Instruction Manual

SRPT-40
REMOTE TRANSMITTER

PRELIMARY MANUAL

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 returned to Marti at its factory, transportation prepaid and properly insured, provided:

a. Notice of the claimed defect is given to Marti within one (1) year [two (2) years for STL systems] from date of original shipment and goods are returned 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 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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This product could include technical inaccuracies or typographical errors.

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Introduction

The Marti Model SRPT-40 Transmitter is designed to operate in the Remote Pick-Up Broadcast Service as defined in Part 74, Subpart D, of the FCC Rules and Regulations. Refer to "Specifications" for a listing of the available bandwidths. This transmitter, when used with the recommended companion receiver, provides a remote broadcast link having audio quality not approached by conventional voice communication radio equipment. The SRPT-40 transmitter operates from both 90 to 264 volt, 50 - 60 Hz. AC commercial power and 11 to 14 volt battery (NEGATIVE GROUND) supply in fixed, portable, or mobile, service. Four 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 thousands of remote pick-up broadcast transmitters over the past 25 years has been applied to this model, resulting in the highest audio quality possible, consistent with transmission bandwidth and other factors.

The SRPT-40 has been designed to operate with other Marti equipment to form large communications systems capable of covering large areas with broadcast-quality audio, while providing continuous-duty operation. The SRPT-40 finds applications in mobile repeaters, fixed automatic repeaters, base stations, and TSL (transmitter-to-studio data links).

SRPT-40 Features:

- **Continuous-duty output - 40 watts at 450 MHz. - 40 watts at 455 MHz.**
- **Four balanced microphone mixing inputs, one switchable to balanced line level.**
- **Frequency agile thumb-wheel selectable channels (79 channels in each band)**
- **Sub-Audible Encoder.**
- **Internal FM Compressor-Limiter.**
- **Switching Power Supply operates on any AC voltage from 90 - 264 VAC, 50 - 60 Hz.**
- **Flashing LEDs indicate antenna VSWR problems and over-temperature conditions**
- **Illuminated VU Meter.**

Model SRPT-40
Remote Pick-Up Broadcast Transmitter

Specifications

Frequency Bands and Maximum Power Output:	400 - 455 MHz. - 40 watts
RF Connector:	SO-239
Operating Temp. Range:	-10 Cº to +45 Cº
Modulation (Specify):	10KOF3E FCC Frequency Group P 25KOF3E FCC Frequency Group K, L, N2 50KOF3E FCC Frequency Group N1, R
Channels (Frequencies):	79 channels in each band.
Frequency Stability:	Mobile: .0005% Base: .00025% (above 400 MHz.)
Spurious Emissions:	Meets FCC requirements.
Audio inputs:	Four balanced microphone (150 ohms) inputs (XLR-3) with mixing controls. One input switchable to balanced line level at microphone #4 input and D connector on rear panel.
Modulation Control:	Broadcast-quality compressor/limiter built in.
Encoding:	Subaudible 27 Hz. tone encoder built in.
Metering/Indicators:	Illuminated meter indicates audio compression, relative RF output, relative supply voltage. Flashing LEDs indicate "Antenna" (VSWR too high) and "Temp." (over-temperature indicator).
Controls:	(4) INPUT LEVEL, METER switch, ENCODE switch, FREQUENCY switch, MONITOR jack.
Power Requirements:	90 to 264 VAC, 50/60 Hz DC operation on 11 - 13.5 volt **negative ground**.
Accessory Connector:	9-pin D connector for DC power, remote control, encode, line level input.
Weight:	Net 8 pounds. Domestic packed 11 pounds. Net 3.63 kilograms. Export packed 5.27 kilograms.
Dimensions:	11.5 in. wide x 3.5 in. high x 13.3 in. deep. (29.21 cm. wide x 8.89 cm. high x 33.78 cm. deep.)

Options available:	For a complete listing see below.
Type Acceptance Numbers (FCC Part 74):	FCC ID: FCC ID:
DOC (Canada) Numbers:	

Available OPTIONS for the SRPT-40 Transmitter

Marti No.	Description
700-251	Mobile Mounting kit. Includes 586-074 DC power cable.
586-074	SRPT-40/RPT-30 DC power plug, cable fuse.
586-073	12' microphone cable for push-to-talk control of 700-251 mobile kit. (Requires dynamic microphone with XLR-4 male connector.
585-037-1	Fixed repeat cable, CR-10 to SRPT-40/RPT-30.
585-037-2	Mobile repeat cable, AR-10 to SRPT-40/RPT-30.
700-253	Rack mounting kit.
550-111	DB-9 female plug for RPT series Accessory connector. Requires 550-066 shell below.
550-066	DB-9 shell for 550-111 above (order together).
570-038	Antenna relay for 2-way operation (requires factory installation).
585-026	20 inch coax cable connects SRPT-40/RPT-30 with receiver for two-way operation.
585-038-2	Mute cable, mutes receiver while transmitting during two-way operation.

UNPACKING & 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, stop 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. Strong radio-frequency (RF) fields should be avoided where possible. Extensive shielding and filtering have been incorporated into this equipment to permit operation in moderate RF environments. All equipment racks, cabinets, etc., should be bonded together by wide copper grounding strap to ensure that all system elements are at RF ground potential.

STATIONARY REMOTE BROADCAST INSTALLATION

The basic stationary remote installation consists of the SRPT-40 transmitter, a 90-264 VAC power source, microphones and other audio program sources, and a portable antenna. Remotes using portable antennas inside buildings have very limited range (typically less than one mile). If greater range is needed, consider locating the transmitting antenna outside the building at a height necessary to provide a line-of-sight path to the receiving antenna. This may not be practical if a great length of coaxial cable is required. Many broadcasters are using the Marti mobile relay system to do remotes from inside buildings. This system consists of the originating transmitter with its antenna inside the building which transmits to a "mobile relay" parked outside the building. The mobile relay consists of a Marti Model AR-10 receiver and Marti RPT series transmitter with mobile antennas installed in a vehicle. The AR-10 receiver picks up the encoded signal originating from the RPT series transmitter located inside the building, automatically turns on the relay transmitter (on a different frequency), which re-transmits the program to the distant receiving antenna at the radio station studio or transmitter site. (Mobile relay equipment packages are available from Marti.)

STATIONARY REMOTE INSTALLATION PROCEDURE

1. The transmitter is normally located near the announcer or engineer to permit access to gain controls, microphone inputs, the monitor jack, and metering.

CAUTION

HIGH LEVEL RF RADIATION

Personnel must not be near the antenna when radiating. Locate antenna as far as possible from people and equipment susceptible to RF radiation. Do not mount antenna directly on transmitter. Refer to ANSI C95.1 "Limits on Non-Ionizing Radiation."

2. With the SRPT-40 CONTROL switch in "OFF" position, plug the transmitter into a grounded, three-prong, 90-264 volt, AC outlet.

WARNING

THIS EQUIPMENT MUST BE OPERATED WITH A 3-PRONG, GROUNDED, 90-264 VOLT, AC OUTLET RECEPTACLE!

FAILURE TO USE A PROPERLY GROUNDED OUTLET COULD RESULT IN A SAFETY HAZARD OR FAULTY EQUIPMENT PERFORMANCE. IF AN EXTENSION CORD IS USED, IT MUST BE THE THREE-WIRE GROUNDING TYPE TO INSURE SAFETY.

DO NOT CUT OFF THE GROUND PIN OF A 3-PRONG PLUG!

Excessively long extension cords should be avoided since the voltage drop can degrade

equipment performance. Do not allow the SRPT-40 to get wet. Do not operate where personnel touching the transmitter (or its microphone, antenna, or other connected equipment) are standing on wet ground or concrete.

3. For locations where AC power is not available, the SRPT-40 can be powered from a fully charged automobile battery. The SRPT-40 draws five (5) amps at 12.6 volts DC. Use D.C. Power Cable, Fuse and Plug, No. 586-074.

OBSERVE POLARITY: Red wire is (+) Positive and Black is (-) Negative.

4. Connect a portable antenna such as the Marti PAV/150, PAV-450, or YC-450 to the ANTENNA connector on the back of the transmitter.

MOBILE INSTALLATION

The SRPT-40 transmitter can be installed in the vehicle where the controls ("OFF" - "STANDBY" - "TRANSMIT") can be operated directly, or the transmitter can be located elsewhere (in the trunk of a car or rear of a van) and controlled remotely. The choice depends upon the type of vehicle and the type of operation anticipated. The antenna(s) are usually mounted on top of the vehicle to provide maximum height.

Transmitter Mounting

1. Locate transmitter where vent holes on top and rear of unit are not obstructed. Leave enough space for the mic. plug on the front panel and the accessory plug on rear of unit.

2. Hook the four mounting fasteners (in retracted position in the four slots on the sides of the transmitter. See Fig. 1. (Fasteners are in Mobile Mounting Kit, 700-251)

3. Mark the location of the two mounting holes in each fastener bracket. Drill 7/64" diameter holes into the mounting surface at the marked places for #6 x 1/2" sheet metal screws.

4. Attach the mounting fasteners with the sheet metal screws provided. Secure the transmitter with the fasteners.

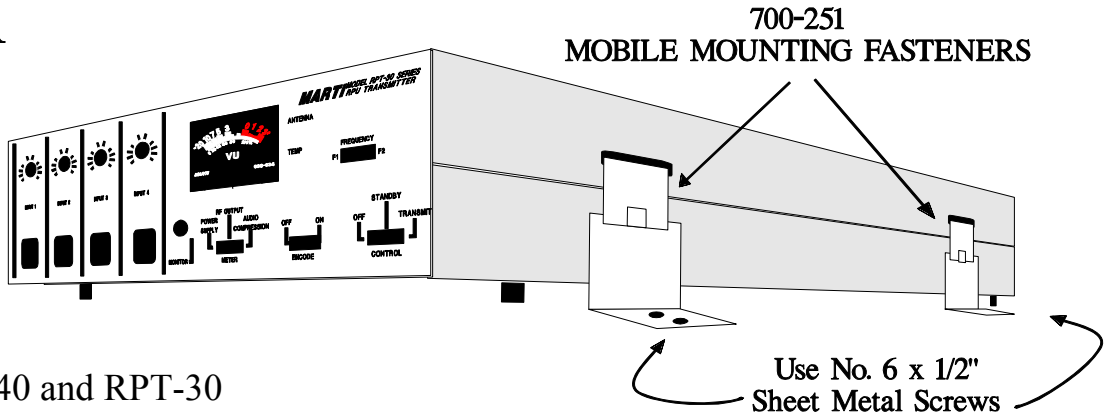
Receiver Mounting

For mobile repeat using the Marti AR-10 Mobile Repeat Receiver, mount the receiver near the transmitter using the three fasteners supplied in Mobile Mounting Kit, 700-251.

Electrical Connections

WARNING: This equipment is designed for NEGATIVE GROUND, 12 volt vehicles only. Reverse polarity may destroy all transistors in the SRPT-40!

FIG. 1



SRPT-40 and RPT-30

Mobile Remote Control

Remote control of the SRPT-40 transmitter requires a switch to control primary +12 volt DC power and a second switch to control the transmit function. The primary +12 volt control requirement can be met by tapping the "Accessory" circuit of the vehicle which is controlled by the ignition switch. The "transmit" function can be performed by installing a switch on the vehicle or by the push-to-talk switch on a microphone such as the Marti MCD-70B.

FIG. 2. shows the electrical circuit of a mobile installation.

CAUTION: TOTAL CONTROL CIRCUIT RESISTANCE MUST NOT EXCEED 0.3 OHMS!

Control circuits having more than 0.3 ohms resistance should employ a relay with low resistance contacts located near the transmitter.

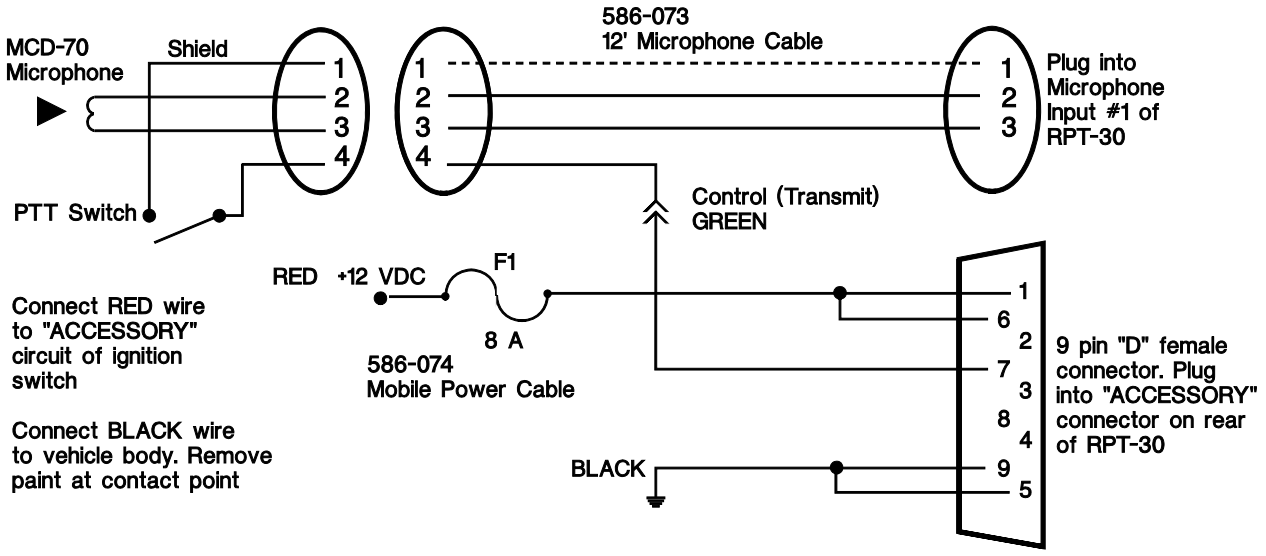
Mobile Repeat

Mobile repeat operation is covered under **STATIONARY REMOTE BROADCAST INSTALLATION**. Electrical connection is through Mobile Repeat Cable No. 585-037-2. This cable is connected between the SRPT-40 transmitter and AR-10 receiver. Power is obtained by connecting the fused RED wire to the vehicle "Accessory" +12 volt circuit controlled by the vehicle ignition switch. The electrical diagram of this cable is shown in FIG. 3.

Mobile Antenna Installation

One or more mobile antennas are required depending upon the various receive and transmit frequencies and whether antenna duplexing is used. Antennas are specified in the various system packages listed in the Marti literature. The installer should follow the instructions supplied with the mobile antennas.

FIG. 2.



FIXED BASE STATION, TSL, & REPEATER INSTALLATION

1. Install transmitter in standard rack by using Rack Mounting Kit No. 700-253 available from Marti. CAUTION: Allow one panel space above and below transmitter for inlet air-flow to internal fan.

2. Connect transmitting antenna to ANTENNA connector on SRPT-40 rear panel.

3. If a receiver is to share the antenna with the transmitter (as in a two-way base station), the transmitter must be equipped with optional Antenna Relay No. 570-038 available from Marti. After relay is installed, connect RECEIVER jack on SRPT-40 rear panel to receiver antenna connector using 20-inch Coaxial Cable No. 585-026. Receiver muting during transmitting is accomplished using Mute Cable No. 585-038-2. This cable plugs into the ACCESSORY connectors on each unit.

4. Plug transmitter into a 3-prong, grounded 90-264 volt, AC outlet. WARNING: Failure to use a properly grounded outlet could result in a safety hazard or faulty equipment performance.

5. For fixed automatic repeater operation, connect Cable No. 585-037-1 (FIG. 4.) between accessory connectors of the receiver and SRPT-40 transmitter. Connect receiving antenna to receiver J6 and transmit antenna to SRPT-40 ANTENNA connector.

FIG. 3.

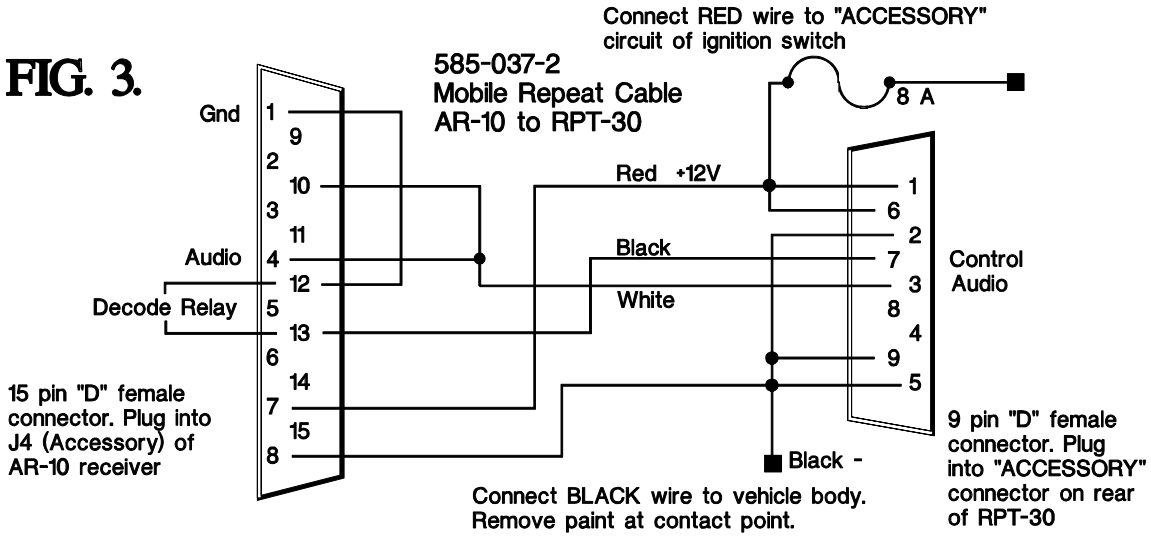
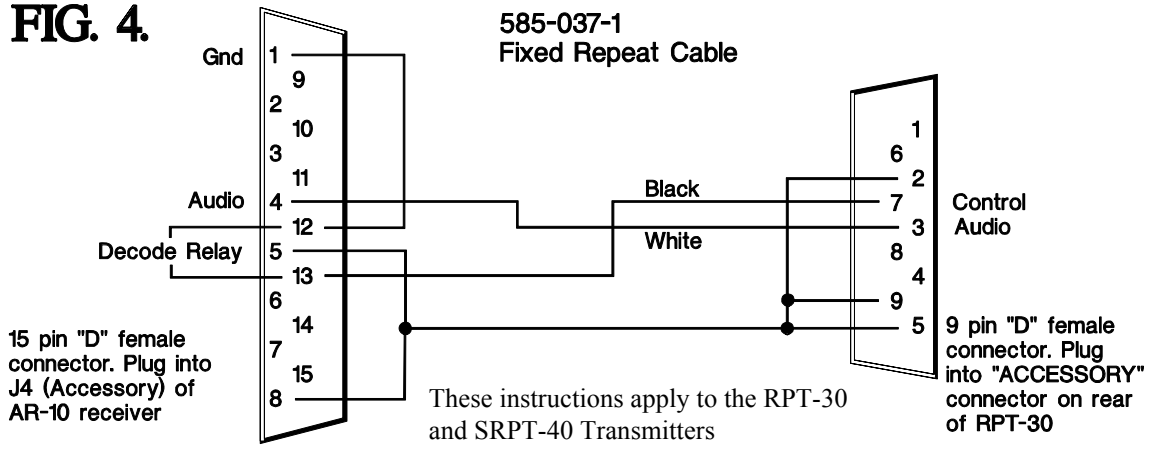


FIG. 4.



These instructions apply to the RPT-30 and SRPT-40 Transmitters

ANTENNAS

BASE STATION ANTENNA INSTALLATION CHECKLIST

The following suggestions are offered to help those responsible for antenna installations avoid costly errors in assembly and adjustment. Marti Electronics assumes no responsibility for the installation and performance of antenna systems associated with its equipment. The following suggestions are not intended to be a complete step-by-step procedure, simply a listing of some of the most frequently reported errors in antenna system installation.

Antenna Assembly

Follow the manufacturer's instructions carefully. If no instructions were included with the antenna, call or write the antenna manufacturer for instructions. Antennas which have phasing or stacking cables must be assembled carefully to avoid phase reversal or signal cancellation.

Transmission Line Connector Assembly

Do not use RG-58 U or RG-8 U cable for STL station antennas! They have too much loss at VHF and UHF frequencies. Follow the instructions furnished by the manufacturer when cutting coaxial cable. Inspect the cable ends for small metal fragments which can short-circuit the line inside the connector assembly. Check the line for a short-circuit condition after each connector is installed by using an ohmmeter. Pressurized line should be checked for several days under pressure before installation on a tower to ensure that there are no leaks in the line or fittings

Moisture Proofing Coax Connectors and Fittings

Extreme care must be exercised with coaxial cable before and after connectors have been installed to ensure that moisture does not enter the line. Foam dielectric line can take on moisture absorption which is difficult to detect and remedy. Therefore, keep the line dry while in storage with ends tightly capped. Coaxial splices, connectors, and fittings, to be located outside should be made mechanically tight, then coated with a weather-proofing material over at least two layers of vinyl plastic electrical tape. Moisture problems in antenna systems are usually traced back to connectors which have NOT been properly taped. The Marti K-1 Grounding and Weatherproofing Kit is recommended for use in each new antenna installation.

Location and Grounding of Coaxial Cable

Keep the RPU receiver coaxial cable as far from the broadcast transmitter and its coaxial cable as possible. ***DO NOT STRAP RECEIVER CABLE TO THE MAIN ANTENNA CABLE AT ANY POINT. PLACE THE RECEIVER ANTENNA COAXIAL CABLE ON THE OPPOSITE SIDE OF THE TOWER FROM THE MAIN ANTENNA CABLE***. Maintain maximum separation between these cables at all points, including the distance from tower base to transmitter building as well as inside the building.

System Grounding

It is essential that the RPU antenna system be properly grounded for safety and proper operation.

Antenna Installation and Adjustment

The polarization of the transmit and receive antennas of the RPU system must be the same! This means that if the transmitting antenna is vertical, the receiving antenna must also be vertical. Each antenna should be attached to the tower using the proper side mount or top mount hardware. If an RF wattmeter is available, each antenna and transmission line can be checked for VSWR when the transmitter is supplying power to it. The VSWR should be less than 1.5 to 1 (1.5:1). **IF THE ANTENNA SYSTEM FAILS TO GIVE THE PREDICTED SIGNAL STRENGTH LEVEL, THE FOLLOWING ITEMS SHOULD BE CHECKED:**

1. Check for correct assembly of antenna.
2. Check that antennas have same polarity.
3. Check VSWR of both transmit and receive antennas. VSWR should be less that 1.5:1.
4. Check for obstructions in the path such as trees and man-made structures. The base antenna must be high enough to provide a line-of-sight path to the remote transmitting antenna.

CAUTION & WARNING

YOU CAN BE *KILLED* IF AN ANTENNA COMES IN CONTACT WITH ELECTRIC POWER LINES OR EXPOSED ELECTRICAL WIRING. FOR YOUR SAFETY USE EXTREME CAUTION WHEN INSTALLING ANTENNAS. KEEP AWAY FROM POWER LINES.

Operation

CONTROL & CONNECTOR FUNCTIONS

BAND Switch

This switch selects either the 450 MHz or 455 MHz bands.

MIC Input Connectors

These balanced inputs are for a 150 ohm dynamic microphone such as the Shure BG 1.0 with standard XLR-3 or A3M connector. Microphone connections are given in INSTALLATION.

Input 4 can operate at MIC LEVEL or HIGH LEVEL by means of a SELECTOR SWITCH inside the transmitter just behind the Input 4 pot. The unit is factory selected for "HI" (HIGH) LEVEL balanced input for use with tape machines, etc. To convert Input 4 to MIC (microphone) LEVEL, remove top cover and move switch to "MIC".

ACCESSORY Input Connector

When Input 4 is switched to "HI" level, audio can be fed into pins 2 and 3 of the ACCESSORY connector on the rear of the transmitter. Input level should be between 0.2 volts to 2.0 volts rms. The output impedance of the device connected to Input 4 should be 8 - 600 ohms. For unbalanced operation ground pin 2 to pin 5 and connect audio to pin 3. Use standard 9-pin "subminiature D" female connector with cover. "TRANSMIT" control can be accomplished remotely by a low resistance switch circuit connected to pins 7 and 9. **CAUTION: TOTAL CONTROL CIRCUIT RESISTANCE MUST NOT EXCEED 0.3 OHMS!**

GAIN Controls

The GAIN potentiometer located above 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 CONTROL switch in "STANDBY" position and allow METER pointer to reach 0 VU. Slowly increase gain (clockwise) until METER begins 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 microphone and reduce MIC gain until a maximum of -2 VU 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/limited built into the unit will maintain modulation at the maximum level while preventing overmodulation.

CONTROL Switch

When the transmitter is not in use the CONTROL switch should be in the "OFF" position. The switch should be placed in "STANDBY" position at least 2 minutes before transmission is anticipated. This activates all audio circuits, MONITOR jack and METER. Current drain is minimal in "STANDBY" position. The CONTROL switch is placed in "TRANSMIT" position when transmission is desired. The CONTROL switch should be returned to "STANDBY" or "OFF" position as soon as a transmission is completed.

ENCODE Switch

The internal subaudible encoder can be switched "ON" or "OFF" by the front 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 headset having 300 ohms 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, 1/8 inch, phone plug should be used with the MONITOR jack.

Channel/Frequency Selection Table for SRPT-40 Transmitters

450 MHz Band

Channel	F_{MHz}	F_{KHz}
00	450.	0125
01	450.	0250
02	450.	0375
03	450.	0500
04	450.	0625
05	450.	0750
06	450.	0875
07	450.	1000
08	450.	1125
09	450.	1250
10	450.	1375
11	450.	1500
12	450.	1625
13	450.	1750
14	450.	1875
15	450.	2000
16	450.	2125
17	450.	2250
18	450.	2375
19	450.	2500
20	450.	2625
21	450.	2750
22	450.	2875
23	450.	3000
24	450.	3125
25	450.	3250
26	450.	3375
27	450.	3500
28	450.	3625
29	450.	3750
30	450.	3875
31	450.	4000
32	450.	4125
33	450.	4250
34	450.	4375
35	450.	4500
36	450.	4625
37	450.	4750
38	450.	4875
39	450.	5000
40	450.	5125
41	450.	5250
42	450.	5375
43	450.	5500
44	450.	5625
45	450.	5750
46	450.	5875
47	450.	6000
48	450.	6125
49	450.	6250
50	450.	6375
51	450.	6500
52	450.	6625
53	450.	6750
54	450.	6875
55	450.	7000
56	450.	7125
57	450.	7250
58	450.	7375
59	450.	7500
60	450.	7625
61	450.	7750
62	450.	7875
63	450.	8000
64	450.	8125
65	450.	8250
66	450.	8375
67	450.	8500
68	450.	8625
69	450.	8750
70	450.	8875
71	450.	9000
72	450.	9125
73	450.	9250
74	450.	9375
75	450.	9500
76	450.	9625
77	450.	9750
78	450.	9875
79	450.	0125

455 MHz Band

Channel	F_{MHz}	F_{KHz}
00	455.	0125
01	455.	0250
02	455.	0375
03	455.	0500
04	455.	0625
05	455.	0750
06	455.	0875
07	455.	1000
08	455.	1125
09	455.	1250
10	455.	1375
11	455.	1500
12	455.	1625
13	455.	1750
14	455.	1875
15	455.	2000
16	455.	2125
17	455.	2250
18	455.	2375
19	455.	2500
20	455.	2625
21	455.	2750
22	455.	2875
23	455.	3000
24	455.	3125
25	455.	3250
26	455.	3375
27	455.	3500
28	455.	3625
29	455.	3750
30	455.	3875
31	455.	4000
32	455.	4125
33	455.	4250
34	455.	4375
35	455.	4500
36	455.	4625
37	455.	4750
38	455.	4875
39	455.	5000
40	455.	5125
41	455.	5250
42	455.	5375
43	455.	5500
44	455.	5625
45	455.	5750
46	455.	5875
47	455.	6000
48	455.	6125
49	455.	6250
50	455.	6375
51	455.	6500
52	455.	6625
53	455.	6750
54	455.	6875
55	455.	7000
56	455.	7125
57	455.	7250
58	455.	7375
59	455.	7500
60	455.	7625
61	455.	7750
62	455.	7875
63	455.	8000
64	455.	8125
65	455.	8250
66	455.	8375
67	455.	8500
68	455.	8625
69	455.	8750
70	455.	8875
71	455.	9000
72	455.	9125
73	455.	9250
74	455.	9375
75	455.	9500
76	455.	9625
77	455.	9750
78	455.	9875
79	455.	0125

METER

The VU METER serves the function of indicating the relative power supply voltage, relative RF power output, and the amount of audio compression. The METER indicates RF output only when the CONTROL switch is in the "TRANSMIT" position.

ANTENNA Connector

Connection of various antenna systems is covered under **INSTALLATION** and **ANTENNAS**. 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 affect its radiation efficiency. **CAUTION: THE ANTENNA MUST BE CONNECTED BEFORE SWITCHING TO "TRANSMIT".**

RECVR Connector

If the SRPT-40 is equipped with optional antenna relay, the transmit antenna can be used for receiving by connecting a coaxial cable (No. 585-026) between the RECV jack on the SRPT-40 and ANTENNA connector of the receiver (MARTI AR-10). To silence the receiver while transmitting, Mute Cable No. 585-038-2 is plugged into the ACCESSORY connector on each unit.

ANTENNA (WARNING LIGHT)

The red LED light marked "ANTENNA" which is to the right of the METER on the SRPT-40 front panel, flashes to indicate a problem with the antenna when transmitting. The ANTENNA (WARNING LIGHT) flashes if the CONTROL switch is switched to "TRANSMIT" without an antenna connected. It can also indicate a defective antenna, coaxial cable, or connector; or improper location of a portable antenna. Prolonged operation under these conditions can damage the transmitter.

TEMP (WARNING LIGHT)

Flashing of the TEMP (WARNING LIGHT) indicates excessive operating temperature within the transmitter. This can be caused by obstructed vent holes in the top or rear of the unit, inoperative cooling fan, or antenna problems. Do not operate SRPT-40 until the cause of overheating is corrected!

STEP BY STEP SRPT-40 OPERATING PROCEDURE

1. Position CONTROL switch to "OFF", then plug SRPT-40 into a 90 - 264 volt, AC, grounded, 3-prong receptacle.

> WARNING
>
> THIS EQUIPMENT MUST BE OPERATED WITH A 3-PRONG, GROUNDED, 90-264 VOLT, AC OUTLET RECEPTACLE!
>
> FAILURE TO USE A PROPERLY GROUNDED OUTLET COULD RESULT IN A SAFETY HAZARD OR FAULTY EQUIPMENT PERFORMANCE. IF AN EXTENSION CORD IS USED, IT MUST BE THE THREE-WIRE GROUNDING TYPE TO INSURE SAFETY.
>
> DO NOT CUT OFF THE GROUND PIN OF A 3-PRONG PLUG!!

2. Connect antenna to the ANTENNA connector on the SRPT-40 rear panel.

3. Select the desired frequency of operation from the **Channel/Frequency Selection Table**. Notice the adjacent channel number. *The front panel thumbwheel switches display channel numbers (not frequency).* Set the front panel thumbwheel switches to the desired channel.!

4. Place CONTROL switch in "STANDBY" position. (Allow for a 2 minute warm-up!)

5. Plug in microphones (Inputs 1 - 3) or tape player (Input 4 internally switched to "HI" position. See MIC Input Connections, above.) and check operation by observing compression on METER and by headset plugged into MONITOR jack. Set GAIN controls for no more than -3 VU audio compression on the METER.

6. To transmit, move CONTROL switch to "TRANSMIT" position. The METER should read 0 VU ±3 VU with METER switch in "RF OUTPUT" position.

7. If the ANTENNA (WARNING LIGHT) flashes in "TRANSMIT" operation, switch transmitter "OFF" immediately and check antenna, connectors, and coaxial cable. Placing antenna too near a wall or other object can cause ANTENNA (WARNING LIGHT) to flash.

8. Flashing of the TEMP (WARNING LIGHT) indicates: (a) Obstructed vent holes in top or rear of unit. (b) Fan not operating. (c) Improper tuning, antenna load, or other problems causing excessive heating. ***Do not operate SRPT-40 until cause of overheating is corrected!!!***

THEORY OF OPERATION

Refer to Block Diagram Drawing No. 702-105 and appropriate Schematic Diagrams.

PRE-AMP/MIXER BOARD, 800-251

Each of the four microphone inputs is fed to a low-noise differential op-amp (half of an NE-5532). Critical resistors in the input circuits are low-noise, precision, temperature stable types to obtain maximum performance from the pre-amps. Monolithic chip capacitors are used to filter RF voltages that may be present at the microphone inputs. The four op-amp outputs are fed to gain pots then resistively mixed and routed to the COMPRESSOR BOARD.

COMPRESSOR BOARD, 800-166

Several functions are performed on this board. Integrated Circuit IC-1 serves as a (a) pre-amp [not used on the SRPT-40, (b) pre-emphasis amplifier, (c) voltage-controlled attenuator, (d) regulator/ripple rejection. Pre-emphasized audio out of IC-1B is also fed to D2 - D3 which form an adjustable series peak-limiting circuit. This circuit is adjusted to limit only audio peaks which get past the compressor. The limiter circuit feeds a low-pass filter (L1, C23, R46) which reduces the audio bandwidth to that specified for the operating channel of the transmitter. To this is mixed the output of the tone encoder, IC-2A, which is a low-distortion Wien bridge oscillator. This composite signal is then fed through Controller Board, 800-316 pot R4 to the Modulation port of the VCO on Synthesizer Board, 800-315. This audio signal is also fed to IC-2B which amplifies it to a level suitable for a 600 ohm headphone monitor. IC-2C is a DC amplifier the input of which is connected to the AGC (automatic gain control) circuit and the output of which drives the audio compression meter.

CONTROLLER BOARD, 800-316

Potentiometer R4 controls the audio level from Compressor Board, 800-166 and is used to set the modulation input level to the VCO on Synthesizer Board, 800-315.

The front panel bandswitch programs the micro-controller (68HC705j1A) for the 450 Mhz band by switching the I/O port B_0 to a high logic state or for the 455 Mhz band by switching B_0 to a low logic state.

Channel information (Channels 1 - 79) is received by the microcontroller from the BCD (Binary Decimal Coded) front panel mounted thumb-wheel switches and converts it into a serial format to control the synthesizer on Board 800-315. The synthesizer (MC145158-2) switches the VCO to coincide with channel frequency displayed by the front-panel thumb-wheel switches.

When the PLL on Board 800-315 locks, it provides a low-level inverted signal to turn on the front panel AFC LOCK LED which is mounted on Controller Board, 800-316.

SYNTHESIZER (FM-MOD), 800-336/337

The programmable PLL/VCO board is used to generate the carrier frequency. It consists of four functional blocks: 1). the PLL; 2). the Loop Filter; 3). the VCO; 4). the Preamp (on separate board, 800-337).

The user selects a band (450 Mhz or 455 Mhz) and a channel from the front panel. A microcontroller (on Controller Board, 800-316) examines the request and generates a bit stream with a unique pattern. The PLL frequency systhesizer (MC145158) is programmed serially with this bit stream. The PLL synthesizer uses the data to determine the channel step size and to divide the output frequency of the VCO into a value close to the step size. The two numbers are then compared in the PLL and an error signal is generated. The error signal is converted into a DC voltage using a loop filter. The DC output of the filter is the control voltage used to steer the VCO to the correct requested frequency. The frequency output is modulated by the audio input at the “MODULATION INPUT" port of the VCO. The modulated frequency output is buffered and amplified using a MMIC (UPC1678), then, again amplified to 2 to 3 watts using the BGY47B preamplifier mounted on Board, 800-337.

The output of this board drives RF Power Amplifier, 800-170.

These boards are not user repairable or tunable.

RF POWER AMPLIFIER, 800-170

RF output of the Synthesizer Board, 800-315, is connected to the input of the power amplifier board at a 50 ohm impedance. Transformation of the 50 ohm input to the base impedance of Q1 is accomplished by C1, C2, and L1, L2, and L3. L4 and L5 provide a path for Q1 base current and the L5 - R1 parallel circuit reduces low frequency gain and instability. The RF output power of Q1 is approximately 10 watts and is fed to the base of Q2 by the L-C impedance matching network shown on the schematic. L13 and R2 reduce low-frequency gain and instability. RF power at the collector of Q2 is matched to

50 ohms by the L-C network shown. The collector supply to Q1 and Q2 is decoupled by L8 and C5 - C10.

OUTPUT LOW-PASS FILTER, DIRECTIONAL COUPLER, 800-250

RF output from the RF POWER AMPLIFIER passes through a four-section low-pass filter and directional-coupler before reaching the output connector. The directional-coupler is of stripline construction. The forward power sample of this coupler is supplied to the "RF OUTPUT" METER, and the reflected power sample is fed to comparator IC-1A on the METER BOARD and flashes the ANTENNA (WARNING LIGHT) LED to indicate high VSWR. R5 and R6 calibrate the forward and reflected power samples. Circuitry for an optional antenna relay is provided on the board. When installed, this relay switches the antenna from RECVR (receiver) jack to transmitter output for two-way operation.

SMPS POWER SUPPLY, 800-324

The SMPS board accepts input from 90 to 264 VAC and supplies 15 VDC at 8 Amperes to power the SRPT-40.

INPUT/OUTPUT FILTERS, 800-253

All input/output circuits connected to ACCESSORY connector, as well as the AC line input, have radio-frequency filters. In addition to the L and C filter components, a reverse polarity protector diode D2 is located on the 800-253 board.

METER BOARD, 800-252

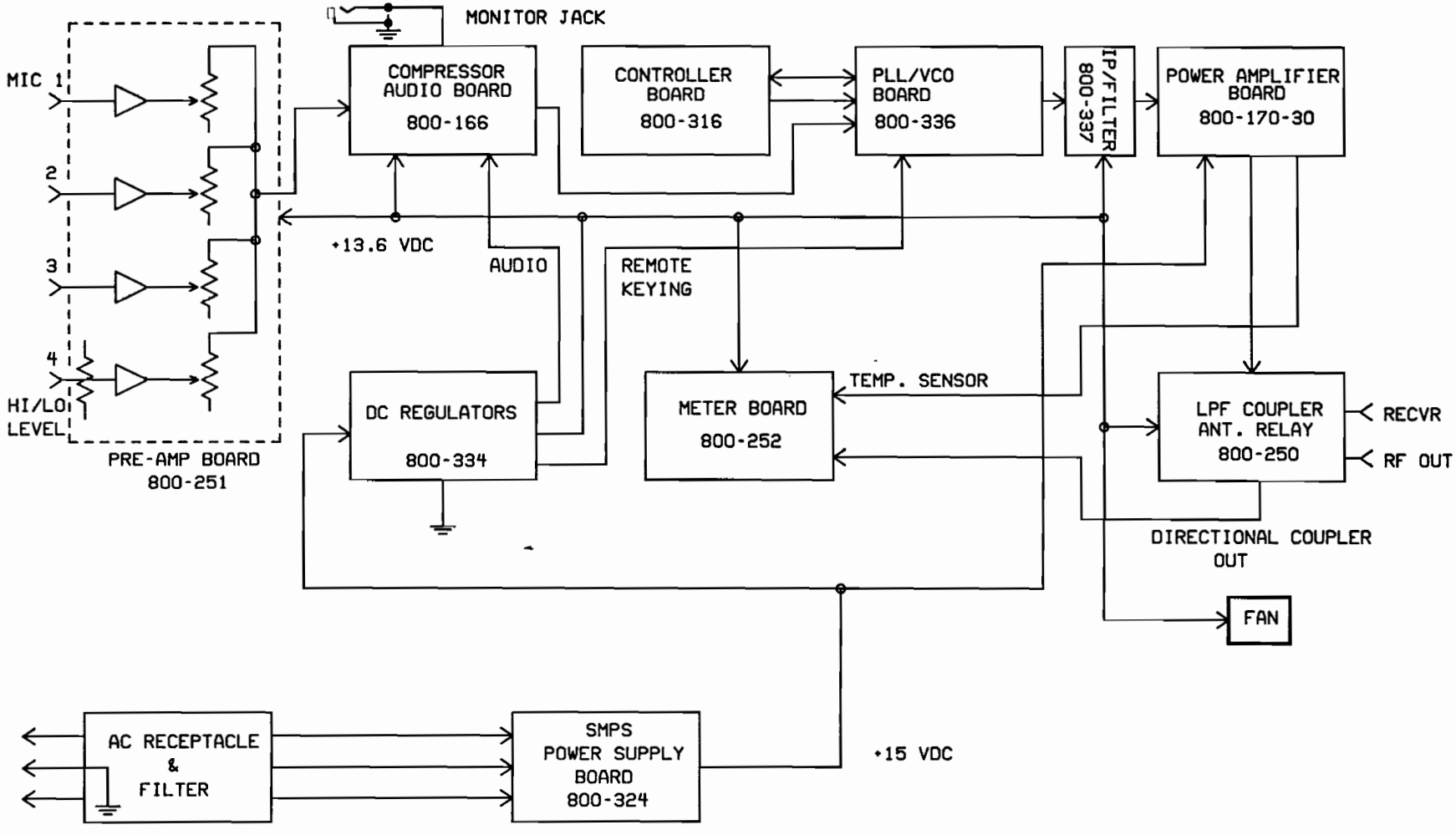
The METER, meter illumination lamp, ANTENNA (WARNING LIGHT) and TEMP (WARNING LIGHT) LEDs, with their comparator drivers, IC-1A, IC-1B are located on the METER BOARD.

Test Equipment

Distortion Analyzer	Krohn-Hite Model 6801
Oscillator	Krohn-Hite Model 4500
Attenuator Set	Hewlett-Packard Model 3500
Frequency Counter	Hewlett-Packard Model 5383A (option 001)
Digital Multimeter	Beckman Model 3030
Analog Multimeter	Triplett Model 630
RF Attenuator	adjustable 0-110 dB
RF Signal Generator	Marconi Model 2022C
Spectrum Analyzer	Hewlett-Packard Model 8558B
Wattmeter (50 ohms impedance)	Bird Model 43
5 or 50 watt element	100-250 MHz or 400-1000 MHz, Bird
Automatic Modulation Meter	Wavetek Model 4101
50 watt RF Load	Microwave Associates Model 44003
Stereo Monitor	Belar Model FMS-2
Stereo Generator	Aphex Model AX400
Oscilloscope	Tektronix Model 2215

Tools for Alignment

Tuning Tool	GC 9300
Tuning Tool	GC 9440
Tuning Tool	Spectrol 8T000
Tuning Tool	Sprague-Goodman
Screwdriver	Xcelite R184, 1/8” x 4”



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 11-NOV-96 702-105	TITLE SRPT-40 BLOCK DIAGRAM

MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. 702-107 COPYRIGHT 11-NOV-96	TITLE SRPT-40 ADJUSTMENT LOCATIONS

SRPT-40 Transmitter
FACTORY TEST DATA

Customer: _____

Address: _____

Serial No.:_____

Test Frequency (450 Band):_____ Test Frequency (455 Band):_____

- q 8 volt regulator (7.45 - 7.65)
- q Audio Compressor Meter set at 0 VU
- q Limiter Set
- q Encode frequency set at 27 Hz.
- q Encode frequency set at 1 KHz. deviation
- q Set power on 120 volt AC operation at _____watts
- q DC voltage on 120 volt AC operation (13.5 volts DC)
- q Response within specifications
- q Distortion within specifications
- q Signal to noise within specifications
- q Metering satisfactory

Test Equipment
Frequency Counter, HP Model 5383A
Deviation Monitor, Wavetek Model 4101

_____
DATE

_____
SIGNATURE

Tune-Up and Adjustments

Refer to Location of Adjustments Drawing No. 702-107 and appropriate schematic diagrams for each module.

This equipment was thoroughly tested and inspected at the factory prior to shipment. The actual equipment performance was recorded on the factory test report (SRPT-40 TEST REPORT). Adjustments should rarely be necessary in the field and should be attempted only by highly trained technicians familiar with this type equipment. Laboratory grade test equipment is required and is listed under TEST EQUIPMENT AND TOOLS. For location of adjustments and test points in the SRPT-40 Transmitter refer to Adjustment Location Diagram, 702-107.

Power Supply Voltage Adjustment

The power supply is a completely self-contained module with no user adjustments. Input can be from 90 - 264 VAC, 50/60 Hz. Output is fixed at 15 VDC.

Low-Level RF Adjustments

There are no low-level user adjustments in the SRPT-40 transmitter.

Power Amplifier Adjustments

Connect Bird wattmeter with 50 ohm load and a 50 watt element (for the correct frequency range) to SRPT-40 ANTENNA connector. Connect a 13.5 volt DC regulated bench power supply with an accurate 0-6 Amp. meter to transmitter using POWER CABLE, 586-074 (see FIG 2, page 6).

1. Place CONTROL switch in "TRANSMIT" position and tune trimmers, beginning at the RF input and progressing to the output circuits.

2. Adjust collector output matching capacitors (C16, C17, C18) in the final stage for *best efficiency* at rated output by slightly retuning for minimum current at rated power out. Total current to the transmitter is approximately:

400 - 455 MHz 40 watts 4.00 - 5.00 Amps

3. Place CONTROL switch in "OFF", remove bench supply, resolder red wire. Replace power amp cover with the four screws. Recheck power output and adjust R14 if necessary.

Encoder Adjustments

Connect dummy load with sampling attenuator to ANTENNA connector of transmitter. Connect an accurate standard FM deviation meter and frequency counter to sampling attenuator. Place CONTROL switch in "TRANSMIT" position.

1. Place ENCODE switch in "ON" position and adjust encode level pot R33 on AUDIO BOARD, 800-166 for 1.0 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 being used with the SRPT-40. Feed a 100 microvolt signal from the transmitter into the receiver RF input. (from the sampling attenuator) NEVER FEED THE OUTPUT OF THE SRPT-40 DIRECTLY INTO A RECEIVER! The input stage of the receiver will be destroyed instantly! Modulate the transmitter with a 2500 Hz tone at 3 dB compression. Turn "Limit Level" pot R26 on AUDIO BOARD, 800-166 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 subaudible decoder which has been set to 27 Hz by an audio generator of 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 connected to the output of the transmitter.

Using an audio signal generator connected to MIC Input 4 (HIGH LEVEL) of the transmitter with a level 20 dB below compression level at 2500 Hz, sweep the audio

over the audio response range for the transmitter model number being aligned.

Refer to the **SPECIFICATIONS** (page 2) for correct response for designator on your transmitter.

At the maximum specified response frequency adjust the tuning slug in coil L1 on AUDIO BOARD, 800-166 for maximum level or best response curve.

FREQUENCY MEASUREMENT

The RF output frequency of this transmitter should be measured as often as necessary to insure on-frequency operation and to comply with regulations. Frequency measurement can be made at the FREQ. TEST jack (RCA phono plug) protruding through the transmitter rear panel. The adjustment procedure is covered in the section above, **MODULATOR ADJUSTMENTS.**

PRE-AMP BOARD REMOVAL

To remove Pre-Amp Board, 800-251, from the chassis follow the outlined procedure with care:

1. Remove knobs and hardware from four level control pots on front panel.

2. Notice the Neutrik mic. connector has a small hole near the center in addition to the three pin receptacles. This hole contains a tiny locking mechanism. Using a small (0.75" wide) flat blade screwdriver, insert tool into hole and turn slowly until screwdriver engages connector lock. Use care!

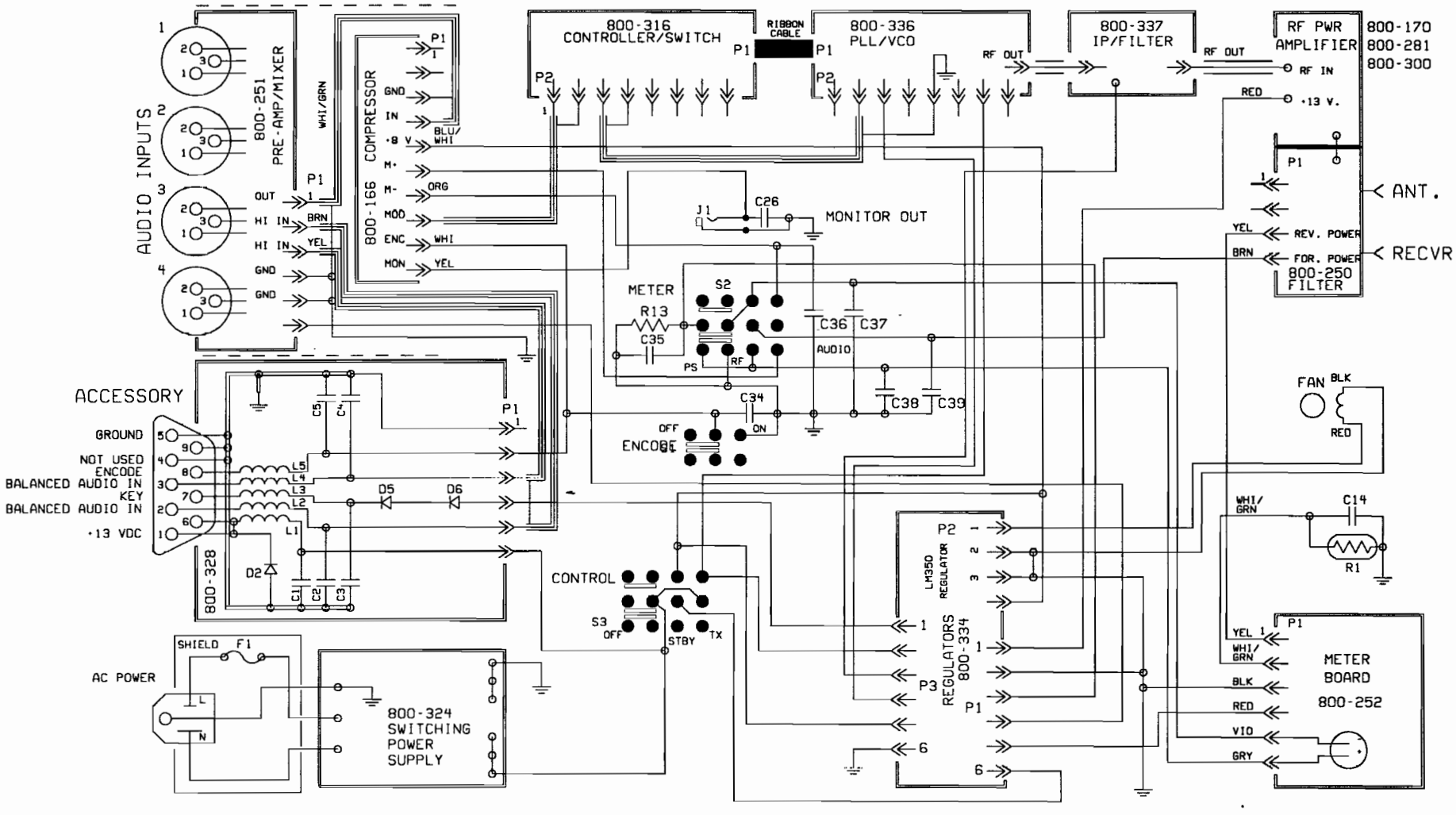
3. Turn screwdriver counter-clockwise (1/8 turn) until mic. insert releases.

4. After following the above procedure on each input, gently push the black plastic inserts out of the metal shells while simultaneously pushing the gain adjust pots inward until the board releases from the front panel.

Remove board from the chassis and service. To re-install board reverse the above procedure. Be careful! The locking mechanism is delicate.

Function of Semiconductors in the SRPT-40

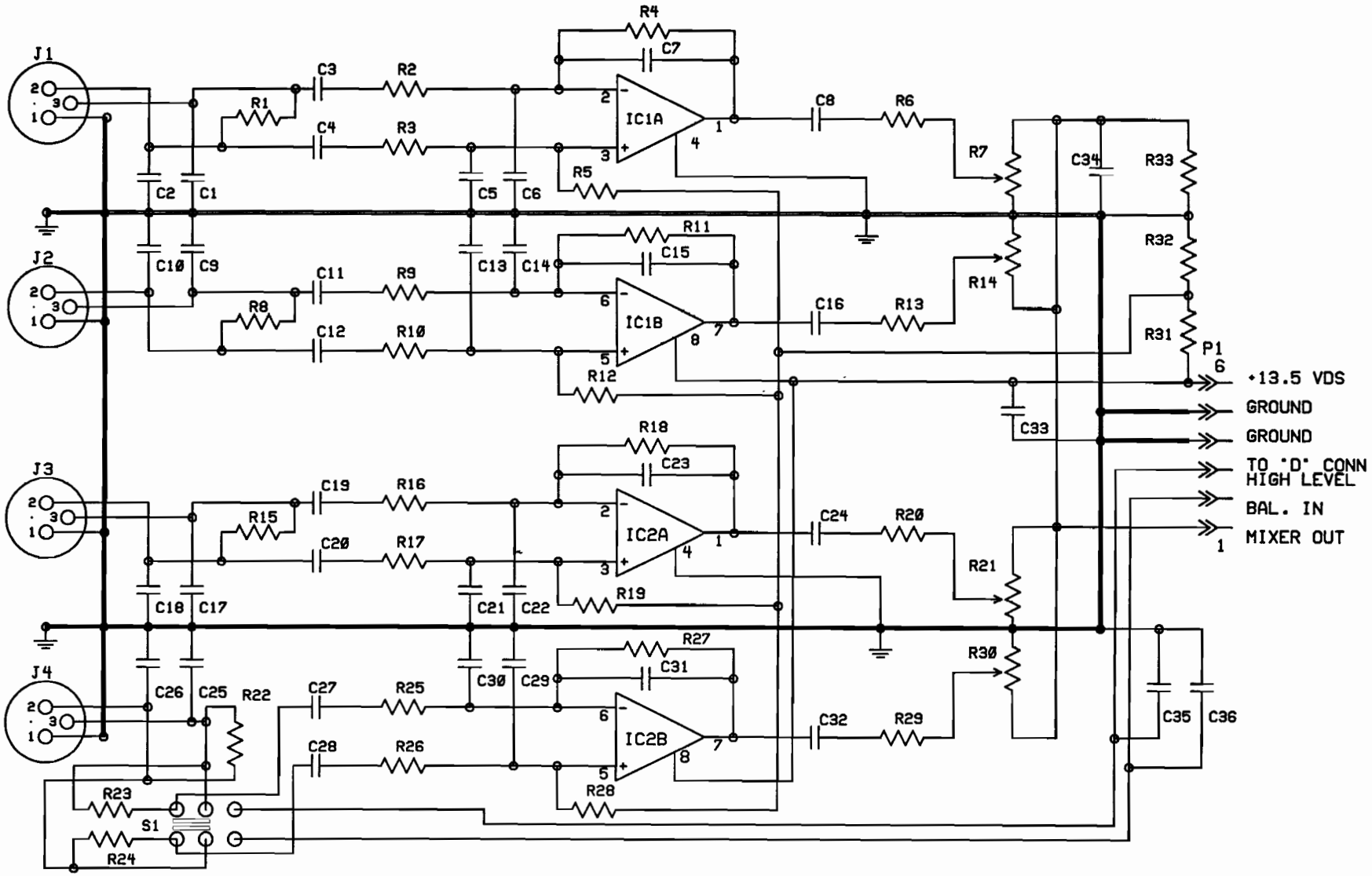
Device Designation	Reference Schematic	Function
IC-1A	800-166	Integrated Circuit, Microphone Preamplifier
IC-1B	800-166	Integrated Circuit, Pre-emphasis Audio Amplifier
IC-1C	800-166	Integrated Circuit, Audio Rectifier and Voltage-Controlled Audio Attenuator (Compressor)
IC-1D	800-166	Integrated Circuit, Power Supply, Electronic Filter
IC-2A	800-166	Integrated Circuit, Encode Oscillator
IC-2C	800-166	Integrated Circuit, DC 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
D1	800-316	Diode, Lock LED
IC1	800-316	Integrated Circuit, Microcontroller
IC1	800-336	Integrated Circuit, Synthesizer
IC2A	800-336	Integrated Circuit, Loop Filter
IC2B	800-336	Integrated Circuit, Comparator
D1	800-336	Diode, Bias
D2	800-336	Diode, Part of Switching Circuit
D4	800-336	Diode, Zener, Regulator for IC3, IC4, and IC5
IC3	800-336	Integrated Circuit, VCO
IC4	800-336	Integrated Circuit, Driver amplifier for IC5 & IC7
IC5	800-336	Integrated Circuit, Pre-scaler
IC7	800-337	Integrated Circuit, 2 - 3 Watt Power Amplifier
Q1	800-336	Transistor, Switches Lock LED
Q1	800-170	Transistor, RF Driver
Q2	800-170	Transistor, Final RF Amplifier
IC-1	800-322	Integrated Circuit, Voltage Regulator
D1	800-250	Diode, Forward Power Sensor
D2	800-250	Diode, Reverse Power Sensor
D1	800-252	LED, “ANTENNA (WARNING LIGHT)” Indicator
D2	800-252	LED, “TEMP (WARNING LIGHT)” Indicator
D3	800-252	Diode, Zener 11 v. Reference voltage for Comparators
IC-1	800-252	Integrated Circuit, Dual voltage Comparator for D1, D2
IC-1	800-251	Integrated Circuit, Dual Low-noise Audio Preamp
IC-2	800-251	Integrated Circuit, Dual Low-noise Audio Preamp



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 08-NOV-96	702-106	TITLE SRPT-40 MAIN FRAME

Parts List
SRPT-40 Main Frame
Marti 702-106 (Includes 800-328, Accessory Connector Board)

ITEM	PART NO.	DESCRIPTION
C01	270-103	Capacitor, 1000 pf 50V 5% monolithic chip
C02	270-103	Capacitor, 1000 pf 50V 5% monolithic chip
C04	270-103	Capacitor, 1000 pf 50V 5% monolithic chip
C05	270-103	Capacitor, 1000 pf 50V 5% monolithic chip
C06	270-103	Capacitor, 1000 pf 50V 5% monolithic chip
C07-C13	Not used	
C14	270-103	Capacitor, 1000 pf 50V 5% monolithic chip
C15-C25	Not used	
C26	217-104	Capacitor, 10000 pf 50V 5% monolithic chip
C27-C33	Not used	
C34	217-104	Capacitor, 10000 pf 50V 5% monolithic chip
C35	217-104	Capacitor, 10000 pf 50V 5% monolithic chip
D1	Not used	
D2	415-401	Diode, 1N5402
D3-D4	Not used	
D5	415-401	Diode, 1N5402
D6	415-401	Diode, 1N5402
D7-D14	Not used	
D15	415-401	Diode, 1N5401
F1	510-133	Fuse, 1.5 Amp. 3AG
FAN	510-231	Fan, AIF60111
J1	550-083	Connector, Tiny-Jax #41
L1	330-019	Inductor, VK20010-3B
L2	330-018	Inductor, 10 uH
L3	330-018	Inductor, 10 uH
L4	330-018	Inductor, 10 uH
L5	330-018	Inductor, 10 uH
R1	120-002	Thermistor, 142-102-FAC-A01
R2-R12	Not used	
R13	145-681	Resistor, 680 ohms 1/4W 5%
R14	145-473	Resistor, 47K ohms 1/4W 5%
S1	530-001	Switch, DPDT 11A-1255
S2	530-021	Switch, TPTT 11H-1086
S3	530-021	Switch, TPTT 11H-1086
T1	800-324A	Transformer T1 is part of Switch Mode Power Supply 800-324A



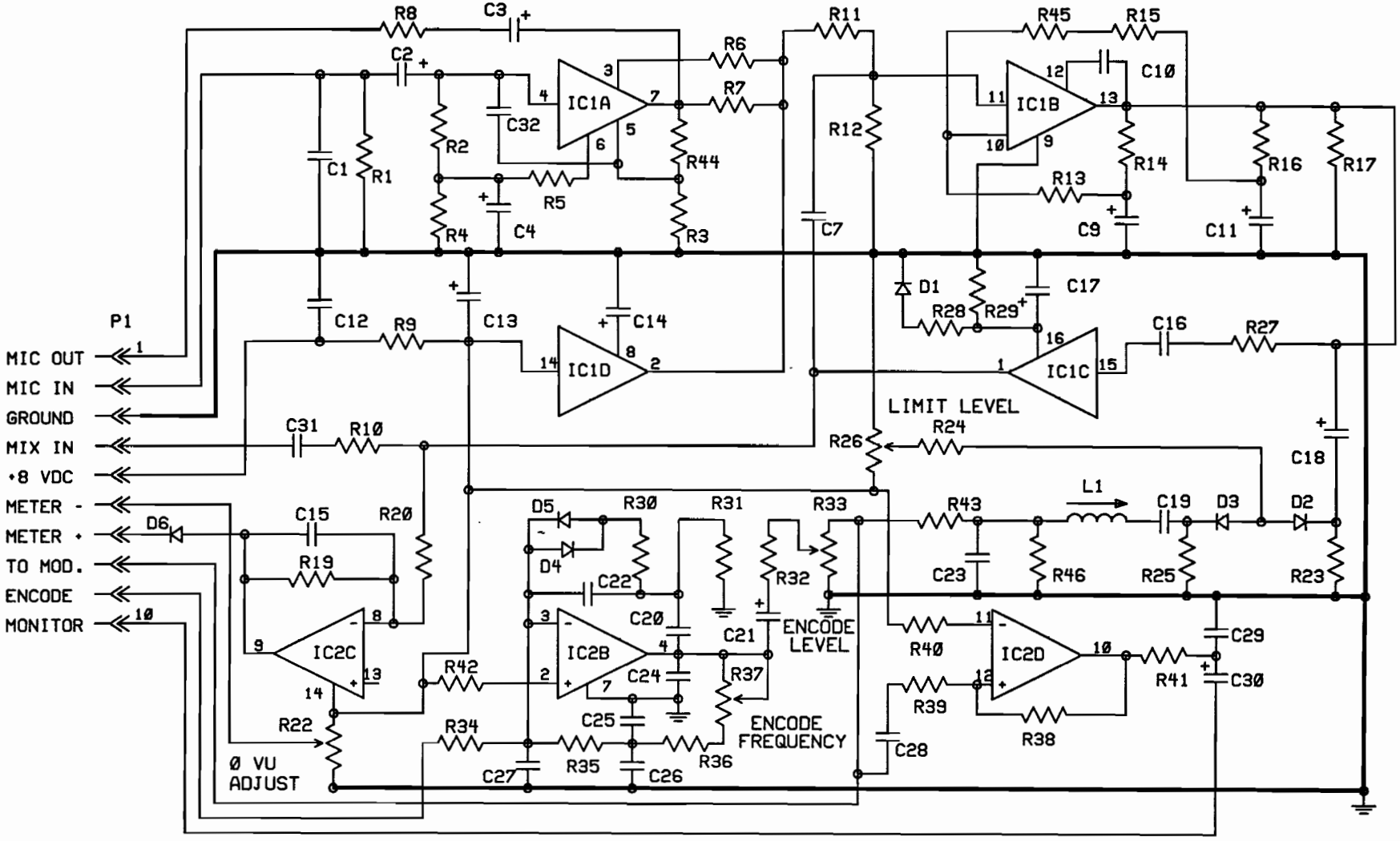
MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 08-NOV-96 800-251	TITLE PRE-AMPLIFIER/MIXER

Parts List
RPT-30/SRPT-40 Pre-Amp Mixer
MARTI 800-251 11-08-96

Item	Marti No.	Description
C01	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C02	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C03	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C04	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C05	270-270	Capacitor, monolithic chip, 27 pf 50v 5% T
C06	270-270	Capacitor, monolithic chip, 27 pf 50v 5% T
C07	255-100	Capacitor, 10 pf 5% NPO disc Pace F6NPO1C1
C08	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C09	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C10	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C11	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C12	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C13	270-270	Capacitor, monolithic chip, 27 pf 50v 5% T
C14	270-270	Capacitor, monolithic chip, 27 pf 50v 5% T
C15	255-100	Capacitor, 10 pf 5% NPO disc Pace F6NPO1C1
C16	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C17	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C18	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C19	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C20	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C21	270-270	Capacitor, monolithic chip, 27 pf 50v 5% T
C22	270-270	Capacitor, monolithic chip, 27 pf 50v 5% T
C23	255-100	Capacitor, 10 pf 5% NPO disc Pace F6NPO1C1
C24	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C25	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C26	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C27	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C28	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C29	270-270	Capacitor, monolithic chip, 27 pf 50v 5% T
C30	270-270	Capacitor, monolithic chip, 27 pf 50v 5% T
C31	255-100	Capacitor, 10 pf 5% NPO disc Pace F6NPO1C1
C32	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C33a	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C33b	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C34	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C35	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C36	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
IC1	405-532	Integrated Circuit, Philips NE5532AN
IC2	405-532	Integrated Circuit, Philips NE5532AN
J1	550-155-1	Connector, XLR Receptacle Insert
J2	550-155-1	Connector, XLR Receptacle Insert
J3	550-155-1	Connector, XLR Receptacle Insert
J4	550-155-1	Connector, XLR Receptacle Insert
R01	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R02	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film M
R03	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film M
R04	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R05	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R06	145-153	Resistor, 15k ohm 1/4 watt 5% metal film M
R07	100-143	Potentiometer, 25k ohm linear taper PC mou
R08	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R09	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film M

Parts List
RPT-30/SRPT-40 Pre-Amp Mixer
MARTI 800-251 11-08-96

Item	Marti No.	Description
R10	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film M
R11	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R12	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R13	145-153	Resistor, 15k ohm 1/4 watt 5% metal film M
R14	100-143	Potentiometer, 25k ohm linear taper PC mou
R15	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R16	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film M
R17	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film M
R18	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R19	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R20	145-153	Resistor, 15k ohm 1/4 watt 5% metal film M
R21	100-143	Potentiometer, 25k ohm linear taper PC mou
R22	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R23	145-364-1	Resistor, 360k ohm 1/4 watt 5% carbon film
R24	145-364-1	Resistor, 360k ohm 1/4 watt 5% carbon film
R25	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film M
R26	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film M
R27	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R28	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R29	145-153	Resistor, 15k ohm 1/4 watt 5% metal film M
R30	100-143	Potentiometer, 25k ohm linear taper PC mou
R31	145-223	Resistor, 22k ohm 1/4 watt 5% metal film M
R32	145-223	Resistor, 22k ohm 1/4 watt 5% metal film M
R33	145-562	Resistor, 5.6k ohm 1/4 watt 5% metal film
S1	530-051	Switch, side action slide DPDT Ark-Les S-9
	550-070	IC Socket, 8 pin Keltron ICS-08-3-T
	550-149	Connector, 6 pin Molex angle header
	700-250-15P	Grounding Strap, RPT-30 Pre-Amp
	800-251B	PC Board, Pre-amp/Mixer RPT-30



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 08-NOV-96	800-166	TITLE REMOTE PICKUP TRANSMITTER AUDIO BOARD

Parts List
SRPT-40 Audio Board
MARTI 800-166 11-08-96

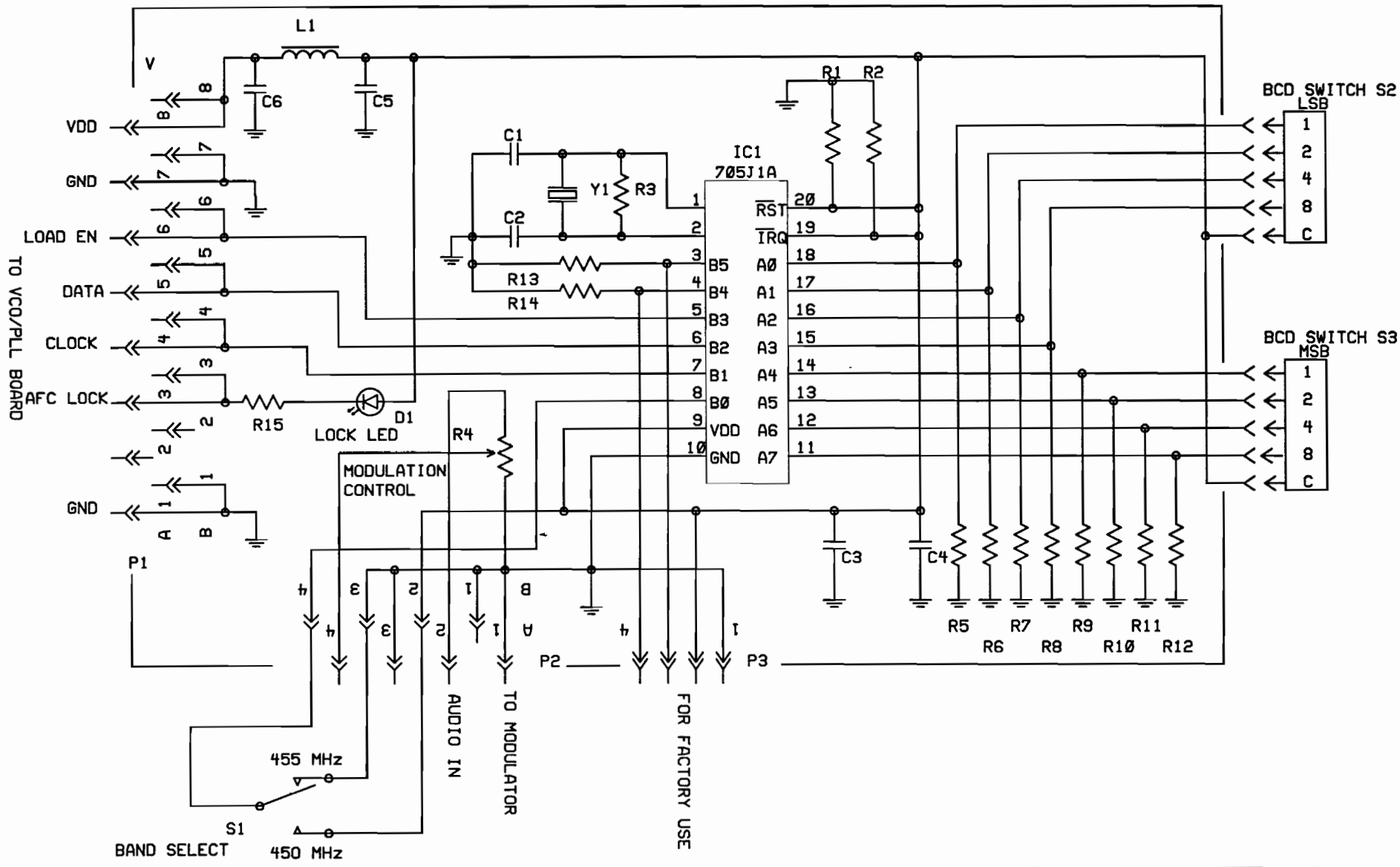
Item	Marti No.	Description
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C01	256-471	Capacitor, 470 pf 10% type JL X5F disc RMC
C02	299-470	Capacitor, tantalum, 4.7 mf 16v ECS-F1CE47
C03	219-100	Capacitor, electrolytic 10uF 25V radial N
C04	219-220	Capacitor, electrolytic 22uF 25V radial NI
C05	NOT USED	
C06	NOT USED	
C07	226-274	Capacitor, .27 mf 100v 10% polypro CD MTC1
C08	NOT USED	
C09	219-221	Capacitor, electrolytic 220uF 25V radial N
C10	256-680C	Capacitor, 68pF 5% 200V ceramic dipped C31
C11	215-822	Capacitor, .0082 mfd 2.5% 100v polypro Sea
C12	217-104	Capacitor, .01 mf 50v GMV disc Pace F6Z5U1
C13	219-221	Capacitor, electrolytic 220uF 25V radial N
C14	219-221	Capacitor, electrolytic 220uF 25V radial N
C15	256-471	Capacitor, 470 pf 10% type JL X5F disc RMC
C16	217-103	Capacitor, .1 mf 100v 10% mylar
C17	299-470	Capacitor, tantalum, 4.7 mf 16v ECS-F1CE47
C18	219-100	Capacitor, electrolytic 10uF 25V radial N
C19	299-470	Capacitor, tantalum, 4.7 mf 16v ECS-F1CE47
C20	215-123	Capacitor, .012 mfd 2.5% 100v polypro Seac
C21	219-220	Capacitor, electrolytic 22uF 25V radial NI
C22	215-123	Capacitor, .012 mfd 2.5% 100v polypro Seac
C23	215-242	Capacitor, .0024 mfd 2.5% 100v polypro Sea
C24	255-470C	Capacitor, 47pF 5% 200V ceramic dipped C31
C25	215-223	Capacitor, .022 mfd 2.5% 100v polypro Seac
C26	215-392	Capacitor, .0039 mfd 2.5% 100v polypro Sea
C27	255-470C	Capacitor, 47pF 5% 200V ceramic dipped C31
C28	217-104	Capacitor, .01 mf 50v GMV disc Pace F6Z5U1
C29	256-471	Capacitor, 470 pf 10% type JL X5F disc RMC
C30	219-220	Capacitor, electrolytic 22uF 25V radial NI
C31	226-274	Capacitor, .27 mf 100v 10% polypro CD MTC1
D1	410-914	Diode, 1N4148
D2	410-914	Diode, 1N4148
D3	410-914	Diode, 1N4148
D4	410-914	Diode, 1N4148
D5	410-914	Diode, 1N4148
D6	414-007	Diode, Fagor 1N4007
IC1	401-054	Integrated Circuit, SGS TDA1054M
IC2	403-900	Integrated Circuit, TI LM3900N
L1	350-032	Inductor, 387-150M 40000-150000 uH #47271
P1	550-125	Connector, 5 pin Molex Header
P2	550-125	Connector, 5 pin Molex Header

Parts List
SRPT-40 Audio Board
MARTI 800-166 11-08-96

Item	Marti No.	Description
R01	145-102	Resistor, 1k ohm 1/4 watt 5% metal film Me
R02	145-473	Resistor, 47k ohm 1/4 watt 5% metal film M
R03	145-181	Resistor, 180 ohm 1/4 watt 5% metal film M
R04	145-681	Resistor, 680 ohm 1/4 watt 5% metal film M
R05	145-151	Resistor, 150 ohm 1/4 watt 5% metal film M
R06	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R07	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R08	145-392	Resistor, 3.9k ohm 1/4 watt 5% metal film
R09	145-030	Resistor, 3.3 ohm 1/4 watt 5% metal film M
R10	145-392	Resistor, 3.9k ohm 1/4 watt 5% metal film
R11	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R12	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R13	145-331	Resistor, 330 ohm 1/4 watt 5% metal film M
R14	145-822	Resistor, 8.2k ohm 1/4 watt 5% metal film
R15	145-392	Resistor, 3.9k ohm 1/4 watt 5% metal film
R16	145-333	Resistor, 33k ohm 1/4 watt 5% metal film M
R17	145-221	Resistor, 220 ohm 1/4 watt 5% metal film M
R18	NOT USED	
R19	145-225	Resistor, 2.2 meg ohm 1/4 watt 5% metal fi
R20	145-474	Resistor, 470k ohm 1/4 watt 5% metal film
R21	NOT USED	
R22	101-502	Potentiometer, 5K ohm cermet Bourns 3309P-
R23	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R24	145-272	Resistor, 2.7k ohm 1/4 watt 5% metal film
R25	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R26	101-104	Potentiometer, 100K ohm cermet Bourns 3309
R27	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R28	145-225	Resistor, 2.2 meg ohm 1/4 watt 5% metal fi
R29	145-106	Resistor, 10 meg ohm 1/4 watt 5% metal fil
R30	145-825	Resistor, 8.2 meg ohm 1/4 watt 5% carbon f
R31	145-224-1	Resistor, 221k ohm 1/4 watt 1% RN55D2213F
R32	145-223	Resistor, 22k ohm 1/4 watt 5% metal film M
R33	101-104	Potentiometer, 100K ohm cermet Bourns 3309
R34	145-103	Resistor, 10k ohm 1/4 watt 5% metal film M
R35	145-474-1	Resistor, 475k ohm 1/4 watt 1% RN55D4753F
R36	145-474-1	Resistor, 475k ohm 1/4 watt 1% RN55D4753F
R37	104-105	Potentiometer, 1meg ohm cermet Bourns 3296
R38	145-105	Resistor, 1 meg ohm 1/4 watt 5% metal film
R39	145-105	Resistor, 1 meg ohm 1/4 watt 5% metal film
R40	145-225	Resistor, 2.2 meg ohm 1/4 watt 5% metal fi
R41	145-561	Resistor, 560 ohm 1/4 watt 5% metal film M
R42	145-225	Resistor, 2.2 meg ohm 1/4 watt 5% metal fi
R43	145-102	Resistor, 1k ohm 1/4 watt 5% metal film Me
R44	145-822	Resistor, 8.2k ohm 1/4 watt 5% metal film
R45	145-272	Resistor, 2.7k ohm 1/4 watt 5% metal film
R46	145-153	Resistor, 15k ohm 1/4 watt 5% metal film M
R47	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
	550-069	IC Socket, 14 pin Keltron ICS-14-3-T
	800-166B	PC Board, Audio RPT-2/15/30
	511-034	Headers, DuPont #65566-131 .150 center sin
	550-068	IC Socket, 16 pin Keltron ICS-16-3-T
	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film

Parts List
SRPT-40 Audio Board
MARTI 800-166 11-08-96

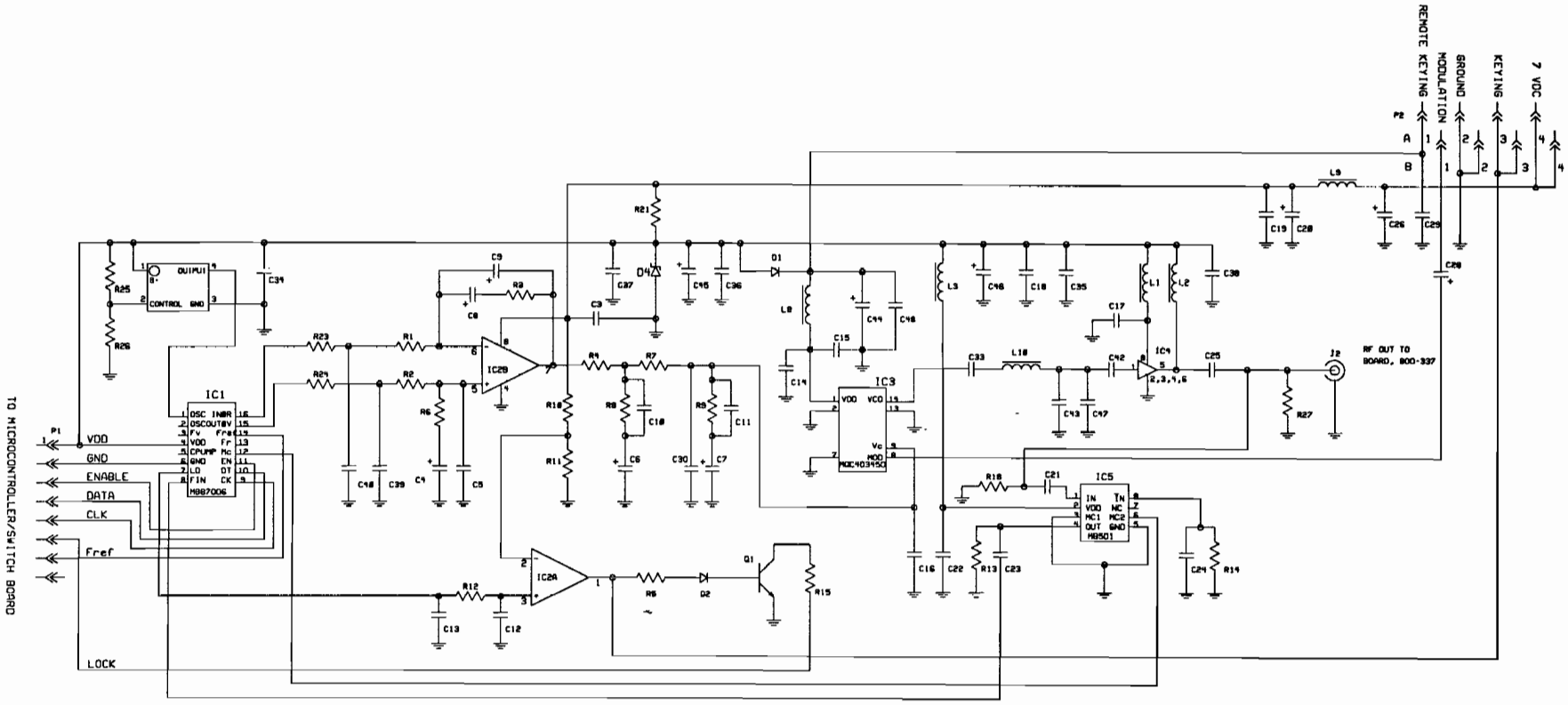
Item	Marti No.	Description
	510-210	Brackets, #6 Keystone 634



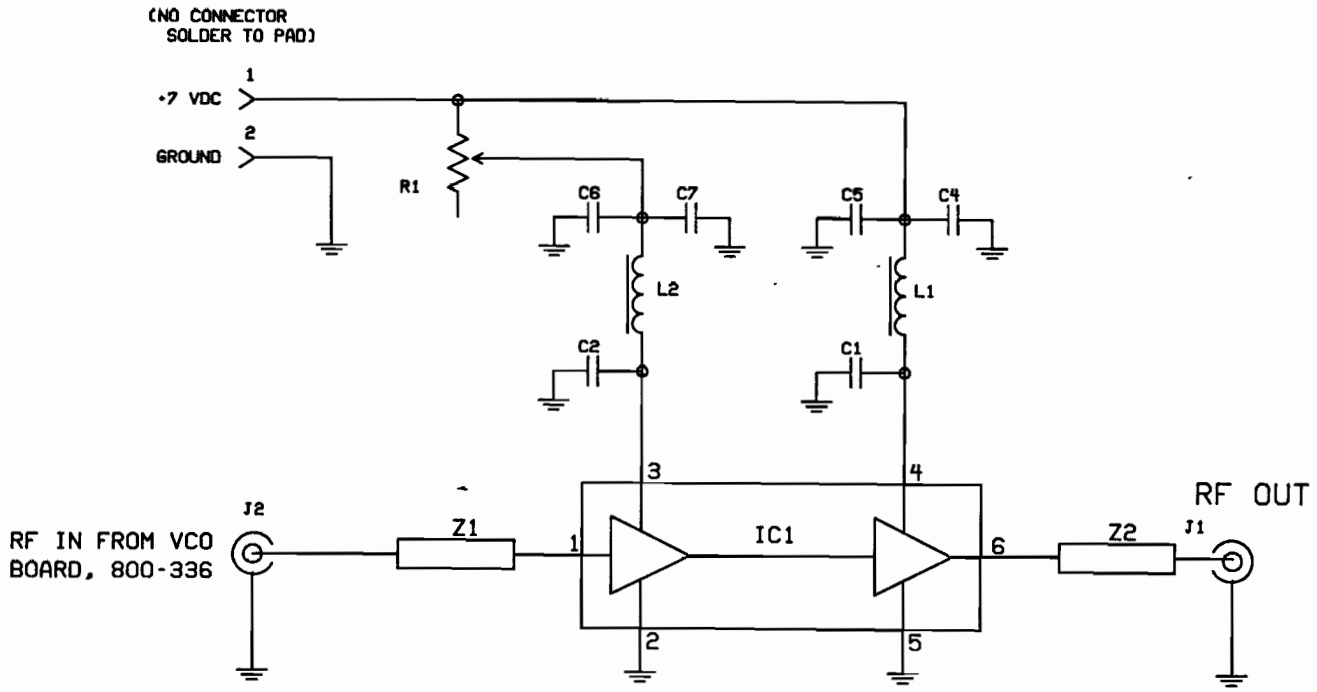
MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 08-NOV-96 800-316	TITLE CONTROLLER/SWITCH BOARD

Parts List
SRPT Controller Board
MARTI 800-316 11-08-96

Item	Marti No.	Description
C01	270-220	Capacitor, monolithic chip, 22 pf 50v 5% K
C02	270-220	Capacitor, monolithic chip, 22 pf 50v 5% K
C03	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C04	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C05	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C06	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
D01	410-255	LED, Green rectangular #351-6221
IC1	400-705	Integrated Circuit, MC68HC705JIACT MicroCo
IC1	550-227	IC Socket 20 Pin #151-9120
P01	550-211	Connector,8 dual row header right angle cu
P02	550-230	4 Pin Dual Row Right Angle Header cut from
P03	550-226	Connector, 4 pin single header (cut from 5
R01	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R02	NOT USED	
R03	185-106	Resistor, RM73BTB106JT 10MEG ohm 1/8 watt
R04	103-502	Potentiometer, 5K ohm cermet Bourns 3309W-
R05	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R06	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R07	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R08	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R09	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R10	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R11	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R12	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R13	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R14	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R15	185-331	Resistor, 330 ohm 1/8 watt 5% chip 1206 AV
S02	530-066	Switch, Right Side Mate Cherry #609-0799
S02	550-223	Switch Socket 5 pin PCB Mount CHERRY#C2KO-
S02	530-065	Switch, Thumb Wheel Cherry #T55-02M
S03	530-067	Switch, Left Side Mate Cherry#609-0801
S03	530-065	Switch, Thumb Wheel Cherry #T55-02M
S03	550-223	Switch Socket 5 pin PCB Mount CHERRY#C2KO-
Y01	012-368	Crystal, 3.6875 MHz SMD #520-CSM368-20
	800-316B	PC BOARD, SRPT Controller Switch Bd.
	586-133	Ribbon Cable 3" HCSD-08-D03.00-01-T-N
	550-226	Connector, 4 pin single header (cut from 5
	530-008-2	Switch Assembly for SRPT
	513-027	Spacer, 4-40 x 1-1/4 hex threaded EFJ 313-
	500-055	Lockwasher, #4 internal tooth small patter
	500-004	Screw, 4-40 x 1/4" phillips pan head M/S n



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 08-NOV-96	TITLE 800-336 PLL/VCO BOARD



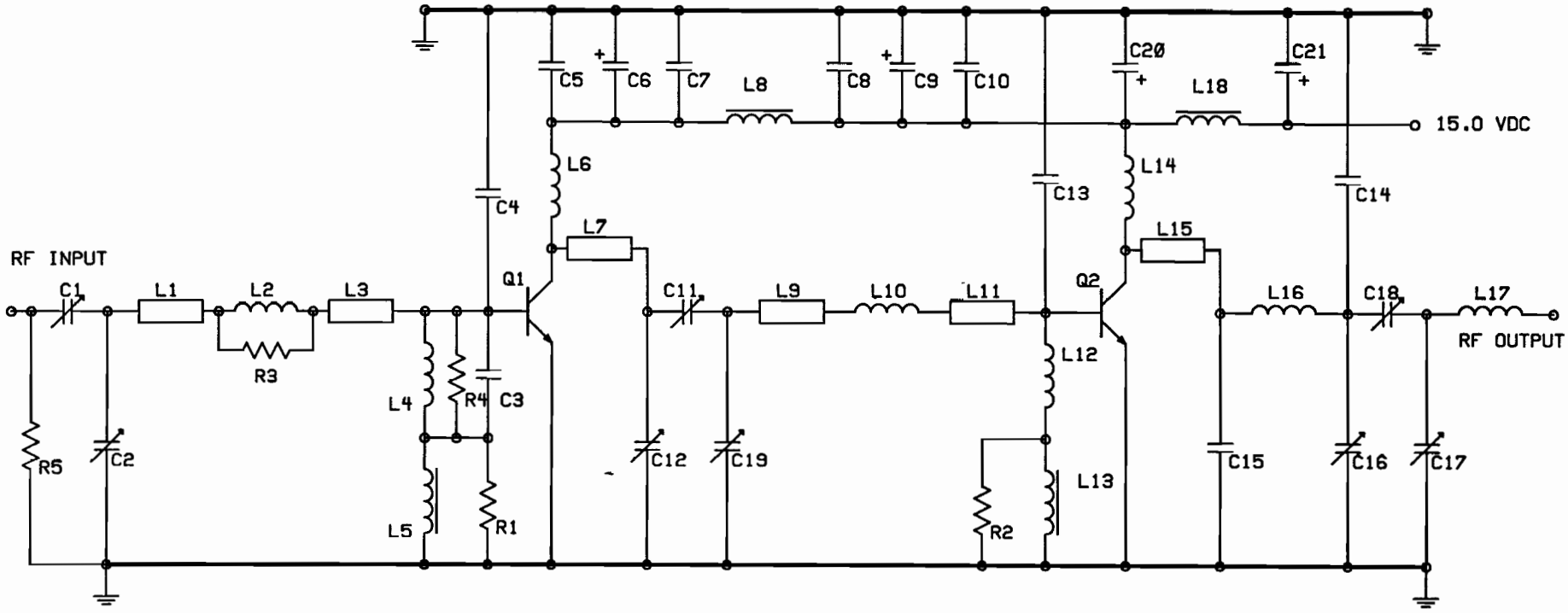
MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 06-NOV-96	800-337	TITLE IP/FILTER BOARD

Parts List
SRPT PLL/VCO/FILTER Board
MARTI 800-315 11-08-96

Item	Marti No.	Description
C03	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C04	298-330	Tantalum 33uf SMD #PCS2336CT-ND 10V
C05	226-274	Capacitor, .27 mf 100v 10% polypro CD MTC1
C06	298-470	Capacitor, tantalum SMD 4.7uF PCS2475CT-ND
C07	298-470	Capacitor, tantalum SMD 4.7uF PCS2475CT-ND
C08	298-330	Tantalum 33uf SMD #PCS2336CT-ND 10V
C09	NOT USED	
C10	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C11	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C12	298-470	Capacitor, tantalum SMD 4.7uF PCS2475CT-ND
C13	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C14	298-150	Capacitor, tantalum SMD 1.5uF PCS3155CT-ND
C15	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C16	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C17	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C18	298-150	Capacitor, tantalum SMD 1.5uF PCS3155CT-ND
C19	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C20	298-330	Tantalum 33uf SMD #PCS2336CT-ND 10V
C21	270-005	Capacitor, monolithic chip, .5pF 50V 5% EC
C22	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C22	298-150	Capacitor, tantalum SMD 1.5uF PCS3155CT-ND
C23	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C24	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C25	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C26	NOT USED	
C27	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C28	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C29	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C30	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C31	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C32	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C33	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C34	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C34	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C35	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C36	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C37	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C38	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C39	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C40	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C42	JUMPERED	
C43	NOT USED	
C44	298-330	Tantalum 33uf SMD #PCS2336CT-ND 10V
C45	220-220	Capacitor, Electrolytic SMT 22uF Nemco #CB
C46	NOT USED	
C47	NOT USED	
D01	410-914	Diode, 1N4148
D02	410-914	Diode, 1N4148
D04	414-733	Diode, zener 1N4733A
IC1	405-158	Integrated Circuit, MC145158P2 Serl PLL
IC2	400-275	Integrated Circuit, OP-Amp Analog OP275GP
IC3	403-457	Integrated Circuit, MQC403457 Murata VCO

Parts List
SRPT PLL/VCO/FILTER Board
MARTI 800-315 11-08-96

Item	Marti No.	Description
IC4	401-678	Integrated Circuit, UPC 1678G (MMIC)
IC5	400-501	Integrated Circuit, Motorola MC12022AD
IC7	461-470	RF Amplifier, BGY47A Phillips
L01	330-024	Inductor, 10uH SMT DN-12103TR-ND DELEVAN
L02	330-024	Inductor, 10uH SMT DN-12103TR-ND DELEVAN
L03	330-024	Inductor, 10uH SMT DN-12103TR-ND DELEVAN
L04	330-018	Inductor, 10 uH 1-43LQ105-1
L05	330-018	Inductor, 10 uH 1-43LQ105-1
L06	NOT USED	
L07	NOT USED	
L08	330-024	Inductor, 10uH SMT DN-12103TR-ND DELEVAN
L09	330-024	Inductor, 10uH SMT DN-12103TR-ND DELEVAN
L10	JUMPERED	
P01	550-219	8 Pin Dual Row Header cut from 550-181
P02	550-197	Connector, 4 dual pin header
Q01	425-301	Transistor, Motorola 2N3904
R01	185-473	Resistor, #263-47K ohm 1/8 watt 5% chip
R02	185-473	Resistor, #263-47K ohm 1/8 watt 5% chip
R03	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R04	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R05	185-331	Resistor, 330 ohm 1/8 watt 5% chip 1206 AV
R06	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R07	185-103	Resistor, 10K ohm 1/8 watt 5% chip AVX#CR3
R08	185-102	Resistor, #263-1K ohm 1/8 watt 5% chip
R09	185-472	Resistor, #263-4.7K ohm 1/8 watt 5% chip
R10	185-273	Resistor,#263-27K OHM 1/8 WATT 5% chip
R11	185-273	Resistor,#263-27K OHM 1/8 WATT 5% chip
R12	185-473	Resistor, #263-47K ohm 1/8 watt 5% chip
R13	185-272	Resistor, #263-2.7K ohm 1/8 watt 5% chip
R14	185-104	Resistor, #263-100K ohm 1/8 watt 5% chip
R15	185-331	Resistor, 330 ohm 1/8 watt 5% chip 1206 AV
R17	101-501	Potentiometer, 500 ohm cermet Bourns 3309P
R18	NOT USED	
R21	115-100	Resistor,10 Ohm 1watt 5% carbon comp
R23	185-473	Resistor, #263-47K ohm 1/8 watt 5% chip
R24	185-473	Resistor, #263-47K ohm 1/8 watt 5% chip
R25	NOT USED	
R26	NOT USED	
	012-280	Crystal, SMD 12.8MHz ES6225B5-12.8 TCXO
	226-224	Capacitor, .22 uf 50v 10% film CD MTC1P22K
	800-315B	PC BOARD PLL/VCO/FILTER FOR SPRT
	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
	550-070	IC Socket, 8 pin Keltron ICS-08-3-T
	550-068	IC Socket, 16 pin Keltron ICS-16-3-T
	700-220-16P	Copper Heatsink, RPT-2/15
	520-051	Heatsink, Thermalloy 6030B-TT
	219-470	Capacitor, electrolytic 47uF 16V radial ME
	513-037	Spacer, 4-40 x 5/8 hex threaded M/F Keysto
	513-026	Spacer, 4-40 x 1/2 hex threaded Keystone 1



CAUTION: THESE TRANSISTORS USE BERYLLIUM OXIDE CERAMICS IN THEIR CONSTRUCTION. ANY MECHANICAL OR CHEMICAL TREATMENT OF THESE CERAMICS WHICH PRODUCES DUST OR FUMES, EVEN IN MINUTE AMOUNTS, CAN BE DEADLY!

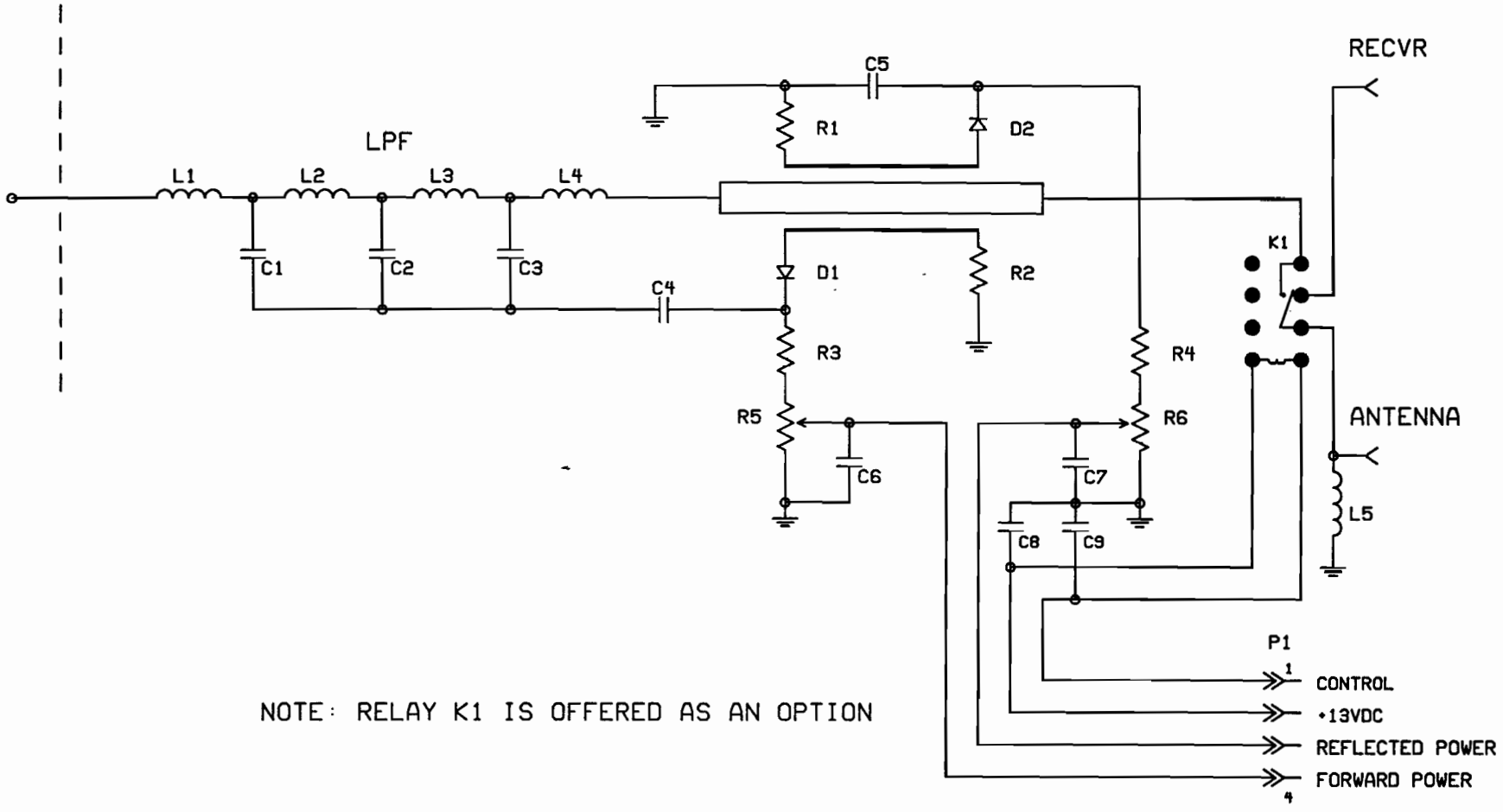
MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. 800-170 COPYRIGHT 08-NOV-96	TITLE RF POWER AMPLIFIER BOARD

Parts List
SRPT-40 450 Amplifier
MARTI 800-170 11-08-96

Item	Marti No.	Description
C01	260-100	Capacitor, variable, trimmer 2.5-7 pf FW C
C02	260-100	Capacitor, variable, trimmer 2.5-7 pf FW C
C03	240-160	Capacitor, uncased mica, 16 pf 33v 5% FWJ1
C04	240-120	Capacitor, uncased mica, 12 pf 33v 5% FWJ1
C05	217-103	Capacitor, .1 mf 100v 10% mylar
C06	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C07	236-501	Capacitor, uncased mica, 500 pf 33v 5% FWJ
C08	236-501	Capacitor, uncased mica, 500 pf 33v 5% FWJ
C09	219-200	Capacitor, electrolytic 22uF 25V Mepco 307
C10	217-103	Capacitor, .1 mf 100v 10% mylar
C11	260-200	Capacitor, variable, trimmer 4-20 pf FW C4
C12	260-200	Capacitor, variable, trimmer 4-20 pf FW C4
C13	NOT USED	
C14	NOT USED	
C15	240-330	Capacitor, uncased mica, 33 pf 33v 5% FWJ1
C16	260-200	Capacitor, variable, trimmer 4-20 pf FW C4
C17	260-200	Capacitor, variable, trimmer 4-20 pf FW C4
C18	240-602	Capacitor, variable, trimmer 25-115 pf FW
C19	NOT USED	
IC1	400-338	Integrated Circuit, National LM338KSTEEL
L01	PC BOARD	
L02	NOT USED	
L03	PC BOARD	
L04	350-117P	Inductor, 8 turn 22 AWG (CCW)
L05	330-012	Inductor, 15 uH Coilcraft 90-27
L06	350-117P	Inductor, 8 turn 22 AWG (CCW)
L07	PC BOARD	
L08	330-019	Inductor, Fair-Rite #2961666671
L09	PC BOARD	
L10	NOT USED	
L11	PC BOARD	
L12	350-117P	Inductor, 8 turn 22 AWG (CCW)
L13	330-018	Inductor, 10 uH 1-43LQ105-1
L14	350-117P	Inductor, 8 turn 22 AWG (CCW)
L15	PC BOARD	
L16	NOT USED	
Q01	441-433	Transistor, Philips BLW81
Q02	443-030	Transistor, Thomson SD1434
R02	145-470-C	Resistor, 47 ohm 1/4 watt 5% carbon comp 3
R03	NOT USED	
R04	NOT USED	
R05	NOT USED	
	120-002	Thermistor, Fenwal 142-102-FAG-RB1 1000 OH
	500-105-1	Pop-Rivet, USM SD-42BS
	510-210	Brackets, #6 Keystone 634
	510-230A	Amplifier Socket Assembly (RPT-30)
	510-261	Insulation, Softshield II CHOGAS139210
	512-010	Solder Lug, #6 short Concord 707-1206
	513-018	Insulator, Sil-Pad Bergquist K6-18 TO-3
	513-043	Spacer, 6-32 x 11/16 hex threaded Concord
	520-050D1	Heatsink, drilled RPT-30 Amp.

Parts List
SRPT-40 450 Amplifier
MARTI 800-170 11-08-96

Item	Marti No.	Description
	586-072	Cable Assembly, Multiplier to RF Amp
	700-260	Fingerstock, Angle contact strip
	800-170-2B	PC Board, Power Amp. RPT-15 STL-10/15
	500-114	Copper Washer, 5716-61-.051
	500-152	Screw, #6 x 5/8" phillips flat head type F
	500-025	Screw, 6-32 x 5/8" phillips pan head M/S n
	500-001	Hex Nut, #6-32 Extra Small Pattern Nickel
	500-002-1	Hex Nut, #4-40 Regular Nickel Plated
	500-011	Screw, 4-40 x 1/2" phillips pan head M/S n
	500-055	Lockwasher, #4 internal tooth small patter
	241-330	Capacitor, uncased mica 33pF 5% FWM602
	330-019	Inductor, Fair-Rite #2961666671
	219-250	Capacitor, electrolytic 22uF 25V 105c UC K
	219-102	Capacitor, electrolytic 1000uF 16V radial
	219-401	Capacitor, electrolytic 470uF 40V

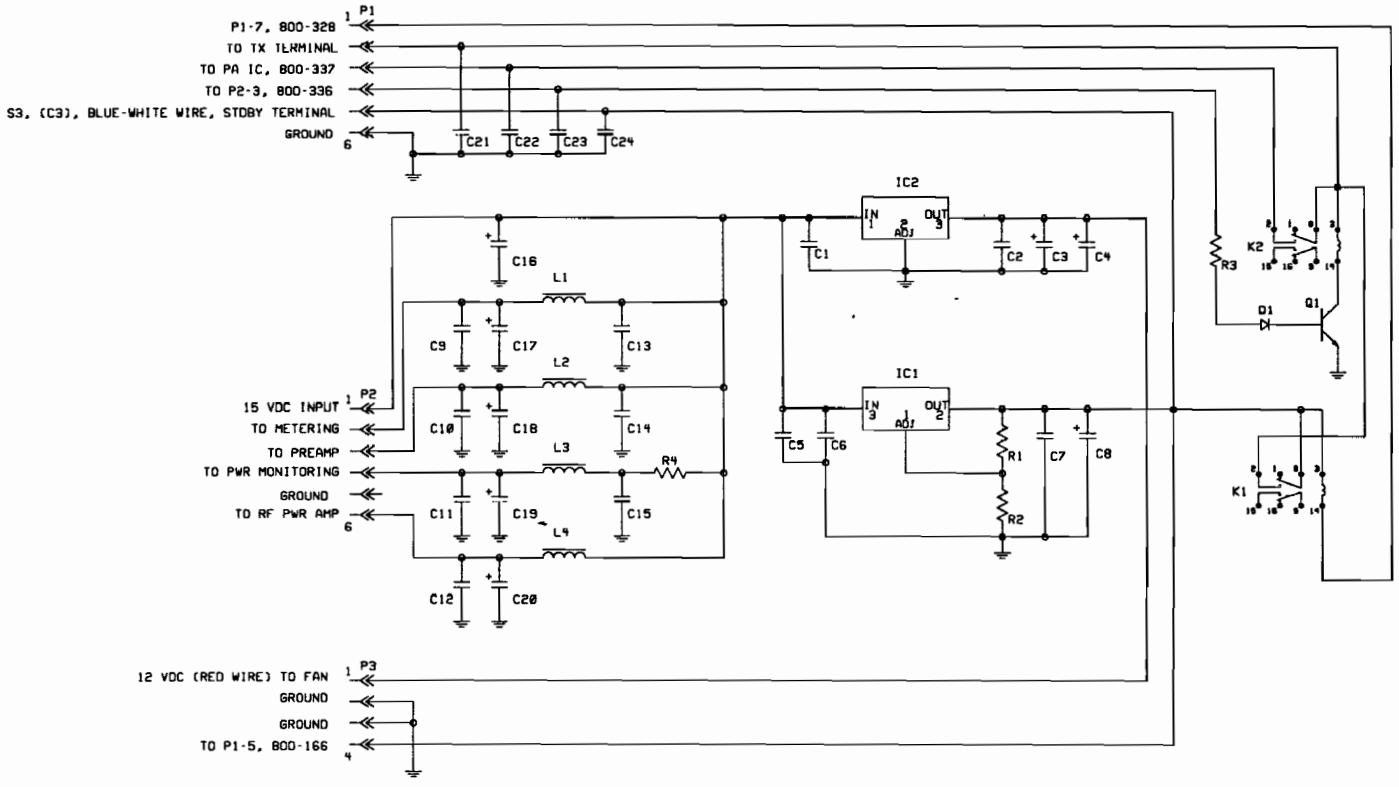


NOTE: RELAY K1 IS OFFERED AS AN OPTION

MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 08-NOV-96 800-250/305	TITLE OUTPUT FILTER BOARD

Parts List
SRPT-40 450 Output Filter
MARTI 800-250 11-08-96

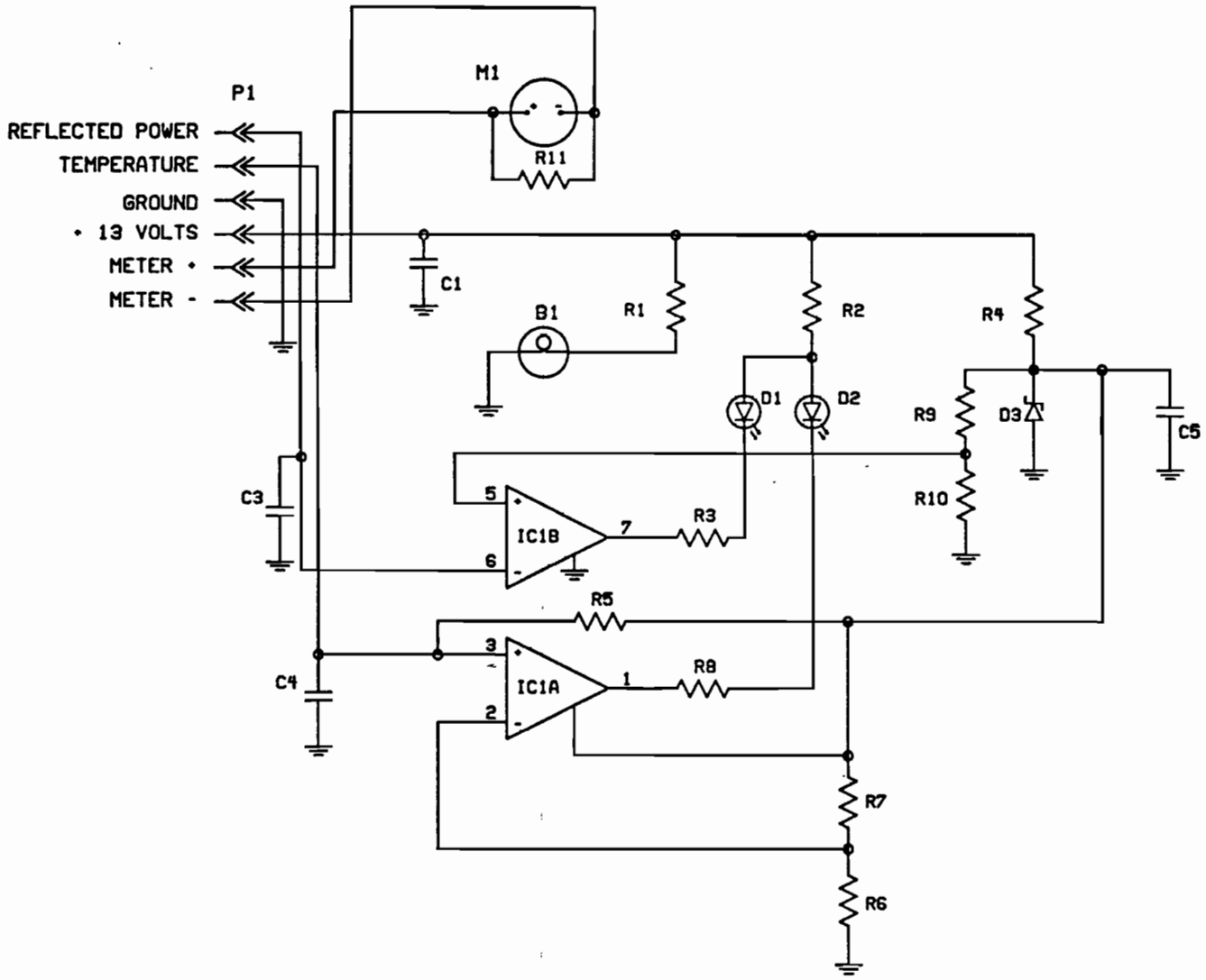
Item	Marti No.	Description
C1	240-802	Capacitor, uncased mica, 8.2 pf 33v 5% FWJ
C2	240-802	Capacitor, uncased mica, 8.2 pf 33v 5% FWJ
C3	240-802	Capacitor, uncased mica, 8.2 pf 33v 5% FWJ
C4	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C5	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C6	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C7	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C8	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
C9	270-102	Capacitor, monolithic chip, 1000pf 50v 5%
D1	410-305	Diode, Motorola MMBD101L chip
D2	410-305	Diode, Motorola MMBD101L chip
L1	350-116P	Inductor, 1 turn 20 AWG
L2	350-111P	Inductor, 3 turn 20 AWG (CW)
L3	350-116P	Inductor, 1 turn 20 AWG
L4	350-111P	Inductor, 3 turn 20 AWG (CW)
L5	350-140P	Inductor, 16 turn 20 AWG
R1	145-680-C	Resistor, 68 ohm 1/4 watt 5% carbon comp 3
R2	145-680-C	Resistor, 68 ohm 1/4 watt 5% carbon comp 3
R3	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R4	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R5	101-502	Potentiometer, 5K ohm cermet Bourns 3309P-
R6	101-502	Potentiometer, 5K ohm cermet Bourns 3309P-
	500-105-1	Pop-Rivet, USM SD-42BS
	500-158	Pop-Rivet, 3 x 6mm Gesipa metric
	510-191	#4 Bracket, Keystone 612
	511-004	Terminal, insulated feed-thru Staffel TFF9
	550-012	Connector, SO-239A UHF Panel Receptacle A
	550-158	Connector, 4 pin Molex angle header
	580-044	Wire, UL1429 22/7 OS-1 Yellow
	700-250-31	Output Filter Box, SRPT-40
	700-250-14P	Shield, RPT-30 Output Filter Box
	800-250B	PC Board, RF Output ' RPT-30
	700-250-33	Cover, SRPT-40 Output Filter Box Bottom Co



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 08-NOV-96 800-334	TITLE RELAY/REGULATOR/DC DISTRIBUTION

Parts List
SRPT-40 Relay/Regulator/DC Distribution Board
MARTI 800-334 11-08-96

Item	Marti No.	Description
C01	270-104	Capacitor, Monolithic Chip 100000pF 5% C12
C02	270-104	Capacitor, Monolithic Chip 100000pF 5% C12
C03	298-033	Capacitor, Tantalum SMD 33uf 25V Nemco #CB
C04	298-033	Capacitor, Tantalum SMD 33uf 25V Nemco #CB
C05	NOT USED	
C06	270-104	Capacitor, Monolithic Chip 100000pF 5% C12
C07	270-104	Capacitor, Monolithic Chip 100000pF 5% C12
C08	220-220	Capacitor, Electrolytic SMT 22uF Nemco #CB
C09	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C10	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C11	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C12	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C13	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C14	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C15	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C16	219-220	Capacitor, electrolytic 22uF 25V radial NI
C17	298-330	Tantalum 33uf SMD #PCS2336CT-ND 10V
C18	298-330	Tantalum 33uf SMD #PCS2336CT-ND 10V
C19	298-330	Tantalum 33uf SMD #PCS2336CT-ND 10V
C20	298-330	Tantalum 33uf SMD #PCS2336CT-ND 10V
C21	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C22	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C23	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
C24	270-103	Capacitor,monolithic chip 10000pF 10%XR7 K
D01	414-007	Diode, Fagor 1N4007
IC1	400-350	Integrated Circuit, National LM350T
IC2	402-937	Integrated Circuit, National LM2937ES-12 S
K01	570-035-1	Relay, Aromat HB2E-DC12V
K02	570-035-1	Relay, Aromat HB2E-DC12V
L01	330-024	Inductor, 10uH SMT DN-12103TR-ND DELEVAN
L02	330-024	Inductor, 10uH SMT DN-12103TR-ND DELEVAN
L03	330-024	Inductor, 10uH SMT DN-12103TR-ND DELEVAN
L04	330-019	Inductor, Fair-Rite #2961666671
P01	550-165	Connector, 4 pin Molex header
P02	550-136	Connector, 6 pin Molex header
P03	550-136	Connector, 6 pin Molex header
Q01	425-301	Transistor, Motorola 2N3904
R01	185-151	Resistor, #263-150 ohm 1/8 watt 5% chip
R02	185-102	Resistor, #263-1K ohm 1/8 watt 5% chip
R03	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R04	185-473	Resistor, #263-47K ohm 1/8 watt 5% chip
	513-013-1	
	513-031	Insulator, Sil-Pad Bergquist K6-54 TO-220
	550-161	IC Socket, 16 pin Aries 16-3518-11
	500-055	Lockwasher, #4 internal tooth small patter
	500-002	Hex Nut, #4-40 Extra Small Pattern Nickel
	520-051	Heatsink, Thermalloy 6030B-TT
	500-010	Screw, 4-40 x 3/8" phillips pan head M/S n
	800-334B	PC Board, Relay/Regulator/DC Distribution



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 31-JUL-96 800-252	TITLE RPT-30/SRPT-40 METER BOARD

Parts List
RPT-30/STL-30/SRPT-40 Meter Board
MARTI 800-252 11-08-96

Item	Marti No.	Description
B1	510-196	Subminiature Lamp, Lumex IFL-LX2162-16T
C1	217-104	Capacitor, .01 mf 50v GMV disc Pace F6Z5U1
C2	219-220	Capacitor, electrolytic 22uF 25V radial NI
C3	217-104	Capacitor, .01 mf 50v GMV disc Pace F6Z5U1
C4	217-104	Capacitor, .01 mf 50v GMV disc Pace F6Z5U1
D1	415-410	Diode, LED, TLBR-5410 (blinking)
D2	415-410	Diode, LED, TLBR-5410 (blinking)
D3	410-110	Diode, zener Motorola 1N4741A 11v 5%
IC1	400-293	Integrated Circuit, TI LM393P
M1	030-039M	Meter, Model HS-10 VU
R01	145-300	Resistor, 30 ohm 1/4 watt 5% metal film Me
R02	145-100	Resistor, 10 ohm 1/4 watt 5% metal film Me
R03	145-181	Resistor, 180 ohm 1/4 watt 5% metal film M
R04	145-101	Resistor, 100 ohm 1/4 watt 5% metal film M
R05	145-102	Resistor, 1k ohm 1/4 watt 5% metal film Me
R06	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R07	145-103	Resistor, 10k ohm 1/4 watt 5% metal film M
R08	145-181	Resistor, 180 ohm 1/4 watt 5% metal film M
R09	145-223	Resistor, 22k ohm 1/4 watt 5% metal film M
R10	145-102	Resistor, 1k ohm 1/4 watt 5% metal film Me
R11	145-561	Resistor, 560 ohm 1/4 watt 5% metal film M
	500-004	Screw, 4-40 x 1/4" phillips pan head M/S n
	511-038	Terminal, Keystone 1238
	513-033	Spacer, 4-40 x 13/16 hex threaded Concord
	550-070	IC Socket, 8 pin Keltron ICS-08-3-T
	550-136	Connector, 6 pin Molex header
	800-252B	PC Board, Meter RPT-30