

The CB Story

Introduction

The Citizens Band Story

The Citizens Band lies between the shortwave broadcast and 10-meter amateur radio bands, and was established by law in 1949. The Class D two-way communications service was opened in 1959. (CB also includes a Class A citizens band and Class C remote control frequencies.)

Owner's Manual



Printed in China

English

English

A1 English

Product Features

Introduction

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Features

- 40 CB Radio Channels
- Instant Channels 9/19 NOR
- PA System
- Compact Size
- Dynamic Microphone
- Nine Foot Microphone Cord
- Front Panel Microphone Connector
- RF Gain





Introduction

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Warnings and Included in this Package

Introduction

Warnings



A FEW RULES THAT SHOULD BE OBEYED

1. You are not allowed to carry on a conversation with another station for more than five minutes at a time without taking a one-minute break to give others a chance to use the channel.
2. You are not allowed to blast others off the air by overpowering them with illegally amplified transmitter power or illegally high antennas.
3. You are not allowed to use CB to promote illegal activities.
4. You are not allowed to use profanity.
5. You may not play music in your CB.
6. You may not use your CB to sell merchandise or professional service.



CHANNEL 9 EMERGENCY MESSAGES

Use Channel 9 for emergency messages only. The FCC gives the following examples of permitted and prohibited types of communications for use on Channel 9. These are guidelines and are not intended to be all-inclusive.

Permitted: "A tornado sighted six miles of town."

Not Permitted: "This is observation post number 10. No tornado sighted."



External Antenna:

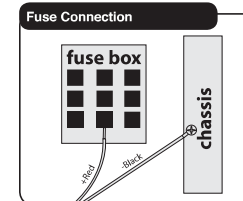
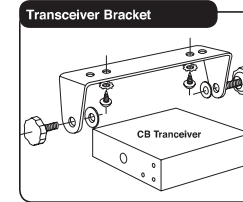
The antenna maximum gain is not exceed 0dB.

Mounting and Connections

Installation and Start-Up

Mounting and Connections

Select a location for the transceiver and microphone bracket that is convenient for operation. In automobiles, the transceiver is usually mounted to the underneath of the dash panel, with the microphone bracket beside it.



A universal mounting bracket is supplied along with self tapping screws and star washers. The transceiver is held in the universal mounting bracket by two thumb screws, permitting adjustment at the most convenient angle.

To mount and connect your transceiver:

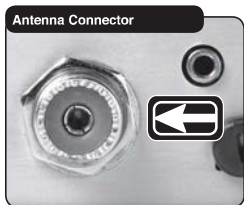
1. Hold the radio with mounting bracket in the exact location desired. Remove the mounting bracket and use it as a template to mark the location for the mounting screws.
2. Drill necessary holes and secure mounting bracket in location.
3. Connect the antenna cable plug to the receptacle marked "ANT" on the back of the unit.
4. Connect the red lead of the DC power cord to an accessory 13.8 volt fuse.
5. Connect the black lead to the negative side of the automobile. This is usually the chassis. Any convenient location with good electrical contact (remove paint) may be used.

NOTE

Before installing the CB radio, visually check the vehicle battery connections to determine which battery terminal, positive or negative (positive is the larger of the two) is grounded to the engine block (or chassis).

6. Mount the microphone bracket on right side of the transceiver or near it using two screws supplied. When mounting in an automobile, place the bracket under the dash so the microphone is readily accessible.
7. Attach the four pin microphone cable to receptacle on front of unit and install unit in bracket securely.

Operation



Antenna Connector

This female **Connector** on the rear panel permits connection of the transmission line cable male connector to the transceiver.



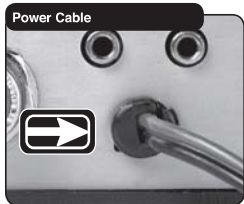
External Speaker

The external speaker jack on the rear panel is used for an **External Speaker**. The external speaker should have 8-ohm impedance and be rated to handle at least 4.0 watts. When the external speaker is plugged in, the internal speaker is automatically disconnected.



Public Address (PA)

An external **PA** speaker may be connected to the **PA** speaker jack when used as a public address system. The speaker should be directed away from the microphone to prevent acoustic feed-back. Physical separation or isolation of the microphone and speaker must be employed when operating the **PA** at high output levels.



Power

These wires supply **Power** to the CB radio. This cable is permanently attached to the radio. If you wish to remove the radio after installation, disconnect at fuse holder and ground connector.

Operation



Turning on Your Mobile Radio

Turn the **On-Off/Volume** knob clockwise to turn the power **on** and set the desired listening volume.

CB Antenna

Only a properly matched **Antenna** system will allow maximum power output. In mobile installations (cars, trucks, boats, etc.), an **Antenna** system that is non-directional should be used. When installed in a boat, the transceiver will not operate at maximum efficiency without a ground plate unless the vessel has a steel hull. Before installing the transceiver in a boat, consult your dealer for information regarding an adequate grounding system.

Antenna installation should not exceed 6 meters height from ground.



Microphone Connector

Allows for convenient removal of the **Microphone** plug when storage is required. The **Microphone** **MUST** be connected to the unit at all times, when in use, for proper operation.

Operation

Squelch

This control is used to cut **off** or eliminate receiver background noise in the absence of an incoming signal. Adjust until the receiver noise disappears. This will require the incoming signal to be slightly stronger than average receiver noise. Further clockwise rotation will increase the threshold level which a signal must overcome in order to be heard. Only strong signals will be heard at a maximum clockwise setting.

Squelch is the “control gate” for incoming signals.

Adjust Squelch/RF Gain Knob



To squelch your radio:

1. Full clockwise rotation closes the gate, allowing only very strong signals to enter.
2. Full counterclockwise rotation opens the “gate,” allowing all signals in.
3. To achieve the Desired Squelch Setting (DSS), turn the **Squelch** control counterclockwise until you hear noise. Now turn the control clockwise just until the noise stops. This is the DSS setting.

Gate Closed



Gate Open



Desired Squelch Setting (DSS)



RF Gain

This control is used to adjust receiver sensitivity. Maximum sensitivity allows weak signals to be received. However, very strong signals (such as from a nearby transmitter) can cause distortion at that setting. Adjust until the distortion disappears. Reducing the receiver’s **RF Gain** eliminates distortion from very strong incoming signals.

Adjust Squelch/RF Gain Knob



To set RF Gain:

1. Full counterclockwise rotation minimizes gain for maximum distortion control.
2. To achieve the desired level of distortion control, turn the **RF Gain** knob counterclockwise until the distortion is eliminated.
3. After moving away from the strong signal, turn the **RF Gain** knob fully clockwise to receive all possible signals.

Operation

Selecting a Channel

Rotate the **Channel** knob clockwise until desired channel is displayed.



Channel 9/NOR/Channel 19

Set **CH 9** to obtain instant access to the emergency channel.
Set **NOR** to use the channel knob to choose any of the 40 channels.
Set **CH 19** to obtain instant access to the information and calling channel.



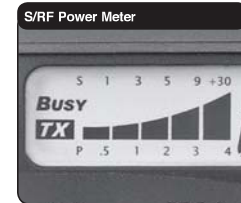
CB/PA

In the **CB** position, the **PA** function is disabled and the unit will transmit and receive on the selected channel. The **PA** function should not be used unless a **PA** speaker is connected. In the **PA** position, the transmit function is disabled and the microphone output will go only to the **PA** speaker.



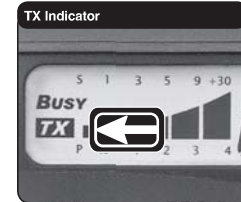
S/R/F Power Meter

Shows relative transmitter **RF** output power and input signal strength when receiving. The Liquid Crystal Display (LCD) segments increase with signal strength.



TX Indicator

The **TX Indicator** will light when in the transmit mode. “Busy” will appear when there is an incoming signal.



Operation

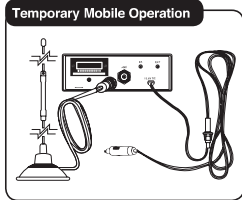
Ignition Noise Interference

Use of a mobile receiver at low signal levels is normally limited by the presence of electrical noise. Under most operating conditions, when signal level is adequate, the background noise does not present a serious problem. Also, when extremely low level signals are being received, the transceiver may be operated with vehicle engine turned off. The unit requires very little current and therefore will not significantly discharge the vehicle battery.

Even though this radio has an automatic noise limiter, in some installations ignition interference may be high enough to make good communications impossible.

Temporary Mobile Operation

For **Temporary Mobile Operation**, you may want to purchase an additional cigarette lighter adapter. This adapter and a magnetic mount antenna allow you to quickly "install" your transceiver for temporary use.



NOTE

Red Wire is connected to positive side of socket center tip. **Black Wire** is connected to negative side contacts.

Radio resets to CH 9 when connected to cigarette lighter plug.

When using the unit with cigarette adapter, turn **off** when not in use to avoid draining the battery.

Operation

Operating Procedure to Receive

Be sure that power cord, antenna and microphone are connected to the proper connectors before proceeding further. The **CB/PA** switch should be in the CB position.

To receive:

1. Turn the radio **on** by rotating the **On-Off/Volume** knob clockwise.
2. Rotate the **Squelch/RF Gain** knob counterclockwise until incoming signal is heard.
3. Select the desired channel.
4. Set the **On-Off/Volume** knob and the **Squelch/RF Gain** knob to a comfortable listening level.



Operating Procedure to Transmit

Be sure the antenna is properly connected to the radio before transmitting. Prolonged transmitting without an antenna, or with a poorly matched antenna, could cause damage to the transmitter.

To transmit:

1. Select the desired channel.
2. The receiver and transmitter are controlled by the **Press-to-Talk** switch on the microphone. Press the switch and the transmitter is activated; release switch to receive. When transmitting (on a clear channel), hold the microphone two inches from the mouth and speak clearly in a normal voice.

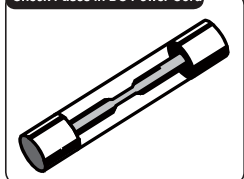
Maintenance/Adjustment

Your CB transceiver is specifically designed for the environment encountered in mobile installations. The use of all solid state circuitry and its light weight result in high reliability. Should a failure occur, however, review the following, then if necessary, replace parts only with identical parts. Do not substitute.

Check Power Source



Check Fuses in DC Power Cord



Check Microphone Connection



Check Antenna Connection



1. Check connections to the source of power and make sure it is the 13.8 VDC required to operate your radio.
2. Check the fuses in the DC power cord. The main power lead (red) has a two amp 3AG type fuse in its holder. Use only the above specified type and size fuse for maximum protection. Failure to do so will void the warranty.
3. Make certain the microphone is properly plugged in.
4. Make certain the antenna is properly assembled and connected.

Frequency Ranges

The CB transceiver represents one of the most advanced AM two-way radios for use as a Class D station in the Citizens Radio Service. This unit features advanced Phase Lock Loop (PLL) circuitry providing complete coverage of all 40 CB channels.

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

Specifications

General	
Channels	CB – 40 CH
Frequency Range	CB – 26.965 to 27.405 MHz
Frequency Tolerance	0.005 %
Frequency Control	PLL (Phase Lock Loop) Synthesizer
Operating Temperature Range	-30° C TO + 65° C
Microphone	Plug-in Condenser
Input Voltage	13.8VDC nom. (negative ground)
Current Drain	Transmit: AM full mod., 1.4A (maximum) Receive: Squelched, 0.9 A; full audio output, 1.2A (nominal)
Size	L*W*H: 205mm*115mm*45mm
Weight	3.25 lbs.
Antenna Connector	UHF; SO-239
Meter	LCD's; indicates relative power output and received signal strength
Transmitter	
Power Output	4 watts
Modulation	AM (Amplitude Modulation)
Frequency Response	300 to 3000 Hz
Output Impedance	50 ohms, unbalanced
Receiver	
Sensitivity	Less than 1 μ V for 10dB (S+N)
Selectivity	6 dB @ 7 KHz, 60 dB @ 10KHz
Image Rejection	60 dB, typical
Adjacent-Channel Rejection	50 dB, typical
Automatic Noise Limiter	Built-in

FCC Warning:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference; and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device: pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and: if not installed and used in accordance with the instructions: may cause harmful interference to radio communications. However: there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception: which can be determined by turning the equipment off and on: the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 40cm between the radiator & you body.