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Royce Model 1-620 Owner's Manual
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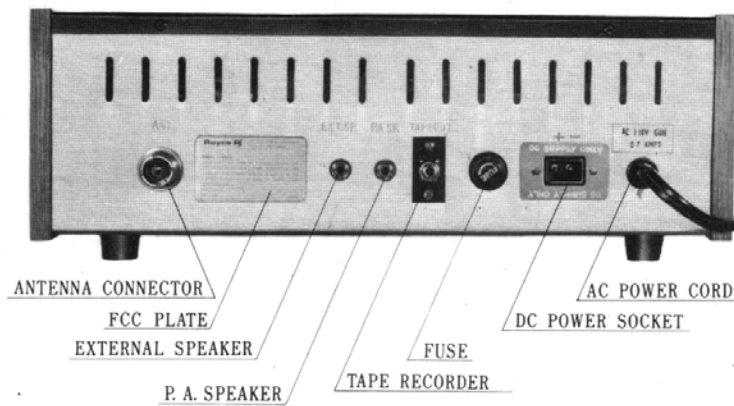
Model 1-620

23-Channel Base/Mobile
Citizensband
Transceiver



OWNER'S MANUAL

OPERATION OF CONTROLS



FUNCTION OF CONTROLS

VOLUME CONTROL AND OFF-ON SWITCH:

The volume control varies the sound output of the loudspeaker. It also functions as a “off-on” switch. Clockwise rotation increases volume.

CHANNEL SELECTOR SWITCH:

Tuning of the receiver and transmitter is done simultaneous by rotating the 23 channel selector switch. Set the switch to the desired channel 1 to 23 as indicated directly on switch knob.

SQUELCH CONTROL:

The squelch control is designed to reduce excessive noise (such as power line interference, ignition noise, etc.) This control must be set when only noise, no signal is heard. Turn the control fully counterclockwise and increase the volume until noise or a signal is heard. When only noise is present, turn the squelch control clockwise until the noise is blanked out.

PUBLIC ADDRESS:

In the “PA” position on the channel selector, your transceiver is converted to a public address system. A convenient pin jack on the back panel is provided for connection to any standard 8 ohm PA speaker. An optional speaker is required.

PRESS-TO-TALK MICROPHONE:

The receiver and transmitter are controlled by the press-to-talk switch on the microphone. Press in this switch and transmitter is activated. Release this switch to receive. When transmitting, hold microphone 3 to 4 inches from mouth and speak clearly and in a normal voice.

TRANSMIT LAMP:

This is a transmit indicator light and will glow green when the push-to-talk button is pressed.

MODULATION LAMP:

This is to indicate the level of modulation. It will glow red when you speak into the microphone. The intensity of the light varies according to the level of the modulation.

TONE CONTROL:

This control adjusts the audio response of incoming signals. When you turn this control counter-clockwise, it increases the treble (high frequency) range. Clockwise rotation increases the "BASS" response.

DELTA TUNE CONTROL (3-position):

This is to adjust the frequency of the receiver and acts as an electrical fine tuning control. When you set this control at the – marked position, the lower portion of the channel will be picked up more clearly and when you set it at the + marked position, the higher part of the channel will be picked up more clearly. You should set this control at the position which gives the clearest reception and highest "S" meter reading.

NOISE LIMITER SWITCH:

This switch activates a very effective type of noise elimination circuit. The noise limiter is usually left on due to the higher noise level encountered in normal operation.

TAPE RECORDER OUTPUT JACK:

Equipped at the rear, this jack enables you to record messages into a tape recorder. To do this, connect a cable from this jack to the input jack of the tape recorder.

SPECIFICATIONS

GENERAL

1. Semiconductors : 22 Transistors and 15 Diodes
2. Self-contained Speaker : 2-1/2 inch, 8 ohm voice coil
3. Microphone : Dynamic microphone with push-to-talk switch 500 ohms. Impedance
4. Controls, Indicator and Connector : Volume control with power on-off switch
: Variable squelch control
: Variable tone control
: Channel selector
: Illuminated channel indicator
: Delta tune control (3-position)
: Illuminated S/RF power meter
: Transmit indicator lamp
: Modulation indicator lamp
: Coaxial type antenna connector
: Public address speaker jack
: Tape recorder output jack
: Microphone connector
5. Power supply : 13.8 Volts DC/117 Volts AC
6. Cabinet description : Front Aluminum plate
: Ends Wood
: Top/Bottom/Rear Metal
7. Dimensions : 8-9/16" (D) × 12-1/2" (W) × 1/8" (H)
8. Weight : Unit 9.7LBS
: Shipping 10.8LBS

RECEIVER

- | | |
|--|-----------------------------------|
| 1. Frequency Range (MHz) | : 26.965-27.255 |
| 2. Sensitivity | : 0.5 uV for 10 db S/N |
| 3. Selectivity | : 5 KHz minimum at 6 db down |
| 4. Adj. Channel Rejection | : More than 45 db |
| 5. Audio power output at 8 ohms | : More than 3-W at 10% distortion |
| 6. Audio fidelity (1KHz = 0db, 6db down) | : 400Hz – 3,000Hz |
| 7. A.G.C. figure of merit
(Input 94 db for 10 db range) | : More than 80db |
| 8. Squelch sensitivity (Threshold) | : Less than 0.5 uV |
| 9. Spurious response | : More than 45 db |

TRANSMITTER

- | | |
|--------------------------|-------------------|
| 1. Frequency Range (MHz) | : 26.965-27.255 |
| 2. RF output power | : More than 3-W |
| Modulation Capability | : More than 80% |
| 4. Spurious suppression | : More than 50 db |
| 5. Frequency tolerance | : $\pm 0.005\%$ |

FREQUENCY SYNTHESIZER CRYSTAL COMBINATION LIST

(A) Group 6 pcs.

X¹ 37.60 MHz
 X² 37.65 MHz
 X³ 37.70 MHz
 X⁴ 37.80 MHz
 X⁵ 37.80 MHz
 X⁶ 37.85 MHz

(B) Group 4 pcs.
 (Transmitting)

X⁷ 10.635 MHz
 X⁸ 10.625 MHz
 X⁹ 10.615 MHz
 X¹⁰ 10.595 MHz

(C) Group 4 pcs.
 (Receiving)

X¹¹ 10.18 MHz
 X¹² 10.17 MHz
 X¹³ 10.16 MHz
 X¹⁴ 10.14 MHz

CHANNEL	FREQUENCY (MHz)	Combination (Transmit)	Combination (Receive)
1.	26.965	X ¹ - X ⁷	X ¹ - X ¹¹
2.	26.975	X ¹ - X ⁸	X ¹ - X ¹²
3.	26.985	X ¹ - X ⁹	X ¹ - X ¹³
4.	27.005	X ¹ - X ¹⁰	X ¹ - X ¹⁴
5.	27.015	X ² - X ⁷	X ² - X ¹¹
6.	27.025	X ² - X ⁸	X ² - X ¹²
7.	27.035	X ² - X ⁹	X ² - X ¹³
8.	27.055	X ² - X ¹⁰	X ² - X ¹⁴
9.	27.065	X ³ - X ⁷	X ³ - X ¹¹
10.	27.075	X ³ - X ⁸	X ³ - X ¹²
11.	27.085	X ³ - X ⁹	X ³ - X ¹³
12.	27.105	X ³ - X ¹⁰	X ³ - X ¹⁴
13.	27.115	X ⁴ - X ⁷	X ⁴ - X ¹¹
14.	27.125	X ⁴ - X ⁸	X ⁴ - X ¹²
15.	27.135	X ⁴ - X ⁹	X ⁴ - X ¹³
16.	27.155	X ⁴ - X ¹⁰	X ⁴ - X ¹⁴
17.	27.165	X ⁵ - X ⁷	X ⁵ - X ¹¹
18.	27.175	X ⁵ - X ⁸	X ⁵ - X ¹²
19.	27.185	X ⁵ - X ⁹	X ⁵ - X ¹³
20.	27.205	X ⁵ - X ¹⁰	X ⁵ - X ¹⁴
21.	27.215	X ⁶ - X ⁷	X ⁶ - X ¹¹
22.	27.225	X ⁶ - X ⁸	X ⁶ - X ¹²
23.	27.255	X ⁶ - X ¹⁰	X ⁶ - X ¹⁴

DESCRIPTION

RECEIVER:

Sensitive dual conversion circuit with crystals supplied for all 23-channel reception: less than one microvolt sensitivity, built-in controlled squelch circuit and pushbutton noise limiting give noise-free operation. Active AGC circuit eliminates fading and over driving. Ceramic filters reduce unwanted interference. Variable Tone Control for extended audio range. Delta Tuning is built in for pinpoint receiver tuning.

TRANSMITTER:

Precision crystal-controlled oscillator circuit with all 23 Citizens Band channels built in. A full Transmitter power is effectively converted into radiated output power with a minimum of loss for a stronger signal. A maximum of TVI filtering is employed. Pi-network matching for exact loading to any standard CB antenna. Lights for transmit and modulation-Indication

SIGNAL-TRANSMIT POWER METER:

A combination meter on the front panel provides a constant visual monitor of incoming "Signal Strength" when receiving and "Relative Output Power" when transmitting.

CONTROLS:

A full set of controls is employed, including volume On-Off switch, 23-channel selector switch including P.A. position, full variable squelch, tone, delta tuning and pushbutton noise limiter.

PUBLIC ADDRESS SWITCH

In the "PA" position on the channel selector your transceiver is converted to a public address system. A convenient pin jack on the back panel is provided for connection to any standard 8 ohm PA speaker.

POWER SUPPLY: (DC Operation)

Almost all cars and most trucks currently operating in the U.S. are negative ground. There are some large trucks and construction equipment which do operate on positive ground. Your Royce 1-620 will operate on either. In the negative ground systems the minus (-) pole of the battery is attached to the car body, engine block etc.

NEGATIVE GROUND HOOKUP:

Attach the red (fused) wire to the fuse block terminal or any convenient plus (+) lead. Devices operated by the ignition key such as the radio, light etc. are best since when you turn the ignition off, the unit will be turned off. Attach the black lead to the car body via any convenient method.

Note: Many newer cars use plastic dash pieces. Make sure the screw or contact you choose is attached to the metal framework of the car.

POSITIVE GROUND HOOKUP:

In the event that you do have a positive ground vehicle, the following hookup must be made. Attach the red (fused) lead to the car body via any convenient screw, bolt etc. Attach the black lead to the terminal block or any convenient wire which goes to the minus (-) pole of the battery.

FAILURE TO MAKE THE PROPER CONNECTION COULD RESULT IN UNIT DAMAGE.

POWER SUPPLY(AC Operation)

Your 1-620 is designed to operate from 117 Volts AC 60 Cycle (standard house current) Simply connect the AC power cord to any convenient outlet.

ANTENNA REQUIREMENT:

This transceiver will operate with any standard 52 ohm ground-plane, vertical, mobile whip, long wire or other CB antenna. A standard SO 239 type connector is provided on the back panel for use with popular PL 259 antenna plug. An adjustable loading network is provided to match antenna impedance exactly.

FREQUENCY:

Each unit is completely equipped with crystals for operation on any of the 23 Citizens Band channels. It is not necessary to purchase any additional crystals for this unit. Refer to part 95 of the F.C.C. rules and regulations to determine which channels may be used for various kinds of communication.

GENERAL OPERATING INSTRUCTIONS

CAUTION:

Before operating this transceiver, you are required by law to read and thoroughly understand part 95 of the F.C.C. rules and regulations.

Check to see if the proper connections have been made on power cable, antenna system and microphone and that the correct cables have been used. Be sure that the transceiver is adequately grounded (if not mounted directly to a metal surface).

To transmit, press the push-to-talk switch and hold it down. Speak directly into microphone. Release this switch to receive. Actual receive and transmitting power should be monitored by watching the SIGNAL-TRANSMIT POWER METER and using the switch provided for this purpose.

Select the channel on which you wish to operate by rotating the Channel Selector Switch to the desired channel.

The microphone should be held approximately 3 to 4 inches away from your mouth. Use a normal speaking voice. Speak slowly and clearly. Talking louder does not increase transmitting power and only cause distortion. You will notice the SIGNAL-TRANSMIT POWER meter moving as you transmit. This indicates that you are transmitting. Always release the microphone switch when you complete your transmission.

For best receiving results, observation "SIGNAL" meter.

NEVER OPERATE THE UNIT WITHOUT AN ANTENNA OR DUMMY LOAD – IT COULD DAMAGE THE RF OUTPUT TRANSISTOR.