Broadcast Electronics
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Marti Electronics
SCG-10
STL Subcarrier Generator

597-8107 rev B
March 24, 2011

Marti Electronics

SCG-10

STL Subcarrier Generator

Marti Electronics
Product Warranty (One-Year Limited)

Broadcast Electronics (BE) hereby warrants all new Marti Electronics branded products, including STL systems, manufactured by BE, against any defects in material or workmanship at the time of delivery thereof, or that develop under normal use within a period of one (1) year, from the date of shipment.

BE reserves the right to repair equipment under warranty with new or refurbished equipment or parts. BE's sole responsibility with respect to any equipment or parts not conforming to this warranty is to replace or repair such equipment upon the return thereof F.O.B. to BE's factory in Quincy, Illinois, U.S.A. In the event of replacement pursuant to the foregoing warranty, only the unexpired portion of the warranty from the time of the original purchase will remain in effect for any such replacement.

This warranty shall exclude the following products, component parts and/or assemblies:

(a) Transmitter power output tubes shall only carry the original manufacturer's or supplier's standard warranty in effect on their original shipment date.

(b) All computers, computer peripherals, cables, hard disk drives, etc., shall only carry the manufacturer's or supplier's standard warranty in effect on their original shipment date.

(c) "Components", defined as separate and individual parts (e.g. transistors, integrated circuits, capacitors, resistors, inductors, fans, etc), resold by BE from another manufacturer or supplier, shall only carry a 90 day warranty, effective the date of shipment. Any such 'Components' being returned for warranty claim must be (1) returned in their original packaging and (2) must be in new, unused condition.
BE is unable to process or resolve component defects or performance concerns on components that have been soldered, installed, wired or in any way altered from new their new condition.

(d) "Resale Equipment", defined as equipment purchased from another manufacturer or supplier, then resold by BE, shall only carry such manufacturer's or supplier's standard warranty in effect as of the original shipment date.. All warranty claims against any and all 'resale equipment' sold by BE must be filed directly with the original equipment manufacturer. BE is unable to process or resolve equipment defects or performance concerns on products or services not manufactured by BE.

This warranty shall not extend to claims resulting from any acts of God, terrorism, war, defects or failures caused by Purchaser or user abuse or misuse, operator error, or unauthorized attempts to repair or alter the equipment in any way.

Under no circumstances shall BE be responsible for indirect, incidental or consequential damages, including, but not limited to transportation costs, non-authorized repair or service costs, downtime costs, costs for substituting equipment or loss of anticipated profits or revenue, incurred by Purchaser, whether based in contract, tort or for negligence or breach of statutory duty or otherwise.

The terms of the foregoing warranty shall be null and void if the equipment has been altered or repaired without specific written authorization from BE, or if not installed according to BE's instruction manuals, including, but not limited to, the absence of proper grounding, surge (TVSS) protection on the AC circuit panel or proper lightning protection/grounding on all output circuits, or if equipment is operated under environmental conditions or circumstances other than those specifically described in BE's product literature or instruction manual which accompany the

equipment. **The warranty shall be voided if the product or subassembly is equipped with a tamper seal and that tamper seal is broken.** BE shall not be liable for any expense of any nature whatsoever incurred by the original user without prior written consent of BE. The warranty provided herein shall terminate at the end of the period set forth above. **This warranty extends only to the original Purchaser and is not transferable.** There are no third party beneficiaries of any of the provisions of this warranty. If the equipment is described as "used" equipment, it is sold as is and where is and no warranty applies unless authorized in writing.

EXCEPT AS SET FORTH HEREIN, AS TO TITLE AND AS SPECIFICALLY REQUIRED BY LAW, THERE ARE NO OTHER WARRANTIES, OR ANY AFFIRMATIONS OF FACT OR PROMISES BY BE, WITH REFERENCE TO THE EQUIPMENT, OR TO MERCHANTABILITY, FITNESS FOR A PARTICULAR APPLICATION, SIGNAL COVERAGE, INFRINGEMENT, OR OTHERWISE, WHICH EXTEND BEYOND THE DESCRIPTION OF THE EQUIPMENT ON THE FACE HEREOF.

IMPORTANT INFORMATION

EQUIPMENT LOST OR DAMAGED IN TRANSIT -

When delivering the equipment to you, the truck driver or carrier's agent will present a receipt for your signature. Do not sign it until you have:

1) Inspected the containers for visible signs of damage and 2) Counted the containers and compared with the amount shown on the shipping papers. If a shortage or evidence of damage is noted, insist that notation to that effect be made on the shipping papers before you sign them.

Further, after receiving the equipment, unpack it and inspect thoroughly for concealed damage. If concealed damage is discovered, immediately notify the carrier, confirming the notification in writing, and secure an inspection report. This item should be unpacked and inspected for damage WITHIN 15 DAYS after receipt. Claims for loss or damage will not be honored without proper notification of inspection by the carrier.

RF PRODUCT TECHNICAL ASSISTANCE, REPAIR SERVICE, PARTS -

Technical assistance is available from Broadcast Electronics by letter, prepaid telephone or E-mail. Equipment requiring repair or overhaul should be sent by common carrier, prepaid, insured, and well protected. If proper shipping materials are not available, contact the RF Technical Services Department for a shipping container. Do not mail the equipment. We can assume no liability for inbound damage, and necessary repairs become the obligation of the shipper. Prior arrangement is necessary. Contact the RF Technical Services Department for a Return Authorization.

Emergency and warranty replacement parts may be ordered from the following address. Be sure to include the equipment model number, serial number, part description, and part number. Non-emergency replacement parts may be ordered directly from the Broadcast Electronics stock room at the number shown below.

RF TECHNICAL SERVICES -

Telephone: +1 (217) 224-9617
E-Mail: rfservice@bdcast.com
Fax: +1 (217) 224-6258

FACILITY CONTACTS -

Broadcast Electronics, - Quincy Facility
4100 N. 24th St. P.O. BOX 3606
Quincy, Illinois 62305
Telephone: +1 (217) 224-9600
Fax: +1 (217) 224-6258
General E-Mail: bdcast@bdcast.com
Web Site: www.bdcast.com

PARTS -

Telephone: +1 (217) 224-9617
E-Mail: parts@bdcast.com

RETURN, REPAIR, AND EXCHANGES -

Do not return any merchandise without our written approval and Return Authorization. We will provide special shipping instructions and a code number that will assure proper handling and prompt issuance of credit. Please furnish complete details as to circumstances and reasons when requesting return of merchandise. All returned merchandise must be sent freight prepaid and properly insured by the customer.

MODIFICATIONS -

Broadcast Electronics, reserves the right to modify the design and specifications of the equipment in this manual without notice. Any modifications shall not adversely affect performance of the equipment so modified.

SAFETY PRECAUTIONS

PLEASE READ AND OBSERVE ALL SAFETY PRECAUTIONS!!

ALL PERSONS WHO WORK WITH OR ARE EXPOSED TO POWER TUBES, POWER TRANSISTORS, OR EQUIPMENT WHICH UTILIZES SUCH DEVICES MUST TAKE PRECAUTIONS TO PROTECT THEMSELVES AGAINST POSSIBLE SERIOUS BODILY INJURY. EXERCISE EXTREME CARE AROUND SUCH PRODUCTS. UNINFORMED OR CARELESS OPERATION OF THESE DEVICES CAN RESULT IN POOR PERFORMANCE, DAMAGE TO THE DEVICE OR PROPERTY, SERIOUS BODILY INJURY, AND POSSIBLY DEATH.

DANGEROUS HAZARDS EXIST IN THE OPERATION OF POWER TUBES AND POWER TRANSISTORS -

The operation of power tubes and power transistors involves one or more of the following hazards, any one of which, in the absence of safe operating practices and precautions, could result in serious harm to personnel.

A. HIGH VOLTAGE - Normal operating voltages can be deadly. Additional information follows.

B. RF RADIATION - Exposure to RF radiation may cause serious bodily injury possibly resulting in Blindness or death. Cardiac pacemakers may be affected. Additional information follows.

C. HOT SURFACES - Surfaces of air-cooled radiators and other parts of tubes can reach temperatures of several hundred degrees centigrade and cause serious burns if touched. Additional information follows.

D. RF BURNS - Circuit boards with RF power transistors contain high RF potentials. Do not operate an RF power module with the cover removed.

HIGH VOLTAGE –

Many power circuits operate at voltages high enough to kill through electrocution. Personnel should always break the primary AC Power when accessing the inside of the transmitter.

RADIO FREQUENCY RADIATION -

Exposure of personnel to RF radiation should be minimized, personnel should not be permitted in the vicinity of open energized RF generating circuits, or RF transmission systems (waveguides, cables, connectors, etc.), or energized antennas. It is generally accepted that exposure to "high levels" of radiation can result in severe bodily injury including blindness. Cardiac pacemakers may be affected.

The effect of prolonged exposure to "low level" RF radiation continues to be a subject of investigation and controversy. It is generally agreed that prolonged exposure of personnel to RF radiation should be limited to an absolute minimum. It is also generally agreed that exposure should be reduced in working areas where personnel heat load is above normal. A 10 mW/cm^2 per one tenth hour average level has been adopted by several U.S. Government agencies including the Occupational Safety and Health Administration (OSHA) as the standard protection guide for employee work environments. An even stricter standard is recommended by the American National Standards Institute which recommends a 1.0 mW/cm^2 per one tenth hour average level exposure between 30 Hz and 300 MHz as the standard employee protection guide (ANSI C95.1-1982).

RF energy must be contained properly by shielding and transmission lines. All input and output RF connections, such as cables, flanges and gaskets must be RF leak proof. Never operate a power tube without a properly matched RF energy absorbing load attached. Never look into or expose any part of the body to an antenna or open RF generating tube or circuit or RF transmission system while energized. Monitor the tube and RF system for RF radiation leakage at regular intervals and after servicing.

HOT SURFACES –

The power components in the transmitter are cooled by forced-air and natural convection. When handling any components of the transmitter after it has been in operation, caution must always be taken to ensure that the component is cool enough to handle without injury.

Table of Contents

1 INTRODUCTION – SCG–10

The *MARTI* SCD–10 Subcarrier Generator is designed to operate in SCA service with an FM Broadcast transmitter, or with a Model SCD–10 Subcarrier Demodulator, to form a subcarrier link on a microwave link (STL) sys- tem. The SCG–10 has several options available which allows it to perform a wide range of functions in broadcasting and communications. Audio processing options include selectable de–emphasis of 0, 75, 150 or 225 microseconds. Low–pass audio filters of 3 KHz, 5 KHz, or 7.5 KHz are available. For subcarrier link systems using the SCD–10 Generator, a compander encode board plugs into the generator, and a decode board into the demodulator, to adapt the system to audio companding. The SCG–10 employs an illuminated panel meter to aid in adjusting modulation and subcarrier output level.

1.1 FEATURES OF THESE GENERATOR INCLUDE:

- Squelch relay with contacts available for external switching.
- Test meter on front panel indicates Signal Level and Audio Level.
- Terminal strip for balanced 600 ohm audio output.
- Low–pass filters designed to eliminate overshoot on complex audio waveforms.
- Accessory plug for external DC power, remote control, etc.
- Low power consumption for operation on AC, solar cell, battery or other single polarity DC source.
- Excellent signal to noise and distortion characteristics.
- Optional companding. (requires companding in accompanying genera- tor.)
- Selectable de–emphasis of 0, 75, 150, or 225 microseconds.

TABLE 1. Model SCG–10 Subcarrier Generator

(Sheet 1 of 2)

PARAMETER	SPECIFICATION
SUBCARRIER FREQUENCY	Specify 39 KHz, 41 KHz, 67 KHz, 110 KHz, 152 KHz, or 185 KHz. Frequency test jack on front panel.
FREQUENCY STABILITY	+/– 0.18%–10C TO
SUBCARRIER PURITY	+50C Less than 0.5 %
MODULATOR	THD Direct FM
FM DEVIATION MODULATOR	Factory set for +/– 7.5% of subcarrier frequency
DISTORTION AUDIO	Less than 1% THD
PROCESSING	De–emphasis: 0, 75, 150, 225 microseconds. user selectable
	Low–pass filters: Audio cut off frequencies of 3 KHz, 5 KHz, or 7.5 KHz, are specified with original equipment order. The lowest possible cut–off frequency is recommended. Maximum cut–off is 12% of subcarrier frequency.
	Companding: An optional compander decode board is available for installation in the SCD–10 subcarrier generator with a compander encode board. Companding will reduce noise and can mask certain types of main channel to subcarrier cross–talk
FREQUENCY RESPONSE	+/– 1.5 dB, 25Hz. to 95% of low pass filter cut–off frequency.
FM NOISE	More than 68 dB below 5 KHz deviation (measured through SCG–10 demodulator directly connected to SCG–10 output, 225 microsecond pre–emphasis, without companding) With companding –72 dB
AUDIO INPUT IMPEDANCE	600 ohm balanced (screw terminals or "D" connector pins.)
MUTING LEVEL	Adjustable from 0 dB to 40 dB below 100% modulation. (soft mute).
MUTED CARRIER LEVEL	60 dB below rated maximum output level
SUBCARRIER OUTPUT	Front panel adjustable, 0.3 v to 7.0 v P–P into 600 ohms. (BNC)
REMOTE CONTROL	Remote control by grounding pin 4 of accessory "D" connector.
METERING	Illuminated, indicates peak modulation or subcarrier output level.

TABLE 1. Model SCG–10 Subcarrier Generator

(Sheet 2 of 2)

PARAMETER	SPECIFICATION
CONTROL	Meter Switch, Subcarrier Control Switch, Modulation Level, Automatic Mute Delay, Mute Level, Subcarrier Output Level, Subcarrier Frequency, Subcarrier Frequency Test Jack (located on front panel)
CONNECTORS	BNC jack for subcarrier input, 9 pin "D" connector for balanced audio output; squelch relay contacts. FSK output, ground, +18 to 20 volt input, + 13.5 volt input, AC receptacle, 6–32 screw terminals for balanced 600 ohm audio output.
RF PROTECTION OPERATING	All input/output circuits filtered for RF. Totally shielded and bonded aluminum enclosure
TEMP. RANGE	–10C TO +50C
POWER REQUIREMENTS	120/220/240 VAC (voltage to be specified on original or der), 50/60 Hz, 10 watts or 12–14 VDC at 50 ma. negative ground or 24–28 VDC at 70 ma (28 volt operation require the APS–28/18 power supply.
AC FUSE RATING	For 120 v. use 3/8 Amp fuse
DIMENSIONS	1 3/4 High x 19 inches Wide x 12 inches Deep 4.45 cm High x 48.26 cm wide x 30.48 cm Deep
WEIGHT	Net 4.5 pounds. Domestic packed 9 pounds Net 2.1 kilograms. Export packed 4.1 kilograms

2 UNPACKING AND INSPECTING

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

Unpack equipment immediately upon receipt and thoroughly inspect for concealed damage. If damage is discovered, cease further unpacking and request immediate inspection by a local agent of the carrier. A written report of the agent's findings, with his signature is necessary to support the claim. Check your shipment against the shipping papers for possible shortage. Do not discard any packing material until all items are located. Small items are often thrown away with packing material.

The packing material should be retained until equipment testing is completed. Any equipment returned to the factory should be packed in the original cartons, insured, and pre–paid.

3 INSTALLATION

NOTE *INSTALL RACK–MOUNTED EQUIPMENT IN A WELL VENTI LATED, GROUNDED,*

NOTE *AND SHIELDED RACK CABINET*

Install rack–mounted equipment in a well ventilated, 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 the same RF ground potential.

3.1 SCG–10 Generator Connections

1. Connect balanced 600 ohm audio load to the screw terminals of terminal strip TB–1 on the rear panel. (–15 to +12 dBm level.)
2. Connect the 36" coaxial cable supplied (Marti Part No. 585–019) between the BNC jack J–1 sub. Output of the SCG–10 and the BNC jack marked Subcarrier Input on the STL transmitter or FM exciter of a broadcast transmitter if the SCG–10 is in SCA application–minimum 560 ohms load impedance.
3. The accessory connector J2 has the following pin connections

Pin 1	External DC power (backup) +13.5 VDC
Pin 2	No connection
Pin 3	FSK/ Subaudible output
Pin 4	Remote subcarrier control by contact closure to
Pin 5	External DC power (backup) +18 to +24 volts.
Pin 6 and 9	Chassis ground
Pin 7 and 8	600 ohm balanced audio output (same as TB–1)

4. Connect SCD –10 to a 115 volt AC power source with special cord set supplied. The equipment is fused with a 3/8 Amp., 250 volt, 3 AG type Fuse

WARNING *THIS EQUIPMENT MUST BE OPERATED WITH A 3–PRONG, GROUNDED, 115 VOLT, AC OUTLET RECEPTACLE.*

WARNING *FAILURE TO USE A PROPERLY GROUNDED OUTLET COULD RESULT IN A SAFETY HAZARD OR FAULTY EQUIPMENT PERFORMANCE.*

4 OPERATION

1. Place Meter Switch in "Peak Modulation" position and using a small screwdriver, set Mod. Level Adjust pot for 0 VU indication on the meter on audio peaks. (Adjustment range is approximately –15 dBm to +12 dBm)

2. With Meter switch in "Sub. Output Level" position and Subcarrier Control Switch in "ON" position, set Sub. Output Level pot to required output. For STL–10 and STL–15C transmitters, this is approximately one volt RMS or 0 VU indication on the meter. If peak to peak (P–P) to RMS voltages are specified, consult the table below.

3. If the subcarrier is to remain "On" regardless of pauses in program audio, place Subcarrier Control Switch in "on" position. For automatic muting operation, follow steps 4 and 5 below.

4. Place Subcarrier Control Switch in "Auto Mute" position. Rotate Auto Mute Delay pot to maximum Counterclockwise position. Place Meter Switch in "Peak Modulation" position, then adjust Mute Level Adjust pot to the desired level at which automatic subcarrier muting is to occur (usually –10 to –15 VU). Place Meter Switch in "Sub Output Level" position and adjust Auto Mute Level pot to the point where the subcarrier indicated on the Meter is being turned "ON" and "OFF" by audio peaks.

5. Adjust Peak Modulation Level to normal indication of 0 VU on the Meter. Place Subcarrier Control Switch in "Auto Mute" position. Rotate Auto Mute Delay pot to mid–range (approximately 7.5 second mute delay).With Meter Switch in "Sub Output Level" position, interrupt the audio input to the SCG–10 and clock the time until subcarrier mute occurs, as indicated by the Meter. Repeat the process until desired delay is obtained by turning Auto Mute Delay pot counter–clockwise to decrease delay or clockwise to increase delay.

6. To adjust to measure subcarrier frequency, place Subcarrier Control Switch in "ON" position and interrupt all modulating signal to the SCG–10. Plug an accurate frequency counter into the Sub. Frequency test jack (using a coaxial cable with standard RCA plug) and adjust Sub. Freq. Adjust pot for exact frequency.

TABLE 1

P–P	RMS	VU
5	1.75	+3
4	1.40	+2
3.4	1.20	+1
2.5	.90	0
1.4	.50	–3
0.7	.25	–10

5 SCD–10 TUNE–UP AND ADJUSTMENT.

Refer to Location of Adjustments Drawing No. 702–079 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 (SCG–10 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 SCG–10 Generator refer to Adjustment location Diagram 702–079.

5.1 AUDIO BOARD, 800–194G

1. Connect audio level meter to pin1 of connector P2 (mod. audio of Audio Board, 800–194G. Connect jumper wire between terminals of TB–1, 600 ohm balanced input. Connect audio signal generator between chassis and either terminal of TB–1. Set generator to 100Hz at–10dBm (.24 volt output). Set Mod. Level Adjust Pot. Increase sensitivity of audio level meter until the 100Hz output component is indicated. Adjust R9, CMR, for minimum common mode output.

2. Set S1 and S2 on 800–194 board for 225 microsecond pre–emphasis (S1 and S2 positioned toward R15). remove jumper (from Step 1) and feed audio signal generator into terminals of TB–1. Set audio signal generator to 100Hz and adjust level to –5 dBm on audio voltmeter connected as in (1) above. Set signal generator to exactly 100Hz (measure with counter) and observe level meter. The level at 100Hz should now be 0 dBm. If not, adjust R15 to 0 dBm, the re–set signal to 100Hz, which should indicate –5 dBm on the audio voltmeter.

3. Modulation Meter calibration is covered in Modulator Board, 800–267 adjustment.

5.2 Pre–emphasis Switches

Two programming switches, S1 and S2 on Audio Board 80–194G, enable the user to select 0, 75, 150, or 225 microsecond pre–emphasis characteristics. The selection of one of these options in the SCG–10 generator requires a corresponding selection of S1 and S2 on the SCD–10 Demodulator Audio Board, 800–205D. Refer to SCG–10 drawing 702–079 and SCD–10 drawing 702–080, for location of these switches. The switches as shown on the diagrams, are positioned for 225 microseconds at the factory. 225 microsecond pre–emphasis and de–emphasis produces the best threshold noise and cross–talk performance in an FM system. It does, however, require an effective compressor–limiter to control modulation peaks of the SCG–10. Call the factory for recommendations.

When the SCG–10 is used on an FM station for background music distribution, the 150 microsecond pre–emphasis selection should be made, since most SCA receivers employ 150

microsecond de–emphasis.

5.3 MODULATOR BOARD, 800–267

5.3.1 Subcarrier Purity (THD) Adjustment:

Feed Sub. Output, J1 into a harmonic distortion analyzer capable of operating at the subcarrier frequency. Set output level (R34) to 0 VU on output meter (1 volt RMS). The subcarrier should have less than 0.5% THD. If not, adjust pot R30 for minimum distortion. Refer to Drawing 702–079.

5.3.2 Subcarrier Frequency Coarse Adjustment:

Check Sub. Freq. Adjust pot range on front panel. The correct subcarrier frequency should be near center of the adjustment range. If not, set Sub. Freq. Adjust pot at center position, then adjust R27 "Coarse Frequency" for Correct frequency.

5.3.3 Subcarrier FM Deviation Adjustment:

Feed the 400Hz output of an audio generator into TB–1, 600 ohm balanced audio input, at 0 dBm level. Set Mod. Level Adjust pot for correct deviation a subcarrier modulation monitor. Correct deviation is 7.5% of center frequency. Set pot R24, Mod. Meter Cal. on Audio Board, 800–194G for 0 VU reading on peak modulation meter.

4. Connect oscilloscope to pin 3 of J2 of SCD–10. Adjust VCO Fine Tune pot, R14. for symmetrical square wave output.

6 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
Oscilloscope	Tektronix Model 2215

7 TOOLS FOR ALIGNMENT

Screwdriver	R184
Tuning Tool	Coilcraft, Hex Alignment Tool

SCD–10 SUBCARRIER DEMODULATOR FACTORY TEST DATA

CUSTOMER: _____

ADDRESS: _____

SERIAL NO.:_____AUDIO BANDWIDTH:_____ KHz. DE-EMPHASIS SET:_____US.

___Companding Encode

___Regulated Voltage 13.3–13.5 volts DC

___Subcarrier Distortion 0.5%

___Subcarrier frequency set:____KHz.

___Meter Sub. Output Level 0 VU=RMS/2.8 v. P–P

___Meter Peak Modulation 0VU=_____KHz deviation

___Modulation Level Adjust Pot OK

___Subcarrier Control Switch OK

___Mute Delay Checked

___Mute Level Checked

___Frequency Response within Specifications

___Noise within Specifications

___CMR set

___Pre-emphasis set

System Data

SCD-10 Serial No.:_____

Audio Bandwidth: _____ KHz.

De-emphasis set: _____ us

_____ Frequency response within specifications

_____ Noise within specifications

_____ Distortion within specifications

8 MAIN FRAME BILL OF MATERIAL

This bill of material uses an indented structure to show relationships of parts into sub assemblies. Example; all BOM LEVEL 2 parts are contained in the BOM LEVEL 1 part immediately above it.

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	705-SCG-10	SCG-10 W/O MODULES	1	
....2	500-033	Screw, 6 x 1/4 phillips head SM SS type A"	7	
....2	586-089	Cable Assembly, SCG-10 Harness (SBCM)	1	
......3	410-1416	LUG,TERM,BENT,11/16	1	
......3	510-090	Cable Ties, 4 Panduit PANPLT1M-M MS3367-4-9"	9	
......3	512-018	Solder Lug, #4 short Concord 707-1204	3	
......3	550-122	CONNECTOR, 10 PIN MOLEX HOUSING 09-50-8100	3	
......3	550-124	Connector, 5 pin Molex housing 09-50-8050 *NOTE*	2	
......3	550-126	Connector, crimp terminal pin Molex 08-50-0187	52	
......3	550-137	Connector, 8 pin Molex housing 09-50-8080	3	
......3	580-040	Wire, UL1061 22/7 OTC Black	1.11	
......3	580-041	Wire, UL1061 22/7 OTC Brown	0.98	
......3	580-042	Wire, UL1061 22/7 OTC White	1	
......3	580-043	Wire, UL1061 22/7 OTC Red	4.783	
......3	580-044	Wire, UL1061 22/7 OTC Yellow	0.64	
......3	580-045	Wire, UL1061 22/7 OTC Blue	2.01	
......3	580-046	Wire, UL1061 22/7 OTC Green	0.96	
......3	580-047	Wire, UL1061 22/7 OS-1 Orange	1.08	
......3	580-048	Wire, UL1061 22/7 OTC Violet	0.98	
......3	580-049	Wire, UL1061 22/7 OTC Slate	1.06	
......3	580-050	Wire, UL1061 22/7 OS-1 White/Red	2.1	
......3	580-059	Wire, UL1061 22/7 OTC Yellow/Blue	0.13	
......3	580-088	Shielded Wire, 16-C-22-SPJ White/Red 1 Cond. 22/19x34 pvc	0.98	
......3	580-089	Shielded Wire, 16-C-22-SPJ White/Orange 1 cond 22/19x34 pvc	2.28	
......3	580-091	Shielded Wire, 16-C-22-SPJ White/Green 1 Cond.22/19x34 pvc	2.29	
......3	580-092	Shielded Wire, 16-C-22-SPJ White/Blue 1 Cond.22/19x34 pvc	0.88	
......3	580-099	Shielded Wire, 16-C-22-SPJ White/Black 1 Cond. 22/19x34 pvc	1.39	
....2	700-259-4A	SCG-10 Final Assembly	1	
......3	320-040L	TRANSFORMER, POWER, SCD/SCG 110V W/LUGS	1	
........4	320-040	TRANSFORMER, POWER, 41FJ300	1	
........4	512-020	TERMINAL,NICHIFU TMDN #125-250-03FA TERMINAL	2	
......3	320-040AL	TRANSFORMER, POWER, SCD/SCG	1	

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
		220V W/LUGS		
.....4	320-040A	TRANSFORMER, POWER, 16654 220V	1	
.....4	512-020	TERMINAL,NICHIFU TMDN #125-250-03FA TERMINAL	2	
.....3	339-0006	FILTER,RFI,10A 250VAC,50/60HZ	1	
.....3	500-002-1	Hex Nut, #4-40 Regular Nickel Plated	23	
.....3	500-033	Screw, 6 x 1/4 phillips head SM SS type A"	5	
.....3	500-055	Lockwasher, #4 internal tooth small pattern zinc plated	20	
.....3	500-162	Screw, 4-40 x 7/16 phillips pan head MS zinc plated"	26	
.....3	500-166	Self Locking Nut, 4-40	2	
.....3	500-180	Screw, 4-40 x 1/4 phillips pan head M/S Black Zinc"	2	
.....3	500-181	Screw, #4 x 1/4 phillips pan head S/M Black Zinc"	3	
.....3	500-187	Screw, #6 x 1/4 phillips pan head S/M type A black zinc	8	
.....3	500-188	Screw, 4-40 x 3/8 phillips,flat head,black oxide"	2	
.....3	500-199	Keps nut 4 x 40 zinc 4CNKEOZ	6	
.....3	500-203	Screw, 6 x 3/16 Philips Pan Head SMS	1	
.....3	510-047	Fuse, 3/8 Amp 3AG Littlefuse 312.375	1	
.....3	510-072	Fuseholder, Littlefuse #342-004	1	
.....3	510-113	Bushing, #B-312-250 black shorty Microplastic #22MP01015	5	
.....3	512-014	Closed End Connector, Molex ETCNC-2214	2	
.....3	513-042	Spacer,4-40 x 3/16,Hex,Threaded	20	
.....3	550-015	Connector, UG-625B/U BNC receptacle Amphenol 31-236 *NOTE*	1	
.....3	586-194	Cable Assembly, AC Connector to Fuseholder (SBCM)	1	
.....4	512-020	TERMINAL,NICHIFU TMDN #125-250-03FA TERMINAL	2	
.....4	580-130	Wire, Stranded UL1015-20/10 Black Tinned Copper	0.32	
.....3	586-195	Cable Assembly, AC Connector to Ground (SBCM)	1	
.....4	410-1416	LUG,TERM,BENT,11/16	1	
.....4	512-020	TERMINAL,NICHIFU TMDN #125-250-03FA TERMINAL	1	
.....4	580-130	Wire, Stranded UL1015-20/10 Black Tinned Copper	0.32	
.....3	700-227-2	Top Cover, ATS/ARS/SCG/SCD/CD	1	
.....3	700-227-3	Bracket,SCG/SCD/ATS/ARS/CD Rack	2	
.....3	700-259-1	Chassis, SCG/SCD/CD-15/ATS/ARS	1	
.....3	700-259-3G	Rear Panel, SCG-10	1	
.....4	700-259-3-009	Rear Panel, Subcarrier (UNSCREENED)	1	

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
.....3	700-259-4P	Front Panel, SCG-10	1	
.....4	700-259-4	Front Panel, SCG-10	1	
.....5	698-259-4	Front Panel, SCG-10	1	
.....5	699-259-4	Front Panel, SCG-10 Contract Labor Painting	1	
....2	800-219AG	SCG-10/CD-15 Power Supply (uses 800-302 pc bd)	1	
.....3	103-2341	RES,2.32K OHM,1/4W,1%,METAL	1	R9
.....3	145-241-1	RESISTOR, 240 OHM 1/4 WATT 1% SFR55 240 1% TR	1	R8
.....3	219-200	CAPACITOR ELECTROLYTIC 22UF 25V	2	C6,C7
.....3	219-472	CAPACITOR, ELECTROLYTIC 4700UF 25V	1	C5
.....3	268-102	CAPACITOR, .001 uF 50V DISC - 20+80%	4	C1,C2,C3,C4
.....3	414-007	Diode, General Instruments 1N4007	6	D1,D2,D3,D4, D5,D6
.....3	520-051A338	Heatsink w/LM338T	1	IC3
.....4	401-338	IC, SMT, REGULATOR, 5 AMP, LM338T *NOTE*	1	
.....4	500-162	Screw, 4-40 x 7/16 phillips pan head MS zinc plated"	1	
.....4	500-199	Keps nut 4 x 40 zinc 4CNKEOZ	1	
.....4	520-051	HEATSINK, THERMALLOY 6030B-TT	1	
.....4	DB61024	Washer, TO-220 Shoulder NYL Thermalloy #7721-7PPS	1	
.....4	DB68027	Sil Pad TO220 .75x.5" ADHSV Berquist 3223-07AC-58"	1	
.....3	550-125	Connector, 5 pin Molex Header (cut from 550-162) *NOTE*	1	P2
.....4	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.208	
.....3	550-138	Connector, 8 pin Molex header (cut from 550-162)	1	P1
.....4	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.333	
.....3	580-005	Buss Wire, #22AWG Solid Tinned Copper	0.25	R10
.....3	800-302B	PC Board,Receiver Power Supply	1	PCB
....2	800-264AG	SCG-10 Meter Board	1	
.....3	030-034M	Meter, VU	1	M1
.....4	030-033	200 Micro-Amp Meter	1	
.....4	030-033-1	VU Meter Scales	1	
.....3	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R3
.....3	145-150-C	Resistor, 15 ohm 1/4 watt 5% carbon comp 30BJ250	1	R2
.....3	145-470	Resistor, 47.5 ohm 1/4 watt 1% metal film Mepco SFR25	1	R1
.....3	414-007	Diode, General Instruments 1N4007	1	D1
.....3	420-4104	SCREW,4-40X.250,S.S. PH	2	

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
.....3	500-055	Lockwasher, #4 internal tooth small pattern zinc plated	2	
.....3	510-196	SUBMINIATURE LAMP, LUMEX IFL-LX2162-16T	1	B1
.....3	513-033	Spacer, 4-40 x 13/16 hex threaded Concord 535-8413-02	2	
.....3	530-057	SWITCH,SLIDE,DPDT	1	S1
.....3	550-167	Connector, jack PC Mount #16PJ092	1	D3
.....3	550-176	Connector, 8 pin Molex angle header (cut from 550-163)	1	P1
.....4	550-163	Connector, 24 pin break-away (angle) Molex 26-48-6246	0.333	
.....3	800-264B	PC Board, Meter SCG/SCD-10	1	PCB
....2	800-265AG	SCG-10 Input/Output Filter Board	1	
.....3	145-562	RESISTOR, 5.6K OHM 1/4 WATT 5% METAL FILM	2	R1,R2
.....3	145-681	RESISTOR, 681 OHM 1/4 WATT 1% METAL FILM MEPCO SFR25	1	R3
.....3	255-750	CAPACITOR, 75 pF 5% NPO DISC	1	C8
.....3	270-102	Cap,monolithic,1000pf 50v 5%KemetC1206C102J5GACTR marked	7	C1,C2,C3,C4, C5,C6,C7
.....3	330-018	INDUCTOR, 10 uH, 10%	8	L1,L2,L3,L4,L5, L6,L7,L8
.....3	414-007	Diode, General Instruments 1N4007	2	D1,D2
.....3	500-022	Screw, 6-32 x 3/8 phillips pan head M/S nickel plated"	2	
.....3	500-105	Pop-Rivet, AD42BS Aluminum	2	
.....3	510-210	Brackets, #6 Keystone 634	2	
.....3	511-043	Terminal Block, Augat/RDI 4DB-R207-02 PC Mount	1	TB1
.....3	550-138	Connector, 8 pin Molex header (cut from 550-162)	1	P1
.....4	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.333	
.....3	550-154	CONNECTOR, D-SUB 9 PIN ANGLE	1	J2
.....3	580-044	Wire, UL1061 22/7 OTC Yellow	0.21	
.....3	800-265B	PC Board, Input/Output Filter SCG/SCD-10 (NOTE)	1	PCB
....2	800-269A	SCD-SCG Dummy Board	1	
.....3	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
.....4	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
.....3	800-269B	PC Board, Dummy SCG/SCD-10	1	PCB

9 AUDIO BOARDS BILL OF MATERIAL

This bill of material uses an indented structure to show relationships of parts into sub assemblies. Example; all BOM LEVEL 2 parts are contained in the BOM LEVEL 1 part immediately above it.

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-194A3	SCG-10 3KHz Audio Board	1	
....2	100-1041	RES,1K OHM,1/4W,1%	2	R14,R23
....2	100-1531	RES,150 OHM,1/4W,1%	1	R5
....2	101-104	Potentiometer, 100K ohm cermet Bourns 3309P-1-104	2	R9,R24
....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R15
....2	103-1062	RES,100K OHM,1/4W,1%,METAL	9	
....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	6	R11,R12,R16, R34,R35,R43
....2	145-030	RESISTOR, 3.3 OHM 1/4 WATT 1% METAL FILM MEPCO SFR25	1	R42
....2	145-101	RESISTOR, 100 OHM 1/4 WATT 1% METAL FILM MEPCO SFR25	2	R28,R29
....2	145-122-1	Resistor, 1.2k ohm 1/4 watt 1% CCF07 1.2K MF TR	1	R10
....2	145-134	Resistor, 130k ohm 1/4 watt 5% carbon film 29SJ250	1	R22
....2	145-274	Resistor, 270k ohm 1/4 watt 5% carbon film CF1/4-270K	2	R20,R21
....2	145-562	RESISTOR, 5.6K OHM 1/4 WATT 5% METAL FILM	2	R6,R7
....2	145-563	Resistor, 56k ohm 1/4 watt 5% carbon film 29SJ250	2	R8,R19
....2	145-683	Resistor, 68k ohm 1/4 watt 1% metal film Mepco SFR25	1	R13
....2	185-000	Resistor,0 Ohm 1206 Chip Mfg# DALCRCW1206000ZT-X	3	R46,R47,R48
....2	215-151C	Capacitor, 150pF 5% 200V ceramic dipped C322C151J2G5CA	2	C16,C19
....2	215-202	Capacitor, .002 mfd 2.5% 100v polypro Seacor PFWAB200HGEE	1	C15
....2	215-332	Capacitor, 3300 pf 2.5% 100v polypro Seacor PFWAB330HGUE	1	C12
....2	215-622	Capacitor, .0062 mfd 2.5% 100v polypro Seacor PFWAB620HGNE	1	C11
....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	9	C7,C8,C14,C17 ,C20,C21,C23, C24,C25
....2	219-221	CAPACITOR, ELECTROLYTIC 220uF 25V RADIAL	2	C5,C10
....2	221-0072	AMP,OP,BIFET TLO72CP	3	
....2	255-100	CAPACITOR, 10 PF 5% NPO DISC	1	C9
....2	255-361	Capacitor, 360pF 300v 5% silver mica CD10FA361J03	1	C18
....2	256-131	CAPACITOR, 130 pF 5% 50V NPO DISC	1	C13

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
....2	270-102	Cap,monolithic,1000pf 50v 5%KemetC1206C102J5GACTR marked	3	C1,C2,C4
....2	299-470	CAP, TANTALUM, 4.7 UF 16V	2	C22,C29
....2	410-666	Diode, FDH666	4	D3,D4,D5,D6
....2	530-053	Switch, slide Alco SLSA-220-1 New Part#5-1437577-6	2	S1,S2
....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
......3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
....2	550-125	Connector, 5 pin Molex Header (cut from 550-162) *NOTE*	1	P2
......3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.208	
....2	800-194B	PC Board, Audio STL-10	1	PCB

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-194A5	SCG-10 5 KHz Audio Board	1	
....2	100-1041	RES,1K OHM,1/4W,1%	2	
....2	100-1531	RES,150 OHM,1/4W,1%	1	R5
....2	101-104	Potentiometer, 100K ohm cermet Bourns 3309P-1-104	2	R9,R24
....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R15
....2	103-1062	RES,100K OHM,1/4W,1%,METAL	7	
....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	6	R11,R12,R16,R34, R35,R43
....2	103-3325	RES,33.2K OHM,1/4W,1%,METAL	1	R19
....2	145-030	RESISTOR, 3.3 OHM 1/4 WATT 1% METAL FILM MEPCO SFR25	1	R42
....2	145-101	RESISTOR, 100 OHM 1/4 WATT 1% METAL FILM MEPCO SFR25	2	R28,R29
....2	145-122-1	Resistor, 1.2k ohm 1/4 watt 1% CCF07 1.2K MF TR	1	R10
....2	145-154	Resistor, 150k ohm 1/4 watt 5% carbon film 29SJ250	2	R20,R21
....2	145-562	RESISTOR, 5.6K OHM 1/4 WATT 5% METAL FILM	2	R6,R7
....2	145-563	Resistor, 56k ohm 1/4 watt 5% carbon film 29SJ250	1	R8
....2	145-683	Resistor, 68k ohm 1/4 watt 1% metal film Mepco SFR25	3	R13,R17,R18
....2	145-753	Resistor, 75k ohm 1/4 watt 5% carbon film 29SJ250	1	R22
....2	185-000	Resistor,0 Ohm 1206 Chip Mfg# DALCRCW1206000ZT-X	3	R46,R47,R48
....2	215-151C	Capacitor, 150pF 5% 200V ceramic dipped C322C151J2G5CA	2	C16,C19
....2	215-202	Capacitor, .002 mfd 2.5% 100v polypro Seacor PFWAB200HGEE	1	C15
....2	215-332	Capacitor, 3300 pf 2.5% 100v polypro Seacor PFWAB330HGUE	1	C12
....2	215-622	Capacitor, .0062 mfd 2.5% 100v polypro Seacor PFWAB620HGNE	1	C11
....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	9	C7,C8,C14,C17, C20,C21,C23,C24, C25
....2	219-221	CAPACITOR, ELECTROLYTIC 220uF 25V RADIAL	2	C5,C10
....2	221-0072	AMP,OP,BIFET TLO72CP	3	
....2	255-100	CAPACITOR, 10 PF 5% NPO DISC	1	C9
....2	255-361	Capacitor, 360pF 300v 5% silver mica CD10FA361J03	1	C18
....2	256-131	CAPACITOR, 130 pF 5% 50V NPO DISC	1	C13
....2	270-102	Cap,monolithic,1000pf 50v 5%KemetC1206C102J5GACTR marked	3	C1,C2,C4
....2	299-470	CAP, TANTALUM, 4.7 UF 16V	2	C22,C29

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
....2	410-666	Diode, FDH666	4	D3,D4,D5,D6
....2	530-053	Switch, slide Alco SLSA-220-1 New Part#5-1437577-6	2	S1,S2
....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
......3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
....2	550-125	Connector, 5 pin Molex Header (cut from 550-162) *NOTE*	1	P2
......3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.208	
....2	800-194B	PC Board, Audio STL-10	1	PCB

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-194A7	SCG-10 7.5 KHz AUDIO BOARD	1	
....2	100-1041	RES,1K OHM,1/4W,1%	2	
....2	100-1531	RES,150 OHM,1/4W,1%	1	R5
....2	101-104	Potentiometer, 100K ohm cermet Bourns 3309P-1-104	2	R9,R24
....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R15
....2	103-1062	RES,100K OHM,1/4W,1%,METAL	9	
....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	7	R11,R12,R16,R19, R34,R35,R43
....2	145-030	RESISTOR, 3.3 OHM 1/4 WATT 1% METAL FILM MEPCO SFR25	1	R42
....2	145-101	RESISTOR, 100 OHM 1/4 WATT 1% METAL FILM MEPCO SFR25	2	R28,R29
....2	145-122-1	Resistor, 1.2k ohm 1/4 watt 1% CCF07 1.2K MF TR	1	R10
....2	145-433	Resistor, 43k ohm 1/4 watt 5% carbon film 29SJ250	2	R17,R18
....2	145-513	Resistor, 51k ohm 1/4 watt 5% carbon film 29SJ250	1	R22
....2	145-562	RESISTOR, 5.6K OHM 1/4 WATT 5% METAL FILM	2	R6,R7
....2	145-563	Resistor, 56k ohm 1/4 watt 5% carbon film 29SJ250	1	R8
....2	145-683	Resistor, 68k ohm 1/4 watt 1% metal film Mepco SFR25	1	R13
....2	185-000	Resistor,0 Ohm 1206 Chip Mfg# DALCRCW1206000ZT-X	3	R46,R47,R48
....2	215-151C	Capacitor, 150pF 5% 200V ceramic dipped C322C151J2G5CA	2	C16,C19
....2	215-202	Capacitor, .002 mfd 2.5% 100v polypro Seacor PFWAB200HGEE	1	C15
....2	215-332	Capacitor, 3300 pf 2.5% 100v polypro Seacor PFWAB330HGUE	1	C12
....2	215-622	Capacitor, .0062 mfd 2.5% 100v polypro Seacor PFWAB620HGNE	1	C11
....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	9	C7,C8,C14,C17, C20,C21,C23,C24, C25
....2	219-221	CAPACITOR, ELECTROLYTIC 220uF 25V RADIAL	2	C5,C10
....2	221-0072	AMP,OP,BIFET TLO72CP	3	
....2	255-100	CAPACITOR, 10 PF 5% NPO DISC	1	C9
....2	255-361	Capacitor, 360pF 300v 5% silver mica CD10FA361J03	1	C18
....2	256-131	CAPACITOR, 130 pF 5% 50V NPO DISC	1	C13
....2	270-102	Cap,monolithic,1000pf 50v 5%KemetC1206C102J5GACTR marked	3	C1,C2,C4
....2	299-470	CAP, TANTALUM, 4.7 UF 16V	2	C22,C29
....2	410-666	Diode, FDH666	4	D3,D4,D5,D6

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
....2	530-053	Switch, slide Alco SLSA-220-1 New Part#5-1437577-6	2	S1,S2
....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
......3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
....2	550-125	Connector, 5 pin Molex Header (cut from 550-162) *NOTE*	1	P2
......3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.208	
....2	800-194B	PC Board, Audio STL-10	1	PCB

10 DEMODULATOR BILL OF MATERIAL

This bill of material uses an indented structure to show relationships of parts into sub assemblies. Example; all BOM LEVEL 2 parts are contained in the BOM LEVEL 1 part immediately above it.

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-267A39	SCG-10 39 Modulator	1	
....2	100-104-1	Potentiometer, 100K ohm cermet trimmer Piher PTC15YB100K	1	R34
....2	100-1041	RES,1K OHM,1/4W,1%	1	R10
....2	100-1051	RES,10K OHM,1/4W,1%	7	R6,R12,R14, R15,R21,R28 ,R29
....2	100-155	Potentiometer, 1 meg ohm trimmer MTC16L1A	1	R20
....2	100-1551	RES,15K OHM,1/4W,1%	1	R19
....2	100-501	Potentiometer, 500 ohm cermet trimmer Piher PTC15YB500	1	R25
....2	100-522	Potentiometer, 5k ohm cermet trimmer Piher PTC15YB5k	1	R5
....2	101-501	Potentiometer, 500 ohm cermet Bourns 3309P-501	1	R30
....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R27
....2	103-1062	RES,100K OHM,1/4W,1%,METAL	3	R17,R18,R33
....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	3	R11,R16,R38
....2	103-2216	RES,221K OHM,1/4W,1%,METAL	1	R3
....2	103-2241	RES,2.21K OHM,1/4W,1%,METAL	2	R2,R9
....2	103-2744	RES,2.74K OHM,1/4W,1%,METAL	1	R26
....2	103-4731	RES,475K OHM,1/4W,1%,METAL	1	R32
....2	103-4741	RES,4.75K OHM,1/4W,1%,METAL	3	R1,R35,R36
....2	103-4753	RES,475 OHM,1/4W,1%,METAL	1	R24
....2	103-4755	RES,47.5K OHM,1/4W,1%,METAL	1	R4
....2	145-150-C	Resistor, 15 ohm 1/4 watt 5% carbon comp 30BJ250	1	R8
....2	145-225	Resistor, 2.21 meg ohm 1/4 watt 1% metal film (2.21 Meg 1%)	1	R23
....2	145-364-1	RESISTOR, 360K OHM 1/4 WATT 1% CARBON FILM	2	R7,R13
....2	145-470	Resistor, 47.5 ohm 1/4 watt 1% metal film Mepco SFR25	3	R22,R37,R39
....2	215-151C	Capacitor, 150pF 5% 200V ceramic dipped C322C151J2G5CA	1	C16
....2	215-202	Capacitor, .002 mfd 2.5% 100v polypro Seacor PFWAB200HGEE	1	C17
....2	217-103	CAP,0.1UF 250VDC 5%,POLY FILM	7	C1,C2,C3,C6 ,C9,C12,C19
....2	217-104	CAPACITOR, .01 UF 50V GMV DISC	5	C7,C11,C18, C20,C21
....2	219-106	CAPACITOR, 10UF 50V RADIAL ELECTROLYTIC	3	C4,C8,C14
....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	2	C13,C15

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
....2	221-5532-001	IC,NE-5532AN	1	
....2	229-2206	IC,FUNCTION GEN XR-2206CP	1	IC3
....2	255-270	CAPACITOR, 27 PF, 5%, NPO, DISC	1	C5
....2	299-151	CAP,TANTALUM,15 UF 25V	1	C10
....2	400-555	IC, TIMER, NE555N	1	IC2
....2	412-494	DIODE, GERMANIUM 1N270 (note)	1	D1
....2	417-1604	SKT,16-PIN,DIP	1	1C1
....2	420-271	Transistor, Siliconix J-271 FET	1	Q1
....2	530-056	Switch, slide DP3T 10SL008	1	S1
....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
.....3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
....2	800-267B	PC Board, Modulator SCG-10	1	

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-267A67	SCG-10 67 KHz Modulator	1	
....2	100-104-1	Potentiometer, 100K ohm cermet trimmer Piher PTC15YB100K	1	R34
....2	100-1041	RES,1K OHM,1/4W,1%	1	R10
....2	100-1051	RES,10K OHM,1/4W,1%	7	R6,R12,R14 ,R15,R21, R28,R29
....2	100-155	Potentiometer, 1 meg ohm trimmer MTC16L1A	1	R20
....2	100-1551	RES,15K OHM,1/4W,1%	1	R19
....2	100-501	Potentiometer, 500 ohm cermet trimmer Piher PTC15YB500	1	R25
....2	100-522	Potentiometer, 5k ohm cermet trimmer Piher PTC15YB5k	1	R5
....2	101-501	Potentiometer, 500 ohm cermet Bourns 3309P-501	1	R30
....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R27
....2	103-1062	RES,100K OHM,1/4W,1%,METAL	3	R17,R18, R33
....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	3	R11,R16, R38
....2	103-2216	RES,221K OHM,1/4W,1%,METAL	1	R3
....2	103-2241	RES,2.21K OHM,1/4W,1%,METAL	2	R2,R9
....2	103-2744	RES,2.74K OHM,1/4W,1%,METAL	1	R26
....2	103-4731	RES,475K OHM,1/4W,1%,METAL	1	R32
....2	103-4741	RES,4.75K OHM,1/4W,1%,METAL	3	R1,R35,R36
....2	103-4753	RES,475 OHM,1/4W,1%,METAL	1	R24
....2	103-4755	RES,47.5K OHM,1/4W,1%,METAL	1	R4
....2	145-150-C	Resistor, 15 ohm 1/4 watt 5% carbon comp 30BJ250	1	R8
....2	145-225	Resistor, 2.21 meg ohm 1/4 watt 1% metal film (2.21 Meg 1%)	1	R23
....2	145-364-1	RESISTOR, 360K OHM 1/4 WATT 1% CARBON FILM	2	R7,R13
....2	145-470	Resistor, 47.5 ohm 1/4 watt 1% metal film Mepco SFR25	3	R22,R37, R39
....2	215-122	Capacitor, .0012 mfd 2.5% 100v polypro Seacor PFWAB120HGNE	1	C16
....2	217-103	CAP,0.1UF 250VDC 5%,POLY FILM	7	C1,C2,C3, C6,C9,C12, C19
....2	217-104	CAPACITOR, .01 UF 50V GMV DISC	5	C7,C11,C18 ,C20,C21
....2	219-106	CAPACITOR, 10UF 50V RADIAL ELECTROLYTIC	3	C4,C8,C14
....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	2	C13,C15
....2	221-5532-001	IC,NE-5532AN	1	
....2	229-2206	IC,FUNCTION GEN XR-2206CP	1	IC3
....2	255-270	CAPACITOR, 27 PF, 5%, NPO, DISC	1	C5

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
....2	299-151	CAP,TANTALUM,15 UF 25V	1	C10
....2	400-555	IC, TIMER, NE555N	1	IC2
....2	412-494	DIODE, GERMANIUM 1N270 (note)	1	D1
....2	417-1604	SKT,16-PIN,DIP	1	1C3
....2	420-271	Transistor, Siliconix J-271 FET	1	Q1
....2	530-056	Switch, slide DP3T 10SL008	1	S1
....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
.....3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
....2	800-267B	PC Board, Modulator SCG-10	1	

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-267A92	SCG-10 92 KHz Modulator	1	
....2	100-104-1	Potentiometer, 100K ohm cermet trimmer Piher PTC15YB100K	1	R34
....2	100-1041	RES,1K OHM,1/4W,1%	1	R10
....2	100-1051	RES,10K OHM,1/4W,1%	7	R6,R12,R14,R15 ,R21,R28,R29
....2	100-155	Potentiometer, 1 meg ohm trimmer MTC16L1A	1	R20
....2	100-1551	RES,15K OHM,1/4W,1%	1	R19
....2	100-501	Potentiometer, 500 ohm cermet trimmer Piher PTC15YB500	1	R25
....2	100-522	Potentiometer, 5k ohm cermet trimmer Piher PTC15YB5k	1	R5
....2	101-501	Potentiometer, 500 ohm cermet Bourns 3309P-501	1	R30
....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R27
....2	103-1062	RES,100K OHM,1/4W,1%,METAL	3	R17,R18,R33
....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	3	R11,R16,R38
....2	103-2216	RES,221K OHM,1/4W,1%,METAL	1	R3
....2	103-2241	RES,2.21K OHM,1/4W,1%,METAL	2	R2,R9
....2	103-2744	RES,2.74K OHM,1/4W,1%,METAL	1	R26
....2	103-4731	RES,475K OHM,1/4W,1%,METAL	1	R32
....2	103-4741	RES,4.75K OHM,1/4W,1%,METAL	3	R1,R35,R36
....2	103-4753	RES,475 OHM,1/4W,1%,METAL	1	R24
....2	103-4755	RES,47.5K OHM,1/4W,1%,METAL	1	R4
....2	145-150-C	Resistor, 15 ohm 1/4 watt 5% carbon comp 30BJ250	1	R8
....2	145-225	Resistor, 2.21 meg ohm 1/4 watt 1% metal film (2.21 Meg 1%)	1	R23
....2	145-364-1	RESISTOR, 360K OHM 1/4 WATT 1% CARBON FILM	2	R7,R13
....2	145-470	Resistor, 47.5 ohm 1/4 watt 1% metal film Mepco SFR25	3	R22,R37,R39
....2	215-701	Capacitor, 700 pf 2.5% 100V polypro Seacor PFWAA700HGUE	1	C17
....2	217-103	CAP,0.1UF 250VDC 5%,POLY FILM	7	C1,C2,C3,C6,C9, C12,C19
....2	217-104	CAPACITOR, .01 UF 50V GMV DISC	5	C7,C11,C18,C20 ,C21
....2	219-106	CAPACITOR, 10UF 50V RADIAL ELECTROLYTIC	3	C4,C8,C14
....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	2	C13,C15
....2	221-5532-001	IC,NE-5532AN	1	IC1Replaced 405-532 on 05/21/2009 14:50:38
....2	229-2206	IC,FUNCTION GEN XR-2206CP	1	IC3
....2	255-241	Capacitor, 240 pf 500v 5% silver mica CD10FD241J03	1	C16

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
....2	255-270	CAPACITOR, 27 PF, 5%, NPO, DISC	1	C5
....2	299-151	CAP,TANTALUM,15 UF 25V	1	C10
....2	400-555	IC, TIMER, NE555N	1	IC2
....2	412-494	DIODE, GERMANIUM 1N270 (note)	1	D1
....2	417-1604	SKT,16-PIN,DIP	1	1C3
....2	420-271	Transistor, Siliconix J-271 FET	1	Q1
....2	530-056	Switch, slide DP3T 10SL008	1	S1
....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
.....3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
....2	800-267B	PC Board, Modulator SCG-10	1	

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-267A110	SCG-10 110 KHz Modulator	1	
....2	100-104-1	Potentiometer, 100K ohm cermet trimmer Piher PTC15YB100K	1	R34
....2	100-1041	RES,1K OHM,1/4W,1%	1	R10
....2	100-1051	RES,10K OHM,1/4W,1%	7	R6,R12,R14,R15, R21,R28,R29
....2	100-155	Potentiometer, 1 meg ohm trimmer MTC16L1A	1	R20
....2	100-1551	RES,15K OHM,1/4W,1%	1	R19
....2	100-501	Potentiometer, 500 ohm cermet trimmer Piher PTC15YB500	1	R25
....2	100-522	Potentiometer, 5k ohm cermet trimmer Piher PTC15YB5k	1	R5
....2	101-501	Potentiometer, 500 ohm cermet Bourns 3309P-501	1	R30
....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R27
....2	103-1062	RES,100K OHM,1/4W,1%,METAL	3	R17,R18,R33
....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	3	R11,R16,R38
....2	103-2216	RES,221K OHM,1/4W,1%,METAL	1	R3
....2	103-2241	RES,2.21K OHM,1/4W,1%,METAL	2	R2,R9
....2	103-2744	RES,2.74K OHM,1/4W,1%,METAL	1	R26
....2	103-4731	RES,475K OHM,1/4W,1%,METAL	1	R32
....2	103-4741	RES,4.75K OHM,1/4W,1%,METAL	3	R1,R35,R36
....2	103-4753	RES,475 OHM,1/4W,1%,METAL	1	R24
....2	103-4755	RES,47.5K OHM,1/4W,1%,METAL	1	R4
....2	145-150-C	Resistor, 15 ohm 1/4 watt 5% carbon comp 30BJ250	1	R8
....2	145-225	Resistor, 2.21 meg ohm 1/4 watt 1% metal film (2.21 Meg 1%)	1	R23
....2	145-364-1	RESISTOR, 360K OHM 1/4 WATT 1% CARBON FILM	2	R7,R13
....2	145-470	Resistor, 47.5 ohm 1/4 watt 1% metal film Mepco SFR25	3	R22,R37,R39
....2	215-701	Capacitor, 700 pf 2.5% 100V polypro Seacor PFWAA700HGUE	1	C16
....2	217-103	CAP,0.1UF 250VDC 5%,POLY FILM	7	C1,C2,C3,C6,C9, C12,C19
....2	217-104	CAPACITOR, .01 UF 50V GMV DISC	5	C7,C11,C18,C20, C21
....2	219-106	CAPACITOR, 10UF 50V RADIAL ELECTROLYTIC	3	C4,C8,C14
....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	2	C13,C15
....2	221-5532-001	IC,NE-5532AN	1	IC1Replaced 405-532 on 05/21/2009 14:50:38
....2	229-2206	IC,FUNCTION GEN XR-2206CP	1	IC3
....2	255-270	CAPACITOR, 27 PF, 5%, NPO, DISC	1	C5
....2	255-750	CAPACITOR, 75 pF 5% NPO DISC	1	C17
....2	299-151	CAP,TANTALUM,15 UF 25V	1	C10

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
....2	400-555	IC, TIMER, NE555N	1	IC2
....2	412-494	DIODE, GERMANIUM 1N270 (note)	1	D1
....2	417-1604	SKT,16-PIN,DIP	1	1C3
....2	420-271	Transistor, Siliconix J-271 FET	1	Q1
....2	530-056	Switch, slide DP3T 10SL008	1	S1
....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
.....3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
....2	800-267B	PC Board, Modulator SCG-10	1	

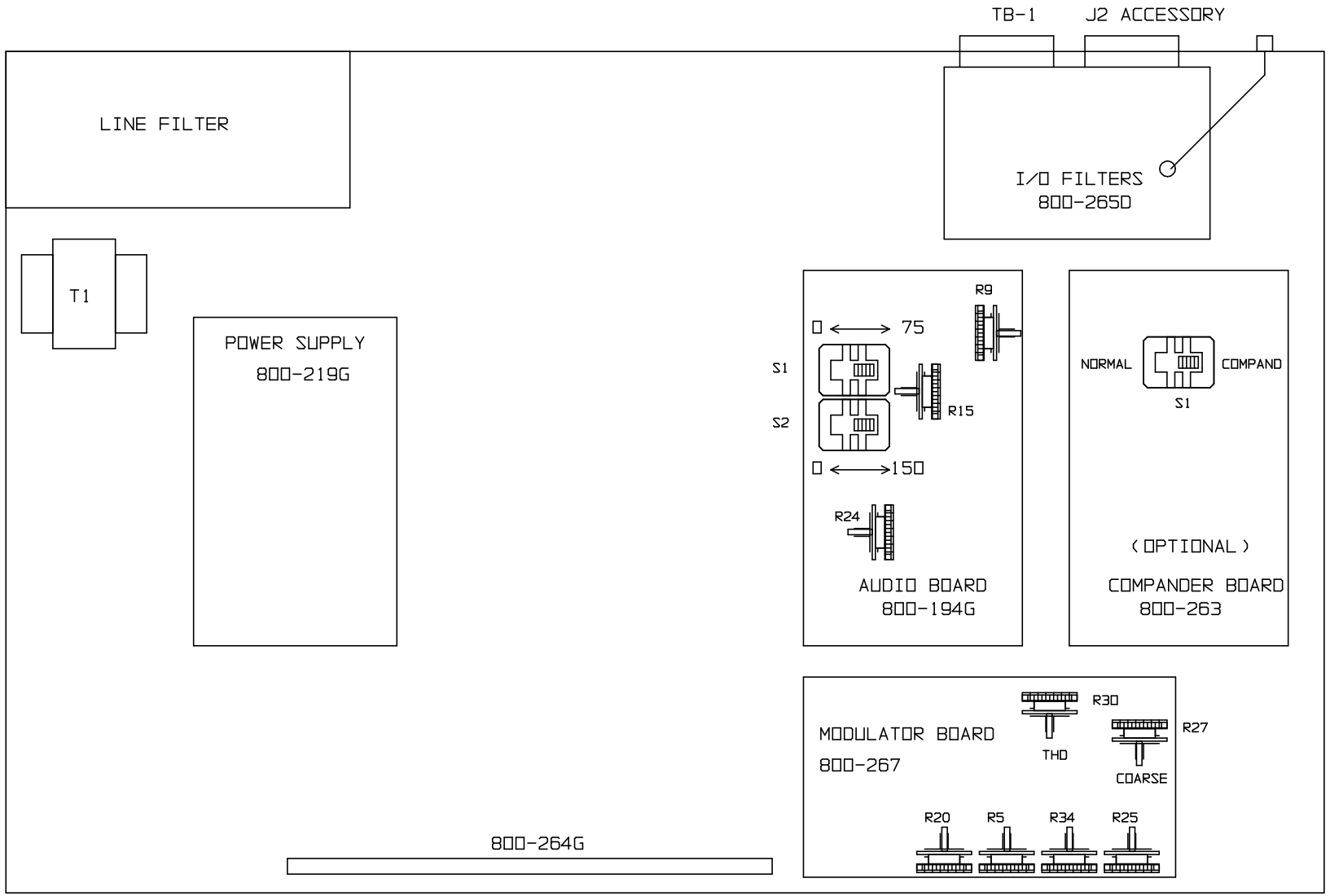
BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-267A152	SCG-10 152 KHz Modulator	1	
.....2	100-104-1	Potentiometer, 100K ohm cermet trimmer Piher PTC15YB100K	1	R34
.....2	100-1041	RES,1K OHM,1/4W,1%	1	R10
.....2	100-1051	RES,10K OHM,1/4W,1%	7	R6,R12,R14,R15, R21,R28,R29
.....2	100-155	Potentiometer, 1 meg ohm trimmer MTC16L1A	1	R20
.....2	100-1551	RES,15K OHM,1/4W,1%	1	R19
.....2	100-501	Potentiometer, 500 ohm cermet trimmer Piher PTC15YB500	1	R25
.....2	100-522	Potentiometer, 5k ohm cermet trimmer Piher PTC15YB5k	1	R5
.....2	101-501	Potentiometer, 500 ohm cermet Bourns 3309P-501	1	R30
.....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R27
.....2	103-1062	RES,100K OHM,1/4W,1%,METAL	3	R17,R18,R33
.....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	3	R11,R16,R38
.....2	103-2216	RES,221K OHM,1/4W,1%,METAL	1	R3
.....2	103-2241	RES,2.21K OHM,1/4W,1%,METAL	2	R2,R9
.....2	103-2744	RES,2.74K OHM,1/4W,1%,METAL	1	R26
.....2	103-4731	RES,475K OHM,1/4W,1%,METAL	1	R32
.....2	103-4741	RES,4.75K OHM,1/4W,1%,METAL	3	R1,R35,R36
.....2	103-4753	RES,475 OHM,1/4W,1%,METAL	1	R24
.....2	103-4755	RES,47.5K OHM,1/4W,1%,METAL	1	R4
.....2	145-150-C	Resistor, 15 ohm 1/4 watt 5% carbon comp 30BJ250	1	R8
.....2	145-225	Resistor, 2.21 meg ohm 1/4 watt 1% metal film (2.21 Meg 1%)	1	R23
.....2	145-364-1	RESISTOR, 360K OHM 1/4 WATT 1% CARBON FILM	2	R7,R13
.....2	145-470	Resistor, 47.5 ohm 1/4 watt 1% metal film Mepco SFR25	3	R22,R37,R39
.....2	215-301	CAPACITOR, 300 PF 2.5% 100V POLYPRO	1	C16
.....2	217-103	CAP,0.1UF 250VDC 5%,POLY FILM	7	C1,C2,C3,C6,C9, C12,C19
.....2	217-104	CAPACITOR, .01 UF 50V GMV DISC	5	C7,C11,C18,C20, C21
.....2	219-106	CAPACITOR, 10UF 50V RADIAL ELECTROLYTIC	3	C4,C8,C14
.....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	2	C13,C15
.....2	221-5532-001	IC,NE-5532AN	1	
.....2	229-2206	IC,FUNCTION GEN XR-2206CP	1	IC3
.....2	255-161	CAPACITOR, 160 PF 300V 5% SIVLER MICA	1	C17A
.....2	255-270	CAPACITOR, 27 PF, 5%, NPO, DISC	1	C5
.....2	255-750	CAPACITOR, 75 pF 5% NPO DISC	1	C17B

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
.....2	299-151	CAP,TANTALUM,15 UF 25V	1	C10
.....2	400-555	IC, TIMER, NE555N	1	IC2
.....2	412-494	DIODE, GERMANIUM 1N270 (note)	1	D1
.....2	417-1604	SKT,16-PIN,DIP	1	1C3
.....2	420-271	Transistor, Siliconix J-271 FET	1	Q1
.....2	530-056	Switch, slide DP3T 10SL008	1	S1
.....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
.....3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
.....2	800-267B	PC Board, Modulator SCG-10	1	

BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
..1	800-267A185	SCG-10 185 KHz Modulator	1	
....2	100-104-1	Potentiometer, 100K ohm cermet trimmer Piher PTC15YB100K	1	R34
....2	100-1041	RES,1K OHM,1/4W,1%	1	R10
....2	100-1051	RES,10K OHM,1/4W,1%	7	R6,R12,R14, R15,R21,R28, R29
....2	100-155	Potentiometer, 1 meg ohm trimmer MTC16L1A	1	R20
....2	100-1551	RES,15K OHM,1/4W,1%	1	R19
....2	100-501	Potentiometer, 500 ohm cermet trimmer Piher PTC15YB500	1	R25
....2	100-522	Potentiometer, 5k ohm cermet trimmer Piher PTC15YB5k	1	R5
....2	101-501	Potentiometer, 500 ohm cermet Bourns 3309P-501	1	R30
....2	101-502	POT,5K,SINGLE TURN,HORIZONTAL PCB MOUNT	1	R27
....2	103-1062	RES,100K OHM,1/4W,1%,METAL	3	R17,R18,R33
....2	103-2211	RES,22.1K OHM,1/4W,1%,METAL	3	R11,R16,R38
....2	103-2216	RES,221K OHM,1/4W,1%,METAL	1	R3
....2	103-2241	RES,2.21K OHM,1/4W,1%,METAL	2	R2,R9
....2	103-2744	RES,2.74K OHM,1/4W,1%,METAL	1	R26
....2	103-4731	RES,475K OHM,1/4W,1%,METAL	1	R32
....2	103-4741	RES,4.75K OHM,1/4W,1%,METAL	3	R1,R35,R36
....2	103-4753	RES,475 OHM,1/4W,1%,METAL	1	R24
....2	103-4755	RES,47.5K OHM,1/4W,1%,METAL	1	R4
....2	145-150-C	Resistor, 15 ohm 1/4 watt 5% carbon comp 30BJ250	1	R8
....2	145-225	Resistor, 2.21 meg ohm 1/4 watt 1% metal film (2.21 Meg 1%)	1	R23
....2	145-364-1	RESISTOR, 360K OHM 1/4 WATT 1% CARBON FILM	2	R7,R13
....2	145-470	Resistor, 47.5 ohm 1/4 watt 1% metal film Mepco SFR25	3	R22,R37,R39
....2	217-103	CAP,0.1UF 250VDC 5%,POLY FILM	7	C1,C2,C3,C6, C9,C12,C19
....2	217-104	CAPACITOR, .01 UF 50V GMV DISC	5	C7,C11,C18, C20,C21
....2	219-106	CAPACITOR, 10UF 50V RADIAL ELECTROLYTIC	3	C4,C8,C14
....2	219-220	CAPACITOR, ELECTROLYTIC 22uF RADIAL 35V	2	C13,C15
....2	221-5532-001	IC,NE-5532AN	1	
....2	229-2206	IC,FUNCTION GEN XR-2206CP	1	IC3
....2	255-161	CAPACITOR, 160 PF 300V 5% SIVLER MICA	1	C17
....2	255-241	Capacitor, 240 pf 500v 5% silver mica CD10FD241J03	1	C16
....2	255-270	CAPACITOR, 27 PF, 5%, NPO, DISC	1	C5

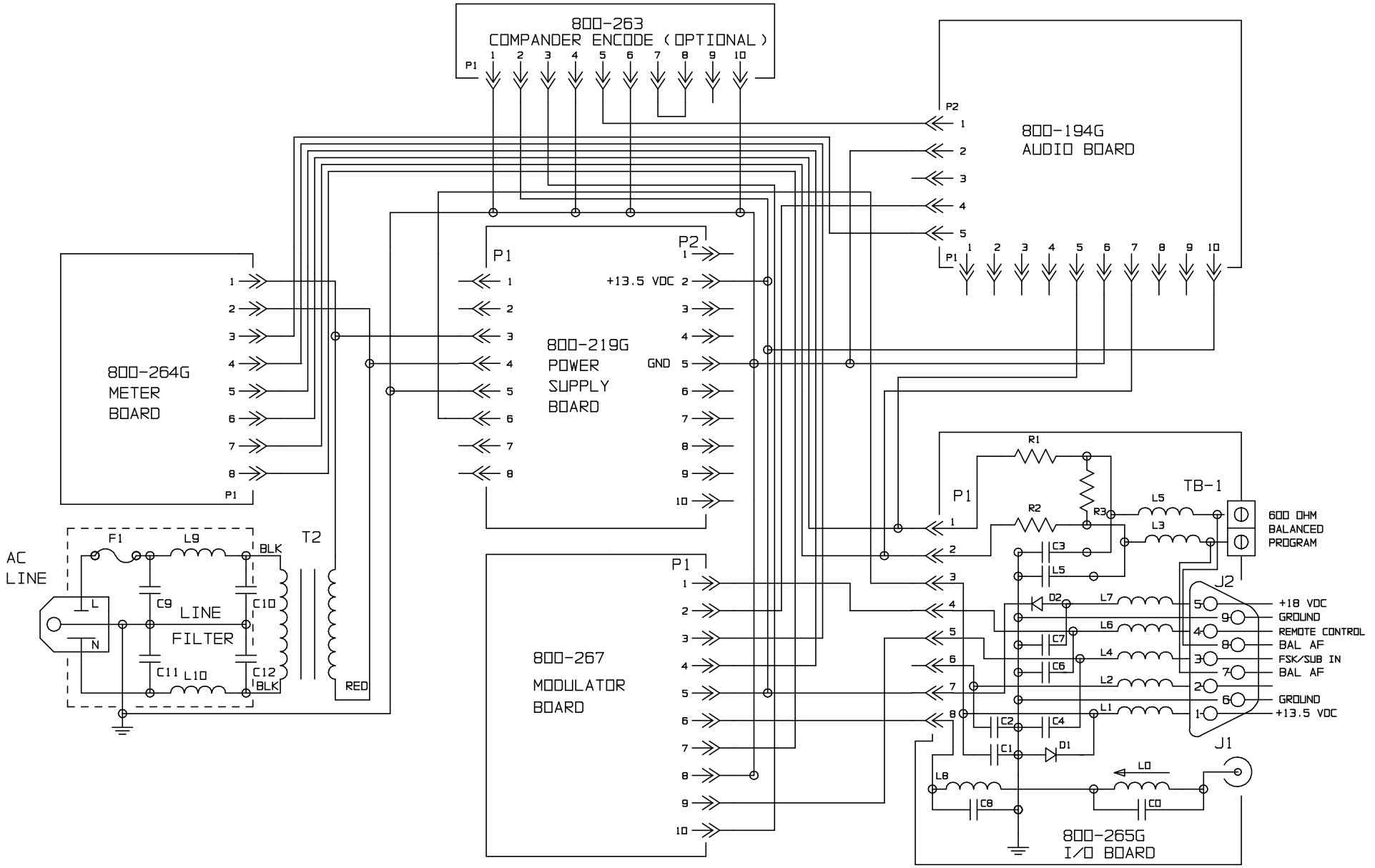
BOM LEVEL	PART NO.	DESCRIPTION	QTY	REF. DES.
....2	299-151	CAP,TANTALUM,15 UF 25V	1	C10
....2	400-555	IC, TIMER, NE555N	1	IC2
....2	412-494	DIODE, GERMANIUM 1N270 (note)	1	D1
....2	417-1604	SKT,16-PIN,DIP	1	1C3
....2	420-271	Transistor, Siliconix J-271 FET	1	Q1
....2	530-056	Switch, slide DP3T 10SL008	1	S1
....2	550-123	Connector, 10 pin header (cut from 550-162)	1	P1
.....3	550-162	Connector, 24 pin break-away (straight) Molex 26-48-6248	0.417	
....2	800-267B	PC Board, Modulator SCG-10	1	

11 SCHEMATICS

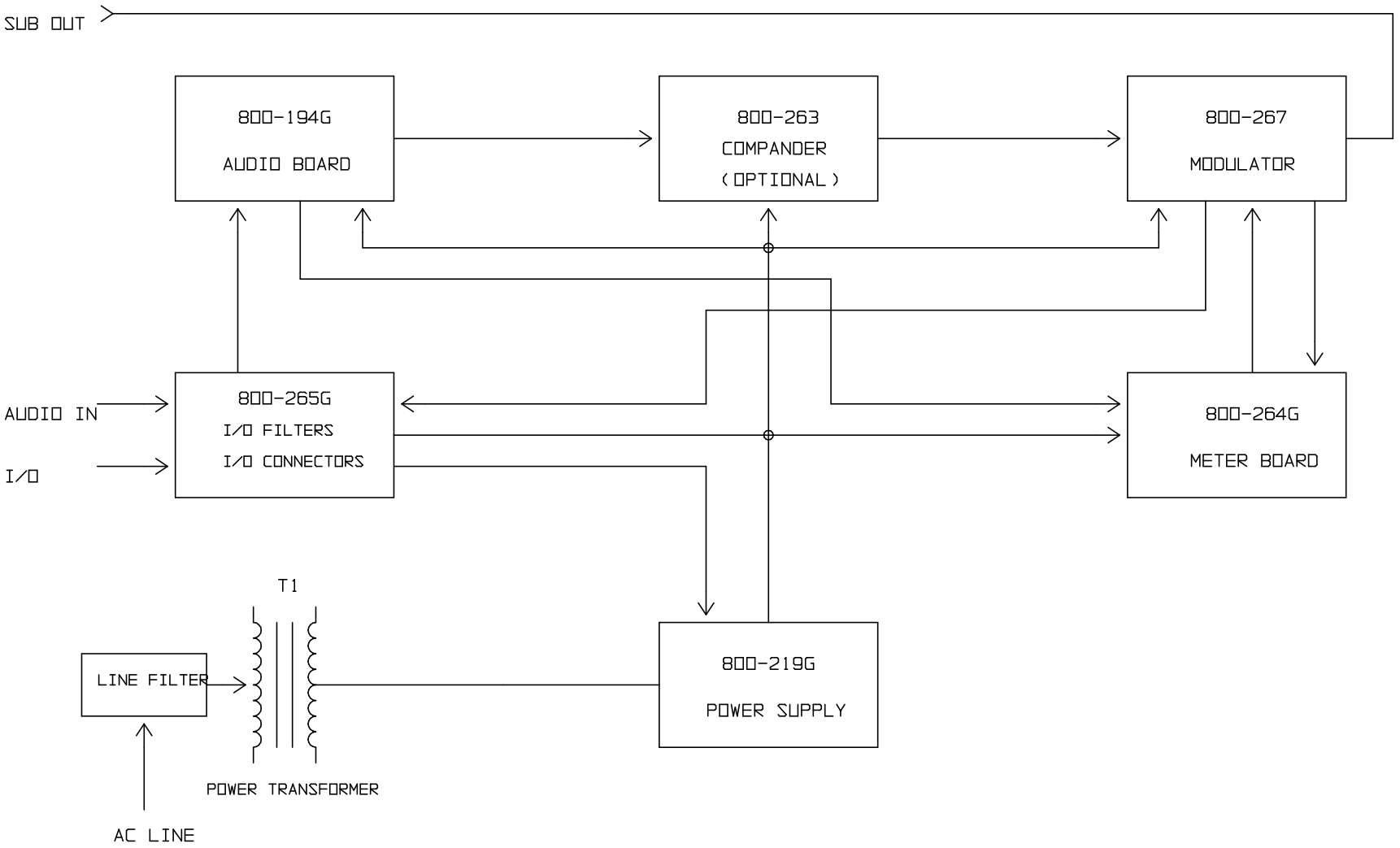


FRONT PANEL

MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 702-079	TITLE LOCATION OF ADJUSTMENTS

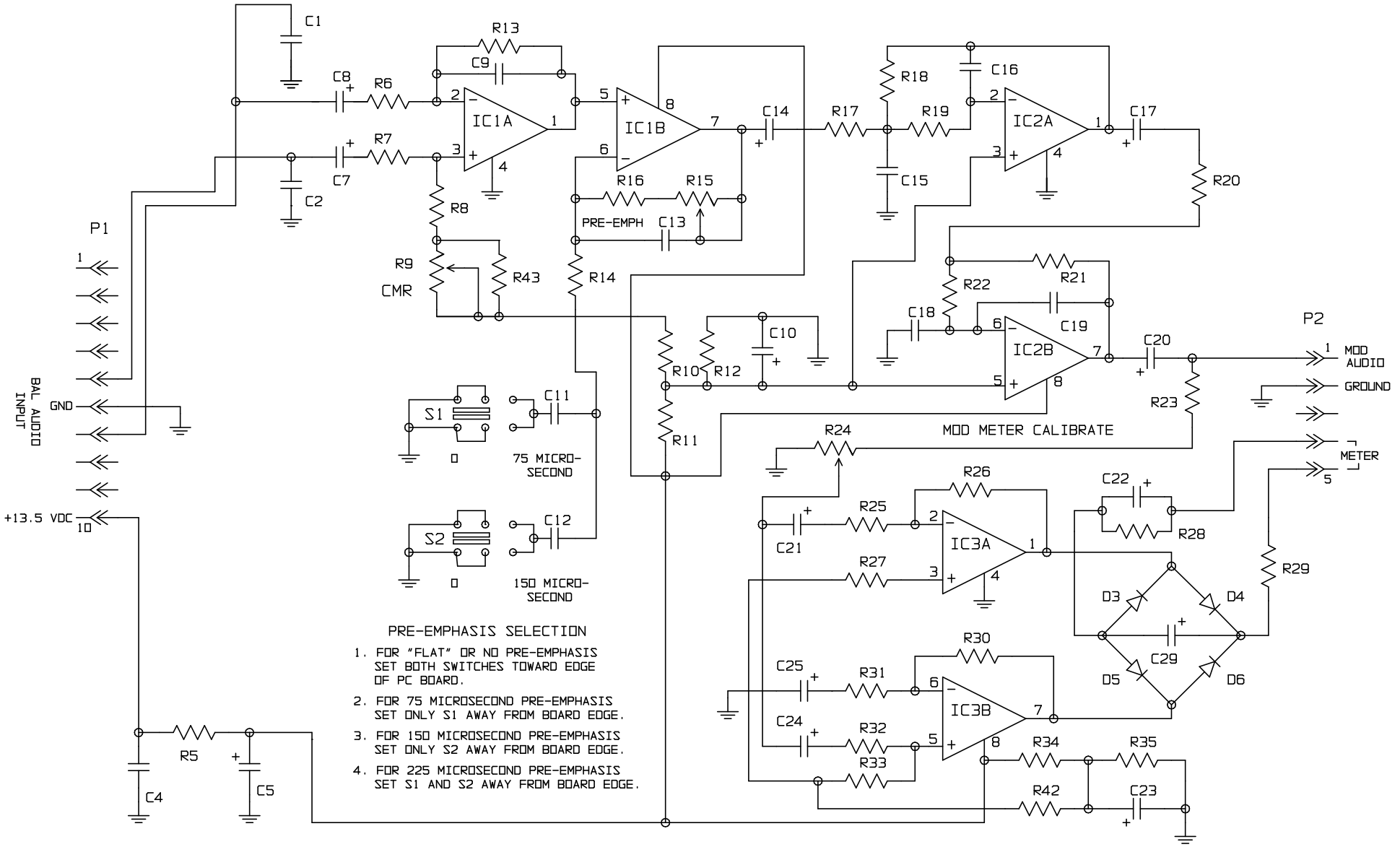


MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT Rev 10/25/92 702-082	TITLE SCG-10 MAIN FRAME



REFER TO SCHEMATIC DIAGRAM FOR EACH BLOCK BY NUMBER

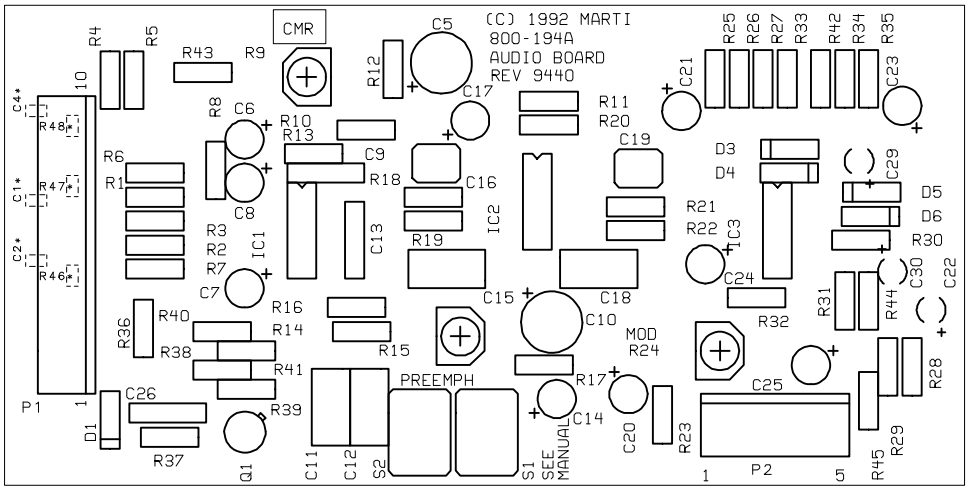
MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 702-083	TITLE SCG-10 BLOCK DIAGRAM



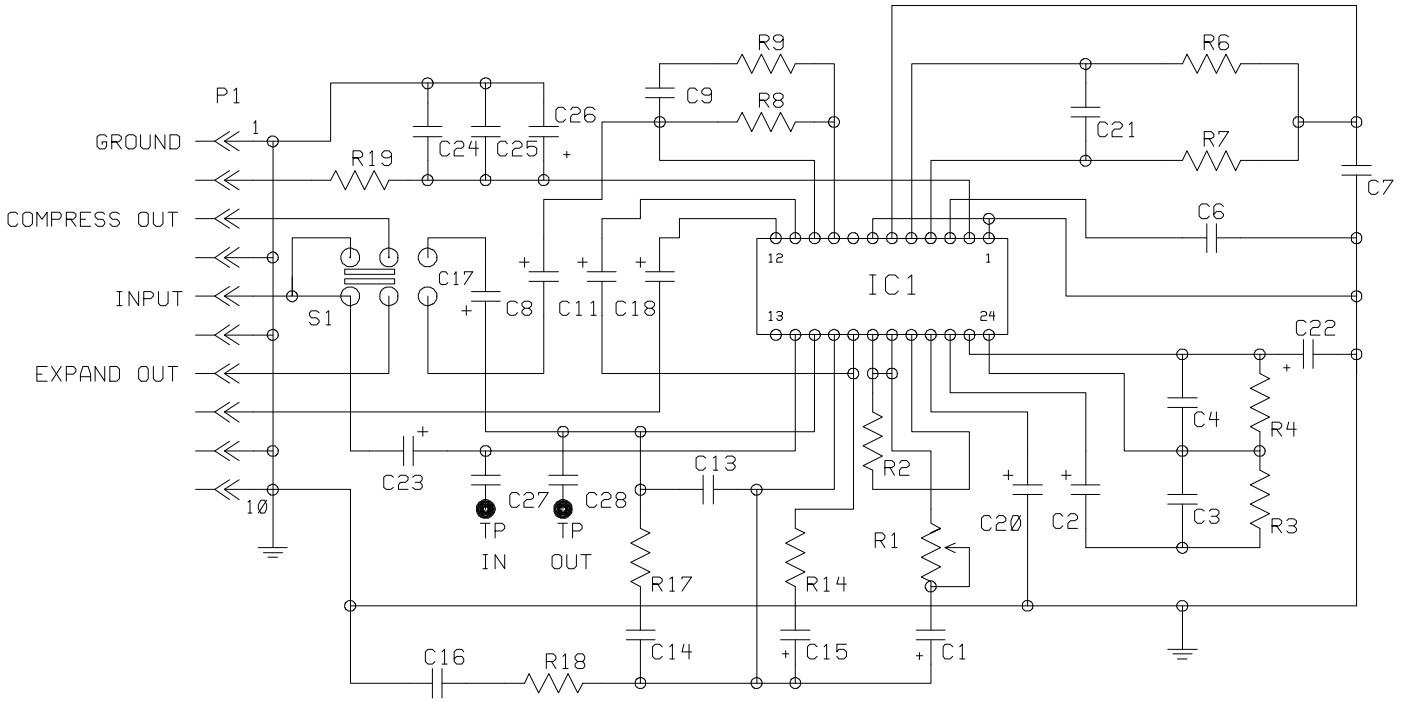
PRE-EMPHASIS SELECTION

1. FOR "FLAT" OR NO PRE-EMPHASIS SET BOTH SWITCHES TOWARD EDGE OF PC BOARD.
2. FOR 75 MICROSECOND PRE-EMPHASIS SET ONLY S1 AWAY FROM BOARD EDGE.
3. FOR 150 MICROSECOND PRE-EMPHASIS SET ONLY S2 AWAY FROM BOARD EDGE.
4. FOR 225 MICROSECOND PRE-EMPHASIS SET S1 AND S2 AWAY FROM BOARD EDGE.

MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 9/27/93 800-194G	TITLE SCG-10 AUDIO BOARD



MARTI ELECTRONICS	800-194A/A1/A2/A3/A5/A7/A10/A15 REV 9440	AUIO BOARD



1. S1 "NORMAL" BYPASSES COMPANDER.
2. JUMPER CONNECTOR PINS 7 & 8 FOR COMPRESS. OUTPUT AT PIN 3.
3. REMOVE JUMPER BETWEEN 7 & 8 FOR EXPAND. OUTPUT AT PIN 7.

NOTE: S1 SHOWN IN "NORMAL" POSITION.

MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT 29-MAY-** 800-263	TITLE SCD-10, SCG-10 COMPANDER BOARD

REV	DATE	DESCRIPTION	DRAFTER	APPROVED	ECN
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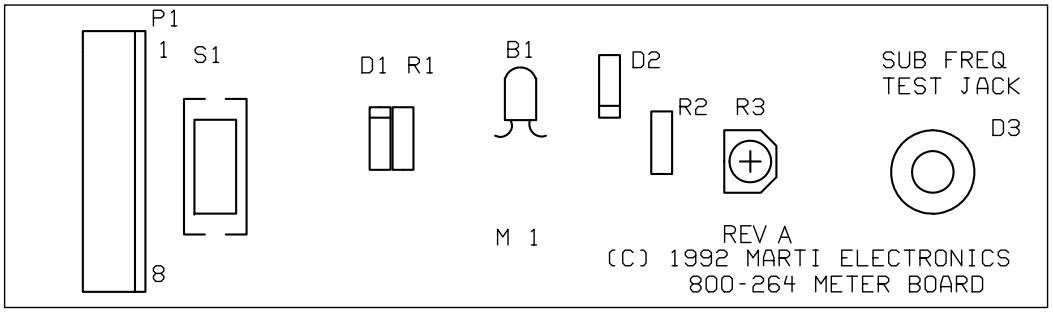
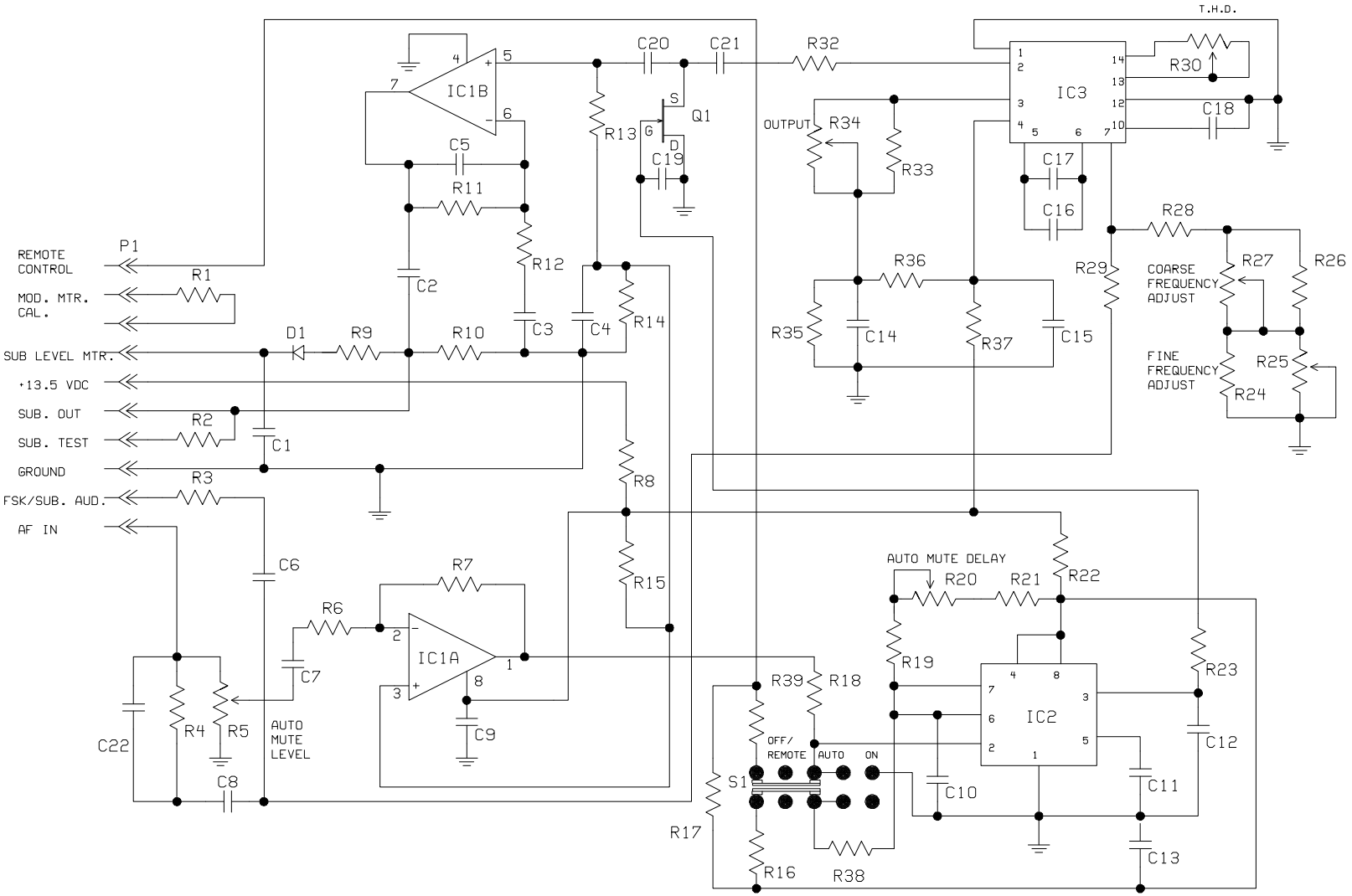


800-264A REV A
METER BOARD



MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. COPYRIGHT Rev 10/25/92 800-267	TITLE SCG-10 MODULATOR BOARD