

2287

INSTRUCTION MANUAL  
MODELS RPT2 AND RPT15  
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 within one year from the date of shipment (two years for STL's).

The Seller is in no event liable for consequential damages, installation cost or other costs 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 Seller's products.

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TABLE OF CONTENTS

	<u>PAGE</u>
General Description of RPT2 and RPT15 . . . . .	1
Specifications, RPT2 . . . . .	2
Specifications, RPT15 . . . . .	3
Unpacking and Installation . . . . .	4
Antennas . . . . .	7
Microphone Connections . . . . .	9
Operating Instructions . . . . .	10
Battery Information (RPT2) . . . . .	13
Operating Procedure (Summary) . . . . .	14
Tools and Equipment Required . . . . .	15
Location of Adjustments (Drawing) . . . . .	16
Factory Test Report . . . . .	17
Tune-up Procedure and Adjustments . . . . .	18
Function of Semiconductors RPT2 . . . . .	22
Function of Semiconductors RPT15 . . . . .	24
Block Diagram RPT2 . . . . .	25
Block Diagram RPT15 . . . . .	26
Schematic, Main Frame RPT2 . . . . .	27
Parts List, Main Frame RPT2 . . . . .	28
Schematic, Main Frame RPT15 . . . . .	29
Parts List, Main Frame RPT15 . . . . .	30
Schematic, Audio Board . . . . .	31
Parts List, Audio Board . . . . .	32
Schematic, Modulator . . . . .	35
Parts List, Modulator . . . . .	36
Schematic, Multiplier . . . . .	37
Parts List, Multiplier . . . . .	38

TABLE OF CONTENTS CONTINUED

	<u>PAGE</u>
Schematic, 2.5 Watt RF Amp. RPT2 . . . . .	42
Parts List, 2.5 Watt RF Amp. RPT2 . . . . .	43
Schematic, 15 Watt RF Amp. RPT15 . . . . .	45
Parts List, 15 Watt RF Amp. RPT15 . . . . .	46
Schematic & Parts, Antenna Relay, Option "01" . . . . .	49
Schematic, Power Supply RPT2 . . . . .	50
Parts List, Power Supply RPT2 . . . . .	51
Schematic, Power Supply RPT15 . . . . .	52
Parts List, Power Supply RPT15 . . . . .	53
Parts Location, P. C. Boards . . . . .	54

## GENERAL

Marti Model RPT2 and RPT15 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 on. Refer to the specification sheet for a listing of the various models offered for available bandwidths. 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. The RPT2 and RPT15 transmitters operate from both 115 volt, 50-60 Hz. AC commercial power and 11 to 14 volt battery (Negative ground) supply. In addition, the RPT 2 can operate from an internal (optional) rechargeable NI-CAD Battery. Two audio input channels are provided with individual mixing gain controls. A meter and selector switch are provided for monitoring audio compression, RF output and power supply voltage. 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.

MARTI MODEL RPT 15-150 AND RPT 15-450

Portable/Mobile Broadcast Remote Pickup Transmitters

FEATURES: \*15 Watts Output (continuous). \*Portable or mobile operation (AC power supply built in). \*Direct FM modulator for highest quality. \*All Solid-State. \*Dual frequency operation. (One Crystal Included). \*Meter indicates audio compression, RF output, or power supply voltage. \*Broadcast quality Compressor/Limiter handles toughest remote pickup conditions. \*Microphone input (push-to-talk) and Hi-Level input with Mixing gain controls. \*Continuous Subaudible Tone Encoding (Standard) for use with Mobile repeater, Automatic Repeater, signaling and recording.

SYSTEM SPECIFICATIONS RPT 15 SERIES

FCC FREQ. GROUP	MARTI TRANSMITTER	TYPE EMISSION	DEVIATION KHz.	FREQUENCY RESPONSE-Hz. ±1.5	NOISE DISTORTION	NOISE DB*
K,L	RPT15-150L	25F3	5	50-7,500	2% or less	-50
N2	RPT15-450N	25F3	5	50-7,500	2% or less	-50
N1, R	RPT15-450R	50F3	7.5	50-10,500	2% or less	-53
P	RPT15-450P	10F3	1.5	50-3,000	2% or less	-40

\*HIGH LEVEL INPUT, NO ENCODING

SPECIFICATIONS

Application.....Broadcast Remote Pickup, portable or mobile operation.	Audio Input Level.....Microphone input level can be from -70 DB to -35 DB. Tape input level can be from 0.2 volts to 2 volts rms, 8-600 ohms.
Frequency Band..Model RPT 15-150 - 152-170 MHz Model RPT 15-450 - 450-456 MHz	
Crystal Multiplication..Model RPT 15-150: 12 Model RPT 15-450: 24	Audio Input Impedance....Will accept microphone from 150 to 500 ohms.
Frequency Stability.....-30°C to +50°C RPT 15-150 ±.0005% RPT 15-450 ±.00025%	Audio Connector....Input No. 1 (XRL-4-31). Input No. 2 miniature phone jack.
Dual Frequency.....Selectable dual frequency operation. Separation 1.1% max.	Power Require ments.....110-125V. AC. 50-60 Hz., 12.6 V.DC Neg. gnd.) 2.60 Amps.
Spurious Emission.....Meets FCC Requirements	Modulation Control.....Broadcast quality Compressor/Limiter built in.
RF Output.....15 Watts, max. into 50 ohms.	Metering....Panel meter indicates audio compression, RF output, power supply DC.
RF Connector....SO-239	Weight.....4.4 kg net; 6.4 kg gross 9½ lbs. Net 14 lbs. gross
Operating Temp. Range.....-10°C to +45°C.	Dimensions...8 3/4" wide x 3 3/4" high x 12½" deep
Modulation.....See System Specs.	
Audio Inputs...One microphone input (Push- to-talk) and one high level unbalanced input. Individual mixing gain controls	

MARTI MODEL RPT2-150 AND RPT2-450

Portable/Mobile Broadcast Remote Pickup Transmitters

FEATURES: \*Portable or mobile operation from AC, external DC, or internal rechargeable battery (optional). \*Direct FM modulator for highest quality. \*All Solid-State. \*Dual frequency operation. (One Crystal Included). \*Meter indicates audio compression, RF output, or power supply voltage. \*Antenna can be mounted directly on unit. \*Broadcast quality Compressor/Limiter handles toughest remote pickup conditions. \*Microphone input (push-to-talk) and Hi-Level, encoding (Standard) for use with Mobile repeater, Automatic Repeater, signaling and recording.

SYSTEM SPECIFICATIONS RPT2 SERIES

FCC FREQ. GROUP	MARTI TRANSMITTER	TYPE EMISSION	DEVIATION KHz	REQUENCY RESPONSE-Hz	NOISE
				+1.5 DB	DISTORTION DB*
K, L	RPT2-150L	25F3	5	50-7,500	2% or less -50
N2	RPT2-450N	25F3	5	50-7,500	2% or less -50
N1, R	RPT2-450R	50F3	7.5	50-10,500	2% or less -53
P	RPT2-450P	10F3	1.5	50-3,000	2% or less -40

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Application.....Broadcast Remote Pickup, portable or mobile operation.	Audio Input Level.....Microphone input level can be from -70 DB to -35 DB. Tape input level can be from 0.2 volts to 2 volts rms, 8-600 ohms.
Frequency Band..Model RPT2-150 - 152-170 MHz Model RPT2-450 - 450-456 MHz	
Crystal Multiplication..Model RPT2-150: 12 Model RPT2-450: 24	
Frequency Stability.....-30°C. to +50°C. RPT2-150 + .0005% RPT2-450 ± .00025%	Audio Input Impedance.....Will accept microphone from 150 to 500 ohms.
Dual Frequency.....Selectable dual frequency operation. Separation 1.1% Max.	Audio Connector.....Input No. 1 (XLR-4-31). Input No. 2 miniature phone jack.
Spurious Emission.....Meets FCC Requirements	Power Require- ments.....110-125 V. AC, 50-60 Hz. 12.6 V DC Neg. gnd.) 750 MA.
RF Output.....Maximum 2.5 watts max., into 50 ohms.	Modulation Control.....Broadcast Quality Com- pressor/Limiter built in.
RF Connector....SO-239	Metering.....Panel meter indicates audio compression, RF output, power supply DC.
Operating Temp. Range.....-10°C. to +45°C.	Weight.....2.4 kg net; 3.3 kg gross. (5½ lbs. 7½ lbs.)
Modulation.....See System Specs.	Dimensions....8 3/4" wide x 3 3/4" high x 11" deep
Audio Inputs....One microphone input (push- to-talk) and one high level unbalanced input. Individual mixing gain controls.	



## UNPACKING AND INSPECTING

This equipment was factory tested, inspected, packed, and delivered to the carrier with utmost care. Do not accept shipment from carrier which shows 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 often thrown away with packing material. Packing material should be retained until equipment testing is completed. Any equipment returned to the factory should be packed in original cartons, insured and pre-paid.

## INSTALLATION

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. Extensive shielding and filtering have been incorporated into this equipment to permit operation in moderate RF environment. All equipment racks, cabinets, etc. should be bonded together by wide copper grounding strap to insure that all system elements are at the same ground potential.

INSTALLATION CONTINUED:

MOBILE INSTALLATION OF RPT2 AND RPT15

The transmitter may be mounted under-dash or on the transmission hump by selecting the appropriate mounting bracket.

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 installations is as follows :

Mount the transmitter to the automobile control console or to the floor at a point convenient to the operator, using appropriate bracket and hardware.

Connect the red wire with in-line Fuse to the "Accessory" Circuit of the vehicle. This is the circuit that is on when the ignition switch is in either "Accessory" or "On" position.

Connect the Black wire to a good electrical (Bright Metal) ground on vehicle chassis.

Fasten the transmitter to the mounting bracket and plug the Marti MCD-70B Microphone into the 4-pin XL connector on the front of the transmitter.

Install the mobile antenna and connect to antenna connector J4 on the right side of the transmitter.

NOTE:

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

If two-way operation is desire, install VHF/UHF mobile receiver at the desired place under the vehicle dash, then install the connecting coax cable from receiver to J7 (REC) of the transmitter. (Jack J7 and the antenna relay must be factory installed to permit 2-way operation.) (OPTION 01).

INSTALLATION CONTINUED:

CONNECTING EQUIPMENT FOR STATIONARY 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 AC adapter cable supplied with your transmitter. This cable is Belden No. 17250.

CAUTION:

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

Use a 3-Wire Circuit Tester (Available at Electrical Supply Stores) to determine the safety of an electrical outlet. SAFETY FIRST!

## ADDITIONAL INSTRUCTIONS

### FOR RPT 2 INSTALLATION

#### PLACEMENT

The RPT 2 transmitter is designed for portable operation using its Internal AC Power Supply, External 12 Volt (Negative Ground Source), or power from the internal battery pack. While this provides a great deal of flexibility in the uses of the unit, several factors should be considered in order to insure reliable operation. Because the RPT 2 has only  $2\frac{1}{2}$  Watts power output and a very short and inefficient antenna, relatively minor factors can have a large effect upon the quality of communication attained from the transmitter.

Some of these factors are:

#### RUBBER OR WHIP ANTENNA

When using the vertical whip or rubber antenna connected directly to the transmitter, DO NOT place this unit near objects which can "de-tune" or absorb the power radiating from the antenna. People moving near the antenna often cause fading of the signal reaching the receiver. Remember, the whip antenna is vertically polarized and the receiving antenna must also be vertically polarized for good results.

#### OTHER TRANSMITTING ANTENNAS

In some types of situations it is desirable to disconnect the small whip antenna from the RPT 2 transmitter and connect a coaxial cable to a more efficient antenna. For example, a directional antenna such as the Marti "YC-Series" Yagi Antenna, supported at a reasonable height above the ground level, can enable transmissions over distances several times greater than the whip antenna.

#### MOBILE

The RPT 2 transmitter can be used inside vehicles or aircraft by installing the proper mobile antenna with a short length of coaxial cable and connectors to fit the RPT 2. Since the RPT 2 gives approximately two hours operation from its internal battery supply, it is not necessary, in many cases, to connect the unit to the vehicle power.

ADDITIONAL INSTRUCTIONS CONTINUED:

FOR RPT2 INSTALLATION

MOBILE (Continued)

When necessary to connect to vehicle 12V. DC Power, it is often most convenient to use an Accessory Cable which plugs into the Cigarette Lighter Receptacle of the vehicle.

DISTANT RECEIVING ANTENNA

In portable broadcast work it is generally understood that the portable transmitter and its antenna will be operating under less than perfect conditions. Much of this situation can be overcome by providing the best possible receiving antenna and receiver. For maximum communications range it is necessary to employ a high gain receiving antenna having directional or non-directional characteristics as desired. This antenna should be at a height dictated by the distance and terrain involved, and an efficient coaxial cable such as LDF4 or LDF5 should be used. Marti Electronics offers high quality receivers and receiving antennas especially suited to broadcast work.

LOCAL RECEIVING ANTENNA

In cases where the RPT2 portable transmitter is required to communicate with a nearby receiver feeding a telephone line or repeater transmitter, the receiver antenna can be a single vertical whip or directional antenna supported on an improvised mast. In these installations, avoid placing the receiving antenna near traffic areas having high auto ignition noise or other electrical noise sources.

RPT2/RPT15 AUDIO INPUT CONNECTIONS

The RPT2/RPT15 provides two inputs and two independent mixing gain controls. Input No. 1 is for push-to-talk microphone operation, and is wired for the Marti MCD-70B microphone. The correct connector to plug into Input No. 1 is Cannon type XLP-4-12C.

ADDITIONAL INSTRUCTIONS CONTINUED:

RPT2/RPT15 AUDIO INPUT CONNECTIONS,(continued).

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, eliminating the need to hold down the microphone switch for long transmissions.

Input 2 is an un-balanced high level input for tape player connection to the transmitter. Use single circuit miniature phone plug.

MONITOR JACK

Compressed audio from all inputs can be monitored at the monitor jack. Use a standard single circuit miniature phone plug with headphones having an impedance of 300 ohms or higher. Audio at the monitor jack is unbalanced and resistance limited to prevent loading of the modulator circuit.

## RPT2/RPT15 OPERATING INSTRUCTIONS

### CONTROL AND CONNECTOR FUNCTIONS

#### CHANNEL (FREQUENCY) SWITCH

This switch selects one of two possible operating frequencies. If you have only one frequency, make sure the switch does not accidentally get switched to the un-used position, since the transmitter will not operate in this condition.

#### MIC INPUT CONNECTOR

This input is for a 150 ohm dynamic microphone such as the Marti MCD-70B with push-to-talk switch. Microphone connections are given in "INSTALLATION".

For push-to-talk operation of this microphone, place the "Off-Standby-Transmit" switch to "Standby" position. The transmitter will then radiate power immediately upon pressing the microphone switch.

#### CAUTION:

THE CONTROL SWITCH MUST BE PLACED IN "STANDBY" POSITION A MINIMUM OF 2½ MINUTES BEFORE SWITCHING TO "TRANSMIT" IN ORDER TO INSURE ON-FREQUENCY OPERATION.

#### AUX. INPUT CONNECTOR

"AUX." Input is for a high level input such as a tape player, etc. AUX. Input level should be between 0.2 volt to 2 volts rms. The impedance should be 8-600 ohms.

#### GAIN CONTROLS

The slot adjusted gain potentiometer to the right of each input connector provides an independent level adjustment for that input. Each gain potentiometer is adjusted as follows:

1. Connect input source at normal audio level.
2. Turn gain potentiometer to maximum counter-clockwise (off) position.
3. Place power switch in "STANDBY" position and allow meter pointer to reach "0"VU. Slowly increase gain (clockwise) until meter begins

RPT2/RPT15 OPERATING INSTRUCTIONS CONTINUED:

CONTROL AND CONNECTOR FUNCTIONS

GAIN CONTROLS,(Continued).

deflecting to the left on audio peaks. Maximum deflection should be -3 to -5 VU on the meter scale. This indicates 100% modulation of the transmitter. Excessive gain settings cause high compression values which result in annoying increase in background noise. A 600 ohm headset may be plugged into the "monitor" jack to aid in arriving at the proper gain adjustment. In high noise environments, close-talk the MIC and reduce MIC gain until a maximum of -2VU gain reduction is indicated.

4. Once the proper gain level is determined, it will not be necessary to change it for that particular microphone or tape player. The broadcast quality compressor/limiter built into the unit will maintain modulation at the maximum level while preventing over-modulation.

POWER SOURCE SWITCH (RPT2)

Select the desired power source with this switch. If "AC" is selected, use Belden 17250 grounding type cord set to plug unit into standard 3-Prong grounding 115V AC receptacle. Select "EXT. DC" for use with an external source of 11.5-13 Volts DC at 2.6 Amps. Connection is through J5, located on rear of transmitter. Pins 1 and 6 are positive, Pins 5 and 9 are negative. Use in-line Fuse, 2.5 Amps. for RPT2, 4 Amps. for RPT15. An optional internal battery (RPT2 only) is selected in "Int.Batt." position.

CONTROL SWITCH

When the transmitter is not in use (or when the RPT2 battery is being charged), the control switch should be in the "Off" position. The switch should be placed in "Standby" position at least 2½ Minutes before transmission is anticipated. This activates all audio circuits, monitor jack and meter. Current drain is only minimal in "Standby" position. If a push-to-talk microphone is used,



## RPT2/RPT15 OPERATING INSTRUCTIONS CONTINUED:

### CONTROL AND CONNECTOR FUNCTIONS

#### CONTROL SWITCH (Continued).

the switch remains in "Standby" position and the transmissions are controlled by microphone button. If a regular microphone is used, the power switch is placed in "Transmit" position when transmission is desired.

The power switch should be returned to "Standby" or "Off" position as soon as a transmission is completed, (to conserve the RPT2 battery). The RPT2 current drain on the battery is approximately 750 milliamps in "Transmit".

#### ENCODE SWITCH

The internal subaudible encoder can be switched on or off by the panel switch. Encoding is used to activate a repeater station, tape recorder, etc.

#### MONITOR JACK

The monitor jack is active in "Standby" and "Transmit" positions of the control switch. A High quality head set having 300 ohm or higher impedance can be plugged into the monitor jack to make adjustments or to monitor the quality of the audio being transmitted. A miniature single circuit phone plug should be used with the monitor jack.

#### METER

The "VU" meter serves the function of indicating the relative power supply voltage, relative power output, and the amount of audio compression. This meter indicates RF output only in "Transmit" condition.

#### ANTENNA

Connection of various antenna systems is covered under INSTALLATION. It is only necessary for the operator or announcer to see that the antenna connector is tight and that the antenna is clear of objects which may effect its radiation efficiency.

#### RPT2 BATTERY CHARGER

The RPT2 transmitter has an internal battery charging capability. To charge

RPT2/RPT15 OPERATING INSTRUCTIONS CONTINUED:

CONTROL AND CONNECTOR FUNCTIONS

RPT2 BATTERY CHARGER (continued).

the battery, 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 RPT2. 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. The control switch should be in "Off" position while charging the battery. The battery is charged on a constant current provided by a special regulator circuit. The charge rate provided is approximately 150 milliamps, or one tenth the amp-hour capacity of the battery. The time necessary to fully charge a discharged battery is 14 to 16 hours. The nickel-cadmium battery supplied with this transmitter is a high quality type capable of many charge-discharge cycles. Replacement batteries are available from Marti Electronics by ordering Part No. 040-001-1. Never leave the battery on charge for more than 24 hours.

BATTERY MEMORY

Many users of the RPT2 will complain of shortness of battery life. This problem is usually caused by battery memory. Battery memory is caused when the battery is not completely used to full capacity. If the battery is only half discharged and then recharged a number of times, the battery will develop a memory. When memory occurs the RPT2 will operate for only a short time. The memory can be overcome by discharging the battery down to five or six volts then recharging the battery. A reading of -4 on the meter with the meter switch in the power supply position will correspond to 5 volts. The battery should be discharged and charged three or four times. The process should eliminate the battery memory.

RPT2/RPT15 OPERATING INSTRUCTIONS CONTINUED:

CONTROL AND CONNECTOR FUNCTIONS

RPT2 BATTERY CHARGER (Continued).

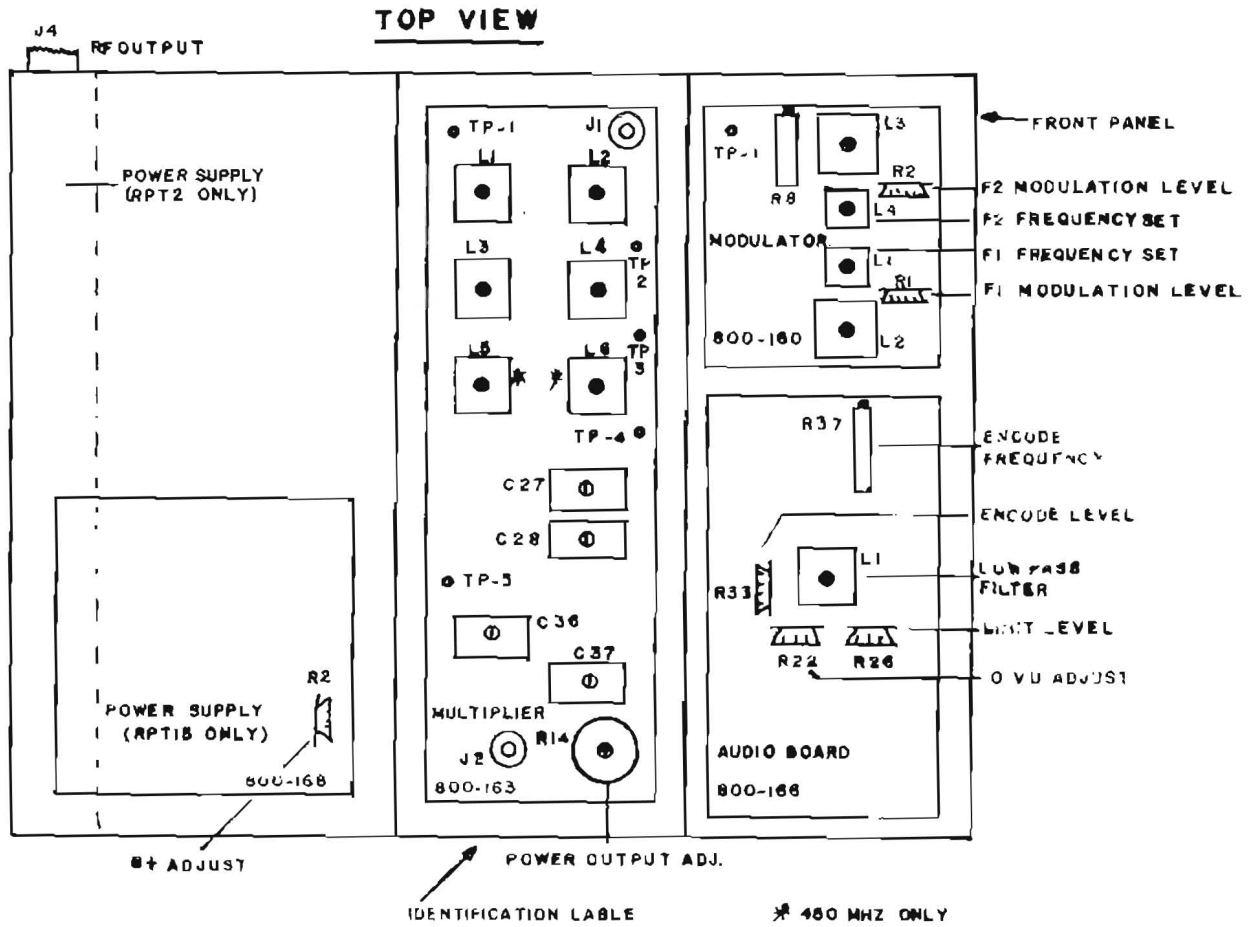
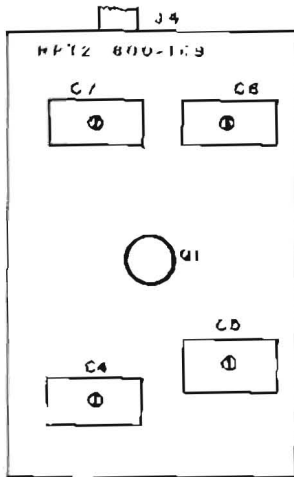
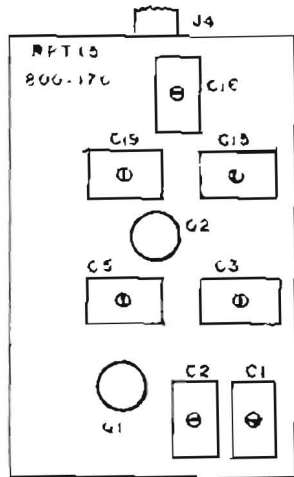
Memory can be avoided by discharging the battery everytime the RPT2 is operated on battery. The unit should be operated until there is no R.F. output.

STEP BY STEP OPERATING PROCEDURE

1. Make sure antenna is connected.
2. Move power source switch to desired position (RPT2 only).
3. Place Control switch in "Standby" position (2½ minute warm up).
4. Plug in microphone (s) or recorder and check operation by observing compression on meter and by headset plugged into "Monitor" jack.
5. To transmit, move power switch to "Transmit" position, or press "Talk" button on microphone.

TOOLS AND TEST EQUIPMENT FOR ALIGNMENT OF RPT SERIES

Model #43 Bird Wattmeter with impedance of 50 ohms.  
Bird 1 Watt Element 100-250 MHz. or 400-1000 MHz.  
Bird 50 Watt Element 100-250 MHz. or 400-1000 MHz.  
Model #8135 Bird 150 Watt, 50 Ohm Coaxial Resistor.  
GC 9300 Tuning Tool.  
JFD 5284 Tuning Tool.  
Sprague-Goodman GTT-5 Tuning Tool.  
Screwdriver, Slot 1/8" x 4" Xcelite R184  
Hewlett Packard Distortion Analyzer Model #333A.  
Hewlett Packard Oscillator Model #204C.  
Hewlett Packard Attenuator Set.  
Hewlett Packard Frequency Counter Model #5383A (Option 001).  
Standard Deviation Meter, Measurements Model #920.  
Multimeter, Digital, Beckman Model #3030.  
Multimeter, Analog, Triplet Model #630.



<b>MARTI Electronics, Inc.</b> PO BOX 661 CLEBURNE, TX 76031	DRAWING NO	REV.	DATE	APPROVED	USED ON	TITLE
	102-001		2, 11, 78	DWG	RPT2 RPT15	PHYSICAL LAYOUT (TOP VIEW)

RPT 2 AND RPT 15 TRANSMITTERS TEST REPORT

CUSTOMER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

SERIAL NO.: 2287

FREQUENCY NO. 1: 455.65

FREQUENCY NO. 2: \_\_\_\_\_

Modulator Voltage at TP 5V

100% Modulation + 7.5 KHz.

Total D.C. Current: 2.4A

140 - 250 MHz.

250 - 480 MHz.

T. P. No. 1 0.35 - 0.70

0.25 - 0.50

T. P. No. 2 0.40 - 0.80

0.20 - 0.60

T. P. No. 3 \_\_\_\_\_

0.60 - 1.20

T. P. No. 4 0.25 - 0.50

0.45 - 0.90

T. P. No. 5 0.30 - 0.60

0.80 - 1.60

Battery Charge Supply Voltage on RPT 2 14.0 - 14.3

8 Volts Regulator 7.45 - 7.65

Audio Compressor Meter set at "0" VU

Limiter Set

Tone Frequency Set at 27 Hertz

Tone Frequency Level Set at 1 KHz. Deviation

Set Power on 120 V.A.C. Operation for RPT 2 at 2.5 Watts

Set Power on 120 V.A.C. Operation for RPT 15 at 15 Watts

D.C. Voltage on 120 V.A.C. Operation of RPT 2 12.8 - 13.3

D.C. Voltage on 120 V.A.C. Operation of RPT 15 13.5

Response within Specifications

Distortion within Specifications

Signal to Noise within Specifications

Metering Satisfactory

TEST EQUIPMENT

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

DATE: 5-5-92

SIGNATURE: [Signature]

### TUNE-UP PROCEDURE FOR RPT2/RPT15

LOW LEVEL RF ADJUSTMENTS: Remove top cover of unit. Remove coaxial cable plug at RF output Jack J2 of Multiplier Board 800-163. Refer to layout Drawing 702-007 for location of connectors, test points and adjustments.

1. Connect Bird Model 43 Wattmeter with 1 Watt Element and 50 ohm load to J2 of Multiplier Board 800-163. Connect sensitive multimeter (0-3 Volt DC Range) negative probe to TP-1 of Multiplier Board, positive probe to chassis ground. Place control switch in "Transmit" position Channel (FREQUENCY) Switch to F1 position. A minimum of 0.25 Volt should be indicated, if not, see "MODULATOR ADJUSTMENTS".
2. Move negative probe of meter to TP-2, adjust L1 and L2 for maximum indication.
3. Move negative probe of meter to TP-3, adjust L3 and L4 for maximum indication.
4. Move negative probe of meter to TP-4, adjust L5 and L6 for maximum indication. NOTE: Omit this step on RPT2/150 and RPT15/150.
5. Move negative probe of meter to TP-5, adjust C27 and C28 for maximum indication.
6. Adjust C36 and C37 for maximum indication on the Wattmeter connected to J2. Adjust power level to approximately 0.5 Watts.
7. Place "Control" switch in "OFF" position. Remove Wattmeter from J2 and re-install coaxial cable plug into J2 that was previously removed.

### POWER SUPPLY VOLTAGE ADJUSTMENT (RPT15 ONLY)

1. Connect Dummy Load to RF output J4. Remove top cover of transmitter. Connect the positive lead of a 0-20V DC Voltmeter of 2% accuracy or

TUNE-UP PROCEDURE FOR RPT2/RPT15 CONTINUED

POWER SUPPLY VOLTAGE ADJUSTMENT (RPT15 ONLY), Continued

better to TP-1 on Power Supply Board 800-168. Connect negative lead to chassis ground.

2. Place control switch in "Transmit" position and adjust R2 for 13.5 Volts.

POWER AMPLIFIER TUNING ADJUSTMENTS: Remove the four screws holding the power amplifier in place at the rear of the transmitter, and place the amplifier board near horizontal so that the trimmer capacitors are accessible. Connect Bird Wattmeter with 50 ohm load and element of correct power and frequency rating to J4. Un-solder Red B+ Lead from feed-thru capacitor and insert a DC Ammeter in this circuit. Use a 0-2 Amp range for RPT2 and 0-5 Amp range for RPT15.

1. Place Control switch in "Transmit" position and tune trimmers, beginning at the RF input and progressing to the output circuits. Re-set power output potentiometer R14 on Multiplier Board 800-163 for rated power.
2. Adjust collector output matching capacitors in the final stage for Best Efficiency at rated output by slightly re-tuning for minimum current at rated power out.

Total current to the Power Amp Board is approximately:

RPT2/150 0.35 Amps.

RPT2/450 0.40 Amps.

RPT15/150 2.10 Amps.

RPT15/450 2.25 Amps.

3. Place control switch in "OFF", Remove Ammeter, Re-Solder red wire, Replace Power Amp in position with the four screws. Re-check power output and adjust R14 if necessary.



TUNE-UP PROCEDURE FOR RPT2/RPT15 CONTINUED:

MODULATOR ADJUSTMENTS: Connect Dummy Load with sampling attenuator to J4 of transmitter. Connect an accurate standard FM Deviation Meter and Frequency Counter to sampling attenuator. Place "Control" switch in "Transmit" position.

1. Measure bias voltage at TP of Modulator Board 800-160 using sensitive D. C. Voltmeter. This voltage should be between 4.5 and 5.8 Volts.
2. Set transmitter on frequency by adjusting L1 with channel (Frequency) switch in F1 position and adjusting L4 with switch in F2 position. If necessary, coarse adjustment can be made using L2 (F1) and L3 (F2).
3. Feed a 2500 Hz. audio tone into "AUX" input and set level for 3 VU gain reduction on "Audio Compr." meter. Set deviation Pot. R1 (Frequency F1) and Pot R2 (Frequency F2) for correct deviation specified by the FCC for the assigned frequencies. Refer to SPECIFICATION SHEET for this information. Encode switch should be off during this adjustment.
4. Remove 2500 Hz. tone. Place Encode switch in "ON" position and adjust Encode Level Pot R33 on Audio Board 800-166 for 1. KHz. deviation.

AUDIO ADJUSTMENTS

1. With no audio input, switch meter to "Audio Compr." position and set "0 VU ADJUST" Pot R22 on Audio Board 800-166 to read "0" VU on the meter.
2. With encode switch "OFF", Connect a harmonic distortion analyzer to the audio output of the Marti Receiver used with the Transmitter. Feed a 100 microvolt signal from the transmitter into the receiver RF input.

TUNE-UP PROCEDURE FOR RPT2/RPT15 CONTINUED:

AUDIO ADJUSTMENTS, Continued

Modulate the transmitter with a 2500 Hz. tone at 3 DB compression.

Turn Limit Level Pot R26 on 800-166 Audio Board to maximum counter-clockwise position. Note distortion. It should be less than 2%.

Slowly turn R26 clockwise until an additional 0.1% distortion is indicated on the distortion meter.

3. With encode switch "ON", and using a Marti Receiver having a sub-audible decoder which has been set to 27 Hz. by an audio generator with at least 1% accuracy, adjust Encode Frequency Pot R37 for maximum indication on the Decode Signal Level meter of the receiver.
4. Connect an audio Voltmeter to the output terminals of the Marti Receiver. Feed a 100 microvolt signal into the receiver from an RF Attenuator/Sampler on the transmitter. Using a signal generator connected to "AUX" input of the transmitter with level 20 DB below compression level at 2500 Hz., sweep the audio "AUDIO RESPONSE" range specified for the transmitter model number as shown on the SPECIFICATION SHEET. At the maximum specified response frequency, adjust the tuning slug in Coil L1 on Audio Board 800-166 for best maximum level or best response curve.

Function of each semiconductor or other active circuit device  
in RPT2

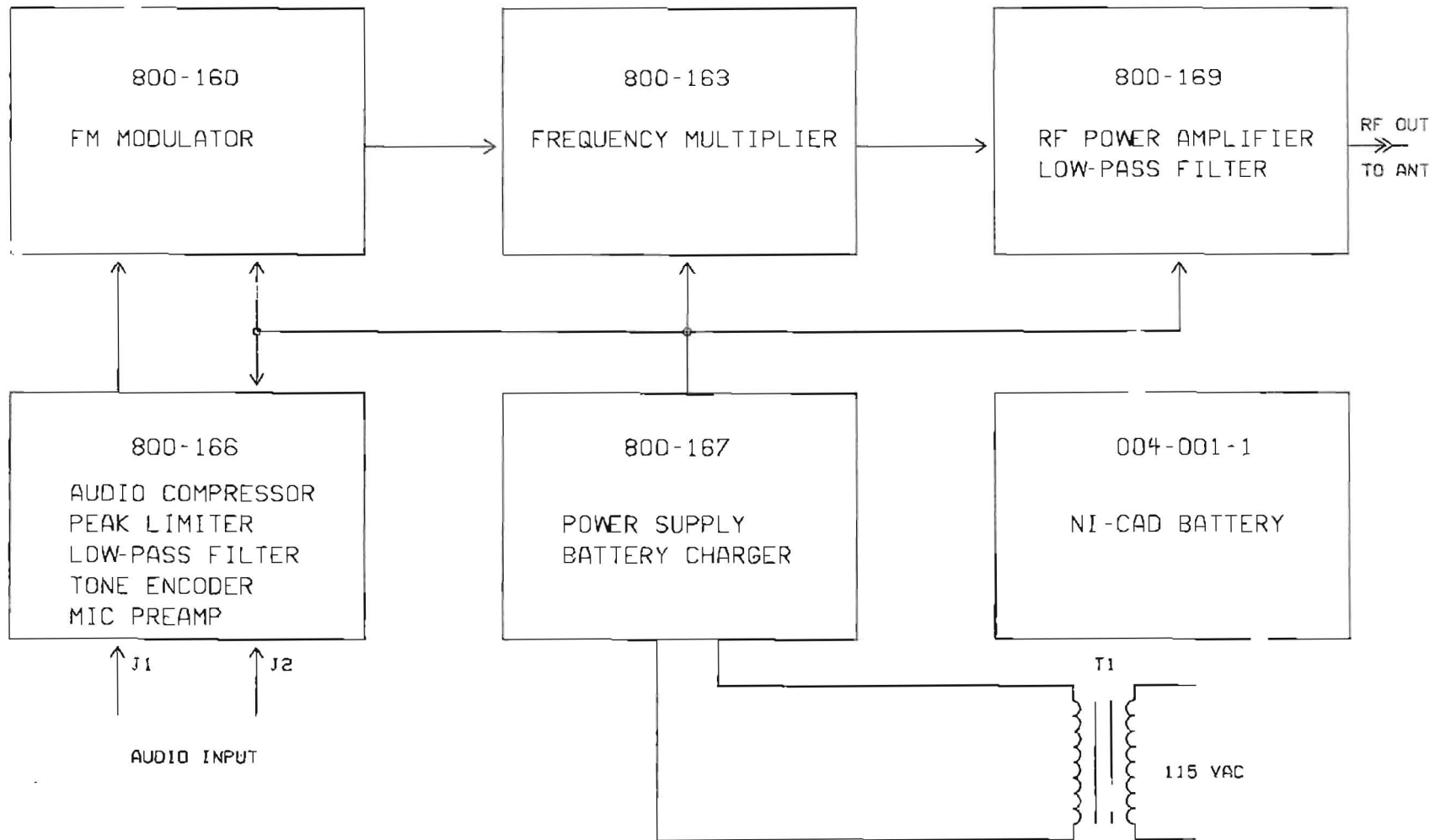
<u>DEVICE</u> <u>DESIGNATION</u>	<u>REFERENCE</u> <u>SCHEMATIC</u>	<u>FUNCTION</u>
IC1A	800-166	Integrated Circuit, Microphone Pre-Amplifier.
IC1B	800-166	Integrated Circuit, Pre-Emphasis Audio Amplifier.
IC1C	800-166	Integrated Circuit, Audio Rectifier and Voltage Controlled Audio Attenuator (Compressor).
IC1D	800-166	Integrated Circuit, Power Supply Electronic Filter.
IC2A	800-166	Integrated Circuit, Encode Oscillator.
IC2B	800-166	Integrated Circuit, Audio Monitor Amplifier.
IC2C	800-166	Integrated Circuit, D.C. Amplifier For Audio Compression Meter.
D1	800-166	Diode, Voltage Level Sensor For Fast Recovery Time Constant For Compressor.
D2	800-166	Diode, Positive Peak Limiter.
D3	800-166	Diode, Negative Peak Limiter.
D4	800-166	Diode, Oscillator Amplitude Limiting.
D5	800-166	Diode, Oscillator Amplitude Limiting.
D6	800-166	Diode, Polarity Sensor For Compression Meter.
IC1	800-160	Integrated Circuit, Voltage Regulator.
Q1	800-160	Transistor, Crystal Oscillator.
Q2	800-160	Transistor, Darlington Amplifier For Temperature Control Circuit.
D1	800-160	Diode, Temperature Compensation.
800-160-1	800-160	Module, Frequency Control.
Q1	800-163	Transistor, Frequency Tripler
Q2	800-163	Transistor, Frequency Doubler.
Q3	800-163	Transistor, Frequency Doubler.
Q4	800-163	Transistor, Frequency Doubler.
Q5	800-163	Transistor, RF Amplifier.
D1	800-163	Diode, RF Sensing.
Q1	800-169	Transistor, RF Power Amplifier.
D1	800-169	Diode, RF Output Sensing.
IC1	800-167	Integrated Circuit, Constant Voltage Regulator.
IC2	800-167	Integrated Circuit, Constant Current Regulator.
Q1	800-167	Transistor, Voltage Level Sensing Circuit For Battery Charge Shut Down.
D1	800-167	Diode, Power Rectifier.
D2	800-167	Diode, Power Rectifier.
D3	800-167	Diode, Power Rectifier.
D4	800-167	Diode, Power Rectifier.
D5	800-167	Diode, Reverse Polarity Protector For IC1.
D7	800-167	Diode, Reverse Polarity Protector For IC1.

Function of each semiconductor or other active circuit device  
in RPT 2

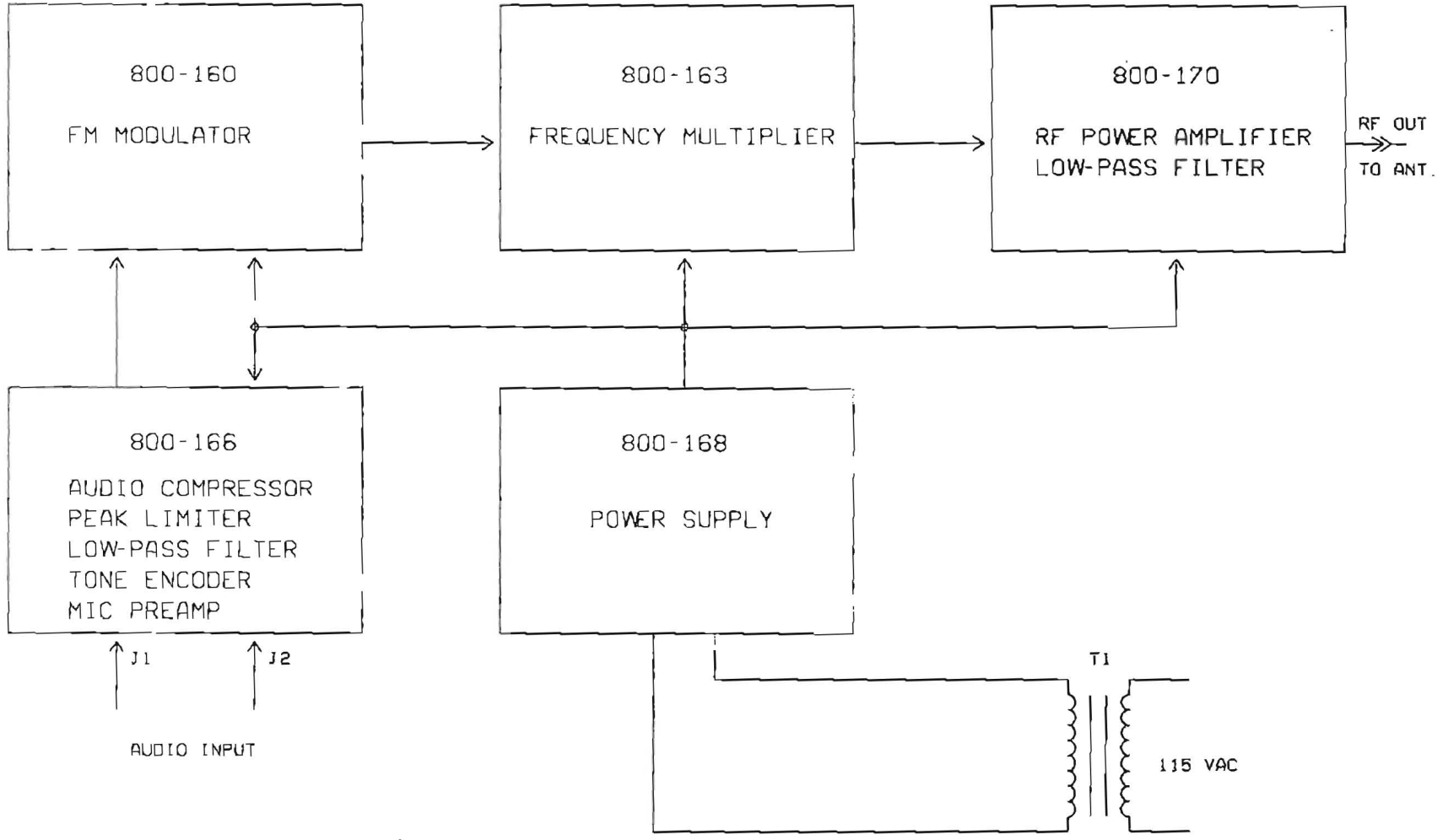
<u>DEVICE</u> <u>DESIGNATION</u>	<u>REFERENCE</u> <u>SCHEMATIC</u>	<u>FUNCTION</u>
D11	800-167	Diode, Part of Battery Charge Sensing Circuit
D12	800-167	Diode, Reverse Polarity Protector For IC2
D13	800-167	Diode, Reverse Polarity Protector For Transmitter.
D14	800-167	Diode, Reverse Polarity Protector for Transmitter.

Function of each semiconductor or other active circuit device  
in RPT15

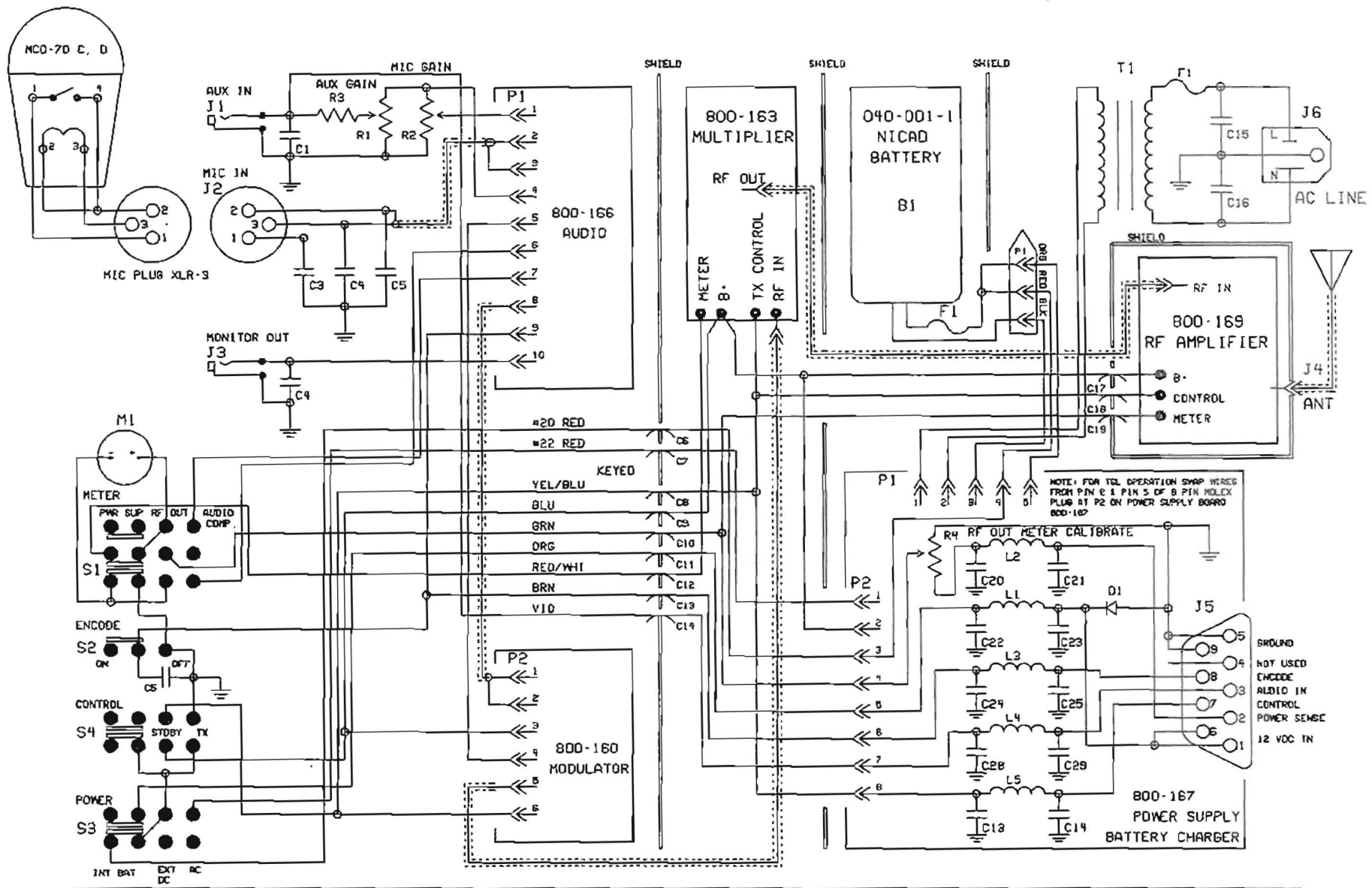
<u>DEVICE DESIGNATION</u>	<u>REFERENCE SCHEMATIC</u>	<u>FUNCTION</u>
IC1A	800-166	Integrated Circuit Microphone Pre-Amplifier.
IC1B	800-166	Integrated Circuit Pre-Emphasis Audio Amplifier.
IC1C	800-166	Integrated Circuit Audio Rectifier and Voltage Controlled Audio Attenuator (Compressor).
IC1D	800-166	Integrated Circuit, Power Supply Electronic Filter.
IC2A	800-166	Integrated Circuit, Encode Oscillator.
IC2B	800-166	Integrated Circuit, Audio Monitor Amplifier.
IC2C	800-166	Integrated Circuit, D. C. Amplifier For Audio Compression Meter.
D1	800-166	Diode, Voltage Level Sensor For Fast Recovery Time Constant for Compressor.
D2	800-166	Diode, Positive Peak Limiter.
D3	800-166	Diode, Negative Peak Limiter.
D4	800-166	Diode, Oscillator Amplitude Limiting.
D5	800-166	Diode, Oscillator Amplitude Limiting.
D6	800-166	Diode, Polarity Sensor For Compression Meter.
IC1	800-160	Integrated Circuit, Voltage Regulator.
Q1	800-160	Transistor, Crystal Oscillator.
Q2	800-160	Transistor, Darlington Amplifier For Temperature Control Circuit.
D1	800-160	Diode, Temperature Compensation
800-160-1	800-160	Module, Frequency Control.
Q1	800-163	Transistor, Frequency Tripler
Q2	800-163	Transistor, Frequency Doubler.
Q3	800-163	Transistor, Frequency Doubler.
Q4	800-163	Transistor, Frequency Doubler.
Q5	800-163	Transistor, RF Amplifier.
D1	800-163	Diode, RF Sensing.
Q1	800-170	Transistor, RF Driver.
Q2	800-170	Transistor, Final RF Amplifier.
D1	800-170	Diode, RF Output Sensor.
IC1	800-168	Integrated Circuit, Voltage Regulator.
D1	800-168	Diode, Power Rectifier.
D2	800-168	Diode, Power Rectifier.
D3	800-168	Diode, Power Rectifier.
D4	800-168	Diode, Power Rectifier.
D5	800-168	Diode, Reverse Voltage Protector For IC1.
D6	800-168	Diode, Reverse Voltage Protector For IC1.
D7	800-168	Diode, Reverse Voltage Protector For Transmitter.



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO COPYRIGHT 1989 702-005	TITLE RPT-2 BLOCK DIAGRAM
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<p>MARTI ELECTRONICS CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO. COPYRIGHT 1989 702-006</p>	<p>TITLE RPT-15 BLOCK DIAGRAM</p>
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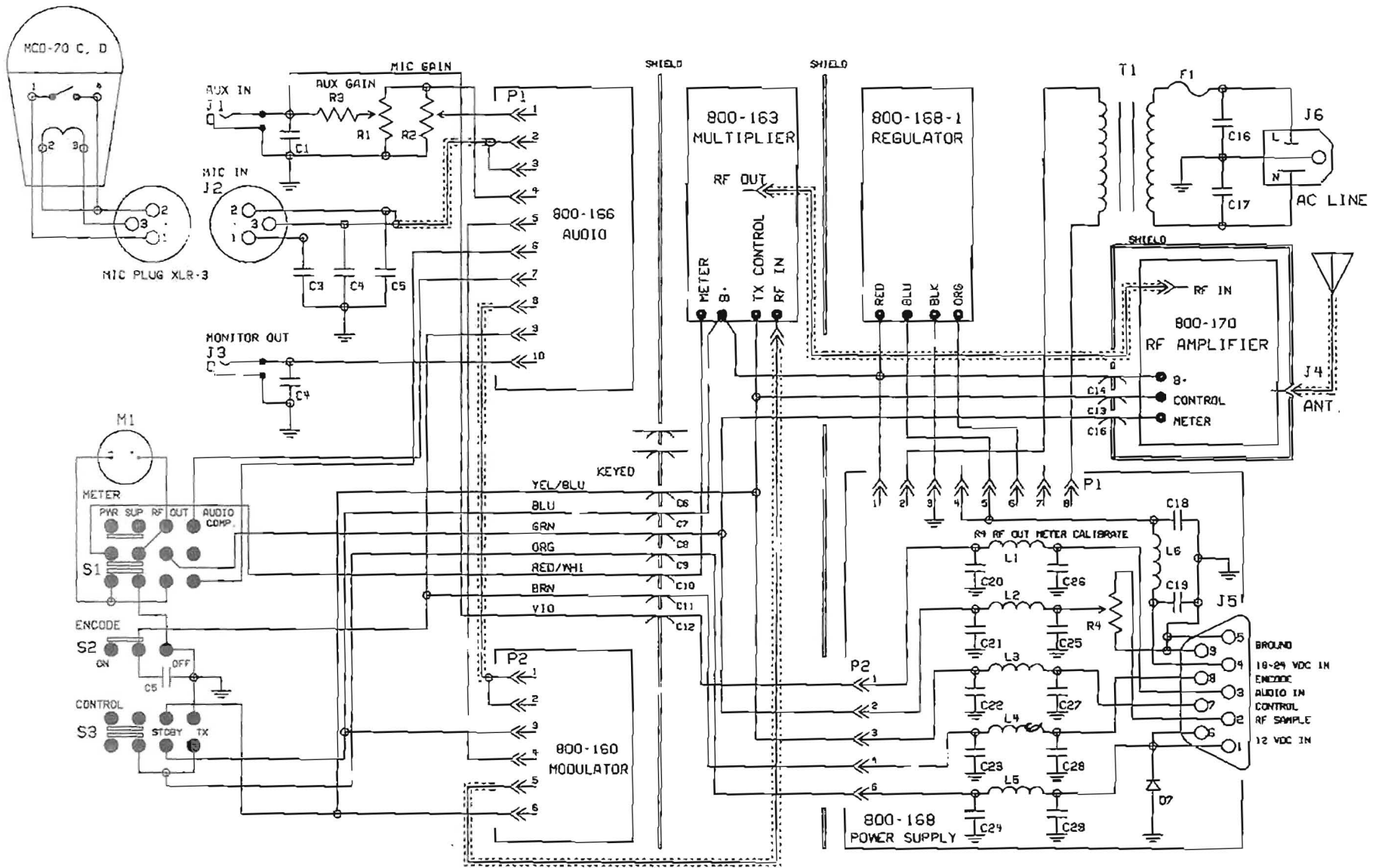
<p>MARTI ELECTRONICS CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO. COPYRIGHT 1989 702-003</p>	<p>TITLE RPT-2 MAIN FRAME DRAWING</p>
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PARTS LIST  
RPT-2 MAIN FRAME  
MARTI 702-003

Item	MARTI No.	Description
B1	040-001-1	Battery, Nickel Cadmium 12v inline fuse
C01	236-501	Capacitor, 500 pf 300v uncased mica
C02	270-102	Capacitor, 1000 pf 50v monolithic chip
C03	270-102	Capacitor, 1000 pf 50v monolithic chip
C04	236-501	Capacitor, 500 pf 300v uncased mica
C05	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C06	270-102	Capacitor, 1000 pf 50v monolithic chip
C07	270-102	Capacitor, 1000 pf 50v monolithic chip
C08	270-102	Capacitor, 1000 pf 50v monolithic chip
C09	270-102	Capacitor, 1000 pf 50v monolithic chip
C10	270-102	Capacitor, 1000 pf 50v monolithic chip
C11	270-102	Capacitor, 1000 pf 50v monolithic chip
C12	270-102	Capacitor, 1000 pf 50v monolithic chip
C13	270-102	Capacitor, 1000 pf 50v monolithic chip
C14	270-102	Capacitor, 1000 pf 50v monolithic chip
C15	297-222	Capacitor, .0022 mf 400 VAC UL,CSA,VDE
C16	297-222	Capacitor, .0022 mf 400 VAC UL,CSA,VDE
C17	270-102	Capacitor, 1000 pf 50v monolithic chip
C18	270-102	Capacitor, 1000 pf 50v monolithic chip
C19	270-102	Capacitor, 1000 pf 50v monolithic chip
C20	270-102	Capacitor, 1000 pf 50v monolithic chip
C21	270-102	Capacitor, 1000 pf 50v monolithic chip
C22	270-102	Capacitor, 1000 pf 50v monolithic chip
C23	270-102	Capacitor, 1000 pf 50v monolithic chip
C24	270-102	Capacitor, 1000 pf 50v monolithic chip
C25	270-102	Capacitor, 1000 pf 50v monolithic chip
C26	270-102	Capacitor, 1000 pf 50v monolithic chip
C27	270-102	Capacitor, 1000 pf 50v monolithic chip
C28	270-102	Capacitor, 1000 pf 50v monolithic chip
C29	270-102	Capacitor, 1000 pf 50v monolithic chip
F1	510-009	Fuse, 3/4 Amp 3AG
F2	510-010	Fuse, 1 Amp. 3AG
J1	550-083	Connector, JAX #41
J2	550-155	Connector, "D" XLR-3 receptacle
J3	550-083	Connector, JAX #41
J4	550-012	Connector, SO-239A UHF Jack
J5	550-154	Connector, D-sub PC rt. angle 9 pin male
J6	510-192	Connector, AC receptacle, EAC-301
L1	330-019	Choke, VK20010-3B
L2	330-018	Choke, 10 uH
L3	330-018	Choke, 10 uH
L4	330-018	Choke, 10 uH
L5	330-018	Choke, 10 uH
M1	030-034	Meter, VU
P1	550-080	Connector, Plug for NiCad battery pack
R1	100-103	Potentiometer 10k ohm type T200
R2	100-103	Potentiometer 10k ohm type T200
R3	145-153	Resistor, 15k ohm 1/4 watt 5%
R4	100-522	Potentiometer 5k ohm trimmer
S1	530-021	Switch, TPTT slide
S2	530-001	Switch, DPDT slide

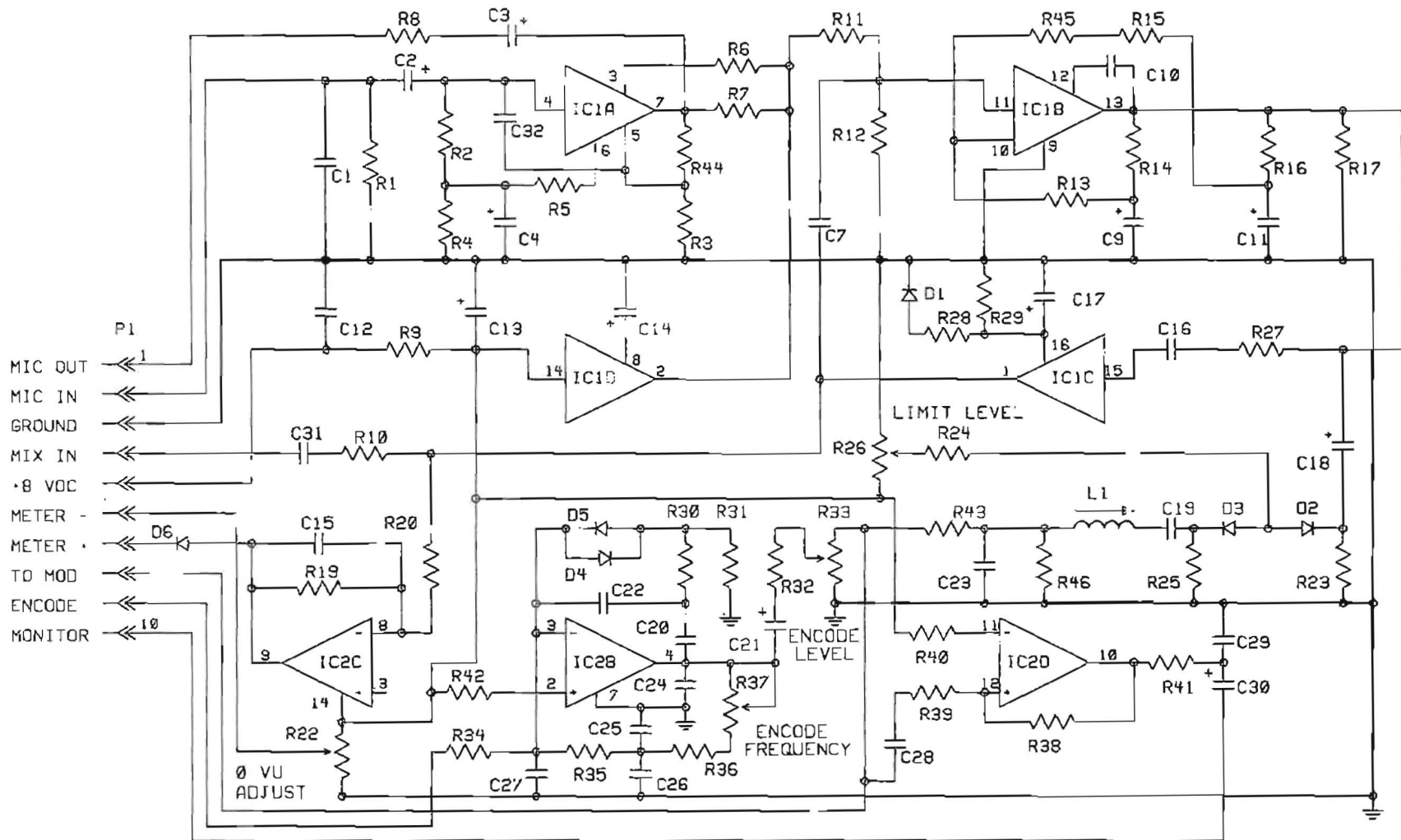
Item	MARTI No.	Description
S3	530-018	Switch, DPTT slide
S4	530-018	Switch, DPTT slide
T1	320-036	Transformer, Power, #15905 110 VAC
T1	320-036A	Transformer, Power #15905M 220 VAC



<p>MARTI ELECTRONICS CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO. COPYRIGHT 1989 702-004</p>	<p>TITLE RPT-15 MAIN FRAME</p>
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PARTS LIST  
RPT-15 MAIN FRAME  
MARTI 702-004

Item	MARTI No.	Description
C01	236-501	Capacitor, 500 pf 300v uncased mica
C02	270-102	Capacitor, 1000 pf 50v monolithic chip
C03	270-102	Capacitor, 1000 pf 50v monolithic chip
C04	236-501	Capacitor, 500pf 300v uncased mica
C05	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C06	270-102	Capacitor, 1000 pf 50v monolithic chip
C07	270-102	Capacitor, 1000 pf 50v monolithic chip
C08	270-102	Capacitor, 1000 pf 50v monolithic chip
C09	270-102	Capacitor, 1000 pf 50v monolithic chip
C10	270-102	Capacitor, 1000 pf 50v monolithic chip
C11	270-102	Capacitor, 1000 pf 50v monolithic chip
C12	270-102	Capacitor, 1000 pf 50v monolithic chip
C13	270-102	Capacitor, 1000 pf 50v monolithic chip
C14	270-102	Capacitor, 1000 pf 50v monolithic chip
C15	270-102	Capacitor, 1000 pf 50v monolithic chip
C16	297-222	Capacitor, .0022 mf 400vAC UL,CSA,VDE
C17	297-222	Capacitor, .0022 mf 400vAC UL,CSA,VDE
F01	510-133	Fuse, 1.5 amp 3AG Slo-Blo
J01	550-083	Connector, JAX #41
J02	550-155	Connector, XLR-3 "D" receptacle
J03	550-083	Connector, JAX #41
J04	550-012	Connector, SO-239A UHF Jack
J05	550-154	Connector, D-sub, PC, 9 pin M, 90 degree
J06	510-192	AC Receptacle EAC-301
M01	030-034	Meter, VU
R01	100-103	Potentiometer 10k ohm type T200
R02	100-103	Potentiometer 10k ohm type T200
R03	145-153	Resistor, 15k ohm 1/4 watt 5%
S01	530-021	Switch, TPTT slide
S02	530-001	Switch, DPDT slide
S03	530-018	Switch, DPTT slide
T01	320-037	Transformer, Power #15906 110 VAC
T01	320-037A	Transformer, Power 15906M 220 VAC



<p>MARTI ELECTRONICS          CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO.          COPYRIGHT 1989          800-166</p>	<p>TITLE          RPT-2, RPT-15, RPT-30 AUDIO BOARD</p>
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PARTS LIST  
 AUDIO BOARD  
 MARTI, 800-166

ITEM	PART NO.	DESCRIPTION
C 1	256-471	Capacitor, 470 pF 10% X5F Disc
C 2	299-470	Capacitor, 4.7 $\mu$ F 16 v Tantalum
C 3	219-080	Capacitor, 10 $\mu$ F 25 v Electrolytic
C 4	219-200	Capacitor, 22 $\mu$ F 25 v Electrolytic
C 5		Capacitor, NOT USED
C 6		Capacitor, NOT USED
C 7	226-274	Capacitor, .27 $\mu$ F 100 v 10% Polycarbonate
C 8		Capacitor, NOT USED
C 9	209-121	Capacitor, 150 $\mu$ F 6.3v Electrolytic
C10	256-680	Capacitor, 68 pF Silver Mica
C11	215-822	Capacitor, 8200 pF Polystyrene
C12	217-104	Capacitor, .01 $\mu$ F 25 v Discap
C13	219-251	Capacitor, 220 $\mu$ F 25 v Electrolytic
C14	219-251	Capacitor, 220 $\mu$ F 25 v Electrolytic
C15	256-471	Capacitor, 470 pF 10% X5F Disc
C16	226-104	Capacitor, .1 $\mu$ F 100 v 10% Polycarbonate
C17	299-470	Capacitor, 4.7 $\mu$ F 16 v Tantalum
C18	219-080	Capacitor, 10 $\mu$ F 25 v Electrolytic
C19	299-470	Capacitor, 4.7 $\mu$ F 16 v Tantalum
C20	215-123	Capacitor, 12000 pF Polystyrene
C21	219-200	Capacitor, 22 $\mu$ F 25 v Electrolytic
C22	215-123	Capacitor, 12000 pF Polystyrene
<u>For Emission Designator 10F3 (+1.5 KHz Deviation)</u>		
C23	215-223	Capacitor, 22000 pF Polystyrene
<u>For Emission Designator 25F3 (+4.0 KHz Deviation)</u>		
C23	215-242	Capacitor, 2400 pF Polystyrene
<u>For Emission Designator 50F3 (+8.0 KHz Deviation)</u>		
C23	215-242	Capacitor, 2400 pF Polystyrene
C24	255-470-1	Capacitor, 47 pF Silver Mica
C25	215-223	Capacitor, 22000 pF Polystyrene
C26	215-392	Capacitor, 3900 pF Polystyrene
C27	255-470-1	Capacitor, 47 pF Silver Mica
C28	217-104	Capacitor, .01 $\mu$ F 25 v Discap GMV
C29	256-471	Capacitor, 470 pF 10% X5F Disc
C30	219-200	Capacitor, 22 $\mu$ F 25 v Electrolytic
C31	226-274	Capacitor, .27 $\mu$ F 100 v 10% Polycarbonate
C32	236-152	Capacitor, 1500 pF 100 v 10%
D 1	410-914	Diode, 1N4148
D 2	410-914	Diode, 1N4148
D 3	410-914	Diode, 1N4148
D 4	410-914	Diode, 1N4148
D 5	410-914	Diode, 1N4148
D 6	410-007	Diode, 1N4007

IC1	401-054	Integrated Circuit, Audio Processor			
IC2	403-900	Integrated Circuit, MC3401P			
L 1	350-032	Inductor, 387-150H			
R 1	145-102	Resistor, 1000 ohm	1/4 W	5%	
R 2	145-473	Resistor, 47K ohm	1/4 W	5%	
R 3	145-181	Resistor, 180 ohm	1/4 W	5%	
R 4	145-681	Resistor, 680 ohm	1/4 W	5%	
R 5	145-151	Resistor, 150 ohm	1/4 W	5%	
R 6	145-104	Resistor, 100K ohm	1/4 W	5%	
R 7	145-332	Resistor, 3.3K ohm	1/4 W	5%	
R 8	145-392	Resistor, 3.9K ohm	1/4 W	5%	
R 9	145-030	Resistor, 3.3 ohm	1/4 W	5%	
R10	145-392	Resistor, 3.9K ohm	1/4 W	5%	
R11	145-104	Resistor, 100K ohm	1/4 W	5%	
R12	145-104	Resistor, 100K ohm	1/4 W	5%	
R13	145-331	Resistor, 330 ohm	1/4 W	5%	
R14	145-822	Resistor, 8.2K ohm	1/4 W	5%	
R15	145-392	Resistor, 3.9K ohm	1/4 W	5%	
R16	145-333	Resistor, 33K ohm	1/4 W	5%	
R17	145-221	Resistor, 220 ohm	1/4 W	5%	
R18		Resistor,			NOT USED
R19	145-225	Resistor, 2.2K ohm	1/4 W	5%	
R20	145-474	Resistor, 470K ohm	1/4 W	5%	
R21		Resistor,			NOT USED
R22	100-104-1	Potentiometer 100Kohm			Trimmer
R23	145-222	Resistor, 2.2K ohm	1/4 W	5%	
R24	145-272	Resistor, 2.7K ohm	1/4 W	5%	
R25	145-472	Resistor, 4.7K ohm	1/4 W	5%	
R26	100-104-1	Potentiometer 100Kohm			Trimmer
R27	145-222	Resistor, 2.2K ohm	1/4 W	5%	
R28	145-225	Resistor, 2.2K ohm	1/4 W	5%	
R29	145-106	Resistor, 10K ohm	1/4 W	5%	
R30	145-106	Resistor, 10K ohm	1/4 W	5%	
R31	145-224-1	Resistor, 221K ohm	1/4 W	5%	Corning
R32	145-223	Resistor, 22K ohm	1/4 W	5%	
R33	100-104-1	Potentiometer 100Kohm	1/4 W	5%	
R34	145-103	Resistor, 10K ohm	1/4 W	5%	
R35	145-474-1	Resistor, 475K ohm	1/4 W	1%	Corning
R36	145-474-1	Resistor, 475K ohm	1/4 W	1%	Corning
R37	100-105	Potentiometer 1K ohm			Cernit
R38	145-105	Resistor, 1K ohm	1/4 W	5%	
R39	145-105	Resistor, 1K ohm	1/4 W	5%	
R40	145-225	Resistor, 2.2K ohm	1/4 W	5%	
R41	145-561	Resistor, 560 ohm	1/4 W	5%	
R42	145-225	Resistor, 2.2K ohm	1/4 W	5%	
R43	145-102	Resistor, 1000 ohm	1/4 W	5%	
R44	145-822	Resistor, 8.2K ohm	1/4 W	5%	
R45	145-272	Resistor, 2.7K ohm	1/4 W	5%	
<u>For Emission Designator 10F3 (<math>\pm 1.5</math> KHz Deviation)</u>					
R46	145-392	Resistor, 3.9K ohm	1/4 W	5%	

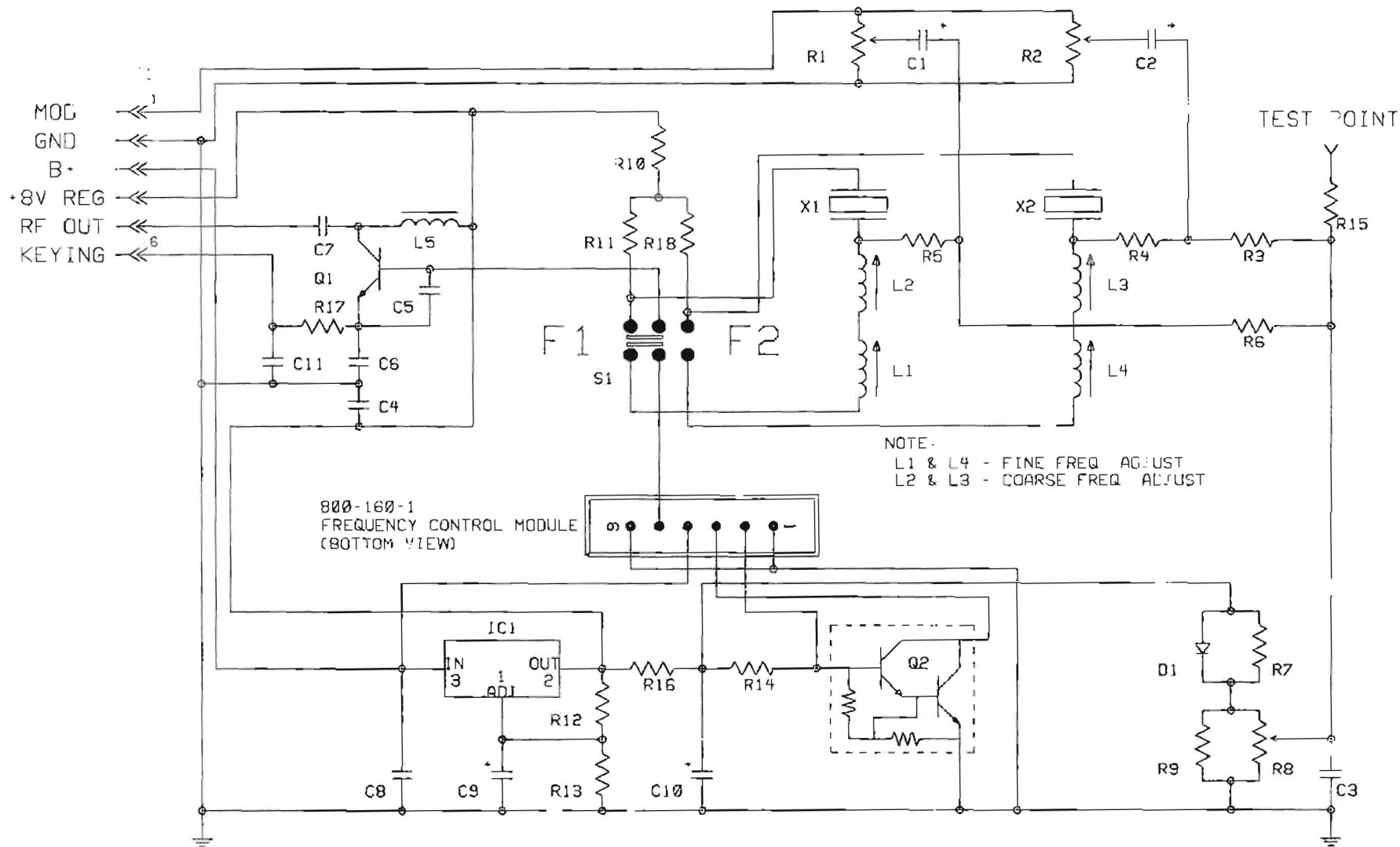
For Emission Designator 25F3 ( $\pm 4.0$  KHz Deviation)

R46      145-682      Resistor,      6.8K ohm   1/4 W   5%

For Emission Designator 50F3 ( $\pm 8.0$  KHz Deviation)

R46      145-153      Resistor,      15K ohm   1/4 W   5%

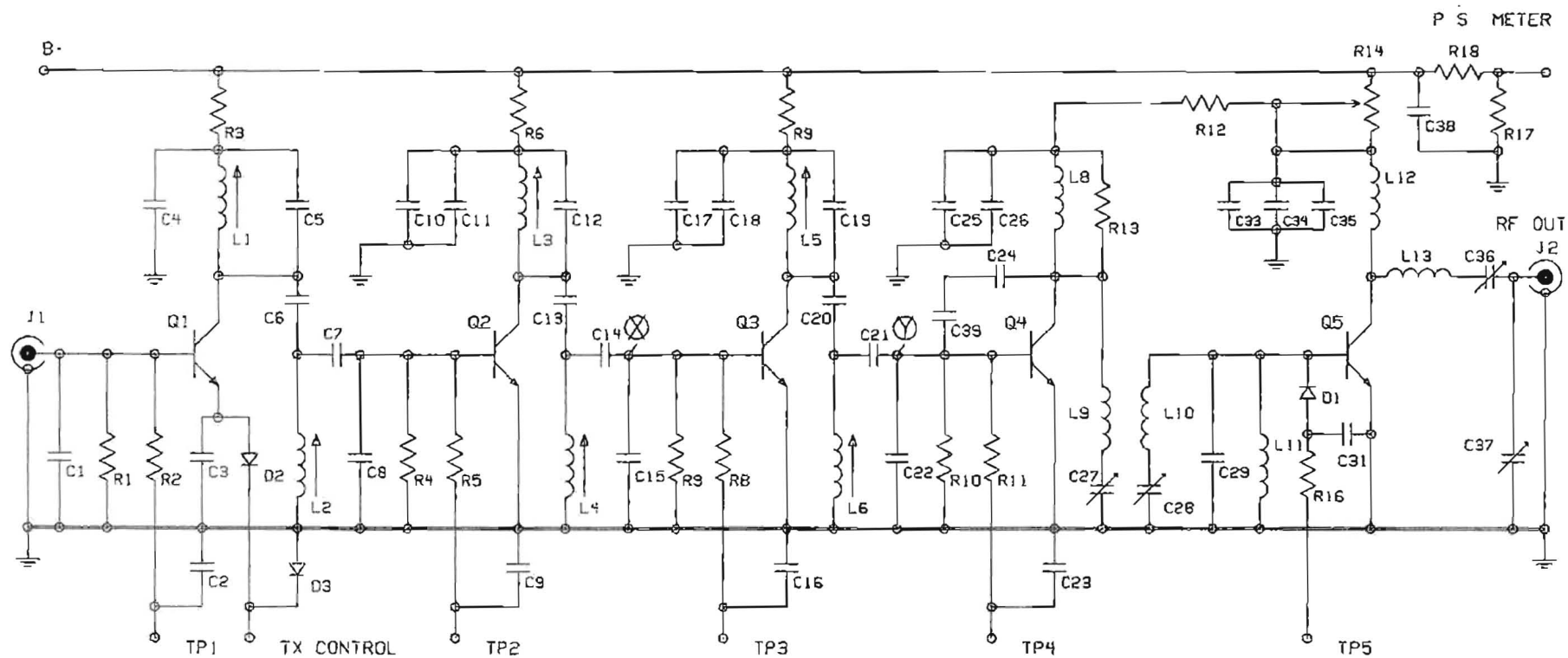




<p>MARTI ELECTRONICS          CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO          COPYRIGHT 1989          800-160</p>	<p>TITLE RPT-2, RPT-15, RPT-30          DUAL-FREQUENCY MODULATOR</p>
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PARTS LIST  
 MODULATOR, DUAL-FREQUENCY  
 MARTI, 800-160

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>BAND (MHz)</u>
C 1	299-470	Capacitor, 4.7 $\mu$ F 16 v 10% Tantalum	
C 2	299-470	Capacitor, 4.7 $\mu$ F 16 v 10% Tantalum	
C 3	217-104	Capacitor, .01 $\mu$ F 25 v GMV Disc	
C 4	217-104	Capacitor, .01 $\mu$ 25 v GMV Disc	
C 5	255-271	Capacitor, 270 pF 5% Silver Mica	
C 6	255-161	Capacitor, 160 pF 5% Silver Mica	
C 7	255-241	Capacitor, 240 pF 5% Silver Mica	140-340
C 7	255-180	Capacitor, 18 pF 5% NPO Disc	400-480
C 8	217-104	Capacitor, .01 $\mu$ F 25 v GMV Disc	
C 9	299-470	Capacitor, 4.7 $\mu$ F 16 v 10% Tantalum	
C10	219-200	Capacitor, 22 $\mu$ F 25 v Electrolytic	
C11	217-104	Capacitor, .01 $\mu$ F 25 v GMV Disc	
D 1	410-914	Diode, 1N4148	
IC1	400-317	Integrated Circuit, 1.5 A Regulator LM317	
L 1	350-037	Inductor, Variable 13.5 Turn Orange	
L 2	350-025	Inductor, Variable 1.5-3 $\mu$ H	140-340
L 2	350-044	Inductor, Variable 1-2 $\mu$ H	400-480
L 3	350-025	Inductor, Variable 1.5-3 $\mu$ H	140-340
L 3	350-044	Inductor, Variable 1-2 $\mu$ H	400-480
L 4	350-037	Inductor, Variable 13.5 Turn Orange	
L 5	330-007	Inductor, 1.0 $\mu$ H 10%	
Q 1	420-090	Transistor, Silicon RF BPF-90	
Q 2	450-110	Transistor, Power TIP110	
R 1	100-104-1	Potentiometer 100K ohm Trimmer	
R 2	100-104-1	Potentiometer 100K ohm Trimmer	
R 3	145-473	Resistor, 47K ohm 1/4 W 5%	
R 4	145-473	Resistor, 47K ohm 1/4 W 5%	
R 5	145-473	Resistor, 47K ohm 1/4 W 5%	
R 6	145-473	Resistor, 47K ohm 1/4 W 5%	
R 7	145-241-1	Resistor, 240 ohm 1/4 W 2% Corning	
R 8	100-532	Potentiometer 5K ohm 20 Turn Cermet	
R 9	145-272-1	Resistor, 2.7K ohm 1/4 W 2% Corning C4	
R10	145-363-1	Resistor, 36K ohm 1/4 W 5% Corning	
R11		Resistor, NOT USED	
R12	145-241-1	Resistor, 240 ohm 1/4 W 2% Corning C4	
R13	145-122-1	Resistor, 1200 ohm 1/4 W 2% Corning C4	
R14	145-182-1	Resistor, 1.8K ohm 1/4 W 2% Corning C4	
R15	145-472	Resistor, 4.7K ohm 1/4 W 5%	
R16	145-030	Resistor, 3.3 ohm 1/4 W 5%	
R17	145-102-1	Resistor, 1000 ohm 1/4 W 2% Corning C4	
S 1	530-051	Switch, DPDT 11N-1023	



38

NOTE FOR OPERATING FREQUENCIES BELOW 200 MHZ, Q3 IS OMITTED AND A WIRE IS CONNECTED BETWEEN POINTS 'X' AND 'Y' R19 IS USED ON 150 MHZ ONLY

<p>MARTI ELECTRONICS CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO COPYRIGHT 1989 800-163</p>	<p>TITLE MULTIPLIER BOARD</p>
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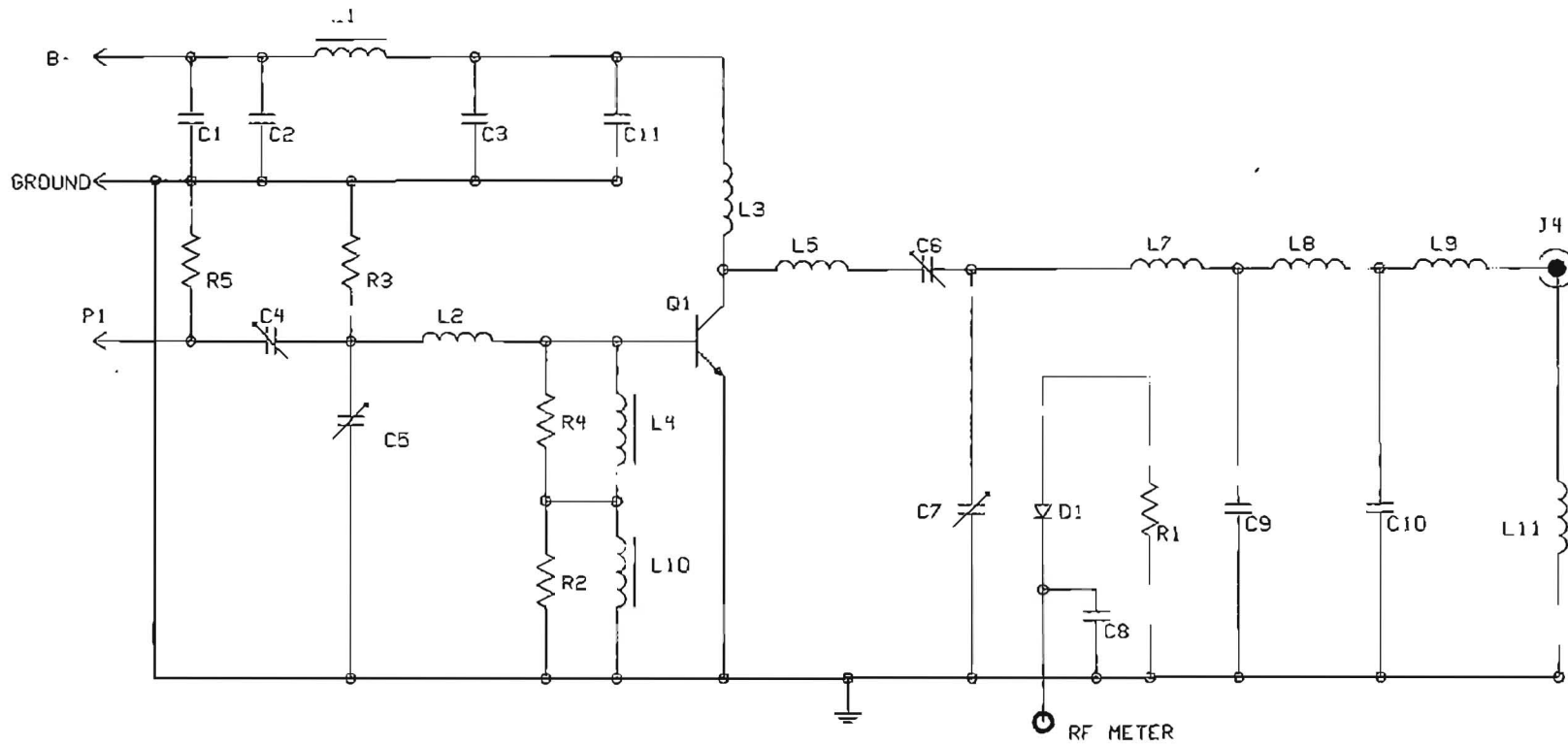
PARTS LIST  
MULTIPLIER BOARD  
PARTI, 800-163

ITEM	PART NO.	DESCRIPTION	BAND (MHz)
C 1	255-241	Capacitor, 240 pF 5%	Silver Mica 140-165
C 1	255-161	Capacitor, 160 pF 5%	Silver Mica 165-180
C 1	255-241	Capacitor, 240 pF 5%	Silver Mica 200-260
C 1	256-301	Capacitor, 300 pF 50 v 5%	NPO Disc 280-340
C 1	255-220	Capacitor, 22 pF 50 v 5%	NPO Disc 400-480
C 2	217-104	Capacitor, .01 $\mu$ F 25 v	GMV Disc
C 3	268-102	Capacitor, .001 $\mu$ F 500 v	Z5U Disc 140-180
C 3	217-104	Capacitor, .01 $\mu$ F 25 v	GMV Disc 200-480
C 4	217-104	Capacitor, .01 $\mu$ F 25 v	GMV Disc
C 5	256-750	Capacitor, 75 pF 5%	Silver Mica 140-180
C 5	255-470-1	Capacitor, 47 pF 5%	Silver Mica 200-260
C 5	256-750	Capacitor, 75 pF 5%	Silver Mica 280-340
C 5	255-390	Capacitor, 39 pF 5%	Silver Mica 400-480
C 6	255-020	Capacitor, 2 pF 5%	Type QC 140-260
C 6	255-040	Capacitor, 3.9 pF 5%	Type QC 280-340
C 6	255-020	Capacitor, 2 pF 5%	Type QC 400-480
C 7	256-151	Capacitor, 150 pF 50 v 5%	NPO Disc 140-180
C 7	256-680	Capacitor, 68 pF 5%	Silver Mica 200-260
C 7	256-151	Capacitor, 150 pF 50 v 5%	NPO Disc 280-340
C 7	256-680	Capacitor, 68 pF 5%	Silver Mica 400-480
C 8	255-241	Capacitor, 240 pF 5%	Silver Mica 140-180
C 8	256-131	Capacitor, 130 pF 50 v 5%	NPO Disc 200-260
C 8	255-241	Capacitor, 240 pF 5%	Silver Mica 280-340
C 8	256-151	Capacitor, 150 pF 50 v 5%	NPO Disc 400-480
C 9	217-104	Capacitor, .01 $\mu$ F 25 v	GMV Disc
C10	268-102	Capacitor, .001 $\mu$ F 500 v	Z5U Disc
C11	217-103	Capacitor, .1 $\mu$ F 100 v	Mylar
C12	256-680	Capacitor, 68 pF 5%	Silver Mica 140-180
C12	255-470-1	Capacitor, 47 pF 5%	Silver Mica 140-165
C12	255-470-1	Capacitor, 47 pF 5%	Silver Mica 165-180
(parallel)	255-120	Capacitor, 12 pF 50 v 5%	NPO Disc
C12	255-270	Capacitor, 27 pF 50 v 5%	NPO Disc 200-260
C12	256-680	Capacitor, 68 pF 5%	Silver Mica 280-340
C12	255-270	Capacitor, 27 pF 50 v 5%	NPO Disc
(parallel)	255-030-1	Capacitor, 3 pF 50 v 5%	NPO Disc 400-480
C13	255-020	Capacitor, 2 pF 5%	Type QC 140-180
C13	255-040	Capacitor, 3.9 pF 5%	Type QC 200-340
C13	255-010	Capacitor, 1 pF 5%	Type QC 400-480
C14	256-680	Capacitor, 68 pF 5%	Silver Mica
(parallel)	255-220	Capacitor, 22 pF 50 v 5%	NPO Disc 140-160
C14	256-680	Capacitor, 68 pF 5%	Silver Mica 160-165
C14	255-470	Capacitor, 47 pF 5%	Silver Mica
(parallel)	255-120	Capacitor, 12 pF 50 v 5%	NPO Disc 165-180
C14	255-470-1	Capacitor, 47 pF 5%	Silver Mica 200-160
C14	256-131	Capacitor, 130 pF 50 v 5%	NPO Disc 280-340
C14	255-470-1	Capacitor, 47 pF 5%	Silver Mica 400-480
C15		Capacitor,	NOT USED 140-180
C15	255-241	Capacitor, 240 pF 5%	Silver Mica 200-260

C15	256-131	Capacitor,	130 pF	50 v	5%	NPO Disc	300-340
C15	255-750	Capacitor,	75 pF	50 v	5%	NPO Disc	400-480
C16	268-102	Capacitor,	.001 $\mu$ F	500 v		Z5U Disc	280-480
C16	217-104	Capacitor,	.01 $\mu$ F	25 v		Disc	200-260
C16		Capacitor,				NOT USED	140-180
C17		Capacitor,				NOT USED	140-260
C17	217-103	Capacitor,	.1 $\mu$ F	100 v		Hylar	280-480
C18		Capacitor,				NOT USED	140-180
C18	268-102	Capacitor,	.001 $\mu$ F	500 v		Z5U Disc	200-480
C19		Capacitor,				NOT USED	140-180
C19	255-270	Capacitor,	27 pF		5%	NPO Disc	200-260
(parallel)	255-050	Capacitor,	5 pF		5%	NPO Disc	
C19	255-270	Capacitor,	27 pF		5%	NPO Disc	280-340
C19	255-110	Capacitor,	11 pF		5%	NPO Disc	400-480
C20		Capacitor,				NOT USED	140-180
C20	255-040	Capacitor,	3.9 pF			Type QC	200-260
C20	255-020	Capacitor,	2 pF			Type QC	280-340
C20	255-010	Capacitor,	1 pF			Type QC	400-480
C21		Capacitor,				NOT USED	140-180
C21	295-390	Capacitor,	39 pF		5%	NPO Disc	200-260
C21	255-470-1	Capacitor,	47 pF		5%	Silver Mica	280-340
C21	255-140	Capacitor,	14 pF		5%	NPO Disc	400-480
C22	256-131	Capacitor,	130 pF		5%	NPO Disc	140-180
C22		Capacitor,				NOT USED	200-260
C22	295-390	Capacitor,	39 pF		5%	NPO Disc	280-340
C22	255-270	Capacitor,	27 pF		5%	NPO Disc	400-480
C23	268-102	Capacitor,	.001 $\mu$ F	500 v		Z5U Disc	
C24	270-270	Capacitor,	27 pF			Monolithic Chip	140-180
C24	270-100	Capacitor,	10 pF			Monolithic Chip	200-260
C24	270-220	Capacitor,	22 pF			Monolithic Chip	280-340
C24	270-100	Capacitor,	10 pF			Monolithic Chip	400-480
C25	268-102	Capacitor,	.001 $\mu$ F	500 v		Disc	
C26	270-102	Capacitor,	1000 pF			Monolithic Chip	
C27	230-109	Capacitor,	1.9-15.7 pF			Trimmer	140-180
C27	230-103	Capacitor,	1.3-5.4 pF			Trimmer	200-260
C27	230-109	Capacitor,	1.9-15.7 pF			Trimmer	280-340
C27	230-103	Capacitor,	1.3-5.4 pF			Trimmer	400-480
C28	230-109	Capacitor,	1.9-15.7 pF			Trimmer	140-180
C28	230-103	Capacitor,	1.3-5.4 pF			Trimmer	200-160
C28	230-103	Capacitor,	1.3-5.4 pF			Trimmer	400-480
C29	270-201	Capacitor,	200 pF			Monolithic Chip	140-180
C29	270-680	Capacitor,	68 pF			Monolithic Chip	200-260
C29	270-220	Capacitor,	22 pF			Monolithic Chip	280-340
C29	270-220	Capacitor,	22 pF			Monolithic Chip	
(parallel)	270-407	Capacitor,	4.7 pF			Monolithic Chip	400-480
C30	268-102	Capacitor,	.001 pF	500 v		Z5U Disc	
C31	253-471	Capacitor,	470 pF	50 v	10%	Z5P Disc	
C32		Capacitor,				NOT USED	
C33	299-470	Capacitor,	4.7 $\mu$ F	16 v		Tantalum	
C34	268-102	Capacitor,	.001 $\mu$ F	500 v		Z5U Disc	
C35	217-103	Capacitor,	.1 $\mu$ F	100 v		Hylar	
C36	290-523	Capacitor,	3.5-36 pF			Trimmer	140-340
C36	230-106	Capacitor,	1.7-11 pF			Trimmer	400-480
C37	290-523	Capacitor,	3.5-36 pF			Trimmer	140-340

C37	230-103	Capacitor, 1.3-5.4 pF		Trimmer	400-480
C38	268-102	Capacitor, .001 $\mu$ F 500 v		Disc	
C39		Capacitor,		NOT USED	140-180
C39	270-220	Capacitor, 22 pF		Monolithic Chip	200-260
C39		Capacitor,		NOT USED	280-340
C39	270-100	Capacitor, 10 pF		Monolithic Chip	
D 1	412-494	Diode, 1N270			
D 2	412-494	Diode, 1N270			
D 3	414-007	Diode, 1N4007			
L 1	350-040	Inductor, 6.5 turn	Blue	Variable	140-180
L 1	350-037	Inductor, 13.5 turn	Orange	Variable	200-260
L 1	350-040	Inductor, 6.5 turn	Blue	Variable	280-480
L 2	350-040	Inductor, 6.5 turn	Blue	Variable	140-180
L 2	350-037	Inductor, 13.5 turn	Orange	Variable	200-260
L 2	350-040	Inductor, 6.5 turn	Blue	Variable	280-480
L 3	350-039	Inductor, 2.5 turn	Red	Variable	140-180
L 3	350-040	Inductor, 6.5 turn	Blue	Variable	200-260
L 3	350-039	Inductor, 2.5 turn	Red	Variable	280-480
L 4	350-039	Inductor, 2.5 turn	Red	Variable	140-180
L 4	350-040	Inductor, 6.5 turn	Blue	Variable	200-260
L 4	350-039	Inductor, 2.5 turn	Red	Variable	280-480
L 5		Inductor,		NOT USED	140-180
L 5	350-039	Inductor, 2.5 turn	Red	Variable	200-260
L 5	350-038	Inductor, 1.5 turn	Brown	Variable	280-480
L 6		Inductor,		NOT USED	140-180
L 6	350-039	Inductor, 2.5 turn	Red	Variable	200-260
L 6	350-038	Inductor, 1.5 turn		Variable	280-480
L 7		Inductor,		NOT USED	
L 8	350-152	Inductor, 6 turn	22 AWG CW		140-340
L 8	350-120	Inductor, 1.5 turn	14 AWG CW		400-480
L 9	350-153	Inductor, 4 turn	22 AWG CW		140-180
L 9	350-110	Inductor, 6 turn	20 AWG CW		200-260
L 9	350-120	Inductor, 1.5 turn	14 AWG CW		280-480
L10	350-153	Inductor, 4 turn	20 AWG CW		140-180
L10	350-154	Inductor, 5 turn	20 AWG CW		200-260
L10	350-120	Inductor, 1.5 turn	14 AWG CW		280-480
L11	513-016	Inductor, 10 turn	Ferrite		140-180
L11	513-016	Inductor, 4 turn	Ferrite		200-340
L11	513-016	Inductor, 3 turn	Ferrite		400-480
L12	350-155	Inductor, 15 turn	27 AWG CW		140-180
L12	350-121	Inductor, 10 turn	27 AWG CW		200-480
L13	350-156	Inductor, 6 turn	20 AWG C CW		140-180
L13	350-157	Inductor, 5 turn	20 AWG C CW		200-260
L13	350-114	Inductor, 3 turn	16 AWG C CW		280-340
L13	350-118	Inductor, 1.5 turn	14 AWG C CW		400-480
Q 1	440-245	Transistor, SRF-3017			
Q 2	440-245	Transistor, SRF-2017			
Q 3		Transistor,		NOT USED	140-180
Q 3	440-245	Transistor, SRF-3017			200-480
Q 4	424-427	Transistor, SRF-944			
Q 5	420-237	Transistor, BQ43 or SD1127			140-180

Q 5	420-629	Transistor, BLX65E or SD1444			200-480
R 1	145-102	Resistor, 1000 ohm	1/4 W	5%	
R 2	145-103	Resistor, 10K ohm	1/4 W	5%	
R 3	145-101	Resistor, 100 ohm	1/4 W	5%	140-180
R 3	145-331	Resistor, 330 ohm	1/4 W	5%	200-340
R 3	145-151	Resistor, 150 ohm	1/4 W	5%	400-480
R 4	145-272	Resistor, 2.7K ohm	1/4 W	5%	
R 5	145-153	Resistor, 15K ohm	1/4 W	5%	
R 6	145-680	Resistor, 68 ohm	1/4 W	5%	
R 7		Resistor,		NOT USED	140-180
R 7	145-561	Resistor, 560 ohm	1/4 W	5%	200-260
R 7	145-272	Resistor, 2.7 ohm	1/4 W	5%	280-480
R 8		Resistor,		NOT USED	140-180
R 8	145-103	Resistor, 10K ohm	1/4 W	5%	200-260
R 8	145-153	Resistor, 15K ohm	1/4 W	5%	280-480
R 9		Resistor,		NOT USED	140-180
R 9	145-680	Resistor, 68 ohm	1/4 W	5%	200-480
R10	145-331	Resistor, 330 ohm	1/4 W	5%	140-180
R10	145-561	Resistor, 560 ohm	1/4 W	5%	280-480
R11	145-103	Resistor, 10K ohm	1/4 W	5%	
R12	145-680	Resistor, 68 ohm	1/4 W	5%	140-340
R12	145-030	Resistor, 3.3 ohm	1/4 W	5%	400-480
R13	145-471	Resistor, 470 ohm	1/4 W	5%	140-180
R13	145-222	Resistor, 2.2K ohm	1/4 W	5%	200-260
R13	145-152	Resistor, 1.5K ohm	1/4 W	5%	300-340
R13	145-331	Resistor, 330 ohm	1/4 W	5%	400-480
R14	100-101	Potentiometer 100 ohm	2 W		
R15		Resistor,		NOT USED	
R16	145-471	Resistor, 470 ohm	1/4 W	5%	140-180
R16	145-472	Resistor, 4.7K ohm	1/4 W	5%	200-480
R17	145-102	Resistor, 1000 ohm	1/4 W	5%	
R18	145-473	Resistor, 47K ohm	1/4 W	5%	



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 1989 800-169	TITLE 2.5 WATT RF POWER AMPLIFIER
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PARTS LIST  
 2.5 WATT POWER AMP.  
 MARTI NO. 800-169  
 RPT 2 (150 & 450)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>BAND (MHz)</u>
C1	219-200	Capacitor, Electrolytic 22 uf 25V.	
C2	236-501	Capacitor, Mica 500pf 350V. 10%	
C3	236-501	Capacitor, Mica 500pf 350V. 10%	
C4	240-600	Capacitor, Variable 7-60pf	150
C4	260-300	Capacitor, Variable 8-45 pf	215-340
C4	260-100	Capacitor, Variable 2.5-10pf	450
C5	240-602	Capacitor, Variable 15-115	150
C5	260-300	Capacitor, Variable 8-45 pf	215-340
C5	260-100	Capacitor, Variable 2.5-10pf	450
C6	240-600	Capacitor, Variable 7-60pf	150
C6	260-300	Capacitor, Variable 8-45 pf	215-340
C6	260-100	Capacitor, Variable 2.5-10pf	450
C7	240-602	Capacitor, Variable 15-115pf	150
C7	260-300	Capacitor, Variable 8-45 pf	215-450
C8	236-501	Capacitor, Mica 500pf 350V. 10%	
C9	240-220	Capacitor, 22pf 350V. 5% Mica	150
C9	240-160	Capacitor, 16pf 350V. 5% Mica	166-215
C9	240-120	Capacitor, 12pf 350V. 5% Mica	300-340
C9	240-802	Capacitor, 8.2pf 350V. 5% Mica	450
C10	240-220	Capacitor, 22pf 350V. 5% Mica	150
C10	240-160	Capacitor, 16pf 350V. 5% Mica	166-215
C10	240-120	Capacitor, 12pf 350V. 5% Mica	300
C10	240-802	Capacitor, 8.2pf 350V. 5% Mica	450
C11	217-103	Capacitor, Disc 0.1 uf 100V. Mylar	
D1	412-494	Diode, 1N270	150-340
D1	410-666	Diode, FDH666	450
J4	550-012	Connector, SO-239 UHF Jack	
L1	330-019	Inductor, VK 20010-3B	
L2	350-114	Inductor, One turn 16 AWG	150-215
L2		NOT USED	300-450
L3		Inductor, Marti Special	150-170
L3	350-117	Inductor, 8 turn 22 AWG CCW	215-450
L4	350-112	Inductor, 3 turn 22 AWG CCW	150-235
L4	350-117	Inductor, 8 turn 22 AWG CCW	300-450
L5	350-113	Inductor, 3 turn 16 AWG CW	150-170
L5	350-109	Inductor, 2 turn 16 AWG CW	215-235
L5		NOT USED	300-450
L6		OMITTED FROM BOARD	
L7	350-111	Inductor, 3 turn 20 AWG CW	150-170
L7	350-143	Inductor, 2 turn 20 AWG CW	215-235
L7	350-116	Inductor, 1 turn 20 AWG CCW	300-450
L8	350-110	Inductor, 6 turn 20 AWG CW	150-170
L8	350-142	Inductor, 4 turn 20 AWG CW	215-235
L8	350-111	Inductor, 3 turn 20 AWG CW	300-450
L9	350-111	Inductor, 3 turn 20 AWG CW	150-170
L9	350-143	Inductor, 21 turn 20 AWG CW	215-235
L9	350-116	Inductor, 1 turn 20 AWG CCW	300-450

PARTS LIST  
 2.5 WATT POWER AMP.  
 MARTI NO. 800-169  
 RPT 2 (150 & 450) CONT.

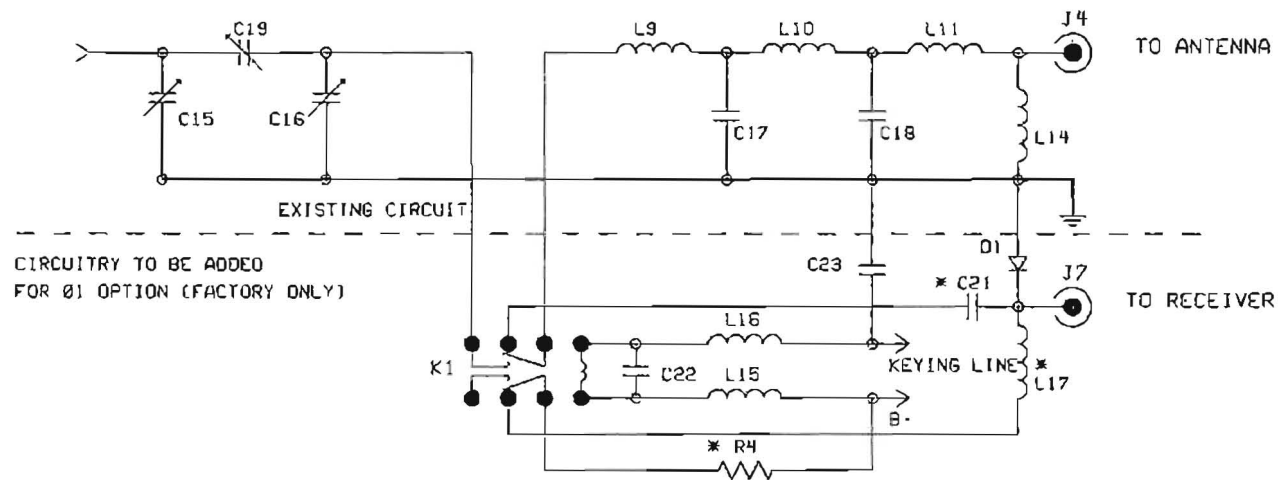
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>BAND (MHz.)</u>
L10	330-012	Inductor, 18 uH Choke	
L11	350-148	Inductor, 15 turn 20 AWG CW	150-170
L11		Inductor, 12 turn 20 AWG CW	
		Marti Special	215-235
L11	350-149	Inductor, 9 turn 20 AWG CW	300-450
P1	550-133	Connector, Phono plug	
Q1	440-312	Transistor, RF Power BLY87A	150-215
Q1	425-945	Transistor, RF Power BLW80	300-450
R1	145-680	Resistor, 68 ohm $\frac{1}{2}$ W 5%	
R2	145-151	Resistor, 150 ohm $\frac{1}{2}$ W. 5%	150
R2	145-470	Resistor, 47 ohm $\frac{1}{2}$ W. 5%	215-450
R3	145-220	Resistor, 22 ohm $\frac{1}{2}$ W. 5%	150-170
R3		NOT USED	215-450
R4	145-100	Resistor, 10 ohm $\frac{1}{2}$ W. 5%	150-170
R4		NOT USED	215-450
R5		NOT USED	150-170
R5	145-221	Resistor, 220 ohm $\frac{1}{2}$ W. 5%	215-235
R5		NOT USED	300-450

PARTS LIST  
 15 WATT POWER AMP.  
 MARTI NO. 800-170  
 RPT 15 (150 & 450) CONT.

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>BAND (MHz)</u>
D1	412-494	Diode, 1N270	
J4	550-012	Connector, SO-239 UHF Jack	
L1	350-114	Inductor, 1 turn 16 AWG CCW	150-170
L1		NOT USED	215-960
L2	350-112	Inductor, 3 turn 22 AWG CCW	150-340
L2	350-117	Inductor, 8 turn 22 AWG CCW	450-960
L3		Inductor, Marti Special	150-170
L3	350-117	Inductor, 8 turn 22 AWG CCW	215-960
L4	330-019	Inductor, VK 20010-3B	150-960
L5		Inductor, 1/2 turn 16 AWG Marti Special	150-340
L5		NOT USED	450-960
L6	350-117	Inductor, 8 turn 22 AWG CCW	150-960
L7	350-117	Inductor, 8 turn 22 AWG CCW	150-960
L8	350-109	Inductor, 2 turn 16 AWG CCW	150-170
L8		Inductor, 1/2 turn 16 AWG Marti Special	215-235
L8		NOT USED	300-960
L9	350-111	Inductor, 3 turn 20 AWG CW	150-170
L9	350-143	Inductor, 2 turn 20 AWG CW	215-235
L9	350-116	Inductor, 1 turn 20 AWG CCW	300-450
L9		NOT USED	960
L10	350-110	Inductor, 6 turn 20 AWG CW	150-170
L10	350-142	Inductor, 4 turn 20 AWG CW	215-340
L10	350-111	Inductor, 3 turn 20 AWG CW	450
L10		NOT USED	960
L11	350-111	Inductor, 3 turn 20 AWG CW	150-170
L11	350-143	Inductor, 2 turn 20 AWG CW	215-234
L11	350-116	Inductor, 1 turn 20 AWG CCW	300-450
L11		NOT USED	960
L12	330-012	Inductor, 18 uH Choke	
L13	330-012	Inductor, 18 uH Choke	
L14	350-148	Inductor, 15 turn 20 AWG CW	150-170
L14		Inductor, 12 turn 20 AWG CW Marti Marti Special	215-340
L14	350-149	Inductor, 9 turn 20 AWG CW	450
L14		NOT USED	960
P1	550-133	Connector, Phono Plug	
Q1	440-312	Transistor, 4 watt VHF 2N6080	150-170
Q1	425-945	Transistor, 4 watt UHF BLW-80	215-960
Q2	420-246	Transistor, 20 watt VHF BLY89C	150-170
Q2	443-032	Transistor, 20 watt UHF SD1422	215-960

PARTS LIST  
 15 WATT POWER AMP.  
 MARTI NO. 800-170  
 RPT 15 (150 & 450) CONT.

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>BAND (MHz.)</u>
R1	145-151	Resistor, 150 ohm $\frac{1}{4}$ W 5%	150-170
R1	145-470	Resistor, 47 ohm $\frac{1}{4}$ W 5%	215-960
R2	145-470	Resistor, 47 ohm $\frac{1}{4}$ W 5%	
R3	145-681	Resistor, 680 ohm $\frac{1}{4}$ W 5%	
R4	145-220	Resistor, 22 ohm $\frac{1}{4}$ W 5%	150-170
R4		NOT USED	215-960
R5	145-100	Resistor, 10 ohm $\frac{1}{4}$ W 5%	150-170
R5		NOT USED	215-960
R6		NOT USED	150-170
R6	145-030	Resistor, 3.3 ohm $\frac{1}{4}$ W 5%	215-340
R6		NOT USED	450-960
R7		NOT USED	150-170
R7	145-220	Resistor, 22 ohm $\frac{1}{4}$ W 5%	215-235
R7		NOT USED	300-960



\* C21, L17 & R4 ARE USED IN MOBILE SITUATIONS ONLY C21 IS REPLACED BY A DIRECT CONNECTION TO J7 IN BASE STATION & AUTOMATIC RELAY STATIONS

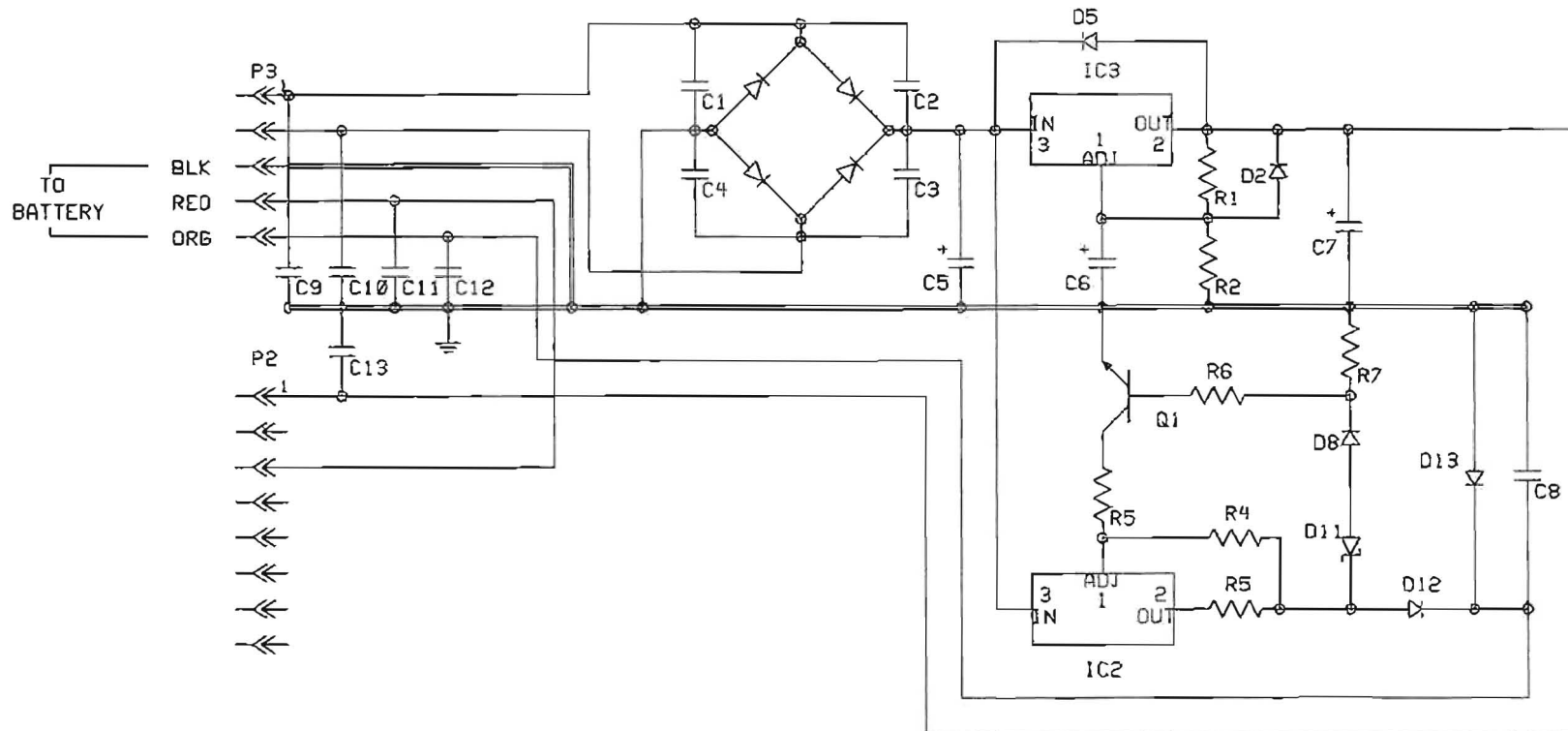
ITEM	PART NO	DESCRIPTION
C21	253-471	CAPACITOR, 470 PF 10X Z5U TYPE B
C22	253-471	CAPACITOR, 470 PF 10X Z5U TYPE B
C23	236-501	CAPACITOR, 500 PF 350 V
D2	410-666	DIODE, FDH 666
K1	570-034	RELAY, 12 VOLT
L15	330-002	CHOKE, Z-460
L16	330-002	CHOKE, Z-460
L17	330-002	CHOKE, Z-460
R4	115-030	RESISTOR, 3 3 OHM 1 WATT

NOTE FOR 150 MHZ  
L15, L16 & L17 CHANGE TO Z-144  
MARTI PART NO 330-003

MARTI ELECTRONICS  
CLEBURNE, TX 76033-0661

DRAWING NO  
COPYRIGHT 1989 702-042

TITLE  
"01" OPTION

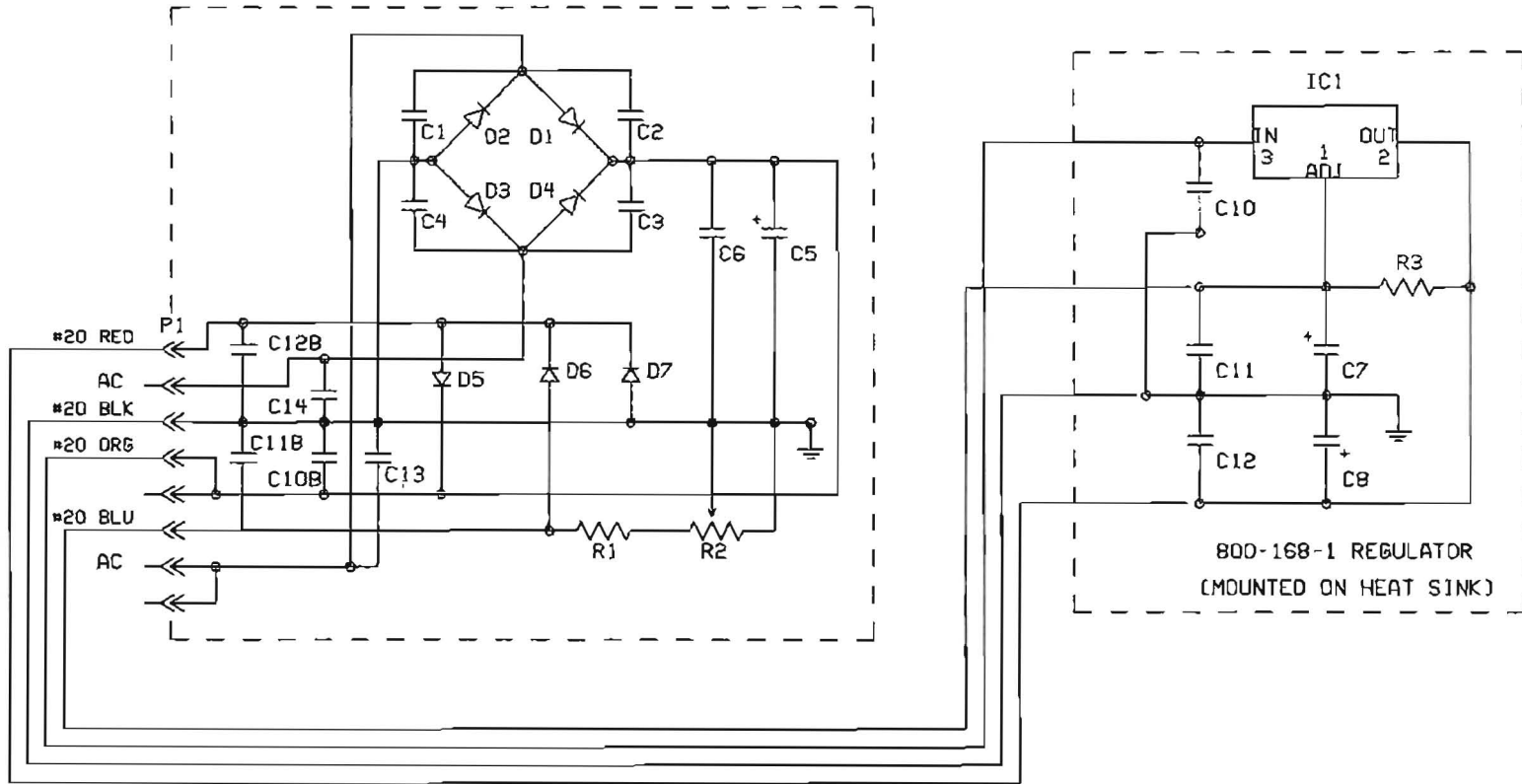


FOR REMAINING CIRCUITRY SEE MAIN FRAME DRAWING 702-003 (REVISED 10/11/87)

<p>MARTI ELECTRONICS CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO COPYRIGHT 1989</p> <p>800-167</p>	<p>TITLE</p> <p>RPT-2 POWER SUPPLY BOARD</p>
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PARTS LIST  
RPT-2 POWER SUPPLY/BATTERY CHARGER  
MARTI 800-167

Item	MARTI No.	Description
C01	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C02	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C03	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C04	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C05	219-332	Capacitor, 3300 mf 25v electrolytic
C06	219-200	Capacitor, 22 mf 25v electrolytic
C07	219-080	Capacitor, 10 mf 25v electrolytic
C08	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C09	270-102	Capacitor, 1000 pf 50v monolithic chip
C10	270-102	Capacitor, 1000 pf 50v monolithic chip
C11	270-102	Capacitor, 1000 pf 50v monolithic chip
C12	270-102	Capacitor, 1000 pf 50v monolithic chip
C13	270-102	Capacitor, 1000 pf 50v monolithic chip
D01	414-007	Diode, 1N4007
D02	414-007	Diode, 1N4007
D03	414-007	Diode, 1N4007
D04	414-007	Diode, 1N4007
D05	414-007	Diode, 1N4007
D06		Not used
D07	414-007	Diode, 1N4007
D08	410-914	Diode, 1N4148
D09		Diode, factory selected
D10		not used
D11	415-244	Diode, 1N5244B, 14v Zener
D12	414-007	Diode, 1N4007
D13	415-401	Diode, 1N5402, 3A 100 PIV
IC1	400-317	IC, LM317T voltage regulator
IC2	400-317	IC, LM317T voltage regulator
Q1	425-301	Transistor, 2N3904
R01	145-241-1	Resistor, 240 ohm 1/4 watt 2% Corning
R01a	145-752	Resistor, 7.5k ohm 1/4 watt 5%
R02	145-222-1	Resistor, 2.7k ohm 1/4 watt 2% Corning
R03	125-100	Resistor, 10 ohm 2 watt 5% BWH
R04	145-241-1	Resistor, 240 ohm 1/4 watt 2% Corning
R05	145-300	Resistor, 30 ohm 1/4 watt 5%
R06	145-472	Resistor, 4.7k ohm 1/4 watt 5%
R07	145-221	Resistor, 220 ohm 1/4 watt 5%



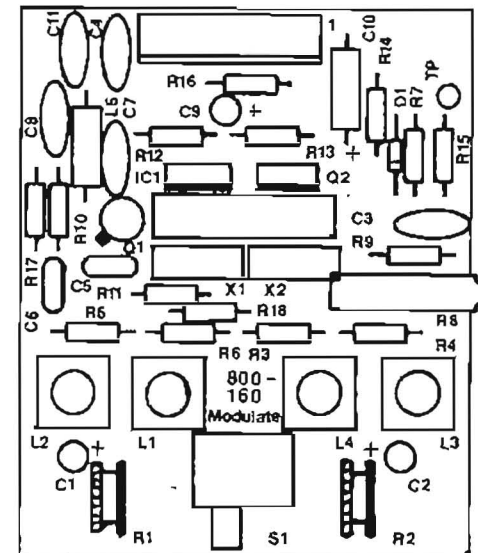
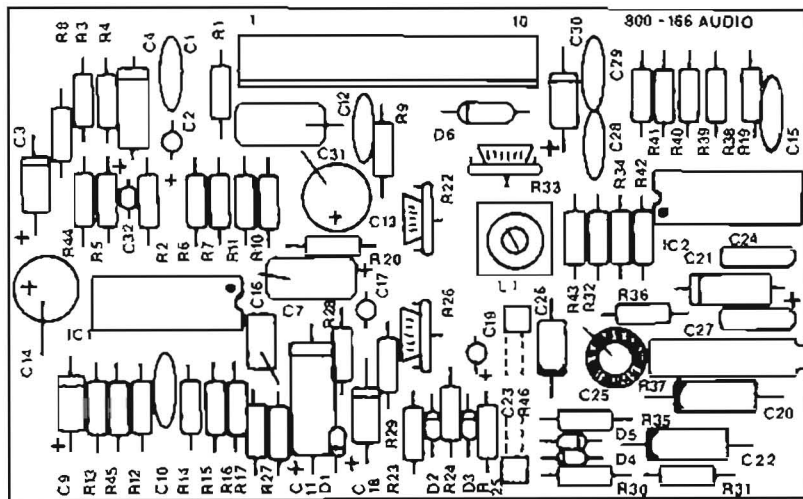
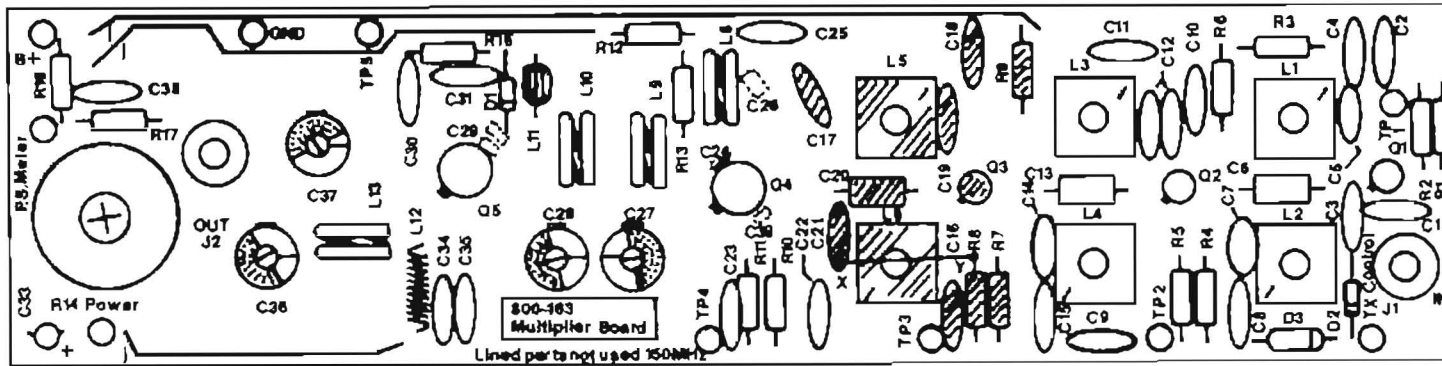
<p>MARTI ELECTRONICS CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO. COPYRIGHT 1989 800-168</p>	<p>TITLE POWER SUPPLY &amp; REGULATOR</p>
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PARTS LIST  
RPT-15 POWER SUPPLY & REGULATOR  
MARTI 800-168 & 800-168-1

Item	MARTI No.	Description
C01	268-102	Capacitor, .001 mf 50v Z5U disc
C02	268-102	Capacitor, .001 mf 50v Z5U disc
C03	268-102	Capacitor, .001 mf 50v Z5U disc
C04	268-102	Capacitor, .001 mf 50v Z5U disc
C05	219-153	Capacitor, 15000 mf 25v electrolytic
C06	217-103	Capacitor, .1 mf 100v 10% mylar
C07	219-250	Capacitor, 22 mf 25v electrolytic
C08	219-250	Capacitor, 22 mf 25v electrolytic
C10	268-102	Capacitor, .001 mf Z5U disc
C10b	268-102	Capacitor, .001 mf 50v Z5U disc
C11	268-102	Capacitor, .001 mf Z5U disc
C11b	268-102	Capacitor, .001 mf 50v Z5U disc
C12	268-102	Capacitor, .001 mf Z5U disc
C18	270-102	Capacitor, 1000 pf 50v monolithic chip
C19	270-102	Capacitor, 1000 pf 50v monolithic chip
C20	270-102	Capacitor, 1000 pf 50v monolithic chip
C21	270-102	Capacitor, 1000 pf 50v monolithic chip
C22	270-102	Capacitor, 1000 pf 50v monolithic chip
C23	270-102	Capacitor, 1000 pf 50v monolithic chip
C24	270-102	Capacitor, 1000 pf 50v monolithic chip
C25	270-102	Capacitor, 1000 pf 50v monolithic chip
C26	270-102	Capacitor, 1000 pf 50v monolithic chip
C27	270-102	Capacitor, 1000 pf 50v monolithic chip
C28	270-102	Capacitor, 1000 pf 50v monolithic chip
C29	270-102	Capacitor, 1000 pf 50v monolithic chip
D01	415-401	Diode, 1N5402
D02	415-401	Diode, 1N5402
D03	415-401	Diode, 1N5402
D04	415-401	Diode, 1N5402
D05	414-007	Diode, 1N4007
D06	414-007	Diode, 1N4007
D07	415-401	Diode, 1N5402
IC-1	400-338	IC LM380K
J01		not used
J02		not used
J03		not used
J04		not used
J05	550-154	Connector, 9 pin D-sub Rt. angle
L01	330-019	Choke, VK20010-3B
L02	330-018	Choke, 10 uH 43LQ105
L03	330-018	Choke, 10 uH 43LQ105
L04	330-018	Choke, 10 uH 43LQ105
L05	330-018	Choke, 10 uH 43LQ105
L06	330-019	Choke, VK20010-3B
R01	145-202-1	Resistor, 2k ohm 1/4 watt Corning
R02	100-501	Potentiometer 500 ohm trimmer Cermet
R03	145-241-1	Resistor, 240 ohm 1/4 watt 2% Corning
R04	100-522	Potentiometer 5k ohm trimmer Cermet





<p>MARTI ELECTRONICS CLEBURNE, TX 76033-0661</p>	<p>DRAWING NO 702-040 COPYRIGHT 1989</p>	<p>TITLE PARTS LOCATORS</p>
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