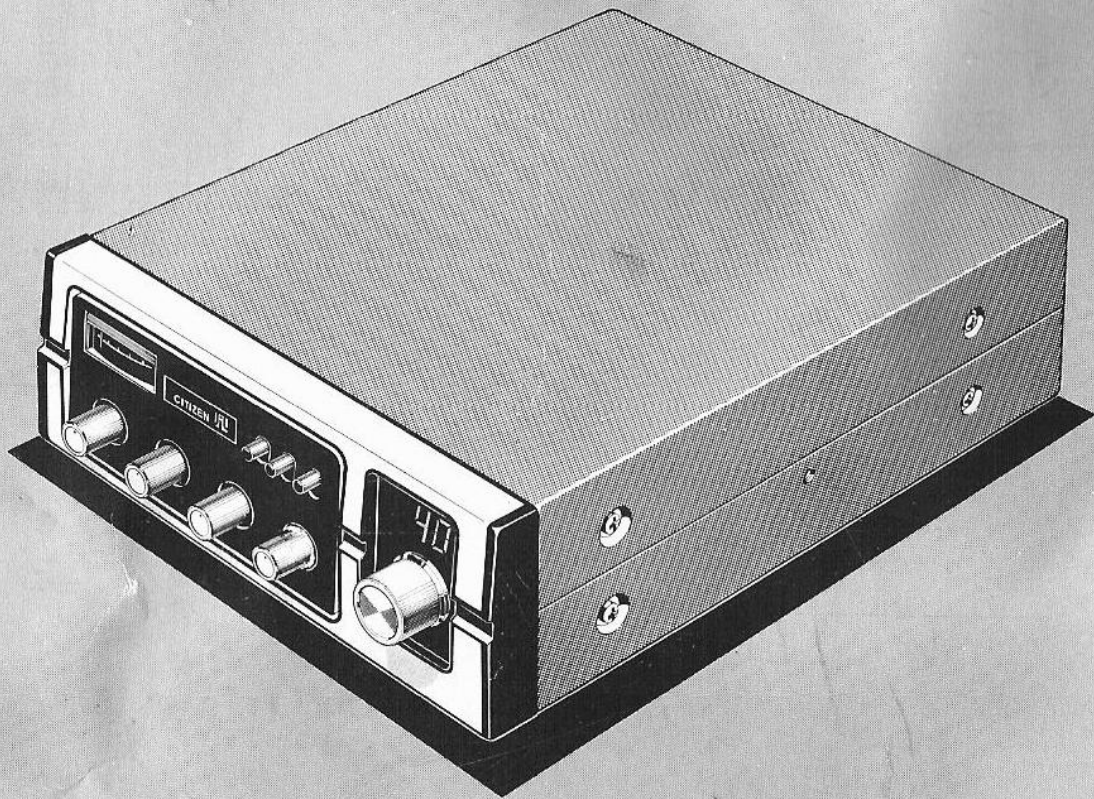


CITIZEN



**40-CHANNEL SOLID STATE SSB/AM MOBILE
CB TRANSCEIVER**

MODEL MPL5 OWNER'S MANUAL



Jutan International Limited

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SPECIFICATIONS

GENERAL

Circuitry	5 ICs, 2 FETs, 41 Transistors and 41 Diodes
Frequency Control	PLL (Phase Lock loop) Synthesizer
Channels	40
Mode of Operation	LSB-USB-AM
Power Source Voltage	13.8V DC
Speaker	Dynamic, 3 $\frac{3}{4}$ ", 8 ohms
Microphone	Dynamic, 500 — 600 ohms

REVEIVER

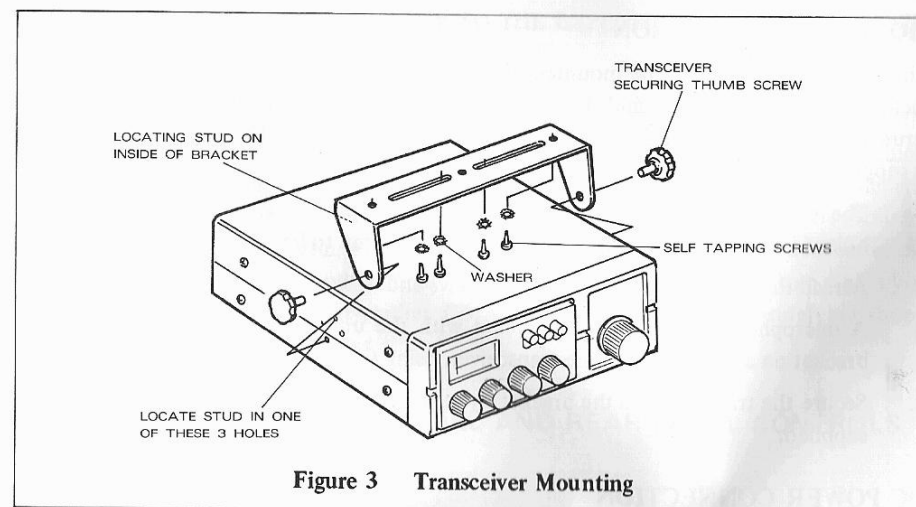
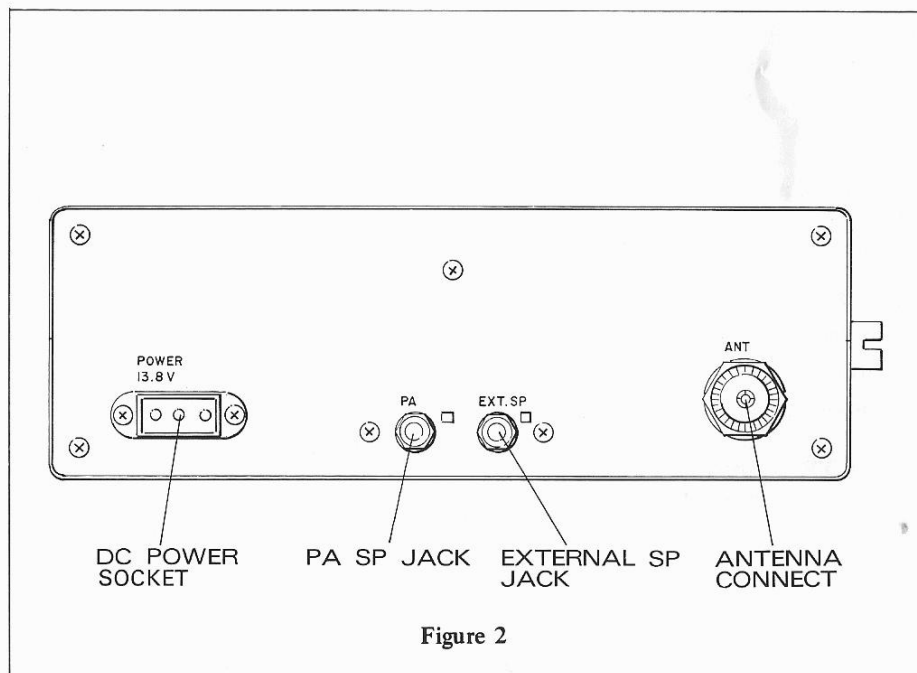
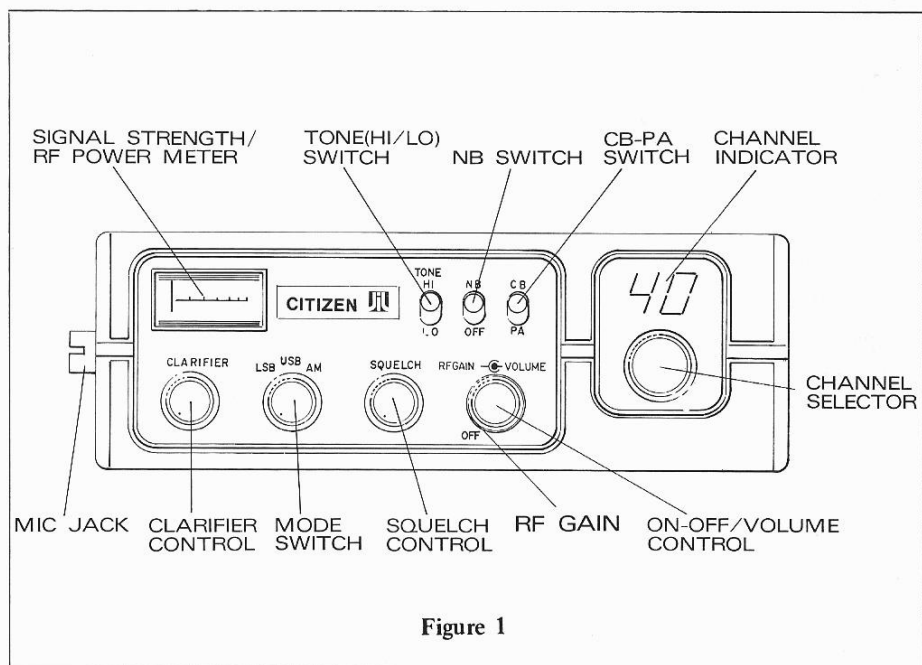
System	Single conversion superheterodyne (SSB) Dual conversion superheterodyne (AM)
Sensitivity	0.25 μ V for 10 dB S/N (SSB) 1 μ V for 10 dB S/N (AM)
Selectivity	2 kHz at 6 dB down (SSB) 6 kHz at 6 dB down (AM)
Clarifier	$\pm$ 800 Hz
Audio Output Power	3 watts at 8 ohms
Squelch Range	0.5 to 300 μ V (SSB and AM)
Intermediate Frequencies	10.695 MHz (SSB) 1st — 10.695 MHz, 2nd — 455 kHz (AM)

SSB TRANSMITTER

Generation	Double balanced modulator with crystal lattice filter
RF Power Output	12 watts PEP, legal max., at 13.8V DC
Carrier Suppression	More than 40 dB down
Unwanted Sideband Suppression	More than 60 dB down
Harmonic Suppression	More than 60 dB down

AM TRANSMITTER

Modulation	High level class B
RF Output Power	4 watts, Legal max., at 13.8V DC
Harmonic Suppression	More than 60 dB down



Your Model MPL-5 is a full 40-channel AM/SSB Citizens Band Mobile Transceiver skillfully constructed by employing the latest PLL (Phase Lock Loop) frequency synthesizing technology. The transceiver features a floating electrical ground system which makes the transceiver able to be used in either a Positive or Negative Ground System in your vehicle. The transceiver incorporates many other features such as an NB circuit for quiet receiving operation, Clarifier for clearer reception, digital channel read-out (LED), PA system, etc. All controls and switches are frontmounted for your convenience. All solid state, compact, light weight, suitable for mobile use.

NOTE: This transceiver is designed for use under department of Communication (D.O.C.) rules and regulations and you are prohibited to transmit with this transceiver until you obtain your general radio service license.

The license may be obtained by submitting the D.O.C. license application form (supplied with the unit) to the D.O.C.

You are required to read and understand the D.O.C. rules and regulations before operating the transceiver.

The regulations will be available from your nearest D.O.C. radio regulations office.

It is also prohibited by the D.O.C. to adjust the transmitter circuit of the transceiver.

MOBILE INSTALLATION

First choose a location to be mounted. The location should be the place which is convenient to use the transceiver and does not interfere the driver. Usually underside of the instrument panel or dashboard of a vehicle will be selected. A special bracket for this purpose is supplied with the unit.

1. The transceiver will be mounted as illustrated in Figure 3. First drill three or four holes (diameter about: 3.6 mm/1/8") to the location to be mounted.
2. Attach the bracket, using selftapping screws and washers supplied.
3. A microphone hanger is also supplied with the unit. If necessary, also attach the bracket on a place close to the transceiver, using two screws included.
4. Secure the transceiver to the bracket by means of the large thumb screws and washers supplied.

DC POWER CONNECTION

This transceiver is designed to be operated from a 12V DC battery on Negative or Positive Ground System.

A. Power Connection for Negative Ground System

1. Connect Black power lead from the transceiver to the metal chassis ground of the vehicle or negative battery terminal.
2. Connect Red power lead from the transceiver to the any convenient hot (positive) side of the electrical system or Plus (+) battery terminal.

B. Power Connection for Positive Ground System

1. Connect Red power lead from the transceiver to the metal chassis ground of the vehicle or positive battery terminal.
2. Connect Black power lead from the transceiver to the any convenient hot (negative) side of the electrical system of Minus (-) battery terminal.

NOTE: When you are in doubt about the electrical ground system in your vehicle, please consult with your car dealer. But when you can not obtain the necessary information, **directly connect the Red power lead to the Plus (+) battery terminal and Black power lead to the Negative (-) battery terminal** to avoid any possible short circuit due to misunderstanding.

ANTENNA CONNECTION

BEFORE OPERATING THE TRANSCEIVER, YOU MUST CONNECT A PROPER ANTENNA SYSTEM. OPERATING THE TRANSCEIVER WITHOUT AN ANTENNA OR A

DUMMY LOAD MAY CAUSE DAMAGE TO THE EXPENSIVE RF POWER TRANSISTORS.

The antenna is one of important factors in operation of the transceiver with its full efficiency. Improper antenna may decrease reception sensitivity and lowers the communication range in transmitting. The CB antenna and its mounting method will largely depend upon the type of your vehicle, mounting position, etc. Also the antenna may be different according to your needs — using the transceiver as a mobile or base station transceiver. So we will recommend you to consult about these matters with your dealer from which you purchased the transceiver or any other CB/Amateur radio equipment supplying shops. They will meet your specific needs.

DESCRIPTION ON FRONT PANEL AND REAR PANEL CONTROLS

VOLUME/POWER SWITCH

This turns power on or off. To turn the power on, rotate the knob clockwise; and to turn the power off, rotate the knob counter clockwise until a click is heard. Turning the knob clockwise increases the sound volume from the speaker. This volume does not affect the transmit power.

RF GAIN CONTROL

This controls RF gain (receiver sensitivity). To increase RF gain turn the knob clockwise and to decrease turn counter clockwise.

SQUELCH CONTROL

This silences undesirable background noise when no signal is received. The squelch level can be varied by adjusting the control knob. Usually, this will be done as follows:

1. Turn the power on and rotate the VOLUME knob until a background noise is heard.
2. Rotate the SQUELCH control knob clockwise until the background noise disappears.
3. Now you can receive signals without annoying background noises. Rotating the SQUELCH control too far clockwise decreases the reception sensitivity and a very weak signal would not be received. Therefore, when you want to communicate with such a station, rotate the SQUELCH control all the way counter clockwise.

CLARIFIER CONTROL

During AM operation, place the control in the "12 o'clock" position. However, a station received is not clear, adjust the control for clearer reception.

During SSB operation, this control operates as a voice clarifier, also rotate the control for clearer voice reception.

CB-PA SWITCH

This selects mode of operation. For normal CB operation, place this switch in the CB position and place in the PA position when using the transceiver as a Public Address amplifier.

LSB-USB-AM SWITCH

This switch selects a mode of operation for transmitter and receiver at the same time. When operating the transceiver as a conventional AM transceiver, place the switch in the AM position. When operating as a SSB transceiver, place the switch in either LSB or USB position, depending on the SSB mode of operation that is being used in the station you want to communicate with. (Each station should use the same mode of operation to communicate with each other in SSB operation.)

SIGNAL STRENGTH/RF POWER METER

During AM reception, this indicates a relative signal strength in S unit on the upper scale. During AM transmission, this indicates the transmit power from the antenna on lower scale. The meter pointer flickers slightly when you are speaking into the microphone indicating your voice is being transmitted.

During SSB operation, the meter pointer deflects while a voice reception is being obtained, since there is no carrier signal in the SSB operation. During SSB transmission, the meter pointer will fluctuate in accordance with your voice indicating the voice is being transmitted.

TONE/HI-LO SWITCH

This is a two-step tone control. Placing the switch in the HI or LO position boosts treble or bass sound respectively.

NB-OFF SWITCH

This is the switch which actuates the NB (Noise Blanker) circuit to blank out impulse type noises such as ignition noises from vehicles for quiet reception.

CHANNEL SELECTOR

This selects one of full 40 channels desired.

CHANNEL INDICATOR

This is an LED (Light Emitting Diode) digital read-out which displays the channel selected by the CHANNEL SELECTOR.

MIC JACK

This accepts microphone plug from the Push-to-Talk Microphone supplied with the unit.

EXTERNAL SPEAKER JACK

This will be used when connecting an earphone or external speaker having impedance of about 8 — 16 ohms. Connecting the earphone or speaker plug into this jack automatically silences the built-in speaker.

PA JACK

When you operate the transceiver as a simple Public Address amplifier, connect a PA speaker to this jack.

ANTENNA CONNECTOR

This accepts a standard PL-259 type coaxial antenna connector which should be connected to the cable end.

OPERATION

MAKE SURE YOUR ANTENNA SYSTEM IS CONNECTED TO THE ANTENNA CONNECTOR ON THE REAR PANEL. DO NOT OPERATE THE TRANSCEIVER WITHOUT CONNECTION OF YOUR ANTENNA SYSTEM.

A. AM Operation

1. Connect the Push-to-Talk microphone to the MIC jack.
2. Turn the power on and increase the sound level.
3. Temporarily rotate the SQUELCH control to 9 o'clock position.
4. Place the LSB-USB-AM switch in the AM position.
5. Select a channel you desired.
6. To transmit: Depress the Push-to-Talk button on the microphone and speak into the microphone at a normal voice, holding the microphone 3 to 6 inches from the mouth. Do not shout or move the microphone too close to your mouth.
7. To receive: simply release the Push-to-Talk button.
8. If necessary adjust the Clarifier and RF gain controls for clearer reception.

B. SSB Reception

1. Turn the power on and rotate the VOLUME control to a proper sound level.
2. Temporarily place the LSB-USB-AM switch in the AM position. If the signal you received is a AM signal, clear voice reception will be obtained. But if the

signal produce unintelligible sound, it may be the SSB signal. First place the LSB-USB-AM switch in the LSB or USB position at which clearer voice reception is obtained. Then adjust the Clairifier control slowly for clearest voice reception.

3. If necessary adjust SQUELCH and NB control as previously stated.

C. SSB Transmit Operation

1. First select the channel you want.
2. Place the LSB-USB-AM switch in the LSB or USB position.

NOTE: If you want to communicate with the station transmitting in a mode of LSB, your transceiver must be set in the same mode (LSB) of operation. This will be true for USB operation.

To know a station is being transmitted in either mode of operation, temporarily try to receive the station as stated under SSB reception.

3. To transmit depress the Push-to-Talk button on the microphone and speak at the microphone as stated in the step 6 under AM operation.
4. To receive, simply release the Push-to-Talk button.

When using the transceiver as a public address amplifier

1. Connect a PA speaker (8—16 ohms) to the PA jack on the rear panel.
2. Place the CB-PA SWITCH in the PA position.
3. Turn the power on.
4. Depress the Push-to-Talk button on the microphone and speak at the microphone.

INTERFERENCE NOISES IN RECEPTION

During reception you may find that your transceiver will pick up interference noises which make the reception of weaker stations difficult. The most common source of these noises is the ignition system from your own vehicle, since your transceiver is placed relatively close to your ignition system (engine). In such a case, we will recommend you to consult with your car dealer to eliminate the ignition noise. Usually the ignition noise will be suppressed in a considerable degree by using a proper radio suppression type high voltage ignition wire and suppressor resistor in the ignition system. (Most vehicles employ these wire and resistor but it may necessary to check them for correct operation.)

Another method to suppress the noises is to use additional noise suppressor which will be available from CB/Amateur supplying shops.