

GME

Electrophone

INSTRUCTION MANUAL

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TX822 *27 MHz AM* *TRANSCEIVER*

COMPLIES WITH SMAS 312

Issue 01

STANDARD COMMUNICATIONS
PTY. LTD.

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GENERAL DESCRIPTION

Thank you for your confidence in selecting the TX822 Transceiver. We know you will find your transceiver as exciting as it is practical. We have combined superb workmanship and modern styling with the very latest state-of-art circuitry to bring you the new TX822 Citizens Band Slimline Transceiver. It has been especially designed to give you maximum performance and reliability. Your TX822 is completely factory aligned and quality assurance tested. To obtain the maximum benefit and pleasure from your TX822 please read the contents of this manual very carefully before attempting to install or operate the transceiver.

FEATURES

- **INSTANT CHANNEL 8 RECALL:** By simple push button selection on the front panel.
- **LAST CHANNEL MEMORY:** Instantly returns to the last used channel when the channel 8 button is released.
- **ELECTRONIC CHANNEL CHANGE:** Push buttons for up/down channel selection.
- **FULL 40 CHANNEL OPERATION:** PLL frequency synthesised circuitry allows transmission and reception on all 40 channels of the 27 MHz Citizens Band Radio Service.
- **COMPACT SIZE:** Smaller than most other CB transceivers, the TX822 takes up less space in your vehicle. Only 130mm wide x 33mm high x 140mm deep.
- **YOUR TX822 TRANSCEIVER** comes complete with: P.T.T. hand microphone, DC lead, transceiver and microphone mounting brackets and all mounting hardware.

POWER SUPPLY

The transceiver is ready for connection to a 13.8 V DC, negative ground system. DC power is connected by means of a fused power lead.

RECEIVER

The TX822 contains a sensitive and highly selective dual-conversion superheterodyne receiver providing crystal-controlled PLL operation on all 40 channels. Incorporated in the circuit are a number of features designed to provide optimum reception. There is an effective audio stage. A ceramic filter provides sharp selectivity and high adjacent channel rejection. As a result, transmissions on adjacent channels cause minimum interference. A variable squelch control "silences" the receiver when no signals are being received. The squelch circuit is adjustable providing varying degrees of sensitivity to incoming signals.

TRANSMITTER

The transmitter offers stable operation delivering a full 4 watts RF output. High efficiency transistors, integrated circuits and low loss components are used for high reliability.

CHANNEL 8 SELECTION

The TX822 incorporates GME Electrophone's exclusive channel 8 programming in the PLL synthesiser I.C., allowing instant push button selection of the road channel.

SPECIFICATIONS

GENERAL

Channels: 40
Frequency Range: 26.965 to 27.405MHz
Frequency Control: Phase Locked Loop (PLL) Synthesiser

Temperature

Range: 0° C to +55° C
Microphone: Plug-in type, electret
Input Voltage: 13.8V DC nominal
Size: 130mm (W) x 140mm (D) x 33mm (H)

Weight: 700 grams
Antenna Connector: SO239 panel mounted socket

TRANSMITTER

Power Output: 4 Watts maximum
Modulation: Amplitude modulation
Frequency Response: 300 Hz to 3000 Hz
Output Impedance: Nominal 50 Ohms
Spurious Emissions: More than 65dB down
Current Drain: 1.7 Amp Max (AM full mod)

RECEIVER

Sensitivity: Less than 0.7µV for 12dB SINAD
Selectivity: More than 50dB @ + 10 kHz
Image Rejection: 45dB typical
IF Frequencies: Double Conversion;
 1st: 10.7 MHz
 2nd: 455 kHz
Squelch: Adjustable;
 Threshold : 0.3uV
 Tight: 3.2mV
Audio Output Power: 2.5 Watts RMS @ 8 Ohms
Frequency Response: 300 Hz to 3000 Hz
Distortion: Less than 10% @ 2.5 Watts @ 1000 Hz
Built-in speaker: 8 Ohms 2 watts (round)
External speaker: 8/16 Ohms
Current Drain: Squelched: 0.14 Amp
 Full audio : 0.6 Amp

Specifications are typical performance at the nominal voltage and are subject to change without notice or obligation.

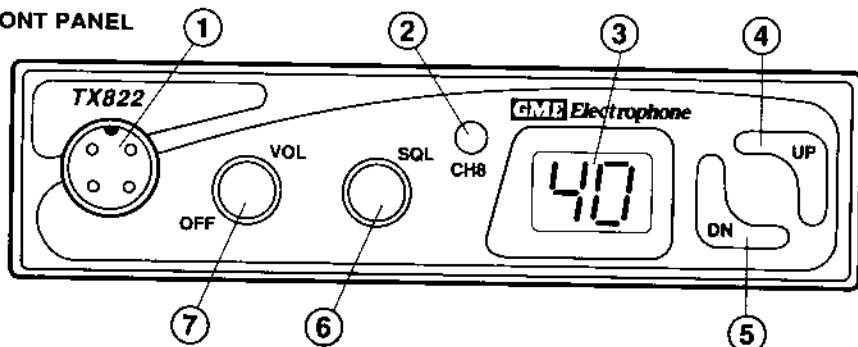
CHANNEL/ FREQUENCY CHART

CH	FREQUENCY	SUGGESTED USAGE	CH	FREQUENCY	SUGGESTED
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	Emerg. 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 Channel (3) Suggested Road Channel

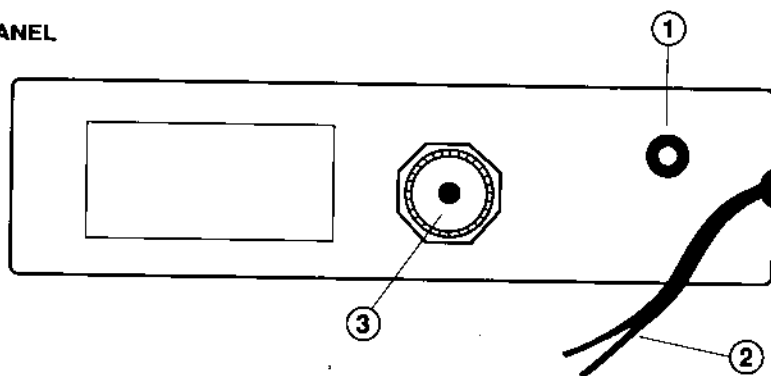
OPERATION CONTROLS

FRONT PANEL



- 1. Microphone Socket**
- 2. Channel 8 Selector Switch**
Press IN to immediately select the road channel. Press IN again to release the switch and return to the previously selected channel.
- 3. LED Channel Indicator**
- 4. Channel Change UP Button**
Press once to step UP one channel. Hold to quickly increase the channel numbers.
- 5. Channel Change DOWN Button**
Press once to step DOWN one channel. Hold to quickly decrease the channel numbers.
- 6. Squelch Control**
Used to quieten the receiver when there are no signals present.
- 7. Volume ON/OFF Control**
Controls the audio output level from the built-in speaker, or from any extension speaker connected to the extension speaker socket on the rear panel. Incorporates the ON/OFF power switch.

REAR PANEL



- 1. Extension speaker Socket**
Allows connection of an external speaker (8 - 16 Ohms) using a standard 3.5mm plug. Fitting a plug to this socket automatically silences the internal speaker.
- 2. DC Power Lead**
For connection to a 13.8V DC power source.
- 3. Antenna Connector**
SO239 socket to suit a standard PL259 type coaxial antenna plug.

OPERATING INSTRUCTIONS

IMPORTANT

NEVER ATTEMPT TO TRANSMIT WITHOUT AN ANTENNA CONNECTED TO THE TRANSCEIVER, OTHERWISE DAMAGE MAY OCCUR TO THE OUTPUT TRANSISTORS WHICH WOULD VOID THE WARRANTY.

RECEIVE OPERATING PROCEDURE

1. Turn the radio on by rotating the **VOLUME** control (7) clockwise past the click.
NOTE: The Microphone must be plugged in for the receiver to operate.
2. Adjust the **VOLUME** control for a comfortable listening level.
3. Turn the squelch control (6) fully counter clockwise. While listening to the background noise from the speaker, turn the **SQUELCH** control slowly clockwise until the noise just disappears. The squelch is now properly adjusted. The receiver will remain quiet until a signal is received. Do not advance the control too far, otherwise some of the weaker signals will not open the squelch.
4. Press the **CH8** button on the front panel for instant channel 8 selection. When the switch is released, the TX822 will return to the last used channel.
5. Select the required channel by pressing the channel change buttons (4 or 5). The **UP** button will select higher channels and the **DOWN** button will select lower channels. Holding either button for more than 1 second will cause the radio to scan at a rate of 10 channels per second.

TRANSMITTING

To transmit, press the push-to-talk (PTT) button on the side of the microphone. Hold the microphone 2 - 6 cms 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. Release the PTT button to receive.

INSTALLATION

The TX822 is supplied with a mounting bracket with vibration proof washers. The mounting bracket can be secured to any convenient location (e.g. under the dash, above the dash, on the console, etc.). First choose a suitable location. Always mount the radio where the controls are readily accessible. Hold the TX822 with the mounting bracket in the desired position, remove the bracket, and use it as a template to mark the location for the mounting bolts. Before drilling the holes, make sure nothing interferes with the installation of these bolts. Avoid mounting close to heaters and air conditioners. Attach the transceiver to the bracket using the two threaded knobs and the two rubber washers. Tilt the unit to the most convenient angle before tightening the securing knobs.

DC POWER CONNECTION

The TX822 is suitable for connection in negative earth vehicles. The transceiver is designed to operate from a voltage source of 11.5 to 15.5 volts DC, using the fused DC cable supplied.

Connect the Black (negative) lead to the chassis of the vehicle. The red (positive) lead is connected to a "live" accessory point in the vehicle's electrical system. i.e. The Red lead can be connected to the accessory side of the ignition switch. This enables the radio to be turned **ON** and **OFF** with the ignition Key. When wired this way, channel 8 will be selected when the radio is switched on. [Refer to figure 2(a)].

Alternatively, the Red lead can be connected directly to the positive terminal of the battery. This is preferable in situations where the ignition is to be switched **OFF** but the radio is to remain **ON**. [Refer to figure 2(b)]. This installation retains the "last channel" memory which causes the last used channel to be selected when the radio is switched on.

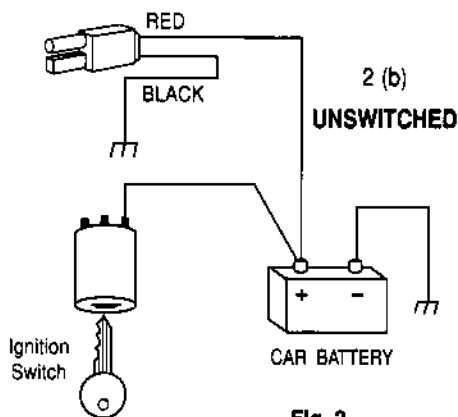
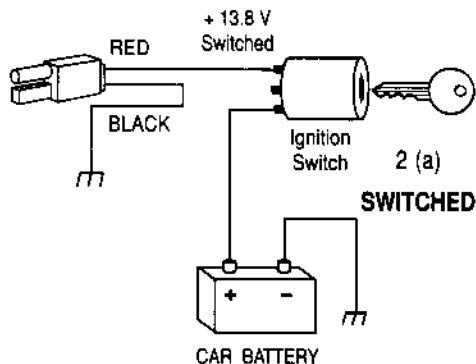


Fig. 2
NEGATIVE EARTH SYSTEMS

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 TYPE.

ANTENNA CONNECTION

The cable from the antenna must be terminated in a PL259 coaxial plug. Connect this plug to the matching socket (3) on the rear of the set and tighten the outer ring.

DO NOT PRESS THE TRANSMIT BUTTON WITHOUT AN AERIAL CONNECTED OR PERMANENT DAMAGE MAY OCCUR.

ANTENNA INSTALLATION

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. The most common methods of antenna installation are:

- (a) Centre Roof Mount
- (b) Gutter Mount
- (c) Guard Mount
- (d) Bumper Mount
- (e) Mirror Mount

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 vehicle's roof to accept the antenna base. Alternatively, the antenna can be mounted on a magnetic base.

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 decreased height and the shielding effect of the vehicle's 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 long, thick heavy duty flexible antenna are used to give good range and indestructibility.

Mirror Mount: Popular with truckies because of the convenient location allowing a very solid mount while keeping the antenna away from metal trailers and bodywork.

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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