# SST-30 FM EXCITER MANUAL

**MANUFACTURED BY:**

**ENERGY-ONIX BROADCAST EQUIPMENT CO., INC.**
**1306 RIVER STREET**
**VALATIE, NEW YORK 12184**



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## INTRODUCTION

THE SST-30 EXCITER IS THE LATEST IN STATE OF THE ART PRODUCTS AVAILABLE FROM ENERGY-ONIX. THIS EXCITER IS DESIGNED WITH HIGH RELIABILITY COMPONENTS AND IS INTENDED TO GIVE YEARS OF TROUBLE FREE CONTINUOUS DUTY OPERATION. THE UNIT INCORPORATES MANY NEW FEATURES INCLUDING AUTOMATIC RF LEVEL CONTROL AND MONITORING OF THE EXCITER PARAMETERS.

THE FOLLOWING PAGES IN THIS MANUAL WILL DESCRIBE THE INSTALLATION AND OPERATION. PARTS LISTS AND SCHEMATIC DIAGRAMS HAVE BEEN SUPPLIED FOR MAINTENANCE OF THE UNIT.

## TECHNICAL SPECIFICATION SST-30

| | |
|---|---|
| RATED OUTPUT POWER: | 2 - 30W CONTINUOUSLY VARIABLE (A.L.C.) |
| R.F. OUTPUT CONNECTOR: | "N" TYPE |
| R.F. OUTPUT IMPEDANCE: | 50 OHM |
| FREQUENCY RANGE: | 87.5 MHz TO 108 MHz |
| FREQUENCY PROGRAMABILITY: | DIRECT FROM FRONT PANEL IN 10 KHz INCREMENTS |
| FREQUENCY STABILITY: | BETTER THAN +/- 500 Hz |
| MODULATION TYPE: | DIRECT CARRIER FREQUENCY MODULATION |
| SPURIOUS & HARMONIC SUPPRESSION: | MEETS OR EXCEEDS ALL FCC AND CCIR REQUIREMENTS |
| ASYNCRONOUS AM S/C RATIO: | 65dB BELOW REFERENCE CARRIER WITH 100% AMPLITUDE MODULATION AT 400 Hz WITHOUT DE-EMPHASIS, NO FM MODULATION PRESENT |
| TRANSIENT INTERMODULATION DISTORTION: | LESS THAN 0.1% MEASURED WITH A 3.18 Khz SQUARE WAVE AND A 15 Khz SINE WAVE AT 100% MODULATION (TYPICAL 0.05%) |
| AC POWER REEQUIREMENT: | 117 TO 230 VAC +/- 10% 50 TO 60 Hz |
| AVAILABLE TRANSFORMER TAPS: | 100,120, 220, 240, VAC |
| POWER CONSUMPTION: | APROX. 130 WATTS FROM AC LINE |
| ALTERNATE DC POWER REQUIREMENT: | 24 VDC AT 4 AMPS |
| PANEL SIZE: | 483mm (19") W x 133mm (5.25") H x 327mm (13") D |
| WEIGHT: | 7 KG (15.5 LBS) |
| AMBIENT TEMPERATURE RANGE: | 0°C TO 45°C (32°F TO 113°F) |
| PRE-EMPHASIS: | FOR FCC 75 MICROSEC<br>FOR CCIR 50 MICROSEC |
| COMPOSITE OPERATION: | |

## TECHNICAL SPECIFICATION (CONTD)

| | |
|---|---|
| COMPOSITE INPUTS: | 4 TOTAL, 1 FOR MPX ND 3 FOR SCA |
| MPX INPUTS: | 1 UNBALANCED INPUT WITH BNC CONNECTOR |
| MPX INPUT IMPEDENCE: | 10K OHM |
| MPX INPUT LEVEL: | 0 dBM (775 MV RMS/2.2 V P-P) NOMINAL FOR +/- 75 Khz DEVIATION, ADJUSTABLE |
| COMPOSITE FM S/H RATIO: | >70 dB BELOW +/- 75 Khz DEVIATION AT 400 Hz MEASURED IN A 30 Hz TO 100 Khz BANDWIDTH WITH 75 MOCROSEC DE-EMPHASIS (RMS) |
| COMPOSITE AMPLITUDE RESPONSE: | +/- 0.8dB, 30 Hz TO 100 Khz |
| COMPOSITE TOTAL HARMONIC DISTORTION: | LESS THAN 0.1% (0.05% TYPICAL) |
| COMPOSITE INTERMODULATION DISTORTION: | 0.05% OR LESS, MEASURED WITH 1khz AND 1.3 Khz TONES, 1:1 RATIO AT 100% MODULATION |
| STEREO SEPARATION: | >40 dB (45 dB TYPICAL) |
| CROSSTALK: | MAIN TO STEREO SUBCHANNEL AND STEREO SUBCHANNEL TO MAIN, 55 dB (60 dB TYPICAL) |
| SCA INPUTS: CONNECTORS | 3 UNBALANCED, BNC |
| SCA INPUT IMPEDANCE: | 10K OHM |
| SCA INPUT LEVELS: | 0 dBM (775 MV RMS/2.2 V P-P) NOMINAL FOR +/- 7.5 Khz DEVIATION, ADJUSTABLE |
| SCA AMPLITUDE RESPONSE: | +/- 0.8 dB, 40 Khz TO 100 Khz |
| CROSSTALK: | 67 Khz SCA TO MAIN OR TO STEREO SUBCHANNEL, 65 dB |
| MONAURAL OPERATION: | |

## TECHNICAL SPECIFICATIONS (CONTD)

| | |
|---|---|
| AUDIO INPUT IMPEDANCE: | 600 OHM BALANCE OR UNBALANCED<br>50 dB COMMON MODE SUPPRESSION |
| AUDIO INPUT LEVEL: | 0 dBM (775 MV RMS/2.2 V P-P) |
| FM S/N RATIO: | >70 dB BELOW +/- 75 Khz DEVIATION AT 400 Hz MEASURED IN A 30 Hz TO 20 Khz BANDWIDTH WITH 75 MICROSEC DE-EMPHASIS (RMS) |
| AUDIO FREQUENCY RESPONSE: | +/- 0.8 dB, 30 Hz TO 15 Khz |
| TOTAL HARMONIC DISTORTION: | LESS THAN 0.1% (0.05% TYPICAL) |
| INTERMODULATION DISTORTION: | 0.05% OR LESS, MEASURED WITH 1 Khz AND 1.3 Khz TONES, 1:1 RATIO, AT 100% MODULATION |

# INSTALLATION

## INSPECTION

CAREFULLY INSPECT THE UNIT AFTER REMOVING IT FROM THE BOX. REMOVE THE FOUR SCREWS IN THE TOP PANEL AND MAKE SURE THAT ALL THE CABLES INSIDE ARE PROPERLY IN PLACE AND HAVE NOT BECOME LOOSE DURING SHIPPING.

## AC POWER

ON THE REAR PANEL OF THE EQUIPMENT, INSPECT THE POWER PLUG ASSEMBLY. THERE ARE FOUR VOLTAGES PRINTED IN THE SQUARE BLOCK ABOVE THE POWER CORD PLUG. DETERMINE THE VOLTAGE TO BE USED AND REMOVER THE SQUARE PANEL. TURN THE BLOCK SO THAT THE DESIRED OPERATING VOLTAGE LETTERING IS NEXT TO THE WHITE ARROW WHEN PLUGGING THE BLOCK BACK IN. THE WHITE ARROW IS LOCATED ON THE RIGHT SIDE OF THE BLOCK HOLDER. THIS SETS THE AC OPERATING VOLTAGE OF THE UNIT.

## PRELIMINARY TESTING

FOR TESTING PURPOSES CONNECT A SUITABLE DUMMY LOAD TO THE REAR PANEL "N" CONNECTOR. ON THE FRONT PANEL SET THE POWER SWITCH TO OFF. SET THE PWR, DEV SWITCH TO PWR. SET THE DIR, REF SWITCH TO DIR. WITH A SMALL FLAT BLADE SCREWDRIVER, SET THE PWR ADJ CONTROL TO THE FULLY COUNTER CLOCKWISE POSITION. DETERMINE THE OPERATING FREQUENCY TO BE USED AND SET THIS INTO THE DIGISWITCH ON THE FRONT PANEL. THIS DIGISWITCH IS CAPABLE OF SETTING THE FREQUENCY IN 10 KHz STEPS. RECHECK THE AC POWER INPUT VOLTAGE. PLUG THE POWER CORD INTO THE AC SUPPLY.

TURN THE POWER SWITCH TO THE ON POSITION AND CHECK THE FRONT PANEL INDICATIONS. THE AC POWER INDICATOR SHOULD COME ON. THE THREE DC POWER SUPPLY INDICATORS SHOULD COME ON (+20, +15, AND +12). THE L.O. UNLOCK INDICATOR WILL ALSO COME ON, AND AFTER SEVERAL SECONDS IT WILL GO OUT. AS LONG AS THE UNLOCK INDICATOR IS ON, THERE WILL BE NO RF OUTPUT FROM THE UNIT. AS SOON AS THE INDICATOR GOES OUT THERE WILL BE ABOUT TWO WATTS OF RF OUT OF THE UNIT. WITH A SMALL FLAT BLADE SCREWDRIVER, TURN THE PWR ADJ CONTROL SLOWLY CLOCKWISE. THE POWER WILL COME UP TO ABOUT TWENTY WATTS. THE POWER LEVEL WILL BE ADJUSTED FOR THE REQUIRED DRIVE LEVEL OF THE DEVICE BEING DRIVEN. THE EXCITER IS A WIDEBAND UNIT AND DOES NOT REQUIRE ANY TUNING OVER THE ENTIRE FM BROADCAST BAND. TURN THE PWR ADJ CONTROL TO MINIMUM POWER SWITCH TO THE OFF POSITION. THIS COMPLETES THE PRELIMINARY CHECKOUT OF THE UNIT.

WHEN USING THE EXCITER TO DRIVE AN AMPLIFIER THAT WILL PRESENT HIGH VSWR CONDITIONS TO THE EXCITER IT IS RECOMMENDED THAT A CIRCULATOR OR ISOLATOR BE USED BETWEEN THE EXCITER AND THE DEVICE BEING DRIVEN.

## REAR PANEL CONNECTIONS

THERE ARE SEVERAL CONNECTIONS ON THE REAR PANEL FOR INPUT SIGNALS AND CONTROL SIGNALS TO CONTROL THE OPERATION OF THE EXCITER.

## MODULATION INPUT SIGNALS

LOOKING AT THE REAR PANEL OF THE EXCITER THERE ARE FOUR BNC CONNECTORS MOUNTED ON THE RIGHT SIDE AND ARE LABELED ACCORDING TO THEIR RESPECTIVE INPUT FUNCTION (SC1, SC2, SC3, AND MPX) TO THE LEFT OF EACH INPUT CONNECTOR IS A CONTROL TO CONTROL THE INPUT LEVEL OF EACH INPUT. JUST BENEATH THE BNC CONNECTORS IS A 10 TERMINAL STRIP. PLUS 1 AND 3 OF THIS STRIP IS THE MONO INPUT, WHILE PIN 2 IS GROUND.

## MONITOR AND CONTROL SIGNALS

ON THE 10 TERMINAL STRIP LOCATED BENEATH THE MODULATION INPUT CONNECTORS ARE SEVERAL MONITOR AND CONTROL CONNECTIONS. PIN 8 MONITORS THE DC POWER SUPPLY VOLTAGE TO THE RF AMPLIFIER AND WILL BE IN THE RANGE OF 2 TO 19 VDC DEPENDING ON THE RF OUTPUT LEVEL. PIN 4 MONITORS THE RF POWER OUT AND IS ABOUT 11 VOLTS FOR 20 WATTS OUT. PIN 6 MONITORS THE REFLECTED POWER OUT. PIN 5 AND 7 ARE GROUND AND PIN 10 IS THE DC POWER SUPPLY VOLTAGE ISOLATED THROUGH A 1K OHM RESISTOR FOR CONTROLLING A REMOTE DEVICE. PIN 9 IS RESERVED FOR EXTERNAL CONTROL OF THE EXCITER POWER OUTPUT. ON THE LEFT SIDE OF THE REAR PANEL IS ANOTHER BNC CONNECTOR LABELED REMOTE. PLACING A GROUND ON THE CENTER PIN OF THIS CONNECTOR WILL SHUT DOWN THE POWER SUPPLY AND THE RF OUTPUT WILL GO TO ZERO. REMOVING THE GROUND WILL PLACE THE UNIT BACK INTO NORMAL OPERATION. THIS MAY BE USED TO REMOTELY SHUT THE EXCITER DOWN.

## EXTERNAL REFERENCE

THE SST-30 EXCITER MAY BE PHASE LOCKED TO AN EXTERNAL SOURCE OF 1 khz. A BNC CONNECTOR IS SUPPLIED ON THE REAR PANEL AND A JUMPER MAY BE CHANGED ON THE MAIN BOARD TO IMPLEMENT THIS OPTION.

## ADJUSTMENTS

ALL ADJUSTMENTS TO SIGNAL SHOULD BE DONE AS REQUIRED FROM THE FRONT AND REAR PANELS. ALL INTERNAL ADJUSTMENTS HAVE BEEN SET AT THE FACTORY AND SHOULD NEED NO FURTHER ADJUSTMENT. IN CASE OF REPAIRS, ALIGNMENT INSTRUCTIONS HAVE BEEN INCLUDED IN THE ALIGNMENT SECTION.

## MAINTENANCE

CAUTION: IT IS ADVISABLE TO REMOVE POWER FROM THE UNIT PRIOR TO SERVICING TO AVOID POSSIBLE SHOCK TO PERSONNEL OR DAMAGE TO THE UNIT.

THE SST-30 EXCITER WAS DESIGNED TO OPERATE RELIABLY UNDER CONTINUOUS DUTY CONDITIONS WITH A VERY MINIMUM OF MAINTENANCE. AS THE UNIT IS A WIDE BAND EXCITER, IT WILL REQUIRE NO TUNING. THE ONLY RECOMMENDED MAINTENANCE IS THAT OF PERIODIC CLEANING OF THE UNIT TO ENSURE THAT ALL AIR PASSAGES STAY FREE OF DIRT AND CONTAMINATION. THE PRINTED CIRCUIT BOARDS SHOULD ALSO BE CLEANED BY BLOWING THE DIRT OFF WITH AIR PRESSURE. DO NOT USE SOLVENTS TO CLEAN THE UNIT AS THEY MAY CAUSE DAMAGE TO SOME OF THE COMPONENTS OR FINISH OF THE UNIT.

## FUSES

TO REPLACE THE AC LINE FUSE, REMOVE THE LINE CORD FROM THE BACK OF THE UNIT. WITH A SMALL FLAT BLADE SCREWDRIVER, REMOVE THE SQUARE VOLTAGE CONFIGURATION BLOCK. THE FUSE IS LOCATED INSIDE. REPLACE THE FUSE AND THEN REPLACE THE CLOCK INSURING THAT THE WHITE ARROW IS NEXT TO THE VOLTAGE DESIRED WHEN THE BLOCK HAS BEEN REINSTALLED.

TO REPLACE THE DC FUSE, REMOVE THE TOP PANEL. THE DC FUSE IS LOCATED ON THE REGULATOR BOARD ON THE RIGHT SIDE OF THE UNIT FACING THE FRONT PANEL.

## INTEGRATED CIRCUITS

ALL INTEGRATED CIRCUITS HAVE BEEN MADE EASY BY THE USE OF SOCKETS FOR THESE DEVICES. AN IC PULLER TOOL IS RECOMMENDED FOR REMOVING THE IC CHIPS AND AN INSERTION DEVICE IS RECOMMENDED FOR REPLACING THE CHIPS TO PREVENT BENDING THE PINS. WHEN REPLACING THE CHIPS INSURE THAT ALL PINS ON THE CHIP ARE MATCHED UP WITH THE SOCKET TO INSURE GOOD CONTACT.

## RF AND POWER TRANSISTORS

TO REPLACE RF AND POWER TRANSISTORS, A FEW TOOLS WILL BE REQUIRED AS THE DEVICES ARE SOLDERED AND BOLTED INTO THE UNIT. TO UNSOLDER THE DEVICES ALWAYS USE APPROVED DESOLDERING TOOLS SUCH AS SOLDER WICK AND SOLDER SUCKERS. IN THE CASE OF RF TRANSISTOR, AFTER REMOVING THE SOLDER, CAREFULLY LIFT THE TABS CLEAR OF THE BOARD BEING CAREFUL NOT TO DAMAGE THE FOIL ON THE PRINTED CIRCUIT BOARD. MAKE A DIAGRAM OF ALL COMPONENTS REMOVED TO ENSURE THEIR PROPER REPLACEMENT IN THE EXACT POSITIONS FROM WHICH THEY CAME. WHEN REPLACING COMPONENTS USE DOW CORNING 340 HEAT SINK COMPOUND OR EQUIVALENT ON THE POWER DEVICE FOR PROPER TRANSFER OF HEAT TO THE HEAT SINK. USE GOOD SOLDERING PRACTICES WHEN RESOLDERING THE DEVICES BACK IN. WHEN SOLDERING IS COMPLETE, USE AN APPROVED SOLDER FLUX REMOVER TO CLEAN UP THE AREA WHERE THE COMPONENT WAS REPLACED. ALWAYS INSPECT THE POWER DEVICE CAREFULLY FOR INSULATING HARDWARE WHICH ELECTRICALLY INSULATES SOME OF THE DEVICES FROM THE CHASSIS GROUND. THESE WILL BE FOUND ON THE POWER TRANSISTORS AND REGULATORS IN THE POWER SUPPLY. THIS HARDWARE MUST BE REPLACED FOR THE DEVICE TO WORK PROPERLY.

## SMALL COMPONENTS

SMALL COMPONENTS, SUCH AS RESISTORS, CAPACITORS AND SMALL TRANSISTORS AND DIODES, SHOULD BE REMOVED VERY CAREFULLY USING GOOD DESOLDERING TOOLS. ALWAYS OBSERVE THE POLARITY OF DIODES AND ELECTROLYTIC CAPACITORS AND MAKE A SMALL NOTE TO ENSURE THAT THE REPLACEMENT DEVICE IS INSTALLED PROPERLY. DIODES INSTALLED WRONG MAY CAUSE DAMAGE TO OTHER COMPONENTS AND ELECTROLYTIC CAPACITORS MAY EXPLODE IF POLARITY IS NOT OBSERVED. WHEN REMOVING SMALL COMPONENTS, THE COMPONENT MAY BE CRUSHED WITH A PAIR OF PLIERS AND EACH LEAD CAREFULLY REMOVED. THE IMPORTANT ITEM IS NOT TO DAMAGE THE PRINTED CIRCUIT BOARD. THE DAMAGE MOST LIKELY TO OCCUR IS THE LIFTING OF FOIL OR THE REMOVAL OF THE PLATED MATERIAL ON A PLATED-THROUGH HOLE IN THE BOARD. IF IT IS

SUSPECTED THAT THE PLATED THROUGH MATERIAL HAS BEEN DAMAGED, THE COMPONENT LEAD MAY BE SOLDERED ON BOTH SIDES OF THE BOARD.

## ALIGNMENT

THE SST-30 EXCITER WAS ALIGNED AT THE FACTORY AND SHOULD NOT NEED FURTHER ADJUSTMENT EXCEPT FROM THE FRONT AND REAR PANELS. HOWEVER, IN THE CASE OF COMPONENT REPLACEMENT, SOME ADJUSTMENT MAY BE NECESSARY.

## POWER SUPPLY

THE EXCITER HAS BEEN SET AT THE FACTORY FOR AUTOMATIC LEVEL CONTROL OF THE RF OUTPUT, R17 IS THE FRONT PANEL LEVEL CONTROL AND SETS THE REFERENCE LEVEL FOR THE POWER SUPPLY VOLTAGE. WITH R17 SET FULLY CLOCKWISE, SET R1 ON THE POWER SUPPLY BOARD FOR 30 WATTS OUTPUT. R1 SETS THE GAIN OF U2A WHICH SAMPLES THE RF OUTPUT OF THE EXCITER. WHEN THE EXTERNAL CONTROL OPTION IS USED, THE SETTING IS CONTROLLED BY THE CONTROL R4 LOCATED ON THE AUDIO INPUT BOARD ON THE REAR PANEL. THIS WOULD MOST LIKELY BE USED TO SAMPLE THE OUTPUT OF AN AMPLIFIER AND KEEP THIS OUTPUT OF THE EXCITER DOES NOT EXCEED 30 WATTS.

## AUDIO, MULTIPLEX AND SCA

THE MULTIPLEX AND SCA INPUTS MAY BE ADJUSTED BY CONTROLS LOCATED ON THE REAR PANEL. THE MONO INPUT IS BALANCED AND HAS NO INPUT AMPLITUDE CONTROL. THE BALANCE OF THE MONO INPUT MAY BE ADJUSTED BY TYING THE PLUS AND MINUS MONO INPUT TOGETHER AND PLACING A SIGNAL ON THE INPUT. WITH AN OSCILLOSCOPE ON PIN 7 OF U1B, ADJUST R20 FOR MINIMUM SIGNAL. R23 ADJUSTS THE MONO SIGNAL GAIN INTO THE MIXER U1D. THIS SHOULD ONLY BE ADJUSTED WITH THE USE OF A MODULATION MONITOR. R8 ON THE COMPOSITE INPUT SET THE RATIO OF COMPOSITE TO SCA. WITH A LEVEL OF 2.2 VOLTS PEAK TO PEAK INPUT ON COMPOSITE AND SCA, THE OUTPUT AT PIN 14 OF U1D IS 2.1 VOLTS PEAK TO PEAK FOR MPX AND MONO AND 0.3 VOLTS PEAK TO PEAK FOR SCA. R34 IS SET FOR MINIMUM DISTORTION AND SHOULD ONLY BE ADJUSTED IF THE PROPER EQUIPMENT IS AVAILABLE. FINAL DEVIATION ADJUSTMENT MAY BE MADE WITH R35. R36 ADJUSTS THE BIAS POINT FOR THE VARICAP DIODE IN THE VCO AND IS ADJUSTED FOR 5.7 VOLTS DC AT THE JUNCTION OF R36 AND R37. R33 CALIBRATES THE FRONT PANEL METER FOR DEVIATION. THIS SHOULD BE CALIBRATED USING A SINGLE TONE.

## VSWR METER

THE METER ON THE FRONT PANEL MAY BE CALIBRATED FOR RF POWER WITH R4 AND R5 ON THE EUROCARD LOCATED ON THE FRONT PANEL. R4 CALIBRATES THE FORWARD POWER READING AND R5 CALIBRATES THE REFLECTED POWER READING. THIS SHOULD BE DONE USING A CALIBRATED POWER METER SUCH AS A BIRD MODEL 43 OR EQUIVALENT.

## PARTS LIST FOR SST-30 POWER SUPPLY

| | STOCK # |
|---|---|
| CN1 CONNECTOR 26 PIN | 001-100 |
| CN2 CONNECTOR BNC | 001-101 |
| C1 47NF CERAMIC | 001-102 |
| C2 47NF CERAMIC | 001-103 |
| C3 4.7NF CERAMIC | 001-103 |
| C4 1NF CERAMIC | 001-104 |
| C5 10UF ELECTROLYTIC | 001-105 |
| C6 10UF ELECTROLYTIC | 001-105 |
| C7 470PF CERAMIC | 001-106 |
| C8 470PF CERAMIC | 001-106 |
| C9 10PF CERAMIC | 001-107 |
| C10 1-PF CERAMIC | 001-107 |
| C11 470PF CERAMIC | 001-106 |
| C12 47PF CERAMIC | 001-106 |
| C13 470PF CERAMIC | 001-106 |
| C14 10UV ELECTROLYTIC | 001-105 |
| C15 10NF CERAMIC | 001-108 |
| C16 33UF ELECTROLYTIC | 001-109 |
| C17 470PF CERAMIC | 001-106 |
| C18 10NF CERAMIC | 001-108 |
| C19 100UF ELECTROLYTIC | 001-110 |
| C20 10KUF CERAMIC | 001-108 |
| C21 33UF ELECTROLYTIC | 001-109 |
| C22 10,000UF ELECTROLYTIC | 001-110 |
| C23 10,000UF ELECTROLYTIC | 001-110 |
| C24 10UF ELECTROLYTIC | 001-105 |
| C25 10UF ELECTROLYTIC | 001-105 |
| C26 10UF ELECTROLYTIC | 001-105 |
| C27 10UF ELECTROLYTIC | 001-105 |
| C28 4.7NF CERAMIC | 001-103 |
| C29 4.7NF CERAMIC | 001-103 |
| D1 NOT USED | |
| D2 NOT USED | |
| D3 ZENER DIODE 24V | 001-111 |
| D4 DIODE 1N4148 | 001-112 |
| D5 DIODE 1N4004 | 001-113 |
| D6 DIODE 1N4004 | 001-113 |
| D7 DIODE 1N4004 | 001-113 |
| D8 DIODE 1N4004 | 001-113 |
| D9 DIODE BRIDGE 26MB10A | 001-114 |
| F1 FUSE 2 AMP | 001-135 |
| F2 FUSE 4 AMP | 001-136 |

| | STOCK # |
|---|---|
| FAN1 220 VOLT FAN | 001-137 |
| LP1 LAMP LPN 220V | 001-138 |
| L1 RF CHOKE | 001-139 |
| L2 RF CHOKE | 001-139 |
| L3 RF CHOKE | 001-115 |
| Q1 TRANSISTOR HJ3001 | 001-116 |
| R1 RESISTOR 4.7K OHM | 001-117 |
| R2 RESISTOR 4.7K OHM | 001-117 |
| R3 RESISTOR 10 OHM | 001-118 |
| R4 RESISTOR 10K OHM | 001-119 |
| R5 RESISTOR 1K OHM | 001-120 |
| R6 RESISTOR 10K OHM | 001-119 |
| R7 RESISTOR 1K OHM | 001-120 |
| R8 RESISTOR 12K OHM | 001-121 |
| R9 RESISTOR 12K OHM | 001-121 |
| R10 RESISTOR 10K OHM | 001-119 |
| R11 RESISTOR 4.7K OHM | 001-117 |
| R12 RESISTOR 4.7K OHM | 001-117 |
| R13 RESISTOR 4.7K OHM | 001-117 |
| R14 RESISTOR 4.7K OHM | 001-117 |
| R15 RESISTOR 100K OHM | 001-122 |
| R16 RESISTOR 33K OHM | 001-123 |
| R17 RESISTOR 27K OHM | 001-124 |
| R18 RESISTOR 330 OHM | 001-125 |
| R19 RESISTOR 4.7K OHM | 001-117 |
| R20 RESISTOR 1.8K OHM | 001-126 |
| R21 RESISTOR 10 OHM | 001-118 |
| R22 RESITSOR 10K OHM | 001-119 |
| R23 RESISTOR 220 OHM | 001-127 |
| R24 RESISTOR .22 OHM | 001-128 |
| R25 RESISTOR .22 OHM | 001-128 |
| R26 RESISTOR 10 OHM | 001-118 |
| R27 RESISTOR 1K OHM | 001-120 |
| R28 RESISTOR 220 OHM | 001-127 |
| R29 RESISTOR 10K OHM | 001-119 |
| R30 RESISTOR 2.2K OHM | 001-129 |
| R31 RESISTOR 18K OHM | 001-130 |
| R32 RESISTOR 2.7K OHM | 001-131 |
| R33 RESISTOR 22K OHM | 001-132 |
| R34 RESISTOR 22KOHM | 001-132 |
| R35 RESISTOR 1K OHM | 001-120 |
| SW1 SWITCH SPST PWR | 001-133 |
| T1 XFMR PWR 22VAC6AMP | 001-134 |
| U1 REGULATOR LM723 | 001-140 |
| U2 OPANO LM358N | 001-141 |
| U3 REGULATOR LM7815 | 001-142 |
| U4 REGULATOR LM 7812 | 001-143 |

## PARTS LIST SST-30
## AUDIO INPUT

| SYMBOL | STOCK # | DESCRIPTION |
|---|---|---|
| CN1 | 001-144 | CONNECTOR BNC |
| CN2 | 001-144 | CONNECTOR BNC |
| CN3 | 001-144 | CONNECTOR BNC |
| CN4 | 001-144 | CONNECTOR BNC |
| CN5 | 001-145 | TERMINAL STRIP 10 PIN |
| CN6 | 001-146 | CONNECTOR, 26 PIN |
| CN7 | 001-146 | CONNECTOR, 26 PIN |
| C1-C5 | 001-147 | CAPACITOR, 1NF. CERAMIC |
| R1-F3 | 001-120 | RESISTOR, 1K OHM |
| R4 | 001-148 | RESISTOR, VAR.47K |
| R5-R8 | 001-149 | RESISTOR, VAR.10K |

## PARTS LIST SST-30
## MAIN BOARD

| | | STOCK # |
|---|---|---|
| C1 | 560PF CERAMIC | 001-150 |
| C2 | 560PF CERAMICD | 001-150 |
| C3 | 560PF CERAMIC | 001-150 |
| C4 | 10PF CERAMIC | 001-151 |
| C5 | 39PF CERAMIC | 001-152 |
| C6 | 39PF CERAMIC | 001-152 |
| C7 | 39PF CERAMIC | 001-152 |
| C8 | 39PF CERAMIC | 001-152 |
| C10 | 39PF CERAMIC | 001-152 |
| C11 | 39PF CERAMIC | 001-152 |
| C12 | 39PF CERAMIC | 001-152 |
| C13 | 100UF ELECTROLYTIC | 001-110 |
| C14 | 39PF CERAMIC | 001-152 |
| C15 | 39PF CERAMIC | 001-152 |
| C16 | 39PF CERAMIC | 001-152 |
| C17 | 39PF CERAMIC | 001-152 |
| C18 | 100UF ELECTROLYTIC | 001-110 |
| C19 | 100UF ELECTROLYTIC | 001-110 |
| C20 | 47UF ELECTROLYTIC | 001-153 |
| C21 | 1NF CERAMIC | 001-104 |
| C22 | 1NF CERAMIC | 001-104 |
| C23 | 1NF CERAMIC | 001-104 |
| C24 | 1NF CERAMIC | 001-104 |
| C25 | 100UF ELECTROLYTIC | 001-110 |
| C26 | 10UF ELECTROLYTIC | 001-105 |
| C27 | 47UF ELECTROLYTIC | 001-153 |
| C28 | 47UF ELECTROLYTIC | 001-153 |
| C29 | 2.2UF ELECTROLYTIC | 001-154 |
| C30 | 100UF ELECTROLYTIC | 001-110 |
| C31 | 10UF ELECTROLYTIC | 001-105 |
| C32 | 10PF CERAMIC | 001-151 |
| C33 | 10UF ELECTROLYTIC | 001-105 |
| C34 | 470PF CERAMIC | 001-106 |
| C35 | 100NF CERAMIC | 001-155 |
| C36 | 100UF ELECTROLYTIC | 001-110 |
| C37 | 10NF CERAMIC | 001-108 |
| C38 | 47PF CERAMIC | 001-156 |
| C39 | 4.7NF CERAMIC | 001-103 |
| C40 | 1NF CERAMIC | 001-104 |
| C41 | 10UF ELECTROLYTIC | 001-105 |
| C42 | 100UF ELECTROLYTIC | 001-110 |
| C43 | 100 ELECTROLYTIC | 001-110 |
| C44 | 4.7NF CERAMICD | 001-103 |
| C45 | 1NF CERAMIC | 001-104 |
| C46 | 100PF CERAMIC | 001-157 |
| C47 | 100UF ELECTROLYTIC | 001-110 |

| | | STOCK # |
|---|---|---|
| C48 | 4.7NF CERAMIC | 001-103 |
| C49 | 4.7NF CERAMIC | 001-103 |
| C50 | 27PF CERAMIC | 001-158 |
| C51 | 4.7 CERAMIC | 001-103 |
| C52 | 1NF CERAMIC | 001-104 |
| C53 | 100PF CERAMIC | 001-157 |
| C54 | 4.7NF CERAMIC | |
| C56 | 100NF CERAMIC | 001-155 |
| C57 | 4.7NF CERAMIC | 001-103 |
| C58 | 4.7NF CERAMIC | 001-103 |
| C59 | NOT USED | |
| C60 | 4.7NF CERAMIC | 001-103 |
| C61 | 100UF ELECTROLYTIC | 001-110 |
| C62 | NOT USED | |
| C63 | 4.7NF CERAMIC | 001-103 |
| C64 | 4.7NF CERAMIC | 001-103 |
| C65 | 4.7NF CERAMIC | 001-103 |
| C66 | 4.7NF CERAMIC | 001-103 |
| C67 | 220PF CERAMIC | 001-158 |
| C68 | 4.7NF CERAMIC | 001-103 |
| C69 | 4.7 CERAMIC | 001-103 |
| C70 | 2.2PF CERAMIC | 001-159 |
| C71 | 1NF CERAMIC | 001-104 |
| C72 | NOT USED | |
| C73 | NOT USED | |
| C74 | NOT USED | |
| C75 | NOT USED | |
| C76 | NOT USED | |
| C77 | NOT USED | |
| C78 | NOT USED | |
| C79 | NOT USED | |
| C80 | NOT USED | |
| C81 | 1UF ELECTROLYTIC | 001-160 |
| C82 | 100NF CERAMIC | 001-155 |
| C83 | 47UF ELECTROLYTIC | 001-153 |
| C84 | 18PF CERAMIC | 001-161 |
| C85 | 60PF CERAMIC | 001-162 |
| C86 | 47NF CERAMIC | 001-102 |
| C87 | 47NF CERAMIC | 001-102 |
| C88 | 33PF CERAMIC | 001-163 |
| C89 | 560 PF CERAMIC | 001-150 |
| C90 | 10UF ELECTROLYTIC | 001-105 |
| C91 | 10UF ELECTROLYTIC | 001-105 |
| C92 | 47NF CERAMIC | 001-102 |
| C93 | 47NF CERAMIC | 001-102 |
| C94 | 10UF ELECTROLYTIC | 001-105 |

| | | STOCK # |
|---|---|---|
| C95 | 100NF CERAMIC | 001-155 |
| C96 | 10UF ELECTROLYTIC | 001-105 |
| C97 | 10UF ELECTROLYTIC | 001-105 |
| C98 | 10UF ELECTROLYTIC | 001-105 |
| C99 | 2.2UF ELECTROLYTIC | 001-154 |
| C100 | 10NF CERAMIC | 001-108 |
| C101 | 100UF ELECTROLYTIC | 001-110 |
| C102 | 10UF ELECTROLYTIC | 001-105 |
| C103 | 100NF CERAMIC | 001-155 |
| C104 | 10UF ELECTROLYTIC | 001-105 |
| C105 | 22UF ELECTROLYTIC | 001-164 |
| C106 | 100NF CERAMIC | 001-155 |
| C107 | 10UF ELECTROLYTIC | 001-105 |
| C108 | 10UF ELECTROLYTIC | 001-105 |
| C109 | 100NF CERAMIC | 001-155 |
| C110 | 47UF ELECTROLYTIC | 001-153 |
| C111 | 10UF ELECTROLYTIC | 001-105 |
| C112 | 100NF CERAMIC | 001-155 |
| C113 | 100NF CERAMIC | 001-155 |
| C114 | 100NF CERAMIC | 001-155 |
| C115 | 100NF CERAMIC | 001-155 |
| C116 | 10UF ELECTROLYTIC | 001-105 |
| C117 | 100NF CERAMIC | 001-155 |
| C118 | 4.7NF CERAMIC | 001-103 |
| C119 | 10UF ELECTROLYTIC | 001-105 |
| DI | DIODE 1N4148 | 001-112 |
| D2 | DIODE 1N4148 | 001-112 |
| D3 | VARICAP MV209 | 001-165 |
| D4 | VARICAP MV209 | 001-165 |
| D5 | VARICAP MV209 | 001-165 |
| D6 | VARICAP MV209 | 001-165 |
| D7 | ZENER DIODE 6.8V | 001-166 |
| D8 | DIODE 1N4148 | 001-112 |
| D9 | DIODE 1N4148 | 001-112 |
| D10 | ZENER DIODE 5.6V | 001-167 |
| D11 | ZENER DIODE 5.6V | 001-167 |
| D12 | DIODE 1N4148 | 001-112 |
| D13 | DIODE 1N4148 | 001-112 |
| D14 | NOT USED | |
| D15 | DIODE 1N4148 | 001-112 |
| D16 | DIODE 1N4148 | 001-112 |
| D17 | DIODE 1N4148 | 001-112 |
| D18 | DIODE 1N4148 | 001-112 |
| D19 | DIODE 1N4148 | 001-112 |
| D20 | DIODE HP2800 | 001-168 |
| D21 | DIODE HP2800 | 001-168 |
| D22 | DIODE 1N4148 | 001-112 |
| D23 | DIODE 1N4148 | 001-112 |
| D24 | DIODE 1N4148 | 001-112 |
| D25 | DIODE 1N4148 | 001-112 |
| L3 | RF CHOKE | 001-169 |

| | STOCK # |
|---|---|
| L3 RF CHOKE | 001-169 |
| L4 RF CHOKE | 001-169 |
| L5 RF CHOKE | 001-169 |
| L6 RF CHOKE | 001-169 |
| L7 RF CHOKE | 001-169 |
| L8 RF CHOKE | 001-169 |
| L9 RF CHOKE | 001-169 |
| L10 22UH COIL | 001-170 |
| L11 2.2UH COIL | 001-171 |
| L12 INDUCTOR COAX | 001-172 |
| L13 INDUCTOR COAX | 001-172 |
| L14 2.2UH COIL | 001-171 |
| L15 2.2UH COIL | 001-171 |
| L16 TORIOD OHM 10MM | 001-173 |
| L17 220UH COIL | 001-174 |
| L18 RF CHOKE | 001-169 |
| L19 2.2UH COIL | 001-171 |
| L20 2.2UH COIL | 001-171 |
| L21 RF CHOKE | 001-169 |
| Q1 NOT USED | |
| Q2 TRANSISTOR J310 | 001-175 |
| Q3 TRANSISTOR 2N918 | 001-176 |
| Q4 TRANSISTOR 2N918 | 001-176 |
| Q5 TRANSISTOR BC237 | 001-177 |
| Q6 TRANSISTOR BCY59 | 001-178 |
| Q7 TRANSISTOR 2N918 | 001-176 |
| Q8 TRANSISTOR 2N3866 | 001-179 |
| Q9 TRANSISTOR 2N3866 | 001-179 |
| Q10 TRANSISTOR BCY59 | 001-180 |
| Q11 TRANSISTOR BFR96 | 001-180 |
| Q12 NOT USED | |
| Q13 TRANSISTOR BF245B | 001-181 |
| Q14 TRANSISTOR 2N918 | 001-176 |
| Q15 TRANSISTOR BC237 | 001-177 |
| RR1 RESISTOR ARRAY1.5K | 001-182 |
| RR2RESISTOR ARRAY1.5K | 001-182 |
| R1 RESISTOR 33K OHM | 001-183 |
| R2 RESISTOR 33K OHM | 001-183 |
| R3 RESISTOR 33K OHM | 001-183 |
| R4 RESISTOR 22K OHM | 001-132 |
| R5 RESISTOR 220K OHM | 001-184 |
| R6 RESISTOR 220K OHM | 001-184 |
| R7 RESISTOR 220K OHM | 001-184 |
| R8 RESISTOR 47K OHM | 001-185 |
| R9 RESISTOR 600 OHM | 001-186 |
| R10 RESISTOR 10K OHM | 001-119 |
| R11 RESISTOR 100K OHM | 001-122 |
| R12 RESISTOR 100K OHM | 001-122 |
| R13 RESISTOR 6.8K OHM | 001-187 |
| R14 RESISTOR 6.8K OHM | 001-187 |
| R15 RESISTOR 12K OHM | 001-121 |

| | | STOCK # |
|---|---|---|
| L2 | RF CHOKE | 001-169 |
| R17 | RESISTOR 10K OHM | 001-119 |
| R18 | RESISTOR 39K OHM | 001-188 |
| R19 | RESISTOR 10K OHM | 001-119 |
| R20 | RESISTOR 22K OHM | 001-132 |
| R21 | RESISTOR 47K OHM | 001-185 |
| R22 | RESISTOR 2.2KOHM | 001-129 |
| R23 | RESISTOR 47K OHM | 001-185 |
| R24 | RESISTOR 12K OHM | 001-121 |
| R25 | RESISTOR 10K OHM | 001-119 |
| R26 | RESISTOR 15K OHM | 001-189 |
| R27 | RESISTOR 10K OHM | 001-119 |
| R28 | RESISTOR 100 OHM | 001-190 |
| R29 | RESISTOR 2.2K OHM | 001-129 |
| R30 | RESISTOR 6.8K | 001-187 |
| R31 | RESISTOR 6.8K OHM | 001-187 |
| R32 | RESISTOR 820 OHM | 001-191 |
| R33 | RESISTOR 4.7K OHM | 001-117 |
| R34 | RESISTOR 500 OHM | 001-192 |
| R35 | RESISTOR 47K OHM | 001-185 |
| R36 | RESISTOR 22K OHM | 001-132 |
| R37 | RESISTOR 1MEG OHM | 001-193 |
| R38 | RESISTOR 390 OHM | 001-194 |
| R39 | RESISTOR 100K OHM | 001-122 |
| R40 | RESISTOR 33K OHM | 001-183 |
| R41 | RESISTOR 330K OHM | 001-195 |
| R42 | RESISTOR 470K OHM | 001-196 |
| R43 | RESISTOR 22 OHM | 001-197 |
| R44 | RESISTOR 10K OHM | 001-119 |
| R45 | RESISTOR 2.7K OHM | 001-131 |
| R46 | RESISTOR 220 OHM | 001-127 |
| R47 | RESISTOR 100 OHM | 001-190 |
| R48 | RESISTOR 4.7K OHM | 001-117 |
| R49 | RESISTOR 6.8K OHM | 001-187 |
| R50 | RESISTOR 220 OHM | 001-127 |
| R51 | RESISTOR 10 OHM | 001-118 |
| R52 | RESISTOR 680 OHM | 001-198 |
| R53 | RESISTOR 10 OHM | 001-118 |
| R54 | RESISTOR 2.7K OHM | 001-131 |
| R55 | RESISTOR 3.3 OHM | 001-199 |
| R56 | RESISTOR 220 OHM | 001-127 |
| R57 | RESISTOR 390 OHM | 001-194 |
| R58 | RESISTOR 10 OHM | 001-118 |
| R59 | RESISTOR 1.5K OHM | 001-200 |
| R60 | RESISTOR 680 OHM | 001-198 |
| R61 | RESISTOR 220 OHM | 001-127 |
| R62 | RESISTOR 220 OHM | 001-127 |
| R63 | RESISTOR 220 OHM | 001-127 |
| R64 | RESISTOR 220 OHM | 001-127 |
| R65 | RESISTOR 560 OHM | 001-201 |
| R66 | RESISTOR 27 OHM | 001-202 |
| R67 | RESISTOR 100 OHM | 001-190 |
| R68 | RESISTOR 22K OHM | 001-132 |

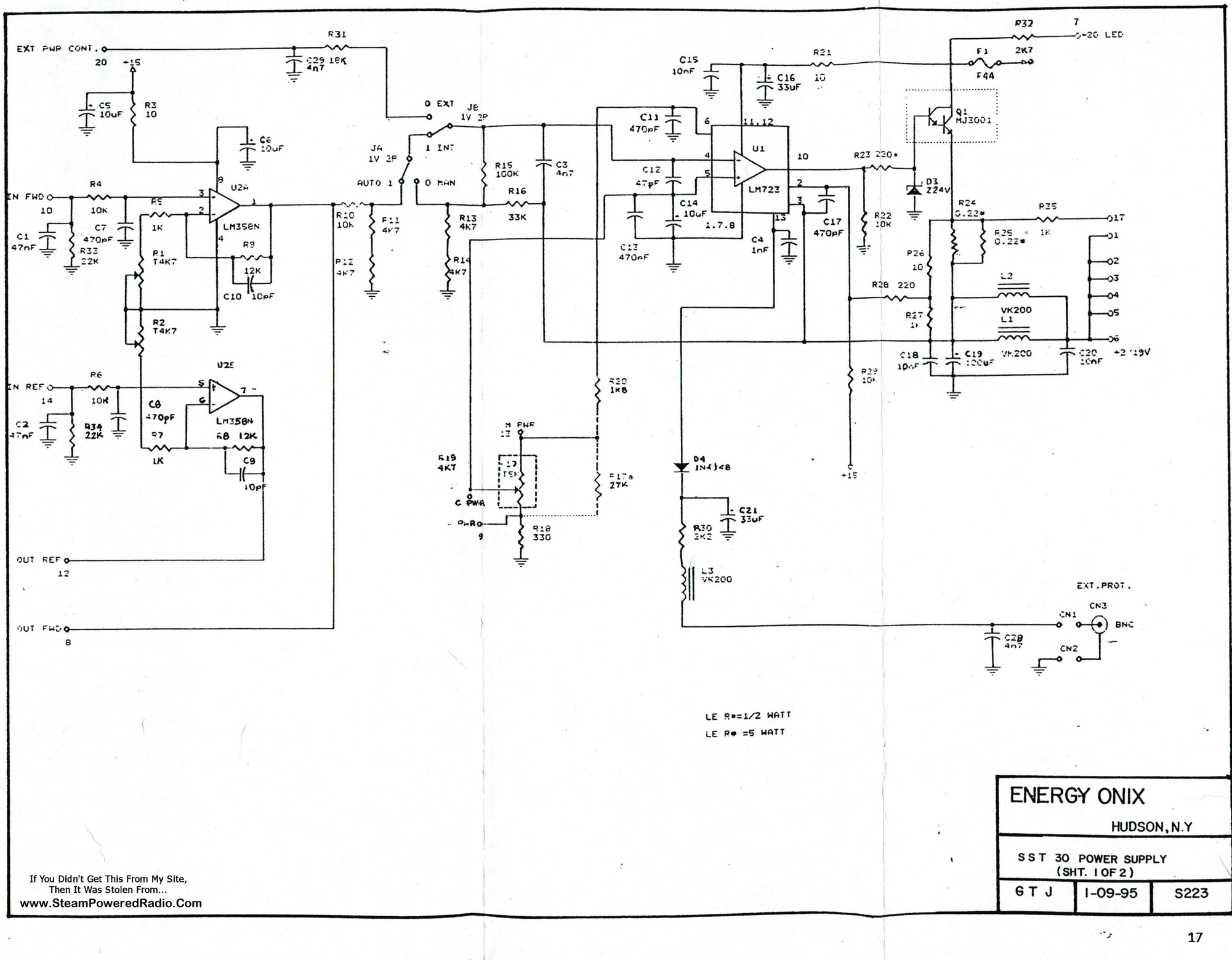
| | | STOCK # |
|---|---|---|
| R16 | RESISTOR 39K OHM | 001-188 |
| R70 | RESISTOR 1MEG OHM | 001-193 |
| R71 | RESISTOR 8.2K OHM | 001-203 |
| R72 | RESISTOR 1K OHM | 001-120 |
| R73 | RESISTOR 8.2 OHM | 001-201 |
| R74 | RESISTOR 5.6K OHM | 001-204 |
| R75 | RESISTOR 1.2K OHM | 001-205 |
| R76 | RESISTOR 270 OHM | 001-206 |
| R77 | RESISTOR 330 OHM | 001-207 |
| R78 | RESISTOR 220 OHM | 001-127 |
| R79 | RESISTOR 8.2K OHM | 001-203 |
| R80 | RESISTOR 10 OHM | 001-118 |
| R81 | RESISTOR 100 OHM | 001-190 |
| R82 | RESISTOR 56 OHM | 001-208 |
| R83 | RESISTOR 47 OHM | 001-209 |
| R84 | RESISTOR 100 OHM | 001-190 |
| R85 | RESISTOR 47K OHM | 001-185 |
| R86 | RESISTOR 33K OHM | 001-183 |
| R87 | RESISTOR 150K OHM | 001-210 |
| R88 | RESISTOR 1.5K OHM | 001-200 |
| R89 | RESISTOR 1.5K OHM | 001-200 |
| R90 | RESISTOR 100 OHM | 001-190 |
| R91 | RESISTOR 820K OHM | 001-211 |
| R92 | RESISTOR 680 OHM | 001-198 |
| R93 | RESISTOR 27 OHM | 001-202 |
| R94 | RESISTOR 180 OHM | 001-212 |
| R95 | RESISTOR 1MEG OHM | 001-193 |
| R96 | RESISTOR 470 OHM | 001-196 |
| R97 | RESISTOR 560 OHM | 001-201 |
| R98 | RESISTOR 470 OHM | 001-196 |
| R99 | RESISTOR 100 OHM | 001-190 |
| R100 | RESISTOR 100 OHM | 001-190 |
| R101 | RESISTOR 22K OHM | 001-132 |
| R102 | RESISTOR 10K OHM | 001-119 |
| R103 | RESISTOR 22 OHM | 001-197 |
| R104 | RESISTOR 6.8K OHM | 001-187 |
| R105 | RESISTOR 2.2K OHM | 001-129 |
| R106 | RESISTOR 10K OHM | 001-119 |
| R107 | RESISTOR 10K OHM | 001-119 |
| R108 | RESISTOR 82K OHM | 001-198 |
| R109 | RESISTOR 1K OHM | 001-120 |
| R110 | RESISTOR 1K OHM | 001-120 |
| R111 | RESISTOR 47K OHM | 001-185 |
| R112 | RESISTOR 47K OHM | 001-185 |
| R113 | RESISTOR 100K OHM | 001-122 |
| R114 | RESISTOR 33K OHM | 001-195 |
| R115 | RESISTOR 1K OHM | 001-120 |
| R116 | RESISTOR 1K OHM | 001-120 |
| R117 | RESISTOR 27 OHM | 001-202 |
| R118 | RESISTOR 27K OHM | 001-203 |
| R119 | RESISTOR 1.2K OHM | 001-205 |
| R120 | RESISTOR 270 OHM | 001-206 |
| R121 | RESISTOR 470 OHM | 001-196 |

| | STOCK # | | STOCK # |
|---|---|---|---|
| R69 RESISTOR 47K OHM | 001-185 | R122 RESISTOR 270 OHM | 001-206 |
| | | R123 RESISTOR 470 OHM | 001-196 |
| | | R124 RESISTOR1.8MEGOHM | 001-199 |
| | | R125 RESISTOR 10K OHM | 001-119 |
| | | R126 REISISTOR 100 OHM | 001-190 |
| | | R127 RESISTOR 1.5K OHM | 001-200 |
| | | R128 RESISTOR 22 OHM | 001-197 |
| | | R129 RESISTOR 1.5K OHM | 001-200 |
| | | R130 RESISTOR 1K OHM | 001-120 |
| | | R131 RESISTOR 1K OHM | 001-120 |
| | | R132 RESISTOR 47 OHM | 001-209 |
| | | R133 RESISTOR 75 OHM | 001-212 |
| | | R134 RESISTOR 47 OHM | 001-209 |
| | | R135 RESISTOR 56 OHM | 001-213 |
| | | R136 RESISTOR 47 OHM | 001-209 |
| | | R137 RESISTOR 47 OHM | 001-209 |
| | | R138 RESISTOR 1.5K OHM | 001-200 |
| | | R139 RESISTOR 1.5K OHM | 001-200 |
| | | R140 RESISTOR 6.8K OHM | 001-187 |
| | | R141 RESISTOR 10K OHM | 001-119 |
| | | R142 RESISTOR 470 OHM | 001-119 |
| | | R143 RESISTOR 270 OHM | 001-196 |
| | | R144 RESISTOR 10K OHM | 001-206 |
| | | R145 RESISTOR 470 OHM | 001-206 |
| | | R146 RESISTOR 12K OHM | 001-121 |
| | | R147 RESISTOR 47 OHM | 001-214 |
| | | SW1 SWITCH 4 POLE DIP | 001-215 |
| | | SW2 SWITCH 4 POLE DIP | 001-215 |
| | | SW3 SWITCH 4 POLE DIP | 001-215 |
| | | SW4 SWITCH 4 POLE DIP | 001-215 |
| | | SW5 SWITCH 4 POLE DIP | 001-215 |
| | | U1 OPAMP TL074 | 001-216 |
| | | U2 REGULATOR 78LO8 | 001-217 |
| | | U3 1C 4520 | 001-218 |
| | | U4 1C 4046 | 001-219 |
| | | U5 1C 74121 | 001-210 |
| | | U6 1CNE5532 | 001-211 |
| | | U7 1C SP8680 | 001-212 |
| | | U8 1C 74LSO2 | 001-213 |
| | | U9 REGULATOR LM7805 | 001-214 |
| | | U10 1C 74LS190 | 001-215 |
| | | U11 1C 74LS190 | 001-215 |
| | | U12 1C 74LS190 | 001-215 |
| | | U13 1C 74LS190 | 001-215 |
| | | U14 1C 74LS190 | 001-215 |
| | | U15 OPAMP TL082 | 001-216 |
| | | U16 1C 4518 | 001-217 |
| | | U17 1C 74196 | 001-218 |
| | | U18 1C 7400 | 001-219 |
| | | X1 CRYSTAL 4.0 MHz | 001-220 |

# PARTS LIST SST-30
# POWER AMPLIFIER

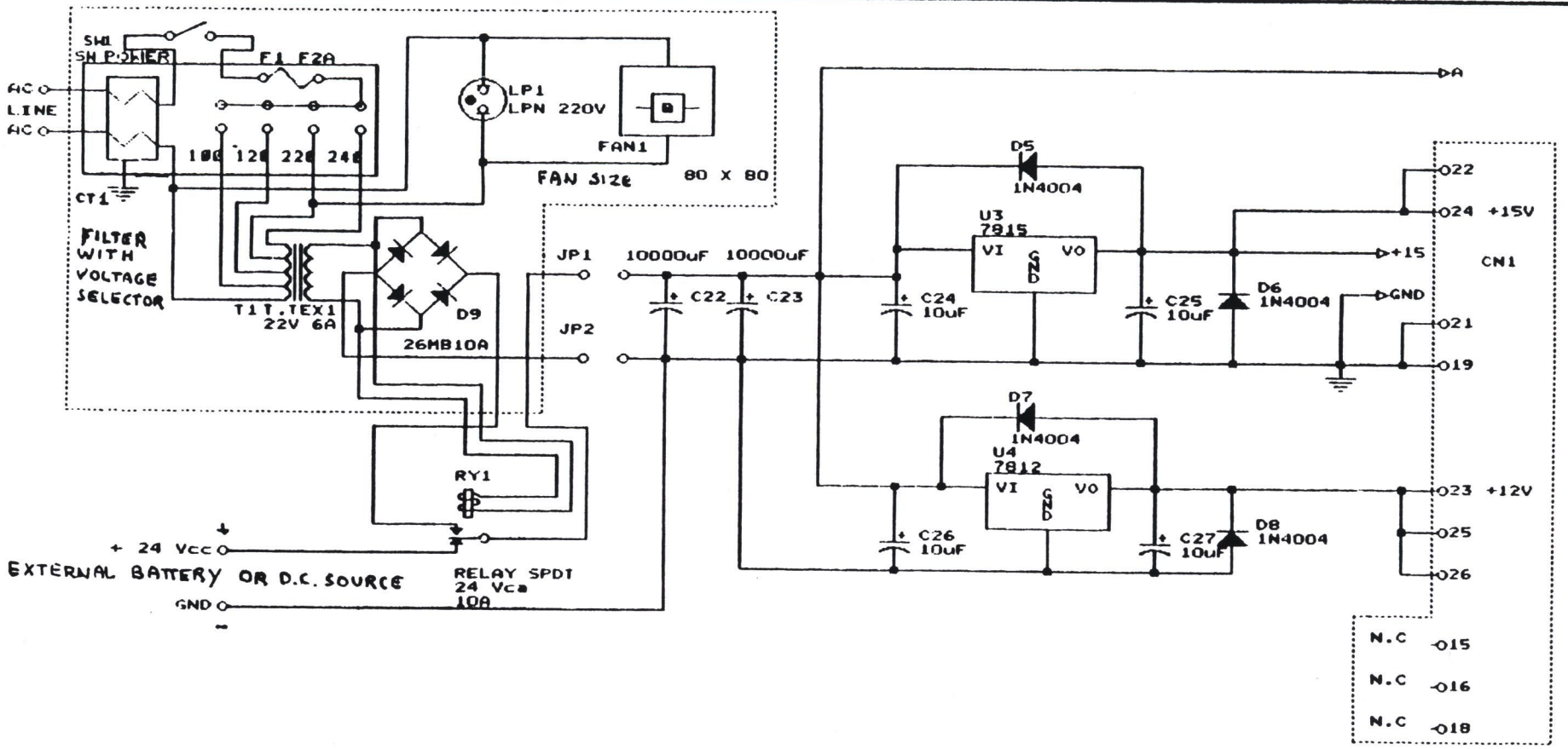
| | | STOCK # |
|---|---|---|
| ACC | TOROID COIL CPLR | 001-221 |
| CN1 | CONNECTOR BNC | 001-144 |
| CN2 | CONNECTOR N | 001-222 |
| CN3 | CONNECTOR 26 PIN | 001-146 |
| CV1 | CAP VARIABLE 10PF | 001-223 |
| CV2 | CAP VARIABLR 10PF | 001-223 |
| CV3 | CAP VARIABLE 40PF | 001-224 |
| C1 | 4.7NF CERAMIC | 001-103 |
| C2 | 39 PF CERAMIC | 001-152 |
| C3 | 47PF CERAMIC | 001-156 |
| C4 | 100PF CERAMIC | 001-157 |
| C5 | 12PF CERAMIC | 001-225 |
| C6 | 12PF CERAMIC | 001-225 |
| C7 | 4.7 NF CERAMIC | 001-103 |
| C8 | 22PF CERAMIC | 001-226 |
| C9 | 4.7NF CERAMIC | 001-103 |
| C10 | 10UF ELECTROLYTIC | 001-105 |
| C11 | 39PF CERAMIC | 001-152 |
| C12 | 27PF CERAMIC | 001-227 |
| C13 | 4.7NF CERAMIC | 001-103 |
| C14 | 150PF CERAMIC | 001-228 |
| C15 | 82PF CERAMIC | 001-229 |
| C16 | 82PF CERAMIC | 001-229 |
| C17 | 82 PF CERAMIC | 001-229 |
| C18 | 82PF CERAMIC | 001-229 |
| C19 | 680PF CERAMIC | 001-230 |
| C20 | 560PF CERAMIC | 001-231 |
| C21 | 1NF UNELCO | 001-104 |
| C22 | 1NF UNELCO | 001-104 |
| C23 | 82PF CERAMIC | 001-229 |
| C24 | 82PF CERAMIC | 001-229 |
| C25 | 2X39PF CERAMIC | 001-152 |
| C26 | 4X39PF CERAMIC | 001-152 |
| C27 | 4.7NF CERAMIC | 001-103 |
| C28 | 2X4.7NF CERAMIC | 001-103 |
| C29 | 100UF ELECTROLYTIC | 001-110 |
| C30 | 27 PF CERAMIC | 001-227 |
| C31 | 10PF CERAMIC | 001-151 |
| C32 | 39PF CERAMIC | 001-105 |
| C33 | 5.6PF CERAMIC | 001-230 |
| C34 | 6.8PF CERAMIC | 001-231 |
| C35 | 22PF CERAMIC | 001-226 |
| C36 | 2.2PF CERAMIC | 001-232 |
| C37 | 4.7NF CERAMIC | 001-103 |
| C38 | 4.7NF CERAMIC | 001-103 |

| | | STOCK # |
|---|---|---|
| D1 | DIODE 1N4148 | 001-112 |
| D2 | DIODE 1N4148 | 001-112 |
| J1 | RF CHOKE | 001-169 |
| J2 | RF CHOKE | 001-169 |
| J3 | RF CHOKE | 001-169 |
| J4 | RF CHOKE | 001-169 |
| L1 | COIL RF | 001-233 |
| L2 | COIL RF | 001-234 |
| L3 | COIL RF | 001-235 |
| L4 | NOT USED | 001-236 |
| L5 | COIL RF | 001-237 |
| L6 | COIL RF | 001-238 |
| L7 | NOT USED | 001-239 |
| L8 | COIL RF | 001-240 |
| L9 | COIL RF | 001-241 |
| Q1 | TRANSISTOR MRF237 | 001-242 |
| Q2 | TRANSISTOR BLW86 | 001-243 |
| R1 | RESISTOR 220 OHM | 001-127 |
| R2 | RESISTOR 2.2K OHM | 001-129 |
| R3 | RESISTOR 3.9 OHM | 001-244 |
| R4 | RESISTOR 3.9 OHM | 001-245 |
| R5 | RESISTOR 10 OHM | 001-246 |
| R6 | RESISTOR 10 OHM | 001-246 |
| R7 | RESISTOR 15 OHM | 001-247 |
| R8 | RESISTOR 39 OHM | 001-248 |
| R9 | RESISTOR 47 OHM | 001-209 |
| R10 | RESISTOR 12 OHM | 001-249 |
| R11 | RESISTOR 150 OHM | 001-250 |
| R12 | RESISTOR 47 OHM | 001-209 |
| R13 | RESISTOR 47 OHM | 001-209 |
| R14 | RESISTOR 1K OHM | 001-120 |
| R15 | RESISTOR 47 OHM | 001-209 |
| R16 | RESISTOR 3.3K OHM | 001-199 |
| R17 | RESISTOR 47 OHM | 001-209 |
| R18 | RESISTOR 3.3K OHM | 001-199 |
| T1 | 4:1 WIDEBAND XMFR | 001-251 |
| T2 | 4:1 WIDEBAND XMFR | 001-252 |



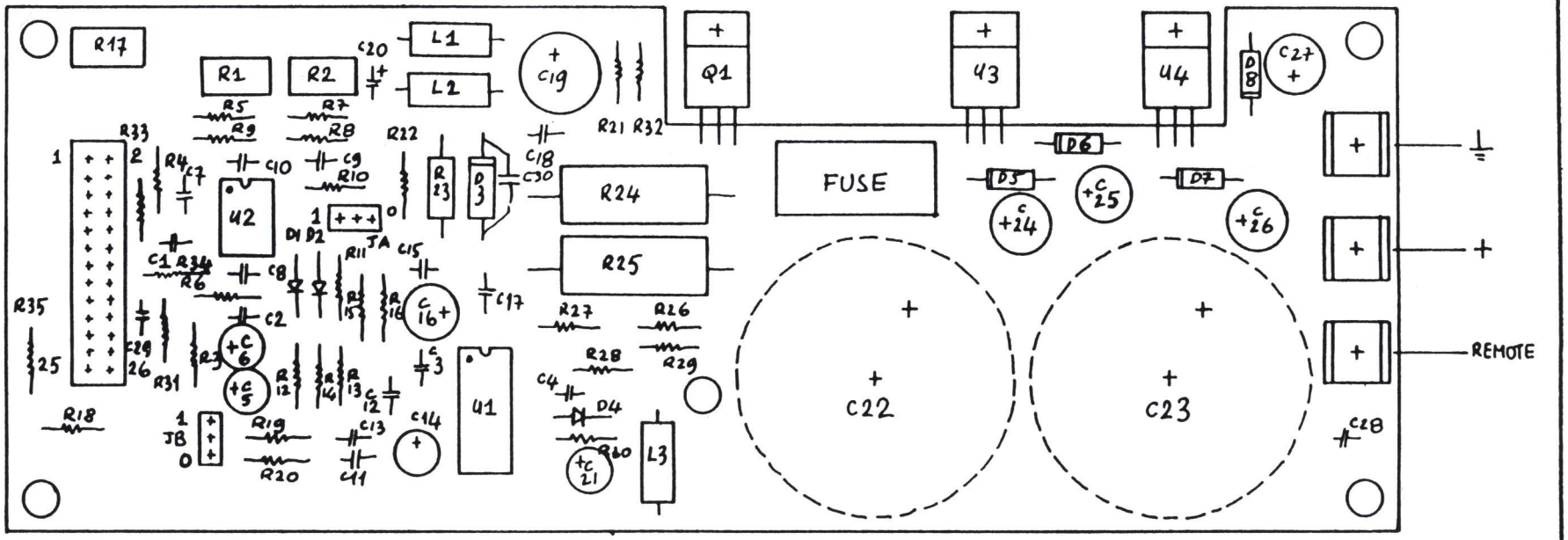



| ENERGY ONIX | | |
|---|---|---|
| HUDSON, N.Y | | |
| SST 30 POWER SUPPLY (SHT. 1 OF 2) | | |
| G T J | 1-09-95 | S223 |

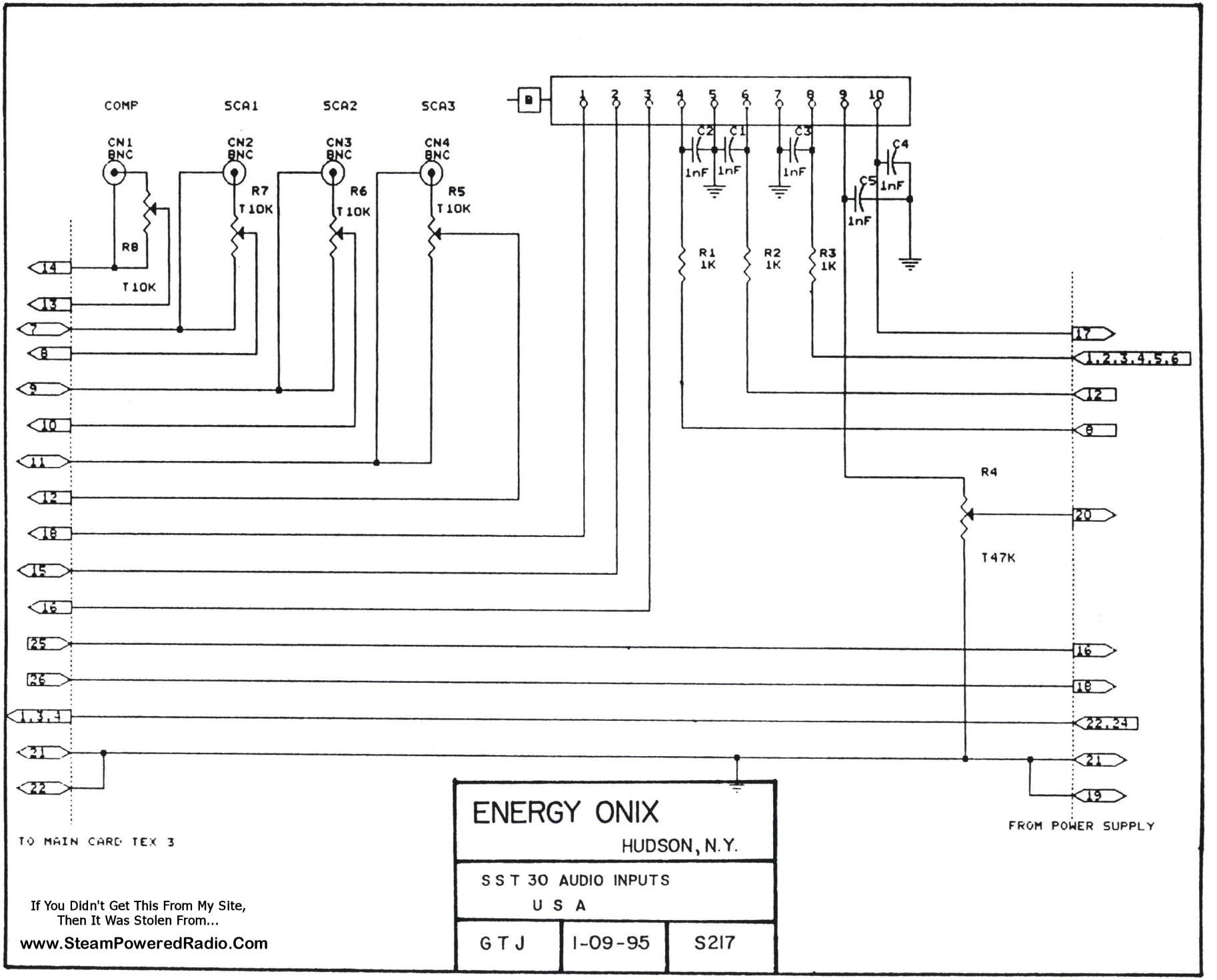


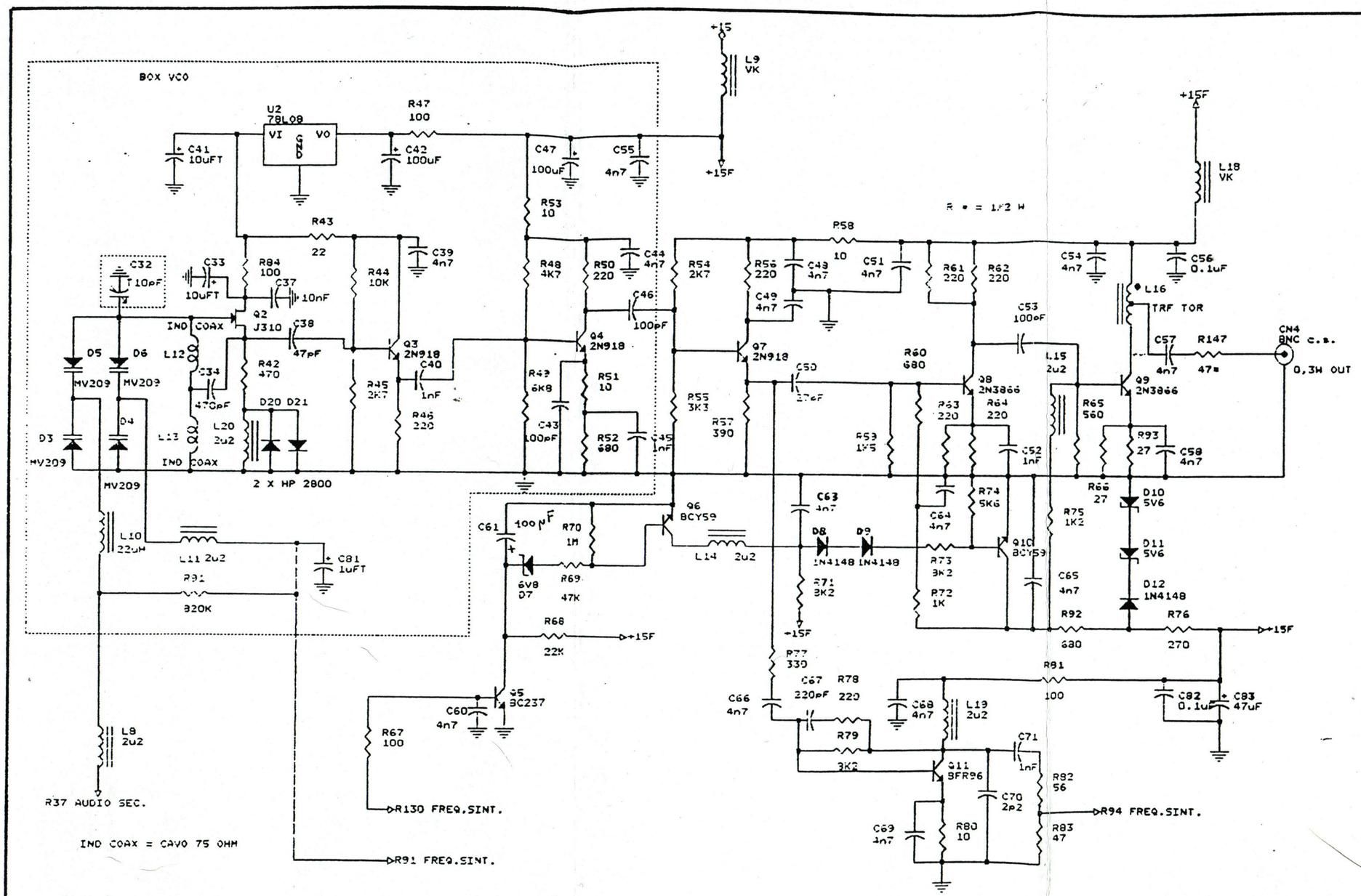

THE +12 V OUTPUT IS ON THREE CONTACTS
THE +15V OUTPUT IS ON TWO CONTACTS
THE 24V CONNECTION IS ON SEPARATE FASTON
THE 10,000μF ELECTROLYTIC CAPACITORS ARE VERTICAL, MOUNTED ON P.C. BOARD, 35 V.

| ENERGY ONIX HUDSON, N.Y. | | |
|---|---|---|
| SST 30 POWER SUPPLY (SHT 2 OF 2) | | |
| GTJ | 1-09-95 | S222 |



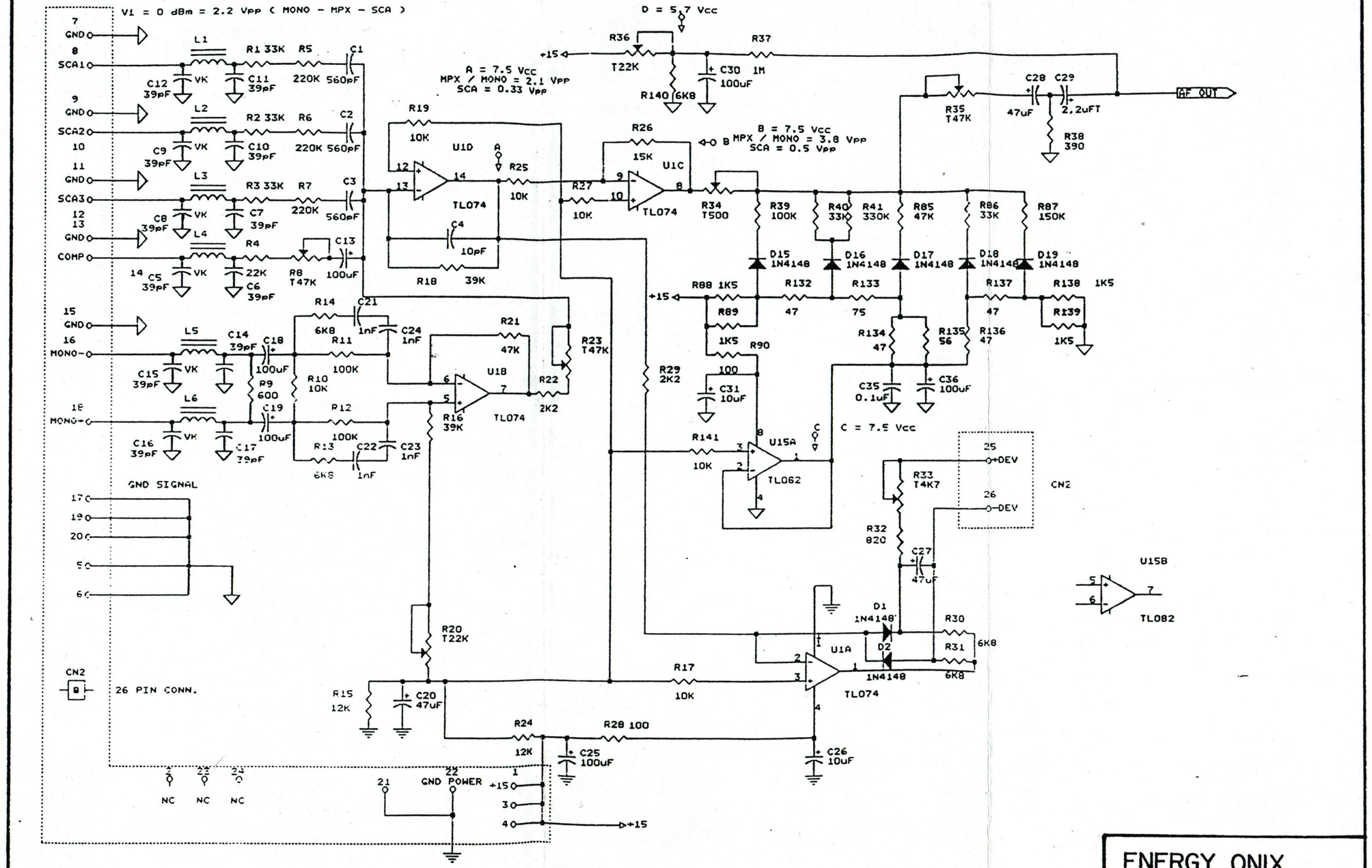

| ENERGY ONIX | | |
|---|---|---|
| HUDSON, N.Y. | | |
| S S T 30 POWER SUPPLY<br>COMPONENTS LAYOUT | | |
| G T J | 1-05-95 | S216 |







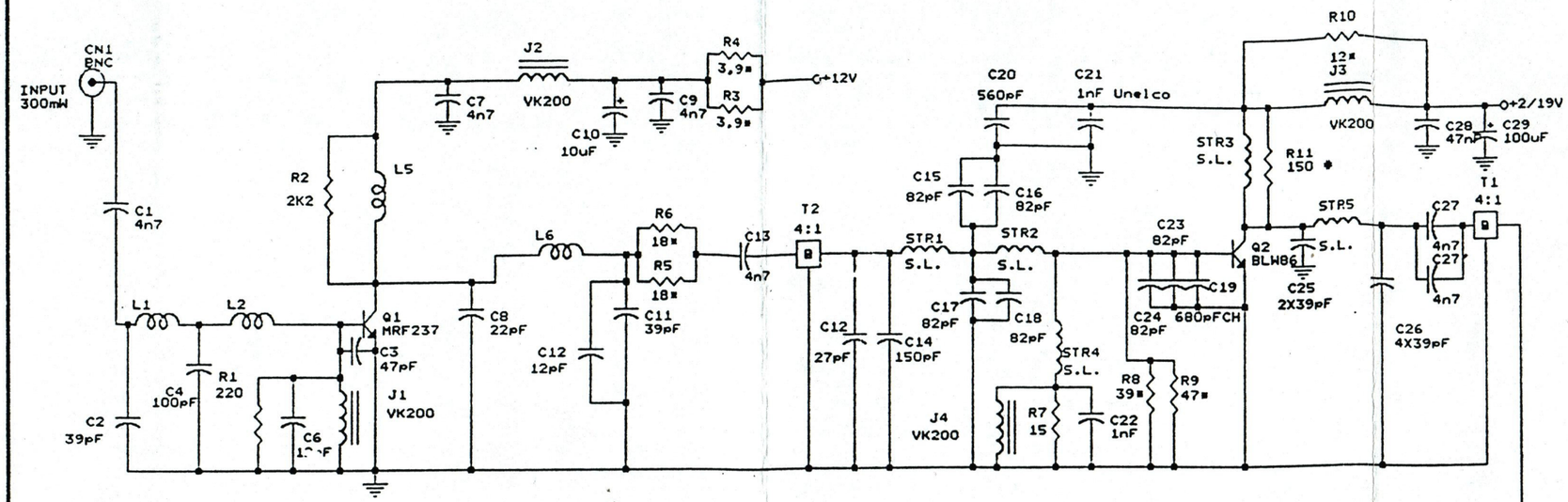

| | | |
|---|---|---|
| ENERGY ONIX<br>HUDSON, N.Y. | | |
| SST 30 MAINBOARD, VCO AND RF DRIVER SECTION | | |
| G T J | 1-09-95 | S224 |






| | | |
|---|---|---|
| ENERGY ONIX<br>HUDSON, N.Y. | | |
| SST 30 MAIN BOARD<br>AUDIO SECTION | | |
| G T J | I-09-95 | S225 |

| | | |
|---|---|---|
| ENERGY ONIX HUDSON, N Y | | |
| MAIN BOARD DIVIDER SECTION (SHT. 3 OF 3) | | |
| G T J | 1-09-95 | S 281 |

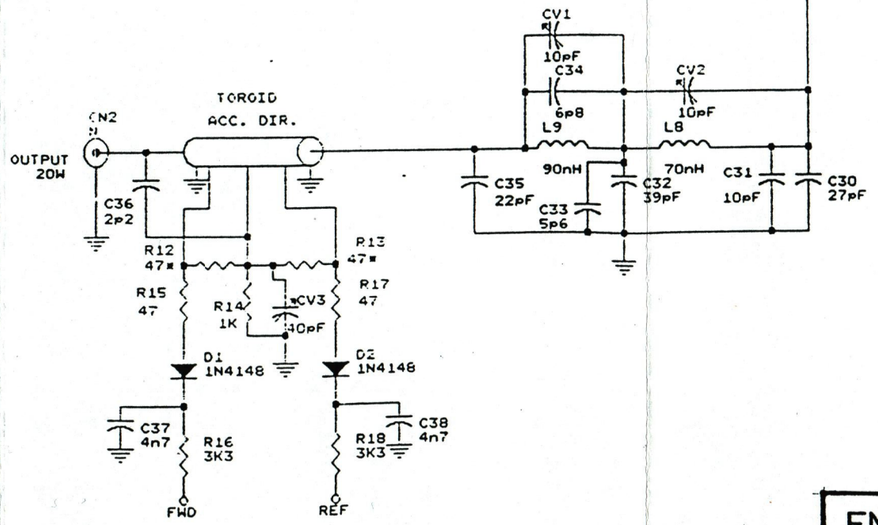



Q1 GROUNDED EMITTER TO-39 PACKAGE

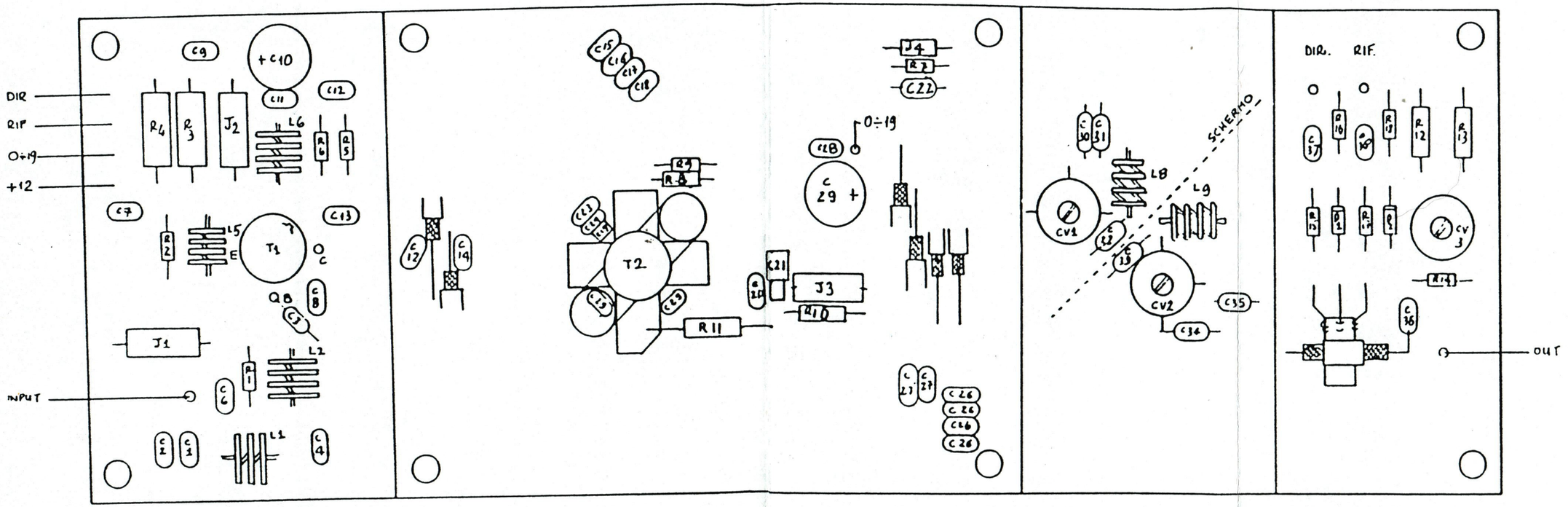
S.T = MICROSTRIP

T1 = T2 = RF TRANSFORMER 4:1 RATIO

L1 = 3sp dia 6mm  L1, L2, L5, L6 : smalto 0.8mm
L2 = 2sp dia 5mm
L5 = 6sp dia 6mm
L6 = 2sp dia 7mm
L8 = 5sp dia 6mm  L8, L9 : argento 1mm
L9 = 4sp dia 6mm
R * =  1/2 W
R ♦ =  2 W

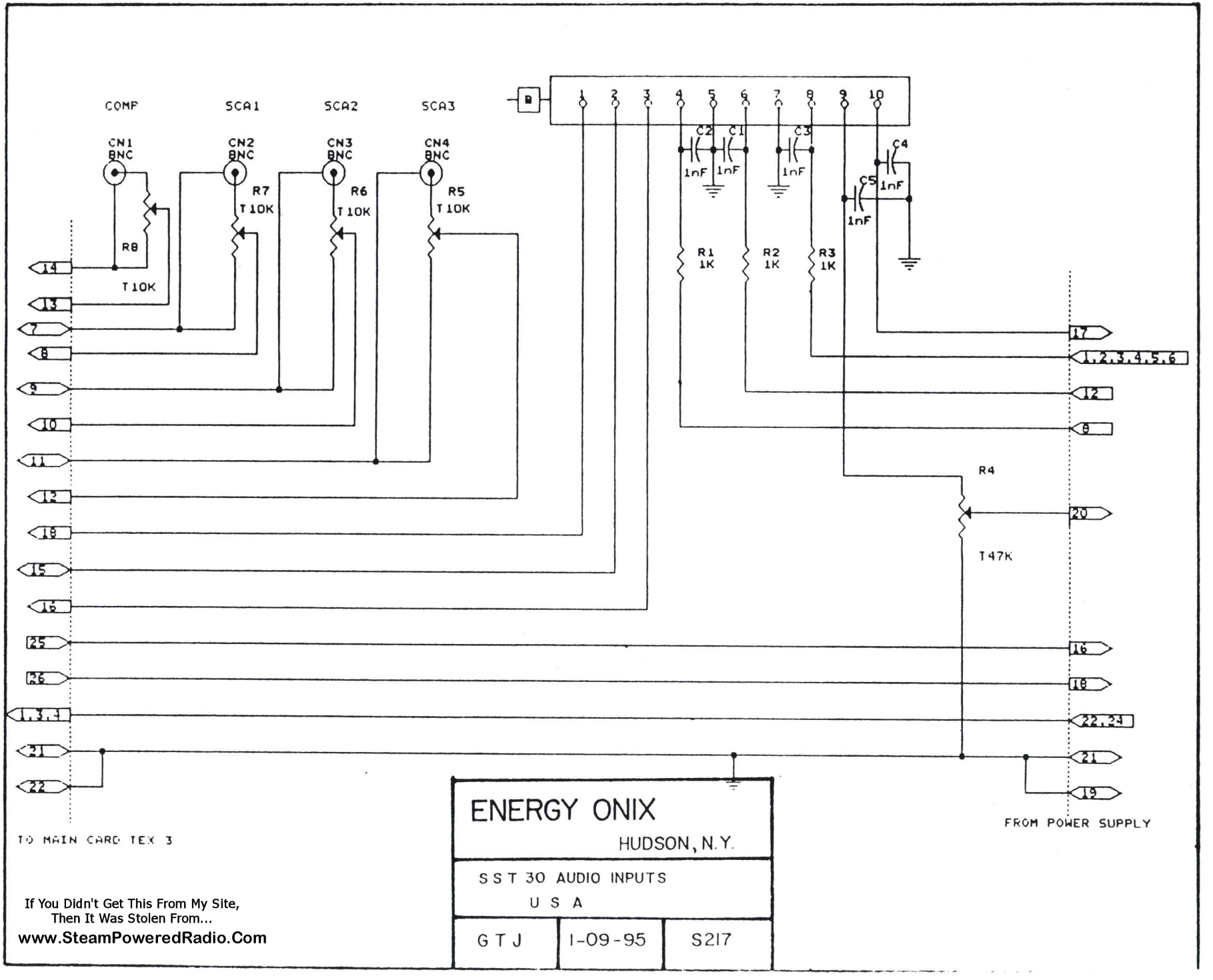



| ENERGY ONIX | | |
|---|---|---|
| HUDSON,N.Y. | | |
| SST 30 AMPLIFIER | | |
| G T J | 1-09-95 | S218 |






| ENERGY ONIX | | |
|---|---|---|
| HUDSON, N.Y. | | |
| S.S.T. 30 POWER AMPLIFIER COMPONENT LAYOUT | | |
| G T J | 1-09-95 | S219 |



## RECOMMENDED SPARE PARTS SST-30

| | | |
|---|---|---|
| DIODE VARICAP | MV209 | (1) EACH |
| DIODE ZENER | 24 VOLT | (1) EACH |
| DIODE ZENER | 5.6 VOLT | (1) EACH |
| DIODE ZENER | 6.8 VOLT | (1) EACH |
| DIODE | HP2800 | (1) EACH |
| DIODE | IN4004 | (1) EACH |
| DIODE | IN4148 | (1) EACH |
| DIODE BRIDDE | 26MB10A | (1) EACH |
| FUSE | 2 AMP | (1) BOX |
| FUSE | 4 AMP | (1) BOX |
| IC | LM723 | (1) EACH |
| IC | LM358N | (1) EACH |
| IC | LM7815CT | (1) EACH |
| IC | TL074 | (1) EACH |
| IC | TL082 | (1) EACH |
| IC | LM7805 | (1) EACH |
| IC | 78L08 | (1) EACH |
| IC | LM7812CSP | (1) EACH |
| IC | 74196 | (1) EACH |
| IC | 7400 | (1) EACH |
| IC | 74121 | (1) EACH |
| IC | 74LS02 | (1) EACH |
| IC | 74LS190 | (1) EACH |
| IC | SP8680 | (1) EACH |
| IC | CD4046 | (1) EACH |
| IC | CD4520 | (1) EACH |
| IC | CD4518 | (1) EACH |
| TRANSISTOR | J310 | (1) EACH |
| TRANSISTOR | 2N918 | (1) EACH |
| TRANSISTOR | BC237 | (1) EACH |
| TRANSISTOR | BCY59 | (1) EACH |
| TRANSISTOR | 2N3866 | (1) EACH |
| TRANSISTOR | BFR96 | (1) EACH |
| TRANSISTOR | BF245 | (1) EACH |
| TRANSISTOR | MJ3001 | (1) EACH |
| TRANSISTOR | MRF237 | (1) EACH |
| TRANSISTOR | BLW86 | (1) EACH |

ENERGY ONIX
HUDSON, N.Y.

SST 30 MAIN BOARD
COMPONENT LAYOUT

G T J | 1-09-95 | S220

# Warranty

Seller guarantees at his option to either replace or repair any product or part found to be defective in material or workmanship under normal use within one (1) year from date of shipment, with the exception of tubes or moving parts (blowers) which will carry the original manufacturer's warranty only. Seller's obligation is limited to replacement and repair of such defective product or part, if delivered, transportation prepaid to seller's factory within thirty (30) days after return is authorized . Repaired or replacement parts will be sent freight collect.

This warranty is in lieu of all other warranties, expressed or implied, and there is specifically no warranty of merchantibility of fitness for a particular use , purpose, or otherwise, unless expressly set forth to the contrary herein and no waiver, alteration or modification herein shall be valid unless in writing signed by the executive officer of seller. There is no warranty on merchandise or equipment which has been subjected to abuse, misuse, neglect, accident, improper installation, or application, negligence in use, storage, transportation or handling; nor is there any warranty as to merchandise which has been repaired or altered outside seller's factory.