

# Installation

## Mounting and Connections

### Note

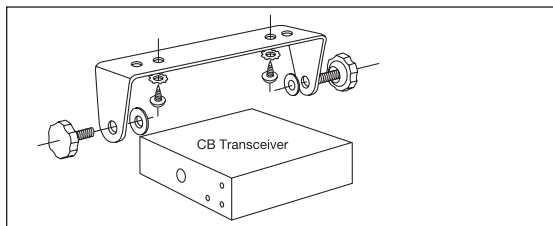
The transceiver is held in the universal mounting bracket by two thumb screws, permitting adjustment at the most convenient angle.

A universal mounting bracket is supplied along with self-tapping screws and star washers. To mount the transceiver:

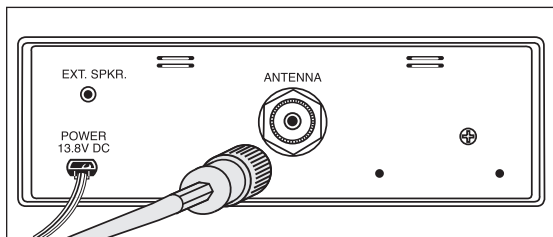
## Mounting and Connections

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.

- 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.



2

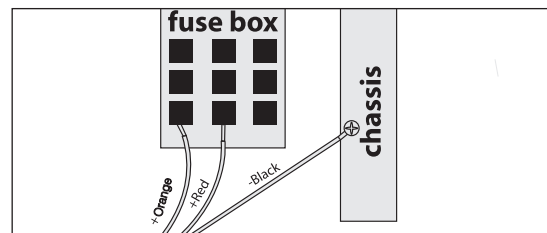
# Installation

## Mounting and Connections

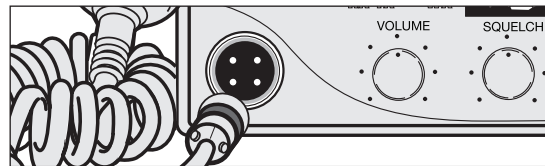
### Note

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).

- 4 Connect the red lead of DC power cord to an accessory 13.8 volt fuse.
- 5 Connect the orange lead to a constant 13.8v fuse (ie: cigarette lighter or direct to battery)
- 6 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.



- 7 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.
- 8 Attach the 4-pin microphone cable to receptacle on front of unit and install unit in bracket securely.



3

# Operation

## Turning on Your Radio

### CB Antenna

#### Note

For optimum performance in passenger cars the ideal antenna location is on the center of the roof. Second choice is on the center of the trunk.

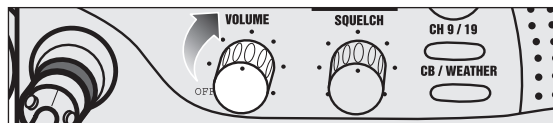
Because many newer trucks feature fiberglass door skins, the outside mirror must be grounded to the chassis via a ground strap, if the antenna is mounted on the mirror bracket.

3-Way Combination Antennas are available which allow operation of all three bands (AM-FM & CB), using a single antenna. However, use of this type of antenna usually results in less than normal transmit and receive range when compared to a standard-type "Single Band" antenna designed for CB only.

Antenna installation should not exceed 6 meters height from ground.

### Turning on

Turn volume control clockwise to turn 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.

\*Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

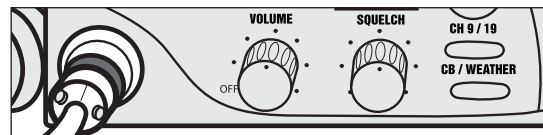
**Safety notice:** The device complies with the MPE requirements by providing a safe separation distance of 15.75in(40cm) between the antenna, including any radiating structure, and any persons when normally operated. This is based on a typical installation and an antenna with 0 dBi of gain. This device is approved with emissions having a source-based time-averaging duty factor not exceeding 50%.

### Marine Installation

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.

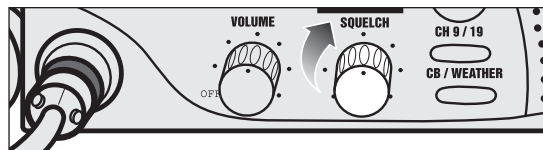
### Microphone Connector

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.



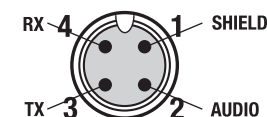
### Squelch

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.



# Operation

## Microphone Connector

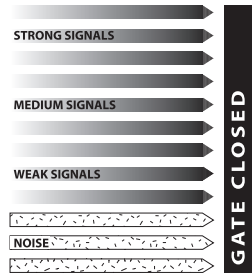


## Squelch

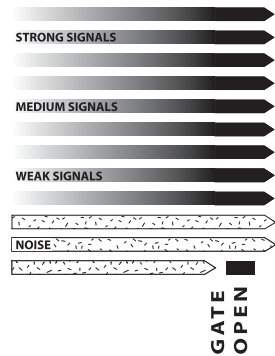
# Operation

## Setting Squelch

Gate closed



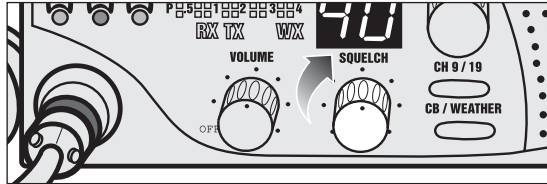
Gate open



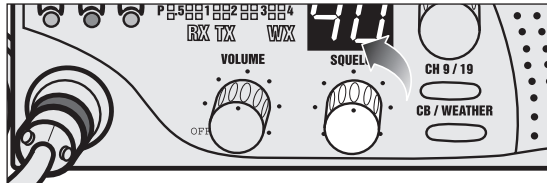
## Setting Squelch

Squelch is the “control gate” for incoming signals.

1. Full *clockwise* rotation closes the gate allowing only very strong signals to enter.

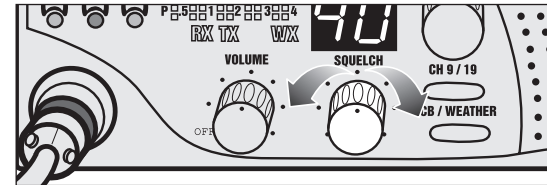


2. Full *counterclockwise* rotation opens the “gate” allowing all signals in.

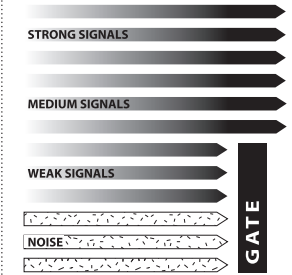


# Operation

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 set to Desired Squelch Setting (DSS)

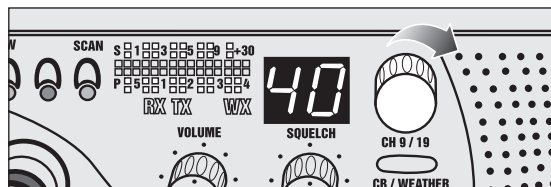


# Operation

## Channel Selection

### Set CB or WX Mode

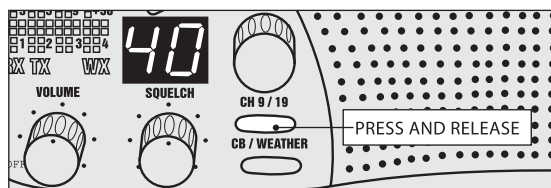
Set on CB mode. Rotate channel knob clockwise until desired channel is displayed.



## Channel 9/ Channel 19

### Channel 9/Channel 19

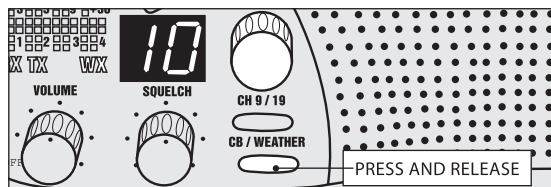
Press CH 9/19 to obtain instant access to emergency channel 9. Press again for information CH 19.



## CB Weather

### CB/Weather

CB mode is for normal CB operation. Press CB/Weather again and select active Weather channel in your area.

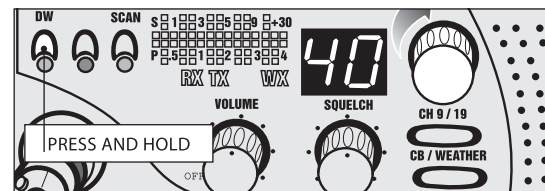


# Operation

## Dual Watch

This feature allows the user to scan between two selected channels.

1. Select first channel, CB mode.



2. Press and hold DW until LED begins flashing and beeps once.
3. Select second channel. Press DW until LED lights steady and radio beeps twice. Two channels are now stored in DW memory.

## Scan

Press and release SCAN button to activate CB scan mode. If the radio is squelched, radio begins to scan.



When scan is interrupted by a signal, scan stops and holds until loss of signal. Press PTT on mic to stop scan function. Press Scan to restart CB scan.

## Dual Watch

### Note

The radio needs to be squelched before DW can monitor both channels.

## Scan

### Note

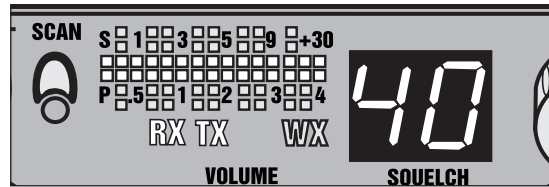
On some channels squelch setting might have to be re-set.

# Operation

## S/RF PowerMeter

### S/RF Power Meter

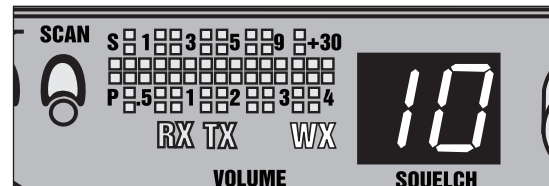
Shows relative transmitter RF output power and input signal strength when receiving. The LED (Light Emitting Diode) segments glow green to amber to red...this indicates receive or transmit activity.



## RX/TX Indicator LED

### RX/TX Indicator LED

RX indicator will light when in the receive mode. TX indicator lights when in transmit mode.

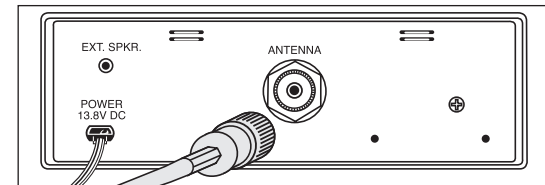


When weather channel is selected, WX indicator is illuminated, and the channel is displayed.

# Operation

## Rear Panel

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



**External Speaker.** The External Speaker Jack 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.

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

## Antenna Connector

## External Speaker

## Power

## Ignition Noise Interference

### Note

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

## Temporary Mobile Operation

### Note

*Red and Orange wires are connected to positive side of socket center tip. Black wire is connected to negative side contacts.*

### Note

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

## 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.

## Operating Procedure to Receive

1. Be sure that power cord, antenna and microphone are connected to the proper connectors before proceeding further. The weather switch should be in the "CB" position.
2. Turn the radio ON by rotating the VOLUME CONTROL clockwise.
3. Rotate SQUELCH CONTROL counterclockwise until incoming signal is heard.
4. Select the desired channel.
5. Set VOLUME CONTROL to a comfortable listening level.
6. Engage the SoundTracker system by depressing the button labeled ST. Listen to the background noise from the speaker. Turn the SQUELCH CONTROL slowly clockwise until the noise JUST disappears (no signal should be present). Leave the control at this setting. The squelch is now properly adjusted. The receiver will remain quiet until a signal is actually received. Do not advance the control too far, or some of the weaker signals will not be heard. The revolutionary SoundTracker system allows you to reduce unwanted background noise (static) and increase the signal for better reception.

## Operating Procedure 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.

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

## Maintenance and 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.

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 & orange wire) has a 2 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.

If you are unable to correct the problem, refer to the SERVICE INSTRUCTIONS at the end of this manual for the correct procedure for warranty and post-warranty service.

### External Antenna:

The antenna maximum gain is not exceed 0dBi.

## Replacement Warning

Replacement or substitution of certain parts with replacements other than those recommended by client may be a violation of the technical regulations of Part 95 of the FCC rules, or of Type Acceptance requirements of Part 2 of said rules.

When making adjustments, be sure to re-read applicable portions of this instruction manual to make certain you are following correct procedure and that the radio was properly installed, etc.

## 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 can't 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.

## 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."

## A Few Rules You Should Know

## Channel 9 Emergency Messages

# Frequency Ranges

## Accessories

The Radio transceiver represents one of the most advanced AM two-way radios used 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 and all 10 weather channels as shown below.

CB Channel	Channel Freq. In MHz	CB Channel	Channel Freq. In MHz	Weather Freq. Channel	Weather In MHz
1	26.965	21	27.215	1	162.550
2	26.975	22	27.225	2	162.400
3	26.985	23	27.255	3	162.475
4	27.005	24	27.235	4	162.425
5	27.015	25	27.245	5	162.450
6	27.025	26	27.265	6	162.500
7	27.035	27	27.275	7	162.525
8	27.055	28	27.285	8	161.650
9	27.065	29	27.295	9	161.775
10	27.075	30	27.305	10	163.275
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

<b>GENERAL</b>	
CHANNELS	CB - 40 CH WEATHER - 10CH
FREQUENCY RANGE	CB - 26.965 TO 27.405 MHz WEATHER - 161.650 TO 163.275
FREQUENCY TOLERANCE	0.005 %
FREQUENCY CONTROL	PLL (PHASE LOCK LOOP) SYNTHESIZER
OPERATING TEMPERATURE RANGE	
	-30° C TO + 65° C
MICROPHONE	PLUG-IN DYNAMIC
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: 195mm*175mm*50mm
WEIGHT	4.25 LBS.
ANTENNA CONNECTOR	UHF; SO-239
METER	LED; INDICATES RELATIVE POWER OUTPUT AND RECEIVED SIGNAL STRENGTH
<b>TRANSMITTER</b>	
POWER OUTPUT	4 WATTS
MODULATION	AM (AMPLITUDE MODULATION)
FREQUENCY RESPONSE	300 TO 3000 HZ
OUTPUT IMPEDANCE	50 OHMS, UNBALANCED
<b>RECEIVER</b>	
SENSITIVITY	LESS THAN 1 MV FOR 10dB (S+N)
SELECTIVITY	6 dB @ 7 KHZ, 60 DB @ 10KHZ
IMAGE REJECTION	60 dB, TYPICAL
ADJACENT-CHANNEL REJECTION	50 dB, TYPICAL
ATOMATIC NOISE LIMITER	BUILT-IN
<b>WEATHER</b>	
SENSITIVITY	LESS THAN 1 MV FOR 12 dB SINAD
IF-FREQUENCY	DUAL CONVERSION
AUDIO OUTPUT	MAXIMUM 1 W AT 10% DISTORTION
FREQUENCY RESPONSE	300 - 3000 HZ AT -6 dB



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 Warning:

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.