

Instruction Manual
MODEL RPT-25
MODEL RPT-40
BROADCAST REMOTE
PICKUP TRANSMITTERS

MARTI

WARNING

THIS EQUIPMENT MUST BE OPERATED WITH A 3-PRONG GROUNDED OUTLET RECEPTACLE. FAILURE TO USE A PROPERLY GROUNDED OUTLET MAY RESULT IN IMPROPER OPERATION OR SAFETY HAZARD!

LIMITED WARRANTY

The Seller warrants that, at the time of shipment, the products manufactured by the Seller are free from defects in material and workmanship. The Seller's obligation under this warranty is limited to replacement or repair of such products which are authorized to be returned to Marti at its factory, transportation prepaid and properly insured, provided:

a. Notice of the claimed defect is given to Marti within two (2) years from the date of original shipment and goods are authorized to be returned, transportation prepaid in accordance with Marti instructions.

b. Equipment, accessories, tubes, and batteries not manufactured by Marti are subject to only such adjustments as Marti may obtain from the supplier thereof.

c. This warranty does not apply to equipment, which has been altered, improperly handled, or damaged in any way.

The Seller is in no event liable for consequential damages, installation cost of any nature as a result of the use of the products manufactured or supplied by the Seller, whether used in accordance with instructions or not.

This warranty is in lieu of all others, either expressed or implied. No representative is authorized to assume for the Seller any other liability in connection with the Seller's products.

MAILING & SHIPPING ADDRESS:

Marti Electronics
P.O. Box 661
421 Marti Drive
Cleburne, Texas 76031-0661
The United States of America

COPYRIGHT NOTICE

© 1976 All Rights Reserved
Marti Electronics
Division of Broadcast Electronics, Inc.
8th printing, January 1997

No part of this manual may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language, natural or computer, in any form or by any means, without the prior written permission of Marti Electronics.

Copyright laws protect artwork depicting circuitry in this manual.

Information in this manual is subject to change without notice and does not represent a commitment on the part of Marti Electronics.

Marti Electronics may make improvements and/or changes in this manual or in the product described herein at any time.

This product could include technical inaccuracies or typographical errors.

PHONE NUMBERS:

Sales & service (817)645-9163
Fax (817)641-3869

TABLE OF CONTENTS

General-----	Page	1
Installation Instructions-----	Page	2
Drawing 700-017-1, Automotive Installation-----	Page	7
Drawing 700-110-2, 115V/220V Conversion-----	Page	8
Operating Instructions-----	Page	9
Tools for Alignment of RPT Series-----	Page	13
RPT-25 RF Adjustments-----	Page	13
RPT-40 RF Adjustments-----	Page	15
Figure 5-1, Multiplier Box-----	Page	16
Figure 5-2, Filter Box-----	Page	16
Figure 5-2A, Tripler & Buffer Section-----	Page	17
Figure 5-2B, RF Power Amplifier Box-----	Page	17
DFM-1D1 Module Adjustments-----	Page	18
Figure 5-3, DFM-1D1-----	Page	19
CA-40-5 Adjustments & Figure 5-4-----	Page	20
PLF-75 Adjustments & Figure 5-5-----	Page	21
Drawing 700-134-7, RPT-25 Block Diagram-----	Page	22
Drawing 700-134-6, RPT-40 Block Diagram-----	Page	23
Drawing 700-134-4, RPT-25 RF Main Frame-----	Page	24
Drawing 700-134-4-1, RPT-40 RF Main Frame-----	Page	25
Parts List - RF Main Frame-----	Page	26
Parts List - RF Main Frame (Cont.)-----	Page	27
Drawing 700-134-5, Audio Main Frame-----	Page	28
Parts List - Audio Main Frame-----	Page	29
Drawing 800-047, Power Amplifier-----	Page	30
Parts List - Power Amplifier-----	Page	31
Drawing 800-049, PLF-75 Module-----	Page	32
Parts List - PLF-75 Module-----	Page	33
Parts List - PLF-75 Module (Cont.)-----	Page	34
Drawing 800-050, Tripler & Buffer Module-----	Page	35
Parts List - Tripler & Buffer Module-----	Page	36
Drawing 800-051-1, RF Power Amplifier-----	Page	37
Parts List - RF Power Amplifier-----	Page	38
Drawing 800-227, RF Relay Board-----	Page	39
Parts List - RF Relay Board-----	Page	40
Drawing 800-016-1, CA-40-----	Page	41
Parts List - CA-40-----	Page	42
Theory of Operation of CLA-40-----	Page	43
Drawing 800-010-1, MA-3 Microphone Preamplifier-----	Page	44
Parts List - MA-3 Microphone Preamplifier-----	Page	45
Drawing 800-019-3, Multiplier Board-----	Page	46
Parts List - Multiplier Board-----	Page	47
Parts List - Multiplier Board (Cont.)-----	Page	48
Drawing 800-018-5, DFM-1D1-----	Page	49
Parts List - DFM-1D1-----	Page	50
Parts List - DFM-1D1 (Cont.)-----	Page	51
Drawing 800-020-1, ER 12/7 Power Supply-----	Page	52
Parts List - ER 12/7 Power Supply-----	Page	53
Cable Information-----	Page	54
Installation of RPT-25/40 With BR-10 for Base Station-----	Page	55
Installation of RPT-25/40 With BR-10 for Auto. Rept.-----	Page	56
Mobile Repeater Information-----	Page	57
RPT-25/40 Transmitters Test Report-----	Page	58

RPT-25

REMOTE PICK UP TRANSMITTER

SPECIFICATIONS

Application-----	Broadcast Remote Pick Up.		
Frequency-----	450.001 - 455.95 MHz.		
Crystal Multiplication-----	36.		
Frequency Stability-----	<u>Portable/Mobile:</u> $\pm .0005\%$ -30°C to $+50^{\circ}\text{C}$. Two (2) minutes are required after application of stand-by power for the transmitter to be in tolerance when operated portable-mobile at temperatures below -10°C . <u>Base Station:</u> $\pm .00025\%$ -30°C to $+50^{\circ}\text{C}$ two (2) minutes after initial application of stand-by power.		
Dual Frequency Operation-----	Selectable dual frequency operation available at extra cost.		
Spurious Emission-----	Spurious radiation attenuated more than 60 DB below carrier level.		
RF Output-----	Maximum 25 watts, nominal 20 watts into 50 ohms.		
VSWR Protection-----	High VSWR will not damage transmitter.		
RF Connector-----	UG-58A/U.		
Temperature Range-----	-20°C to $+45^{\circ}\text{C}$.		
Modulation-----	<u>Model</u>	<u>Deviation</u>	<u>Emission</u>
	RPT-25P	1.5 KHz.	10F3
	RPT-25N2	5 KHz.	25F3
	RPT-25R	9 KHz.	50F3
	RPT-25S	22.5 KHz.	100F3
Audio Inputs-----	Four inputs are provided with individual mixing gain controls. Three of the inputs are for microphones (one push-to-talk) and one input accepts balanced 600 ohm line.		
Audio Input Level-----	Microphone input level can be from -70 DB to -45 DB. Line input level can be from -20 DBM to +4 DBM.		
Audio Input Impedance-----	Will accept microphones from 150 to 600 ohms. Line input 600 ohms balanced.		
Audio Connectors-----	Input No. 1 (XLR-4-31). Input Nos. 2, 3, and 4 (XLR-3-31).		
Power Requirements-----	115/230 volts AC, 50/60 Hz., 155 watts transmitting, 30 watts standby. 13.6 volts DC negative ground. 7 amp. transmitting, 0.5 amp. standby.		
Modulation Control-----	Marti CA-40 Compressor/Limiter Module. Selector switch for measuring audio level, compressor gain reduction, RF output, etc.		
Weight-----	20 lbs. net, 26 lbs. gross.		
Dimensions-----	6 $\frac{1}{2}$ " high by 15" wide by 12" deep.		

RPT-40
REMOTE PICK-UP TRANSMITTER

S P E C I F I C A T I O N S

Application-----	Broadcast Remote Pick-Up.
Frequency-----	RPT-40K 152.87 ~ 161.76 MHz. RPT-40L 166.25 ~ 170.15 MHz.
Crystal Multiplications-----	12.
Frequency Stability-----	+ .0005% -30°C to +50°C. Two (2) minutes are required after application of stand-by power for the transmitter to be in tolerance when operated portable-mobile at temperatures below -10°C.
Dual Frequency Operation-----	Selectable dual frequency operation available at extra cost.
Spurious Emission-----	Spurious radiation attenuated more than 60 DB below carrier level.
RF Output-----	Maximum 40 watts, nominal 36 watts in to 50 ohms.
VSWR Protection-----	High VSWR will not damage transmitter.
RF Connector-----	SO-239.
Temperature Range-----	-20°C to +45°C.
Modulation-----	RPT-40K - 5 KHz. Deviation 30F3 RPT-40L - 4 KHz. Deviation 25F3
Audio Inputs-----	Four inputs are provided with individual mixing gain controls. Three of the inputs are for microphones (one push-to-talk) and one input accepts balanced 600 ohm line.
Audio Input Level-----	Microphone input level can be from -70 DB to -45 DB. Line input level can be from -20 DBM to +4 DBM.
Audio Input Impedance-----	Will accept microphones from 150 to 500 ohms.
Audio Connectors-----	Input No. 1 (XLR-4-31). Input Nos. 2, 3, and 4 (XLR-3-31).
Power Requirements-----	120/240 volts AC, 50-60 Hz., 155 watts transmitting, 30 watts standby. 13.6 volts DC negative ground 7 amp. transmitting, 0.5 amp. standby.
Modulation Control-----	Marti CA-40 Compressor/Limiter Module.
Metering-----	Selector Switch for measuring audio level, compressor gain reduction, RF output, etc.
Weight-----	20 lbs. net, 26 lbs. gross.
Dimensions-----	6½" high x 15" x 12" deep.

GENERAL

Marti Model RPT-25 and RPT-40 Solid State Transmitters are designed to operate in the Remote Pickup Broadcast service as defined in Part 74, Subpart D, of the FCC Rules and Regulations. The suffix letter of the transmitter indicates the FCC frequency group it is designed to operate in. These are as follows:

<u>MODEL NO.</u>	<u>FREQUENCY MHz.</u>	<u>BANDWIDTH</u> <u>KHz.</u>	<u>COMPANION RECEIVER</u>	
			<u>BASE</u>	<u>MOBILE</u>
RPT-25P	450.01-455.95	10	BR-10/450	AR-10/450
RPT-25N2	450.01-455.95	25	BR-10/450	AR-10/450
RPT-25R	450.01-455.95	50	BR-10/450	AR-10/450
RPT-25S	450.01-455.95	100	BR-10/450	AR-10/450
RPT-40K	152.87-161.76	30	BR-10/150	AR-10/150
RPT-40L	166.25-170.15	25	BR-10/150	AR-10/150

These transmitters when used with the recommended companion receiver, provide a remote broadcast link having audio quality not approached by conventional voice communication radio equipment.

NOTE: These Marti Transmitters can be used with older tube-type Marti receivers by positioning a special "response" switch provided on the top side of the transmitter chassis. This "response" switch is normally factory set to "DFM" position for use with new solid state receivers by placing this switch in "PH" position; the RPT-25 will operate with the MR-100/450 and the RPT-40 will operate with the MR-30/150 receiver. The "response" switch is accessible by removing the transmitter top cover.

The RPT-25 and RPT-40 transmitters operate from both 115/230 volt, 50-60 Hz. AC commercial power and 11 to 14 volt battery (negative ground) supply.

Four audio input channels are provided with individual mixing gain controls. A meter and selector switch are provided for monitoring and adjusting various transmitter stages as well as audio VU level and audio gain reduction. The solid state audio processing technique pioneered and proven by Marti Electronics in hundreds of remote pickup broadcast transmitters has been applied to these models, resulting in the highest quality possible, consistent with transmission bandwidth and other factors.

INSTALLATION

UNPACKING AND INSPECTING

This equipment was packed and delivered to the carrier with utmost care. Do not accept shipment from carrier which evidences damage or shortage until the carrier's agent endorses a statement of the irregularity on the face of the carrier's receipt. Without documentary evidence, a claim cannot be filed.

Unpack equipment immediately upon receipt and thoroughly inspect for concealed damage. If damage is discovered, cease further unpacking and request immediate inspection by local agent of carrier. A written report of the agent's findings, with his signature is necessary to support claim.

Check your shipment against the shipping papers for possible shortage. Do not discard any packing material until all items are accounted for. Small items are thrown away with packing material.

PLACEMENT OF EQUIPMENT

Install rack-mounted equipment in a well-ventilated, well grounded and shielded rack cabinet. Do not locate solid state equipment in a rack above tube-type equipment which produces high temperatures.

Problems can also be avoided by locating this unit away from other equipment which has transformers that produce strong magnetic fields. These fields can induce hum and noise into the Marti Equipment thus reducing performance. Also, strong radio frequency fields should be avoided where possible.

MOBILE INSTALLATION OF RPT-25 AND RPT-40

A typical automotive installation is shown on drawing 700-017-1. The transmitter is located in the trunk compartment and is remotely controlled by the Marti TPS-TC-1 control unit located near the driver.

CAUTION

This equipment is for use in 12.6 volt negative ground vehicles only. Reverse polarity will instantly destroy transistors. The step-by-step procedure for automotive installation is as follows:

INSTALLATION CONTINUED:

Mount the TPS-TC-1 control unit to the automobile control console at a point convenient to the operator. The two angle mounting brackets may be used as attached to the control box for shipping or turned outward, depending on available mounting space. Mount the two brackets to the selected mounting surface by drilling two 5/32 inch diameter holes spaced either 5 inches or 7 inches apart, depending upon method selected. Mount the two angle brackets using two of the No. 10 X 3/4 inch metal tapping screws supplied with the TPS-TC-1 control kit. Attach the control box to the bracket using the two hex-head No. 10 X 1/2 inch screws supplied.

Attach the mounting rack, part No. 700-136, to transmitter using the quick-release fasteners. Place the transmitter in the trunk compartment at a place where it is easily installed and removed. Note that space is required at each end of the transmitter for operation of the rack fasteners. Also, provide space at the rear of the transmitter for air circulation around the heat sink and attachment of the power, antenna, and receiver connectors. When the proper location is determined, note the location of the transmitter mounting rack. Release the rack fastener, remove the transmitter without shifting the correct location of the rack and mark the location of the three screw holes in the trunk floor. Before drilling or punching these holes, lift the carpet or mat and determine that the hole locations will not damage any part of the vehicle. If in the clear, drill the three 5/32 inch diameter holes and attach the rack using three No. 10 X 3/4 inch metal tapping screws.

Mount the Littlefuse Circuit Breaker (15 amp rating) within 10 inches of the positive terminal of the battery. The negative terminal of the battery must connect to the chassis or frame of the vehicle.

Install cables between connectors in trunk compartment and control box and between trunk and circuit breaker as shown on drawing 700-017-1. Separate audio and power cables by at least 3 feet.

Connect the red-white No. 16 wire from TPS-TC-1 box to the "Accessory" switch of the vehicle.

Connect black No. 10 wire from power in the trunk to a good electrical (bright metal) ground at vehicle chassis.

INSTALLATION CONTINUED:

Fasten the transmitter to the rack in the trunk and connect the XL-4-12C four-pin microphone plug on the audio cable to input No. 1 of the RPT-25 or RPT-40 transmitter.

Install the mobile antenna and connect to antenna connector J1 on back of transmitter.

NOTE:

ALWAYS MAKE SURE ANTENNA IS CONNECTED BEFORE POWER IS APPLIED TO TRANSMITTER.

Connect the Cannon GK-923-C- $\frac{1}{2}$ plug on the remote control cable to the mating DC power receptacle on back of transmitter.

If two-way operation is desired, install model M-100 VHF/UHF mobile receiver at the desired place under the vehicle dash; then, install the connecting coax cable from receiver to J3 (Receiver) jack located on back of transmitter. Note that the "BNC" connector end of cable goes to the receiver. Both power and antenna are supplied to the receiver through the cable.

Connect the short red No. 10 wire from the Littlefuse circuit breaker to the Positive terminal of the 12 volt vehicle battery.

Plug microphone into the 4-pin microphone connector on the TPS-TC-1 control unit. The installation is now ready for testing.

CONNECTING EQUIPMENT FOR STATIONERY REMOTE BROADCAST

Remote pickup broadcasts from sporting events, etc. occurring from a stadium, coliseum, gymnasium, or auditorium involve several aspects of equipment location. The transmitter normally is located near the announcer or engineer to permit access to the gain controls, monitoring jack, and metering. Availability of 115 volt AC power is an important consideration in locating the transmitter. For 115 volt AC operation, use the special AC adapter cable supplied with your transmitter. The cannon 9-pin connector plugs into the DC power connector on the back of the RPT-25 and RPT-40 transmitter.

CAUTION:

ALWAYS MAKE THIS CONNECTION BEFORE PLUGGING INTO 115 VOLT AC OUTLET.

INSTALLATION CONTINUED:

TO PREVENT ELECTRICAL SHOCK, THE ROUND PIN OF THE STANDARD AC PLUG MUST BE CONNECTED TO A PROPERLY GROUNDED ELECTRICAL OUTLET.

Some stations are equipped with a remote pickup base station for transmission of cues, orders, and instructions to the remote unit. In such cases, a VHF or UHF receiver, such as the Model M-100, is connected to J3 receiver jack by means of the coax cable supplied. This special cable supplies both power and antenna to the receiver.

AUDIO INPUTS

The RPT-25 and RPT-40 transmitters provide four inputs and four independent mixing gain controls. Input No. 1 is for push-to-talk microphone operation, and is wired for the Marti MCD-70 microphone. The correct connector to plug into input No. 1 is Cannon type XLP-4-12C.

Input No. 1 Connections are:

Pin 1 - Cable Shield (Ground)

Pin 2 - Microphone Signal (Ground)

Pin 3 - Microphone Signal

Pin 4 - Push-to-talk switch circuit (returns through shield ground)

The Transmit switch on the transmitter control panel parallels the push-to-talk switch in AC powered operation, eliminating the need to hold down the microphone switch for long transmissions. Inputs 2 and 3 are microphone inputs.* The correct connector to plug into inputs 2 and 3 is Cannon type XL-3-12.

Input 2 and 3 Connections are:

Pin 1 - Cable Shield (Ground)

Pin 2 - Microphone Signal (Ground)

Pin 3 - Microphone Signal

*Input 3 is a microphone level input on standard RPT-25 and RPT-40 transmitters which are equipped with the MA-3 module containing three 150 ohm input microphone pre-amplifier. On special order, type MA-2/B module may be substituted, which converts input 3 into a line level 600 ohm balanced input. Connections for input 3 then become the same as input 4.

INSTALLATION CONTINUED:

Input 4 is a 600 ohm balanced line input. The correct connector to plug into input 4 is Cannon type XL-3-12.

Input 4 Connections are:

Pin 1 - Cable Shield (Ground)

Pin 2 - 600 ohm balanced line

Pin 3 - 600 ohm balanced line

(Input level -20 to +4 DBM)

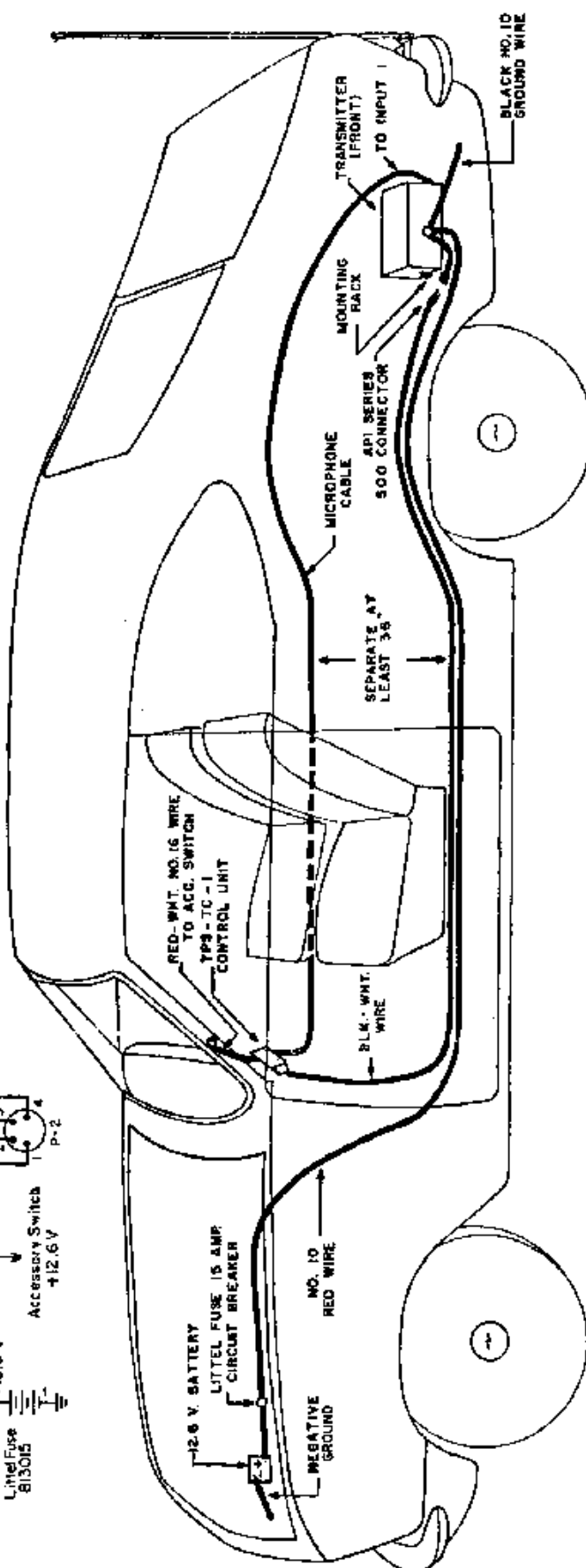
MONITOR JACK

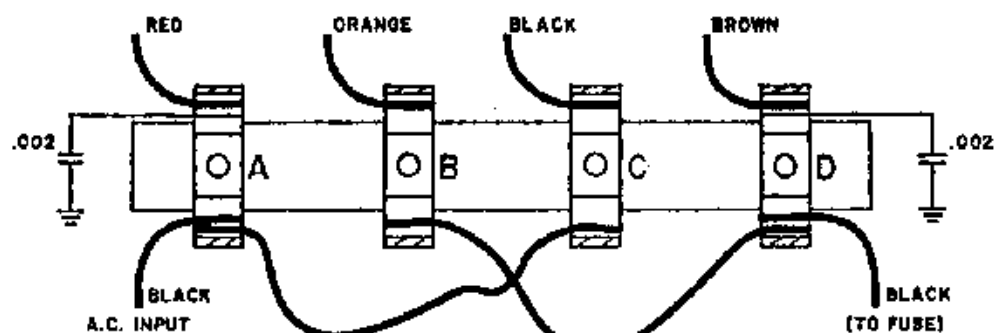
Compressed audio from all inputs can be monitored at the monitor jack. Use a standard single circuit phone plug with headphones having an impedance of 600 ohms or higher. Audio at the monitor jack is unbalanced and resistance limited to prevent loading of the modulator circuit.

REMOTE ANTENNA INSTALLATION:

The success of a remote pickup broadcast depends to a large extent upon the location of the remote antenna. For short distance transmission, an indoor antenna designed for the transmitter frequency and mounted on a standard 5/8 inch microphone stand will be sufficient. For such operation, the Marti PAV/150, YC-153, YC-161, YC-166, or YC-170 antenna may be used with the RPT-40 transmitter. The Marti PAV/450, YC-450, or YC-455 antenna may be used with the RPT-25 transmitter. Locate indoor antennas away from objects which may affect the radiation of the antenna. Do not allow personnel to come near to or touch antenna while transmitting. The PAV/150 and PAV/450 antennas are non-directional, but the YC-450 and YC-455 are extremely directional and must be pointed at receiving antenna. All remote antennas must be polarized the same as the receiving antennas.

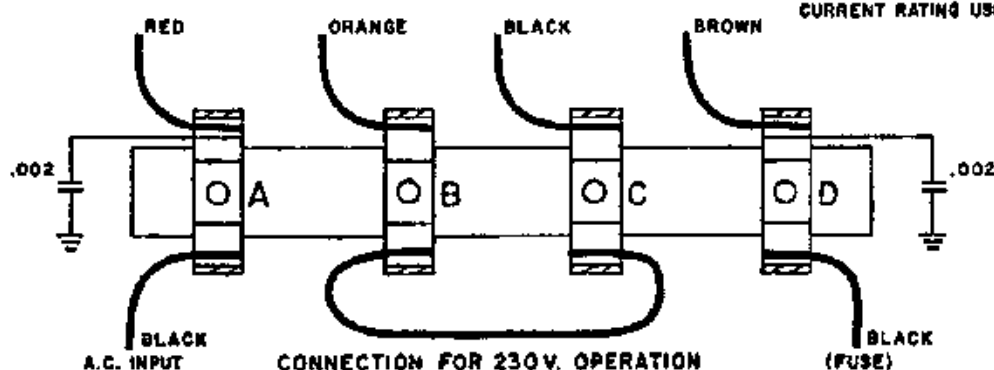
For transmissions over distance greater than 10 miles, it is necessary to obtain greater remote antenna height and antenna gain (directivity). Temporary antenna installation can be quickly made, in many cases, by use of a telescoping TV antenna tower.





CONNECTION FOR 115V. OPERATION

- (TO FUSE)
TO CONVERT FROM 115V TO 230V.:
1. CUT JUMPER FROM A TO C.
 2. CUT JUMPER FROM B TO D.
 3. CONNECT JUMPER TO B AND C.
 4. INSTALL FUSE OF HALF THE CURRENT RATING USED FOR 115V.



CONNECTION FOR 230V. OPERATION

DWG. NO. 700-110-2	MARTI Electronics, Inc.	115 V. / 230V. CONVERSION
--------------------	-------------------------	---------------------------

OPERATING INSTRUCTIONS

CONTROL AND CONNECTOR FUNCTIONS

The control knobs numbered 1 through 4 are gain control and each independently controls the level from an input on the left side of the transmitter having the same number. The controls are mixing, which permits any combination of inputs to be active.

The standard RPT-25 and RPT-40 transmitters are supplied with three microphone inputs and one balanced line input. Inputs 1, 2, and 3 are microphone inputs and input 4 is the balanced line input. Input 3 can also be converted into a balanced line input. Balanced line inputs are used for cartridge tape machine inputs or other devices having a 600 ohm line level output.

The rotary switch selects various circuits to be measured on the panel meter. The meaning of the various meter selections will be covered later in this section.

The rocker switch on the extreme right hand side of the control panel is the power switch for 115 volt AC operation. In Off position, all power inside the transmitter is off. In Standby position, the audio section of the transmitter is active, permitting the audio inputs, gain, and associated equipment to be checked out without transmitting a signal. The Monitor Jack is active in Standby operation. When the power switch is placed in Transmit Position, the transmitter will deliver power to the antenna.

CAUTION:

ALWAYS MAKE SURE THE ANTENNA IS CONNECTED TO THE TRANSMITTER (J1) BEFORE SWITCHING TO TRANSMIT.

Connectors on the back of the transmitter are as follows:

- J1 - Connect to transmitting antenna.
- J2 - Connect to BR-10/150 or BR-10/450 receiver for transmit squelching when using as a base station receiver.
- J3 - Connect to M-100, a remote receiver (optional) using special cable supplied with receiver. This one cable supplies both power and antenna to the receiver.

OPERATING INSTRUCTIONS CONTINUED:

J4 - Frequency test jack for measurement of transmitter frequency.

F1 - Fuse type 3AG "Slo-Blo" 2½ amp. This fuse protects transmitter in AC operations.

F2 - Fuse type 3 AG 8 amp. This fuse protects transmitter in DC operation.

MOBILE OPERATION:

Assuming the mobile installation has been made, proceed as follows:

Securely fasten the transmitter in the mobile mounting rack using the two rotating fasteners.

Connect antenna, power, (and receiver) cables at back of transmitter.

CAUTION:

THE ANTENNA MUST ALWAYS BE CONNECTED BEFORE THE TRANSMITTER IS OPERATED.

Pre-set gain control #1 to the correct position. The correct gain setting is determined by adjustment for about 5 to 7 VU of gain reduction (meter position No. 1) when talking at a normal level and distance from the microphone (in channel 1 input). The normal position for the gain reduction indicator is approximately 0 VU. When full modulation of the transmitter is reached, the meter will deflect to the left (as much as -20 VU) indicating the amount of automatic gain reduction necessary to maintain 100% modulation.

It is advisable to start the vehicle engine before beginning of transmission, since the transmitter will draw about 6 or 7 amps from the battery. The transmitter draws very little current in "Stand By", however, remember the TSP-TC-1 control unit is connected to the accessory switch of the vehicle, and this switch must be ON before the transmitter will operate.

The final two steps to mobile transmission is to turn on the "Stand By" switch of the control unit. At temperatures below -10°C (+14°F) it is necessary to turn on the Stand By switch two minutes prior to an anticipated transmission in order for the frequency to be within tolerance. Finally, with the microphone plugged into the connector on the bottom side of the control unit, press the "Talk" button on the microphone to transmit. For long transmissions, the "Transmit"

OPERATING INSTRUCTIONS CONTINUED:

switch on the control unit can be placed to "ON" position, eliminating the need to hold the microphone button depressed. The two lamps on the control unit visually indicate the "Stand By" and "Transmit" status of the transmitter.

STATIONARY REMOTE OPERATION

For remote operations from 115 volt AC power, proceed as follows:

Locate transmitter, if possible, where the operator/announcer can reach the controls, where power is available, and where the minimum length of antenna coax cable is required.

First connect the antenna to J1 of the transmitter.

CAUTION:

ALWAYS MAKE SURE THE ANTENNA IS CONNECTED BEFORE TRANSMITTING.

Connect the AC power adapter cable to the 9 pin DC power connector on the back of the transmitter.

CAUTION:

ALWAYS CONNECT THE AC POWER ADAPTER CABLE TO THE TRANSMITTER BEFORE PLUGGING INTO 115 V POWER.

Plug AC power cable into 115 volt AC power receptacle. Make sure the receptacle is the new approved grounding type which matches the plug supplied with the RPT-25 or RPT-40. DO NOT ATTEMPT TO DEFEAT THIS GROUNDING FEATURE - IT IS IMPORTANT TO YOUR SAFETY. If extension cables are used, make sure both ends have the grounding (round prong) feature. If personnel operating this equipment will be standing on soil or touching metal objects which are earth grounded, special precautions regarding operation of this or any 115 volt AC appliances must be observed.

Connect microphone to the desired input, place transmitter power switch in Stand By. The meter should indicate approximately 0 VU in position 1 of the meter switch. Set the microphone gain with the appropriate knob for about 5 to 7 VU of gain reduction as indicated by a deflection of the VU meter to the left. The audio can be monitored by a head phone (600 ohms or greater)

OPERATING INSTRUCTIONS CONTINUED:

plugged into the Monitor Jack. The transmitter will be modulated the maximum amount when any amount of gain reduction is indicated on the meter. High gain settings or very large amounts of gain reduction can produce undesirable effects. Monitoring will aid in determining correct gain settings. Position No. 2 of the meter switch is a conventional audio VU meter. (The higher the reading, the more the audio.) The reading should peak at about 0 VU for 100% modulation.

After the audio has been checked out and levels set, the power switch can be set to Transmit. Positions 8 through 9 on the RPT-40 and Positions 8 through 10 on the RPT-25 indicate the conditions of various circuits of the transmitter. The normal value of these various readings are indicated in the Test Report sheet included with this transmitter.

It is helpful to refer to these meter readings to determine if the transmitter is operating normally. Position 8 is relative power output, and verifies that the transmitter is delivering power. Always make sure the antenna is connected to the transmitter before switching to transmit.

TEST METER FUNCTIONS

RPT-25 & RPT-40

TRANSMITTER TEST METER

Position 1	Gain Reduction
Position 2	Audio Level (VU)
Position 3	RF Drive to Tripler Q1
Position 4	RF Drive to Doubler Q2
Position 5	RF Drive to Doubler Q3
Position 6	RF Drive to Buffer Q4
Position 7	Power Amp. IC
Position 8	Relative RF Output
Position 9	Power Supply B+
Position 10	RF Drive to Tripler Q1 (RPT-25 only)

Meter Positions 3, 4, 5, 6 - Refer to Drawing 800-019-3

Meter Position 7 - Refer to Drawing 800-047

Meter Position 10 - Refer to Drawing 800-050

TOOLS FOR ALIGNMENT OF RPT SERIES

1. Model #43 Bird Wattmeter with impedance of 50 ohms.
2. Bird 1 Watt Element 100-250 MHz.
3. Bird 50 Watt Element 100-250 MHz.
4. Model #8135 Bird 150 Watt, 50 Ohm Coaxial Resistor.
5. GC 8727 Tuning Tool.
6. GC 5009 Tuning Tool.
7. Screwdriver
8. 3/16 Nut Driver
9. Hewlett Packard Distortion Analyzer Model #333A.
10. Hewlett Packard Oscillator Model #204C
11. Hewlett Packard Attenuator Set.
12. Hewlett Packard Frequency Counter Model #5327C.
13. Connecting Cables.

RPT-25 RF ADJUSTMENTS

Adjust on ER-12/7 module for 13.2 V DC output. Measured from ground to Pin #9 of relay (RY-1). (Under chassis)

Place Test Meter into Position #3. Tune L4 of the DFM-1D1 for a maximum reading. Refer to Figure 5-3 for coil location.

Tune L101 on Multiplier Board to minimum in Test Meter #3. Place Test Meter to Position #4 and tune L202 for maximum. After reading is obtained, tune L101 and L102 for maximum reading in Test Meter Position #4. Refer to Figure 5-1 for coil location.

Tune L103 for minimum in Test Meter Position #4. Put Test Meter to #5 and tune L104 for maximum. After reading is obtained, tune L103 and L104 for maximum reading in Test Meter Position #5.

Place Test Meter to Position #6. Tune L105 and L106 for peak readings.

Insert a 50 ohm Dummy Antenna with a Watt Meter into output of Multiplier Box. Adjust C39 and C40 for maximum power output. This should be 300 to 500 milliwatts. (150 MHz one watt element) Refer to Figure 5-1 for C39 and C40 locations.

RPT-25 RF ADJUSTMENTS CONTINUED:

Connect Multiplier Box to Tripler and Buffer Stage. Connect 50 ohm Dummy and Watt Meter to output of Tripler and Buffer Stage. (450 MHz element)

Tune C1 of Tripler and Buffer Stage for maximum reading in Position #10 of Test Meter. See Figure 5-2A for locations.

Tune C2 for maximum reading in Position #10 of Test Meter.

Tune C7 for minimum reading in Position #10 of Test Meter.

Tune C8 for maximum reading in Position #10 of Test Meter.

Tune C9 for minimum reading in Position #10 of Test Meter.

Tune C10 for maximum reading in Position #10 of Test Meter.

You should have some power indication on Watt Meter. Repeat steps eight through thirteen until a 10 watts or better reading is obtained.

Adjust efficiency POT (R8) located on left side of Main Frame of transmitter for 5 watts output. (R8 is located on top side of chassis.)

Connect output of Tripler and Buffer Stage to the input of the RF Power Amplifier Box. Connect a 50 ohm Dummy Load and Watt Meter to output of transmitter.

Place Test Meter into Position #7. Adjust C1 on RF Power Amplifier Box for maximum reading.

Adjust C10 of RF Power Amplifier Box for Maximum Reading in Position #7 of Test Meter. (Capacitor should be 1/3 of maximum setting). See Figure 5-2B.

Adjust C11 and C12 for Maximum Reading in Position #7 of Test Meter. This should give some power out.

Increase R8 full clockwise and retune C1, C2, C7, C8, C9, and C10 (of Tripler and Buffer Stage), C1, C10, C11, and C12 (of RF Power Amplifier Box) for maximum power output.

Adjust R8 for 25 watts power output.

RPT-40 RF ADJUSTMENTS

Adjust R7 on ER-12/7 module for 13.2 V DC output. Measured from ground to Pin #9 of relay (RY-1). (Under chassis)

Place Test Meter into Position #3. Tune L4 of the DFM-1D1 for a maximum reading. Refer to Figure 5-3 for coil location.

Tune L101 on Multiplier Board for minimum in Test Meter Position #3. Place Test Meter to Position #4 and tune L102 for maximum reading in Test Meter Position #4. Refer to Figure 5-1 for coil location.

Tune L103 for minimum in Test Meter Position #4. Put Test Meter to #5 and tune L104 for maximum. After reading is obtained, tune L103 and L104 for maximum reading in Test Meter Position #5.

Place Test Meter to Position #6. Tune L105 and L106 for peak readings.

Insert a 50 ohm Dummy Antenna with a Watt Meter into output of Multiplier Box. Adjust C39 and C40 for maximum power output. This should be 300 to 500 milliwatts. (150 MHz one watt element) Refer to Figure 5-1 for C39 and C40 locations.

Connect Multiplier Box to 40 Watt Power Amplifier Box. Connect 50 ohm Dummy with Watt Meter to output of transmitter (150 MHz 50 watt element). Turn R8 on Main Frame full clockwise. Key transmitter and adjust C6 of the Output Filter Box for maximum power output. This should give more than 40 watts output (unless the transmitter is on 150 MHz or 170 MHz). Adjust R8 for 40 watts output. Retune C39 and C40 in the Multiplier Box for maximum power output. Adjust R8 for 40 watts output. C6 of Output Filter may be located by reference to Figure 5-2. R8 is on top side of Main Chassis near the DFM-1D1 Module.

TOP VIEW

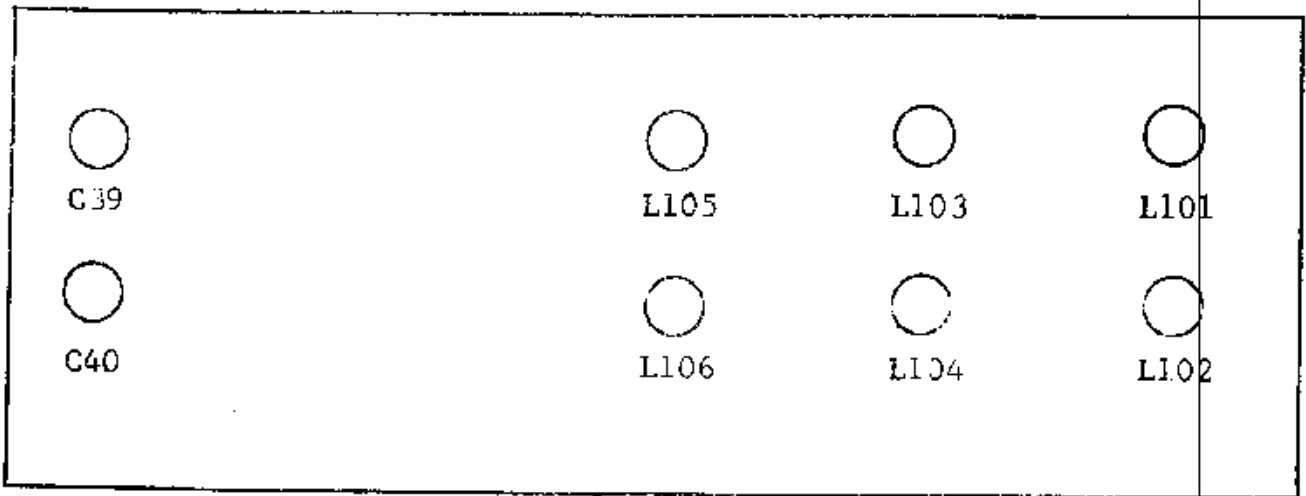


FIGURE 5-1 MULTIPLIER BOX

BOTTOM VIEW

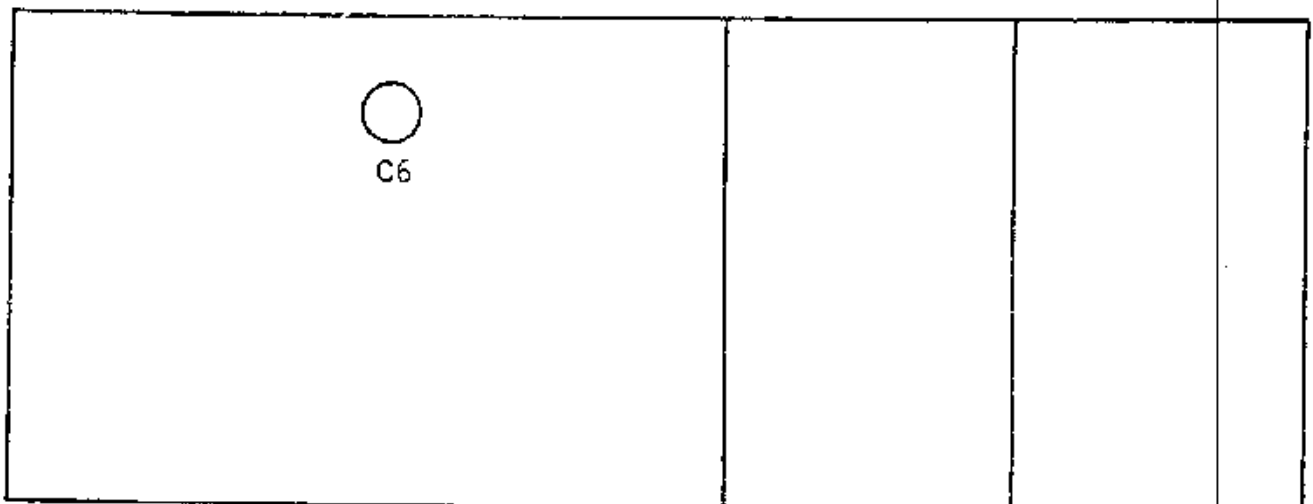


FIGURE 5-2 FILTER BOX

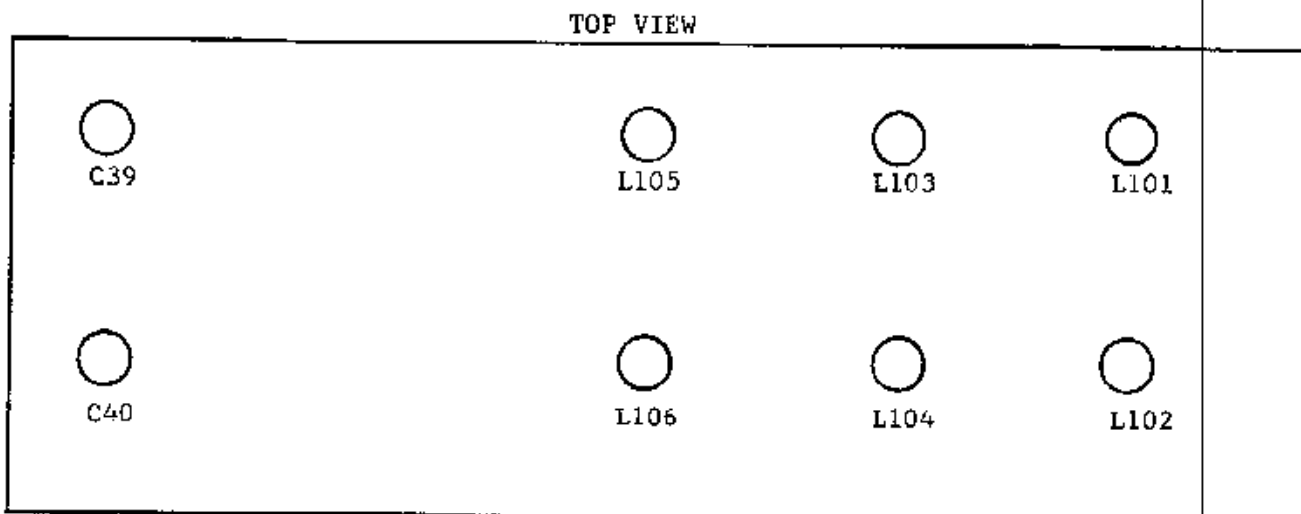


FIGURE 5-1

MULTIPLIER BOX

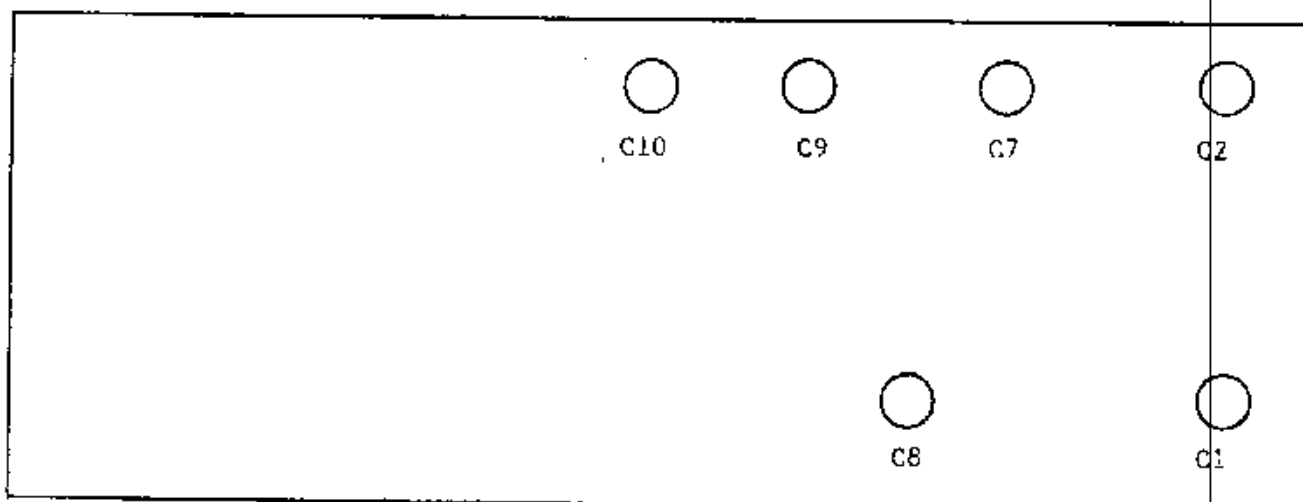


FIGURE 5-2A

TRIPLER AND BUFFER SECTION

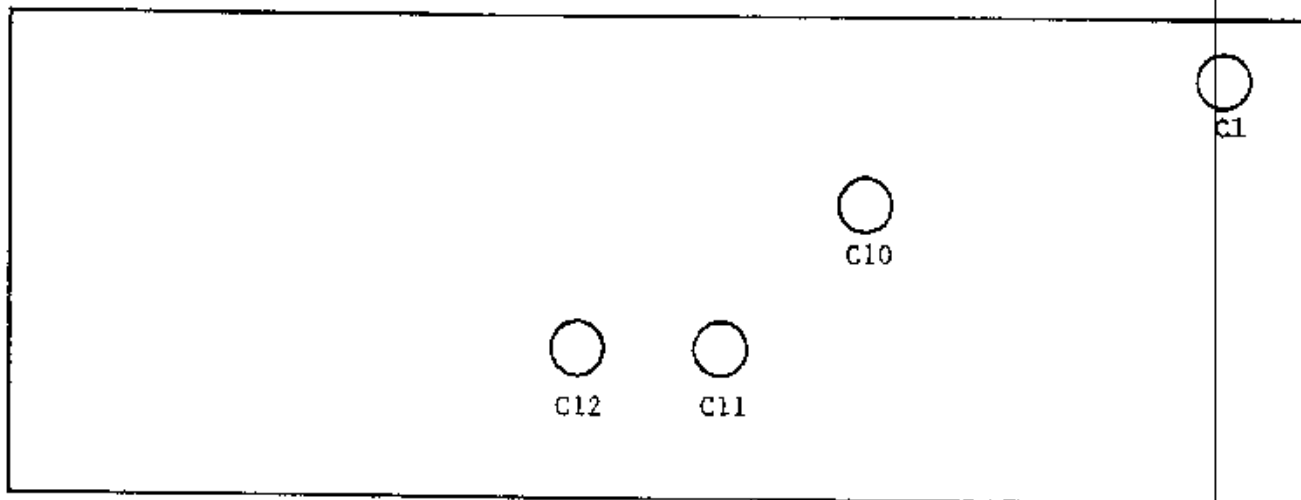


FIGURE 5-2B

RF POWER AMPLIFIER BOX

DFM-1D1 MODULE ADJUSTMENTS

Set up CA-40-5.

Adjust R19 for 4.8 VDC across C16 on VTVM. See Figure 5-3 for location of adjustments.

Adjust L4 for proper final frequency output measured at J4. (J4 is located on rear of transmitter below the large heat sink.)

Adjust R21 for the correct deviation for transmitter model number by feeding 2500 Hz. test tone (+2 DBM) into input #4 with Gain Control Pot #4 set for 5 db gain reduction. Refer to chart below for the deviation corresponding to your transmitter type accepted model number.

Adjust Limit Level (R11) on PLF-75 Module full clockwise. See Figure 5-5 for PLF-75 component locations.

Check distortion through receiver, without 10.7 IF Filter.

Distortion should be 1% or less. If not, adjust R19 on DFM-1D1 Module. Lower distortion may be clockwise or counter-clockwise. Adjust L4 for proper final frequency.

Repeat steps six and seven until distortion is 1% or below and transmitter is on frequency.

Place cover and insulation on module and adjust frequency to proper reading through hole in top of module by adjusting L4.

FCC TYPE ACCEPTED TRANSMITTERS

TYPE ACCEPTED MODEL NO.	POWER WATTS	FCC FREQ. GROUP	FREQ. (MHz.)	% FREQ. TOLERANCE	TYPE EMISSION	BANDWIDTH KHz.	DEV. KHz.
RPT-25P	25	P	450.01-455.95	.00025	10F3	10	1.5
RPT-25R	25	N1	450.01-455.95	.00025	50F3	50	9
RPT-25N2	25	N2	450.01-455.95	.00025	25F3	25	4
RPT-25R	25	R	450.01-455.95	.00025	50F3	50	9
RPT-25S	25	S	450.01-455.95	.00025	100F3	100	22.5
RPT-40K	40	K	152.87-161.76	.0005	30F3	30	5
RPT-40L	40	L	166.26-170.15	.0005	25F3	25	4

DFM-1D1

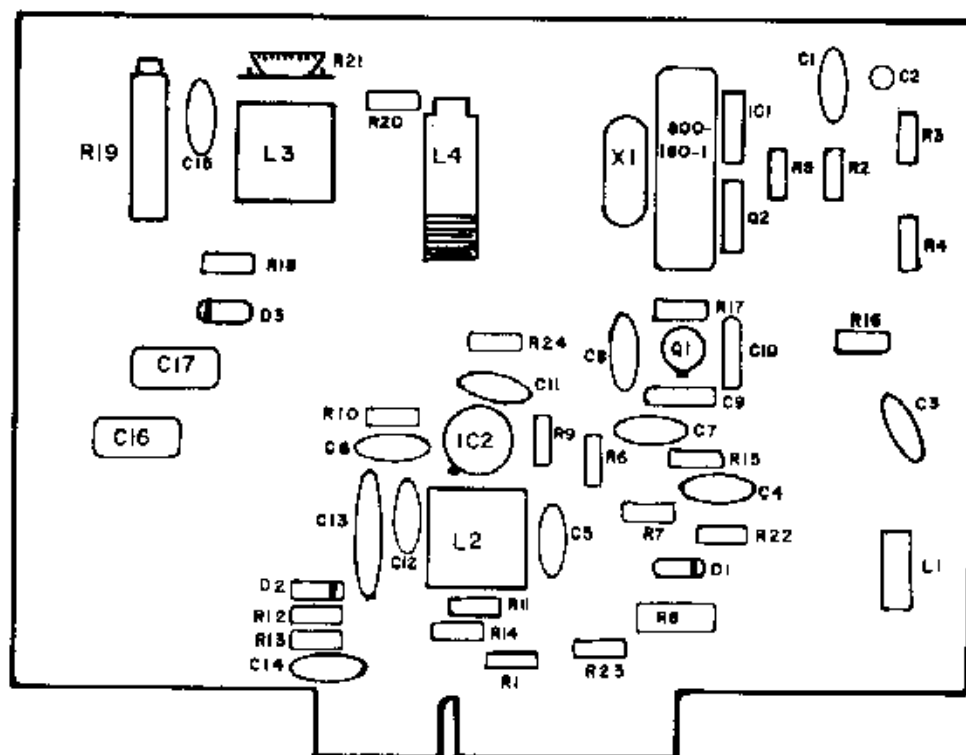


FIGURE 5-3

CA-40-5 ADJUSTMENTS

Pull CA-40-5 module out of socket. Insert a 400 Hz. test tone at +10 db into input #4. Increase Gain Control Pot #4 for a 0 VU reading in Test Meter Position #2.

Plug CA-40-5 module into socket. Set all four control pots on CA-40-5 full counter-clockwise. Adjust Meter Calibration (R21) for 0 VU reading in Position #1 of Test Meter. See Figure 5-4 for pot locations.

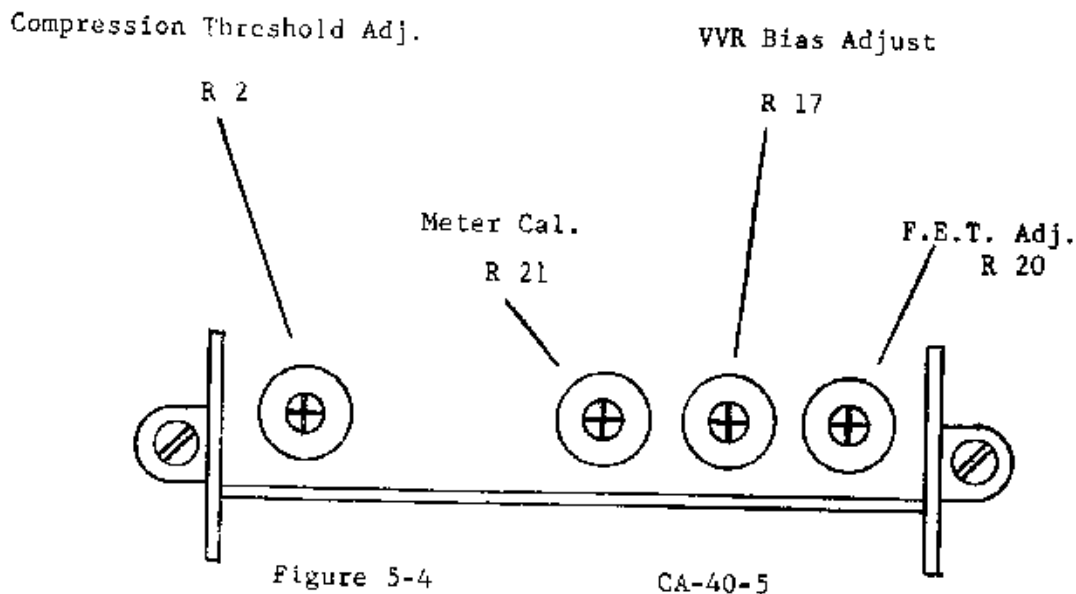
Put Test Meter in Position #2 and adjust VVR Bias Adjust (R17) for -6 VU on Test Meter.

Repeat steps two and three until 0 VU reading in Position #1 and -6 VU reading in Position #2 are obtained simultaneously.

Increase 400 Hz. test tone level by advancing Gain Control Pot #4 to one o'clock.

Adjust Compression Threshold (R2) for a +2 VU reading in Position #2 of Test Meter.

Adjust F.E.T. Adjust (R20) for a slight movement in Position #1 of Test Meter. (It may be necessary to decrease tone input by means of Gain Control Pot #4 to observe movement.)



PLF-75 ADJUSTMENTS

Check distortion of a 400 Hz. test tone at +10 db inserted into input #4 with Gain Control Pot #4 set at one o'clock. (Distortion should be 1% or less.)

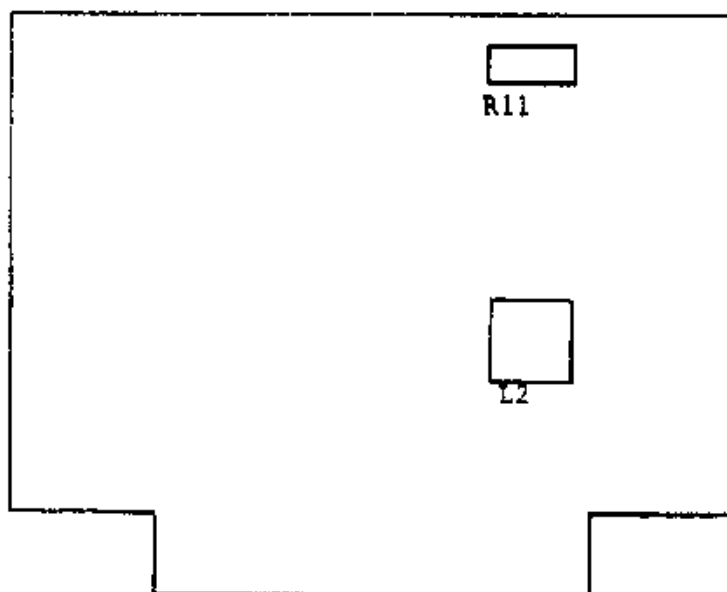
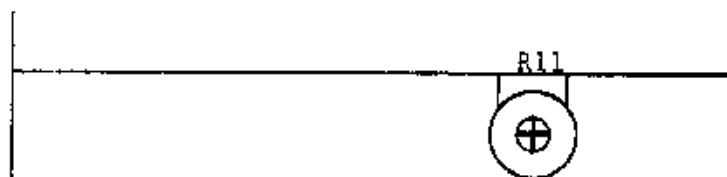
Adjust Limit Level (R11) to add .2% distortion to the 400 Hz. tone. See Figure 5-5 for locations.

Check response by adjusting Gain Control Pot #4 for approximately .5 db compression, in Position #1 of Test Meter; of a 400 Hz. test tone at +10 db.

Lower input level of 400 Hz. tone 10 db; put compressor out of compression, and check response.

Adjust L2 for -1.5 db response at 7 KHz on RPT-40 and -1.5 db response at 15 KHz on RPT-25.

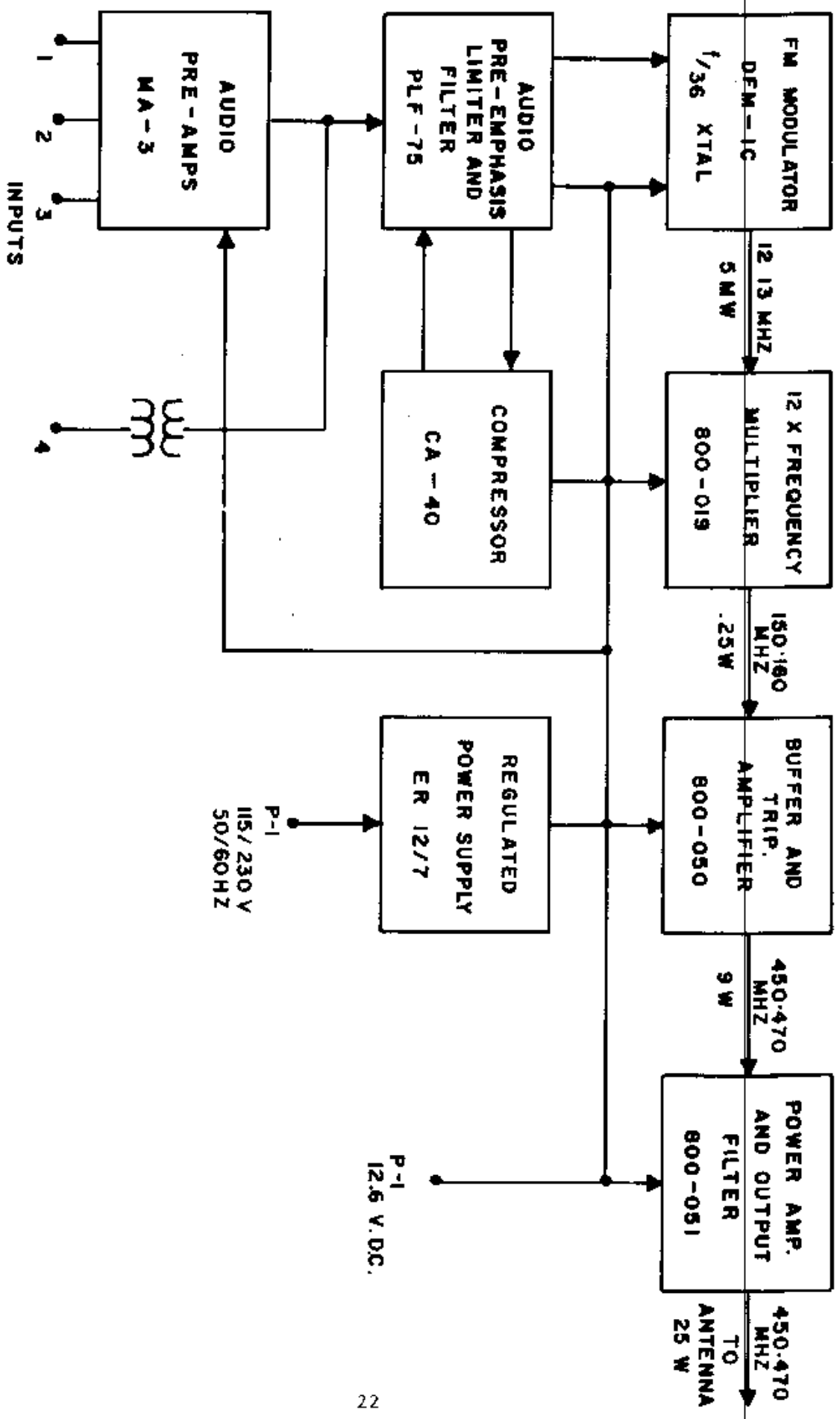
TOP VIEW

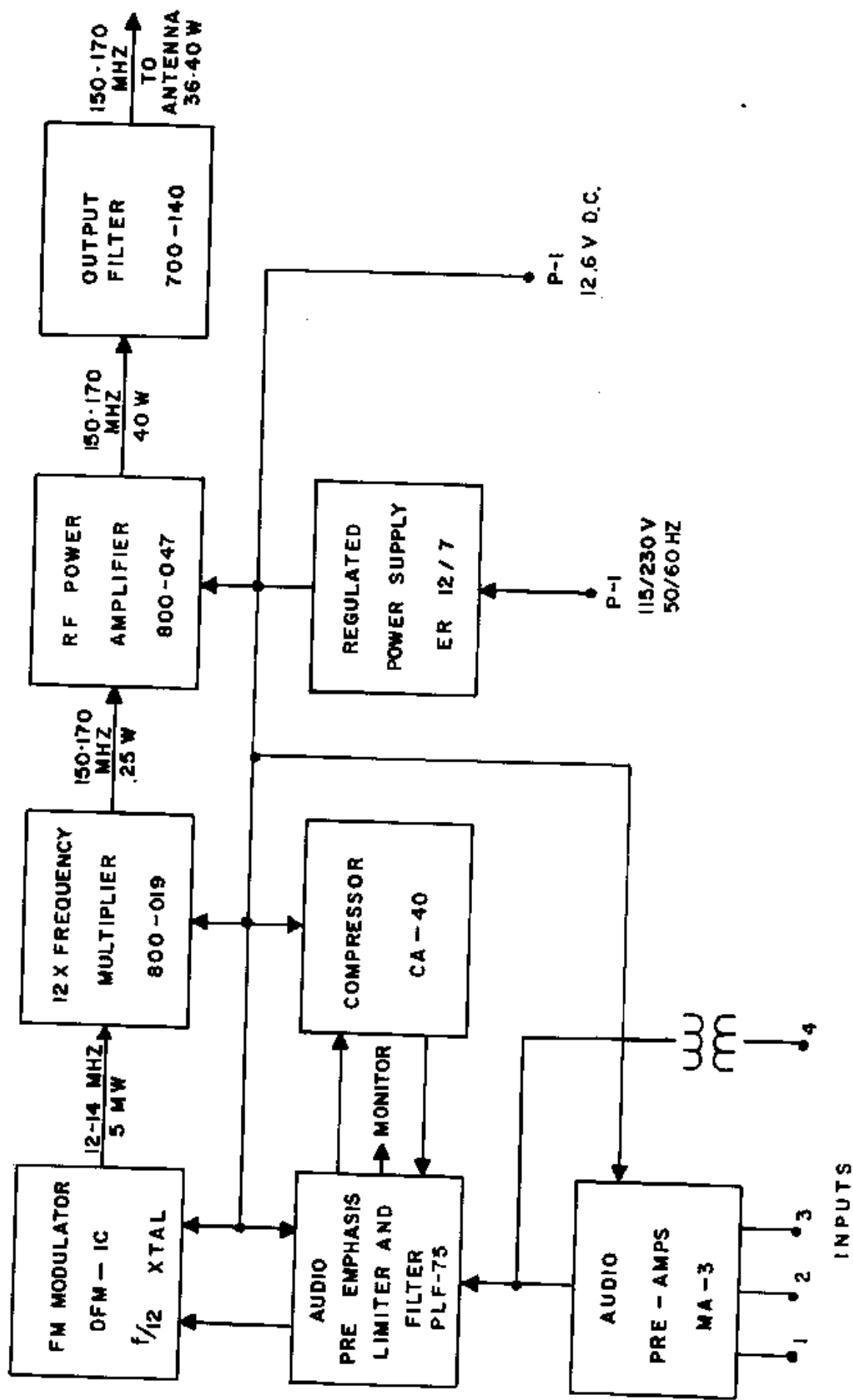


SIDE VIEW

FIGURE 5-5

PLF-75



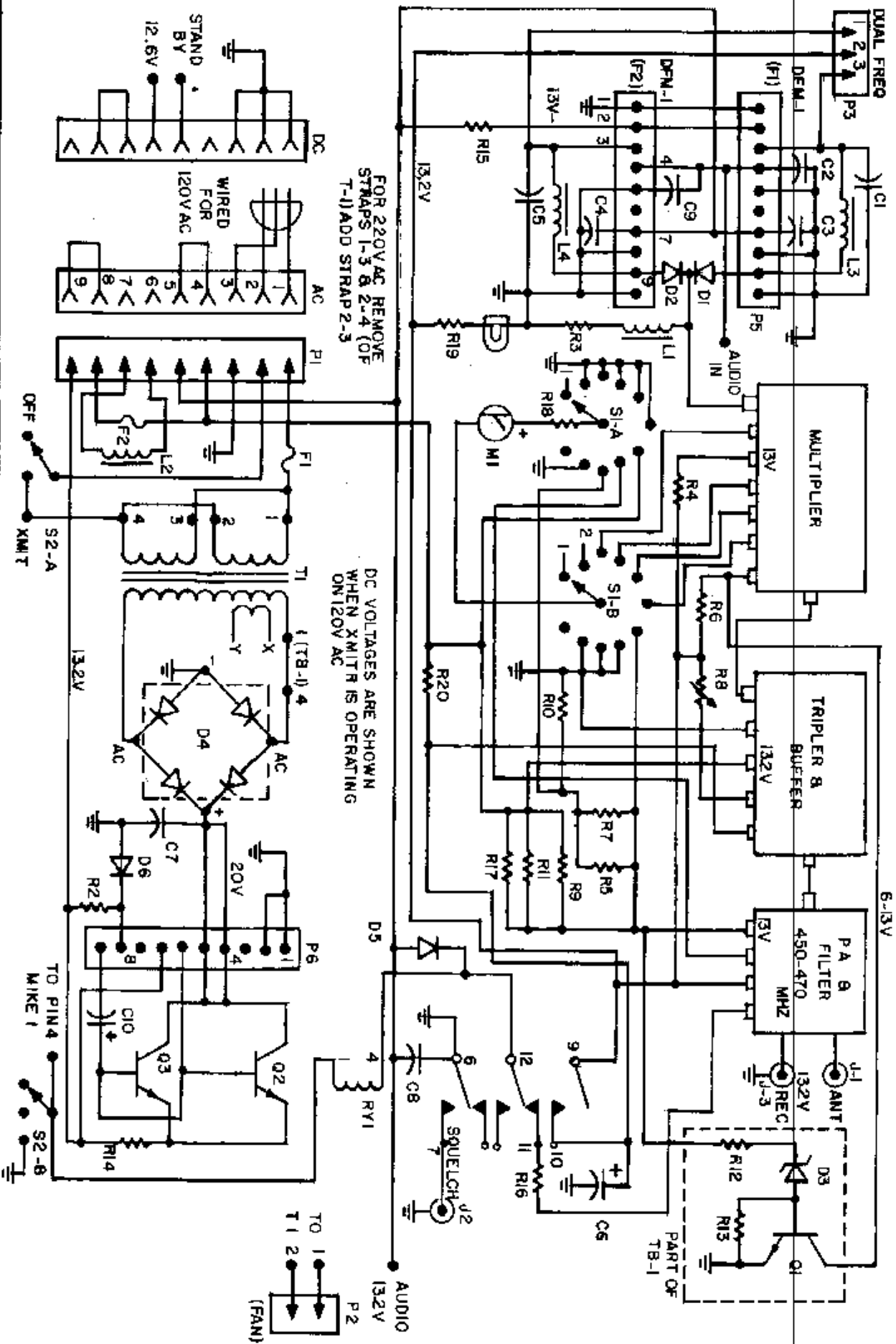


DWG.

700-134-6

MARTI Electronics, Inc.

RPT-40 BLOCK DIAGRAM



MARTI Electronics, Inc.
PO BOX 661
CLEBURNE, TX 76031

DRAWING NO.
700-134-4

REV.

DATE
12/7/84

APPROVED

USED ON
RPT-25

TITLE
RF MAIN FRAME

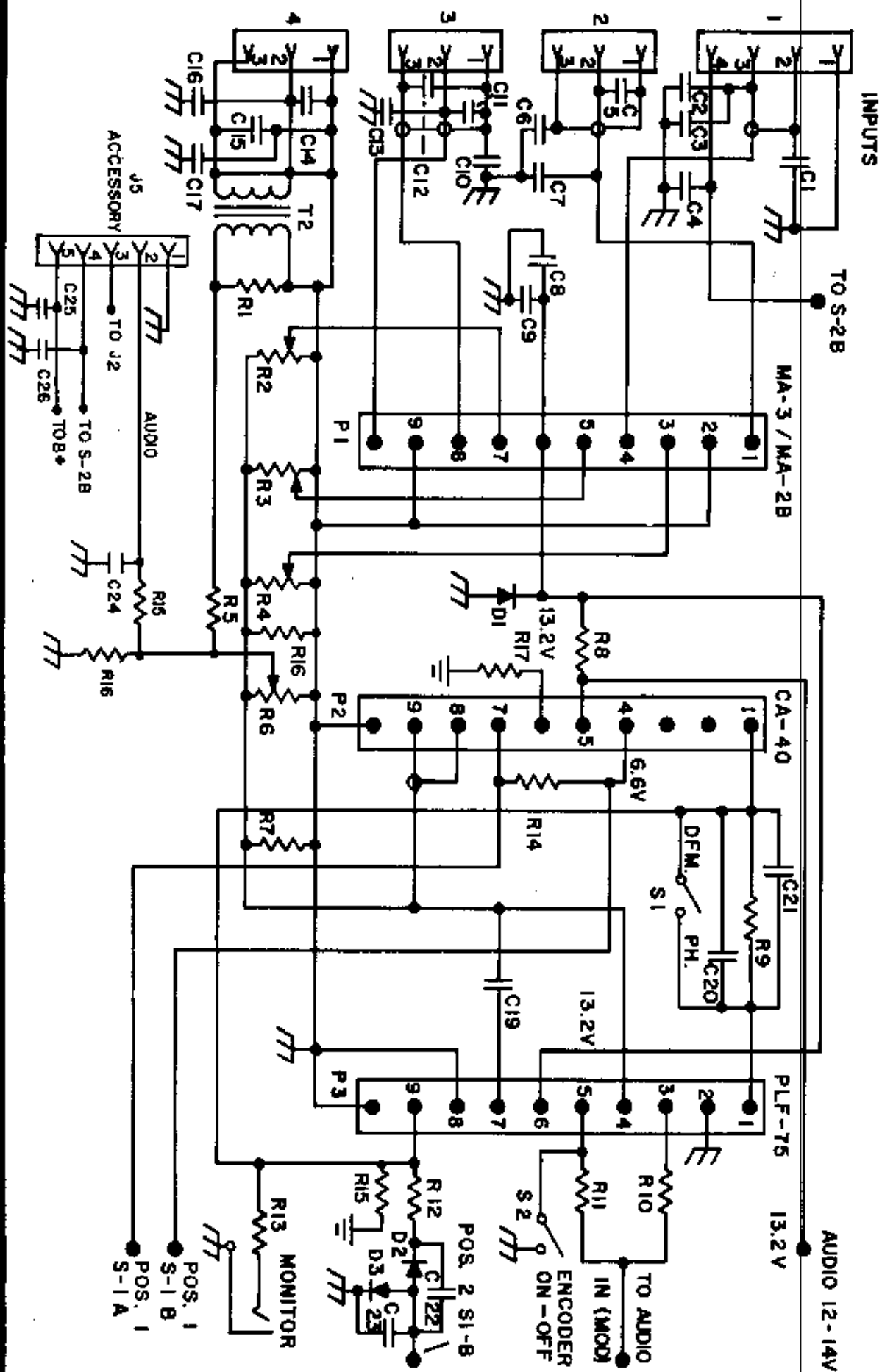
910-004

PARTS LIST
RPT RF MAIN FRAME

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1	219-080	Capacitor, Electrolytic, 10 uF, 25V
C2	253-471	Capacitor, 470 pF, 25V Disc.
C3 - C4	217-104	Capacitor, .01 uF, 25V Disc.
C5	219-080	Capacitor, Electrolytic, 10 uF, 25V
C6	219-641	Capacitor, Electrolytic, 680 uF, 25V
C7	219-602	Capacitor, Electrolytic, 13,000 uF, 25V
C8	219-641	Capacitor, Electrolytic, 680 uF, 25V
C9	253-471	Capacitor, 470 pF, 25V Disc.
C10	219-080	Capacitor, Electrolytic, 10 uF, 25V
D1 - D2	410-914	Diode, 1N4148
D3	410-150	Diode, Zener, 5%, 15.0V 1N4744A
D4	410-020	Rectifier Bridge, 25 amp, 100V
D5 - D6	414-007	Diode, 1N4007
F1	510-026	Fuse, 2kA
F2	510-136	Fuse, 8A
J1	550-015	Connector, UG625
J2	550-022	Connector, 3505F
J3	550-026	Connector, #11 Little Jack
L1	330-004	Choke, 100 uH
L2	330-013	Choke Coil, CT574, .035 ohm
L3 - L4	330-004	Choke, 100 uH (replaces R1)
M1	030-042	Meter, Model HS50
P1	550-008	Plug, GK-923-SL
P2 - P3	550-002	Plug, 480-149-1
P4 - P6	550-059	Connector, Module Plug
Q1	423-053	Transistor, 2N3053
Q2 - Q3	423-055	Transistor, 2N3055
R2	105-030	Resistor, 3.3 ohm, 1/4W 5%
R3	105-102	Resistor, 1K, 1/4W 5%
R4	105-030	Resistor, 3.3 ohm, 1/4W 5%
R5	145-105	Resistor, 100K, 1/4W 5%
R6	125-470	Resistor, 47 ohm, 2W 5%
R7	145-223	Resistor, 22K, 1/4W 5%
R8	120-251	Resistor, 300 ohm Pot., 5W WN-301 (RPT-25)
R8	120-500	Resistor, 50 ohm Pot., 5W (RPT-40)
R9	115-001	Resistor, 0.1 ohm, 1W 5%
R10	145-471	Resistor, 470 ohm, 1/4W 5%

PARTS LIST (Page 2)
RPT RF MAIN FRAME

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
R11	115-001	Resistor, 0.1 ohm, 1W 5%
R12	105-101	Resistor, 100 ohm, $\frac{1}{2}$ W 5%
R13	145-102	Resistor, 1K, $\frac{1}{2}$ W 5%
R14	115-003	Resistor, 0.3 ohm, 1W 5% (6 in parallel)
R15 - R16	115-010	Resistor, 1.0 ohm, 1W 5%
R17	115-001	Resistor, 0.1 ohm, 1W 5%
R18	145-911	Resistor, 910 ohm, $\frac{1}{2}$ W 5%
R19	145-470	Resistor, 47 ohm, $\frac{1}{2}$ W 5%
R20	115-001	Resistor, 0.1 ohm, 1W 5%
RY1	570-015	Relay, 185 ohm, 12VDC
S1	530-014	Switch, 212-11825-2
S2	530-028	Switch, T1GG 50-1L-RD-A
T1	320-027	Transformer, 15723-N



MARTI Electronics, Inc.
PO BOX 441
CLEBURN, TX 76031

DRAWING NO.
700-134-5

REV.
DATE
11/8/84

APPROVED

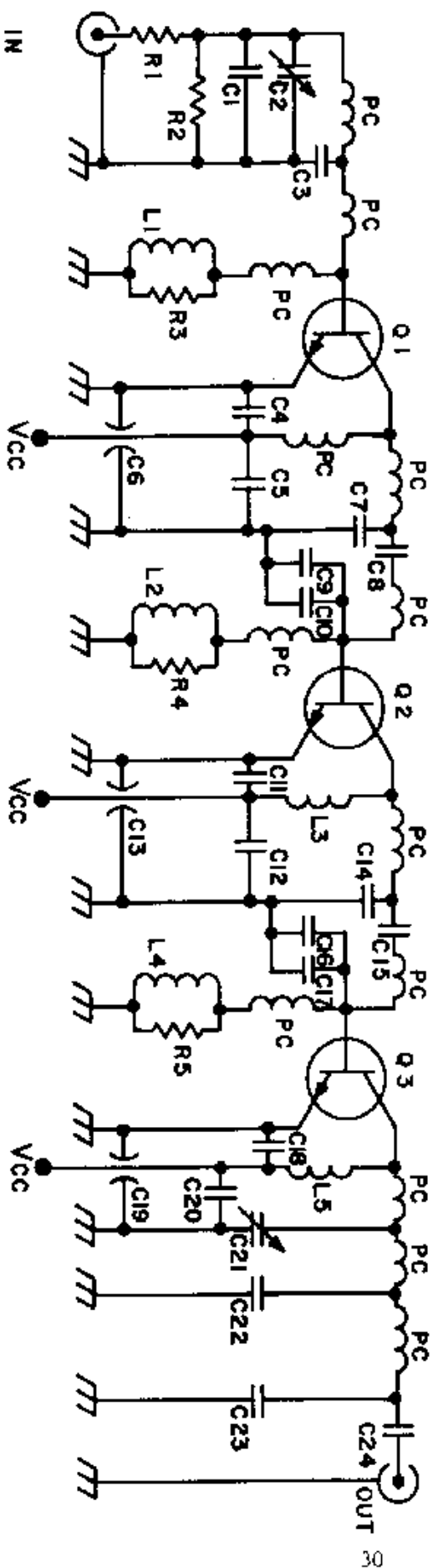
USER CODE
RFT-25640

TITLE
AUDIO MAIN FRAME

710-004

PARTS LIST
RPT AUDIO MAIN FRAME

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1 - C2	236-501	Capacitor, 500 pF, Uncased Mica
C3 - C5	253-471	Capacitor, 470 pF, 10% Disc.
C6 - C7	236-501	Capacitor, 500 pF, Uncased Mica
C8	268-102	Capacitor, .001 uF, Disc.
C9	219-641	Capacitor, Electrolytic, 680 mF, 25V
C10	236-501	Capacitor, 500 pF, Uncased Mica
C11 - C12	253-471	Capacitor, 470 pF, 10% Disc.
C13	236-501	Capacitor, 500 pF, Uncased Mica
C14 - C15	253-471	Capacitor, 470 pF, 10% Disc.
C16 - C17	236-501	Capacitor, 500 pF, Uncased Mica
C19	219-200	Capacitor, Electrolytic, 22 uF, 25V
C20 - C21	226-224	Capacitor, 0.22 uF, 100V Polycarbonate
C22 - C26	253-471	Capacitor, 470 pF, 10% Disc.
D1	414-007	Diode, 1N4007
D2 - D3	412-494	Diode, 1N270
Input 1	550-029	Connector, XL-4-31
Input 2	550-028	Connector, XL-3-31
Accessory	550-144	Connector, 5 pin DIN, Chassis Mount
P1 - P3	550-059	Connector, Module Plug
R1	145-392	Resistor, 3.9K, $\frac{1}{4}$ W 5%
R2 - R3	100-243	Resistor, 25K Audio Taper, $\frac{1}{2}$ W Pot.
R5	105-823	Resistor, 82K, $\frac{1}{4}$ W 5%
R6	100-243	Resistor, 25K Audio Taper, $\frac{1}{2}$ W Pot.
R7	145-223	Resistor, 22K, $\frac{1}{4}$ W 5%
R8	105-030	Resistor, 3.3 ohm, $\frac{1}{4}$ W 5%
R9	145-473	Resistor, 47K, $\frac{1}{4}$ W 5%
R10	145-562	Resistor, 5.6K, $\frac{1}{4}$ W 5%
R11	145-223	Resistor, 22K, $\frac{1}{4}$ W 5%
R12	145-122-1	Resistor, 1.2K, $\frac{1}{4}$ W 2%, Corning
R13	145-102	Resistor, 1K, $\frac{1}{4}$ W 5%
R14	145-561	Resistor, 560 ohm, $\frac{1}{4}$ W 5%
R15	145-223	Resistor, 22K, $\frac{1}{4}$ W 5%
R16	145-102	Resistor, 1K, $\frac{1}{4}$ W 5%
S1 - S2	530-001	Switch, Slide 6 pin
T2	310-013	Transformer



MARTI Electronics, Inc.
PO BOX 941 CLEBURNE, TX 76031

DRAWING NO.
800-047

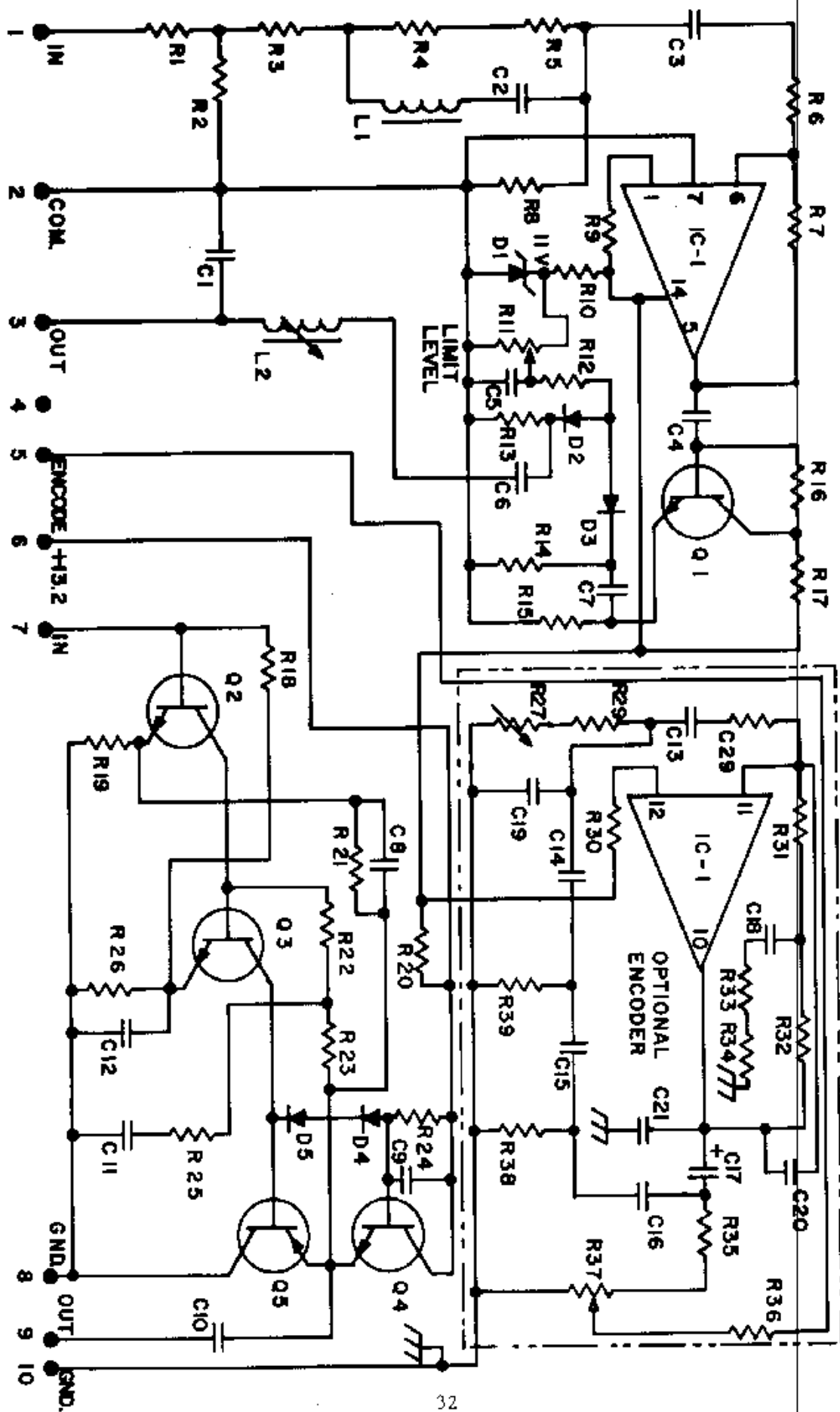
REV.
DATE

APPROVED
USED ON
RPT-4U

TITLE
40 WATT POWER AMPLIFIER
150-175 MHz

PARTS LIST (DRW. 800-047)
40 WATT POWER AMPLIFIER
150 - 175 MHz.

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1 - C3	240-101	Capacitor, 100 pF, 350V 10% Uncased Mica
C4	236-152	Capacitor, 1500 pF, 100V 10%
C5	219-080	Capacitor, 10 mF, 25V Electrolytic
C6	266-102	Capacitor, 1000 pF, 500V Feed-thru
C7 - C8	240-101	Capacitor, 100 pF, 350V 10% Uncased Mica
C9 - C10	240-201	Capacitor, 200 pF, 350V 10% Uncased Mica
C11	236-152	Capacitor, 1500 pF, 100V 10%
C12	219-080	Capacitor, 10 mF, 63V Electrolytic
C13	266-102	Capacitor, 1000 pF, 500V Feed-thru
C15 - C17	240-201	Capacitor, 200 pF, 350V 10% Uncased Mica
C18	236-152	Capacitor, 1500 pF, 100V 10%
C19	266-102	Capacitor, 1000 pF, 500V Feed-thru
C20	219-080	Capacitor, 10 mF, 25V Electrolytic
C22	240-680	Capacitor, 68 pF, 350V 10% Uncased Mica
C23	240-330	Capacitor, 33 pF, 350V 10% Uncased Mica
C24	236-501	Capacitor, 500 pF, 350V 10% Uncased Mica
C25	226-274	Capacitor, 0.27 uF, 100V Parallel w/C13 Polycarbonate
L1	330-012	Inductor, 18 uH, 10%
L2	330-014	Inductor, 4.7 uH, 10%
L3	330-015	Inductor, Marti Special
L4	330-014	Inductor, 4.7 uH, 10%
L5	330-015	Inductor, Marti Special
PC	800-047	Printed Circuit Board
Q1	440-312	Transistor, RF Power
Q2	420-277	Transistor, RF Power
Q3	444-012	Transistor, RF Power
R1	105-100	Resistor, 10 ohm, $\frac{1}{4}$ W 5%
R2	105-680	Resistor, 68 ohm, $\frac{1}{4}$ W 5%
R4 - R5	105-150	Resistor, 15 ohm, $\frac{1}{4}$ W 5%



PARTS LIST
PLF-75 MODULE
* PARTS USED ON PLF-75E ONLY

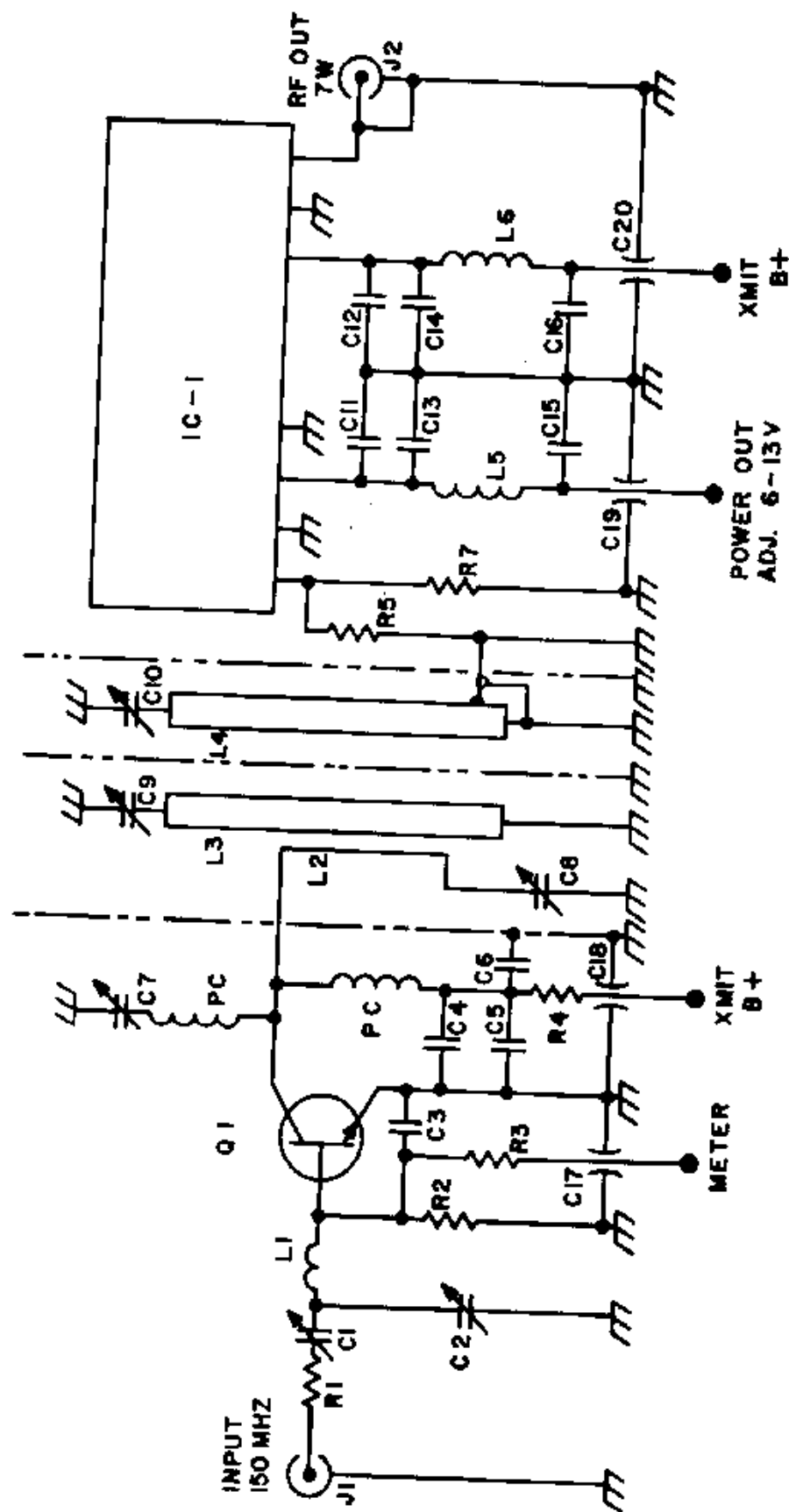
ITEM	PART NO.	DESCRIPTION
C1	215-122	Capacitor, 1200 pF, 33V 5% Poly. PLF-75S
C1	215-392	Capacitor, 3900 pF, 33V 5% Poly PLF-75
C1	215-223	Capacitor, 22,000 pF, 33V 5% Poly. PLF-75P
C2	215-622	Capacitor, 6200 pF, 33V 5% Polystyrene
C3	226-224	Capacitor, .22 uF, 100V 10% Polycarbonate
C4 - C7	219-200	Capacitor, 22 uF, 25V Electrolytic
C8	255-470-1	Capacitor, 47 pF, Silver Mica
C9	256-301	Capacitor, 300 pF, NPO, Disc.
C10	209-401	Capacitor, 470 uF, 6.3V Electrolytic
C11	219-121	Capacitor, 150 uF, 25V Electrolytic
C12	209-401	Capacitor, 470 uF, 6.3V Electrolytic
C13	226-274*	Capacitor, .27 uF, 100V 10% Polycarbonate
C14 - C16	215-333*	Capacitor, 33,000 pF, 33V 5% Polystyrene
C17	219-200*	Capacitor, 22 uF, 25V Electrolytic
C18	226-224*	Capacitor, .22 uF, 100V 10% Polycarbonate
C19 - C21	255-470-1*	Capacitor, 47 pF, Silver Mica
D1	410-110	Diode, Zener, 1N4741, 11V
D2 - D3	410-914	Diode, 1N4148
D4 - D5	414-007	Diode, 1N4007
IC-1	403-900	Integrated Circuit, LM3900 or MC3401P
L1	330-009	Choke, 5 mH
L2	350-032	Inductor, Variable, 387-150M
Q1 - Q3	423-391	Transistor, 2N3391
Q4	450-001	Transistor, SPS1761
Q5	450-002	Transistor, SPS1762
R1	145-221	Resistor, 220 ohm, $\frac{1}{4}$ W 5%
R2	145-102	Resistor, 820 ohm, $\frac{1}{4}$ W 5%
R3	145-181	Resistor, 180 ohm, $\frac{1}{4}$ W 5%
R4	145-103	Resistor, 10K, $\frac{1}{4}$ W 5%
R5	145-300	Resistor, 30 ohm, $\frac{1}{4}$ W 5%
R6	145-104-1	Resistor, 100K, $\frac{1}{4}$ W 2% Corning
R7	145-105	Resistor, 1M, $\frac{1}{4}$ W 5%
R8	145-681	Resistor, 680 ohm, $\frac{1}{4}$ W 5%
R9	145-225	Resistor, 2.2 M, $\frac{1}{4}$ W 5%
R10	145-151	Resistor, 150 ohm, $\frac{1}{4}$ W 5%
R11	100-522	Potentiometer, 5K ohm Trimmer
R12	145-272	Resistor, 2.7K, $\frac{1}{4}$ W 5%
R13	145-103	Resistor, 10K, $\frac{1}{4}$ W 5%
R14	145-472	Resistor, 4.7K, $\frac{1}{4}$ W 5%
R15	145-102	Resistor, 1K, $\frac{1}{4}$ W 5%
R16	145-105	Resistor, 1M, $\frac{1}{4}$ W 5%

PARTS LIST

PLF-75 MODULE

* PARTS USED ON PLF-75E ONLY

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
R18	145-184	Resistor, 180K, $\frac{1}{4}$ W 5%
R19	145-221	Resistor, 220 ohm, $\frac{1}{4}$ W 5%
R20	145-030	Resistor, 3.3 ohm, $\frac{1}{4}$ W 5%
R21	145-184	Resistor, 180K, $\frac{1}{4}$ W 5%
R22	145-392	Resistor, 3.9K, $\frac{1}{4}$ W 5%
R23	145-472	Resistor, 4.7K, $\frac{1}{4}$ W 5%
R24	145-822	Resistor, 8.2K, $\frac{1}{4}$ W 5%
R25	145-221	Resistor, 220 ohm, $\frac{1}{4}$ W 5%
R26	145-102	Resistor, 1K, $\frac{1}{4}$ W 5%
R27	100-105*	Potentiometer 1M ohm Cermet
R28	105-393*	Resistor, 39K, $\frac{1}{4}$ W 5%
R29	145-104-1*	Resistor, 100K, $\frac{1}{4}$ W 5% Corning
R30	145-225	Resistor, 2.2M, $\frac{1}{4}$ W 5%
R31	145-474-1*	Resistor, 475K, $\frac{1}{4}$ W 1% Corning
R32	105-364*	Resistor, 360K, $\frac{1}{4}$ W 5%
R33	145-184*	Resistor, 180K, $\frac{1}{4}$ W 5%
R34	145-103-1*	Resistor, 10K, $\frac{1}{4}$ W 5% Corning
R35	145-562*	Resistor, 5.6K, $\frac{1}{4}$ W 5%
R36	145-102	Resistor, 1K, $\frac{1}{4}$ W 5%
R37	100-532*	Potentiometer, 5K ohm Cermet
R38 - R39	145-104-1*	Resistor, 100K, $\frac{1}{4}$ W 5% Corning



MARTI Electronics, Inc.
 P.O. BOX 461
 CLEBURNE, TX 76031

DRAWING NO.
 800-050

REV.

DATE
 1/18/85

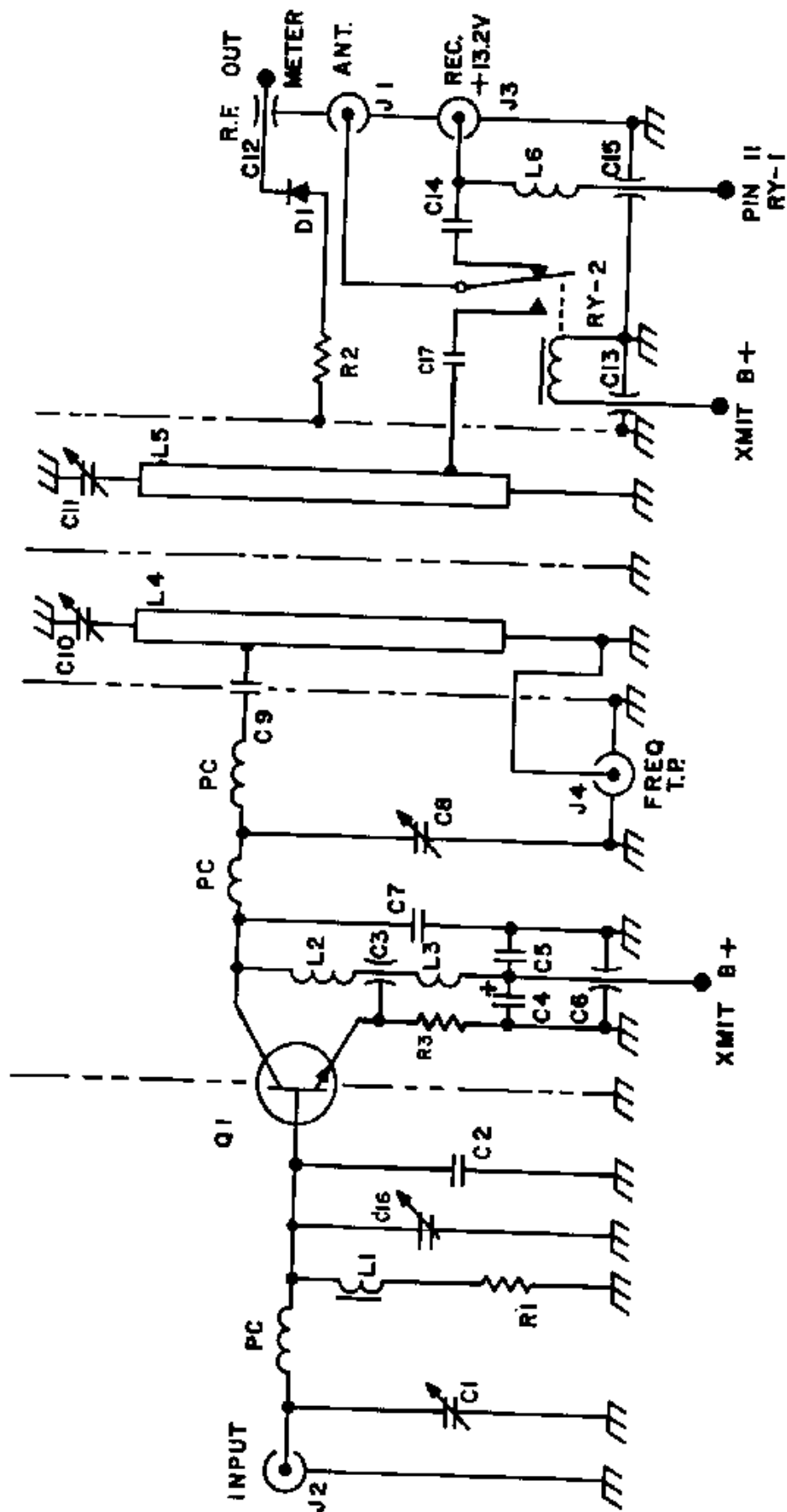
APPROVED

USED ON
 RPT-25

TITLE
 TRIP, AND BUFFER MODULE
 450-470 MHZ.

PARTS LIST
RPT-25 TRIPLER & BUFFER MODULE
450 - 470 MHz.

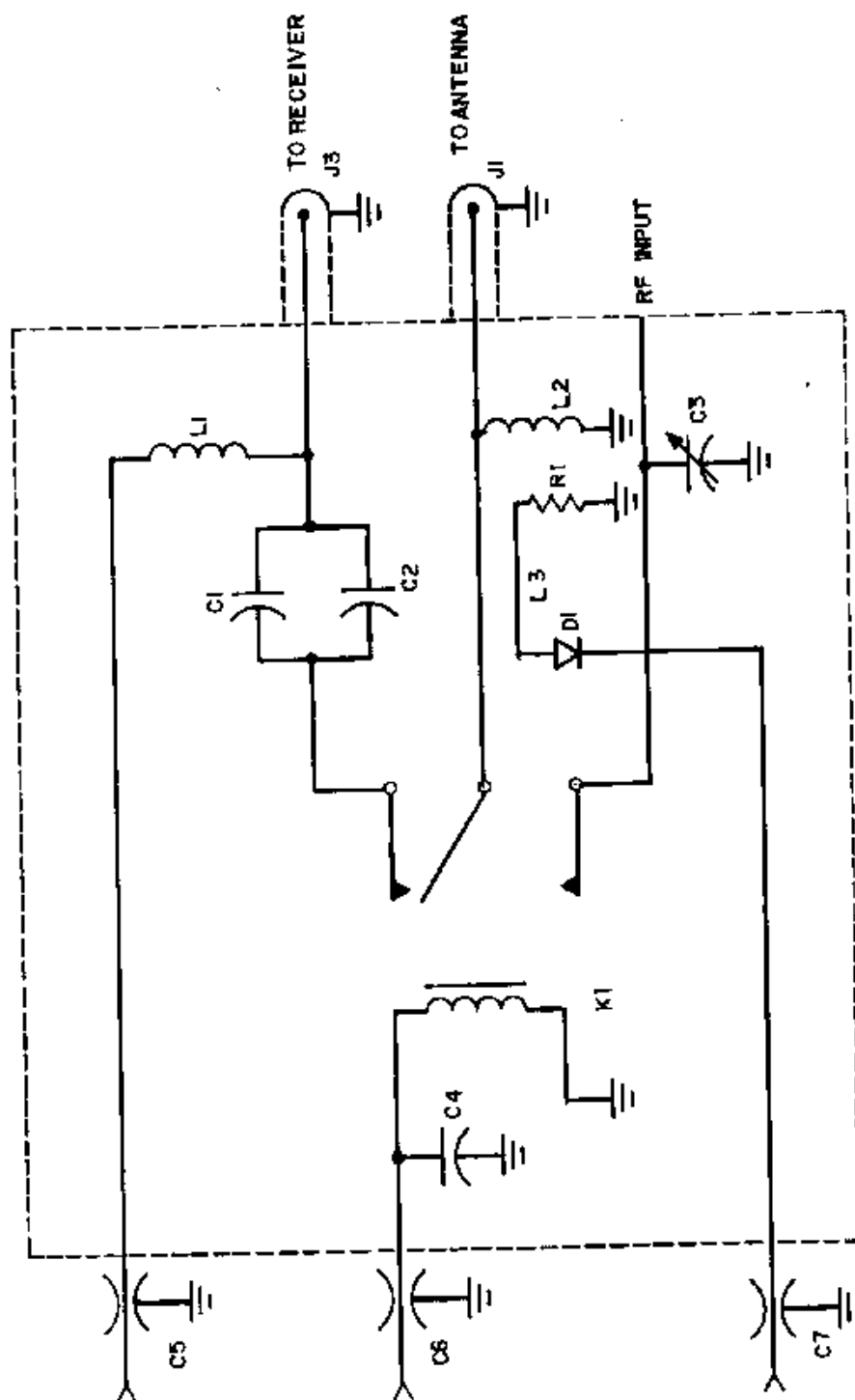
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1 - C2	260-300	Capacitor, Variable, 8-45 pF
C3	255-100	Capacitor, 10 pF, NPO, 5% Disc.
C4	236-152	Capacitor, 1500 pF, 10% 100V
C5	219-080	Capacitor, 10 uF, 25V Electrolytic
C6	217-104	Capacitor, .01 uF, 25V Disc.
C7	260-300	Capacitor, Variable, 8-45 pF
C8 - C10	230-100	Capacitor, Variable
C11	217-104	Capacitor, .01 uF, 25V Disc.
C12	236-152	Capacitor, 1500 pF, 10%, 100V
C13	217-104	Capacitor, .01 uF, 25V Disc.
C14	236-152	Capacitor, 1500 pF, 10%, 100V
C15 - C16	219-080	Capacitor, 10 uF, 25V Electrolytic
C17 - C20	266-102	Capacitor, Feed-thru, 1000 pF
IC-1	461-002	Integrated Circuit, RF, 420-470 MHz. 13W
J1 - J2	550-039	Connector, Phone Jack
L1		Inductor, Marti Special
L2		Inductor, Marti Special
L3 - L4	700-238	Inductor, Strip
L5	330-007	Choke, 1 uH
L6	330-002	Choke, Z-460
PC		Printed Circuit Inductor
Q1	440-312	Transistor, RF Power, 3W
R1	105-150	Resistor, 15 ohm, $\frac{1}{2}$ W 5%
R2	145-470	Resistor, 47 ohm, $\frac{1}{2}$ W 5%
R3	145-562	Resistor, 5.6K, $\frac{1}{2}$ W 5%
R4	105-030	Resistor, 3.3 ohm, $\frac{1}{2}$ W 5%
R5	145-470	Resistor, 47 ohm, $\frac{1}{2}$ W 5%
R7	145-221	Resistor, 220 ohm, $\frac{1}{2}$ W 5%



MARTI Electronics, Inc. PO BOX 641 CLEBURNE, TX 74031	DRAWING NO 800-051-1	REV. 1/18/85	DATE 1/18/85	APPROVED 	USED ON RPT-25	TITLE RF POWER AMP, 450-470 MHZ.	910-004
---	-------------------------	-----------------	-----------------	------------------	-------------------	-------------------------------------	---------

PARTS LIST
RPT-25 RF POWER AMP.
450 - 470 MHz.

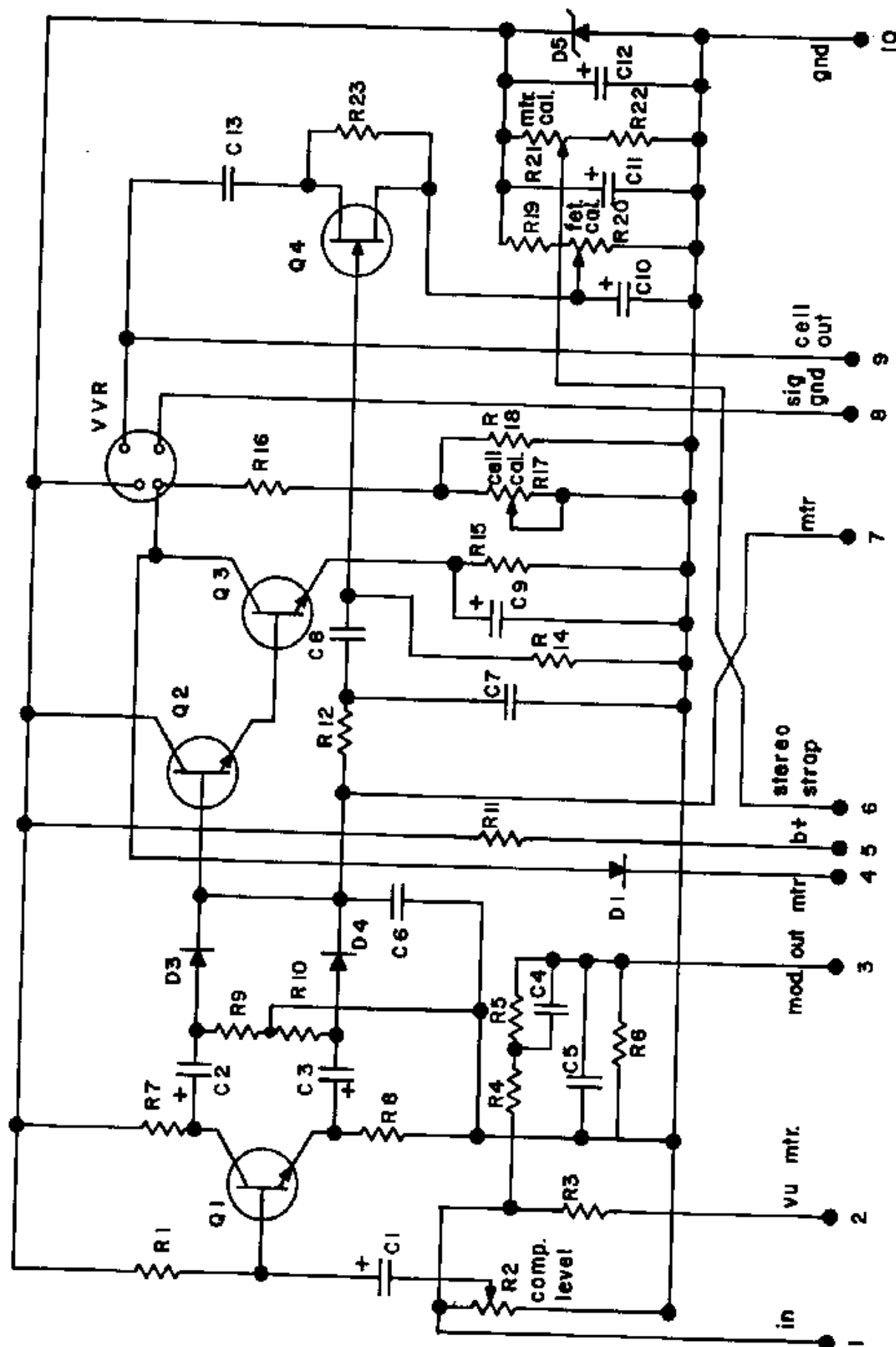
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1	290-522	Capacitor, Variable, 2.5-7 pF
C2	240-330	Capacitor, 33 pF, 350V
C3	266-102	Capacitor, Feed-thru 1000 pF
C4	219-250	Capacitor, 22 uF, 25V Electrolytic 105°
C5	217-104	Capacitor, .01 uF, 25V Disc.
C6	266-102	Capacitor, Feed-thru, 1000 pF
C7	240-330	Capacitor, 33 pF, 350V
C8	230-160	Capacitor, Variable, 1.9 - 15.7 pF
C9	236-501	Capacitor, 500 pF, J-101
C10 ~ C11	260-080	Capacitor, #7295, .8 - 8 pF
C12 - C13	266-102	Capacitor, Feed-thru 1000 pF
C14	255-471	Capacitor, 470 pF 5% 500V
C15	266-102	Capacitor, Feed-thru, 1000 pF
C16	230-160	Capacitor, Variable 1.9 - 15.7 pF
C17	236-501	Capacitor, 500 pF, J-101
D1	410-914	Diode 1N4148
J1	550-037	Connector, UG58 A/U
J2	550-133	Connector, Phone Plug
J3	550-022	Connector, 3505F
J4	550-039	Connector, Phone Jack
L1	513-016	Core, Ceramic Bead, #56-590-65-4B
L2		Inductor, Marti Special
L3	513-016	Core, Ceramic Bead, #56-590-65-4B
L4 - L5	700-231	Inductor, Strip
L6		Inductor, Marti Special
PC		Printed Circuit Inductor
Q1	443-030	Transistor, RF Power 40W
R1	105-030	Resistor, 3.3 ohm, 1/2W 5%
R2	145-333	Resistor, 33K 1/4W 5%
R3	105-030	Resistor, 3.3 ohm, 1/2W 5%
RY2	570-036	RF-Relay 12V



MARTI Electronics, Inc. PO BOX 441 CLEVELAND, TX 76031	DRAWING NO 800-227	REV.	DATE 3/13/84	APPROVED	USED ON RPT25440	TITLE RF RELAY BOARD	910-004
--	-----------------------	------	-----------------	----------	---------------------	-------------------------	---------

PARTS LIST
800-227
RF - RELAY BOARD

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1	268-102	Capacitor, .001 uF Disc.
C2	256-471	Capacitor, 470 pF Disc. Type JL
C3	290-521	Capacitor, Variable 6-20 pF (Used on RPT-40 only)
C4	268-102	Capacitor, .001 uF Disc.
C5 - C7	266-102	Capacitor, Feed-thru 1000 pF
D1	410-666	Diode, FDH666
K1	570-036	Relay, Aromat
L1 - L2		Inductor, MARTI SPECIAL
L3		Inductor, Part of printed circuit board
R1	145-333	Resistor, 33K $\frac{1}{4}$ W 5%

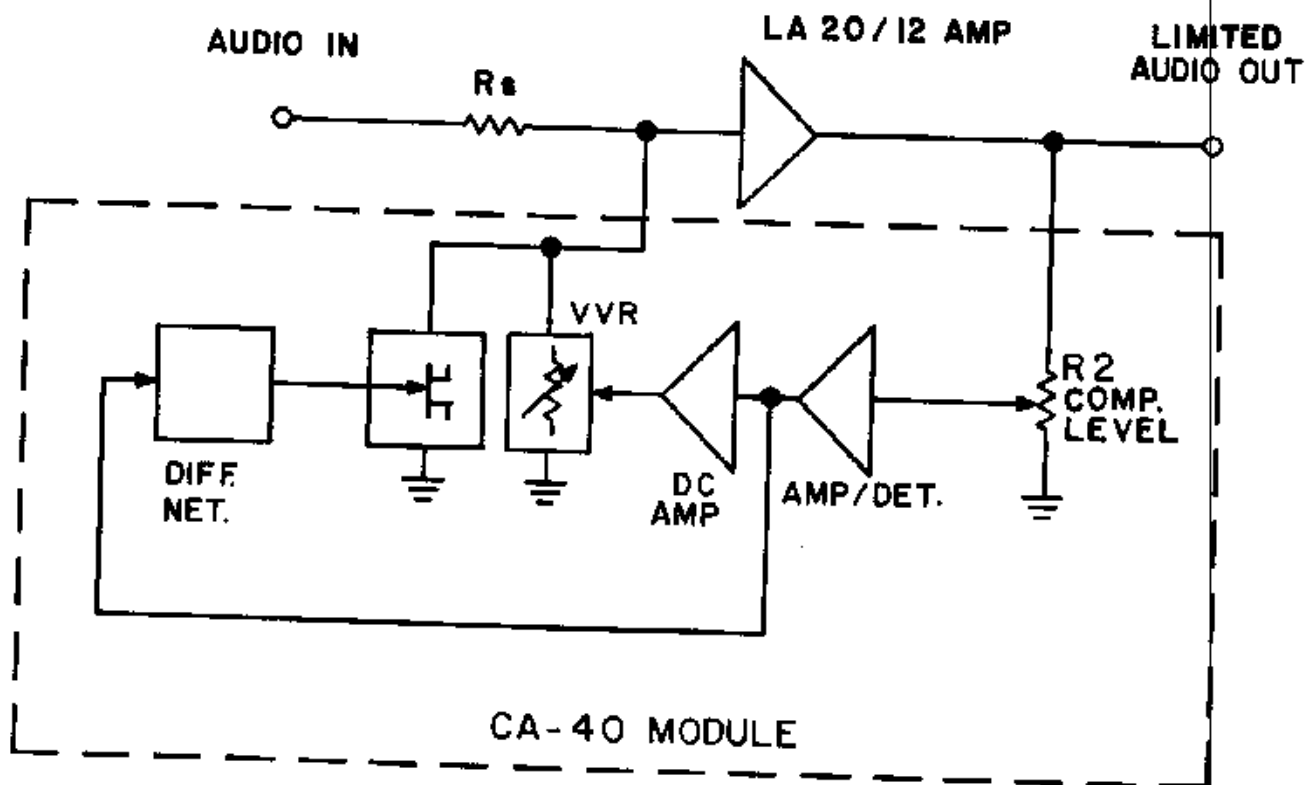


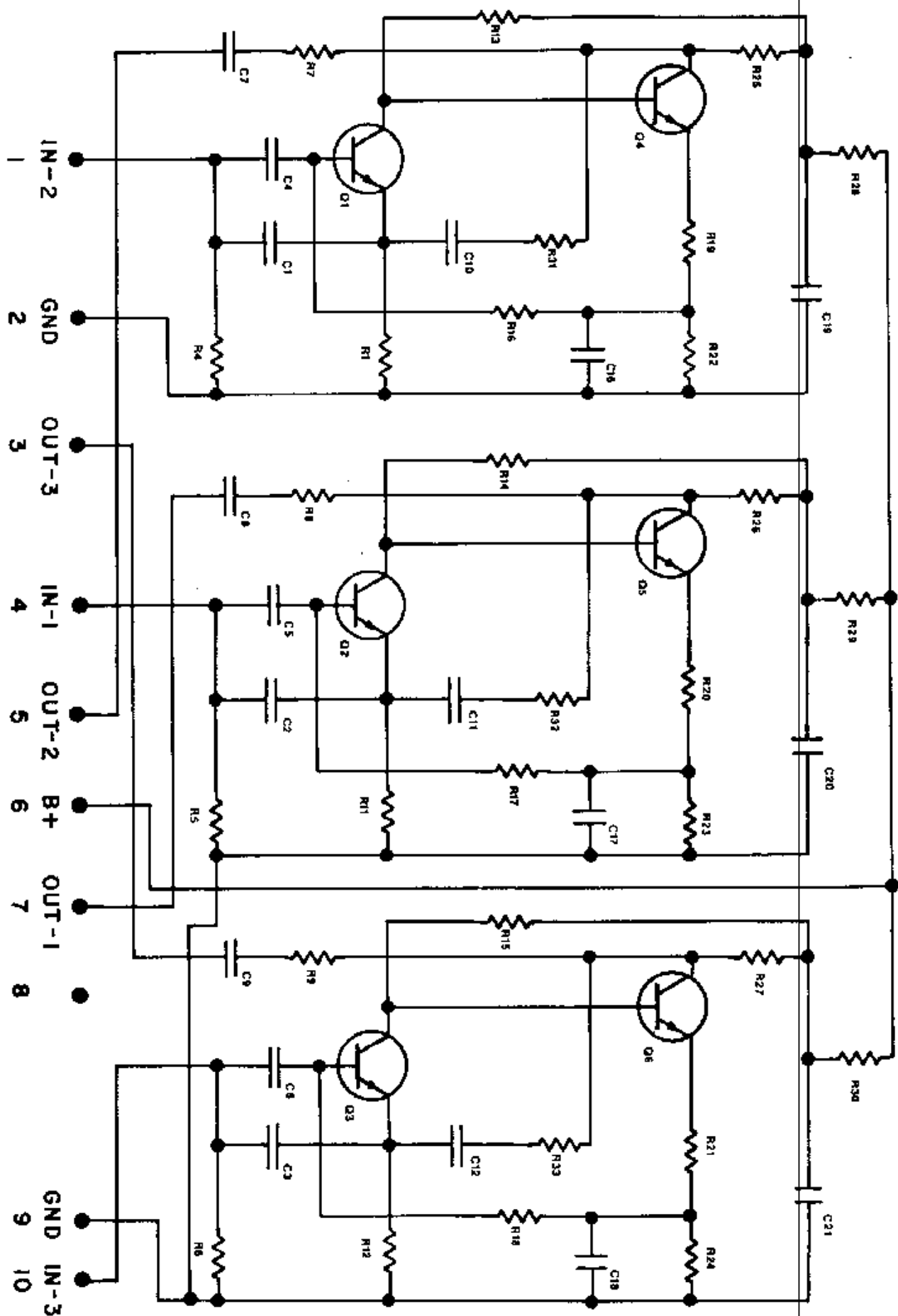
PARTS LIST
LIMITED AMPLIFIER MODULE
MODEL NO. CA-40

ITEM	PART NO.	DESCRIPTION
C1 - C3	219-080	Capacitor, 10 uF, 25V Electrolytic
C4	215-223	Capacitor, .022 uF, 33V 5% Polystyrene
C5	226-224	Capacitor, .22 uF, 100V 5% Polycarbonate
C6	217-104	Capacitor, .01 uF, 25V +80 -20 Disc.
C7	299-220	Capacitor, 2.2 uF, 25V Tantalum
C8	215-333	Capacitor, .033 uF, 33V 5% Polystyrene
C9 - C10	219-200	Capacitor, 22 uF, 25V Electrolytic
C11 - C12	219-121	Capacitor, 150 uF, 25V Electrolytic
C13	219-200	Capacitor, 22 uF, 25V Electrolytic
D1	414-007	Diode, 1N4007
D2 - D4	410-914	Diode, 1N914 or 1N4148
D5	410-110	Diode, SZ11.0A Zener 5% 1N4741
Q1	423-391	Transistor, 2N3391
Q2	425-306	Transistor, 2N5306
Q3	450-001	Transistor, SPS1761
Q4	423-822	Transistor, 2N3822
R1	105-105	Resistor, 1 megohm $\frac{1}{2}$ W 5%
R2	100-522	Potentiometer, 5K ohms, Trimmer
R3	105-222	Resistor, 2.2K ohms, $\frac{1}{2}$ W 5%
R4	105-470	Resistor, 47 ohms, $\frac{1}{2}$ W 5%
R5	105-182	Resistor, 1.8K ohms, $\frac{1}{2}$ W 5%
R6	105-682	Resistor, 6.8K ohms, $\frac{1}{2}$ W 5%
R7 - R8	105-272	Resistor, 2.7K ohms, $\frac{1}{2}$ W 5%
R9 - R10	105-184-1	Resistor, 180K ohms, $\frac{1}{2}$ W 5%
R11	115-820	Resistor, 82 ohms, 1W 5%
R12	105-473	Resistor, 47K ohms, $\frac{1}{2}$ W 5%
R14	105-474-1	Resistor, 470K ohms, $\frac{1}{2}$ W 5%
R15	105-150	Resistor, 15 ohms, $\frac{1}{2}$ W 5%
R16	105-821	Resistor, 820 ohms, $\frac{1}{2}$ W 5%
R17	100-501	Potentiometer, 500 ohms, Trimmer
R18	105-272	Resistor, 2.7K ohms, $\frac{1}{2}$ W 5%
R19	105-682	Resistor, 6.8K ohms, $\frac{1}{2}$ W 5%
R20 - R21	100-522	Potentiometer, 5K ohm, Trimmer
R22	105-152	Resistor, 15K ohms, $\frac{1}{2}$ W 5%
R23	105-184-1	Resistor, 180K ohms, $\frac{1}{2}$ W 5%
VVR	451-001	Voltage-Variable Resistor
	800-016	Board, P.C.
	700-024	Module Metal Assembly

THEORY OF OPERATION OF THE MARTI CA-40 SOLID STATE COMPRESSOR/LIMITER MODULE

The Marti CA-40 compressor/limiter unit operates on the variable audio attenuator principle. A full wave audio detector provides a voltage proportional to audio peak level which controls a voltage variable resistor (VVR) average level attenuator. This VVR device has a very large dynamic operating range, adds no audio distortion but has a comparatively slow attack time. For instantaneous control of short rise time audio waveforms, the control voltage is differentiated and applied to the gate of a field effect transistor. This device is connected in parallel with the VVR, and serves as an extremely fast attenuator, operating only on short rise time waveforms, thus complimenting the slower VVR device. The result is a compressor with a 40 db dynamic range and a limiter with microseconds attack time.





MARTI
Electronics, Inc.
PO BOX 441
CUE BUENE, TX 76031

DRAWING NO

800-010-1

REV.

A

DATE

8/3/83

APPROVED

USED ON

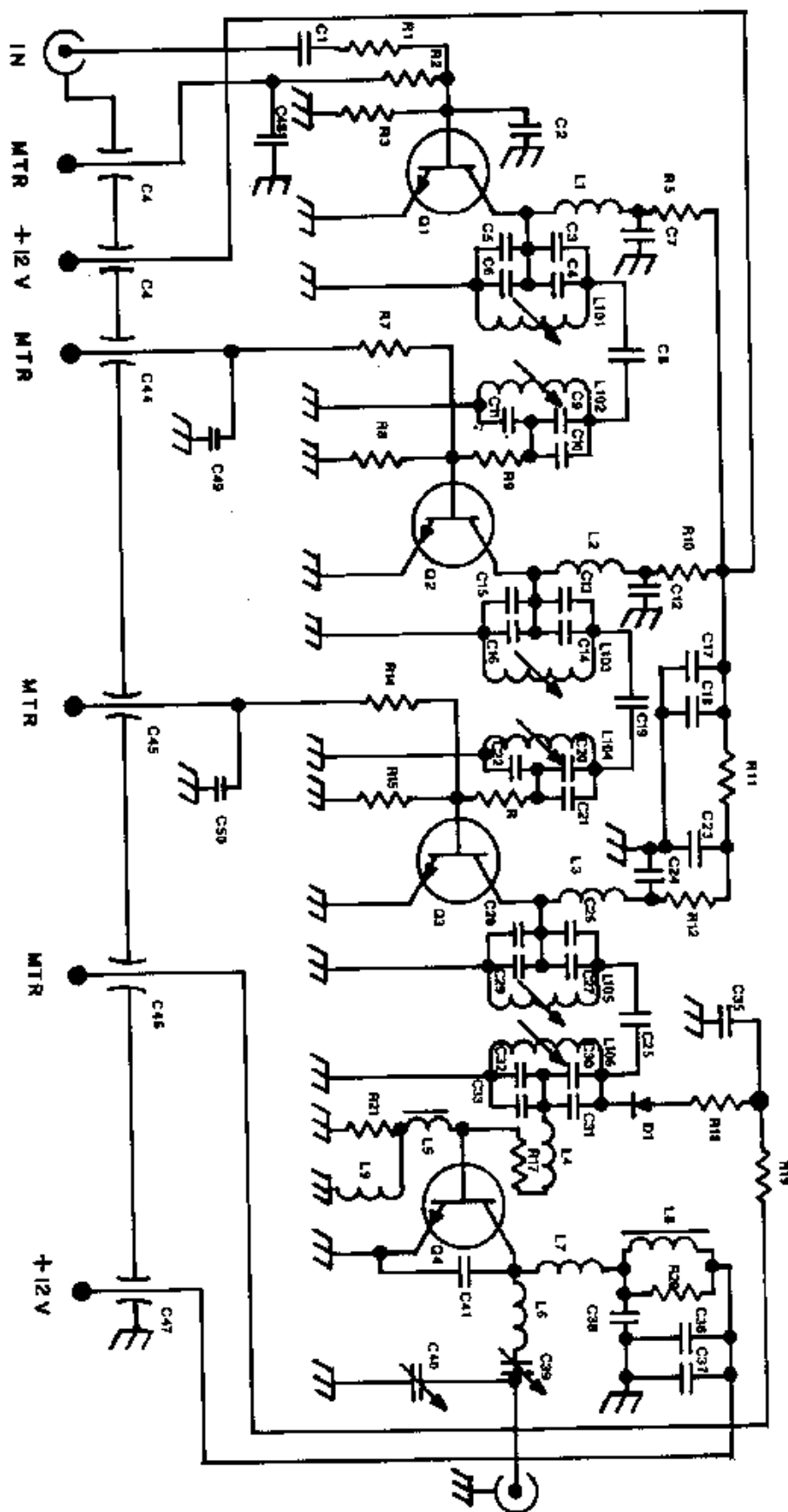
TITLE

MA-3

Microphone Preamplifier

PARTS LIST
MA-3 MIKE PRE-AMPLIFIER

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1 - C3	253-471	Capacitor, 470 pF Y5P Disc.
C4 - C12	219-200	Capacitor, 22 uF, 25V Electrolytic
C16 - C18	219-121	Capacitor, 150 uF, 25V Electrolytic
C19 - C21	219-500	Capacitor, 47 uF, 63V
Q1 - Q6	423-391	Transistors, 2N3391
R4 - R6	105-102-1	Resistors, 1K ohm, $\frac{1}{2}$ W 5%
R7 - R9	105-103-1	Resistors, 10K $\frac{1}{2}$ W 5%
R10 - R12	145-471-1	Resistors, 470 ohm, $\frac{1}{4}$ W Corning
R13 - R15	105-393	Resistors, 39K ohm, $\frac{1}{2}$ W 5%
R16 - R18	105-184-1	Resistors, 180K ohm, $\frac{1}{2}$ W 5%
R19 - R21	145-471	Resistors, 470 ohm, $\frac{1}{4}$ W 5%
R22 - R24	105-681	Resistors, 680 ohm, $\frac{1}{2}$ W 5%
R25 - R27	105-392	Resistors, 3.9K ohm, $\frac{1}{2}$ W 5%
R28 - R30	105-102-1	Resistors, 1K ohm, $\frac{1}{2}$ W 5%
R31 - R33	145-683-1	Resistors, 68K, $\frac{1}{4}$ W Corning
	700-024	Module Metal Assembly
	800-010	Board, P.C. MA-3



MARTI Electronics Inc.
PO BOX 461 CLEBURNE, TX 76031

DRAWING NO
800-019-3

REV.
DATE
7-20-83

APPROVED
USED ON
RPT 25
RPT 40

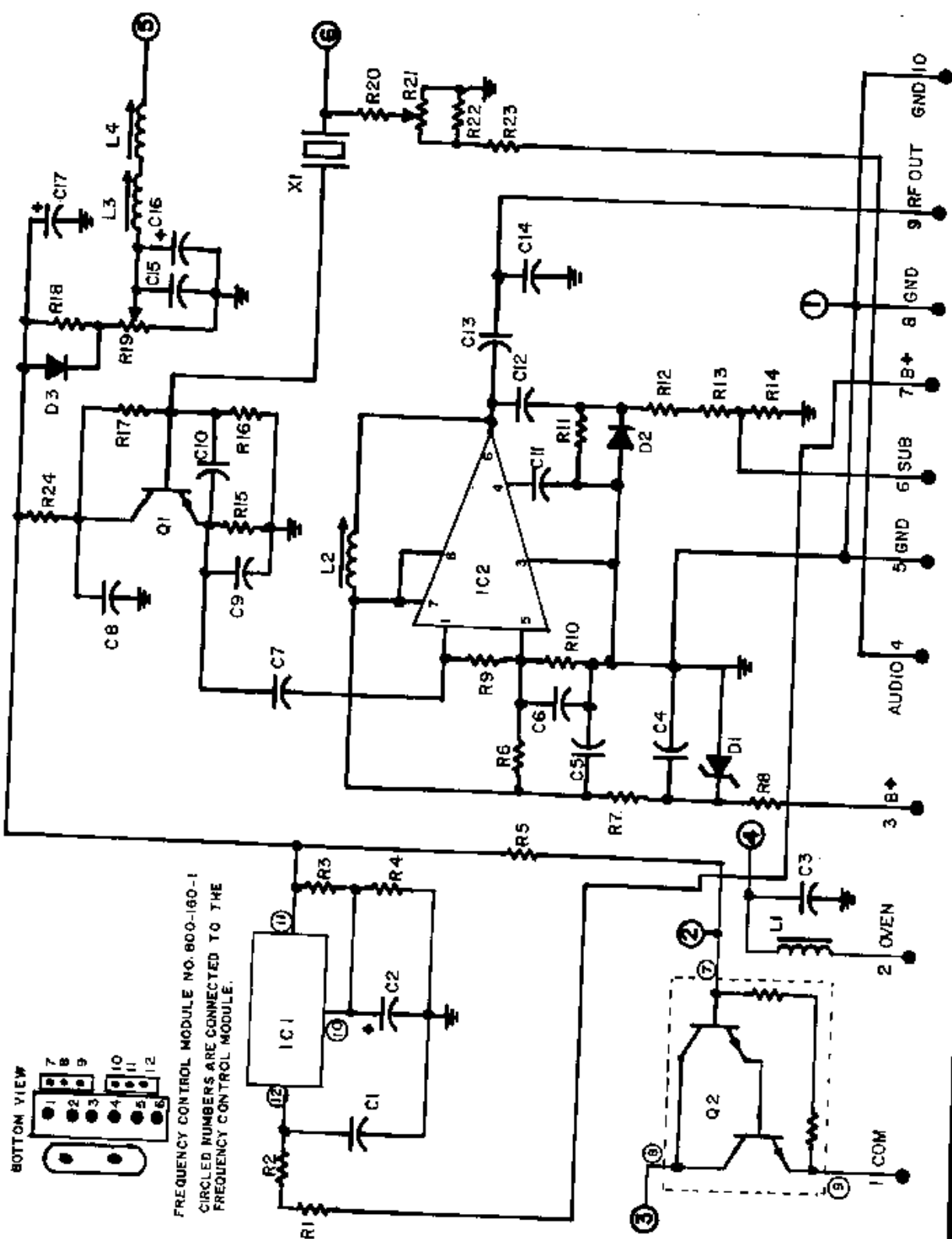
TITLE
MULTIPLIER

PARTS LIST
MULTIPLIER BOARD
MODEL NO. 800-019-3
150 - 170 MHz.

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1	217-104	Capacitor, 0.01 uF, 25V Disc.
C2	255-220	Capacitor, 22 pF, NPO, 500V 5% Disc.
C3	255-180	Capacitor, 18 pF, NPO, 500V 5% Disc.
C5	255-470-1	Capacitor, 47 pF, 500V 5% Silver Mica
C7	217-104	Capacitor, 0.01 uF, 25V +80 -20% Disc.
C8	255-010	Capacitor, 1.0 pF, 500V 5% Type QC
C9	255-180	Capacitor, 18 pF, NPO, 500V 5% Disc.
C11	295-390	Capacitor, 39 pF, 500V NPO Disc.
C12	268-102	Capacitor, 0.001 uF, Z5U, 500V Disc.
C13	256-680	Capacitor, 68 pF, 500V 5% Silver Mica
C14	255-050	Capacitor, 5 pF, NPO, 500V Disc.
C15	255-220	Capacitor, 22 pF, NPO, 500V Disc.
C16	255-270	Capacitor, 27 pF, NPO 500V Disc.
C17	268-102	Capacitor, 0.001 uF, Z5U, 500V Disc.
C18	217-104	Capacitor, .01 uF, Z5U, 500V Disc.
C19	255-010	Capacitor, 1.0 pF, 500V 5% Type QC
C20	295-390	Capacitor, 39 pF, NPO, 500V
C22	256-680	Capacitor, 68 pF, 500V 5% Silver Mica
C23	219-080	Capacitor, 10 uF, 25V Electrolytic
C24	268-102	Capacitor, 0.001 uF, Z5U, 500V Disc.
C25	255-040	Capacitor, 3.9 pF, 500V 5% Type QC
C26	295-390	Capacitor, 39 pF, NPO, 500V 5% Disc.
C27	255-150	Capacitor, 15 pF, NPO, 500V 5% Disc.
C28	295-390	Capacitor, 39 pF, NPO, 500V 5% Disc.
C31	255-270	Capacitor, 27 pF, NPO, 500V 5% Disc.
C33	295-390	Capacitor, 39 pF, NPO, 500V 5% Disc.
C35	256-471	Capacitor, 470 pF, JL, 500V 10% Disc.
C36	219-080	Capacitor, 10 uF, 25V Electrolytic
C37	217-103	Capacitor, 0.1 uF, 25V +80 -20% Disc.
C38	256-471	Capacitor, 470 pF JL, 500V 10%
C39 - C40	260-300	Capacitor, C4003/OB 8-45 pF Variable
C41	255-270	Capacitor, 27 pF, NPO, 500V 5% Disc.
C42 - C47	266-102	Capacitor, Feed-thru, 1000 pF, 500V
C48 - C50	268-102	Capacitor, .001 uF, 500V Disc.
D1	412-494	Diode, 1N270
L1	330-012	Choke, 18 uH
L2	330-006	Choke, 3.9 uH
L3	330-007	Choke, 1 uH
L4	350-070	Coil, Marti
L5	350-071	Choke, Ferrite
L6	350-072	Coil, Marti

PARTS LIST
MULTIPLIER BOARD (Page 2)
MODEL NO. 800-019-3
150 - 170 MHz.

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
L7	350-073	Coil, Marti
L8	350-122	Choke, 21 Turn Toroid
L9	330-012	Choke, 18 uH
L101 - L102	350-042	Inductor, Variable 20 $\frac{1}{2}$ Turn
L103 - L104	350-043	Inductor, Variable 4 $\frac{1}{2}$ Turn
L105 - L106	350-038	Inductor, Variable 1 $\frac{1}{2}$ Turn
Q1 - Q2	420-090	Transistor, BFY 90
Q3 - Q4	424-427	Transistor, RF Power, SRF 944
R1	145-101	Resistor, 100 ohm $\frac{1}{4}$ W 5%
R2	145-103	Resistor, 10K ohm $\frac{1}{4}$ W 5%
R3	145-222	Resistor, 2.2K ohm $\frac{1}{4}$ W 5%
R5	105-331	Resistor, 330 ohm $\frac{1}{2}$ W 5%
R7	145-153	Resistor, 15K ohm $\frac{1}{4}$ W 5%
R8	145-272	Resistor, 2.7K ohm $\frac{1}{4}$ W 5%
R9	145-030	Resistor, 3.3 ohm $\frac{1}{4}$ W 5%
R10	105-271	Resistor, 270 ohm $\frac{1}{2}$ W 5%
R11	105-030	Resistor, 3.3 ohm $\frac{1}{2}$ W 5%
R12	105-680	Resistor, 68 ohm $\frac{1}{2}$ W 5%
R14	145-103	Resistor, 10K ohm $\frac{1}{4}$ W 5%
R15	145-102	Resistor, 1K ohm $\frac{1}{4}$ W 5%
R16	145-030	Resistor, 3.3 ohm $\frac{1}{4}$ W 5%
R17	105-100	Resistor, 10 ohm $\frac{1}{4}$ W 5%
R18	145-472	Resistor, 4.7K ohm $\frac{1}{4}$ W 5%
R19	145-683	Resistor, 68K ohm $\frac{1}{4}$ W 5%
R20 - R21	105-150	Resistor, 15 ohm $\frac{1}{2}$ W 5%

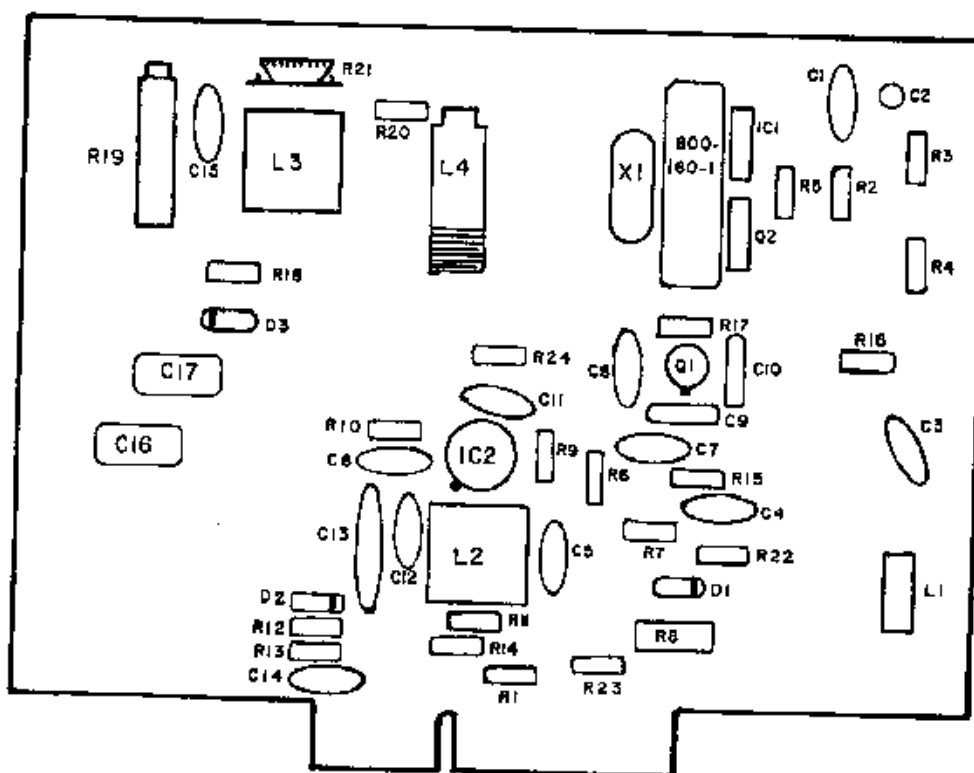


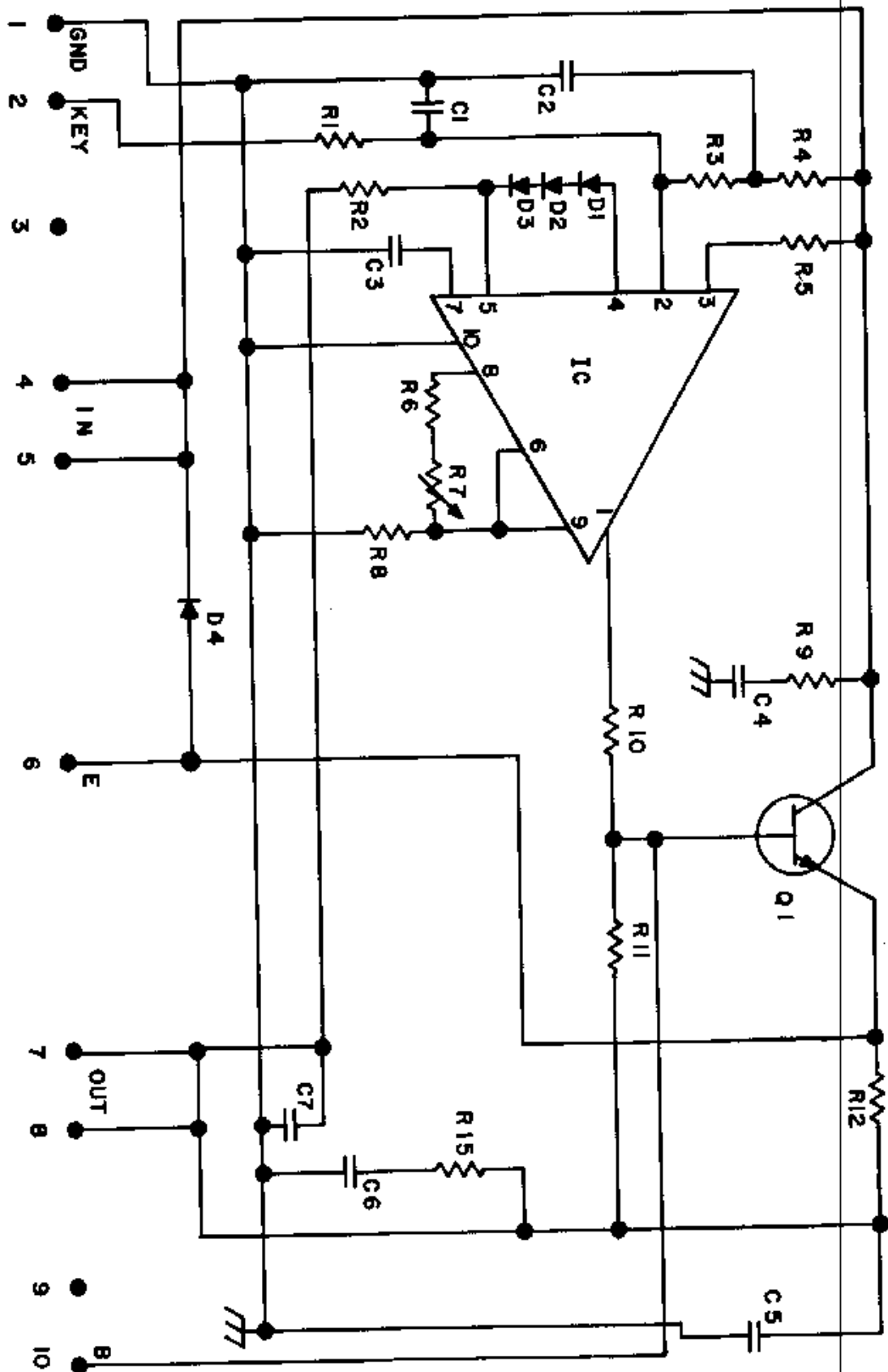
PARTS LIST
DFM-1D1
800-018-5

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1	217-104	Capacitor, .01 uF, 25V 20% Disc.
C2	299-470	Capacitor, 4.7 uF, 16V 10% Tantalum
C3 - C6	217-104	Capacitor, .01 uF, 25V 20% Disc.
C7	256-750	Capacitor, 75 pF, 500V 5% Disc.
C8	217-104	Capacitor, .01 uF, 25V 20% Disc.
C9	255-161	Capacitor, 160 pF, 5% MICA
C10	255-271	Capacitor, 270 pF, 5% MICA
C11	217-104	Capacitor, .01 uF, 25V 20% Disc.
C12	255-100	Capacitor, 10 pF, 500V 5% Disc.
C13	255-680	Capacitor, 68 pF, 500V 5% Silver Mica
C14	255-270	Capacitor, 27 pF, 500V 5% Disc.
C15	217-104	Capacitor, .01 uF, 25V 20% Disc.
C16 - C17	219-080	Capacitor, 10 uF, 25V Electrolytic
D1	410-110	Diode, Zener 11V, 1W 1N4741A
D2	414-007	Diode, 1N4007
D3	410-914	Diode, 1N4148
IC1	400-317	Integrated Circuit, 1.5 AMP Regulator LM317T
IC2	406-010-1	Integrated Circuit, CA3028A
L1	330-012	Choke, 18 uH
L2	350-025	Coil, Variable 1.5-3 uH 387-3
L3	350-030	Coil, Variable 3-7 uH 387-7
L4	350-041	Coil, Variable 9.5 Turn
Q1	440-245	Transistor, SRF3017
Q2	450-110	Transistor, TIP110
R1 - R2	145-030	Resistor, 3.3 ohm, $\frac{1}{4}$ W 5%
R3	145-241-1	Resistor, 240 ohm, $\frac{1}{4}$ W 2% Corning
R4	145-122-1	Resistor, 1200 ohm, $\frac{1}{4}$ W 2% Corning
R5	145-182-1	Resistor, 1800 ohm, $\frac{1}{4}$ W 2% Corning
R6	145-332	Resistor, 3.3K ohm, $\frac{1}{4}$ W 5%
R7	145-300	Resistor, 30 ohm, $\frac{1}{4}$ W 5%
R8	105-151	Resistor, 150 ohm, $\frac{1}{4}$ W 5%
R9	145-102	Resistor, 1K ohm, $\frac{1}{4}$ W 5%
R10	145-272	Resistor, 2.7K ohm, $\frac{1}{4}$ W 5%
R11	145-153	Resistor, 15K ohm, $\frac{1}{4}$ W 5%
R12	145-683	Resistor, 68K ohm, $\frac{1}{4}$ W 5%

PARTS LIST
DFM-1D1
800-018-5

REF.	MARTI P/N	DESCRIPTION
R13	145-223	Resistor, 22K ohm, $\frac{1}{4}$ W 5%
R14	145-102	Resistor, 1K ohm, $\frac{1}{4}$ W 5%
R15	145-102-1	Resistor, 1K ohm, $\frac{1}{4}$ W 2% Corning
R16	145-272-1	Resistor, 2.7K ohm, $\frac{1}{4}$ W 2% Corning
R17	145-123-1	Resistor, 12K ohm, $\frac{1}{4}$ W 2% Corning
R18	145-121-1	Resistor, 120 ohm, $\frac{1}{4}$ W 2% Corning
R19	100-202	Pot, 2K ohm 20 Turn
R20	145-473	Resistor, 47K ohm, $\frac{1}{4}$ W 5%
R21	100-104-1	Pot, 100K ohm
R22	145-223	Resistor, 22K ohm, $\frac{1}{4}$ W 5%
R23	145-102	Resistor, 1K ohm, $\frac{1}{4}$ W 5%
R24	145-030	Resistor, 3.3 ohm, $\frac{1}{4}$ W 5%





PARTS LIST
ER 12/7
POWER SUPPLY MODULE

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1	217-104	Capacitor, .01 uF, 25V 20% Disc.
C2	219-080	Capacitor, 10 uF, 25V Electrolytic
C3 - C4	226-104	Capacitor, 0.1 uF, 100V 10% Polycarbonate
C5 - C6	217-103	Capacitor, 0.1 uF, 25V +80 -20% Disc.
C7	219-121	Capacitor, 150 uF, 25V Electrolytic
D1	412-494	Diode, 1N270
D2 - D3	410-914	Diode, 1N914 or 1N4148
D4	414-007	Diode, 1N4007
IC	401-461	Integrated Circuit MC1461G
Q1	425-297	Transistor, TIP-31 A-C or 2N5297
R1 - R2	105-100	Resistor, 10 ohm, $\frac{1}{2}$ W 5%
R3	105-562	Resistor, 5.6K, $\frac{1}{2}$ W 5%
R4	105-103-1	Resistor, 10K, $\frac{1}{2}$ W 5%
R5	105-030	Resistor, 3.3 ohm, $\frac{1}{2}$ W 5%
R6	105-183	Resistor, 18K, $\frac{1}{2}$ W 5%
R7	100-522	Potentiometer, 5K Trimmer
R8	105-682	Resistor, 6.8K, $\frac{1}{2}$ W 5%
R9	115-030	Resistor, 3.3 ohm, 1W 5%
R10	105-030	Resistor, 3.3 ohm, $\frac{1}{2}$ W 5%
R11	105-471	Resistor, 470 ohm, $\frac{1}{2}$ W 5%
R12	115-470	Resistor, 47 ohm, 1W 5%
R15	115-030	Resistor, 3.3 ohm, 1W 5%
	520-022	Heat Radiator for IC
	800-020-2	Board, P.C.

CABLE INFORMATION

I. BASE STATION

A. Cables Required

1. 585-006; Base Station Antenna Cable for BR-10 Receiver
2. 585-038-1; Mute Cable for RPT Transmitter

B. Installation

1. 585-006; Connects to J3 of Transmitter to J6 of Receiver
2. 585-038-1; Connects to J2 of Transmitter to J4 of Receiver

II. AUTOMATIC REPEATER

- A. Cable Required: 585-001-2; Automatic Repeater Cable for RPT-Series Transmitter

B. Installation

1. Place BR-10 Receiver below Transmitter in Rack Shelf.
2. 585-001-2; Connects to J5 Accessory Jack on Side of Transmitter to J4 of Receiver.

III. MOBILE REPEATER USING AR-10 RECEIVER

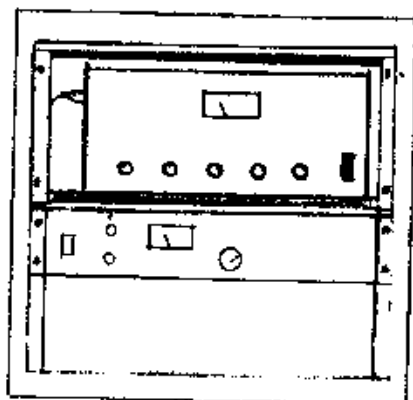
- A. Cable Required: 585-001-1; Mobile Repeat Cable for RPT-Series Transmitter

B. Installation

1. Place AR-10 Receiver and RPT-Series Transmitter in vehicle desired. Both units must be grounded to chassis for proper operation.
2. 585-001-1; Connects from J5 accessory jack on transmitter to J4 accessory on receiver.
3. Audio Level from output of AR-10 receiver, J4, to input of RPT Transmitter, J5, is adjusted by setting input no. 4 to desired level of compression; approximately 3 db.
4. NOTE: AR-10 receiver is powered by the RPT transmitter through the 585-001-1 cable. DO NOT plug in receiver to AC while using the cable.

INSTALLATION OF RPT-25/RPT-40 TRANSMITTER WITH BR-10/150 or BR-10/450
RECEIVER FOR BASE STATION OPERATION

FRONT

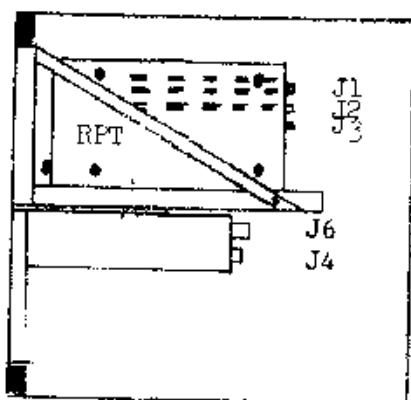


RPT-25/RPT-40 TRANSMITTER MOUNTED
ON RMH-2 RACK SHELF.

PLUG PUSH-TO TALK MICROPHONE CABLE INTO
INPUT NO. 1. TURN UP INPUT 1 GAIN POT.

MOUNT BR-10/150, BR-10/450 RECEIVER DIRECTLY
BELOW TRANSMITTER.

SIDE



Antenna feedline

TO J1 of RPT

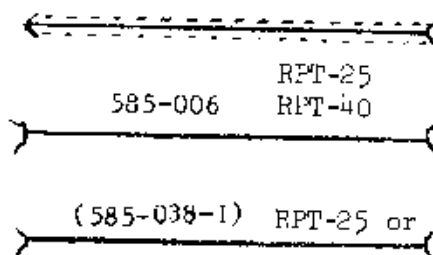
TO ANTENNA

TO J3 of RPT

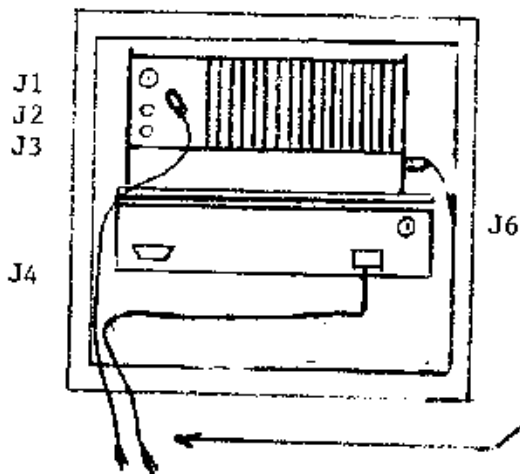
J6 of Receiver

TO J2 of RPT

J4 of Receiver



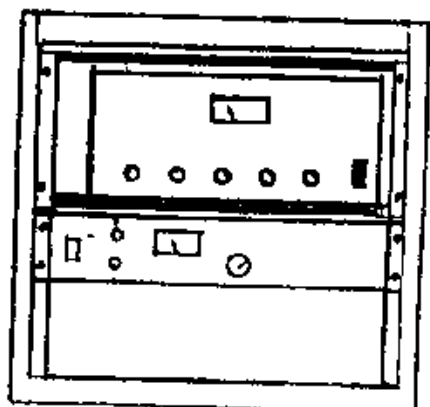
REAR



AC POWER CABLES

INSTALLATION OF RPT-25/RPT-40 TRANSMITTER WITH BR-10/150 or BR-10/450
IN AUTOMATIC REPEATER

FRONT

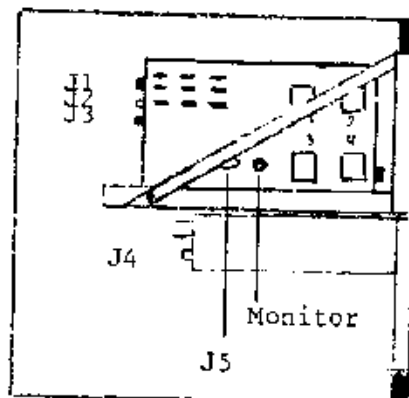


RPT-25/RPT-40 TRANSMITTER MOUNTED
ON RMH-2 RACK SHELF.

SET INPUT NO. 4 TO DESIGNATED POSITION
ON FRONT PANEL, APPROXIMATELY 10 o'clock.

MOUNT BR-10/150, BR-10/450 RECEIVER DIRECTLY
BELOW TRANSMITTER.

SIDE



ANTENNA FEEDLINE

TO J1 of RPT

TO ANTENNA

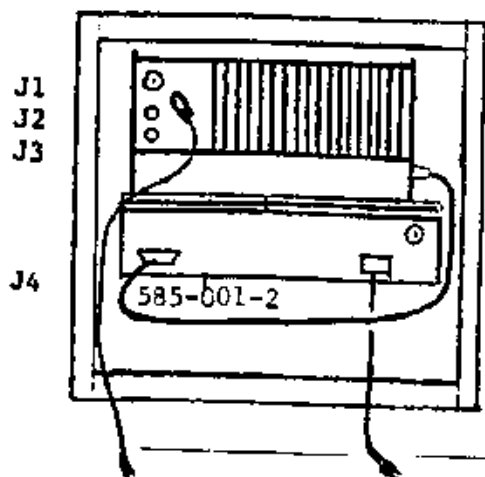
NOTE: THE ANTENNA FEEDLINE WILL GO TO A DUPLEXER WHICH
FEEDS BOTH TRANSMITTER AND RECEIVER OR IF TWO ANTENNA
ARE USED, A BAND PASS CAVITY IS REQUIRED IN FRONT OF
RECEIVER.

TO J5 of RPT

(585-001-2) RPT-25

J4 TO RECEIVER

REAR



AC POWER CABLES

MOBILE REPEATER INFORMATION

ACCESSORY, J₅, ON TRANSMITTER.



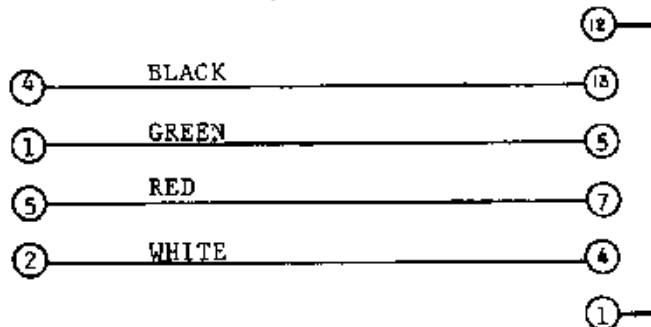
J₅ Accessory

1. Ground
2. Audio
3. Mute
4. Keying
5. B+

CABLE, 585-001-1

To 5 pin connector
on Transmitter, J₅

To 15 pin connector on*AR-Receiver, J₄



*Pin Functions listed
in BR manual

SPECIAL NOTES:

In vehicle installation, if one antenna is used a duplexer is required. If two antennas are used, a bandpass cavity should be used in front of the receiver. The transmit & receive antenna should be separated as far as possible.

RPT 25 AND RPT 40 TRANSMITTERS TEST REPORT

CUSTOMER: _____

ADDRESS: _____

MODEL NO: _____

SERIAL NO: _____

FREQUENCY NO. 1: _____

FREQUENCY NO. 2: _____

POWER OUTPUT: _____ WATTS

DEVIATION $\pm$ _____ KHz.

METER POSITION

TYPICAL READING

1

90 - 100

2

40 - 80

3

30 - 100

4

30 - 90

5

25 - 60

6

60 - 100

7

90 - 120

8

105 - 115

9

20 - 50 (ON RPT-25 ONLY)

10

Meter Readings Satisfactory

☐

Response within Specifications

☐

Distortion within Specifications

☐

Signal to Noise within Specifications

☐

VCC & B+ 13.2 Volts

☐

TEST EQUIPMENT

Frequency Counter H-P Model 5383A
SN 716A01381
Deviation Monitor WAVETEK
Model 4101

DATE: _____

SIGNATURE: _____