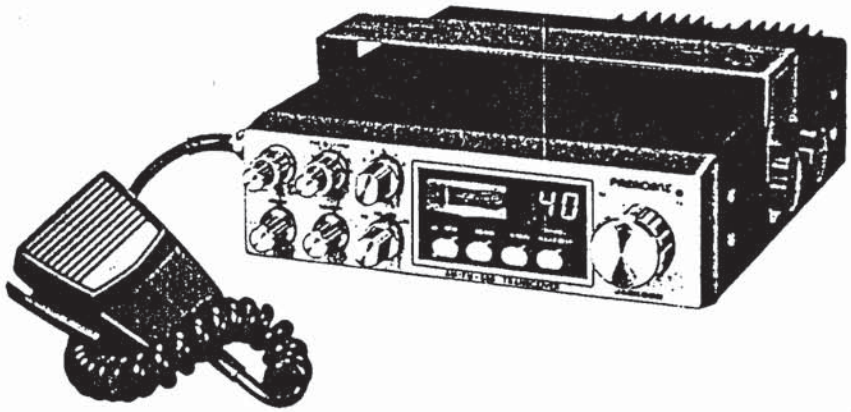
JACKSON

226·Channel AM/FM/SSB Mobile

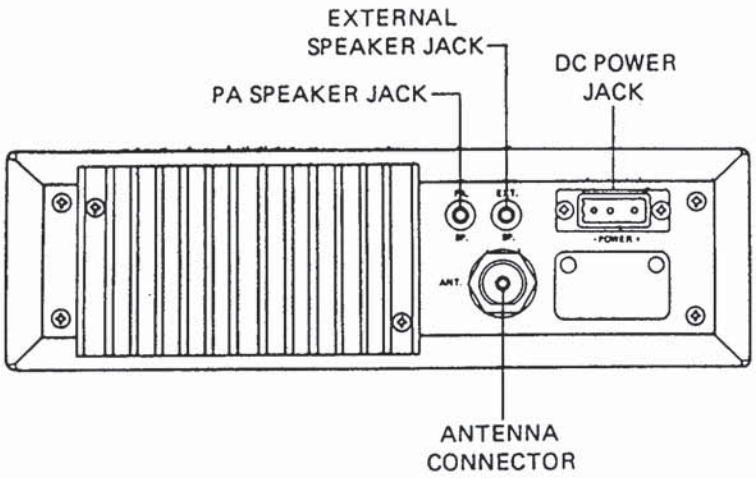
AM·FM 10W · SSB 21W With ROGER BEEP



Owner's Manual

PRESIDENT ELECTRONICS BELGIUM

RADIO BACK PANEL VIEW



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	7-7/8"(W) x 2-3/8"(H) x 9-1/16"(D)
Weight	5 pounds
Antenna Connector	UHF, SO-239
Meter	Illuminated; indicates relative RF power output and modulation on Transmit, received signal strength.
Indicators	LED display; channel and TX/RX.
TRANSMITTER	
Power Output	AM, 10 watts FM 10 watts SSB, 21 watts, P.E.P.
Intermodulation Distortion	SSB: 3rd and 5th order, more than -25 dB. 7th and 9th order, more than -35 dB.
SSB Carrier Suppression	More than -45 dB.
Unwanted Sideband	More than -45 dB.
Frequency Response	AM and FM: 350 to 3000 Hz. SSB: 400 to 4000 Hz.
Output Impedance	50 ohms, unbalanced
SSB Filter	10.695 MHz, crystal lattice type 6 dB @4.2 KHz 60 dB @7 KHz
RECEIVER	
Sensitivity	SSB: Less than 0.15μV for 10 dB (S+N)/N at greater than ½ watt of audio output.
	AM: Less than 0.5μV for 10 dB. (S+N)/N at greater than ½ watt of audio output.
	FM: Better than 0.5μV for 20 dB (S+N)/N at greater than ½ watt of audio output.
Selectivity	AM/SSB 6 dB @4.2KHz, 60 dB @7.5KHz FM 6 dB @7.0KHz, 60 dB @15KHz
Cross Modulation	More than 60 dB.
Image Rejection	More than 60 dB.
I.F. Frequency	FM 1st : 10.695 MHz FM 2nd : 455 KHz AM/SSB: 10.695 MHz
AM/FM and SSB RF Gain Control	Adjustable for optimum signal reception.

Automatic Gain Control	(AGC): Less than 10 dB change in audio output for inputs from 10 to 500,000 μV.
Squelch	Adjustable; 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 2100 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 connedted.

PA SYSTEM

Power Output	3.0 watts into external speaker.
External Speaker for PA	8 ohms (not supplied).

CHANNEL INFORMATION

	ANT FREQUENCY (MHz)									
	A BAND		B BAND		C BAND		D BAND		E BAND	
	Nor-mal	+10 kHz	Nor-mal	+10 kHz	Nor-mal	+10 kHz	Nor-mal	+10 kHz	Nor-mal	+10 kHz
1	26.065	26.075	26.515	26.525	26.965	26.975	27.415	27.425	27.865	27.875
2	26.075	26.085	26.525	26.535	26.975	26.985	27.425	27.435	27.875	27.885
3	26.085	26.095 (3A)	26.535	26.545 (3A)	26.985	26.995 (3A)	27.435	27.445 (3A)	27.885	27.895 (3A)
4	26.105	26.115	26.555	26.565	27.005	27.015	27.455	27.465	27.905	27.915
5	26.115	26.125	26.565	26.575	27.015	27.025	27.465	27.475	27.915	27.925
6	26.125	26.135	26.575	26.585	27.025	27.035	27.475	27.485	27.925	27.935
7	26.135	26.145 (7A)	26.585	26.595 (7A)	27.035	27.045 (7A)	27.485	27.495 (7A)	27.935	27.945 (7A)
8	26.155	26.165	26.605	26.615	27.055	27.065	27.505	27.515	27.955	27.965
9	26.165	26.175	26.615	26.625	27.065	27.075	27.515	27.525	27.965	27.975
10	26.175	26.185	26.625	26.635	27.075	27.085	27.525	27.535	27.975	27.985
11	26.185	26.195 (11A)	26.635	26.645 (11A)	27.085	27.095 (11A)	27.535	27.545 (11A)	27.985	27.995 (11A)
12	26.205	26.215	26.655	26.665	27.105	27.115	27.555	27.565	28.005	28.015
13	26.215	26.225	26.665	26.675	27.115	27.125	27.565	27.575	28.015	28.025
14	26.225	26.235	26.675	26.685	27.125	27.135	27.575	27.585	28.025	28.035
15	26.235	26.245 (15A)	26.685	26.695 (15A)	27.135	27.145 (15A)	27.585	27.595 (15A)	28.035	28.045 (15A)
16	26.255	26.265	26.705	26.715	27.155	27.165	27.605	27.615	28.055	28.065
17	26.265	26.275	26.715	26.725	27.165	27.175	27.615	27.625	28.065	28.075
18	26.275	26.285	26.725	26.735	27.175	27.185	27.625	27.635	28.075	28.085
19	26.285	26.295 (19A)	26.735	26.745 (19A)	27.185	27.195 (19A)	27.635	27.645 (19A)	28.085	28.095 (19A)
20	26.305	26.315	26.755	26.755	27.205	27.215	27.655	26.665	28.105	28.115
21	26.315	26.325	26.765	26.775	27.215	27.225	27.665	27.675	28.115	28.125
22	26.325	26.335	26.775	26.785	27.225	27.235	27.675	27.685	28.125	28.135
23	26.355	26.365	26.805	26.815	27.255	27.265	27.705	27.715	28.155	28.165
24	26.335	26.345	26.785	26.795	27.235	27.245	27.685	27.695	28.135	28.145
25	26.345	26.355	26.795	26.805	27.245	27.255	27.695	27.705	28.145	28.155
26	26.365	26.375	26.815	26.825	27.265	27.275	27.715	27.725	28.165	18.175
27	26.375	26.385	26.825	26.835	27.275	27.285	27.725	27.735	28.175	28.185
28	26.385	26.395	26.835	26.845	27.285	27.295	27.735	27.745	28.185	28.195
29	26.395	26.405	26.845	26.855	27.295	27.305	27.745	27.755	28.195	28.205
30	26.405	26.415	26.855	26.865	27.305	27.315	27.755	27.765	28.205	28.215
31	26.415	26.425	26.865	26.875	27.315	27.325	27.765	27.775	28.215	28.225
32	26.425	26.435	26.875	26.885	27.325	27.335	27.775	27.785	28.225	28.235
33	26.435	26.445	26.885	26.895	27.335	27.345	27.785	27.795	28.235	28.245
34	26.445	26.455	26.895	26.905	27.345	27.355	27.795	27.805	28.245	28.255
35	26.455	26.465	26.905	26.915	27.355	27.365	27.805	27.815	28.255	28.265
36	26.465	26.475	26.915	26.925	27.365	27.375	27.815	27.825	28.265	28.275
37	26.475	26.485	26.925	26.935	27.375	27.385	27.825	27.835	28.275	28.285
38	26.485	26.495	26.935	26.945	27.385	27.395	27.835	27.845	28.285	28.295
39	26.495	26.505	26.945	26.955	27.395	27.405	27.845	27.855	28.295	28.305
40	26.505	26.515	26.955	26.965	27.405	27.415	27.855	27.865	28.305	28.315

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 at 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.

GENERAL INFORMATION

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 convenietn 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 trnsceiver 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 must 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 hotizontal 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

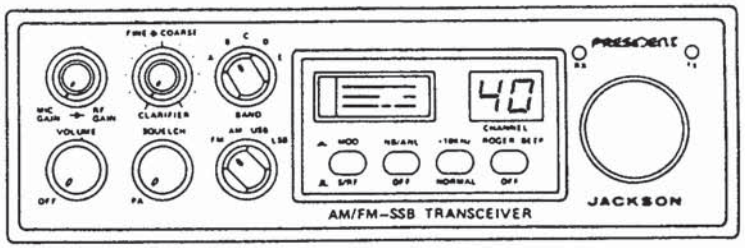
An external 8 ohm 4-watt speaker must be connected to the (PA SPKR) jack located on the rear panel when the transceiver is used as a public address system. The speaker should be directed away from the microphone to prevent acoustic feedback. Physical separation or isolation of the microphone and speaker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

OPERATING CONTROLS



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 transmiting, 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.

Normal	+10KHz
3	3A
7	7A
11	11A
15	15A
19	19A

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 redner 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 diappears. 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 CLARIFILER 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.