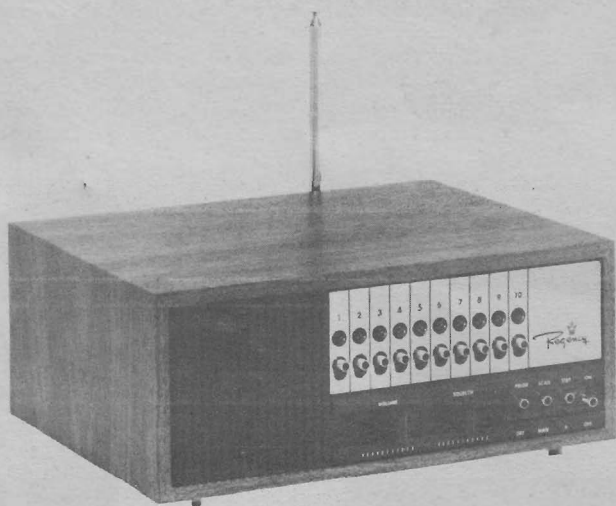



Regency®

MONITORADIO RECEIVER



**MODEL ACT-E-106
INSTRUCTION
MANUAL**

DESCRIPTION

The Regency ACT-E-106 is a programmable, 10-channel, crystal controlled, three band, (two segments per band), FM monitor receiver. It is a double conversion super heterodyne receiver used to receive the narrow band FM signals in the public service communications bands. Police, fire, civil defense and radio telephones are a few of the services in these bands.

Special circuitry is used to maintain sensitivity over the entire band.

Channel switches are provided to permit scanning any combination of one to ten channels. Manual selection permits continuous monitoring of any one channel.

Channel one has a priority feature. When the priority switch is ON, Channel 1 is sampled approximately once a second for activity. In this mode of operation, the scanner will switch to Channel 1 whenever there is a carrier received on Channel 1 and the scanner is locked on another active channel. With the priority switch in the OFF position, Channel 1 will be scanned in sequence with the other nine channels.

The priority feature makes possible continuous monitoring of a frequency of special interest while at the same time, scanning nine other channels.

The ACT-E-106 may be operated from a 117 VAC power line or in any car, truck, boat or other vehicle equipped with a 12 volt negative ground electrical system.

SPECIFICATIONS

(Subject To Change Without Notice)

Frequency Range VHF Band (Low)..... 30-50 MHz
VHF Band (High)..... 146-174 MHz
UHF Band..... 450-512 MHz
UHF Band (see page 12)... 406-420 MHz

Frequency Separation (Refer to Special Alignment)

VHF Band (Low)..... 6 DB Bandwidth; 30-39 MHz
6 DB Bandwidth; 39-50 MHz
VHF Band (High)..... 10 DB Bandwidth; 146-160 MHz
10 DB Bandwidth; 160-170 MHz
UHF Band..... 10 DB Bandwidth; 450-470 MHz
10 DB Bandwidth; 470-500 MHz

Sensitivity (at Tune-Up)

VHF Band (Low)..... 0.5 microvolt for 20 DB quieting
VHF Band (High)..... 0.6 microvolt for 20 DB quieting
UHF Band..... 0.7 microvolt for 20 DB quieting

Squelch Sensitivity (Threshold)

VHF Band (Low)..... 0.4 Microvolt
VHF Band (High)..... 0.5 Microvolt
UHF Band..... 0.6 Microvolt

Selectivity..... 6 DB @ ± 7 KHz
50 DB @ ± 18 KHz

Spurious Rejection (except Primary Image)..... 50 DB

Modulation Acceptance..... ± 7 KHz

AFC Range (UHF Only)..... Approx. 8 KHz (± 4 KHz)

I.F. Frequencies..... 1st I.F.: 10.7 MHz (crystal filter)
2nd I.F.: 455 KHz (ceramic filter)

Scanning Rate..... Approx. 15 channels per sec.

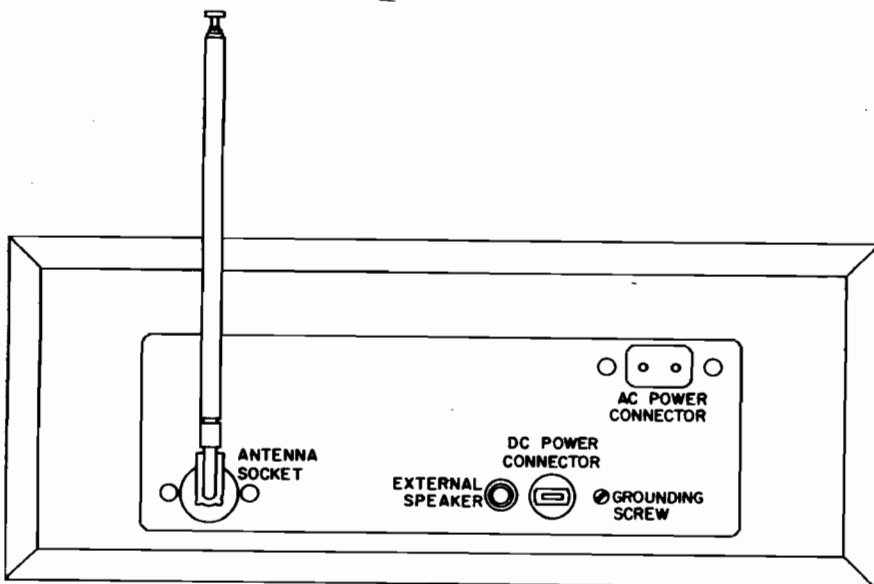
Audio Output..... 1 Watt @ 5%, or less, distortion;
2 Watts maximum

Power..... 105-130 VAC, 60 Hz @ 12 Watts maximum
11-15 VDC @ 8 Watts maximum

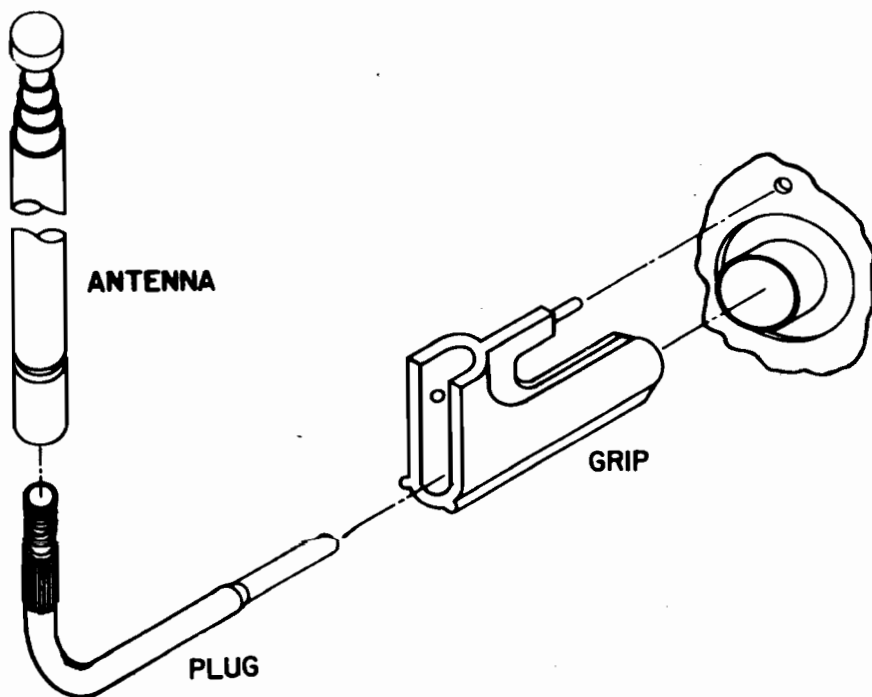
F.C.C. Certified..... Part 15, Subpart C

INSTALLATION

Insert the telescopic antenna into the external antenna socket on the rear panel. Make sure the metal portion of the adapter is fully seated in the plastic holder. For areas of moderate signal strength, the telescopic antenna will be adequate. In weak signal areas, an outside antenna may be required. Consult your dealer for the best type of antenna to use in your installation.



REAR PANEL



117 VAC Operation:

Plug the AC cord into the AC receptacle on the rear of the radio.

Plug the opposite end of the power cord into a 117 volt wall outlet.

The ACT-E-106 requires very little ventilation, however, very warm locations near radiators or heating vents should be avoided.

An external speaker may be plugged into the jack on the rear panel if desired. An 8 ohm speaker such as Regency's Model MA-108 should be used. When an external speaker is plugged in, the internal speaker is disconnected.

12 VDC Installation:

The ACT-E-106 may be installed in any vehicle which has a 12 volt negative ground electrical system.

For DC operation in a vehicle, it will be necessary to obtain a DC cord, Model Number MA-17. A ground wire will have to be connected between the grounding screw on the rear of the receiver and a convenient ground point in the vehicle.

NOTE: Mobile reception of a POLICE frequency by UN-AUTHORIZED personnel is ILLEGAL in some areas. It is the responsibility of the person making the installation to be sure that the user of this receiver is authorized or cleared through the local police department. Under no conditions can Regency Electronics, Inc., the manufacturer of this set, be held responsible for its unauthorized installation or use.

For temporary installation, a DC cord with cigarette lighter attachment is available, (Regency Model MA-18). This cord will permit operation of the radio sitting on the seat. The telescope antenna will usually provide satisfactory reception.

OPERATION

Scan/Manual Switch:

Pushing the Scan/Manual Switch down will stop the scanner and permit the channels to be selected manually. When the Scan/Manual Switch is in the manual position, the Channel 1 priority feature does not operate. Moving the switch up will restore normal scanning.

Manual Step Switch:

When the Scan/Manual Switch is in the manual position, the Manual Step Switch is used to select channels. Pushing the Manual Step Switch down and releasing it will cause the scanner to move one channel. The switch must be pushed down and released whatever number of times is required to reach the desired channel. The setting of the squelch control does not have any effect on manual channel selection.

Priority Switch:

The priority switch is used to turn the Channel 1 priority feature ON and OFF. Also for priority to operate properly, the unit must be squelched and in the Scan Mode. When the priority switch is turned on, (up position), Channel 1 is turned on even if the Channel 1 switch is turned OFF. When the priority switch is ON, (up position), and the scanner is stopped on an active channel, Channel 1 will be sampled approximately once a second for activity. A signal on Channel 1 will cause the receiver to switch to Channel 1. The Red light for Channel 1 will flicker each time Channel 1 is sampled to indicate that the priority feature is in operation.

Channel Switches:

Each of the ten channels has an ON/OFF Switch located just below the light for each channel. When the switch for any channel is ON, (up position), that channel will be included in the scanning sequence or the manual step function. Pushing the switch to OFF, (down position), will turn the channel off and it will not be included in either scanning or manual selection.

The priority switch will over-ride the channel 1 switch and turn Channel 1 on when the priority switch is turned on.

When the receiver is turned on and the squelch control is set to unsquelched position, (noise is heard), the receiver

may not operate properly. If this happens, the squelch control must be moved to the squelched position to restore normal operation.

ON/OFF Switch:

Pushing the ON/OFF Switch up applies power to the receiver. Pushing the switch down turns the receiver OFF.

Volume Control:

The Volume Control is a slide type control. Moving the control to the right increases the volume output from the internal speaker, or the external speaker if one is installed.

Squelch Control:

The Squelch Control is used to eliminate background noise in the absence of a signal. Moving the control to the right decreases the squelch action. In the full right position, the normal background noise will be heard. In addition, the scanner will not scan. The scanner will stop and hold on whatever channel it happens to be on. Moving the control to the left will increase the squelch action. The proper adjustment is the point where the background noise just disappears and proper scanning action is obtained. If the scanner stops on channels without crystals installed, or channels without signals, the squelch control should be moved left just enough to eliminate the false stopping and normal scanning action is obtained. Moving the control farther left may result in the loss of weak signals.

CRYSTAL INSTALLATION AND PROGRAMMING

Prior to installing crystals, the plastic snap-in cover on the bottom of the receiver will have to be removed. Remove the AC cord and antenna from the rear panel of the receiver.

1. Select the desired crystal and note the frequency marked on the crystal.
2. Install the crystal in the desired channel and note the channel number next to the socket.
3. Locate the row of six pins for the channel selected in Step 2.
4. Locate the colored program wire for the channel selected in Step 2. The colors of the channel program wires are:

CHAN	COLOR	CHAN	COLOR	CHAN	COLOR
1	Brown	5	Green	9	White
2	Red	6	Blue	10	Black
3	Orange	7	Purple		
4	Yellow	8	Pink		

5. Move the wire and it's connector to the pin in the row whose frequency range includes the frequency of the crystal.
6. Repeat the process for all remaining crystals to be installed. All wires must be connected to a pin. The wire for each channel that does not have a crystal installed may be connected to any pin in it's row.
7. Reinstall the plastic cover. Turn the receiver upright and install the antenna and AC cord.

CRYSTAL INFORMATION:

Crystals are not normally supplied with the receiver. Crystals are usually obtained by the owner from the dealer where the receiver was purchased.

If the crystals are ordered from the recommended sup-

plier, Shepherd Industries, the ordering information should include the Model Number of the receiver and the frequency you wish to receive.

If crystals are ordered from a supplier who is not familiar with the specifications for crystals used in Regency receiver's, the following information should be included with the order.

A. Low VHF Band Crystals

1. Crystal frequency, determined as follows:
Crystal frequency = Channel frequency + 10.7 MHz
2. Frequency tolerance of .002%
3. Series resonance - 450 Hz; 3rd Overtone
4. Maximum impedance of 35 ohms
5. Holder is an HC-25/U with pin leads (plug-in type).

B. High VHF Band Crystals

1. Crystal frequency, determined as follows:
Crystal frequency = $\frac{\text{Channel frequency} - 10.7 \text{ MHz}}{3}$
2. Frequency tolerance of .001%
3. Series resonance - 450 Hz; 3rd Overtone
4. Maximum impedance of 35 ohms
5. Holder is an HC-25/U with pin leads (plug-in type).

C. UHF Band Crystals (450 to 470 MHz)

1. Crystal frequency, determined as follows:
Crystal frequency = $\frac{\text{Channel frequency} - 10.7 \text{ MHz}}{9}$
2. Frequency tolerance of .001%

3. 3rd Overtone; load capacitance of 18 PF; drive level of 2 milliwatts .
4. Maximum impedance of 35 ohms
5. Holder is an HC-25/U with pin leads (plug-in type).

D. UHF Band Crystals (470 to 512 MHz)

1. Crystal frequency, determined as follows:

$$\text{Crystal frequency} = \frac{\text{Channel frequency} - 10.7 \text{ MHz}}{10}$$

2. Frequency tolerance of .001%
3. 3rd Overtone; load capacitance of 18 PF; drive level of 2 milliwatts .
4. Maximum impedance of 35 ohms
5. Holder is an HC-25/U with pin leads (plug-in type).

E. UHF Band Crystals (406 to 420 MHz)

NOTE: See Special Alignment

1. Crystal frequency, determined as follows:

$$\text{Crystal frequency} = \frac{\text{Channel frequency} - 10.7 \text{ MHz}}{8}$$

2. Frequency tolerance of .001%
3. 3rd Overtone; load capacitance of 18 PF; drive level of 2 milliwatts .
4. Maximum impedance of 35 ohms
5. Holder is an HC-25/U with pin leads (plug-in type).

Special Alignment:

As shipped from the factory, the unit covers two segments each in the three bands. In almost all cases, they will give you the performance that you desire. The two segments in the Low VHF Band will give you optimum coverage

from 30 to 39 and 39 to 50 MHz; no retuning should ever be necessary.

In the High VHF Band, the High segment is tuned to give better than $1.5 \mu\text{v}$ sensitivity from 160 to 170 MHz and the Low segment is tuned to give better than $1.5 \mu\text{v}$ sensitivity from 146.5 to 160 MHz. In the UHF Band, the High segment is tuned to give better than $2.0 \mu\text{v}$ from 475 to 500 MHz and the Low segment is tuned to give better than $2.0 \mu\text{v}$ from 450 to 470 MHz.

For customers with crystals outside the factory tuned segments in the High VHF (170 to 174 MHz) and UHF (406 to 420 or 500 to 512 MHz) Bands, the set may be returned to Regency's Customer Service Department for proper re-alignment. Please allow at least two weeks for the unit to be returned to you. This Special Alignment (performed by our Customer Service Department) will not affect your warranty.

If there is no concern over the warranty (perhaps the warranty period has expired), the Special Alignment can be performed by any competent electronic technician who has the normal complement of service or repair equipment.

Weather Broadcasts:

The National Weather Service provides a continuous (24-hour) broadcast of local and area weather conditions. These weather messages are repeated until the next or up-dated report is issued. The Weather Service has broadcast facilities in many metropolitan areas of the country. Check with your Regency dealer, or your local weather bureau for the location and frequency of the nearest weather bureau station.

If you are located within 25 to 30 miles of one of these cities, reception usually can be obtained with the telescopic

antenna. Your local Regency dealer can advise you about your specific antenna requirements.

NOTE: When set to automatic scan, the ACT-E-106 will stop and remain on the Weather Channel (since it broadcasts continuously). Thus, this channel should only be activated when you desire to hear the current weather report.

