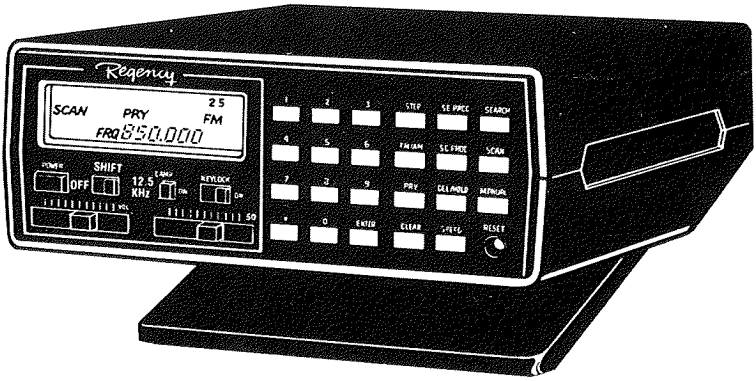
REGENCY SCANNERS
MODEL MX4200
OWNERS MANUAL



PACKING LIST

1 – Receiver Unit
1 – Wall mounted AC Power Supply
1 – DC Power Cord
1 – Telescoping Antenna
1 – Mounting Bracket
1 – Base
1 – Instruction Manual

INDEX

MAINTENANCE

All servicing should be referred to the Regency Customer Service Department.

UNAUTHORIZED ADJUSTMENTS MAY DAMAGE THE EQUIPMENT OR RESULT IN IMPROPER OPERATION AS WELL AS INVALIDATE THE WARRANTY.

Important

The sections on Preparation for Use and Operation should be thoroughly read before operating unit. Reading the instructions will result in maximum performance and enjoyment of your radio.

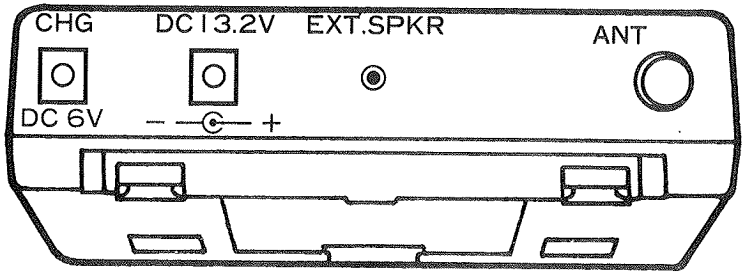
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

GENERAL DESCRIPTION

Your Regency MX4200 is a compact, programmable 20 channel AM/FM monitor receiver for use at home or on the road. Sophisticated microprocessor-controlled circuitry eliminates the need for crystals. Instead, the frequency for each channel is programmed through the numbered keyboard.

Any combination of two to twenty channels can be scanned automatically or the unit can be set on manual for continuous monitoring of any one channel. In addition, the search function locates unknown frequencies within a band.

Other features include scan delay, scan hold, scan speed, priority and light switch to sidelite the liquid crystal display. The MX4200 can be operated on either 220V AC, 13.2V DC or 6V DC (With the included AC-DC transformer for 220V AC operation.)



PREPARATION FOR USE

Before operating your MX4200, read the following directions carefully.

1. Unpack the unit from the carton and check for damage. If the unit is damaged, contact the place of purchase immediately as required by the warranty agreement. If the rechargeable battery pack included with the unit has not yet been installed, do so by removing the battery compartment door and connecting the battery pack to the internal battery connector.
2. Insert the AC power adaptor into a 220V AC receptacle and the other end into the CHARGE/DC 6V jack provided on the back of your sacnner.
3. Insert the antenna into the antenna receptacle on the back panel of the scanner.
4. Before turning on the Receiver set the "SQUELCH" slide knob to the far left. Also, set the "VOLUME" slide knob to the far left, or minimum setting.
5. Now, turn the Power switch on to apply power to the receiver.
6. Set the squelch by sliding the squelch knob to right until static is heard. Turn the knob back until static just disappears.

FRONT PANEL CONTROLS

VOLUME: When sliding toward the right, it increases the audio level to the desired or most comfortable listening level.

SQUELCH: Eliminates background noise and allows the unit to scan or search.

POWER ON/OFF: When it is set to "ON", it provides power to the unit.

LAMP SWITCH: Slide the lamp switch to ON to illuminate the side light for the liquid crystal display.

KEY LOCK SWITCH: Sliding this switch to the ON position disables the keyboard to prevent inadvertent entries.

RESET SWITCH: If the unit does not operate or respond normally, use a small blunt instrument to press in the Reset button.

-12.5KHz SHIFT SWITCH: Used to shift 800MHz frequencies down by 12.5 KHz (see page 4).

PROGRAM PANEL

The MX4200 has 23 touch-entry keys for easy operation.

SEARCH: Starts the search process.

SCAN: Puts the unit into the scan mode.

MANUAL: For manual advance during Search or to take the unit out of the scan mode.

PRY: Selects priority feature.

DLY/HLD: During the Scan Mode, it will select the delay Function. In the Search Mode, it will provide a delay or it will hold a received Frequency until you advance manually.

SEARCH PROG: To program the lower frequency and upper frequency for SEARCH.

SCAN PROG: To program a group of channels to be scanned (see page 5).

FM/AM: Selects AM mode or FM mode.

SPEED: During the SCAN or SEARCH mode you may choose between two scan or search speeds.

0~9: The numbered keys are used for entering frequencies.

CLEAR: To clear any mistakenly entered frequency before pressing the enter key.

ENTER: For entering frequencies.

INC: Selects 5 KHz, 10 KHz, 12.5 KHz, or 25 KHz SEARCH frequency increment.

PROGRAMMING CHANNELS

The MX4200 has 20 channels available for your personal choice of frequencies. The sophisticated microprocessor-controlled circuitry eliminates the need for crystals and allows easy fingertip touch entry of all data.

Programming is done while in the manual mode.

Example: Enter the FM frequency of 465.750 into channel 01.

1. Press MANUAL, a digit will flash to prompt frequency entry.
2. PRESS 4 6 5. 7 5 0 and ENTER.
3. After pressing ENTER, "FM" or "AM" will blink indicating the unit is waiting for you to select the FM or AM mode and to put the frequency into a specific memory channel. Press FM/AM to select. The indicator **not** flashing is the mode selected.

4. Then enter the selected frequency to specific channel by pressing for example 01, for channel 1.

Display: Frequency 465.750 is now in channel 1. Repeat this procedure for each channel to be programmed.

Important: Channels 1 through 9 require pressing the "0" before pressing the channel number.

Note: If you enter an invalid frequency "ERROR" will appear in the display. Press MANUAL and begin again.

Important: Each time MANUAL is selected for the purpose of entering a frequency, the scanning process immediately stops. The channel and frequency displayed in the digital readout will in no way be affected when you enter the new frequency, unless it is the one you wish to change.

Just before SCANNING: 800MHz MONITORING

With the exception of cellular telephone, 800MHz frequencies are offset by 12.5K Hz. Receiving these frequencies requires use of the -12.5KHz SHIFT SWITCH.

For example: Monitoring 860.0375MHz.

Following normal programming instructions, program 863.050MHz. Then slide the SHIFT SWITCH to -12.5KHz.

Note: The SHIFT control only affects 800MHz frequencies. It may be left in the -12.5KHz position during Scan, Search. or while in the Manual Mode without offsetting other frequencies.

Important: The use of the SHIFT control does not change the frequency number shown in the display

SCANNING

After you have programmed the frequencies of your choice, you can scan each one automatically when in the scan mode. To start the scanning process, press SCAN.

If necessary, adjust the squelch control by sliding the knob toward left hand-side. The display will show the number of each channel and corresponding frequency as it is scanned. If a transmission is found, the scanner will stop and the display will show both the channel number and the frequency.

At the conclusion of the transmission, scanning will resume automatically.

If you wish to omit a channel from the scan process, simply enter the channel number you wish to omit while you are in the scan mode. If you select the manual mode after locking out the frequency/channel, the "LOCK" indicator will appear in the display when you select the channel you have locked out. To restore the locked channel to the frequency list, press the channel's number again while in the SCAN mode.

Scan Delay

During the SCAN mode, you may want to delay resumption of the scan process in order to hear a reply that might otherwise be missed once the unit has gone on to scan other channels.

To do this, press DLY/HLD. The "DELAY" indicator will appear in the

display.

Now whenever a signal is received, the unit will stop on the channel, display the channel number and frequency and broadcast the message. At the conclusion of the message, the unit will wait approximately 2 seconds before scanning. To de-activate DELAY, press DLY again. The "DELAY" will disappear from the display.

Scan Speed

During SCAN mode, you may choose between two scan speeds. By pressing the SPEED key, you can slow or speed the scan rate.

Scan Program

The scan program button is used to select a group of channels from the scan list. For example, if you wish to scan channels 5 through 15 exclusively, press SCAN PROG(the second digit of the channel number will blink indicating the unit is waiting for you to press 5 then 15 as in this example). Enter the lower channel number (5) then the upper channel number (15) and the word SCAN in the display will start blinking to indicate the unit is ready to scan from channels 5 to 15. Press the SCAN key and the unit will scan from the lower to the upper channel entered. In this example, channels 1 through 4 and 16 through 20 would be skipped. To return to the nomal scanning mode press SCAN PROG then they number keys 0, 1, 2, 0.

Note: When entering channel 5 in the example, you must first press 0, then 5.

MANUAL OPERATION

If at any time you wish to monitor one channel continuously, press MANUAL repeated until the desired channel is reached. A channel selected in manual that had previously been locked out during scan will show "LOCK" in the display.

Note: In the Search Mode, pressing MANUAL will advance the search channel one increment at a time. To go from the Search to the Manual mode, you must first press SCAN.

SEARCHING

Note: Some Frequency increments are not selectable in certain bands, see page 6 for increment chart.

The MX4200 digital scanner includes a search function that enables you to locate new frequencies in addition to those you already know. It can locate active frequencies anywhere within the entire frequency range.

Two frequencies (lower and upper) are used in the search mode. For example, to search for unknown active frequencies between 460.350 and 461.350 in the FM band.

Press the SEARCH PROG Key and then INC key to choose the desired frequency increment, 5 KHz, 10 KHz, 12.5 KHz or 25 KHz. Keep pushing the INC key until desired increment is solid (not flashing). Key in 460.350, ENTER,

and 4 6 1 . 3 5 0 ENTER. The unit will ask you if you would like AM or FM mode by BLINKING either AM or FM in the LCD display. Select FM or AM by pressing FM/AM key until the mode you desire is **not** flashing. Now all you have to do is to start the search process by pressing SEARCH key.

Note: Programming the search frequencies has no effect on the frequencies that have been programmed into SCAN or MANUAL channels.

Note: If you wish to change the search frequency increment you may do so by pressing SEARCH PROG key and then select the desired step by pushing the INC key. It is best to choose a search frequency increment that corresponds to the channel spacing of the band you are monitoring. We recommend the following search increments:

BAND	MODE	RECOMMENDED INCREMENT
60- 89MHz(Low Band)	FM	5KHz
118-136MHz(Aircraft)	AM	12.5KHz
138-174MHz(High Band)	FM	5KHz
380-450MHz(UHF)	FM	12.5KHz*
450-495MHz(UHF "T")	FM	12.5KHz*
800-950MHz(800/cellular)	FM	25KHz*

*This is the only programmable range in the UHF and 800MHz bands.

Note: Be sure squelch control is set to eliminate background noise.

The unit will now automatically sample every frequency within the limits you have selected. When an active frequency is received, the unit will stop searching, and display the frequency it has found. Once stopped on a frequency, you may "step up" one increment by pressing the MANUAL button. (Pressing and holding the MANUAL button will slew up in increments.) Resume the search process by pressing SEARCH. While in the SEARCH mode, you may wish to select the Delay feature or, (in the SEARCH mode only) you may select the Hold Feature. If you press DLY/HLD, the LCD display indicates the mode you are in, "DELAY" or "HOLD". If you wish to stay on the first active signal, select HOLD mode by pressing the DLY/HLD key. In order to start searching, just press the SEARCH key. The delay feature will function as previously explained. When the unit reaches the upper limit of the search it will automatically return to the lower and begin again. If you decide to change modes (i.e. Manual or Scan) while the unit is searching, you may do so. The unit will remember at what frequency the search was interrupted. To resume the search, press SEARCH and the unit will continue the search from that frequency.

You also have the option of entering frequencies found while searching directly into one of the 20 scan channels. For example: entering a frequency found in search mode into channel 5. When the unit stops on an active frequency, just press: ENTER, 05.

Note: You must press ENTER while the search is still stopped on the frequency.

Now the frequency found in search is entered into channel 5. Other frequencies found while searching can be entered into any of the other scan channels the same

way. Press SEARCH to resume the search.

Note: In the SEARCH mode it is recommended that you limit the search range 1 MHz or less. Your chances of catching an unknown active frequency will be considerably greater since transmissions are usually short.

PRIORITY

This is a special feature that lets you program your favorite frequency to be sampled approximately once every two seconds, and also to have it override calls on other channels. Channel 1 has been set aside for this function. Enter your favorite frequency into channel 1 then press PRIORITY key.

Note: PRIORITY IS ACTIVE IN THE MANUAL, SCAN OR SEARCH modes. The display will indicate priority with "PRY".

While the unit is in the above modes, the display will blink each time channel 1 is sampled. Any audio will also be briefly interrupted. Should a transmission begin on channel 1, the unit will go immediately to it and receive the message. After the message, the unit will resume scanning or return to the other channel. To de-activate priority, press PRIORITY key again.

Just before BATTERY INSTALLATION:

To change modes or channels while the unit has stopped on the Priority channel, you must First deactivate Priority.

BATTERY INSTALLATION

A Nickel-Cadmium battery pack (Regency MA 529) is supplied to operate your MX4200 scanner. The battery pack should be replaced when your unit fails to scan and/or the volume becomes low. In addition, do NOT leave discharged batteries in the unit for any length of time as leakage may damage the receiver. The battery compartment is located on the bottom of the unit. Remove the cover by pressing down on the tab and taking off the cover. Replace only with Regency MA 529. Do not use regular batteries (i. e. zinc-carbon, mercury, alkaline).

Charging Nickel-Cadmium Batteries

Caution: To avoid possible damage to the receiver and batteries, use only the included AC charger. The charger can be used to charge the Ni-Cad battery pack as needed. Insert one end of the charger into the jack on the back of the unit marked "CHARGE". Plug the other end into any 220V wall outlet.

Important: DO NOT plug the AC charger into the jack labeled "CHARGE" unless rechargeable batteries are installed. Regular batteries (i.e. zinc-carbon, mercury, alkaline) may EXPLODE if recharging is attempted. ONLY THOSE BATTERIES CLEARLY MARKED RECHARGEABLE NICKEL-CADMIUM ARE TO BE LEFT INSTALLED WHEN THE "CHARGER" JACK IS USED. To operate the radio with the charger when there are no batteries plug the end of the charger into the CHARGE jack on the rear side of the radio.

Approximately 14 hours are required to fully charge the batteries. If batteries are charged for 24 hours and do not hold their charge, they should be replaced with a new battery pack. It is also recommended that Nickel-Cadmium batteries be

recharged for the same amount of time the receiver was used. Moderate over-charging will not damage the batteries, however they should receive an overnight charge if the unit has not been used for several months. To operate the radio with the charger when there are no batteries installed, plug the end of the charger into the CHARGE/DC 6V jack on the rear panel of the radio.

Important: The MX4200 can be operated while the Ni-Cad batteries are being recharged. Allow 30 hours for proper charging if the unit is being charged and operated at the same time.

MOBILE 12 VDC INSTALLATION

Note: Mobile reception of a POLICE frequency by UNAUTHORIZED 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.

When charged, the MX4200 can be used without connection to an external power source. Also, the unit may be used in any car, truck, etc., that has a 12 VDC negative ground system. Connect a power cord from the 13.2 VDC input on the rear panel to the battery. The positive lead must be connected to positive terminal of the battery. The other lead should be connected to the nearest negative or ground point of the system.

MEMORY BATTERY

Your MX4200 has an internally installed memory battery. It will be charged when you first charge the unit for normal operation, and should remain charged for the life of the unit. If the memory function fails, consult a repair station, do not attempt to service the memory battery yourself.

ANTENNA CONNECTIONS

In areas of very low signal strength, it may be necessary to use an antenna system better than the telescopic one for proper reception. An external antenna mounted as high above the ground as practical will greatly increase the signal strengh.

For proper matching, 50ohm coaxial cable such as RG 58/u should be used. A Motorola type antenna plug (Cinch-Jones No 13B or H. H. Smith No. 1200) will have to be installed on the receiver end of the cable in order to utilize the antenna socket located on the rear panel of the unit.

Important: Be sure the antenna system you select is grounded to protect against voltage surges and built up static charges. In addition, the antenna should be located away from power lines.

EXTERNAL SPEAKERS

An external or remotely mounted 8 ohm, such as Regency's MA-108 can be used by merely inserting the mating phone plug into the 3.5 mm jack on the units

rear panel. (See page 2) The internal speaker is automatically disconnected when an external speaker is used.

NATIONAL WEATHER SERVICE

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 updated report is issued. The Weather Service has broadcast facilities in many metropolitan areas of the country.

If you are located within 25 or 30 miles of one of these cities, reception can usually be obtained with the telescoping antenna supplied with the unit. Your local Regency dealer can advise you about your specific antenna requirement.

Note: When set to automatic scan, the unit will stop and remain on the Weather Channel (because it broadcasts continuously). Thus, this channel should only be activated when you desire to hear the current weather report.

SPECIFICATIONS

Frequency Range	60- 89MHz(Low Band) 118-136MHz(Aircraft Band) 144-148MHz(Amateur) 148-174MHz(High Band) 380-450MHz(Amateur) 450-470MHz(Standard) 470-495MHz(Extended) 800-950MHz(800/cellular)
Search Frequency increments	VHF: 5 KHz, 10 KHz, 12.5 KHz, UHF: 12.5 KHz, 25KHz
Sensitivity (12 dB Sinad, at tune-up)	VHF: 0.5 μV UHF: 1.0 μV Aircraft: 1.0 μV 800: 1.5 μV
Selectivity	± 7.5 KHz @ 6 dB FM/AM
Scanning Rate approx.	15 channels per second
Search Scanning rate	Approx. 14 seconds per MHz Approx. 7 seconds per MHz
Scan Delay	Approx. 0.6 seconds
Normal	Approx. 2.0 seconds
With delay option	Approx. 4.0 seconds
Priority sampling rate	Approx. 2.0 seconds
Audio output	120 mW 10% or less distortion
Power requirements	13.2V DC 4.8V DC (Nickel-Cadmium batteries) 6.0V DC (ext. power)
Size (W × H × D)	5⅞" × 2⅛" × 7⅛"
Metric	152 × 55 × 180
Weight	1 lb. 9 oz. (.7 Kg)

All specifications subject to change without notice.