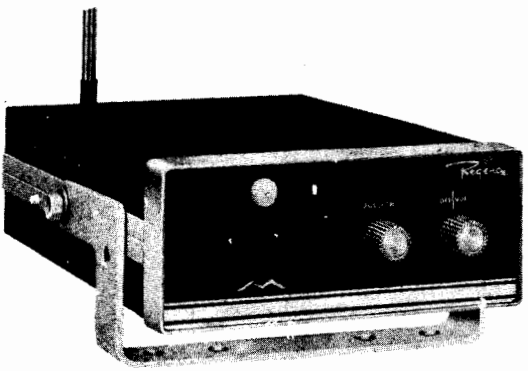
Regency

MONITORADIO RECEIVER



MODEL TMR-IA

INSTRUCTION MANUAL

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UNPACKING

1 - Receiver Unit

1 - AC Power Cord

1 - DC Power Cord

1 - Telescopic Antenna

1 - Mobile Mounting Bracket

1 - Instruction Manual

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.

DESCRIPTION

The Regency TMR-1A is a crystal-controlled, 1 channel, all transistor, double-conversion, super-hetrodyne receiver designed for use in the communication segment of the Aircraft band that covers the frequency range of 118 to 136 megacycles.

The TMR-1A utilizes silicon transistors throughout for dependability. The use of one Integrated Circuit provides for compactness and circuit reliability. In addition, a ceramic filter employed in the second I.F. ensures optimum performance. 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.....118-128MHz

Note: 128-136MHz Available on Special Request

Sensitivity..... Less than 1μv for 10db S+N/N at 1000 cycles, 30% modulated.

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

Spurious Rejection 50DB

Adjacent Channel Rejection..... 60DB

I.F. Frequencies ..... 1st I.F: 10.5MC
2nd I.F: 455KC (ceramic filter)

Squelch Sensitivity (Threshold)..... 0.5 Microvolt

Audio Output ..... 2 Watts @ 5% or less distortion

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

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, preferably 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

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 controls 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 frequency specified should be within ±3 megacycles of 122.5MHz. However, for a channel frequency outside of this range, the unit will still operate, but with some loss in sensitivity. This 6MC range can be moved up, or down, in the band, in which case the RF section of the receiver would have to be realigned. Realignment should only be performed by a qualified technician in order to maintain the unit's high standard of performance.

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:

$$\text{Crystal frequency} = \frac{\text{channel frequency} + 10.5\text{MHz}}{2}$$

Example:

$$\text{Crystal frequency} = \frac{122.5\text{MHz} + 10.5\text{MHz}}{2} = \frac{133.00\text{MHz}}{2} = 66.5000\text{MHz}$$

NOTE: Contact Regency for information on ordering crystal for channel frequencies above 128MHz.

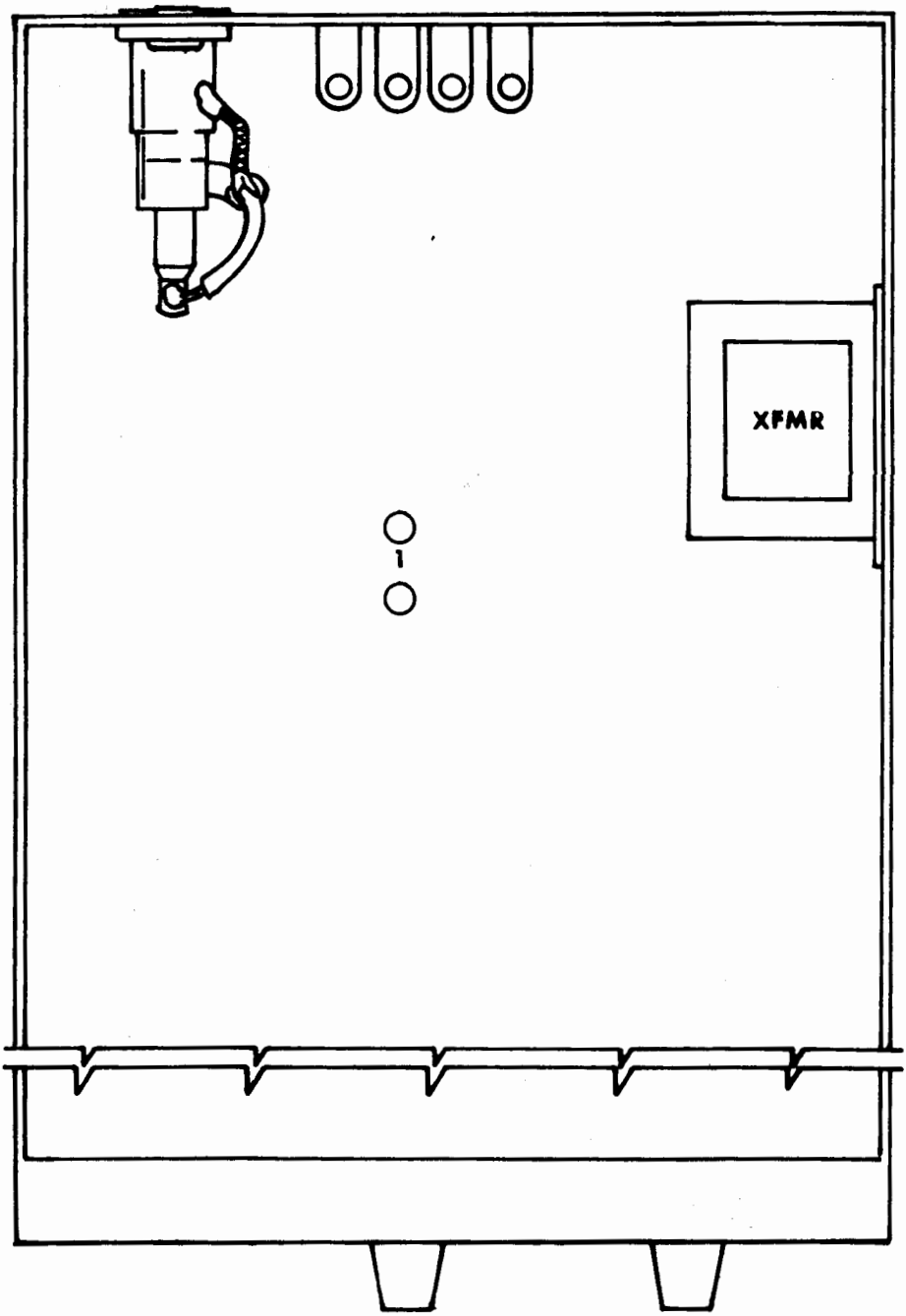
2. Frequency tolerance of .001%.
3. 5th overtone; series resonance mode minus 250 cycles
4. Maximum impedance of 50 ohms.
5. Holder is an HC-25/u with pin leads (plug-in type)

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.

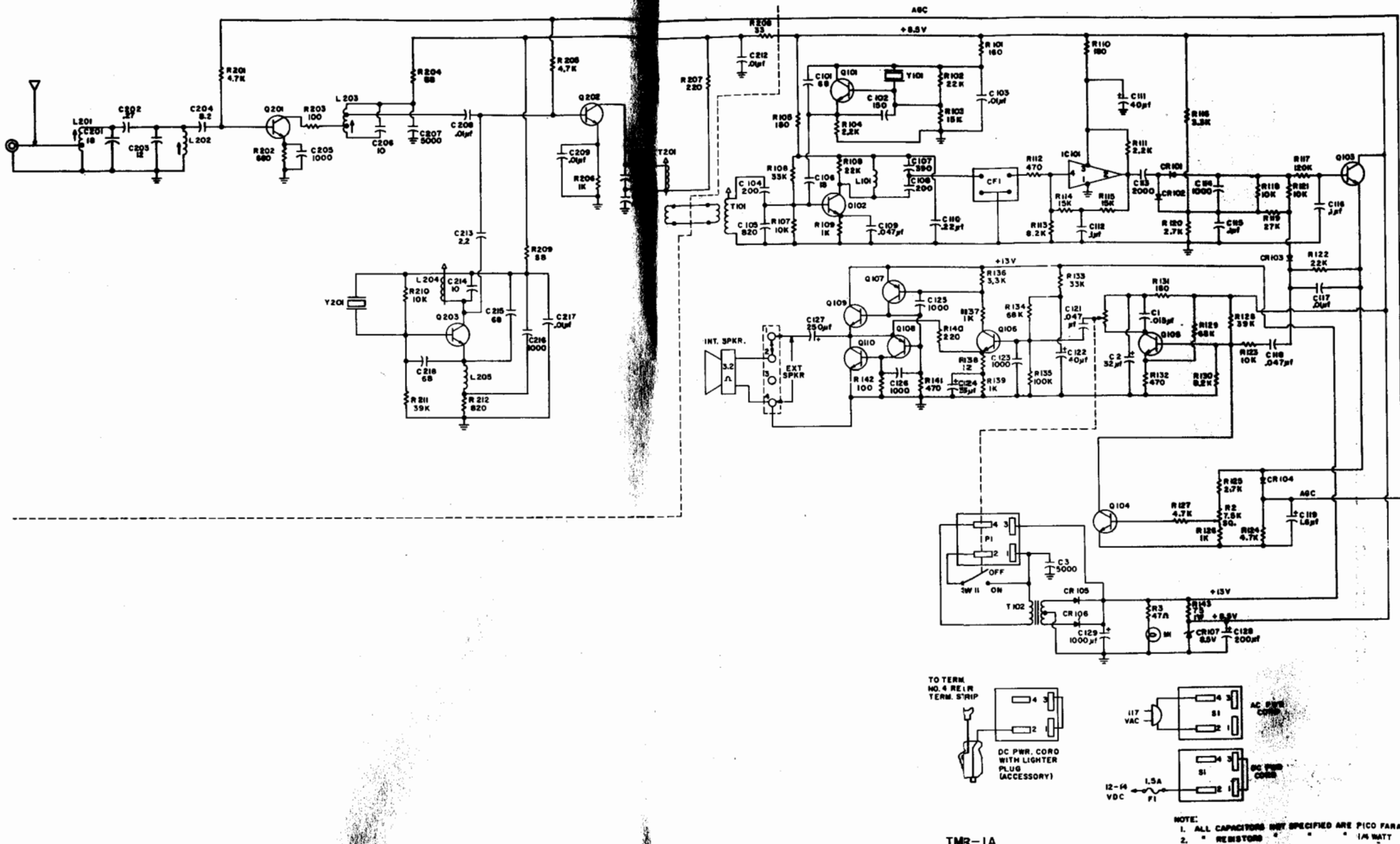
Also, to lessen the possibility of causing damage to the unit, the speaker should be removed. Unscrew the two small metal screws (one located on each side) holding the speaker brackets in place. Then carefully place the speaker assembly along side of the unit.

Insert the crystal in the socket pins as shown on the crystal location drawing. See Page 7.

Reinstall the speaker assembly and the cover.



CRYSTAL LOCATIONS (INSIDE VIEW)


AGC
+8.5V
+13V
L201
C201 18
C202 27
C203 12
C204 8.2
L202
R201 4.7K
Q201
R202 680
R203 100
C205 1000
L203
C206 10
C207 5000
R204 68
C208 .01μf
R206 4.7K
Q202
C209 .01μf
R204 1K
R207 220
C212 .01μf
T201
C213 2.2
R209 68
L204
C214 10
R210 10K
Y201
Q203
C215 68
C216 1000
C217 .01μf
C218 68
L205
R211 39K
R212 820
R208 33
R101 160
C101 68
Q101
Y101
R102 22K
C102 150
R103 15K
C103 .01μf
R105 180
R104 2.2K
R110 180
C111 40μf
R116 3.3K
R111 2.2K
IC101
R112 470
CF1
R108 33K
C106 18
L101
R108 22K
C107 390
C108 200
C104 200
T101
C105 820
R107 10K
Q102
R109 1K
C109 .047μf
C110 .22μf
R114 15K
R115 15K
R113 8.2K
C112 .1μf
CR101
CR102
C113 2000
C114 1000
R118 10K
R121 10K
R117 120K
Q103
C115 .1μf
R120 2.7K
R119 27K
C116 .1μf
CR103
R122 2.2K
C117 .01μf
Q107
R136 3.3K
R133 33K
Q109
C125 1000
R137 1K
R134 68K
C121 .047 μf
R131 180
C1 .015μf
Q105
R129 68K
R128 39K
C127 250μf
R140 220
Q106
C123 1000
C2 32μf
R123 10K
C118 .047μf
INT. SPKR.
3.2 Ω
EXT SPKR
Q108
Q110
R142 100
C126 1000
R141 470
C124 35μf
R138 12
R139 1K
R135 100K
C122 40μf
R132 470
R130 8.2K
CR104
AGC
Q104
R125 2.7K
R127 4.7K
R2 7.5K 50.
C119 1.6μf
R126 1K
R124 4.7K
P1
OFF
SW II
ON
C3 5000
CR 105
T102
CR 106
C129 1000μf
+13V
R3 47Ω
R143 1.5Ω 1W
+8.5V
M
CR107 8.5V
C128 200μf
TO TERM. NO. 4 REAR TERM. STRIP
DC PWR. CORD WITH LIGHTER PLUG (ACCESSORY)
117 VAC
S1
AC PWR CORD
12-14 VDC
1.5A F1
DC PWR CORD
NOTE:
1. ALL CAPACITORS NOT SPECIFIED ARE PICO FARA
2. " RESISTORS " " " 1/4 WATT

TMR-1A