JACKSON

226-Channel AM/FM/SSB Mobile
AM-FM 10W · SSB 21W With ROGER BEEP

Owner's Manual

PRESIDENT ELECTRONICS BELGIUM
RADIO BACK PANEL VIEW

EXTERNAL SPEAKER JACK
PA SPEAKER JACK
DC POWER JACK
ANTENNA CONNECTOR

SPECIFICATIONS

GENERAL
Channels
226FM, 226AM, 226LSB, 226USB
Frequency Range
26.065 to 28.315 MHz
Frequency Control
Phase Locked Loop (PLL) synthesized circuitry.
Frequency Tolerance
0.005%
Frequency Stability
0.001%
Operating Temperature Range
-20°C to +50°C
Microphone
Plug-in type; dynamic with push-to-talk switch and coiled cord.
Input Voltage
13.8V DC nominal, 15.9V max., 11.7V min (positive or negative ground).
Current Drain
Transmit: AM/FM full mod., 3A maximum. SSB, 21 watts PEP output, 3A maximum. Receiver: squelched; 0.5A, maximum audio output 1A.

Cabinet Dimensions
Weight
Antenna Connector
Meter
Indicators
TRANSMITTER
Power Output
Intermodulation Distortion
SSB Carrier Suppression
Unwanted Sideband
Frequency Response
Output Impedance
SSB Filter
RECEIVER
Sensitivity
SSB: Less than 0.15µV for 10 dB (S+N)/N at greater than 1/2 watt of audio output.
AM: Less than 0.5µV for 10 dB (S+N)/N at greater than 1/2 watt of audio output.
FM: Better than 0.5µV for 20 dB (S+N)/N at greater than 1/2 watt of audio output.
AM/SSB 6 dB @4.2 KHz, 60 dB @7.5 KHz
FM 6 dB @7.0 KHz, 60 dB @15 KHz
More than 60 dB.
More than 60 dB.
FM 1st : 10.695 MHz
FM 2nd : 455 KHz AM/SSB: 10.695 MHz
Adjustable for optimum signal reception.

7-7/8"(W) x 2-3/8"(H) x 9-1/16"(D)
5 pounds
UHF, SO-239
Illuminated; indicates relative RF power output and modulation on Transmit, received signal strength.
LED display: channel and TX/RX.
AM, 10 watts
SSB, 21 watts, P.E.P.
SSB: 3rd and 5th order, more than -25 dB.
7th and 9th order, more than -35 dB.
More than -45 dB.
More than -45 dB.
AM and FM: 350 to 3000 Hz.
SSB: 400 to 4000 Hz.
50 ohms, unbalanced
10.695 MHz, crystal lattice type
6 dB @4.2 KHz
60 dB @7 KHz
### CHANNEL INFORMATION

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<tr>
<th>A BAND</th>
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### Technical Specifications

- **Automatic Gain Control (AGC):** Less than 10 dB change in audio output for inputs from 10 to 500,000 µV.
- **Adjustable Squelch:** Threshold less than 0.5 µV.
- **Noise Blanker:** RF type, effective on AM and SSB.
- **Clarifier Range:**
  - **FINE:** ±1.25 KHz, (RX only)
  - **COARSE:** ± 5 KHz, (RX and TX)
- **Audio Output Power:** 3.5 watts minimum into 8 ohms.
- **Frequency Response:**
  - **SSB:** 400 to 4000 Hz
  - **FM:** 300 to 3000 Hz
  - **AM:** 300 to 2000 Hz
- **Distortion:** Less than 10% at 3 watts output.
- **Built-in Speaker:** 8 ohms, round.
- **External Speaker (Not Supplied):** 8 ohms; disables internal speaker when connected.
- **PA SYSTEM:**
  - **Power Output:** 3.0 watts into external speaker.
  - **External Speaker for PA:** (not supplied).
INSTALLATION

Location
Plan the location of the transceiver and microphone bracket before starting the installation. Select a location that is convenient for operation and does not interfere with the driver or passenger in the vehicle. In automobiles, the transceiver is usually mounted to the dash panel with the microphone bracket beside it.

Mounting and Connection
This radio is supplied with a universal mounting bracket. The transceiver is held in the bracket by the four thumb screws supplied, permitting adjustment to the most convenient angle. The bracket must be mounted with the screws supplied. The mounting surface must be mechanically strong. Proceed as follows to mount the transceiver:

1. After you have determined the most convenient location in your vehicle, hold the radio with mounting bracket in the exact location desired. If nothing interferes with mounting it in the desired position, remove the mounting bracket thumb screws and mark the mounting holes using the bracket as a template. Before drilling the holes, make sure nothing will interfere with the installation of the mounting screws. Drill the holes and mount the bracket and then install the radio.

2. Connect the antenna cable plug to the standard receptacle on the rear panel. Most CB antennas are terminated with a type PL-259 plug which mates with the receptacle on the rear panel.

3. Connect the DC power input wire with the fuse (red) to +12V DC. This wire extends from a plug which connects to the rear panel. In automobile installations, +12V DC is usually obtained from the accessory contact on the ignition switch. This prevents the set being left on accidentally when the driver leaves the car and also permits operating the radio without the engine running. You can locate the accessory contact on most ignition switches by tracing the power wire from the AM broadcast receiver in the car.

4. Connect the black wire to ground. This is usually the chassis of the car. Any convenient location with good electrical contact may be used. (remove paint).

NOTE: See ground connection under GENERAL INFORMATION for more detail.

5. Mount the microphone hanger on the side of the unit or near the unit, using the screws supplied.

GROUND CONNECTION
This radio may be installed and used in any 12V DC negative or positive ground system vehicle. Most new U.S. and foreign made cars or small trucks use a negative ground system while some older cars and some newer large trucks may use a positive ground system.

1. Negative ground system: Connect the Red power lead from the radio to the positive or (+) battery terminal or other convenient point, and connect the Black power lead to the chassis or vehicle frame or (-) battery terminal.

2. Positive ground system: In the cases of positive ground system, connect the Black power lead from the radio to the negative or (-) battery terminal or other convenient point, and connect the Red power lead to the chassis or vehicle frame (or (+) battery terminal.

ANTENNA
This radio is designed to operate into a 50 ohm CITIZENS RADIO antenna. Best result will be obtained from your transceiver if you use good antenna and properly install your antenna. (Refer to the antenna installation instructions included with your antenna.)

A vertically polarized quarter-wavelength whip antenna provides the most reliable operation and greater range. The shorter loaded-type whip antennas are more attractive, compact and adequate for applications where the maximum possible distance is not required. Also, the loaded whip antennas do not present the problems of height imposed by the full quarter-wavelength whip.

When installed in a boat, the transceiver will operate most efficiently when the antenna used has been especially designed for marine applications.

Mobile whip antennas utilize the metal body of the vehicle as a ground plane. When mounted on a corner of the vehicle, they are slightly directional, in the direction of the body of the vehicle. For all practical purposes, however, the radiation pattern is non-directional. A slight directional characteristic will be observed only at extreme distances. A standard antenna connector (Type SO-239) is provided on the transceiver for easy connection to a standard PL-259 cable termination.

Before installing the transceiver in a boat, consult your dealer for information regarding an adequate grounding system and prevention of electrolysis between fittings in the hull and water.
BASE STATION OPERATION
To operate the transceiver from your home or office, using regular house current as the power source, you will require a separate power supply capable of supplying 5 amps at a 13.8V DC output with a nominal input voltage of 220 volts AC, 50/60 Hz. Simply connect the red (+) and black (−) leads of the transceiver to the corresponding DC terminals of the power supply.

NOTE: Do not attempt to operate this transceiver by connecting directly to 220V AC. When an AC power supply is used with the transceiver for base station operation any Citizens Band beam, dipole, ground plane or vertical antenna may be used. A ground plane vertical antenna will provide the most uniform horizontal coverage.

REMOTE SPEAKER
The external speaker jack (EXT, SPKR) on the rear panel is used for remote receiver monitoring. The external speaker should have 8 ohms impedance. When the external speaker is plugged in, the internal speaker is disconnected.

PUBLIC ADDRESS
An external 8 ohm 4-watt speaker must be connected to the (PA SPKR) jack located on the rear panel when the transceiver is used as a public address system. The speaker should be directed away from the microphone to prevent acoustic feedback. Physical separation or isolation of the microphone and speaker is important when operating the PA at high output levels.

OPERATING INSTRUCTIONS
The JACKSON operates on 226 AM/FM channels, 226 Upper Side Band channels and 226 Lower Side Band channels.

When you receive the SSB signal in the proper mode (USB or LSB), audio sound may be either too high pitched or low pitched, indicating that your receiver may not be tuned to the exact same frequency as the transmitter to which it is listening. The JACKSON is equipped with a Clarifier. By tuning the Clarifier, you can slightly change the frequency of the receiver, so you get a normal tone.

Your JACKSON, designed for ease of operation, is provided with the following operating controls:

1. OFF/ON VOLUME: To turn the transceiver on, rotate the control clockwise past click. To turn the transceiver off, rotate the control counterclockwise past click. Rotate the control clockwise for a comfortable audio level.

2. SQUELCH: The Squelch control is normally set to a position which eliminates undesired background noise with no signal present. With the audio adjusted to a satisfactory level, rotate the Squelch control clockwise to the point where the sound from the speaker is cut off. In this position, there will be no sound from the speaker until a signal is received. In order to hear weak signals, it may be necessary to rotate the Squelch control counterclockwise, allowing some background noise to be heard.

3. PA SWITCH (on SQUELCH) Control: Full counterclockwise rotation of the squelch control engages the PA function. The PA function should not be used unless an external speaker is connected. In the squelch (or CB) position, the PA function is disabled and the radio will transmit and receive on the selected channel.

4. MODE SELECTOR: This switch selects AM, FM, USB, or LSB mode of operation. This selector changes the mode of operation of both transmitter and receiver simultaneously. Set the selector to the mode on which you wish to communicate.

5. MIC GAIN: This control is used to adjust, as required, microphone input sensitivity for optimum amount of modulation in transmit. President Electronics citizen’s band transceivers have been designed to permit the user to attain levels of modulation up to 100% depending on the setting of the microphone gain control, using the microphone provided with the unit. President’s automatic compression and peak limiting circuits assure maximum modulation with minimum distortion.
6. RF GAIN: This control is used primarily to optimize reception in strong signal areas. Gain is reduced by counterclockwise rotation of the control.

7. CLARIFIER: The clarifier control is normally set to the center position. This feature has several uses and can greatly enhance receiver operation. First, if a received signal is slightly off frequency, this control can be operated as required to optimize the receiver frequency. The effectiveness of this clarifier feature under these conditions can be observed either by listening for a more readable signal at the speaker or by noting the S-meter reading when the clarifier control is operated. Another effective application of this control is in eliminating adjacent channel interference from strong signals. Operate this control, as required, to obtain minimum adjacent channel interference.

8. METER MODE SWITCH:
   S/RF Position: Meter indicates relative transmitter output power when transmitting, input signal strength when receiving.
   MOD Position: Meter indicates average percentage of modulation.

9. NB/ANL SWITCH: When switch is placed in NB/ANL position, the Automatic Noise Limiter and the RF Noise Blanker are activated simultaneously.

10. +10KHZ FREQUENCY SHIFT SWITCH: When switch is placed in +10KHz position, frequency is shifted 10KHz up. On following channels, a channel can be used by setting this switch to +10KHz position.

<table>
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<tr>
<th>Normal</th>
<th>+10KHz</th>
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<td>3</td>
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<td>7</td>
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<td>19</td>
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11. BAND SWITCH: This switch is used to select the band of frequency.

12. CHANNEL SELECTOR: This switch is used to select any one of the 40 Citizens Band channels. Channel 9 has been reserved for emergency communications involving immediate safety of life of individuals or immediate protection of property. Channel 9 may also be used to render assistance to a motorist.

13. ROGER BEEP SWITCH: When this switch is placed in the ROGER BEEP position, your radio automatically transmits the audio sign at the end of your transmission. The listener can note easily your transmission is over through the sign.

INDICATOR FUNCTION
1. MOD—S/RF METER: This meter displays relative transmitter RF output power and percentage of modulation when transmitting, as well as input signal strength when receiving. The meter is illuminated when power is on.

2. TX/RX INDICATOR: TX indicator lights when the transmitter is in operation and RX indicator lights when the receiver is in operation.

PRESS TO TALK MICROPHONE
The receiver and transmitter are controlled by the press-to-talk switch on the microphone. Press the switch and the transmitter is activated. Release the switch to receive. When transmitting, hold the microphone about three inches from your mouth and speak at a normal voice level.

RECEIVE OPERATING PROCEDURE
1. Place the PA switch in CB Function — by turning SQUELCH control clockwise, past click.

2. Turn the set on by turning the VOLUME CONTROL clockwise, past click.
   NOTE: Microphone must be plugged in for receiver to operate.

3. Set the VOLUME CONTROL to a comfortable level.

4. Set the Mode Selector Switch to the desired mode.

5. Listen to the background noise from the speaker. Turn the SQUELCH CONTROL slowly clockwise, until the noise just disappears. The Squelch is now properly adjusted. The receiver will remain quiet until a signal is received. Do not advance the control too far, or some of the weaker signals will not be heard.

6. Set the Channel Selector to the desired channel.

7. Adjust the CLARIFIER to clearly receive signals.

TRANSMIT OPERATING PROCEDURE
1. Select the desired channel of transmission.

2. If the channel is clear, depress the push-to-talk switch on the microphone and speak in a normal voice.