not try to force the plug out of the socket. If the plug does not come out easily, then it is likely that the locking lever has not been moved across far enough to release it.

If required, replacement microphones are available with plug and rubber boot already fitted.



ANTENNA CONNECTION

Never try to transmit without an antenna connected. Transmitting without an antenna may cause damage to the transceiver's RF output circuits.

The location and installation of your antenna is entirely dependent on your vehicle type, your intended usage, and whether you are prepared to make holes in your vehicle's body work.

CENTRE ROOF MOUNT: Probably the most efficient position due to the even 'ground plane' effect, the centre roof mount usually requires a hole to be made in the vehicles roof to accept the antenna base. Alternatively, the antenna can be mounted on a magnetic base or a ski bar type roof rack .

GUTTER MOUNT: The most popular method due to the ease of mounting. Performance is slightly reduced due to the uneven 'ground plane' effect causing some directivity. However, height is maintained.

GUARD MOUNT: Often more aesthetically pleasing, the guard mount has reduced performance over the gutter mount due to a combination of reduced height, and the shielding effect of the vehicles body work. However, the lower mounting position allows a longer antenna to be used, alleviating some of the inefficiencies.

BUMPER MOUNT: Usually used by 4 Wheel Drive enthusiasts due to the increased strength gained at the antenna base. Often a large spring mount coupled with a thick heavy duty flexible antenna are used to give good range and provide a high degree of damage resistance.

MIRROR MOUNT: Popular with truckies because of the convenient location allowing a very solid mount while keeping the antenna away from metal trailers and body work.

CHANNEL CHART

CH	FREQUENCY	SUGGESTED USAGE	CH	FREQUENCY	SUGGESTED USAGE
1	26.965 MHz	General AM	21	27.215 MHz	General SSB
2	26.975 MHz	" "	22	27.225 MHz	" "
3	26.985 MHz	" "	23	27.255 MHz	" "
4	27.005 MHz	" "	24	27.235 MHz	" "
5	27.015 MHz	" "	25	27.245 MHz	" "
6	27.025 MHz	" "	26	27.265 MHz	" "
7	27.035 MHz	" "	27	27.275 MHz	" "
8	27.055 MHz	" "(3)	28	27.285 MHz	" "
9	27.065 MHz	Emergency Channel (1)	29	27.295 MHz	" "
10	27.075 MHz	General AM	30	27.305 MHz	" "
11	27.085 MHz	Call Channel AM (1)	31	27.315 MHz	" "
12	27.105 MHz	General AM	32	27.325 MHz	" "
13	27.115 MHz	" "	33	27.335 MHz	" "
14	27.125 MHz	" "	34	27.345 MHz	" "
15	27.135 MHz	" "	35	27.355 MHz	" "(2)
16	27.155 MHz	Call Channel SSB (1)	36	27.365 MHz	" "
17	27.165 MHz	General SSB	37	27.375 MHz	" "
18	27.175 MHz	" "	38	27.385 MHz	" "
19	27.185 MHz	" "	39	27.395 MHz	" "
20	27.205 MHz	" "	40	27.405 MHz	" "

(1) Legally Designated. (2) Suggested 2nd SSB Call Channel (3) Suggested Road Channel

WARRANTY

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

GME ELECTROPHONE warrant this product 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 ELECTROPHONE reserve the right to determine whether damage has been occasioned by accident, misuse or improper installation whereby the warranty would be void, including:

Transceivers which have been damaged due to:

- (a) Incorrect or reverse polarity connection to a battery or power supply.
- (b) Connection to an incorrect supply voltage.
- (c) Operation without an antenna or by connection to an antenna which has been

incorrectly installed, resulting in damage to the transceivers output transistors.

- (d) Effects of water or moisture penetration.
- (e) Non-factory modifications.
- (f) Use of incorrect replacement fuse.

Procedure to be followed by claimant: In the event of a defect occurring during the twelve (12) month 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 ELECTROPHONE are the purchasers responsibility.

The dealer will forward the unit to the closest authorised GME ELECTROPHONE service depot in your particular state.

GME ELECTROPHONE AFTER SALES SERVICE

Your ELECTROPHONE transceiver is especially designed for the environment encountered in domestic or mobile installations. The use of all solid state circuitry, careful design and rigorous testing, result in high reliability. Should a failure occur however, GME ELECTROPHONE maintain a fully equipped service facility and spare parts stock to meet the customers requirements long after the expiry of the warranty period.



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