Regency

MONITORADIO RECEIVER

MODEL TMR-8H

INSTRUCTION MANUAL

UNPACKING

1 - Receiver Unit

1 - AC Power Cord

1 - DC Power Cord

1 - Telescopic Antenna

1 - Mobile Mounting Bracket

1 - Instruction Manual

1 - Frequency/Service Label

1 - Warranty Card

To be filled out and returned to:

Regency Electronics, Inc.

7900 Pendleton Pike

Indianapolis, Indiana 46226

MAINTENANCE

It is recommended that the services of a qualified electronic technician be used for troubleshooting.

DO NOT TAMPER WITH INTERNAL ADJUSTMENTS------- DAMAGE TO THE EQUIPMENT AND/OR IMPROPER OPERATION MAY RESULT.

The TMR-8H is a programmable, 8-channel, crystal-controlled VHF FM Monitor. It is a double-conversion, super-hetrodyne receiver designed for use in the narrow-band FM channels of the public service communications VHF band. Police, fire, civil defense, forestry and weather are just a few of the numerous services included in this band that covers 148 to 174 megacycles.

Any combination of one to eight channels can be scanned automatically. Push button controls permit the listener to monitor only those channels of immediate interest, or all eight if he so desires. Manual selection of channels is also provided in case the listener wants to continuously monitor a particular channel.

The TMR-8 utilizes silicon transistors throughout for dependability. The use of five Integrated Circuits provides for compactness and circuit reliability. In addition, a ceramic filter employed in the second I.F. ensures optimum performance in areas of the country where many of the services are very closely grouped together. The two-way power supply permits operation from either 117 VAC or 12 VDC, depending upon the power cable used.

Some extra features include: connections for an external or remote speaker, a telescopic antenna, and a mounting bracket for easy installation in a car or truck.

SPECIFICATIONS

Frequency Range	148-174MC
Frequency Separation	8MC (maximum sensitivity) 12MC (usable sensitivity)
Scanning Rate	Approx. 15 channels per sec.

Sensitivity.....0.7 microvolt for 20DB quieting

Selectivity.....6DB @ ± 7KC
50DB @ ± 15KC

Spurious Rejection..... 50DB

Adjacent Channel Rejection.....60DB

Modulation Acceptance..... ± 7KC

I.F. Frequencies.....1st I.F: 10.7MC
2nd I.F: 455KC (ceramic filter)

Squelch Sensitivity (Threshold)..... 0.3 Microvolt

Audio Output..... 3 Watts @ 5% or less distortion;
5 Watts maximum

Power.....105-130 VAC, 60CPS @ 17 watts maximum
11-15 VDC @ 12 watts maximum

INSTALLATION

117 VAC Installation:

Plug the AC power cable into any 117 VAC, 60 CPS receptacle. The TMR-8 needs very little ventilation; however, it is good practice to avoid excessively warm locations such as near radiators or heating vents.

For areas with moderate signal strength, the telescopic antenna will be an adequate receiving antenna. Insert it through the hole in the cover and screw it onto the 6-32 bolt projecting upward.

In areas of low signal strength, it may be necessary to use a better antenna system for proper reception. An antenna, such as a ground-plane or coaxial type, mounted as high above the ground as practical will greatly increase the

signal strength. For proper imput matching, a 50Ω lead-in 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 connector located on the rear (back) panel of the unit.

An external (or remotely mounted) speaker can be used by first opening the link between terminals #1 and #2. Then, connect one lead of the external speaker to terminal #1 and its other lead to terminal #4. A 3 to 4Ω speaker is recommended for optimum performance.

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.

The TMR-8 receiver may be used in any car, truck, boat, etc. that has a 12 VDC negative ground system. The red lead with the fuse holder must be connected to the positive terminal side of the battery. The negative or ground connection is normally made through the mounting bracket. If the mounting bracket is not fastened to the metal frame or dash of the vehicle, a separate ground wire will have to be utilized. An 18 gauge conductor, perferable stranded, should be connected to terminal #4 on the rear panel and ran to the nearest negative or ground point of the system.

A "mobile" antenna, with a Motorola type plug on the coax cable, will provide suitable reception and still permit easy removal or installation of the receiver.

For a quick and even easier mobile installation, that also performs well, an accessory 12 VDC power cord with cigarette lighter plug (Regency part no. 102-360) can be used. First, plug the 4-pin connector into the unit. Second, connect the spade lug to terminal #4. Install the telescoping antenna and place the unit on the front seat of the vehicle. Plug the cord into the cigarette lighter and with the antenna fully extended, use the receiver as in normal mobile operation.

OPERATION

Programming Buttons:

Note: The Scan/Manual and channel switch are push on-push off type push button switches. The Channel Selector switch is a momentary, spring-return push button switch.

The Scan/Manual button is pushed in for automatic scanning. To activate a particular channel (provided there is a crystal installed for that channel), the push button directly above the channel number must also be pushed in. In addition, the receiver must be squelched off for proper scanning action. Turn the squelch control counter-clockwise until all of the "noise" from the speaker is eliminated.

When the Scan/Manual button is out, the channel is selected manually. First, activate the channel you want to monitor. Then, push in, momentarily, the Channel Selector button. Repeat pushing in the Channel Selector button until the red lamp directly below the desired channel number is lighted. Each time the Channel Selector button is pushed in, the Scanner moves over one channel. Thus, if the Scanner was on channel 3 and you wanted to monitor channel 5, you would depress the Channel Selector button two times. The receiver can be either squelched or unsquelched when manual channel selection is used.

Volume Control/Off-On Switch:

This control varies the audio output level for the internal speaker. It also varies the level of audio present at the external speaker connection. Clockwise rotation of this control turns the receiver on and increases the volume.

Squelch Control:

This control eliminates background noise in the absence of a signal. Full clockwise rotation removes all squelch action. Turning this control counter-clockwise until the noise disappears permits the receiver to be "quiet" until an actual signal is received.

Crystal Installation:

Due to the numerous frequencies or channels involved the crystal is not normally installed by the factory, but by the seller or owner of the unit. Minature, plug-in crystals are simply installed by inserting in the receptacles on the circuit board. Because of crystal accuracy required, Shepherd Industries are recommended. They are usually available at the source from which the radio was purchased. Specify exact frequency.

For maximum sensitivity, the channel frequencies specified should be within ± 4 megacycles of 155.55 MC. However, for channel frequencies outside of this range, the unit will still operate, but with some loss in sensitivity. This 8 MC range can be moved up, or down, in the band, in which case the RF section of the receiver would have to be realigned.

If desired, the crystal may be purchased from other manufacturers. The following information must be included in the order.

1. Crystal frequency, determined as follows:

$$\text{Crystal frequency} = \frac{\text{channel frequency} - 10.7\text{MC}}{3}$$

Example:

$$\text{Crystal frequency} = \frac{155.55\text{MC} - 10.7\text{MC}}{3} = \frac{144.85\text{MC}}{3} = 48.2833\text{MC}$$

2. Frequency tolerance of .001%

3. 3rd overtone; series resonance mode - 450Hz.

4. Maximum inpedance of 35 ohms

5. Holder is an HC-18/u with pin leads (plug-in type)

Prior to installing a crystal, the receiver's cover will have to be removed. To remove the cover, first remove the telescopic antenna if it is installed. Second, remove the four rubber feet by carefully twisting and pulling on each one. Third, unscrew the two large bolts located at the sides of the unit. The cover may then be slipped off by sliding it toward the rear of the unit.

Also, to lessen the possibility of causing damage to the unit, the speaker should be removed. Unscrew the two small metal screws (one located on each side) holding the speaker brackets in place. Then carefully place the speaker assembly along side of the unit.

Insert the crystal in the proper socket pins as indicated on the crystal location drawing. See Page 9 . The number by each pair of sockets matches the channel number on the front panel.

Reinstall the speaker assembly and the cover.

Special Instructions for 162.55 MHz Weather Channel

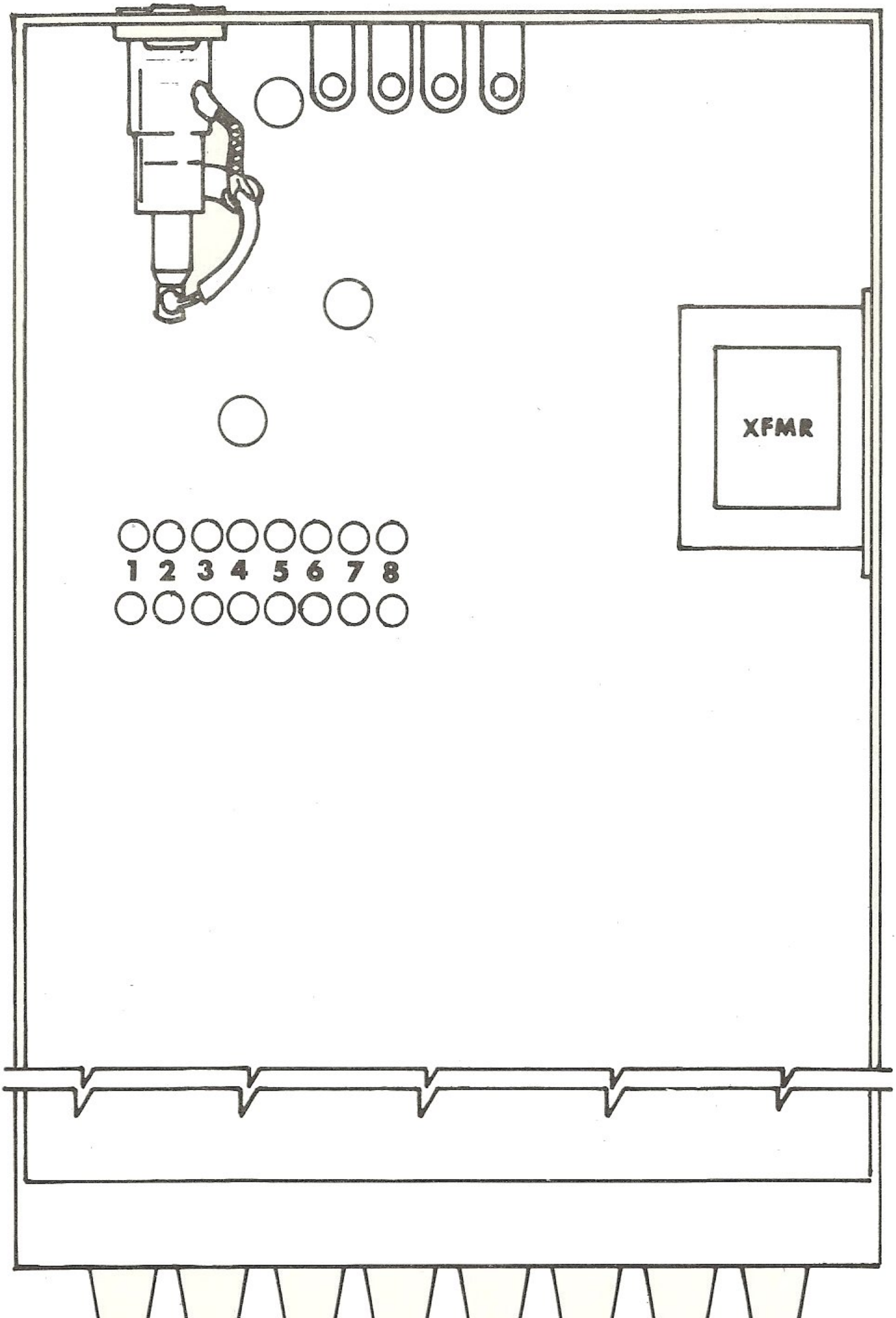
With few exceptions, all licensed transmitters in this band have been restricted to 5 KC deviation. The TMR

has been designed for optimum performance with the 5 KC deviation systems.

However, the weather channel transmitters currently continue to operate at 15 KC deviation. Until the weather channel transmitters are confined to 5 KC deviation - monitor the weather channel (162.55 MHz) with squelch control set completely clockwise (no squelch) in order to prevent improper squelch action.

At the time the weather channel transmitters change to 5 KC deviation, commence monitoring 162.55 MHz with normal squelch control.

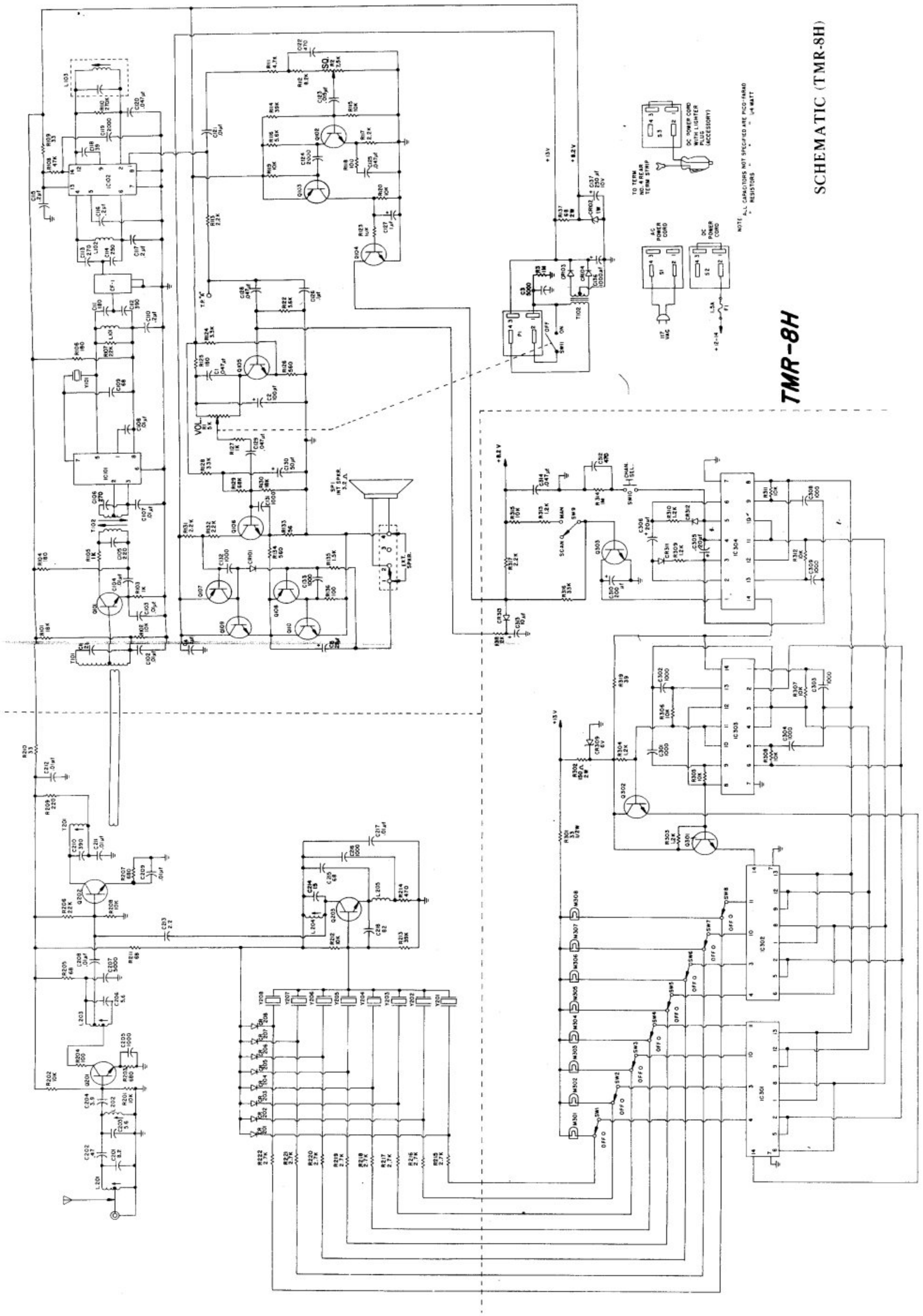
The 162.55 MHz weather channel broadcasts a continuous 24 hour carrier signal. When set for automatic scan, your TMR-8 will stop and remain on weather channel until manually "stepped" to another frequency. To prevent automatic locking on the weather channel, deactivate the channel by releasing the push button control for that channel to the "out" position. Then, when you want the weather report, reactivate the channel with the push button control.



FRONT

CRYSTAL LOCATION (INSIDE VIEW)

SCHEMATIC (TMR-8H)



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