

Instruction Manual

R-10

**Broadcast Aural
STL Receiver**

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!

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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.

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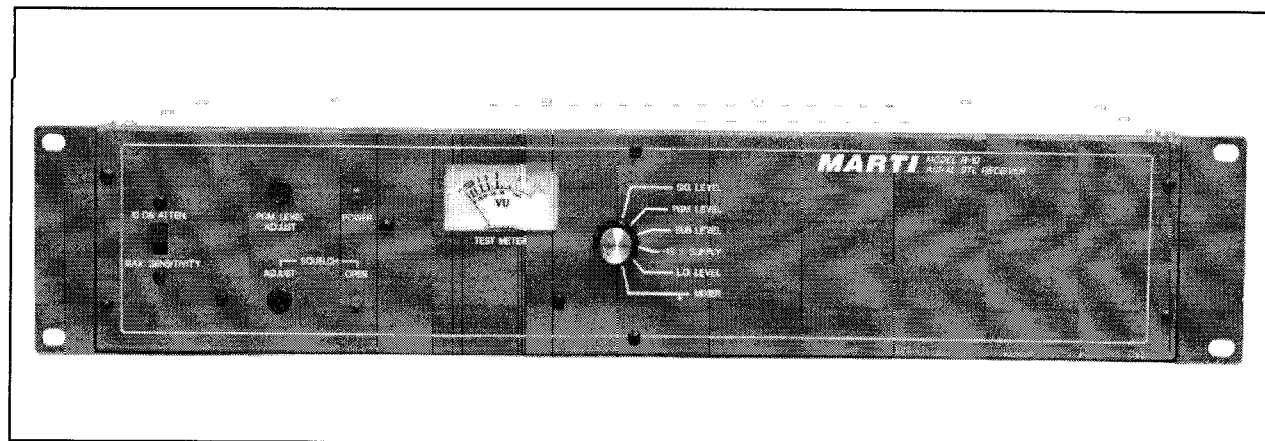
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INTRODUCTION



The **MARTI STL-10** Studio Transmitter Link/Inter-city Relay is a line-of-sight FM communications system providing a high quality broadcast audio channel with two optional sub-channels.

A dual link for stereo provides two identical broadcast quality channels with

better than 70 dB stereo cross-talk and four optional sub-channels.

These systems offer greater rejection of interference, superior noise performance, much lower channel cross-talk, and greater redundancy than currently available composite STL systems.

Applications of the STL-10 System (FCC Approved Parts 74, 94):

- **STL for FM stereo broadcast (dual system)**
- **STL for AM stereo broadcast (dual system)**
- **STL for FM monaural or AM monaural broadcast**
- **Inter-city relay for linking two or more broadcast facilities**
- **Multi-relay system for radio network distribution**
- **Communications link between satellite earth station and broadcast facilities**
- **Data and Background Music links**
- **Private microwave service**

Complex systems can be built from basic STL-10 transmitters and R-10 receivers having multiple relay (repeaters), bi-directional (full duplex), and automatic switching hot standby features.

Features of the R-10 Receiver include:

- Excellent square wave response.
- User selectable audio processing provides 0, 25, 50, or 75 microsecond de-emphasis options.
- Low-pass filters designed to eliminate overshoot on complex audio waveforms.
- (GaAs) FET Low-Noise Amplifier.
- Double-balanced mixers.
- Multiple IF bandwidths available to meet domestic and international requirements.
- Computer designed bandpass filters for high selectivity with optimum phase and group delay.
- Test meter on front panel indicates Signal Level, Main Channel Audio Level, Sub-carrier Level, Supply Voltage, Local Oscillator Level and Mixer Level. Additional test points inside receiver.
- Sensitivity switch on front panel provides 10 dB RF attenuation for interference rejection.
- Automatic switching capability by addition of Model ARS-2 Receiver Switcher.
- Accessory plug for external DC power, remote control, remote metering, and other functions.
- Low power consumption for operation on AC, solar cell, battery, or other single-polarity DC source. (Marti Model UPS-12 Uninterruptible Power System).
- Terminal strip for balanced 600 ohm audio output, BNC jacks for unbalanced audio output, Sub 1 output, Sub 2 output.

The Marti STL-10 system derives its excellence from Marti's experience in supplying thousands of such systems world-wide over the past thirty years. This equipment incorporates state-of-the-art technology and is manufactured in modern, efficient facilities under high quality-control standards.

STL-10 System Specifications

Freq Range MHz	Transmitter	Maximum Power	Maximum Deviation	Receiver	Receiver IF Bandwidth	System Specifications		
						Frequency Response	Distortion	Noise
600-960	STL-10/950	10 watts	±50 KHz	R-10/950	200 KHz	±0.25 dB, 20-15000 Hz	0.25% or less	-80 dB or better
400-480	STL-10/450	15 watts	±25 KHz	R-10/450	125 KHz	±0.25 dB, 20-15000 Hz	0.30% or less	-75 dB or better
280-340	STL-10/300	15 watts	±15 KHz	R-10/300	125 KHz	±0.25 dB, 20-15000 Hz	0.30% or less	-72 dB or better
200-260	STL-10/215	15 watts	±15 KHz	R-10/215	125 KHz	±0.25 dB, 20-15000 Hz	0.30% or less	-72 dB or better
140-180	STL-10/150	15 watts	±9 KHz	R-10/150	125 KHz	±0.25 dB, 20-15000 Hz	0.30% or less	-65 dB or better

System Applications

Freq Range MHz	Application	FCC Part	B.W. Each Channel	Frequency Response	Distortion	Noise	Channel Separation
800-960	FM Stereo STL	74	200 KHz	± 0.25 dB, 20-15000 Hz	0.25% or less	-80 dB or better	80 dB
800-960	FM Stereo STL	74	150 KHz	± 0.3 dB, 20-15000 Hz	0.3% or less	-72 dB or better	72 dB
800-960	AM Stereo STL	74	100 KHz	± 0.3 dB, 20-15000 Hz	0.3% or less	-72 dB or better	72 dB
928-960	Data or Background Music	94	100 KHz	± 0.3 dB, 20-15000 Hz	0.3% or less	-72 dB or better	72 dB
928-960	4-channel Sat. Pgm. Feed	94	100 KHz	± 0.3 dB, 20-15000 Hz	0.3% or less	-70 dB or better	70 dB

Stereo System Differential Phase 0.5 degrees or less

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Model R-10

Broadcast Aural STL Receiver

SPECIFICATIONS

Frequency range: 140 - 180 MHz R-10/150
 200 - 260 MHz R-10/215
 280 - 340 MHz R-10/300
 400 - 480 MHz R-10/450
 600 - 960 MHz R-10/950

Sensitivity 4 μ v for 50 dB S/N ratio. (See NOTE 3 below)
 14 μ v for 60 dB S/N ratio (See NOTE 3 below)

Input impedance: 50 ohms

Frequency stability: $\pm 0.0025\%$ (-10°C to +50°C)

Selectivity:

Filter	3 dB down	60 dB down
F200	200 KHz	570 KHz
F125	100 KHz	300 KHz
F50	50 KHz	100 KHz

Spurious response: -90 dB (see NOTE 2)

Audio outputs: Balanced 600 ohms, +10 dBm, barrier strip. BNC connector for unbalanced output.

Subcarrier outputs: Two BNC connectors for remote control and/or subcarrier inputs. (see NOTE 1)

Power requirements: 120/220 VAC*, 50/60 Hz, 10 watts; 13.5 VDC at 0.5 Amps.

AC power supply: Precision, electronically regulated with current limiting.

Fuse: 0.5 Amp for 115 V operation. 3/8 Amp for 220 V operation. Type 3AG.

Automatic changeover:	Provision for automatic changeover by addition of ARS-2 Automatic Switcher
Accessory connector:	15 pin D connector on rear panel provides filtered access to Squelch Relay Contacts, Signal Level Metering, Balanced Audio Outputs, and External DC Power (Model UPS-12 Uninterruptible Power Supply)
Metering:	RF Signal Level, Audio Output Level, Subcarrier Output Level, +13 volt DC Supply, Local Oscillator Level, Mixer Level. LED indicators for Power and open Squelch .
Panel controls:	10 dB Attenuator switch, Test Meter switch, Program Level Adjust pot, Squelch Adjust pot.
Dimensions:	3.5 inches High x 19 inches Wide x 12 inches Deep 8.89 cm High x 48.26 cm Wide x 30.48 cm Deep
Weight:	Net 10 pounds. Domestic packed 17 pounds. Net 4.6 kilograms. Export packed 7.8 kilograms.
RF connector:	UG-58 (type N female)

NOTE:

- (1) For subcarrier operation, R-10 receivers must be ordered with F-200 filters.
- (2) R-10/950 has -70 dB spurious response.
- (3) Refers to 950 MHz system which uses ± 50 KHz deviation. Narrow band systems using ± 15 KHz deviation require 18 μ v for 50 dB S/N and 50 μ v for 60 dB S/N ratio.

* Voltage must be specified with order.

Specifications subject to change without notice

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.

Receiver connections

(Refer to Drawing 702-058)

1. Program audio output is connected to TB-1. Program audio level available is +10 dBm, 600 ohms balanced and isolated from ground. Balanced audio output is also available at pins 4 and 5 of accessory connector J4. Unbalanced audio sources may be fed from the BNC jack J2. For dual channel stereo repeat these instructions at second receiver.

2. Connect a Remote Control or Subcarrier Demodulator to the BNC jack marked "J1 Sub 1 Out." The subcarrier load may be 600 to 10 K ohms impedance, and the output level is approximately one (1) volt RMS. Subcarrier frequencies may be between 39 KHz and 67 KHz. A second subcarrier demodulator can be connected to J3.

3. The accessory connector J4 has several uses such as remote control, automatic switching, remote signal level meter, and external DC power. Connection instructions are furnished with these accessories.

4. Connect receiving antenna coax to J6 with a type "N" male connector. A short flexible jumper (20"

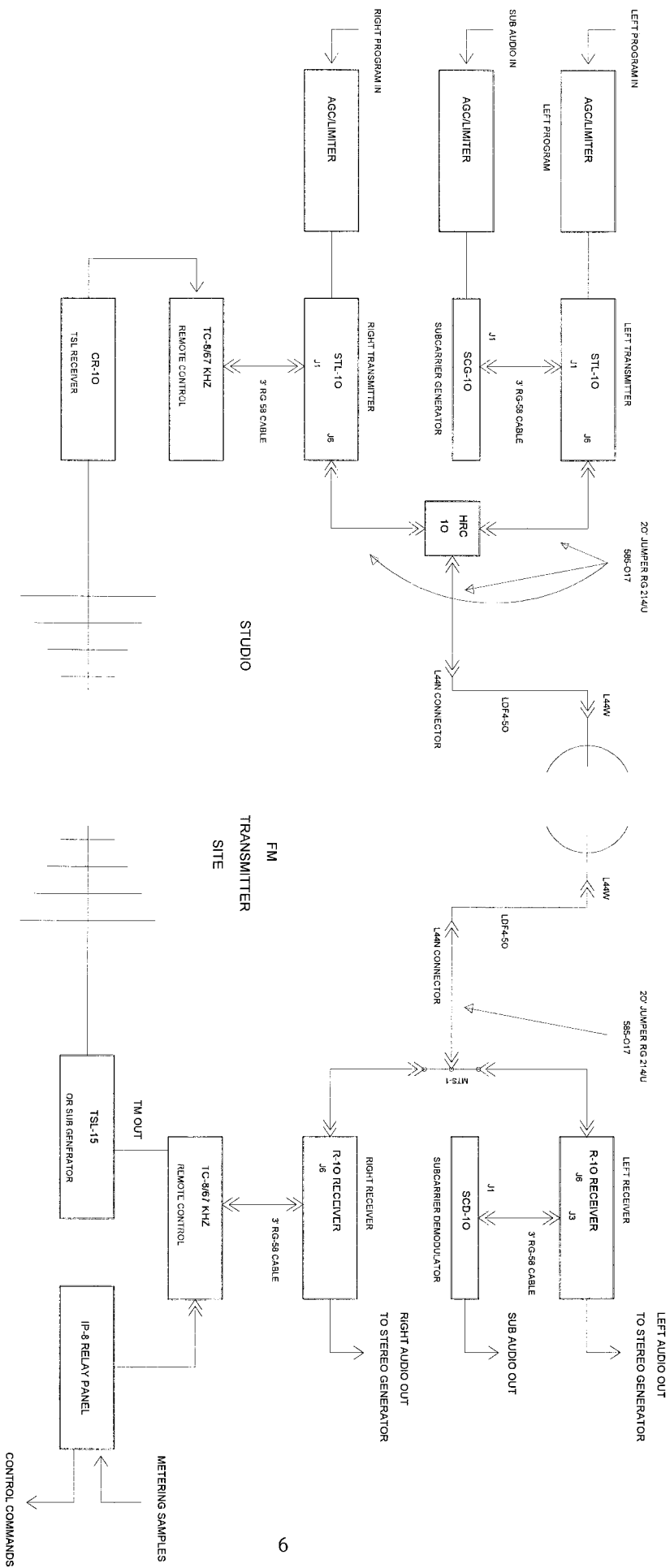
max.) may be used between J6 and semi-flexible coax. **Marti Part No. 585-017** double shielded, low-loss RG 214/U jumper is recommended.

5. For dual channel stereo, use only Marti MTS-1 coaxial transformer for splitting the received signal to the two R-10 receivers. Refer to Drawing 702-058.

6. Connect AC line receptacle on back of the receiver to a 115 volt AC power source with special cord set supplied. **USE ONLY 3-PRONG GROUNDED OUTLET RECEPTACLES FOR SAFETY.**

WARNING

This equipment must be operated with a 3-prong, grounded, 115 volt, AC outlet receptacle! Failure to use a properly grounded outlet could result in a safety hazard or faulty equipment performance!



FOR DETAILED INSTRUCTIONS READ EQUIPMENT INSTRUCTION MANUALS

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702-058

TITLE
STEREO STL SYSTEM BLOCK DIAGRAM

ANTENNAS

The following suggestions are offered to help those responsible for antenna installations avoid costly errors in assembly and adjustment. Marti Electronics, Inc. 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. Errors are frequently made in assembly of the RF feed dipole elements which must be installed in the same plan as the reflector grids. In other words, if the reflector grid elements are horizontal, then the feed dipole elements must also be horizontal. Cross polarization of grid and feed dipole will result in total loss of antenna gain!

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 STL 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 STL antenna system be properly grounded for safety and proper operation.

Antenna Installation and Adjustment

The polarization of the transmit and receive antennas of the STL system must be the same! This means that if the transmitting antenna is horizontal, the receiving antenna must also be horizontal. Each antenna should be attached to the tower to allow for final adjustment in azimuth heading and vertical tilt. After visual adjustment of the antennas, the transmitter and receiver can be used to make the final adjustments of the antennas. With the transmitter driving one antenna, the receiver antenna is adjusted for maximum signal (indicated on the receiver) in both horizontal and vertical directivity. **CAUTION:** Antennas have a "major" and several "minor" lobes in their directivity patterns. A common error is to peak the antenna on a minor lobe, resulting in a signal level of only a fraction of the major lobe signal. This error can be avoided only by swinging the antenna through a large angle so that all lobes are evaluated and the major lobe clearly determined. After one antenna is adjusted, the transmitter and receiver locations are reversed, to allow adjustment of the other antenna. 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 orientation of antennas in both horizontal and vertical directions.
4. Check VSWR of both transmit and receive antennas. VSWR should be less than 1.5:1.
5. Check Fresnel zone clearance along radio path.
6. Check for obstructions in the path such as trees and man-made structures. Do NOT depend on maps or aerial photographs.

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 and Connector Functions

Program Level Adjust

The audio output level of the receiver is set from the front panel by use of a small screwdriver through the opening marked "PGM. LEVEL ADJ." Position TEST METER switch to "PGM LEVEL" while making adjustment. The PGM. LEVEL ADJ. may set the modulation level of a broadcast transmitter if the R-10 drives the transmitter directly. Zero VU on the "PGM. LEVEL" setting of the TEST METER is approximately +10 dBm at the OUTPUT TERMINALS of TB-1.

Squelch Adjust

The R-10 receiver SQUELCH ADJUST pot is factory set to operate at a received signal level of approximately 4 microvolts. This level can be changed by increasing or decreasing the pot setting. Very sensitive settings of the SQUELCH ADJUST pot should be avoided, since noise or other signals could open the squelch. A panel lamp provides a visual indication of SQUELCH OPEN.

RF Attenuator

This panel switch allows the selection of "MAX SENSITIVITY" (maximum receiver gain) or "10 dB ATTENUATION." "10 dB ATTENUATION" can, under certain conditions, prevent receiver overload, intermodulation, adjacent channel interference, etc. The use of "10 dB ATTENUATION" requires that the desired signal be at least 10 dB above the desired signal to noise level.

Power ON

The "POWER ON" lamp glows when the 13.5 volts DC regulated power supply is operating.

Test Meter

The TEST METER with its selector switch, allows monitoring of six important receiver parameters as follows:

1. "SIG LEVEL" - The RF signal level at the receiver input J6 is displayed in "SIG LEVEL" position of the METER switch. The following table gives typical signal levels in microvolts for various VU values.

Meter Reading	Atten. Switch	Signal Strength
-3 VU	MAX	10 μ v
-1 VU	MAX	50 μ v
0 VU	MAX	100 μ v
+2 VU	MAX	250 μ v
+2 VU	10 dB ATTEN	500-800 μ v

2. "PGM. LEVEL" - The audio level at the 600 ohm balanced output terminals of J1 is displayed in this switch position. 0 VU is approximately +10 dBm. Peak values of 0 VU should not be exceeded with program audio. See PGM LEVEL ADJUST above.

3. "SUB LEVEL" - This is the received subcarrier level. A subcarrier with 20% injection at the STL-10 Transmitter will indicate approximately 0 VU on the R-10 Receiver "SUB LEVEL" meter. 10% subcarrier injection will read approximately -6 VU.

4. "+13 V SUPPLY" - When switched to this position, the meter reads +1.5 VU for the internal 13.5 volt regulated supply.

5. "L.O. LEVEL" (Local Oscillator Level) - The local oscillator of the second converter 800-216 (used above 800 MHz only) is indicated in this switch selection. Below 800 MHz, this indication is for TP-1 of the converter local oscillator chain 800-212 or 800-213. For nominal meter readings refer to **R-10 FACTORY TEST REPORT**.

6. "MIXER" - This is the test point in the 1st converter local oscillator chain nearest the double-balanced mixer. The "MIXER" meter indication is therefore a reliable check on mixer operation.

NOTE: See the R-10 FACTORY TEST REPORT for nominal meter values at various switch positions.

Internally Selected Audio Options

Pre-Emphasis Options

Two programmable switches, **S1** and **S2**, on **800-194 Audio Board**, enable the user to select 0 μ s, 25 μ s, 50 μ s, or 75 μ s pre-emphasis characteristics. The selection of one of these options in the transmitter requires a corresponding selection of S1 and S2 on the receiver (**R-10 Audio Processing Board**, **800-205**. Refer to **STL-10 Drawing 702-056** and **R-10 Drawing 702-057** for the location of these switches. The switches as shown in the diagrams, are positioned for 75 μ s at the factory. 75 μ s pre-emphasis and de-emphasis produces the best threshold noise performance in an FM system.

It does, however, present problems in modulation control. Some users, therefore, may wish to use 50 μ s, 25 μ s, or flat processing. AM stations will find flat processing desirable since the STL can be treated as a pair of wires in proof-of-performance tests without possible overmodulation of the link at high audio frequencies. With 75 μ s pre-emphasis, audio input levels to the transmitter should be reduced 20 dB below 100% modulation when running frequency response tests to prevent overmodulation at the higher audio frequencies. With a full-quieting RF

signal into the receiver (0 μ s de-emphasis), 0 μ s pre-emphasis will produce a system signal-to-noise ratio approximately 6 dB less than 75 μ s pre-emphasis. Received signal levels less than full quieting may produce a difference of as much as 13 dB between flat and 75 μ s pre-emphasis.

Transformerless Output

The R-10 Receiver is factory equipped with a high quality isolating line transformer. This is to prevent possible ground loop problems when interfacing with various other equipment. This transformer can be removed from the output circuit to allow the output bridge op-amps to drive a balanced, floating 600 ohm load directly. This will eliminate any distortion, response or transient overshoot contributed by the transformer. In the transformerless connection, the system audio response extends down to near DC.

To convert to TRANSFORMERLESS OUTPUT, refer to the Parts List and Schematic Diagram, 800-193-1. Carefully position the jumpers on Board 800-193-1.

SYSTEM PERFORMANCE TESTS

The STL-10 transmitter, R-10 receiver with the associated antenna system can be tested and compared with factory test data included in this manual. The following procedures should be followed in order to obtain reliable and accurate results.

Before audio tests or subcarrier tests are begun check the receiver "SIG. LEVEL" METER for required minimum signal. A conversion from VU to microvolts is given under **OPERATION** in the R-10 receiver manual. For a 950 MHz. system using 50 KHz FM deviation, typical noise levels are:

- 1 μ v for 20 dB S/N ratio
- 3 μ v for 50 dB S/N ratio
- 10 μ v for 60 dB S/N ratio
- 20 μ v for 70 dB S/N ratio
- 50+ μ v for ultimate S/N ratio

For the above system with 20% subcarrier injection, the following noise level on the subcarrier (Marti SCG-10 - SCD-10 System) was measured: (no modulation main or sub)

- 10 μ v for 40 dB Subcarrier S/N ratio
- 20 μ v for 46 dB Subcarrier S/N ratio
- 30 μ v for 49 dB Subcarrier S/N ratio
- 150 μ v for ultimate Subcarrier S/N ratio

With ultimate S/N ratio, main to sub crosstalk should be -45 to -50 dB, with 50 KHz deviation, (using Marti SCG-10 - SCD-10 Subcarrier System).

NOISE

Noise measurements should be made first, since high noise levels will influence distortion readings. Also ground loops in the audio oscillator to transmitter connections and distortion analyzer to receiver connections must be resolved before testing begins. The influence of high RF fields upon the test equipment must be determined and corrected before accurate measurements can be made. NOTE: NOISE AND DISTORTION MEASUREMENTS ARE MADE WITH SUBCARRIER AND REMOTE CONTROL INPUT SIGNALS REMOVED. System signal to noise ratio is determined while modulating the transmitter 100% at 400 Hz. A level of +8 dBm across the balanced audio input terminals of TB-1 will produce a reading of 100% modulation on the

"PEAK MODULATION" indicator. Set Receiver "PGM LEVEL ADJ" pot for +10 dBm output into the distortion analyzer. If the distortion analyzer has a high impedance input, add a 600 ohm load resistor to match the receiver. Establish +10 dBm on the audio voltmeter of the analyzer as the reference level for 100% modulation. Next, remove the audio signal from the transmitter input and measure noise level below reference (100% modulation). This reading should compare with that published under **SYSTEM SPECIFICATIONS** in this manual.

DISTORTION

Harmonic distortion is usually measured at 100% modulation and at several frequencies. If pre-emphasis processing is used in the transmitter with corresponding de-emphasis in the receiver, it is normal for available audio level at the receiver to drop with increasing frequency according to the de-emphasis curve selected. At 15 KHz, there is sufficient level to operate most modern distortion analyzers. Distortion levels should be within specifications. If distortion is out of specs, check system noise, check for test equipment ground loops, RFI, and transmitter/receiver operating frequency. If either unit is off frequency, the FM modulation sidebands are not centered within the IF filter bandpass, which can cause audio distortion.

FREQUENCY RESPONSE

If the STL-10 System is switched to flat processing, frequency response can be measured as if the signal were being sent over straight wires. If pre-emphasis processing is used (especially 75 μ s) allowance must be made in the transmitter audio input level to prevent over-modulation at test frequencies above 400 Hz. The simplest and fastest method is to set the transmitter audio input level for 100% modulation at 400 Hz., then attenuate this level 20 dB. Set receiver output level to -10 dBm as the reference, then sweep the audio band for response. Response should be within limits published in the **SYSTEM SPECIFICATIONS**.

THEORY OF OPERATION

Refer to Block Diagram Drawing No. 702-062 and appropriate Schematic Diagrams.

Converter, 800-211, 800-212, 800-213

The received RF signal is applied to the CONVERTER module. After passing through a Three-Section Pre-selector, the signal is coupled to Gate No. 1 of a dual-gate RF amplifier. The output of this amplifier is impedance matched to Double-Balanced Mixer X-1. The output of the Local Oscillator frequency multipliers is also impedance matched to the "local oscillator port" of Mixer X-1. The third port of the Double-Balanced Mixer X-1 is the CONVERTER output.

IF Bandpass Filter, 800-207, 800-275

The IF signal output of the CONVERTER is impedance matched to the IF Bandpass Filter which provides the selectivity or channel bandwidth of the receiver. Several IF filters are available for various bandwidth requirements. The output of the IF Bandpass Filter is impedance matched to the following stage.

74 MHz Second Converter, 800-216

R-10 Receivers operating at 800-960 MHz are double conversion. A second converter board is added to these receivers which is tuned to the 74 MHz IF output of the first converter, 800-211. The 74 MHz SECOND CONVERTER then converts the 74 MHz signal down to 10.7 MHz. Referring to Schematic Diagram 800-216, the 74 MHz signal passes through a double-tuned pre-selector, then to Gate No. 1 of dual-gate MOSFET Q1. The drain circuit of this amplifier is impedance matched to the RF port of Double-Balanced Mixer X-1. Second Local Oscillator Q2 operates as a frequency doubler, the output of which is impedance matched to the Local Oscillator port of Mixer X-1. The IF port of this Mixer is 10.7 MHz, J2 which is connected to IF Bandpass Filter, 800-207

IF Amplifier-Detector, 800-208

The IF amplifier chain consists of two discrete transistors stages coupled by ceramic filters to an integrated circuit, IC-1. IC-1 contains high-gain FM limiters, quadrature detection, audio pre-amplification and wide range signal level metering. IF symmetry at the IC input is compensated by L1

and C19. This board outputs to the AUDIO AMPLIFIER, METERING BOARD, and POWER SUPPLY /SQUELCH BOARD.

Audio Amplifier, 800-205

The audio input signal is connected to the non-inverting input of De-Emphasis Amplifier, IC-1A. The negative feedback circuit of this amplifier has two capacitors C4, C5 selected by switches S1 and S2 which provide the option of 0 μ s (flat), 25 μ s, 50 μ s, and 75 μ s de-emphasis. Pot R3 permits precise adjustment of the time constant. Following the de-emphasis circuit, the signal passes through two stages of Butterworth low-pass filtering, IC-2A and IC-2B, then to a bridge connected dual op-amp for the audio output, IC-3A and IC-3B. Diodes D1 and D2 rectify the output audio for audio level metering. A 600/600 ohm transformer T2 is located on I/O FILTER BOARD, 800-193 to isolate the output op-amps from the line.

The input signal is also fed to a 25 KHz high pass filter, IC-1B, which amplifies any subcarrier in the baseband 25 KHz to 95 KHz. The output of this amplifier is split to "Sub 1" and "Sub 2" output connectors and is also rectified for subcarrier level metering.

Power Supply/Squelch, 800-219

The power supply consists of a bridge rectifier, D1, D2, D3, D4, filter C5 and regulator IC-3. R8 and R9 set the output voltage and D5 and D6 protect IC-3 from reverse voltage. Zener diode D7 provides a shunt regulated reference voltage for the comparators, IC-2, for instances when the receiver is operated from external unregulated DC supplies.

The signal squelch comparator, IC-2B, has the signal level metering voltage applied to the appropriate input. Signal squelch comparator IC-2B output is connected to relay driver Q2. The collector of Q2 also operates the "SQUELCH OPEN" LED on the receiver panel. Squelch adjustment is provided by potentiometer R5 located on METER/CONTROL BOARD, 800-192, which divides the comparator reference voltage through R11 and R12.

Signal level voltage is also connected to meter driver amplifier, IC-1. The "SIGNAL LEVEL" position of the test meter is calibrated by R2.

Input/Output Filters, 800-193

All input/output circuits connected to accessory connector J4 as well as the AC line input have radio-frequency filters.

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	Kay Model 437A (adjustable 0-110 dB)
RF Signal Generator	Marconi Model 2022C
Spectrum Analyzer	Hewlett-Packard Model 8558B
Wattmeter (50 ohms impedance)	Bird Model 43
25 watt element	100-250 MHz., 250-500 MHz., or 400- 1000 MHz. Bird
Automatic Modulation Meter	Wavetek Model 4101
50 watt RF Load	Microwave Associates Model 44003

TOOLS for ALIGNMENT

Type of Tool	Manufacturer's No.	Marti Part No.
Tuning Tool	GC 9300	930-037
Tuning Tool	GC 9440	930-069
Tuning Tool	Spectrol 8T000	930-100
Tuning Tool	Sprague-Goodman	930-062

R-10 FACTORY TEST REPORT

Customer: _____

Address: _____

R-10 Serial #: _____ Frequency: _____

TEST METER READINGS

10 microvolts: _____

50 microvolts: _____

100 microvolts: _____

250 microvolts: _____

500 microvolts: _____

☐ Program Level: _____

☐ Subcarrier Level: +1 VU = 20%, -5 VU = 10%

☐ +13 Volt Supply: +1 VU = 13.5 volts DC

☐ Local Osc. Level: -7 VU to +1 VU

☐ Mixer Level: -4 VU to +3 VU

Response (0 - 0.25 dB): _____

Distortion: _____

Noise Level (ultimate): _____

Squelch set at: _____

Date

Signature

TUNE-UP and ADJUSTMENTS

Refer to Location of Adjustments Drawing No. 702-057 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 **R-10 FACTORY TEST REPORT** which is a part of this book. 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** elsewhere in this book. For location of adjustments and test points in the R-10 Receiver, refer to Adjustment Location Diagram, 702-057.

1st Converter, 800-211, 212 & 213

1. Set the local oscillator on exact frequency by adjusting L1 while observing the frequency on a 225 MHz counter plugged into J1. See the table below in order to determine the correct frequency at J1.

NOTE: Unplug the counter from J1 before doing STEP 2.

FOR 800-211 (600-950 MHz) CONVERTER ONLY

2. Tune L2 and L4 for maximum negative voltage at TP-1. Use the 3 volt DC scale of a sensitive multimeter. Do **NOT** tune C7, C8, C13 & C14 - they are factory adjustments!

3. Tune L5 and L6 for maximum voltage at TP-2.

4. Tune C18 for maximum voltage at TP-3.

5. Reduce received signal level at J6 for a 1/3 scale reading on SIG. LEVEL METER. Tune C23, C29, C33, C34, C35 for maximum signal level.

FOR 800-212 (140-260 MHz) and 800-213 (280-480 MHz) CONVERTERS ONLY

2. Switch METER to "L. O. LEVEL". Tune L5 and L6 for maximum reading. DO **NOT** tune TRIMMER CAPACITORS - they are factory adjustments **ONLY!** (TP-1)

3. Switch METER to "MIXER" and tune L7 and L8 for maximum reading. (TP-2)

4. Switch METER to "SIG LEVEL", reduce signal level at J6 for a 1/3 scale reading on SIG. LEVEL METER. Tune the three gold capacitors on top of the pre-selector for maximum signal level. On 800-213 board tune C27 and C32 for maximum signal level. On 800-212 board tune L9 for maximum signal level.

2nd Converter, 800-216 (500-960 MHz. only)

1. Set local oscillator on exact frequency by adjusting L4 while observing the frequency on a 100 MHz counter plugged into J3. For receivers in the 500 - 930 MHz band, the correct frequency at J3 is:

$$F = 74 \text{ MHz.} - 10.7 \text{ MHz.} = 63.3 \text{ MHz.}$$

For receivers in the 930 - 960 MHz band, the correct frequency at J3 is:

$$F = 74 \text{ MHz.} + 10.7 \text{ MHz.} = 84.7 \text{ MHz.}$$

For dual channel stereo, receivers are operated at 125 KHz above and 125 KHz below the channel center frequency. Therefore:

$$F_{\text{Left}} = 84.5750 \text{ MHz.}$$

$$F_{\text{Right}} = 84.8250 \text{ MHz.}$$

The 2nd converter overtone crystal frequency is one-half that measured at J3.

UNPLUG THE COUNTER FROM J3 BEFORE PROCEEDING TO THE NEXT STEP!

2. With TEST METER switched to "L.O. LEVEL", tune L6 and L7 for maximum indication.

3. Switch TEST METER to "SIG. LEVEL". Reduce received signal level at J6 for a 1/3 scale reading. Tune L1, L2, and L3 for maximum signal reading.

I.F. Filter, 800-207

With a received signal of 1/3 scale on TEST METER, "SIG. LEVEL" position, tune L1 and L2 for maximum signal.

I.F. Filter, 800-275

No adjustments should be made on this board.

I.F. Amplifier/Detector, 800-208

1. With a received signal of 1/3 scale on TEST METER, "SIG LEVEL" position, tune L1 and C19 for maximum signal.

2. Check transmitter and receiver frequency. Make adjustments if necessary.

3. Modulate transmitter 100% at 400 Hz. using an ultra-low distortion audio generator.

4. Set receiver PGM LEVEL ADJ. for +8 dBm output across a 600 ohm load.

5. Tune primary of T1 (the slug nearest the IC) for maximum audio output level. Tune secondary slug of T1 for a dip (minimum) audio output level. Repeat several times since adjustments interact.

6. Connect automatic nulling distortion meter to receiver output. Attenuate RF signal level at J6 for a signal level of 100 microvolts (0 VU on TEST METER scale). With transmitter modulated as before, SLIGHTLY re-tune T1 primary and secondary for MINIMUM distortion (under 0.24%).

7. Modulate transmitter 100% at 10 KHz. Tune L1 and C19 for minimum distortion (under 0.24%).

Audio Board, 800-205 (De-emphasis Adjustment)

1. Set pre-emphasis switches S1 and S2 on STL-10 Audio Board, 800-194 to 75 microseconds as shown on Drawing 702-056 of the STL-10 Instruction Manual.

2. Set de-emphasis switches S1 and S2 of R-10 Audio Board, 800-205, to 75 microseconds as shown on Drawing 702-057 of the R-10 Instruction Manual.

3. Modulate transmitter 100% at exactly 15 KHz. Set receiver PGM LEVEL ADJUST for exactly -7 dBm on an accurate audio voltmeter.

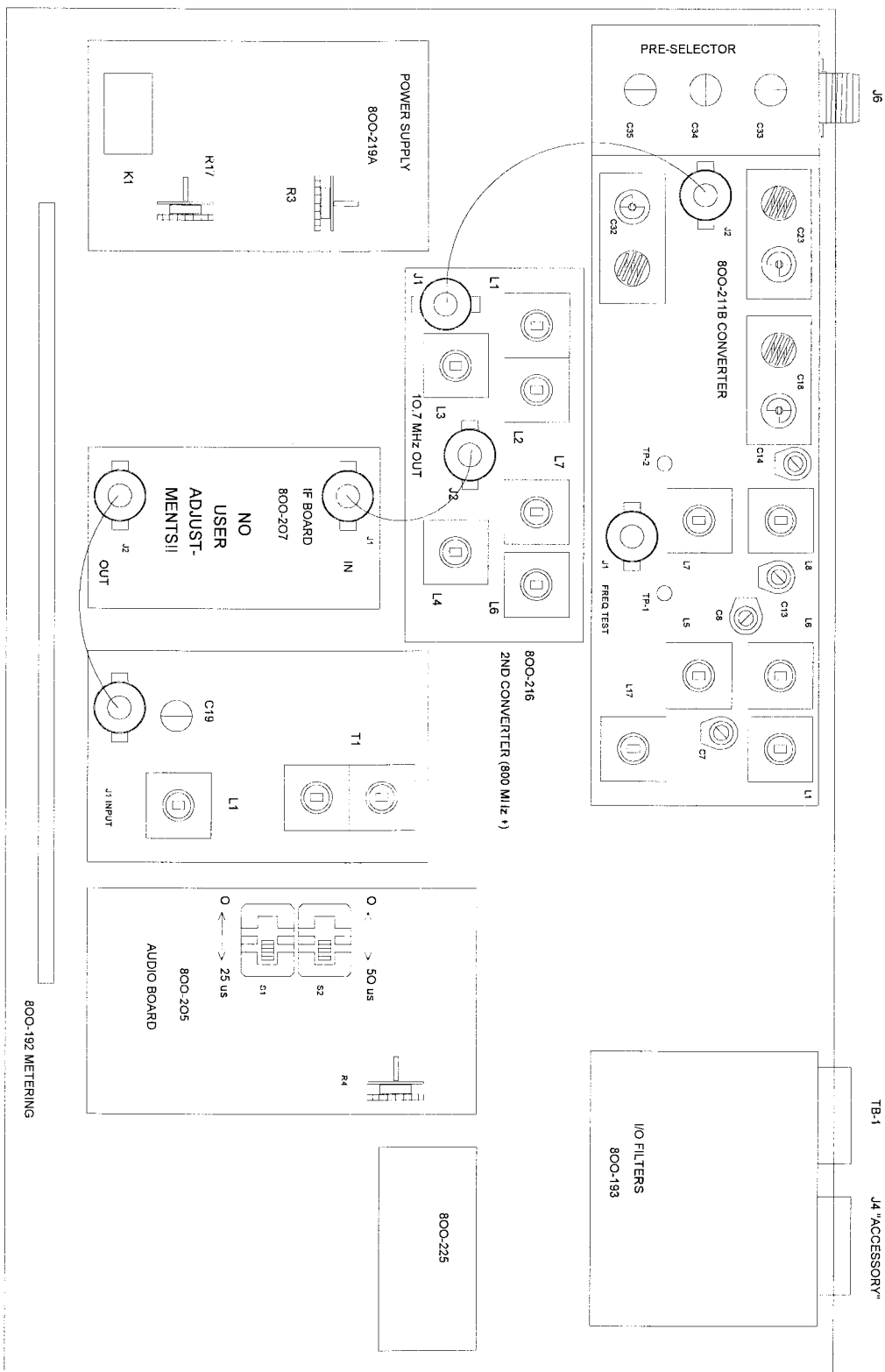
4. Lower the audio signal generator frequency to exactly 400 Hz at the exact same level into the STL-10.

5. The R-10 Receiver audio output level meter should read +10 dBm, ± 0.25 dB. If not, adjust R4 on the receiver Audio Board, 800-205, for exactly +10 dBm output.

The correct frequency at J1 can be calculated by the formulas in the following table:

OPERATING FREQUENCY (F)	CONVERTER TYPE	MEASURED FREQUENCY AT J1	OVERTONE CRYSTAL FORMULA
140 - 180 MHz	800-212	$F - 10.7$	$(F - 10.7) / 3$
200 - 234.65 MHz	800-212	$(F - 10.7) / 2$	$(F - 10.7) / 4$
234.65 - 280 MHz	800-212	$F + 10.7$	$(F + 10.7) / 6$
280 - 340 MHz	800-213	$(F - 10.7) / 2$	$(F - 10.7) / 8$
400 - 466.65 MHz	800-213	$(F - 10.7) / 2$	$(F - 10.7) / 8$
466.65 - 538 MHz	800-213		$(F - 74) / 8$
538 - 650 MHz	800-211		$(F + 74) / 16$
650 - 784 MHz	800-211		$(F + 74) / 16$
			or $(F - 74) / 16$
784 - 950 MHz	800-211	$(F - 74) / 4$	$(F - 74) / 16$

NOTE: Only channel center frequencies are used on first converter, 800-211. Stereo offset is accomplished in the second conversion. (Unplug the counter from J1 before doing Step 2.)



FRONT PANEL

TB-1

J4 "ACCESSORY"

I/O FILTERS

800-193

800-225

R4

O < 50 us
O > 25 us
800-205
AUDIO BOARD

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82

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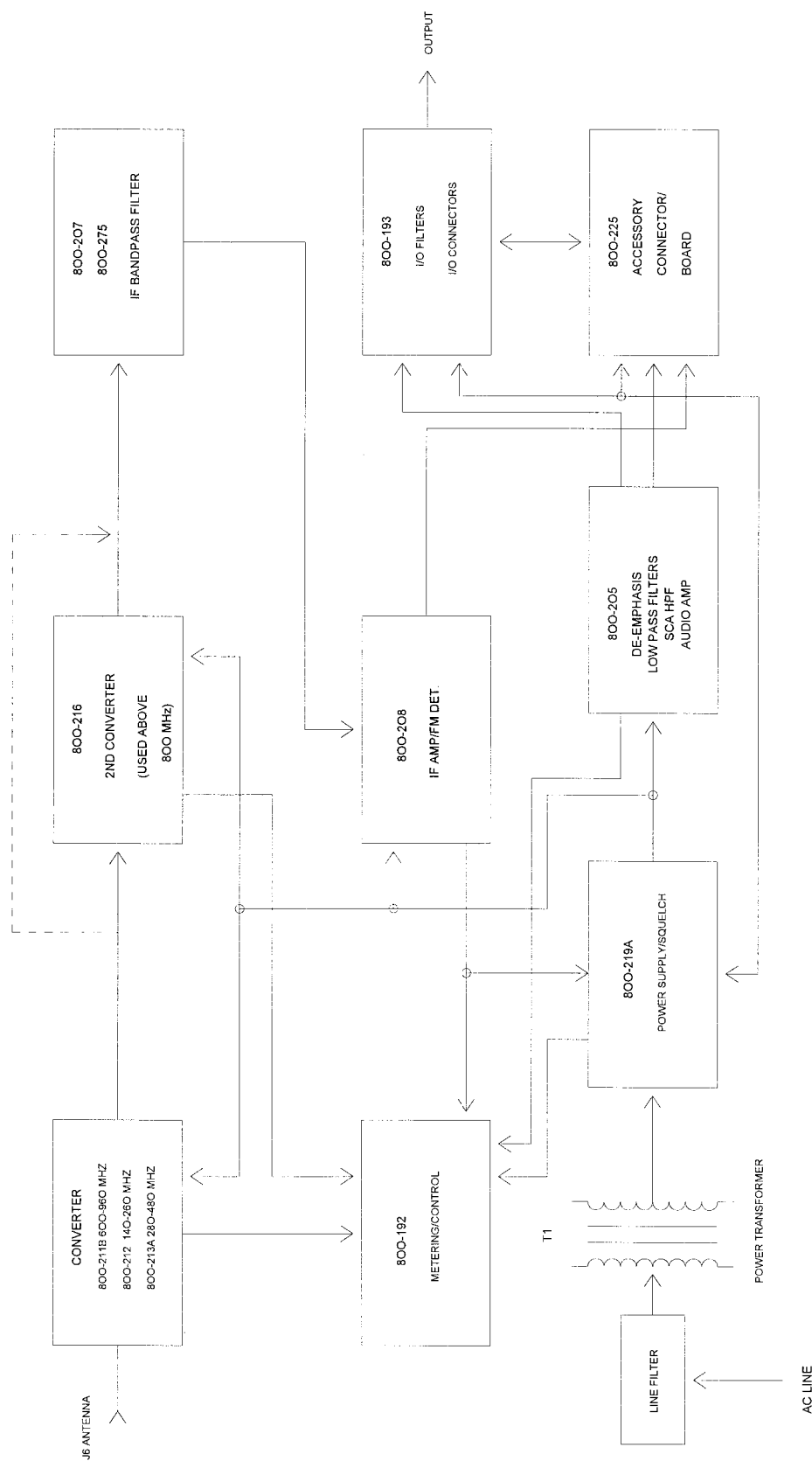
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REFER TO SCHEMATIC DIAGRAM FOR EACH BLOCK BY NUMBER

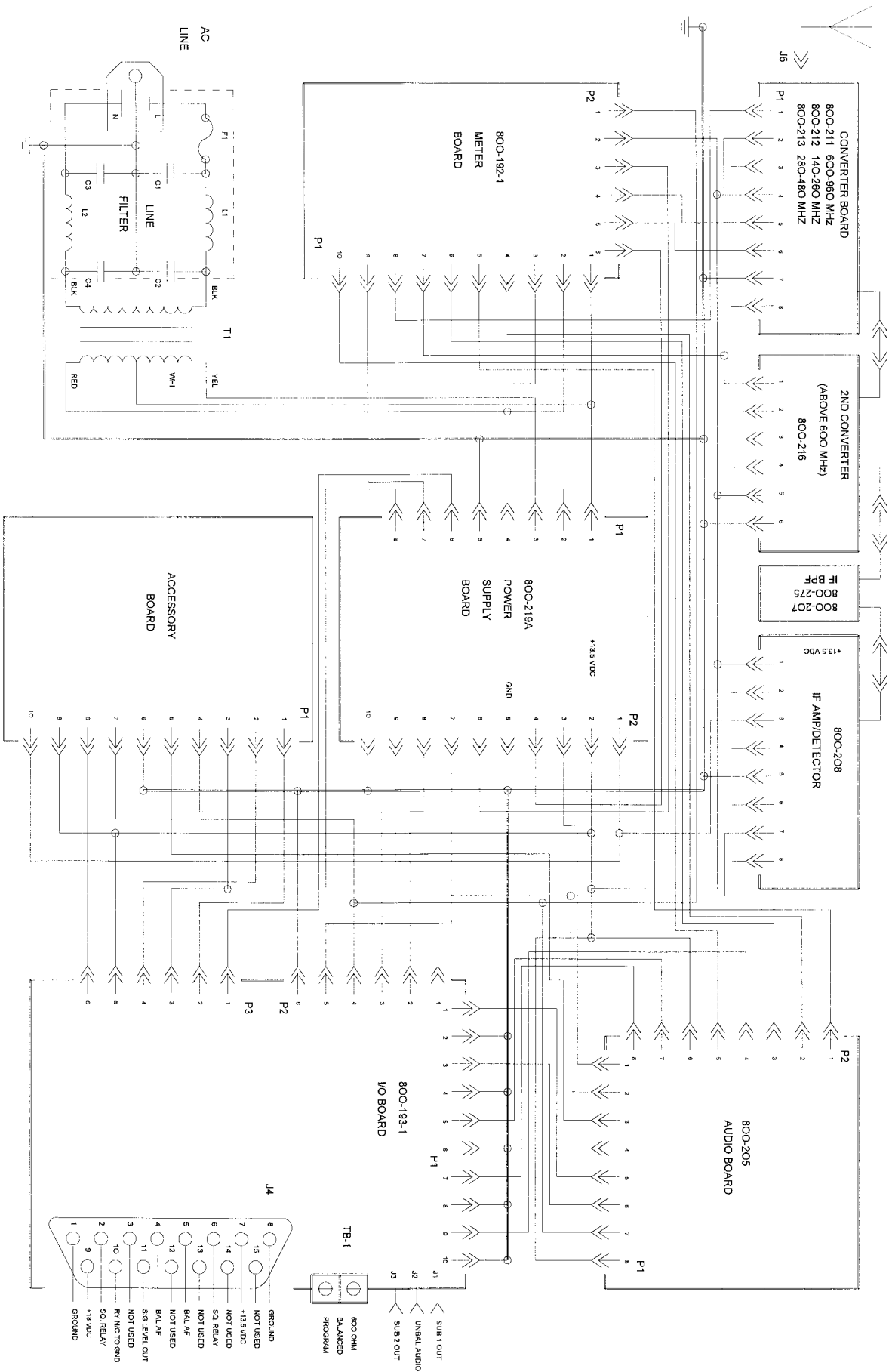
MARTI ELECTRONICS
CLEBURNE, TX 76033-0661

DRAWING NO.
COPYRIGHT
21-APR-94

702-048

TITLE

R-10 RECEIVER BLOCK DIAGRAM



Parts List
R-10 Main Frame
MARTI 702-047-1 12-14-93

Item	Marti No.	Description
----	-----	-----
C01	297-222	Capacitor, .0022 mf 400 VAC UL, CSA, VDE
C02	297-222	Capacitor, .0022 mf 400 VAC UL, CSA, VDE
C03	297-222	Capacitor, .0022 mf 400 VAC UL, CSA, VDE
C04	297-222	Capacitor, .0022 mf 400 VAC UL, CSA, VDE
F1	510-217	Fuse, 1/2 amp 3AG (115 VAC)
F1	510-047	Fuse, 3/8 amp 3AG (230 VAC)
L1	330-019	Inductor, VK20010-3B
L2	330-019	Inductor, VK20010-3B
T1	320-041	Transformer, Power 110 VAC primary
T1	320-041A	Transformer, Power 220 VAC primary

140-260
MHZ IN

J5

PRESELECTOR

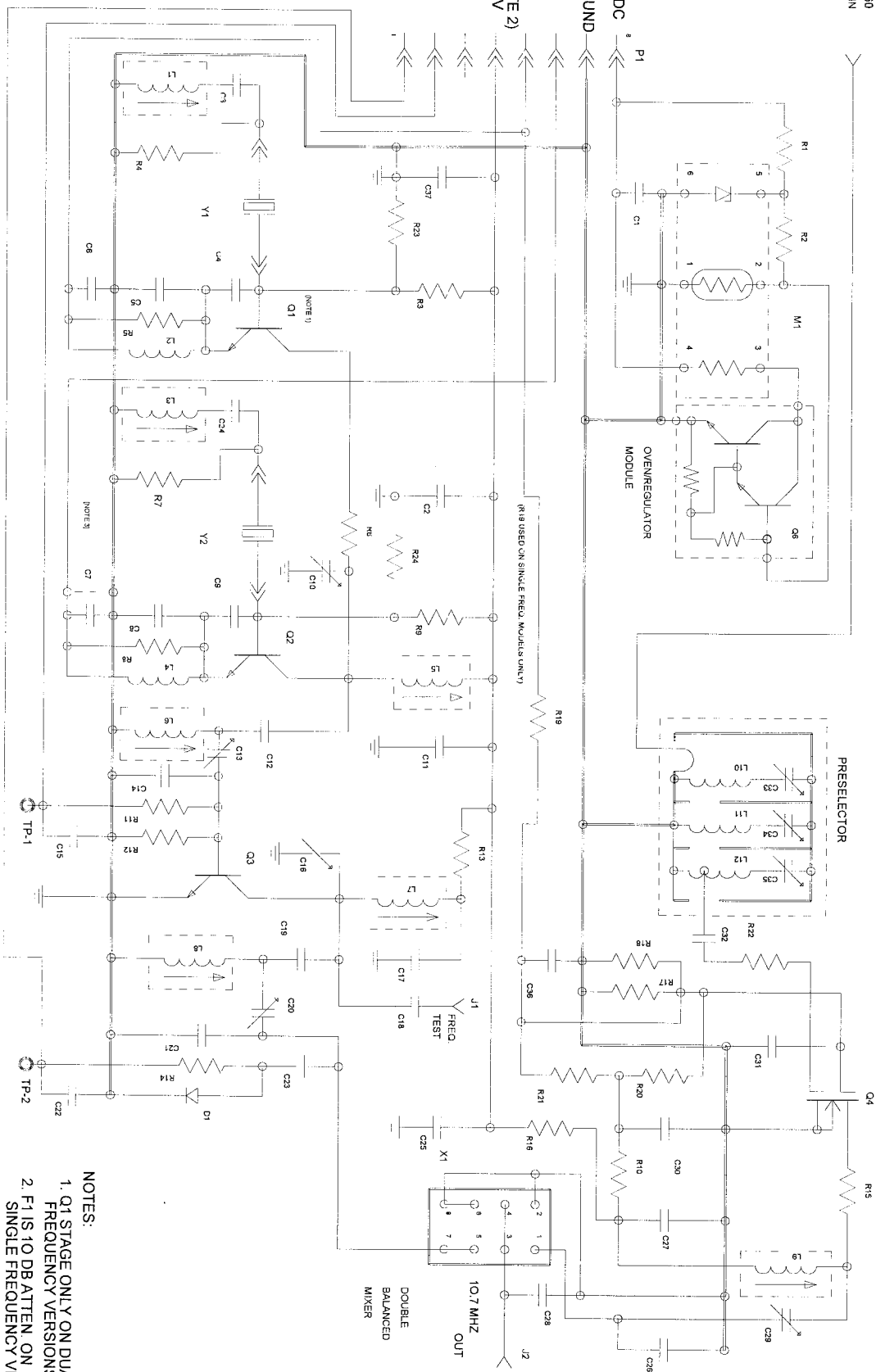
OVERREGULATOR
MODULE

+18 VDC
P1

GROUND

F2

F1
(NOTE 2)
+13.5 V



MARTI ELECTRONICS
CLEBURNE, TX 76033-0661

DRAWING NO.
COPYRIGHT
21-APR 94

800-212

TITLE

140-260 MHZ CONVERTER

Parts List
 150 MHz SF Converter Board
 MARTI 800-212 04-01-94

Item	Marti No.	Description
C01	217-104	Capacitor, .01 mf 50v GMV disc
C02	217-103	Capacitor, .1 mf 100v 10% mylar
C03	NOT USED	
C04	NOT USED	
C05	NOT USED	
C06	NOT USED	
C07	JUMPERED	
C08	255-750	Capacitor, 75 pf 5% NPO disc
C09	255-150	Capacitor, 15 pf 5% NPO disc
C10	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C11	217-103	Capacitor, .1 mf 100v 10% mylar
C12	255-030	Capacitor, 3 pf 5% type QC
C13	290-521	Capacitor, variable, 5-25 pf GKU-25000
C14	255-180	Capacitor, 18 pf 5% NPO disc
C15	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C16	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C17	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C18	255-050	Capacitor, 5 pf 5% NPO disc
C19	255-010	Capacitor, 1 pf 5% type QC
C20	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C21	255-030-1	Capacitor, 3 pf 5% NPO disc
C22	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C23	255-100	Capacitor, 10 pf 5% NPO disc
C24	255-120	Capacitor, 12 pf 5% NPO disc
C25	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C26	255-180	Capacitor, 18 pf 5% NPO disc
C27	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C28	NOT USED	
C29	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C30	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C31	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C32	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C33	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C34	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C35	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C36	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C37	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C38	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
D1	412-494	Diode, Germanium, 1N270
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
J2	550-084	Connector, Phono Jack, Molex 15-24-0503
L01	NOT USED	
L02	NOT USED	
L03	350-044	Inductor, 1.0 - 2 uH w/shield can #47271
L04	330-007	Inductor, 1 uH Delevan #1840-10
L05	350-043	Inductor, 4 1/2 turn yellow
L06	350-043	Inductor, 4 1/2 turn yellow
L07	350-043	Inductor, 4 1/2 turn yellow
L08	350-043	Inductor, 4 1/2 turn yellow
L09	350-043	Inductor, 4 1/2 turn yellow
L10	350-129	Inductor, 8 turn 16 AWG 5/16 ID
L11	350-129	Inductor, 8 turn 16 AWG 5/16 ID

Parts List
 150 MHz SF Converter Board
 MARTI 800-212 04-01-94

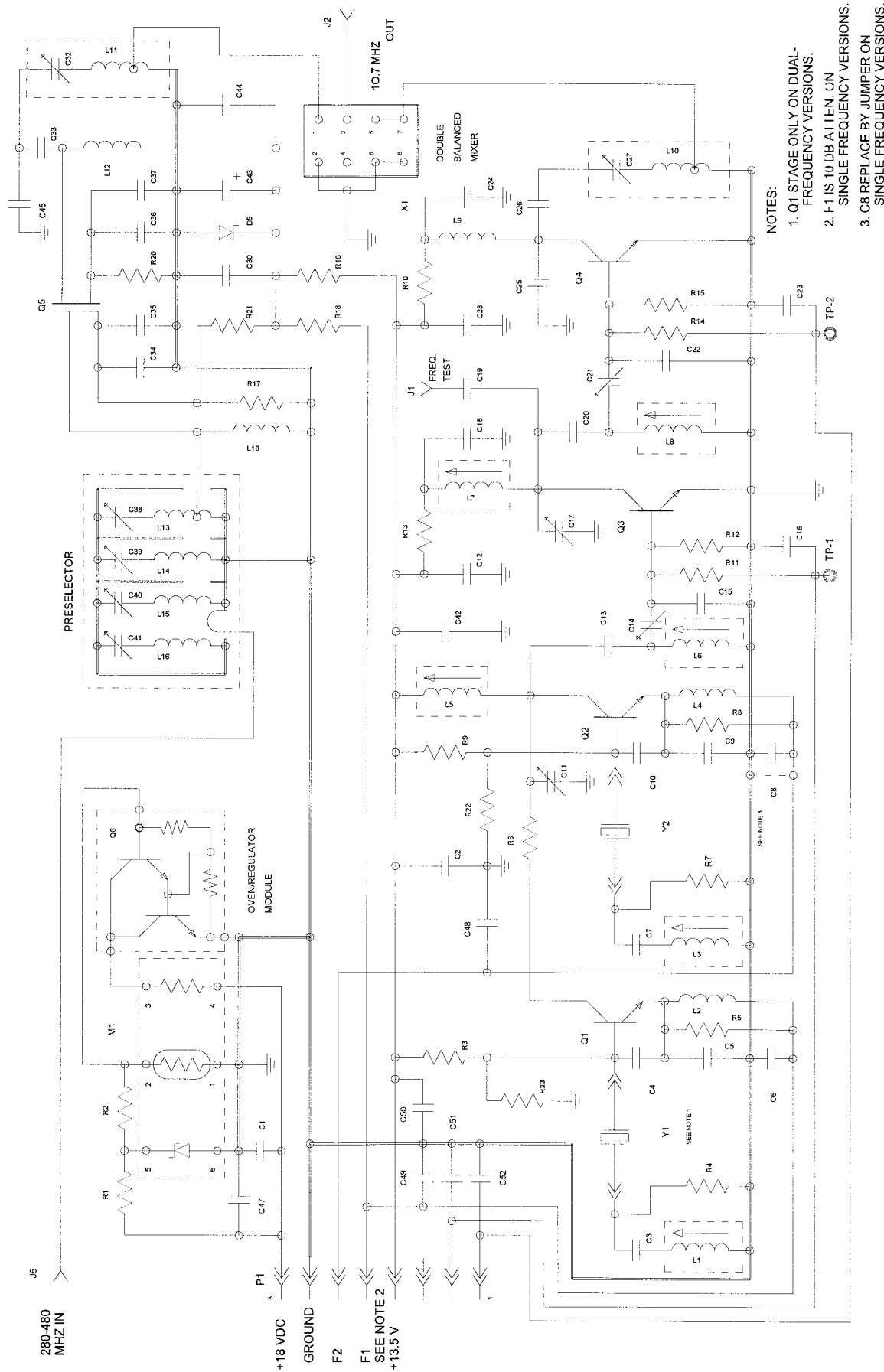
Item	Marti No.	Description
L12	350-129	Inductor, 8 turn 16 AWG 5/16 ID
M1	520-052A	Receiver Converter Oven
Q1	NOT USED	
Q2	440-245	Transistor, SRF3017
Q3	440-245	Transistor, SRF3017
Q4	428-837	Transistor, BF966S 3SK88
R01	145-681	Resistor, 680 ohm 1/4 watt 5% metal film
R02	145-332-1	Resistor, 3.3k ohm 1/4 watt 2% RL07S332G
R03	NOT USED	
R04	NOT USED	
R05	NOT USED	
R06	NOT USED	
R07	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film
R08	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R09	145-683	Resistor, 68k ohm 1/4 watt 5% metal film
R10	145-470-C	Resistor, 47 ohm 1/4 watt 5% carbon comp
R11	145-272	Resistor, 2.7k ohm 1/4 watt 5% metal film
R12	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R13	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R14	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film
R15	145-300	Resistor, 30 ohm 1/4 watt 5% metal film
R16	145-470-C	Resistor, 47 ohm 1/4 watt 5% carbon comp
R17	145-562	Resistor, 5.6k ohm 1/4 watt 5% metal film
R18	145-223	Resistor, 22k ohm 1/4 watt 5% metal film
R19	511-034	Headers, DuPont #65566-131 .150 center sin
R20	145-474	Resistor, 470k ohm 1/4 watt 5% metal film
R21	145-682-1	Resistor, 6.8k ohm 1/4 watt 2% RL07S682G
R22	145-030-C	Resistor, 3.3 ohm 1/4 watt 5% carbon comp
X1	350-124	Mixer, SBL-1
Y2	520-040	Crystal socket, CS-109-07
	511-038	Terminal, #1238
	550-173	Connector, 2 pin Molex Header
	800-212B	PC Board, Converter R Receiver

Parts List
 215 MHz SF Converter Board
 MARTI 800-212 04-01-94

Item	Marti No.	Description
C01	217-104	Capacitor, .01 mf 50v GMV disc
C02	217-103	Capacitor, .1 mf 100v 10% mylar
C03	NOT USED	
C04	NOT USED	
C05	NOT USED	
C06	NOT USED	
C07	JUMPERED	
C08	255-750	Capacitor, 75 pf 5% NPO disc
C09	255-150	Capacitor, 15 pf 5% NPO disc
C10	290-521	Capacitor, variable, 5-25 pf GKU-25000
C11	217-103	Capacitor, .1 mf 100v 10% mylar
C12	255-010	Capacitor, 1 pf 5% type QC
C13	290-521	Capacitor, variable, 5-25 pf GKU-25000
C14	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C15	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C16	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C17	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C18	255-050	Capacitor, 5 pf 5% NPO disc
C19	255-010	Capacitor, 1 pf 5% type QC
C20	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C21	255-030-1	Capacitor, 3 pf 5% NPO disc
C22	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C23	255-100	Capacitor, 10 pf 5% NPO disc
C24	255-220	Capacitor, 22 pf 5% NPO disc
C25	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C26	255-180	Capacitor, 18 pf 5% NPO disc
C27	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C29	NOT USED	
C30	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C31	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C32	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C36	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C37	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C38	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C39	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C40	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C41	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C42	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C43	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
D1	412-494	Diode, Germanium, 1N270
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
J2	550-084	Connector, Phono Jack, Molex 15-24-0503
L01	NOT USED	
L02	NOT USED	
L03	350-044	Inductor, 1.0 - 2 uH w/shield can #47271
L04	330-007	Inductor, 1 uH Delevan #1840-10
L05	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L06	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L07	350-039	Inductor, 2 1/2 turn red #144-02J12S
L08	350-039	Inductor, 2 1/2 turn red #144-02J12S
L09	350-039	Inductor, 2 1/2 turn red #144-02J12S
M1	520-052A	Receiver Converter Oven

Parts List
 215 MHz SF Converter Board
 MARTI 800-212 04-01-94

Item	Marti No.	Description
Q1	NOT USED	
Q2	440-245	Transistor, SRF3017
Q3	420-090	Transistor, BFY90
Q4	428-837	Transistor, BF966S 3SK88
R01	145-681	Resistor, 680 ohm 1/4 watt 5% metal film
R02	145-332-1	Resistor, 3.3k ohm 1/4 watt 2% RL07S332G
R03	NOT USED	
R04	NOT USED	
R05	NOT USED	
R06	NOT USED	
R07	145-392	Resistor, 3.9k ohm 1/4 watt 5% metal film
R08	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R09	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R10	145-470-C	Resistor, 47 ohm 1/4 watt 5% carbon comp
R11	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R12	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R13	145-470-C	Resistor, 47 ohm 1/4 watt 5% carbon comp
R14	145-272	Resistor, 2.7k ohm 1/4 watt 5% metal film
R15	145-300	Resistor, 30 ohm 1/4 watt 5% metal film
R16	145-470-C	Resistor, 47 ohm 1/4 watt 5% carbon comp
R17	145-562	Resistor, 5.6k ohm 1/4 watt 5% metal film
R18	145-223	Resistor, 22k ohm 1/4 watt 5% metal film
R19	511-034	Headers, DuPont #65566-131 .150 center sin
R20	145-474	Resistor, 470k ohm 1/4 watt 5% metal film
R21	145-682-1	Resistor, 6.8k ohm 1/4 watt 2% RL07S682G
R22	145-030-C	Resistor, 3.3 ohm 1/4 watt 5% carbon comp
X1	350-124	Mixer, SBL-1
Y2	520-040	Crystal socket, CS-109-07
	550-173	Connector, 2 pin Molex Header
	800-212B	PC Board, Converter R Receiver



MARTI ELECTRONICS
CLEBURNE, TX 76033-0661

DRAWING NO. **800-213**
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21-APR-94

TITLE
280-480 MHZ CONVERTER

Parts List
300 MHz SF Converter Board
MARTI 800-213 04-01-94

Item	Marti No.	Description
C01	217-104	Capacitor, .01 mf 50v GMV disc
C02	217-103	Capacitor, .1 mf 100v 10% mylar
C03	NOT USED	
C04	NOT USED	
C05	NOT USED	
C06	NOT USED	
C07	255-220	Capacitor, 22 pf 5% NPO disc
C08	JUMPERED	
C09	255-750	Capacitor, 75 pf 5% NPO disc
C10	255-100	Capacitor, 10 pf 5% NPO disc
C11	290-521	Capacitor, variable, 5-25 pf GKU-25000
C12	217-103	Capacitor, .1 mf 100v 10% mylar
C13	255-020	Capacitor, 2 pf 5% type QC
C14	290-521	Capacitor, variable, 5-25 pf GKU-25000
C15	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C16	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C17	290-521	Capacitor, variable, 5-25 pf GKU-25000
C18	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C19	255-050	Capacitor, 5 pf 5% NPO disc
C20	255-010	Capacitor, 1 pf 5% type QC
C21	290-521	Capacitor, variable, 5-25 pf GKU-25000
C22	255-220	Capacitor, 22 pf 5% NPO disc
C23	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C24	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C25	270-407	Capacitor, monolithic chip, 4.7 pf 50v 5%
C26	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C27	290-521	Capacitor, variable, 5-25 pf GKU-25000
C28	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C29	NOT USED	
C30	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C31	NOT USED	
C32	290-521	Capacitor, variable, 5-25 pf GKU-25000
C33	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C34	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C35	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C36	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C37	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C38	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C39	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C40	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C41	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C42	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C43	219-200	Capacitor, electrolytic 22uF 25V
C44	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C45	270-407	Capacitor, monolithic chip, 4.7 pf 50v 5%
C46	NOT USED	
C47	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C48	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C49	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C50	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C51	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C52	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%

Parts List
300 MHz SF Converter Board
MARTI 800-213 04-01-94

Item	Marti No.	Description
D1	NOT USED	
D2	NOT USED	
D3	NOT USED	
D4	NOT USED	
D5	410-470	Diode, zener, Motorola 1N4732 4.7v
L01	NOT USED	
L02	NOT USED	
L03	350-044	Inductor, 1.0 - 2 uH w/shield can #47271
L04	330-007	Inductor, 1 uH Delevan #1840-10
L05	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L06	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L07	350-039	Inductor, 2 1/2 turn red #144-02J12S
L08	350-039	Inductor, 2 1/2 turn red #144-02J12S
L09	350-121	Inductor, 10 turn .15 uH #70-03
L10	350-162	Inductor, 5 turn 18 AWG
L11	350-161	Inductor, 4 turn 18 AWG
L12	330-020	Inductor, .33 uH
L13	700-232P	Strip Line, Brass (straight)
L14	700-239P	Strip Line, R-10 300 Pre-Selector
L15	700-232P	Strip Line, Brass (straight)
L16	350-136P	Inductor, 14 AWG 450 MHz silver
L17	350-135P	Inductor, 16 AWG 450 MHz silver
L18	350-121	Inductor, 10 turn .15 uH #70-03
M1	520-052A	Receiver Converter Oven
Q1	NOT USED	
Q2	440-245	Transistor, SRF3017
Q3	440-245	Transistor, SRF3017
Q4	440-245	Transistor, SRF3017
Q5	441-137	Transistor, NE25337 FET K-205
R01	145-681	Resistor, 680 ohm 1/4 watt 5% metal film
R02	145-332-1	Resistor, 3.3k ohm 1/4 watt 2% RL07S332G
R03	NOT USED	
R04	NOT USED	
R05	NOT USED	
R06	NOT USED	
R07	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film
R08	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R09	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R10	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R11	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R12	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R13	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R14	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R15	145-272	Resistor, 2.7k ohm 1/4 watt 5% metal film
R16	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R17	145-562	Resistor, 5.6k ohm 1/4 watt 5% metal film
R18	511-034	Headers, DuPont #65566-131 .150 center sin
R19	NOT USED	
R20	145-101	Resistor, 100 ohm 1/4 watt 5% metal film
R21	145-123	Resistor, 12k ohm 1/4 watt 5% metal film
R22	NOT USED	
R23	NOT USED	

Parts List
 300 MHz SF Converter Board
 MARTI 800-213 04-01-94

Item	Marti No.	Description
-----	-----	-----
X1	350-124	Mixer, SBL-1
	350-046	Coil Cans 20k #47271-012
	520-040	Crystal socket, CS-109-07
	520-041	Clip, transistor, Atlee 100-200-1-2 cad pl
	550-084	Connector, Phono Jack, Molex 15-24-0503
	550-165	Connector, 4 pin Molex Header
	700-246	Fingerstock, adhesive backed #97-515-02
	800-213B	PC Board, Converter R Receiver

Parts List
450 MHz SF Converter Board
MARTI 800-213 04-01-94

Item	Marti No.	Description
C01	217-104	Capacitor, .01 mf 50v GMV disc
C02	217-103	Capacitor, .1 mf 100v 10% mylar
C03	NOT USED	
C04	NOT USED	
C05	NOT USED	
C06	217-104	Capacitor, .01 mf 50v GMV disc
C07	255-150	Capacitor, 15 pf 5% NPO disc
C08	JUMPERED	
C09	255-750	Capacitor, 75 pf 5% NPO disc
C10	255-150	Capacitor, 15 pf 5% NPO disc
C11	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C12	217-103	Capacitor, .1 mf 100v 10% mylar
C13	255-010	Capacitor, 1 pf 5% type QC
C14	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C15	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C16	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C17	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C18	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C19	255-050	Capacitor, 5 pf 5% NPO disc
C20	255-010	Capacitor, 1 pf 5% type QC
C21	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C22	255-150	Capacitor, 15 pf 5% NPO disc
C23	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C24	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C25	270-407	Capacitor, monolithic chip, 4.7 pf 50v 5%
C26	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C27	290-521	Capacitor, variable, 5-25 pf GKU-25000
C28	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C29	NOT USED	
C30	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C31	NOT USED	
C32	290-521	Capacitor, variable, 5-25 pf GKU-25000
C33	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C34	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C35	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C36	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C37	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C38	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C39	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C40	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C41	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C42	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C43	219-200	Capacitor, electrolytic 22uF 25V
C44	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C45	270-407	Capacitor, monolithic chip, 4.7 pf 50v 5%
C46	NOT USED	
C47	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C48	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C49	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C50	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C51	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C52	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%

Parts List
450 MHz SF Converter Board
MARTI 800-213 04-01-94

Item	Marti No.	Description
-----	-----	-----
D1	NOT USED	
D2	NOT USED	
D3	NOT USED	
D4	NOT USED	
D5	410-754	Diode, zener Motorola 1N754A 6.3v
L01	NOT USED	
L02	NOT USED	
L03	350-044	Inductor, 1.0 - 2 uH w/shield can #47271
L04	330-007	Inductor, 1 uH Delevan #1840-10
L05	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L06	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L07	350-039	Inductor, 2 1/2 turn red #144-02J12S
L08	350-039	Inductor, 2 1/2 turn red #144-02J12S
L09	350-121	Inductor, 10 turn .15 uH #70-03
L10	350-127	Inductor, 3 turn 16 AWG 3/16 ID
L11	350-127	Inductor, 3 turn 16 AWG 3/16 ID
L12	350-121	Inductor, 10 turn .15 uH #70-03
L13	700-239P	Strip Line, R-10 300 Pre-Selector
L14	700-239P	Strip Line, R-10 300 Pre-Selector
L15	700-239P	Strip Line, R-10 300 Pre-Selector
L16	350-136P	Inductor, 14 AWG 450 MHz silver
L17	350-135P	Inductor, 16 AWG 450 MHz silver
L18	350-121	Inductor, 10 turn .15 uH #70-03
M1	520-052A	Receiver Converter Oven
Q1	NOT USED	
Q2	440-245	Transistor, SRF3017
Q3	440-245	Transistor, SRF3017
Q4	440-245	Transistor, SRF3017
Q5	420-966	Transistor, CF300A Telefunken GaAs FET
R01	145-681	Resistor, 680 ohm 1/4 watt 5% metal film
R02	145-332-1	Resistor, 3.3k ohm 1/4 watt 2% RL07S332G
R03	NOT USED	
R04	NOT USED	
R05	NOT USED	
R06	NOT USED	
R07	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film
R08	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R09	145-683	Resistor, 68k ohm 1/4 watt 5% metal film
R10	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R11	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R12	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R13	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R14	145-223	Resistor, 22k ohm 1/4 watt 5% metal film
R15	145-272	Resistor, 2.7k ohm 1/4 watt 5% metal film
R16	145-221	Resistor, 220 ohm 1/4 watt 5% metal film
R17	145-752	Resistor, 7.5k ohm 1/4 watt 5% metal film
R18	511-034	Headers, DuPont #65566-131 .150 center sin
R19	NOT USED	
R20	145-101	Resistor, 100 ohm 1/4 watt 5% metal film
R21	145-123	Resistor, 12k ohm 1/4 watt 5% metal film
R22	NOT USED	
R23	145-683	Resistor, 68k ohm 1/4 watt 5% metal film

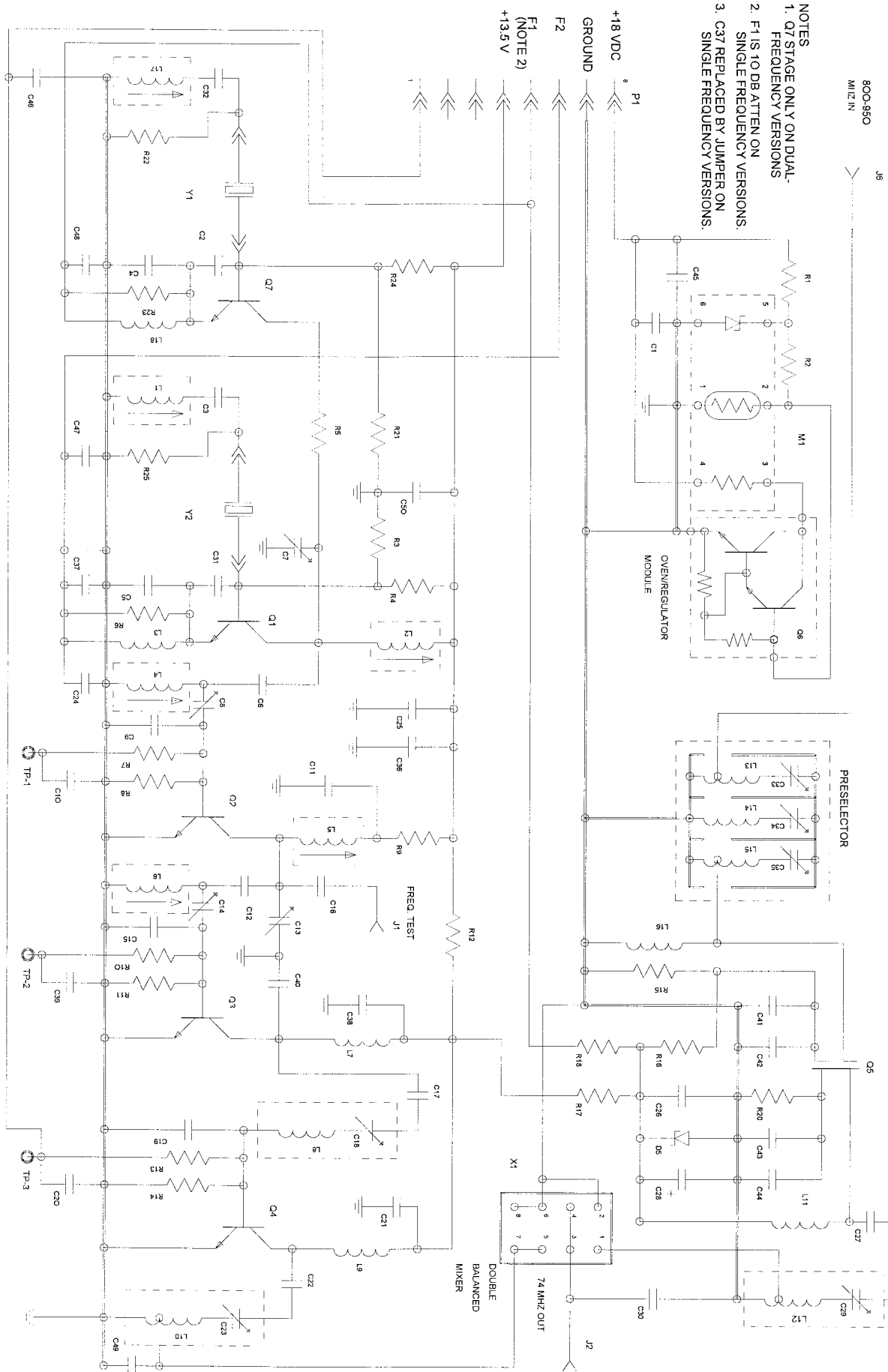
Parts List
 450 MHz SF Converter Board
 MARTI 800-213 04-01-94

Item	Marti No.	Description
-----	-----	-----
X1	350-124	Mixer, SBL-1
Y2	520-040	Crystal socket, CS-109-07
	350-046	Coil Cans 20k #47271-012
	520-041	Clip, transistor, Atlee 100-200-1-2 cad pl
	550-084	Connector, Phono Jack, Molex 15-24-0503
	550-165	Connector, 4 pin Molex Header
	700-246	Fingerstock, adhesive backed #97-515-02
	800-213B	PC Board, Converter R Receiver

800-960
MILZ IN

J6

- NOTES
1. Q7 STAGE ONLY ON DUAL-FREQUENCY VERSIONS
 2. F1 IS 10 DB ATTEN ON SINGLE FREQUENCY VERSIONS.
 3. C37 REPLACED BY JUMPER ON SINGLE FREQUENCY VERSIONS.



MARTI ELECTRONICS
CLEBURNE, TX 76033-0661

DRAWING NO.

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21-APR 94

800-211B

TITLE

600 - 960 MHz CONVERTER

Parts List
R-10/950 SF Converter Board
MARTI 800-211 04-01-94

Item	Marti No.	Description
C01	217-104	Capacitor, .01 mf 50v GMV disc
C02	NOT USED	
C03	255-150	Capacitor, 15 pf 5% NPO disc
C04	NOT USED	
C05	255-750	Capacitor, 75 pf 5% NPO disc
C06	255-010	Capacitor, 1 pf 5% type QC
C07	290-521	Capacitor, variable, 5-25 pf GKU-25000
C08	290-521	Capacitor, variable, 5-25 pf GKU-25000
C09	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C10	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C11	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C12	255-004	Capacitor, .43 pf 5% type QC
C13	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C14	290-522	Capacitor, variable, 2.8-10 pf GKU-10000
C15	255-150	Capacitor, 15 pf 5% NPO disc
C16	255-050	Capacitor, 5 pf 5% NPO disc
C17	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C18	230-103	Capacitor, variable, vertical 1.3-5.4 pf T
C19	255-100	Capacitor, 10 pf 5% NPO disc
C20	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C21	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C22	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C23	230-103	Capacitor, variable, vertical 1.3-5.4 pf T
C24	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C25	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C26	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C27	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C28	219-200	Capacitor, electrolytic 22uF 25V
C29	230-103	Capacitor, variable, vertical 1.3-5.4 pf T
C30	270-407	Capacitor, monolithic chip, 4.7 pf 50v 5%
C31	255-150	Capacitor, 15 pf 5% NPO disc
C32	NOT USED	
C33	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C34	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C35	230-100	Capacitor, variable, trimmer 8-8 pf JMC#52
C36	217-103	Capacitor, .1 mf 100v 10% mylar
C37	JUMPERED	
C38	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C39	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C40	270-407	Capacitor, monolithic chip, 4.7 pf 50v 5%
C41	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C42	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C43	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C44	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C45	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C46	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C47	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C48	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C49	270-407	Capacitor, monolithic chip, 4.7 pf 50v 5%
C50	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
D1	NOT USED	
D2	NOT USED	

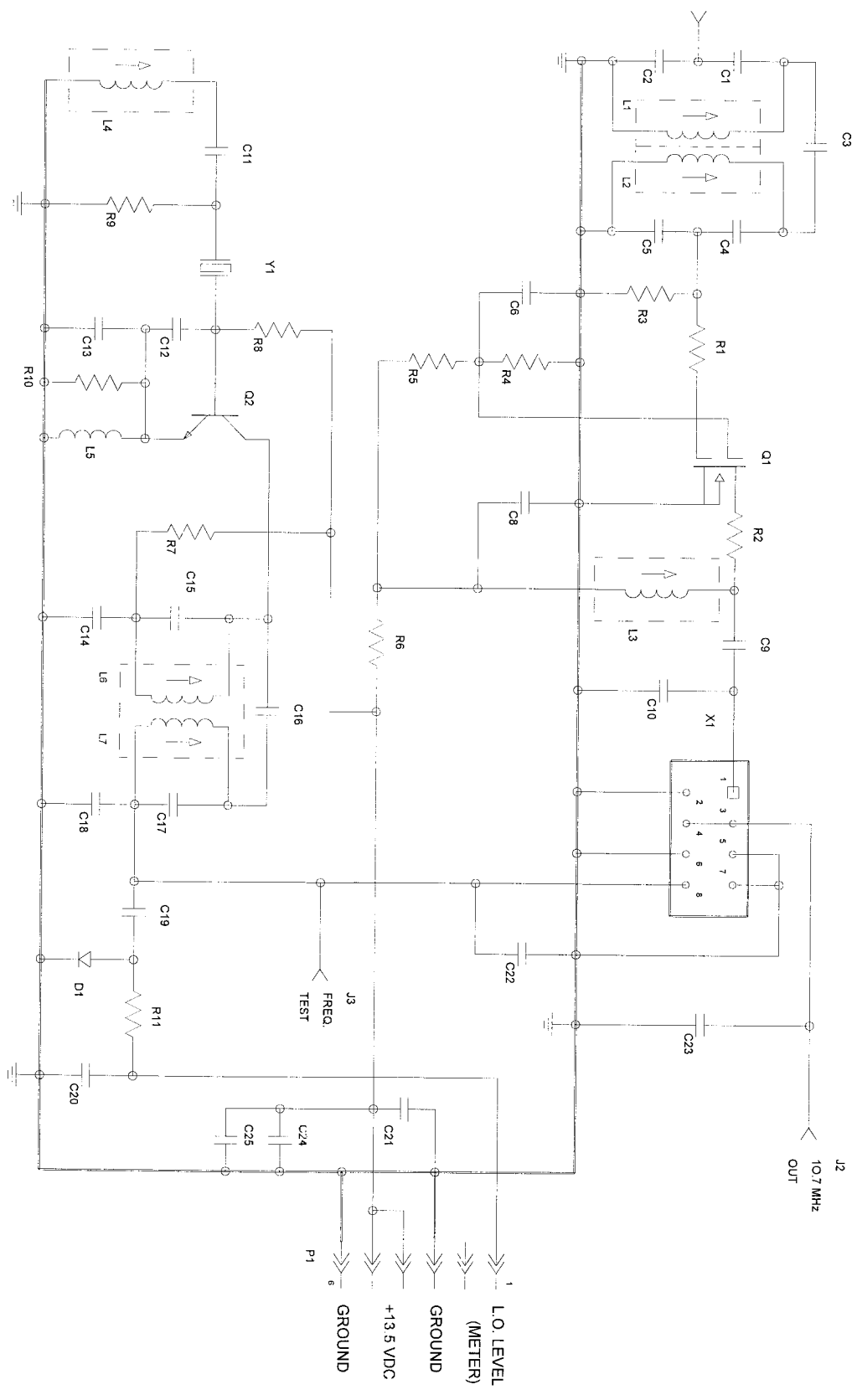
Parts List
R-10/950 SF Converter Board
MARTI 800-211 04-01-94

Item	Marti No.	Description
D3	NOT USED	
D4	NOT USED	
D5	410-754	Diode, zener Motorola 1N754A 6.3v
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
J2	550-084	Connector, Phono Jack, Molex 15-24-0503
L01	350-044	Inductor, 1.0 - 2 uH w/shield can #47271
L02	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L03	330-007	Inductor, 1 uH Delevan #1840-10
L04	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L05	350-039	Inductor, 2 1/2 turn red #144-02J12S
L06	350-039	Inductor, 2 1/2 turn red #144-02J12S
L07	350-121	Inductor, 10 turn .15 uH #70-03
L08	350-163	Inductor, 3 turn 18AWG
L09	350-121	Inductor, 10 turn .15 uH #70-03
L10	350-139P	Inductor, 16 AWG 950 MHz silver
L11	350-121	Inductor, 10 turn .15 uH #70-03
L12	350-170P	Inductor, 16 AWG 950 MHz silver
L13	700-238P	Stripline, R-10 Pre-Selector 1-2-3
L14	700-238P	Stripline, R-10 Pre-Selector 1-2-3
L15	700-238P	Stripline, R-10 Pre-Selector 1-2-3
L16	350-121	Inductor, 10 turn .15 uH #70-03
L17	NOT USED	
L18	NOT USED	
M1	520-052A	Receiver Converter Oven
Q1	440-245	Transistor, SRF3017
Q2	420-090	Transistor, BFY90
Q3	420-090	Transistor, BFY90
Q4	420-090	Transistor, BFY90
Q5	420-966	Transistor, CF300A Telefunken GaAs FET
Q6	PART OF M1	
Q7	NOT USED	
R01	145-681	Resistor, 680 ohm 1/4 watt 5% metal film
R02	145-332-1	Resistor, 3.3k ohm 1/4 watt 2% RL07S332G
R03	145-683	Resistor, 68k ohm 1/4 watt 5% metal film
R04	145-683	Resistor, 68k ohm 1/4 watt 5% metal film
R05	USED USED	
R06	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R07	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R08	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R09	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R10	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R11	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R12	145-220	Resistor, 22 ohm 1/4 watt 5% metal film
R13	145-562-1	Resistor, 5.6k ohm 1/4 watt 2% RL07S562G
R14	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R15	145-752	Resistor, 7.5k ohm 1/4 watt 5% metal film
R16	145-123	Resistor, 12k ohm 1/4 watt 5% metal film
R17	145-271	Resistor, 270 ohm 1/4 watt 5% metal film
R18	511-034	Headers, DuPont #65566-131 .150 center sin
R19	NOT USED	
R20	145-101	Resistor, 100 ohm 1/4 watt 5% metal film
R21	NOT USED	

Parts List
R-10/950 SF Converter Board
MARTI 800-211 04-01-94

Item	Marti No.	Description
-----	-----	-----
R22	NOT USED	
R23	NOT USED	
R24	NOT USED	
R25	145-152	Resistor, 1.5k ohm 1/4 ohm 5% metal film
X1	350-125	Mixer, SBL-1X
Y1	520-040	Crystal socket, CS-109-07
	520-041	Clip, transistor, Atlee 100-200-1-2 cad pl
	350-046	Coil Cans 20k #47271-012
	550-173	Connector, 2 pin Molex Header
	800-211B	PC Board, Converter R Receiver

J1
74 MHz
IN



1
L.O. LEVEL
(METER)
GROUND
+13.5 VDC
GROUND
P1

MARTI ELECTRONICS
CLEBURNE, TX 76033-0661

DRAWING NO.
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21-APR-94

800-216

TITLE
74 MHz CONVERTER

Parts List

R-10 F+10.7 Second Converter Domestic

MARTI 800-216 04-01-94

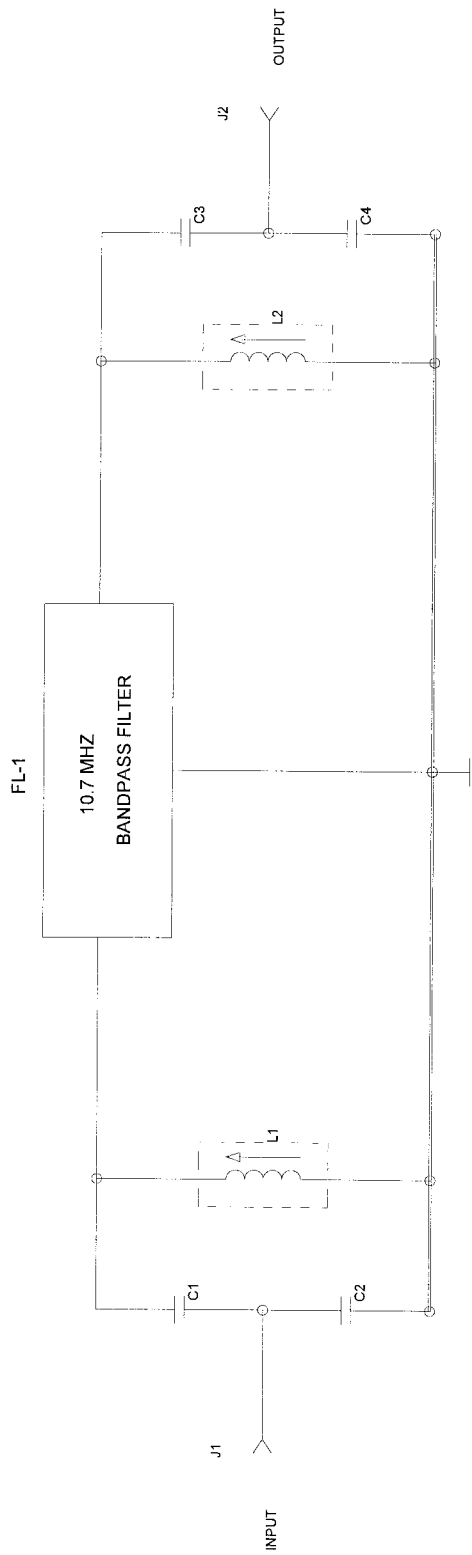
Item	Marti No.	Description
C01	255-270	Capacitor, 27 pf 5% NPO disc
C02	255-750	Capacitor, 75 pf 5% NPO disc
C03	255-010	Capacitor, 1 pf 5% type QC
C04	295-390	Capacitor, 39 pf 5% NPO disc
C05	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C06	217-104	Capacitor, .01 mf 50v GMV disc
C07	NOT USED	
C08	217-104	Capacitor, .01 mf 50v GMV disc
C09	255-270	Capacitor, 27 pf 5% NPO disc
C10	256-131	Capacitor, 130 pf 5% 50V NPO disc
C11	255-100	Capacitor, 10 pf 5% NPO disc
C12	255-100	Capacitor, 10 pf 5% NPO disc
C13	256-750	Capacitor, 75 pf 300v 5% silver mica
C14	270-103	Capacitor, monolithic chip 10000pF 10% XR7
C15	255-150	Capacitor, 15 pf 5% NPO disc
C16	255-010	Capacitor, 1 pf 5% type QC
C17	255-220	Capacitor, 22 pf 5% NPO disc
C18	256-680C	Capacitor, 68pF 5% 200V ceramic dipped
C19	255-180	Capacitor, 18 pf 5% NPO disc
C20	270-103	Capacitor, monolithic chip 10000pF 10% XR7
C21	217-103	Capacitor, .1 mf 100v 10% mylar
C22	255-050	Capacitor, 5 pf 5% NPO disc
C23	255-270	Capacitor, 27 pf 5% NPO disc
C24	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C25	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
D1	412-494	Diode, Germanium, 1N270
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
J2	550-084	Connector, Phono Jack, Molex 15-24-0503
J3	550-084	Connector, Phono Jack, Molex 15-24-0503
L1	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L2	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L3	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L4	350-025	Inductor, 1.5 - 3 uH w/shield can #47271-0
L5	330-007	Inductor, 1 uH Delevan #1840-10
L6	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L7	350-040	Inductor, 6 1/2 turn blue #144-06J12S
P1	550-136	Connector, 6 pin Molex Header
Q1	430-211	Transistor, MFE211
Q2	440-245	Transistor, SRF3017
R01	145-300	Resistor, 30 ohm 1/4 watt 5% metal film
R02	145-300	Resistor, 30 ohm 1/4 watt 5% metal film
R03	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R04	145-183	Resistor, 18k ohm 1/4 watt 5% metal film
R05	145-333	Resistor, 33k ohm 1/4 watt 5% metal film
R06	145-470	Resistor, 47 ohm 1/4 watt 5% metal film
R07	145-470	Resistor, 47 ohm 1/4 watt 5% metal film
R08	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R09	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R10	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R11	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
X1	350-124	Mixer, SBL-1
Y1	520-040	Crystal socket, CS-109-07

Parts List

R-10 F-10.7 Second Converter Export

MARTI 800-216 04-01-94

Item	Marti No.	Description
C01	255-270	Capacitor, 27 pf 5% NPO disc
C02	255-750	Capacitor, 75 pf 5% NPO disc
C03	255-010	Capacitor, 1 pf 5% type QC
C04	295-390	Capacitor, 39 pf 5% NPO disc
C05	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C06	217-104	Capacitor, .01 mf 50v GMV disc
C07	NOT USED	
C08	217-104	Capacitor, .01 mf 50v GMV disc
C09	255-270	Capacitor, 27 pf 5% NPO disc
C10	256-131	Capacitor, 130 pf 5% 50V NPO disc
C11	255-100	Capacitor, 10 pf 5% NPO disc
C12	255-100	Capacitor, 10 pf 5% NPO disc
C13	256-750	Capacitor, 75 pf 300v 5% silver mica
C14	270-103	Capacitor, monolithic chip 10000pF 10% XR7
C15	255-270	Capacitor, 27 pf 5% NPO disc
C16	255-010	Capacitor, 1 pf 5% type QC
C17	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C18	256-131	Capacitor, 130 pf 5% 50V NPO disc
C19	255-180	Capacitor, 18 pf 5% NPO disc
C20	270-103	Capacitor, monolithic chip 10000pF 10% XR7
C21	217-103	Capacitor, .1 mf 100v 10% mylar
C22	255-050	Capacitor, 5 pf 5% NPO disc
C23	255-270	Capacitor, 27 pf 5% NPO disc
C24	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C25	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
D1	412-494	Diode, Germanium, 1N270
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
J2	550-084	Connector, Phono Jack, Molex 15-24-0503
J3	550-084	Connector, Phono Jack, Molex 15-24-0503
L1	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L2	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L3	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L4	350-025	Inductor, 1.5 - 3 uH w/shield can #47271-0
L5	330-007	Inductor, 1 uH Delevan #1840-10
L6	350-040	Inductor, 6 1/2 turn blue #144-06J12S
L7	350-040	Inductor, 6 1/2 turn blue #144-06J12S
P1	550-136	Connector, 6 pin Molex Header
Q1	430-211	Transistor, MFE211
Q2	440-245	Transistor, SRF3017
R01	145-300	Resistor, 30 ohm 1/4 watt 5% metal film
R02	145-300	Resistor, 30 ohm 1/4 watt 5% metal film
R03	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R04	145-183	Resistor, 18k ohm 1/4 watt 5% metal film
R05	145-333	Resistor, 33k ohm 1/4 watt 5% metal film
R06	145-470-C	Resistor, 47 ohm 1/4 watt 5% carbon comp
R07	145-470-C	Resistor, 47 ohm 1/4 watt 5% carbon comp
R08	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R09	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R10	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R11	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
X1	350-124	Mixer, SBL-1
Y1	520-040	Crystal socket, CS-109-07

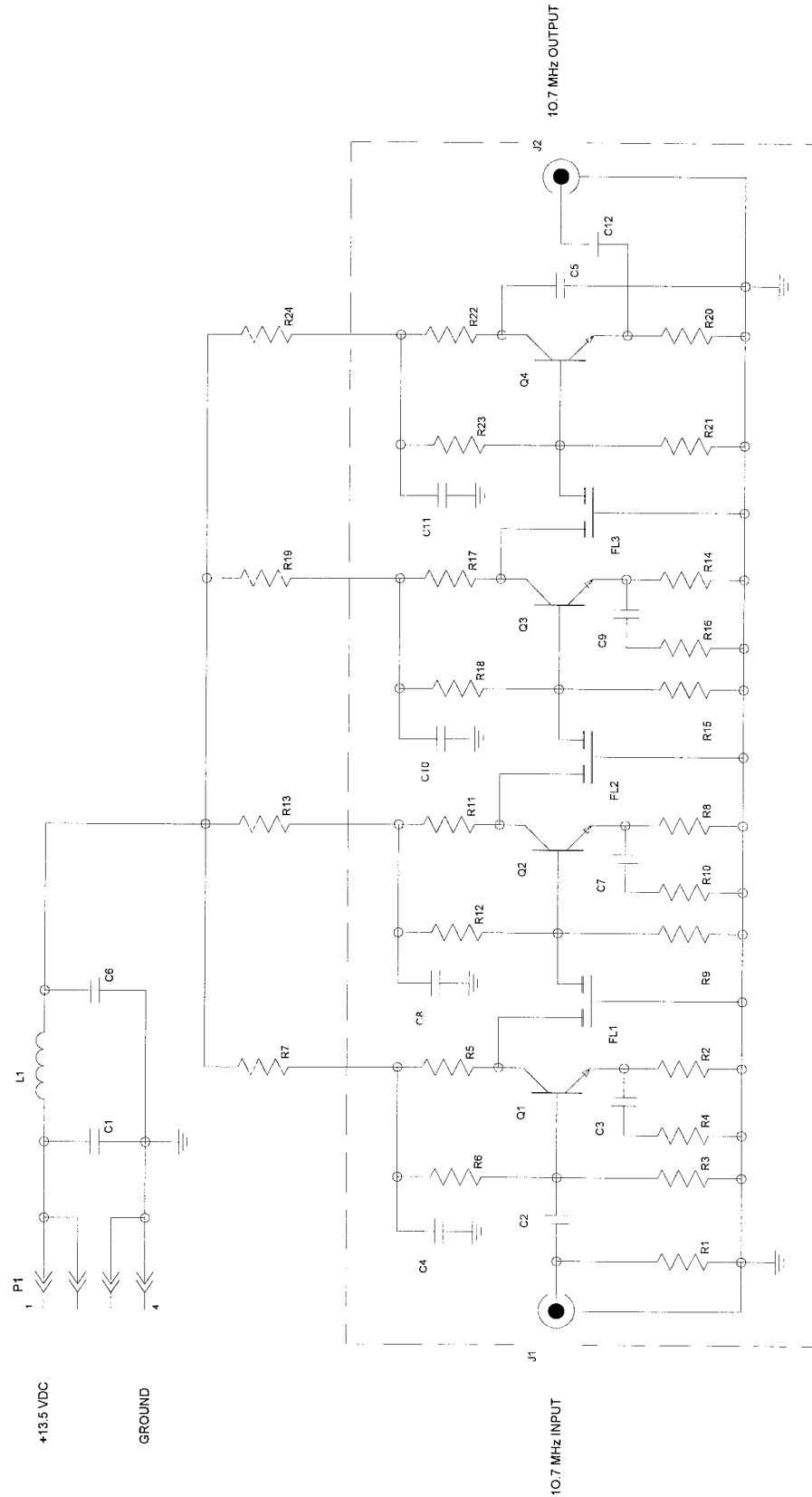


Parts List
 Filter, assembly 200 KHz
 MARTI 800-207 04-01-94

Item	Marti No.	Description
C1	256-131	Capacitor, 130 pf 5% 50V NPO disc
C2	256-301	Capacitor, 300 pf 5% NPO disc
C3	255-241	Capacitor, 240 pf 300v 5% silver mica
C4	255-241	Capacitor, 240 pf 300v 5% silver mica
FL1	360-016-1	Filter, LC 200 KHz Model 662
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
J2	550-084	Connector, Phono Jack, Molex 15-24-0503
L1	350-025	Inductor, 1.5 - 3 uH w/shield can #47271-0
L2	350-025	Inductor, 1.5 - 3 uH w/shield can #47271-0
	800-207B	PC Board, IF Filter R Receiver

Parts List
 Filter, assembly 50 KHz
 MARTI 800-207 04-01-94

Item	Marti No.	Description
C1	255-101	Capacitor, 100 pf 300v 5% silver mica
C2a	215-301	Capacitor, 300 pf 2.5% 100v polypropylene
C2b	215-301	Capacitor, 300 pf 2.5% 100v polypropylene
C3a	255-100	Capacitor, 10 pf 5% NPO disc
C3b	256-750	Capacitor, 75 pf 300v 5% silver mica
C4	255-161	Capacitor, 160 pf 300v 5% silver mica
FL1	360-027	Filter, 50 KHz 10.7 MHz XF107S147
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
J2	550-084	Connector, Phono Jack, Molex 15-24-0503
L1	350-030	Inductor, 3.0 - 7 uH w/shield can #47271-
L2	350-030	Inductor, 3.0 - 7 uH w/shield can #47271-
	800-207B	PC Board, IF Filter R Receiver



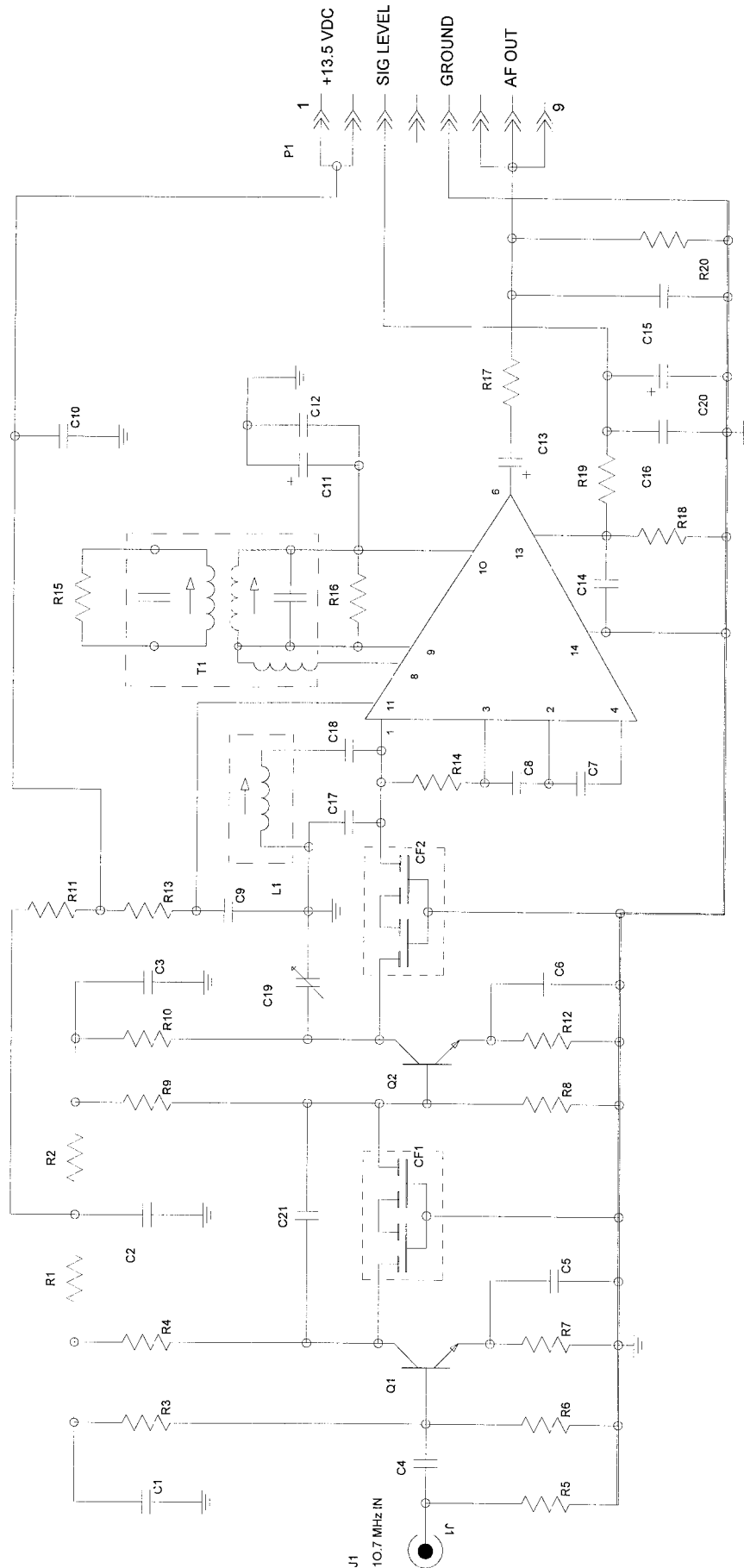
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CLEBURNE, TX 76033-0661

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TITLE IF BANDPASS FILTER (EXPORT ONLY)

Parts List
R-10 IF Filter Board, Export
MARTI 800-275 04-01-94

Item	Marti No.	Description
C01	268-203	Capacitor, .02 mf 50v Z5U disc
C02	268-203	Capacitor, .02 mf 50v Z5U disc
C03	268-203	Capacitor, .02 mf 50v Z5U disc
C04	268-203	Capacitor, .02 mf 50v Z5U disc
C05	268-203	Capacitor, .02 mf 50v Z5U disc
C06	268-203	Capacitor, .02 mf 50v Z5U disc
C07	268-203	Capacitor, .02 mf 50v Z5U disc
C08	268-203	Capacitor, .02 mf 50v Z5U disc
C09	268-203	Capacitor, .02 mf 50v Z5U disc
C10	268-203	Capacitor, .02 mf 50v Z5U disc
C11	268-203	Capacitor, .02 mf 50v Z5U disc
C12	268-203	Capacitor, .02 mf 50v Z5U disc
FL1	360-035	Filter, ceramic SFE10.7 MZ2A Murata Erie
FL2	360-035	Filter, ceramic SFE10.7 MZ2A Murata Erie
FL3	360-035	Filter, ceramic SFE10.7 MZ2A Murata Erie
L1	330-012	Inductor, 15 uH #70-27
Q1	440-245	Transistor, SRF3017
Q2	440-245	Transistor, SRF3017
Q3	440-245	Transistor, SRF3017
Q4	440-245	Transistor, SRF3017
R01	145-680-C	Resistor, 68 ohm 1/4 watt 5% carbon comp
R02	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R03	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R04	145-390	Resistor, 39 ohm 1/4 watt 5% carbon comp
R05	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R06	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R07	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R08	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R09	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R10	145-390	Resistor, 39 ohm 1/4 watt 5% carbon comp
R11	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R12	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R13	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R14	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R15	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R16	145-390	Resistor, 39 ohm 1/4 watt 5% carbon comp
R17	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R18	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R19	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R20	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R21	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R22	145-151	Resistor, 150 ohm 1/4 watt 5% metal film
R23	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R24	145-151	Resistor, 150 ohm 1/4 watt 5% metal film
	513-034	Spacer, 4-40 x 1" hex threaded #2205
	550-084	Connector, Phono Jack, Molex 15-24-0503
	550-165	Connector, 4 pin Molex Header
	800-275B	PC Board, Ceramic Filter Board Receiver

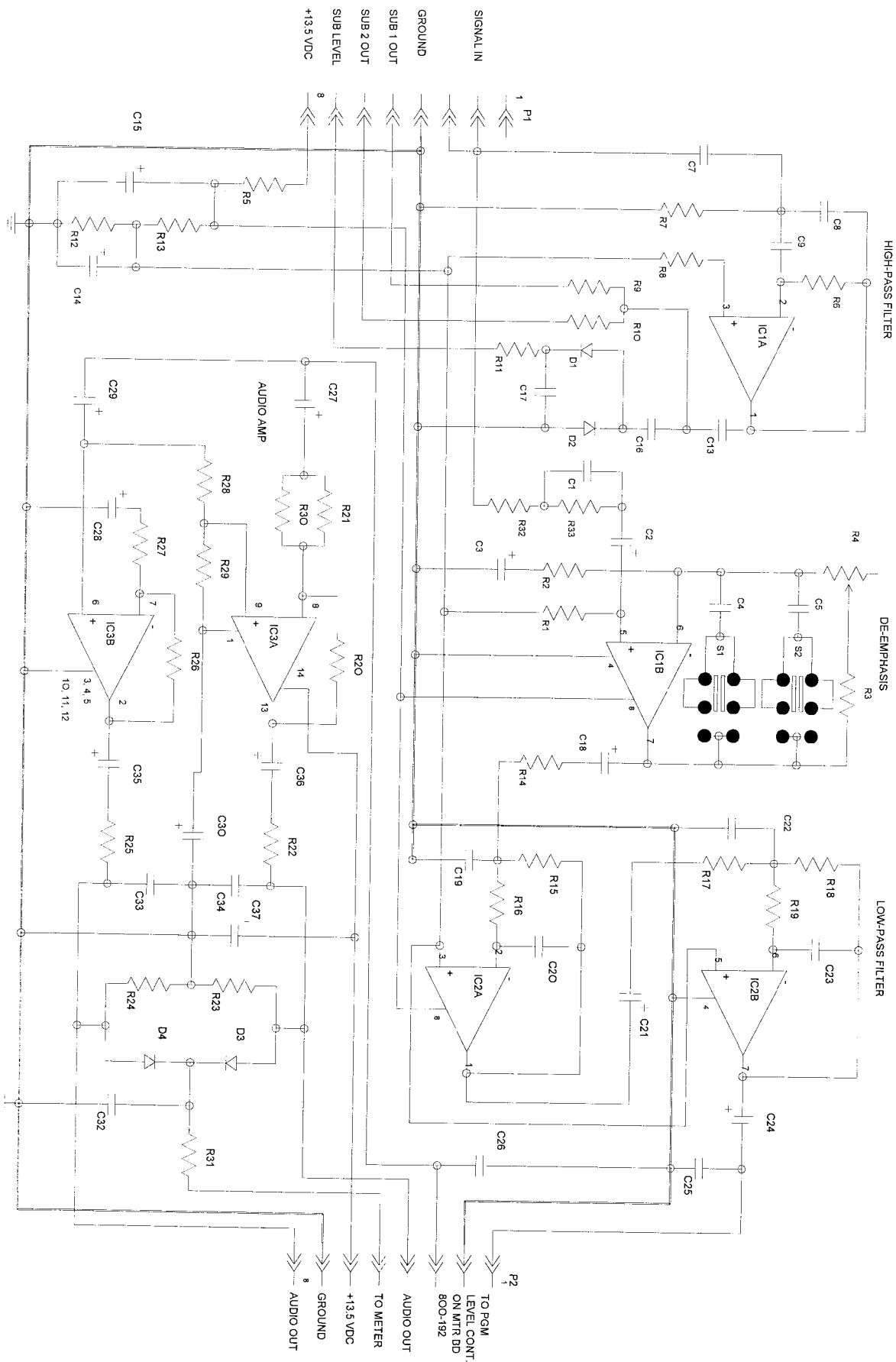


Parts List
 IF Amplifier - wide band (domestic)
 MARTI 800-208 04-01-94

Item	Marti No.	Description
C01	217-104	Capacitor, .01 mf 50v GMV disc
C02	217-104	Capacitor, .01 mf 50v GMV disc
C03	217-104	Capacitor, .01 mf 50v GMV disc
C04	217-104	Capacitor, .01 mf 50v GMV disc
C05	217-104	Capacitor, .01 mf 50v GMV disc
C06	217-104	Capacitor, .01 mf 50v GMV disc
C07	217-104	Capacitor, .01 mf 50v GMV disc
C08	217-104	Capacitor, .01 mf 50v GMV disc
C09	217-103	Capacitor, .1 mf 100v 10% mylar
C10	217-104	Capacitor, .01 mf 50v GMV disc
C11	219-121	Capacitor, electrolytic 150uF 25V
C12	217-103	Capacitor, .1 mf 100v 10% mylar
C13	219-200	Capacitor, electrolytic 22uF 25V
C14	217-103	Capacitor, .1 mf 100v 10% mylar
C15	295-390	Capacitor, 39 pf 5% NPO disc
C16	217-104	Capacitor, .01 mf 50v GMV disc
C17	256-131	Capacitor, 130 pf 5% 50V NPO disc
C18	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C19	290-521	Capacitor, variable, 5-25 pf GKU-25000
C20	299-470	Capacitor, tantalum, 4.7 mf 16v ECS-F1CE47
CF1	360-033	Filter, ceramic SFE10.7MX-A Murata-Erie
CF2	360-033	Filter, ceramic SFE10.7MX-A Murata-Erie
IC1	401-235	Integrated Circuit, Sanyo LA1235
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
L1	350-030	Inductor, 3.0 - 7 uH w/shield can #47271-
Q1	440-245	Transistor, SRF3017
Q2	440-245	Transistor, SRF3017
R01	145-151	Resistor, 150 ohm 1/4 watt 5% metal film
R02	145-151	Resistor, 150 ohm 1/4 watt 5% metal film
R03	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R04	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R05	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R06	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R07	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R08	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R09	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R10	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R11	145-470	Resistor, 47 ohm 1/4 watt 5% metal film
R12	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R13	145-470	Resistor, 47 ohm 1/4 watt 5% metal film
R14	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R15	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R16	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R17	145-470	Resistor, 47 ohm 1/4 watt 5% metal film
R18	145-473	Resistor, 47k ohm 1/4 watt 5% metal film
R19	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R20	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
T1	350-123	Detector, SNY-074-1919A (235SU1)
	550-068	IC Socket, 16 pin
	550-173	Connector, 2 pin Molex Header
	800-208B	PC Board, IF 10.7 MHz R Receiver

Parts List
 IF Amplifier - narrow band (export)
 MARTI 800-208 04-12-94

Item	Marti No.	Description
C01	217-104	Capacitor, .01 mf 50v GMV disc
C02	217-104	Capacitor, .01 mf 50v GMV disc
C03	217-104	Capacitor, .01 mf 50v GMV disc
C04	217-104	Capacitor, .01 mf 50v GMV disc
C05	217-104	Capacitor, .01 mf 50v GMV disc
C06	217-104	Capacitor, .01 mf 50v GMV disc
C07	217-104	Capacitor, .01 mf 50v GMV disc
C08	217-104	Capacitor, .01 mf 50v GMV disc
C09	217-103	Capacitor, .1 mf 100v 10% mylar
C10	217-104	Capacitor, .01 mf 50v GMV disc
C11	219-121	Capacitor, electrolytic 150uF 25V
C12	217-103	Capacitor, .1 mf 100v 10% mylar
C13	219-200	Capacitor, electrolytic 22uF 25V
C14	217-103	Capacitor, .1 mf 100v 10% mylar
C15	295-390	Capacitor, 39 pf 5% NPO disc
C16	217-104	Capacitor, .01 mf 50v GMV disc
C17	256-131	Capacitor, 130 pf 5% 50V NPO disc
C18	255-470C	Capacitor, 47pF 5% 200V ceramic dipped
C19	290-521	Capacitor, variable, 5-25 pf GUK-25000
C20	299-470	Capacitor, tantalum, 4.7 mf 16v ECS-F1CE47
CF1	360-035	Filter, ceramic SFE10.7 MZ2A Murata Erie
CF2	360-035	Filter, ceramic SFE10.7 MZ2A Murata Erie
IC1	401-235	Integrated Circuit, Sanyo LA1235
J1	550-084	Connector, Phono Jack, Molex 15-24-0503
L1	350-030	Inductor, 3.0 - 7 uH w/shield can #47271-
Q1	440-245	Transistor, SRF3017
Q2	440-245	Transistor, SRF3017
R01	145-151	Resistor, 150 ohm 1/4 watt 5% metal film
R02	145-151	Resistor, 150 ohm 1/4 watt 5% metal film
R03	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R04	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R05	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R06	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R07	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R08	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R09	145-332	Resistor, 3.3k ohm 1/4 watt 5% metal film
R10	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R11	145-470	Resistor, 47 ohm 1/4 watt 5% metal film
R12	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R13	145-470	Resistor, 47 ohm 1/4 watt 5% metal film
R14	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R15	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R16	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R17	145-470	Resistor, 47 ohm 1/4 watt 5% metal film
R18	145-473	Resistor, 47k ohm 1/4 watt 5% metal film
R19	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R20	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
	550-068	IC Socket, 16 pin
	550-173	Connector, 2 pin Molex Header
	800-208B	PC Board, IF 10.7 MHz R Receiver

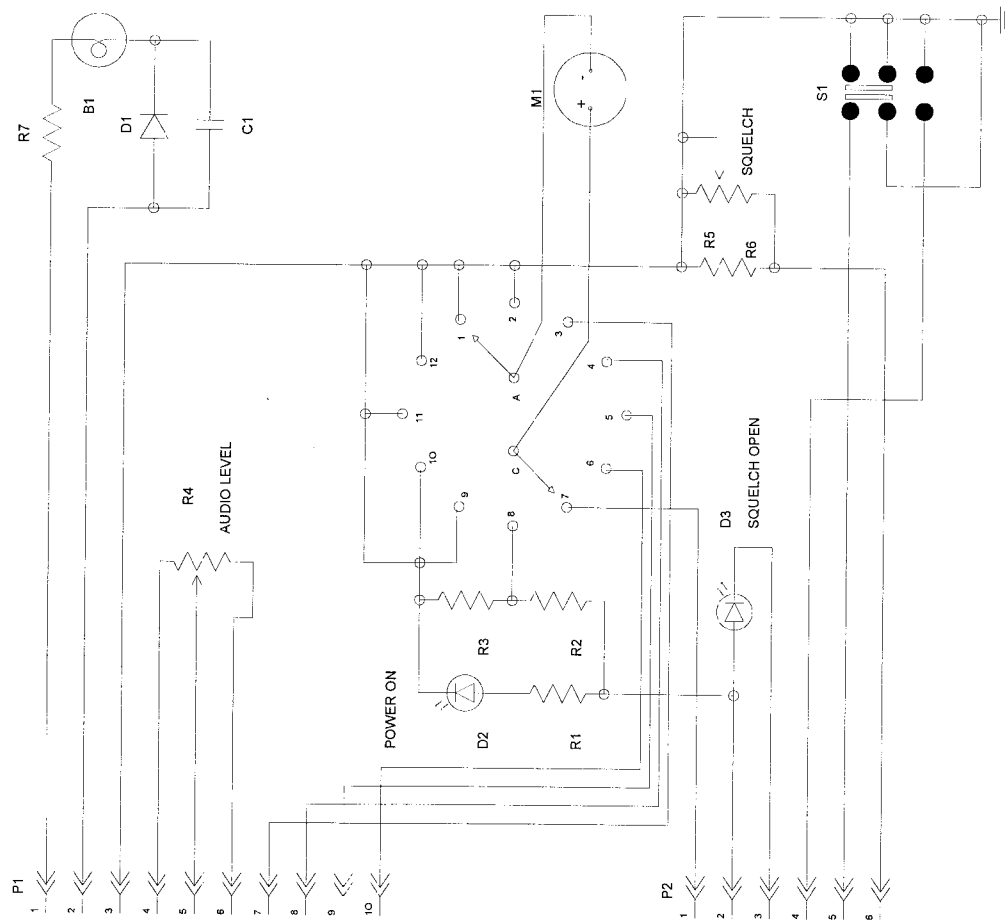


Parts List
R-10 Audio Board
MARTI 800-205 04-01-94

Item	Marti No.	Description
C01	215-102	Capacitor, .001 mfd 2.5% 100v polypropylen
C02	219-200	Capacitor, electrolytic 22uF 25V
C03	219-121	Capacitor, electrolytic 150uF 25V
C04	215-102	Capacitor, .001 mfd 2.5% 100v polypropylen
C05	215-202	Capacitor, .002 mfd 2.5% 100v polypropylen
C06	NOT USED	
C07	215-701	Capacitor, 700 pf 2.5% 100V polypropylene
C08	255-220	Capacitor, 22 pf 5% NPO disc
C09	215-701	Capacitor, 700 pf 2.5% 100V polypropylene
C10	NOT USED	
C11	NOT USED	
C12	NOT USED	
C13	217-103	Capacitor, .1 mf 100v 10% mylar
C14	219-121	Capacitor, electrolytic 150uF 25V
C15	219-121	Capacitor, electrolytic 150uF 25V
C16	215-392	Capacitor, .0039 mfd 2.5% 100v polypropyle
C17	215-242	Capacitor, .0024 mfd 2.5% 100v polypropyle
C18	219-080	Capacitor, electrolytic 10uF 25V
C19	215-301	Capacitor, 300 pf 2.5% 100v polypropylene
C20	215-151C	Capacitor, 150pF 5% 200V ceramic dipped
C21	219-200	Capacitor, electrolytic 22uF 25V
C22	215-242	Capacitor, .0024 mfd 2.5% 100v polypropyle
C23	215-151C	Capacitor, 150pF 5% 200V ceramic dipped
C24	219-200	Capacitor, electrolytic 22uF 25V
C25	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C26	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C27	219-200	Capacitor, electrolytic 22uF 25V
C28	219-080	Capacitor, electrolytic 10uF 25V
C29	219-200	Capacitor, electrolytic 22uF 25V
C30	219-121	Capacitor, electrolytic 150uF 25V
C31	NOT USED	
C32	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C33	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C34	253-471	Capacitor, 470 pf 50v 10% Y5P disc
C35	219-251	Capacitor, electrolytic 220uF 25V
C36	219-251	Capacitor, electrolytic 220uF 25V
C37	219-251	Capacitor, electrolytic 220uF 25V
C38	290-525	Capacitor, variable trimmer 9-50 pF #24AA0
D1	412-494	Diode, Germanium, 1N270
D2	412-494	Diode, Germanium, 1N270
D3	410-914	Diode, 1N4148
D4	410-914	Diode, 1N4148
IC1	405-532	Integrated Circuit, Signetics NE5532AN
IC2	400-072	Integrated Circuit, TI TL072CP
IC3	401-877	Integrated Circuit, National LM1877N-9
J1	550-165	Connector, 4 pin Molex Header
J2	550-165	Connector, 4 pin Molex Header
R01	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R02	145-102-1	Resistor, 1k ohm 1/4 watt 2% RL07S102G
R03	145-223	Resistor, 22k ohm 1/4 watt 5% metal film
R04	100-522	Potentiometer, 5k ohm cermet trimmer
R05	145-470	Resistor, 47 ohm 1/4 watt 5% metal film

Parts List
R-10 Audio Board
MARTI 800-205 04-01-94

Item	Marti No.	Description
R06	145-474	Resistor, 470k ohm 1/4 watt 5% metal film
R07	145-562	Resistor, 5.6k ohm 1/4 watt 5% metal film
R08	145-030	Resistor, 3.3 ohm 1/4 watt 5% metal film
R09	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R10	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R11	145-333	Resistor, 33k ohm 1/4 watt 5% metal film
R12	145-223	Resistor, 22k ohm 1/4 watt 5% metal film
R13	145-223	Resistor, 22k ohm 1/4 watt 5% metal film
R14	145-473-1	Resistor, 47k ohm 1/4 watt 2% RLO7S473G
R15	145-473-1	Resistor, 47k ohm 1/4 watt 2% RLO7S473G
R16	145-223-1	Resistor, 22k ohm 1/4 watt 2% RL07S223G
R17	145-183-1	Resistor, 18k ohm 1/4 watt 2% RL07S183G
R18	145-183-1	Resistor, 18k ohm 1/4 watt 2% RL07S183G
R19	145-912-1	Resistor, 9.1k ohm 1/4 watt 2% RL07S912G
R20	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R21	145-223-1	Resistor, 22k ohm 1/4 watt 2% RL07S223G
R22	145-220	Resistor, 22 ohm 1/4 watt 5% metal film
R23	145-182-1	Resistor, 1.8k ohm 1/4 watt 2% RL07S182G
R24	145-122-1	Resistor, 1.2k ohm 1/4 watt 2% RLO7S122G
R25	145-220	Resistor, 22 ohm 1/4 watt 5% metal film
R26	145-104-1	Resistor, 100k ohm 1/4 watt 2% RL07S104G
R27	145-223-1	Resistor, 22k ohm 1/4 watt 2% RL07S223G
R28	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R29	145-030	Resistor, 3.3 ohm 1/4 watt 5% metal film
R30	145-104	Resistor, 100k ohm 1/4 watt 5% metal film
R31	145-123	Resistor, 12k ohm 1/4 watt 5% metal film
R32	145-184-1	Resistor, 180k ohm 1/4 watt 2% RL07S184G
R33	145-223-1	Resistor, 22k ohm 1/4 watt 2% RL07S223G
S1	530-053	Switch, slide Alco SLSA-220-1
S2	530-053	Switch, slide Alco SLSA-220-1
	550-069	IC Socket, 14 pin
	550-070	IC Socket, 8 pin
	800-205B	PC Board, Audio R-10



MARTI ELECTRONICS
CLEBURNE, TX 76033-0661

DRAWING NO.

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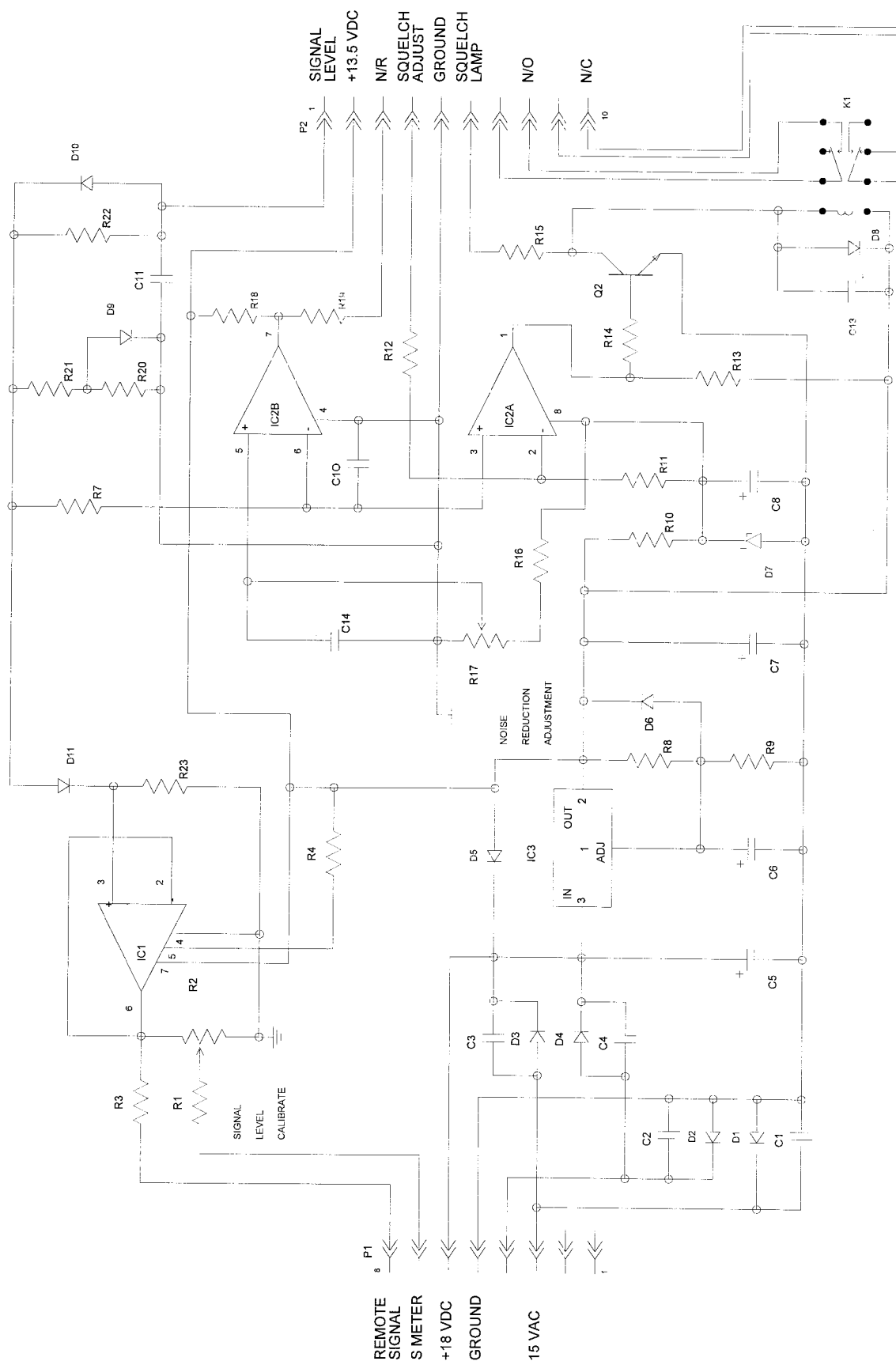
800-192

TITLE

R-10 METER BOARD

Parts List
R-10/CR-10 Meter Board
MARTI 800-192 04-01-94

Item	Marti No.	Description
B1	510-196	Subminiature Lamp, #IFL-LX2162-16T
C1	217-104	Capacitor, .01 mf 50v GMV disc
D1	414-007	Diode, Fagor 1N4007
M1	030-039M	Meter, Model HS-10 VU
P1	550-175	Connector, 5 pin Molex Angle Header
P2	550-149	Connector, 6 pin Molex Angle Header
R1	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R2	145-473	Resistor, 47k ohm 1/4 watt 5% metal film
R3	145-431	Resistor, 430 ohm 1/4 watt 5% metal film
R4	100-523	Potentiometer, 5k ohm cermet trimmer
R5	100-523	Potentiometer, 5k ohm cermet trimmer
R6	145-222	Resistor, 2.2k ohm 1/4 watt 5% metal film
R7	145-100	Resistor, 10 ohm 1/4 watt 5% metal film
S1	530-058	Switch, slide DPDT Switchcraft 11A1871
S2	530-059	Switch, rotary #10WA135
	500-004	Screw, 4-40 x 1/4" phillips pan head M/S n
	511-038	Terminal, #1238
	513-033	Spacer, 4-40 x 13/16" hex threaded Concord
	800-192B	PC Board, Meter R receiver



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. 800-219A COPYRIGHT 21-APR-94	TITLE POWER SUPPLY/SQUELCH BOARD
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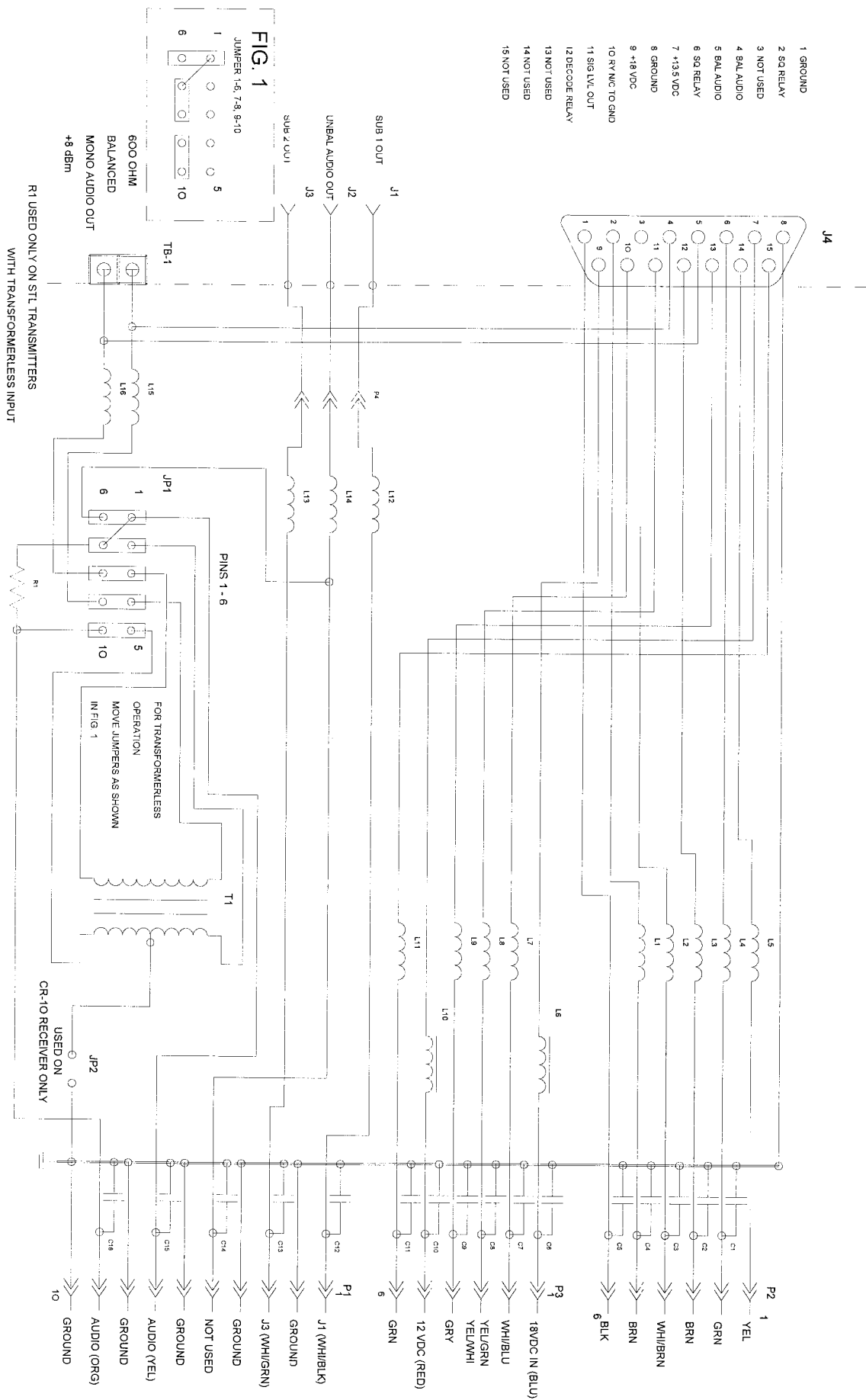
Parts List
Receiver Power Supply
MARTI 800-219 04-01-94

Item	Marti No.	Description
C01	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C02	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C03	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C04	268-102	Capacitor, .001 mf 50v Z5U disc -20+80%
C05	219-472	Capacitor, electrolytic 4700uF 25V
C06	219-200	Capacitor, electrolytic 22uF 25V
C07	219-200	Capacitor, electrolytic 22uF 25V
C08	219-200	Capacitor, electrolytic 22uF 25V
C09	NOT USED	
C10	217-103	Capacitor, .1 mf 100v 10% mylar
C11	217-103	Capacitor, .1 mf 100v 10% mylar
C12	NOT USED	
C13	219-080	Capacitor, electrolytic 10uF 25V
C14	217-104	Capacitor, .01 mf 50v GMV disc
D01	414-007	Diode, Fagor 1N4007
D02	414-007	Diode, Fagor 1N4007
D03	414-007	Diode, Fagor 1N4007
D04	414-007	Diode, Fagor 1N4007
D05	414-007	Diode, Fagor 1N4007
D06	414-007	Diode, Fagor 1N4007
D07	410-110	Diode, zener, 1N4741A 11v 5% Motorola
D08	414-007	Diode, Fagor 1N4007
D09	410-914	Diode, 1N4148
D10	410-914	Diode, 1N4148
D11	410-914	Diode, 1N4148
IC1	400-091A	Integrated Circuit, TI TLC271CP
IC2	400-293	Integrated Circuit, TI LM393P
IC3	400-317	Integrated Circuit, National LM317T
J1	550-165	Connector, 4 pin Molex Header
J2	550-125	Connector, 5 pin Molex Header
K1	570-035-1	Relay, Aromat HB2E-DC12V
Q1	NOT USED	
Q2	425-301	Transistor, Motorola 2N3904
R01	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R02	100-501	Potentiometer, 500 ohm cermet trimmer
R03	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R04	145-433	Resistor, 43k ohm 1/4 watt 5% carbon film
R05	NOT USED	
R06	NOT USED	
R07	145-102	Resistor, 1k ohm 1/4 watt 5% metal film
R08	145-241-1	Resistor, 240 ohm 1/4 watt 2% RL07S241G
R09	145-232	Resistor, 2.32k ohm 1/4 watt 1% metal film
R10	145-101	Resistor, 100 ohm 1/4 watt 5% metal film
R11	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R12	145-331	Resistor, 330 ohm 1/4 watt 5% metal film
R13	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R14	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R15	145-471	Resistor, 470 ohm 1/4 watt 5% metal film
R16	145-103	Resistor, 10k ohm 1/4 watt 5% metal film
R17	100-522	Potentiometer, 5k ohm cermet trimmer
R18	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R19	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film

Parts List
Receiver Power Supply
MARTI 800-219 04-01-94

Item	Marti No.	Description
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R20	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R21	145-333	Resistor, 33k ohm 1/4 watt 5% metal film
R22	145-472	Resistor, 4.7k ohm 1/4 watt 5% metal film
R23	145-223	Resistor, 22k ohm 1/4 watt 5% metal film
	520-051	Heatsink, Thermalloy 6030B-TT
	550-070	IC Socket, 8 pin
	550-161	IC Socket, 16 pin Aromat #AXS-1016137
	800-219B	PC Board, Power Supply R Receiver

- 1 GROUND
- 2 SQ RELAY
- 3 NOT USED
- 4 BAL AUDIO
- 5 BAL AUDIO
- 6 SQ RELAY
- 7 +13.5 VDC
- 8 GROUND
- 9 +18 VDC
- 10 RY NC TO GND
- 11 SIG LVL OUT
- 12 DECODE RELAY
- 13 NOT USED
- 14 NOT USED
- 15 NOT USED



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TITLE R-10 INPUT/OUTPUT BOARD

Parts List
R-10 Input Filter Board
MARTI 800-193 04-01-94

Item	Marti No.	Description
C01	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C02	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C03	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C04	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C05	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C06	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C07	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C08	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C09	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C10	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C11	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C12	270-220	Capacitor, monolithic chip, 22 pf 50v 5%
C13	270-220	Capacitor, monolithic chip, 22 pf 50v 5%
C14	270-220	Capacitor, monolithic chip, 22 pf 50v 5%
C15	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
C16	270-102	Capacitor, monolithic chip, 1000 pf 50v 5%
J1	550-170	Connector, D-Sub 15 pin Angle DN15P-R
JP1	550-192	Connector, 3 Dual Pin Header
JP1	550-191	Connector, 2 Dual Pin Header
JP2	550-184	Connector, 1 Dual Pin Header
L01	330-018	Inductor, 10 uH 43LQ105-1
L02	330-018	Inductor, 10 uH 43LQ105-1
L03	330-018	Inductor, 10 uH 43LQ105-1
L04	330-018	Inductor, 10 uH 43LQ105-1
L05	330-018	Inductor, 10 uH 43LQ105-1
L06	330-019	Inductor, #2961666671
L07	330-018	Inductor, 10 uH 43LQ105-1
L08	330-018	Inductor, 10 uH 43LQ105-1
L09	330-018	Inductor, 10 uH 43LQ105-1
L10	330-019	Inductor, #2961666671
L11	330-018	Inductor, 10 uH 43LQ105-1
L12	330-018	Inductor, 10 uH 43LQ105-1
L13	330-018	Inductor, 10 uH 43LQ105-1
L14	330-018	Inductor, 10 uH 43LQ105-1
L15	330-018	Inductor, 10 uH 43LQ105-1
L16	330-018	Inductor, 10 uH 43LQ105-1
P1	550-125	Connector, 5 pin Molex Header
P1	550-125	Connector, 5 pin Molex Header
P2	550-136	Connector, 6 pin Molex Header
P3	550-136	Connector, 6 pin Molex Header
T1	310-014M	Transformer, audio, #671-9041
TB1	511-043B	Terminal, 2 point w/brackets
	550-182	Open Top Two Circuit Shunt Molex #15-38-10
	500-004	Screw, 4-40 x 1/4" phillips pan head M/S n
	550-182	Open Top Two Circuit Shunt Molex #15-38-10
	550-182	Open Top Two Circuit Shunt Molex #15-38-10
	550-186	Connector, 3 Pin Molex Header
	550-182	Open Top Two Circuit Shunt Molex #15-38-10
	550-182	Open Top Two Circuit Shunt Molex #15-38-10
	800-193B	PC Board, I/O Filter STL-10 R-10