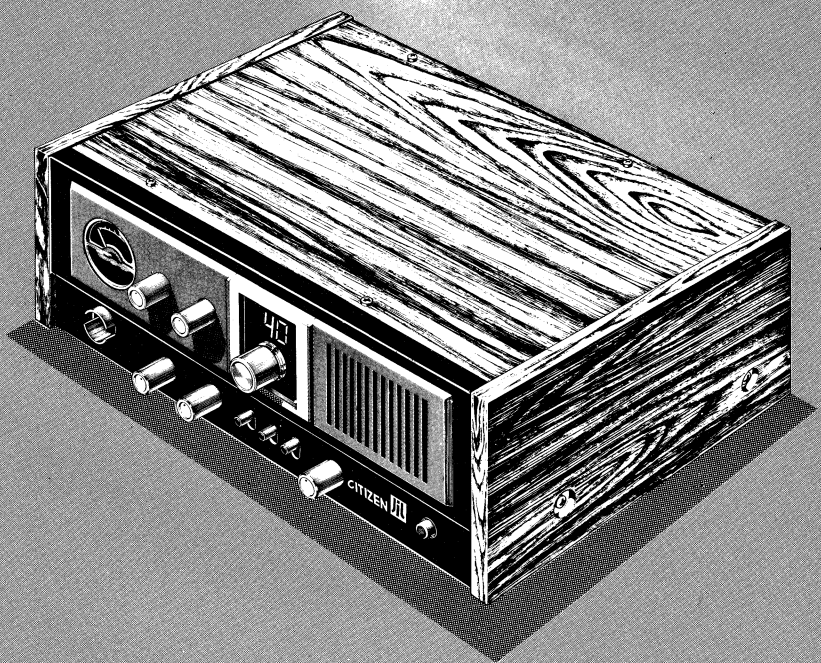
CITIZEN



40-CHANNEL SOLID STATE 4-WATT SSB/AM MOBILE/BASE STATION CB TRANSCEIVER

MODEL SSB-M6 OWNER'S MANUAL

SPECIFICATIONS

GENERAL

Circuitry	5 ICs, 2 FETs, 44 Transistors and 51 Diodes
Frequency Control	PLL (Phase Lock Loop) Synthesizer
Channels	40
Mode of Operation	LSB-USB-AM
Power Source Voltage	117V AC (50/60Hz)/13.8V DC
Speaker	Dynamic, 3-3/4", 8 ohms
Microphone	Dynamic, 500 – 600 ohms

RECEIVER

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

SSB TRANSMITTER

Generation	Double balanced modulator with crystal latice filter
RF Power Output	12 watts PEP, legal max., at 117V AC (50/60 Hz)/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 117V AC (50/60 Hz)/ 13.8V DC
Harmonic Suppression	More than 60 dB down

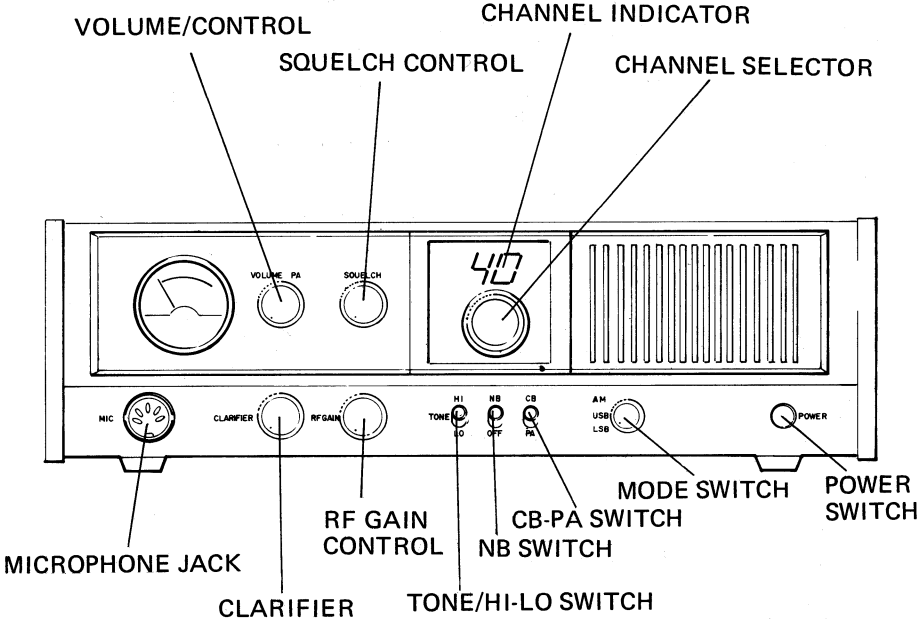


Figure 1: **FRONT PANEL**

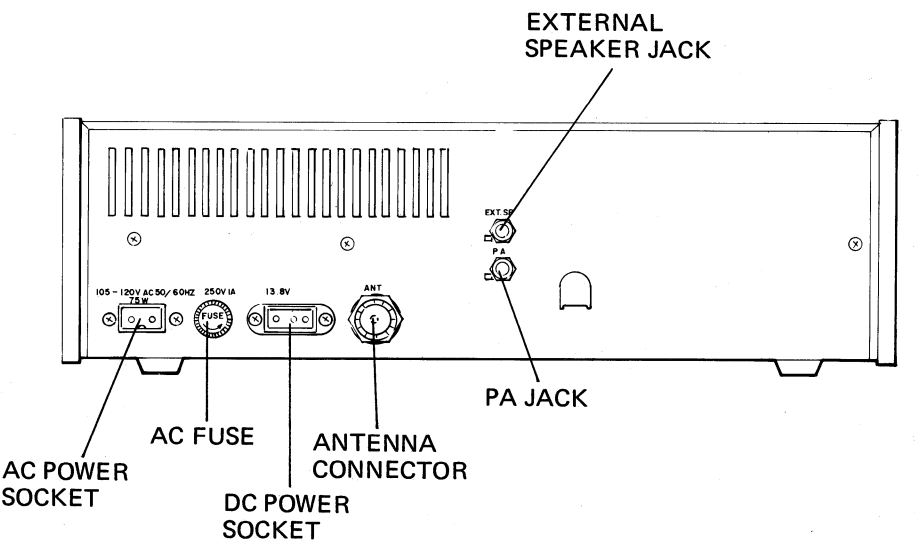


Figure 2: **REAR PANEL**

Your SSB-M6 is a full 40 channel AM/SSB-Base/Mobile Citizens Band Transceiver skillfully constructed by employing the latest frequency synthesizing technology. The Model M-6 will be operated from both AC and DC power sources. The transceiver incorporates many other features such as a Clarifier control for clearer reception, an NB switch for quiet reception, Tone Switch for desirable tonal quality when receiving, RF GAIN control and easy-to-read L.E.D. channel digital read-out.

This transceiver is designed for use under the Department of Communications (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.

POWER CONNECTION

This transceiver is designed to operate from either AC or DC power source. Both AC and DC power cords are supplied with the unit.

AC OPERATION

Connect the AC power connector plug of the AC power cord to the AC power connector provided on rear panel and the AC plug to the AC outlet supplying 117V, 50/60 Hz.

NOTE: Before connecting the AC plug to the outlet, always make sure the POWER SWITCH is placed in the OFF – released position.

DC OR MOBILE OPERATION

This transceiver can also be operated from a DC power source of 13.8V in negative ground system. Therefore when using the transceiver inside of your vehicle, it is necessary to make sure the electrical ground system of your vehicle is of negative type. If you are in doubt about the ground system, please consult with your car dealer to avoid any possible short-circuit due to misundertanding.

First connect the black lead to the metal chassis ground or minus (–) battery terminal. Connect the red lead to the hot side of the electrical ground system or plus (+) battery terminal.

ANTENNA CONNECTION

BEFORE OPERATING THE TRANSCEIVER, YOU MUST CONNECT A PROPER ANTENNA SYSTEM. OPERATING THE TRANSCEIVER WITHOUT AN ANTENNA OR DUMMY LOAD MAY CAUSE DAMAGE TO THE EXPENSIVE RF POWER TRANSISTORS.

The antenna is one of the most important factors in the operation of the transceiver with its full efficiency. An improper antenna may decrease reception sensitivity and lowers the communications range in transmitting. The antenna may be different according to your needs using the transceiver as a mobile or original base station transceiver. We recommend you consult with your dealer from which you purchased the transceiver or any other CB/Amateur radio equipment supply shops. They will meet your specific needs.

DESCRIPTION ON FRONT PANEL CONTROLS

POWER SWITCH

This turns power on or off. To turn the power on, depress the button; and to turn the power off, release the button.

VOLUME CONTROL

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.

CHANNEL SELECTOR

Selects one of 40 channels desired.

CHANNEL INDICATOR

Shows the channel number. This is an L.E.D. (Light Emitting Diode) digital read-out which shows the channel you have selected by the Channel Selector.

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 an 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 flikers slightly when you are speaking into the microphone indicating your voice is being tranmitted.

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.

MIC JACK

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

DESCRIPTION ON REAR PANEL FACILITIES

EXTERNAL SPEAKER (EXT SP) JACK

Used when connecting an external speaker with an impedance of 8–16 ohms. Connecting the speaker plug into this jack will automatically silence the built-in speaker.

PUBLIC ADDRESS (PA) SPEAKER JACK

When you operate the transceiver as a public address amplifier, connect a PA Speaker (not supplied) with an impedance of 8–16 ohms to this jack.

ANTENNA JACK (ANT)

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

DC POWER SOCKET

Accepts DC power cord plug for battery operation (see DC OR MOBILE OPERATION).

AC POWER SOCKET

Accepts AC power cord plug for AC power operation (see POWER CONNECTION). DC operation is impossible with AC power cord plug inserted to this socket.

FUSE HOLDER

This is a protection fuse for AC power input circuit in the event of malfunction of the radio. When replacing fuse, use correctly rated one.

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. Place the CB-PA Switch in the CB position.
3. Turn the power on and increase the sound level.
4. Temporarily rotate the SQUELCH control to 9 o'clock position.
5. Place the LSB-USB-AM switch in the AM position.
6. Select a channel you desired.

7. 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.
8. To receive: simply release the Push-to-Talk button.
9. 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 unintellegible 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 Clarifier 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

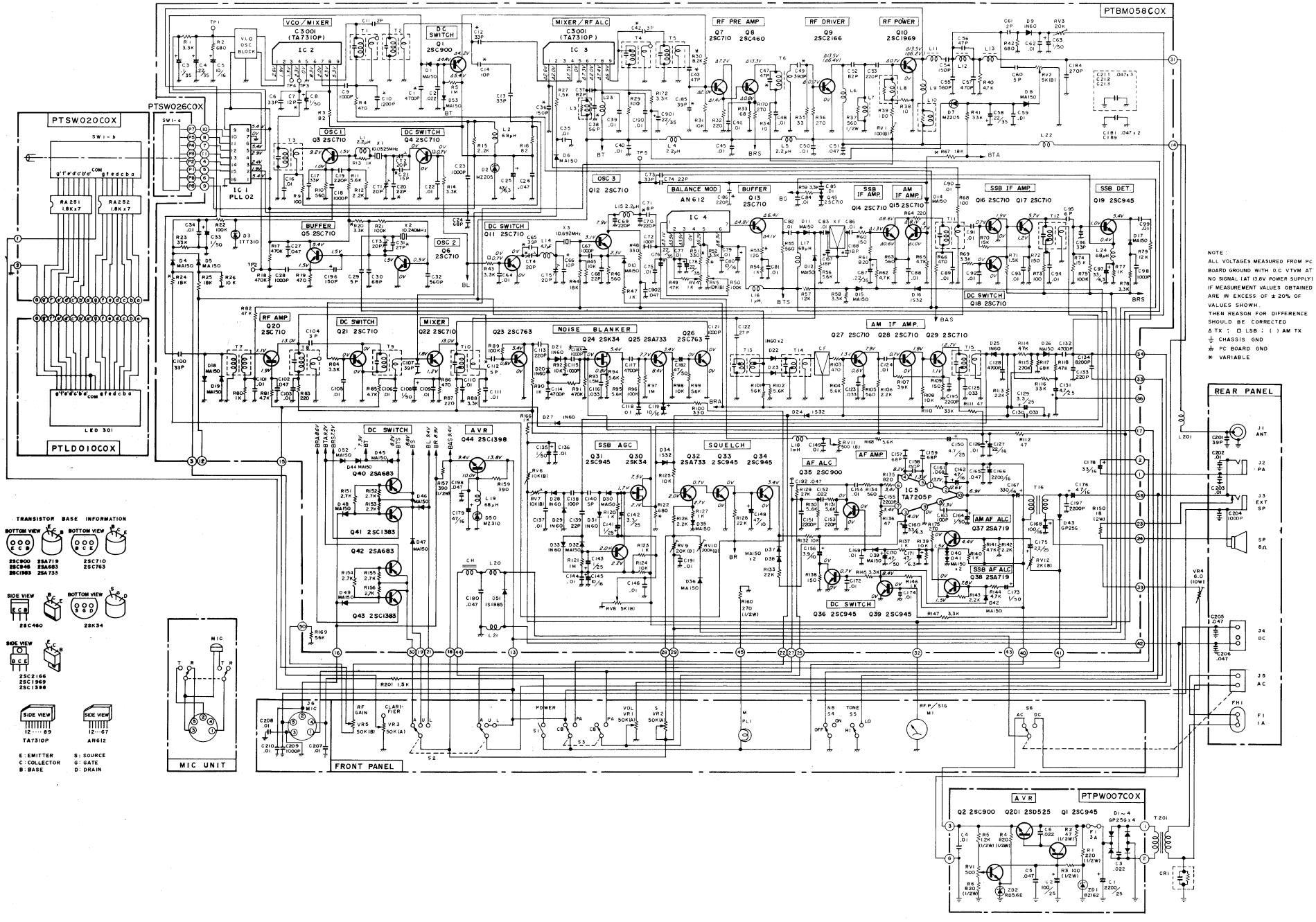
1. Connect a PA speaker (8—16 ohms) to the PA jack on the rear panel.
2. Place the CB-PA SWITCH in the PA position.
3. Turn the power on.
4. Depress the Push-to-Talk button on the microphone and speak at the microphone.

INTERFERENCE NOISES

There are several kinds of interference that your transceiver may be subjected to in base station use. Some of these may be: interference from a nearby commercial AM broadcast station; interference from electrical appliance, lawnmowers, etc.; fluorescent "buzz"; interference with TV reception, static from electrical stroms, etc.

Commercial products are available to reduce interference from these sources. Consult with a CB/Amateur Radio Repair Shop.

SCHEMATIC DIAGRAM MODEL SSB-M6



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