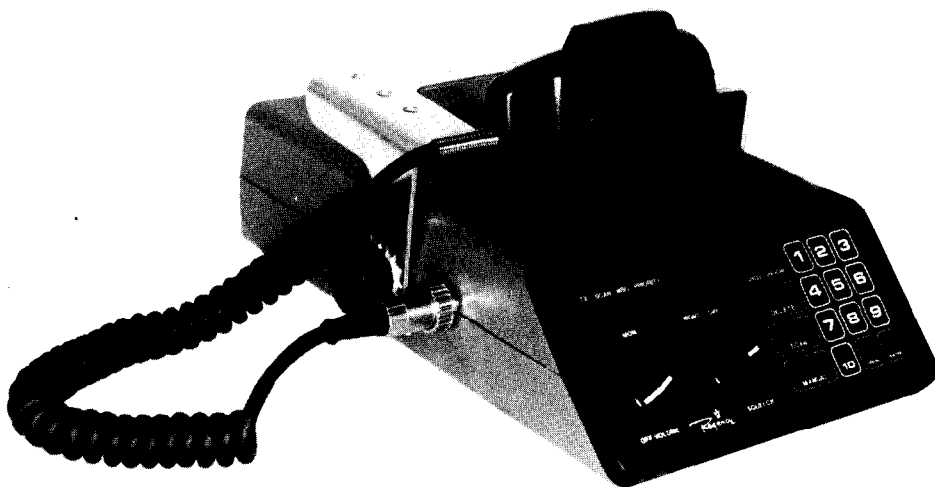




Communications, inc.

INSTRUCTION MANUAL



**Models RH256
RU 156**

CONTENTS

	<u>Page</u>
I. Unpacking	1
II. Maintenance	1
III. Description	1 - 5
IV. Installation	5
v. Specifications	6 - 7
VI. Accessories	8
VII. Operation	9 - 13

I. UNPACKING

Check to be sure the following items were packed:

- 1 - Transceiver
- 1 - MA-83 Hand Held Microphone (Blk)
- 1 - MA-84 DC Power Cord w/5A in-line fuse
- 1 - MA-311 Blk Mounting Bracket

II. MAINTENANCE

Refer to a Regency Sales/Service Center for servicing. The transceiver should be checked semi-annually for proper operation.

WARNING: FCC regulations require that any repairs and/or adjustments made to the transmitter of this radio to be rendered under the supervision of a technician holding a general radiotelephone license.

DO NOT TAMPER WITH INTERNAL ADJUSTMENTS.

III. DESCRIPTION

The RH256 and RU156 are sixteen-channel land mobile transceivers. The RH256 operates in the VHF frequency range in three bands. The RH256A operates from 134 to 150 MHz; the RH256B operates from 150 to 162 MHz and the RH256C and RH256UK both operate from 162 to 174 MHz. The RH256UK is an RH256C but instead of 25 KHz channel spacing and ± 5 KHz maximum system modulation deviation the radio is designed to

DESCRIPTION (Continued)

work in systems having 12.5 KHz channel spacing with a **maximum** system deviation of ± 2.5 KHz.

The RU156 operates in the UHF frequency range, also in three bands. The **RU156A** operates from 421.4 to 450 MHz; the **RU156B** operates from 450 to 462 MHz, and the **RU156C** operates from 462 to 512 MHz.

The radio can store up to sixteen channels without battery backup. All radios **come** with CTCSS tone and scanning capabilities. A monitor switch and a night/day switch are also standard.

(Refer to Figure 1 for the following descriptions.)

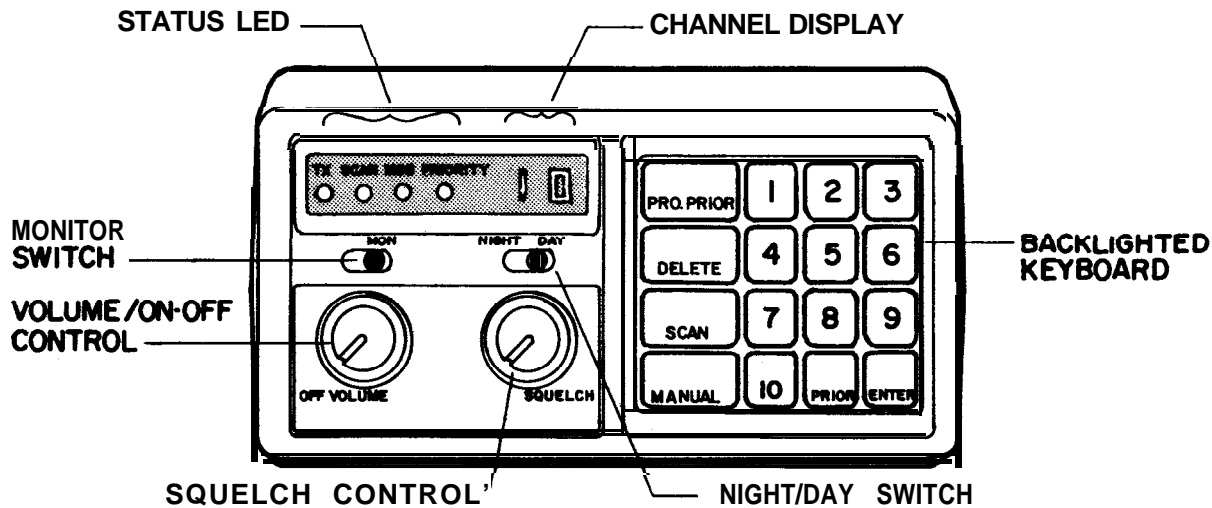
VOLUME CONTROL/ON-OFF SWITCH

This control varies the speaker volume. Clockwise rotation turns the radio on and increases the volume. When the radio is turned off and back on it will revert back to the state it was in before being switched off. The radio will remember the last state it was in even if the power plug is disconnected.

SQUELCH CONTROL

The squelch control is used to eliminate the speaker noise when not **receiving** a transmission. Move the control clockwise until noise is heard (if in the SCAN mode the **receiver will** stop scanning). Then move the control counter-clockwise until the speaker noise is squelched (if in the SCAN mode the receiver **will start to** scan approximately two seconds after the speaker squelches).

FIGURE 1



DESCRIPTION (Continued)

MONITOR SWITCH

Placing this switch in the "MON" position allows the user to monitor the channel when the CTCSS decoder is operating.

NIGHT/DAY SWITCH

Placing this switch in the "DAY" position places the display lights at maximum luminosity and does not light the keyboard. In the "NIGHT" position the display light's luminosity is decreased and the keyboard is illuminated.

STATUS LEDs

There are four status LEDs located to the left of the channel display.

- TX - When lit indicates that the transmitter is activated. This is accomplished by removing the microphone from the hang-up clip (off-hook condition) and pressing the push-to-talk switch on the microphone.

- SCAN - When lit indicates that the radio is in the SCAN mode. Pressing the SCAN button on the keyboard puts the radio in the SCAN mode.

- MSG - When lit indicates that a message has been received. The radio's CTCSS decoder must be activated in order for this LED to function. If a message has been received, going off hook or changing the channel will reset the LED to its OFF state.

- PRIOR. - When lit indicates that the radio's priority function has been selected. Pressing the Prior button on the keyboard will activate and deactivate the PRIORITY function.

DESCRIPTION (Continued)

CHANNEL DISPLAY

Displays the current channel the radio is operating on. The channels are selected by pressing the appropriate button(s) on the keyboard.

IV. INSTALLATION

The radio is designed for mobile operation in a vehicle with a 12V negative ground system. The red wire (with in-line fuse) is connected to the positive battery terminal and the black wire connected to the negative battery terminal.

Mount the radio in an accessible but not cramped area. Allow a few inches clearance on the right side to allow the transmitter's heat to dissipate.

Mount the microphone hang-up clip in a convenient location making sure the clip is grounded. In many new vehicles with a plastic dashboard, it may be necessary to add a ground wire to the clip to insure a good ground connection.

It is recommended that the radio and antenna installation be performed by a technician experienced in two-way radio installation.

WARNING: The FCC requires that the transmitter be adjusted and set on frequency by a technician holding a general radiotelephone license.

NOTE: The transceiver is equipped with reverse polarity protection. In the event that power leads are reversed the fuse will blow; connect the power leads to the correct polarity and install a new **5A** fuse.

V. SPECIFICATIONS

I. GENERAL

Operating Temperature Range
Size
Weight
Primary Current drain @ 13.8 VDC
 Transmit
 Receive (At Rated Audio Power)
 Receive (Squelched)
Antenna Impedance
Frequency Stability

II. RECEIVER

Sensitivity
 12dBSINAD
 20dB Quieting
Selectivity Adjacent Channel (EIA SINAD)
Intermodulation Rejection
Image and Spurious Response
Modulation Acceptance Bandwidth
Audio Output @ 5% Distortion
FCC Certification

III. TRANSMITTER

RF Power Output (@ 13.8 VDC)
Spurious and Harmonic Suppression
Audio Frequency Distortion
Modulation Deviation - Adjustment Range
FCC Emission Designator
FCC Transmitter Type Acceptance

*Allow 5 min. warm-up time and add 150 mA below 0°C ambient

. -30°C to +60°C (-22° to 150°F)
. 6 1/2 x 2 3/4 x 10 3/4 inches
. 16.5 x 7 x 27.3 cm
. 4 lbs. 14 ozs. (mass 2.22 kg)

. 5 Amps*
. 1.1A Max*
. 600 mA Max*
. 50 ohms
.0005%*

.35μV
.50μV
. 70dB
. 70dB
. 70dB
. ±7.5 KHZ
. 5 Watts
. Part 15, Subpart C

. 15 Watts (RU156) 25 Watts (RH256)
. -58dB (RU156) -60dB (RH256)
. 3% Max
. 0 to ±7 KHz
. 16F3
. Part 2, 21, 81, 90

ant temperature for crystal heater.

VI. ACCESSORIES

MA-35	Quick Mount Thumb Bolts
MA-48	5 Watt Horn Speaker
MA-79	Telephone Handset
MA-83	Hand Held Microphone (Black)
MA-84	5A DC Power Cord
MA-87	DC Power Cord w/Cigarette Lighter Adapter
MA-93	Split Bar Desk Microphone (Black)
MA-108	External Speaker
MA-126	Telephone Handset w/hookswitch
MA-311BLK	Mounting Bracket (Black)
MA-316	Split Bar Desk Microphone (Beige)
MA-322	DC Power Cord for P1412
P1412	12A 13VDC Power Supply

VII. OPERATION

A. Receiver Modes

There are two receiver modes, manual and scan. The transceiver will power up on the channel and the mode the radio was in before the power was interrupted.

Manual Mode

The manual mode is entered by pressing the MANUAL button or by selecting a channel. Channels 1 through 10 are selected by pressing the corresponding channel number on the keyboard, but when selecting Channel 1 the display will flash a "1" in the ten's digit. The "1" flashes in the ten's position while the microcomputer waits for a second digit entry. If in about two seconds a second digit is not entered the "1" is displayed in the one's digit position; the radio is now on Channel 1.

If a second number is pressed (a number 1 through 6 on the keyboard) the radio will select the corresponding channel (11 through 16).

While in the manual mode the radio operates on the displayed channel. The scan LED will be off.

Scan Mode

Allows the radio to monitor activity on more than one channel. Pressing the SCAN button on the keyboard will place the radio in the scan mode. The scan LED will be on. The radio will scan the channels placed into scan list only if the microphone is on-hook (mic hang-up button connected to chassis ground) and the squelch control adjusted to squelch the radio (without a carrier present). With the radio properly set up to scan, the scan

OPERATION (Continued)

LED will blink and the display will turn off while the radio scans. When there is activity on one of the channels in the scan list the scan LED will be held on and the active channel will be displayed.

After the signal drops out the radio will stay on the channel for a period of one-half to two seconds (dealer programmable), at which time the radio starts scanning again. If the microphone is lifted off-hook before the radio starts to scan again the radio will remain locked up on that channel.

The radio will go to the priority channel when the microphone is lifted off-hook and the radio is not locked on an active channel. When the microphone is placed back in the hang-up clip the radio resumes scanning.

Programming the Scan List

Entering a channel into the scan list is accomplished by pressing the channel to be entered and the ENTER button on the keyboard.

To delete a channel from the scan list press the channel to be deleted and press the DELETE button on the keyboard. The channel will be deleted and the next channel in the scan list will be displayed.

If deleting consecutive channels in the scan list, it is not necessary to enter all the channels. The channels can be deleted by pressing the first channel number of the sequence; then press the DELETE button as many times as there are channels to delete. For example, to delete channels 3, 4, and 5 in the scan list select channel 3 and press the DELETE button three times.

OPERATION (Continued)

To review the channels in the scan list press the MANUAL button on the keyboard. Each time the MANUAL button is pressed the next higher channel that is in the scan list is displayed.

The Priority Function

The priority function allows the operator to listen to one channel (non-priority channel) and not miss an important message on another, more important channel (priority channel). Pressing the PRIOR button on the keyboard will enable or disable the priority function. When the priority LED is lit the priority function is enabled.

To change the priority channel, select the channel to become the priority channel and press the PRO PRIOR and ENTER buttons on the keyboard (in that order).

Priority-Manual Operation

The squelch control must be set, squelching the radio, to allow the priority function to operate. When the radio is listening on a **non-**priority channel the radio will look at the priority channel occasionally. If the priority channel is active the radio will stop on that channel and monitor the transmission. The radio does this regardless of what is happening on the non-priority channel.

Lifting the microphone off-hook causes the radio to revert to the priority channel. When the microphone is placed back on-hook the radio, provided there is no further communication on the priority channel, will go back to the non-priority channel the radio was on before.

OPERATION (Continued)

Priority-Scan Operation

Operation of the radio with the priority function selected in the scan mode is similar to that of the non-priority scan mode with one exception. If the radio stops scanning ("locks up") on a non-priority channel the radio will occasionally look at the priority channel. If there is activity on the priority channel the radio will stay on the priority channel; if not, the radio will go back to the channel that was interrupted.

B. Transmitter

To transmit, select the desired channel, lift the microphone off-hook, monitor to be sure the channel is not in use, key the transmitter and speak into the microphone. To key the transmitter press the push-to-talk (PTT) button on the side of the microphone. Two-way conversation is accomplished by the push-to-talk, release-to-listen operation of the PTT button on the microphone. When transmitting a message make the conversation compendious and clear.

Note that the PTT button on the microphone is not enabled when the microphone is on-hook (microphone hang-up button connected to chassis ground). Also, while transmitting, the keyboard is disabled so accidental pressing of a button on the keyboard will not interrupt the transmission.

USING THE KEYBOARD

<u>OPERATION</u>	<u>ACTION</u>	<u>REACTION</u>
1. <u>Manual Mode</u>		
selecting Channel	.Press chan. No. on keyboard	Chan. No. displayed
Enable Priority Function	.Press PRIOR on keyboard	Priority LED lights
Disable Priority Function	.Press PRIOR on keyboard	Priority LED Off
2. <u>Scan Mode</u>		
Scan	.With mic off-hook adj. squelch control to squelch radio .Hang up mic	
	.Press SCAN on keyboard	Chan. display blanks Scan LED blinks
Priority Scan	.Adjust squelch control to squelch radio .Hang up mic	
	.Press PRIOR on keyboard	priority LED lights
	.Press SCAN on keyboard	Chan. display blanks Scan LED blinks
Enter Chan. into Scan List	.Select channel to enter .Press ENTER on keyboard	Channel displayed Chan. display blinks off then back on
Deleting Chan. From Scan List	.Select channel to delete .Press DELETE on keyboard	Chan. displayed Chan. display blinks off then back on Chan. display advances to chan. in scan list
Review Scan List	.Press MANUAL on keyboard	Next channel in scan list displayed
3. <u>Priority Function</u>		
Changing Priority	.Select priority channel .Press PRO PRIOR on keyboard	Chan. No. displayed Chan. No. blinks
	.Press ENTER on keyboard	Chan. No. stops blinking
Reviewing Priority Channel	.Press and hold PRIOR on keyboard	Priority channel displayed