

GME

Electrophone

INSTRUCTION MANUAL



TX3000 40 CHANNEL UHF TRANSCEIVER

COMPLIES WITH ECR 250

**STANDARD COMMUNICATIONS
PTY. LTD.**

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GENERAL DESCRIPTION

The 476/477 MHz UHF Citizens Band Communications service is available to all Australians as a high quality FM two way radio system for business, farming or private use.

The GME Electrophone TX3000 UHF transceiver has been wholly designed and manufactured in Australia by Standard Communications Pty. Ltd to exceed all the requirements of this service, while withstanding the forces of the harsh Australian environment.

The TX3000 incorporates the very latest CAD/CAM (computer aided design, computer aided manufacturing) techniques to produce a UHF CB transceiver with outstanding specifications and performance. In addition the TX3000 incorporates a Liquid Crystal Display and a fully user programmable Scan function.

FEATURES

- **Microprocessor controlled frequency synthesiser:** Allows user programmable control of scanning and channel memory storage.
- **Lithium Battery Backup:** All user programmable settings are retained in memory, even when disconnected from the power supply.
- **Programmable Scan function:** Scans up to 40 user programmable channels at a rate of 10 channels per second.
- **Liquid Crystal Display:** Fully detailed LCD provides a visual indication of all selected functions and the selected channel at a glance.
- **High Contrast Back Lighting:** The LCD is fully back lit for hassle free operation day or night.
- **Individually Programmable DUPLEX function:** Now user selectable for only those individual channels in your area that have repeaters, leaving the others free for use as extra simplex channels.

- **Surface Mount Microchip Technology:** Only the very latest techniques in surface mount component selection, assembly and Quality Assurance are used to ensure the highest quality and reliability is achieved and maintained.
- **Electret Microphone:** The TX3000 uses a high quality electret microphone to provide an improved frequency response for crisper, clearer audio.
- **Rugged 3 Watt 4 Ohm Speaker:** The case mounted speaker is now more powerful than ever and its low 4 Ohm impedance means more sound is available when required.
- **Designed and Manufactured in Australia:** The TX3000 has been totally designed and manufactured in our factory at Gladesville NSW to meet the demanding needs of the Australian community.

SPECIFICATIONS

GENERAL

Frequency Range: 476.425 - 477.400 MHz

Frequency Control: Microprocessor
Controlled Synthesiser

No of Channels: 40

Channel Spacing: 25 kHz

Antenna Connector: SO239 Panel Socket

Voltage Range: 10.5 - 15.2 Volts DC

Nominal Voltage: 13.8 Volts DC

Polarity: Negative Earth System

Temperature Range: - 10° C to + 60° C

Dimensions: 171mm(W) x 41mm(H) x
140mm(D)

Current Protection: 2 Amp in-line Fuse

Reverse Polarity & Overvoltage

Protection: Series Diode

Speaker: 3 Watt 4 Ohm high
efficiency (Bottom cover
mounted).

Scan Rate: 0.1 Seconds
(10 channels / second)

TRANSMITTER

RF Output Power: 5 Watts max. legal
power @ 11.5 - 15.2
Volts

Frequency Stability: Better than ± 5 ppm

Modulation Mode: FM

Frequency

Response: 300 Hz - 3 kHz,
6 dB per Octave pre-
emphasis + microphone
pre-emphasis

Modulation

Deviation: Within ± 5 kHz (+20 dB
limiting @ 300 Hz - 3 kHz)

Hum and Noise: - 40 dB

Modulation

Distortion: 3% @ ± 3 kHz Deviation

Microphone: Electret

Microphone Input

Sensitivity: 1 Pascal @ 1 kHz for
 ± 1.5 kHz Deviation

Spurious

Emissions: Better than -70 dBc

Current

Consumption: 1.9 Amps

RECEIVER

Circuit System: Double Conversion
Superheterodyne

I.F. Frequencies: 1st 21.4 MHz
2nd 455 kHz

Frequency Stability: Better than ± 5 ppm

Sensitivity: 0.3 μ V for 12 dB SINAD
0.5 μ V for 20 dB noise
quieting

Selectivity: - 6 dB @ ± 7.5 kHz
- 65 dB @ ± 25 kHz

Image Rejection: 1st IF - 66 dB
2nd IF - 75 dB

Spurious Rejection: Better than - 70 dB

Blocking: Better than - 90 dB
@ ± 200 kHz

Intermodulation: Better than - 68 dB

Hum and Noise: - 40 dB

Frequency

Response: 300 Hz - 3 kHz, 6dB per
Octave de-emphasis

Squelch Range: Threshold = 0.15 μ V
Tight = 0.7 μ V

Audio Output: 3 Watts @ 4 Ohms

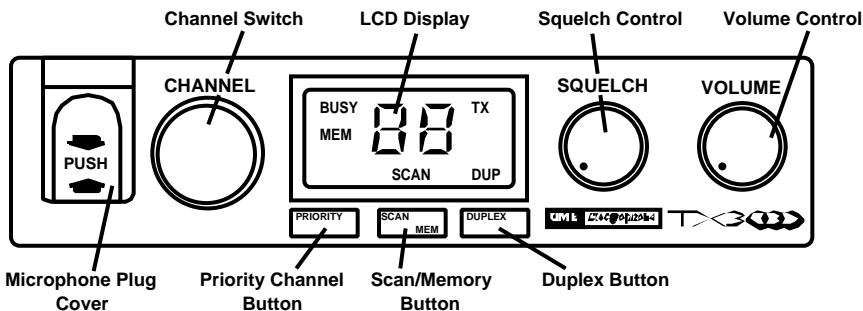
Current

Consumption: Squelched = 300 mA
Full Volume = 680 mA

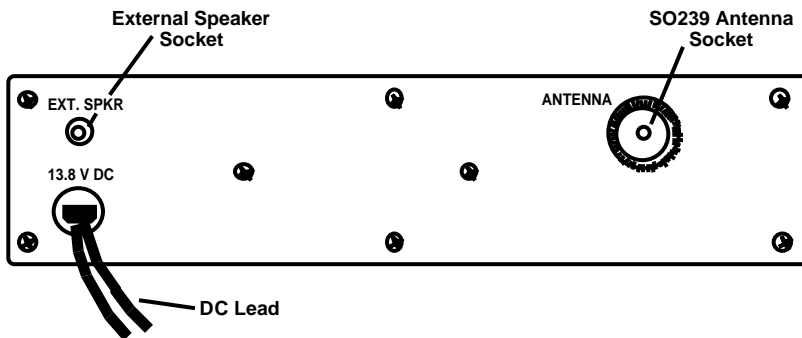
Specifications are typical performance at the nominal voltage and are subject to change without notice or obligation.

CONTROLS

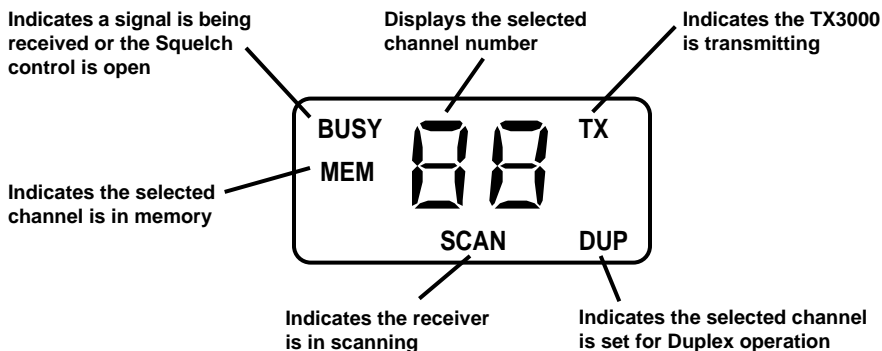
Front Panel



Rear Panel



Liquid Crystal Display



OPERATION

VOLUME

Rotate the Volume control clockwise past the "click" to turn the TX3000 ON. Adjust the Volume control for a comfortable listening level.

If no sound is heard, adjust the Squelch control fully counter-clockwise, then readjust the Volume control.

BACK LIGHTING

The TX3000 features built-in back lighting of the LCD display. The back lighting is permanently lit.

SQUELCH

The Squelch control is used to eliminate any annoying background noise when there are no signals present. To adjust the Squelch, first rotate the Squelch control fully counter-clockwise until the background noise is heard and the **BUSY** indicator on the LCD is displayed. Then advance the Squelch control clockwise until the noise just disappears and the **BUSY** indicator is extinguished. At this point the receiver will be quiet under "no signal" conditions, but an incoming signal will overcome the squelch action and be heard in the speaker. As the control is further advanced 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 counter-clockwise.

CHANNEL

Select the required channel by rotating the Channel selector switch clockwise or counter-clockwise. Rotating clockwise selects higher channels and counter-clockwise select lower channels. The selected channel is displayed on the LCD display.

NOTE: Your TX3000 has a "last selected channel" memory. Each time you switch your TX3000 on, it will automatically re-select the channel that was last in use when it was turned off.

DUPLEX

Duplex operation allows the TX3000 to transmit on a different channel to that which it receives. This allows operation through any repeater stations in your area. Repeaters automatically re-transmit your signal, providing greatly increased range.
(See section on repeaters later in this manual).

The Duplex function works only on channels 1 to 8. When Duplex is selected on one of these channels, the TX3000 receives on the selected channel but actually transmits 30 channels higher.

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

The TX3000 allows you to programme Duplex operation on individual channels rather than the usual method of programming all or none. This is particularly useful in country areas where there may only be one or two repeaters. These repeater channels can be programmed for Duplex operation and the rest left as normal (Simplex) channels for use in direct station to station communication.

To programme an individual channel for DUPLEX operation:

1. Select the required channel (1-8).
2. Momentarily press **DUP**.
3. "DUP" will appear in the LCD display accompanied by a high beep.

Now, whenever that channel is selected, it can be used as a DUPLEX (repeater) channel.

To Cancel the Duplex operation on the selected channel, press **DUP** again. A low beep will be heard and "DUP" will disappear from the display on that channel.

Note: The TX3000 will only allow DUPLEX to be selected on channels 1-8. If **DUP** is pressed on any other channel a long low beep will be heard and the command will be ignored.

SCANNING

The TX3000 is provided with a Scan function to allow up to 40 user programmed channels to be scanned for activity. Channels are scanned at a rate of 10 channels per second. If the receiver scans a busy channel, scanning will pause to allow the signal to be heard. Scanning resumes automatically, 5 seconds after the channel becomes clear again.

In addition, if you turn your TX3000 OFF while it is scanning, it will automatically begin scanning when you turn it on again.

Your TX3000's Scan memory has been factory programmed with all 40 channels.

To Scan:

Press and release the **SCAN** button momentarily. A high beep will be heard and the radio will begin scanning those channels stored in the Scan memory. Channels are scanned in an ascending sequence (ie from lowest to highest channel number). If a busy channel is found, the receiver will "lock" onto it and will remain there for as long as the channel remains busy, and for 5 seconds after the transmission ceases. This allows the TX3000 to hold the channel during short breaks in the conversation. Once the channel has remained clear for 5 seconds, the radio will resume scanning. While in the Scan mode, **SCAN** is visible on the LCD display.

Holding a busy channel:

If you wish to HOLD a busy channel, momentarily press the **SCAN** button once. Your TX3000 will Exit the **SCAN** mode and will stay on the busy channel. Alternatively, you can momentarily press the PTT button on the microphone.

When you are ready to continue scanning, momentarily press the **SCAN** button again. The radio will re-enter the **SCAN** mode and resume scanning from the Next channel.

Skipping a busy channel:

If you don't wish to listen to a busy channel you can **skip** over it by momentarily pressing the **SCAN** button TWICE. The radio will briefly exit the Scan mode, then resume scanning from the next channel.

To Exit the Scan mode:

You can Exit the Scan mode at any time by momentarily pressing the **SCAN** button. A low beep will be heard, the radio will stop scanning, and **SCAN** will disappear from the LCD display.

***Note:** The TX3000 will not Scan unless there are two or more channels in the scan memory. If there are less than two channels in memory, a long low beep will be heard and the command will be ignored.*

PROGRAMMING THE SCAN MEMORIES

Any channel in the range of 1 to 40 can be programmed into or removed from the Scan memories. The method for programming the Scan memory is as follows:

1. Check that the TX3000 is NOT currently in the Scan mode. If it is, cancel the Scan mode by momentarily pressing the **SCAN** button.
2. Rotate the channel selector switch until the desired channel is displayed.
3. Check to see if **MEM** is visible in the LCD display.
 - If **MEM** *is* displayed, then the channel you have selected is already stored into the Scan memory.
 - If **MEM** *is NOT* displayed, the selected channel is **not** in the memory.

To ADD the selected channel to the Scan memory:

Press and HOLD the **SCAN/MEM** button until a high beep is heard. **MEM** will appear in the LCD display, indicating the selected channel is now stored in memory.

To REMOVE the selected channel from the Scan memory:

Press and HOLD the **SCAN/MEM** button until a low beep is heard. **MEM** will disappear from the LCD display indicating the selected channel is no longer in memory.

***Note:** Each press and HOLD sequence of the **SCAN/MEM** button will toggle the selected channel in and out of memory.*

PRIORITY CHANNEL

The TX3000 allows you to store a priority channel which can be instantly recalled at the press of a button. This could be your normal working channel or your local repeater channel.

To STORE a channel in the Priority channel memory:

1. Select the required channel using the channel selector switch.
2. Press and HOLD the **PRIORITY** button until a high beep is heard.

The selected channel is now stored in memory.

To Recall the Priority channel:

Press the **PRIORITY** button momentarily. The radio will immediately jump to the channel programmed into the Priority channel memory. If the radio was Scanning, the Scan function will be cancelled.

To Change the Priority Channel:

To change the Priority channel simply select a new channel and repeat step 2 of the procedure above for storing a Priority channel. The new Priority channel will overwrite the old channel.

TRANSMITTING

To transmit, press the PTT button on the side of the microphone. Hold the microphone 2-6 cm's from your mouth and slightly to one side, so that your voice does not project directly into the microphone. Speak in a normal voice level. The TX3000 is fitted with an electret microphone which is quite sensitive to normal voice levels. It is not necessary to raise your voice or shout into the microphone.

You will find the TX3000 will not allow you to transmit using the PTT button while Scanning (unless the scan has paused on a busy channel). If you press the PTT while Scanning, a continuous low beep will be heard until the PTT button is released.

INSTALLATION

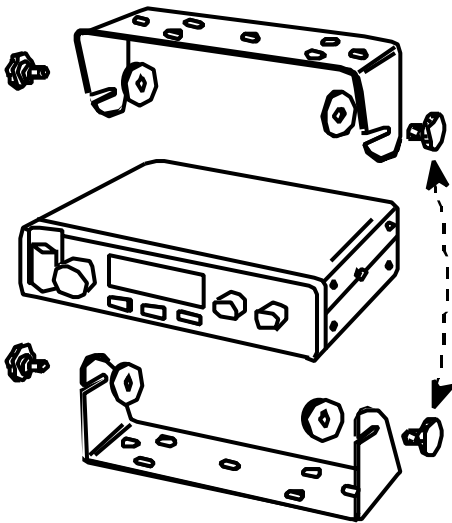
The TX3000 is supplied with a mounting bracket and vibration proof washers. The mounting bracket can be secured in any convenient location (i.e. under dash, above dash, on centre console etc.).

First choose a suitable location

Hold the TX3000 (with the mounting bracket fitted) in the desired location and roughly mark the position. Then remove the bracket, and, using it as a template, mark the location of the mounting bolts.

Before drilling the holes, make sure nothing interferes with the installation of these bolts. Avoid mounting 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 TX3000's case. This allows them to remain in position when removing or refitting the radio.



remains on when you turn your vehicles ignition key off, or you can wire the radio so it turns off with the vehicles ignition switch.

Radio remains ON when the vehicles ignition is turned OFF

Connect the radio's negative (**Black**) lead to the vehicles chassis, or if preferred, directly to the battery's negative terminal.

The radio's positive (**Red**) lead should connect directly to the battery's positive terminal, or to the fuse box at a point which has +13.8 Volts continuously available (preferably the battery side of the ignition switch).

Radio turns OFF with the ignition switch

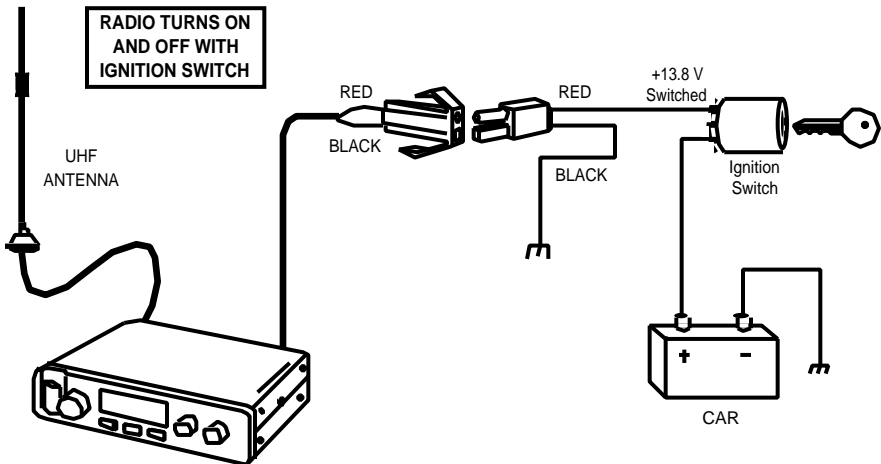
Connect the radio's negative (**Black**) lead to the vehicles chassis, or if preferred, directly to the battery's negative terminal.

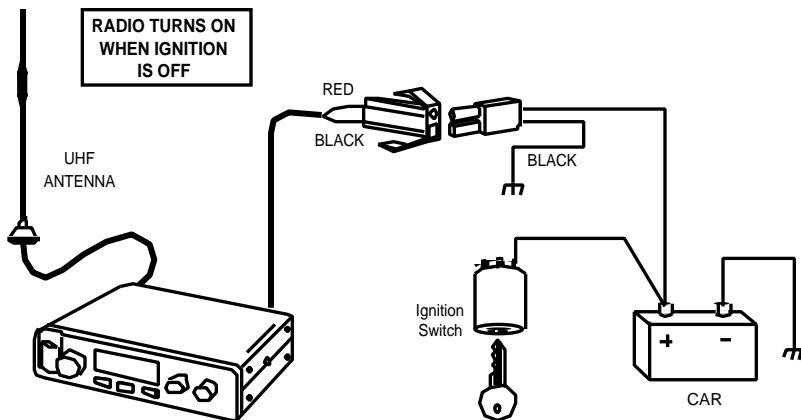
DC POWER CONNECTION

The TX3000 is designed for negative earth installations only (ie. where the negative terminal of the battery is connected to the chassis or frame of the vehicle).

There are two recommended methods of installation. You can install the TX3000 so that it

The radio's positive (**Red**) lead should connect to an ACCESSORY point in the vehicles fuse box. This point should supply +13.8 Volts ONLY when the ignition switch is ON or in the ACCESSORY position.





ANTENNA CONNECTION

GME Electraphone can supply a wide range of mobile and base station antennae designed specifically for UHF communications. The antennae are fitted with PL259 coaxial plugs suitable for connection to the antenna socket attached to the rear of the TX3000.

NEVER TRANSMIT WITHOUT AN ANTENNA CONNECTED OTHERWISE DAMAGE TO THE TRANSCEIVER MAY RESULT .

REPEATERS

A repeater consists of a transmitter / receiver system installed in a prominent location. The repeater is designed to receive signals on one designated channel and re-transmit them on another channel. Repeaters are usually located in prominent positions (on hills, mountains or tall buildings, so that their receive and transmit ranges are greatly increased over normal base or mobile installations. This allows the repeaters

to receive and re-transmit signals that would normally be out of range of many base or mobile transceivers in the area.

UHF CB repeaters in Australia are designed to receive signals on channels 31 to 38 and re-transmit them on channels 1 to 8 (ie 30 channels lower).

ie. A station transmitting on channel 31 would have his signal repeated on channel 1.

Normally, UHF transceivers transmit and receive on the same channel. This is known as **SIMPLEX**. However, to communicate through repeaters, your transceiver must be able to transmit on a different channel to that which it receives (known so **SEMI-DUPLEX**, or **DUPLEX** for short). Your TX3000 has been fitted with a **DUPLEX** button to allow you to select the **DUPLEX** mode for operation through repeaters. The **DUPLEX** button only operates on channels 1 to 8. When selected, your TX3000 will receive on channels 1 to 8 but will transmit on channels 31 to 38.

TX6000 & ACCESSORIES

TX6000 40 CHANNEL UHF TRANSCEIVER

The new GME Electrophone TX6000 is a superbly specified hand portable UHF CB Transceiver. Completely designed and built in Australia, the compact Die-cast enclosed design, full feature set and unparalleled performance set the TX6000 apart from anything else on the market today.



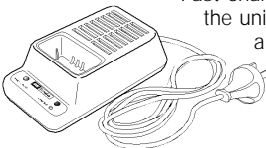
FULL FEATURE SET INCLUDES:

- Microprocessor Controlled PLL Frequency Synthesiser
- Non Volatile EEPROM memory
- Switchable 5 Watt/1Watt RF output power
- Open Scan and Group Scan Modes
- Dual Watch Function
- One Touch Selectable Priority Channel Button
- Individually Programmable Duplex Function
- Quiet Mode
- CCIR Five-tone Selcall
- Four Selcall Memories
- ANI (Automatic Number Identification)
- High Contrast Liquid Crystal Display with Backlighting
- Digital Signal Strength Meter
- Keylock Feature
- Selcall Disable Mode
- Heavy Duty 700mAh Ni-Cad Battery Pack
- Advanced Power Saving Feature (Sleep Mode)
- Designed and ready for optional scrambler
- Low Battery Warning

TX6000 FULL RANGE OF OPTIONAL ACCESSORIES

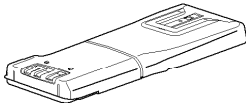
● BCD6000.

Fast charger and battery conditioner. Not only is the BCD6000 a fast charger, but the unit incorporates a battery conditioning circuit for cycling the battery through a controlled discharge and recharge cycle. This allows longer use from your batteries. The charger will charge a BP6000 with or without the radio attached, in around 3 hours.



● BCV6000.

12V Vehicle cigarette lighter charger. The BCV6000 plugs into the battery pack and allows you to use the TX6000 while it is charging.



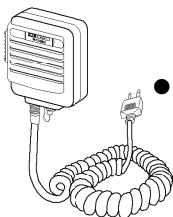
● BP6000.

700mAh Ni-Cad sealed battery with charge input.



● LC6000.

Leather Carry Case with clear windows for display will protect your TX6000 from damage and general wear and tear.



● MC6000.

Remote Speaker Microphone with earphone monitor jack.



● AE6000HG.

2db Gain flexible antenna.



● HS6000.

Headset with flexible Boom Microphone and PTT switch.



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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