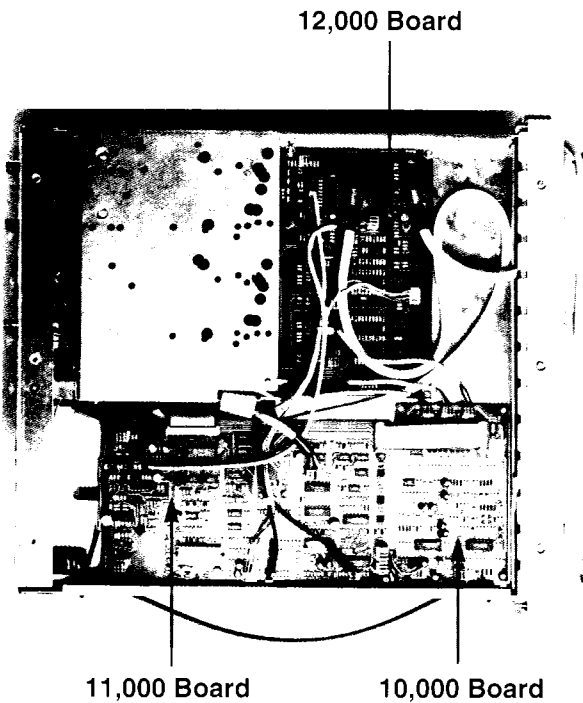
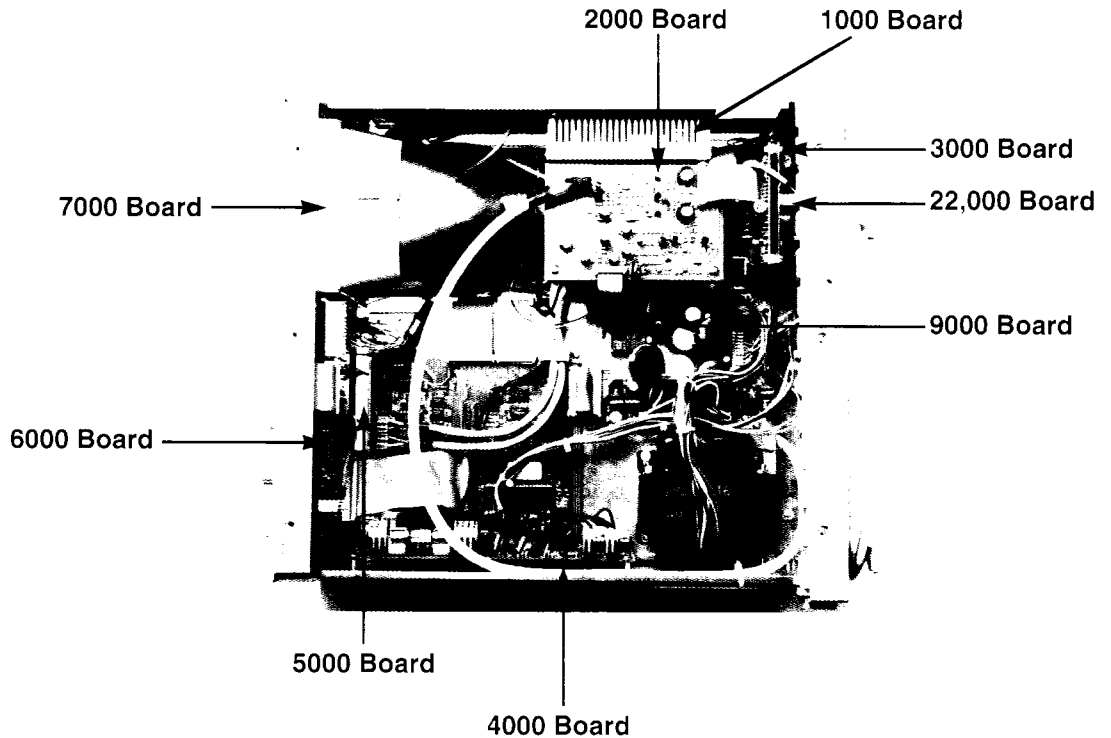


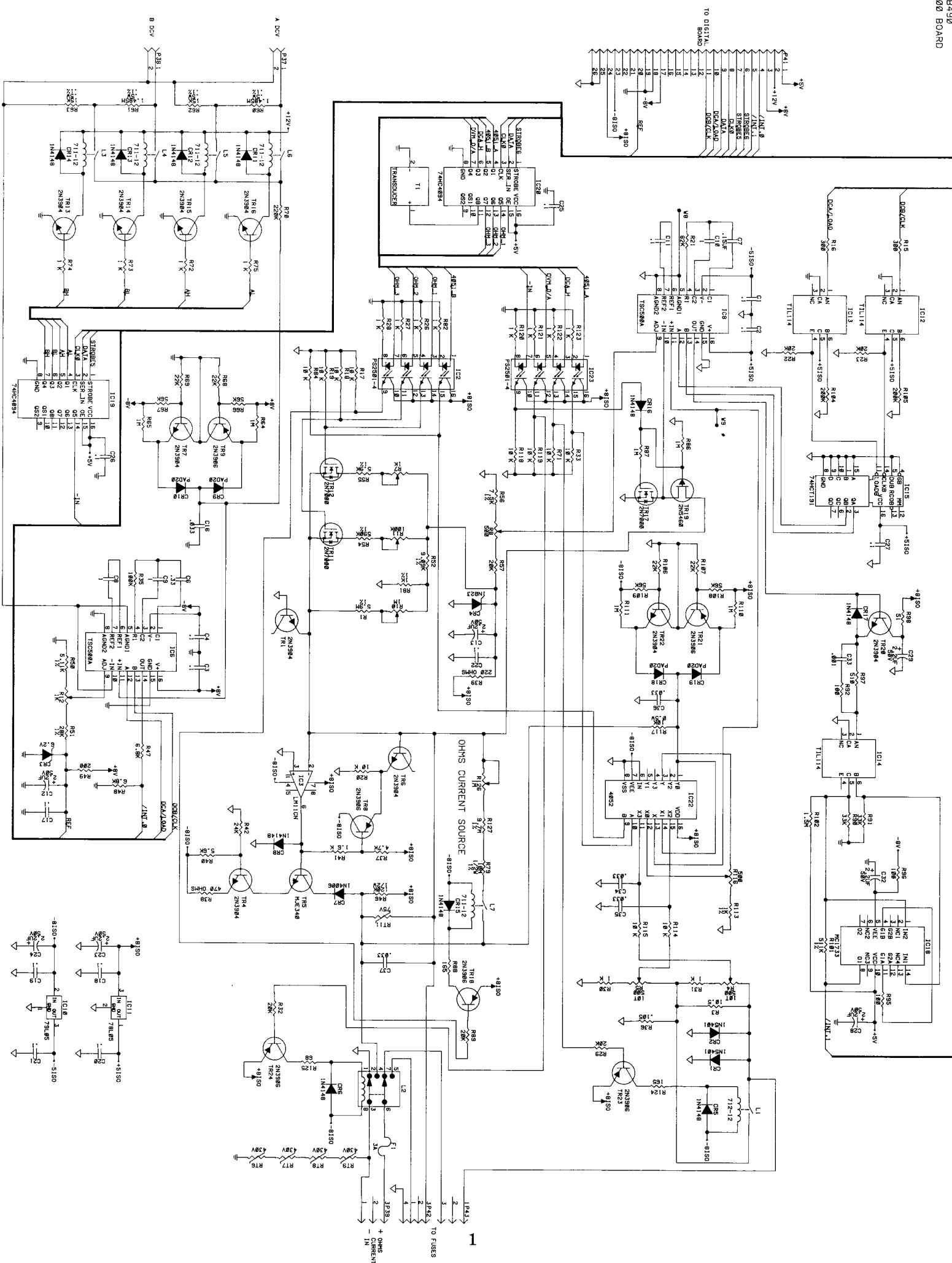
SC3100

"Auto Tracker"

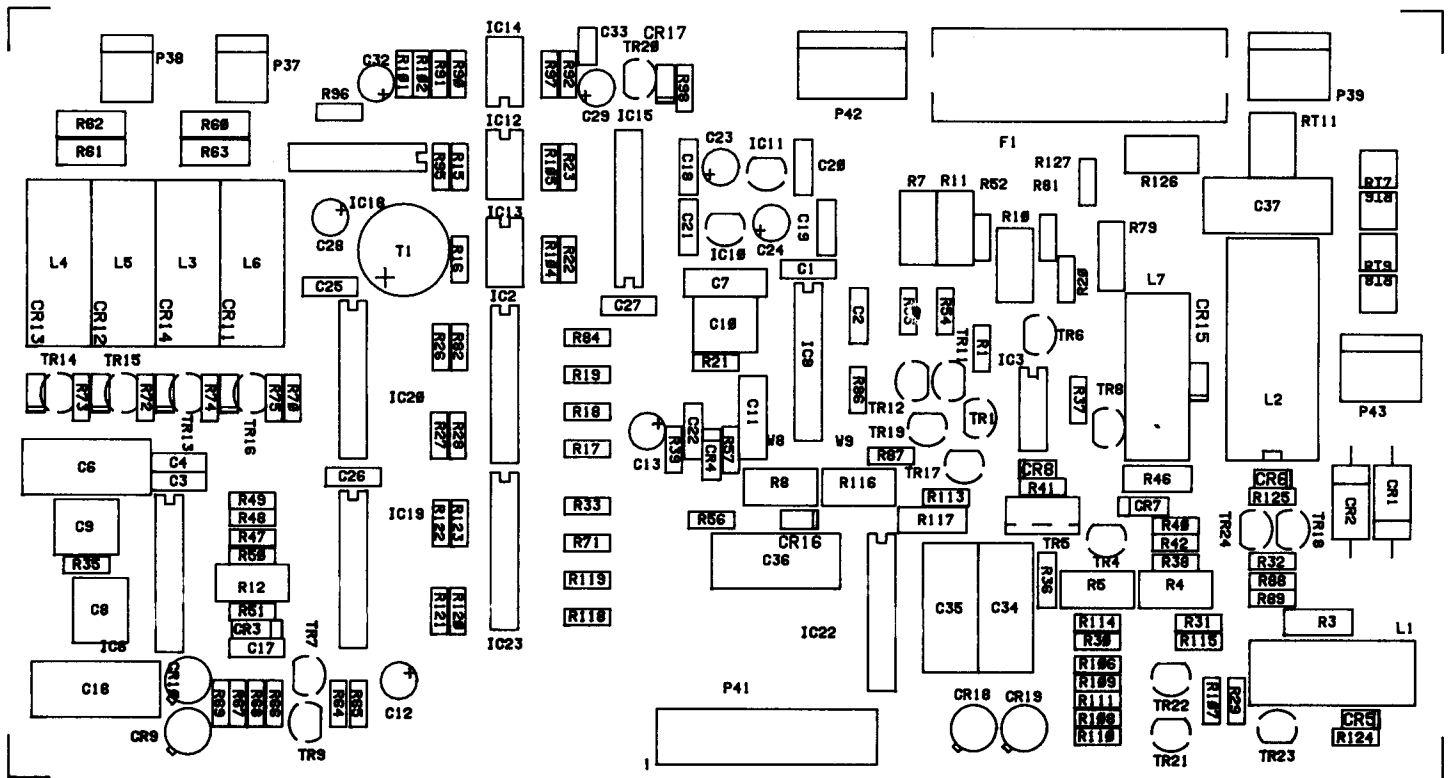


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This booklet contains schematic, board legend, and parts list for each board.



4000 DVM BOARD



SCHEMATIC REFERENCE

PART NO.

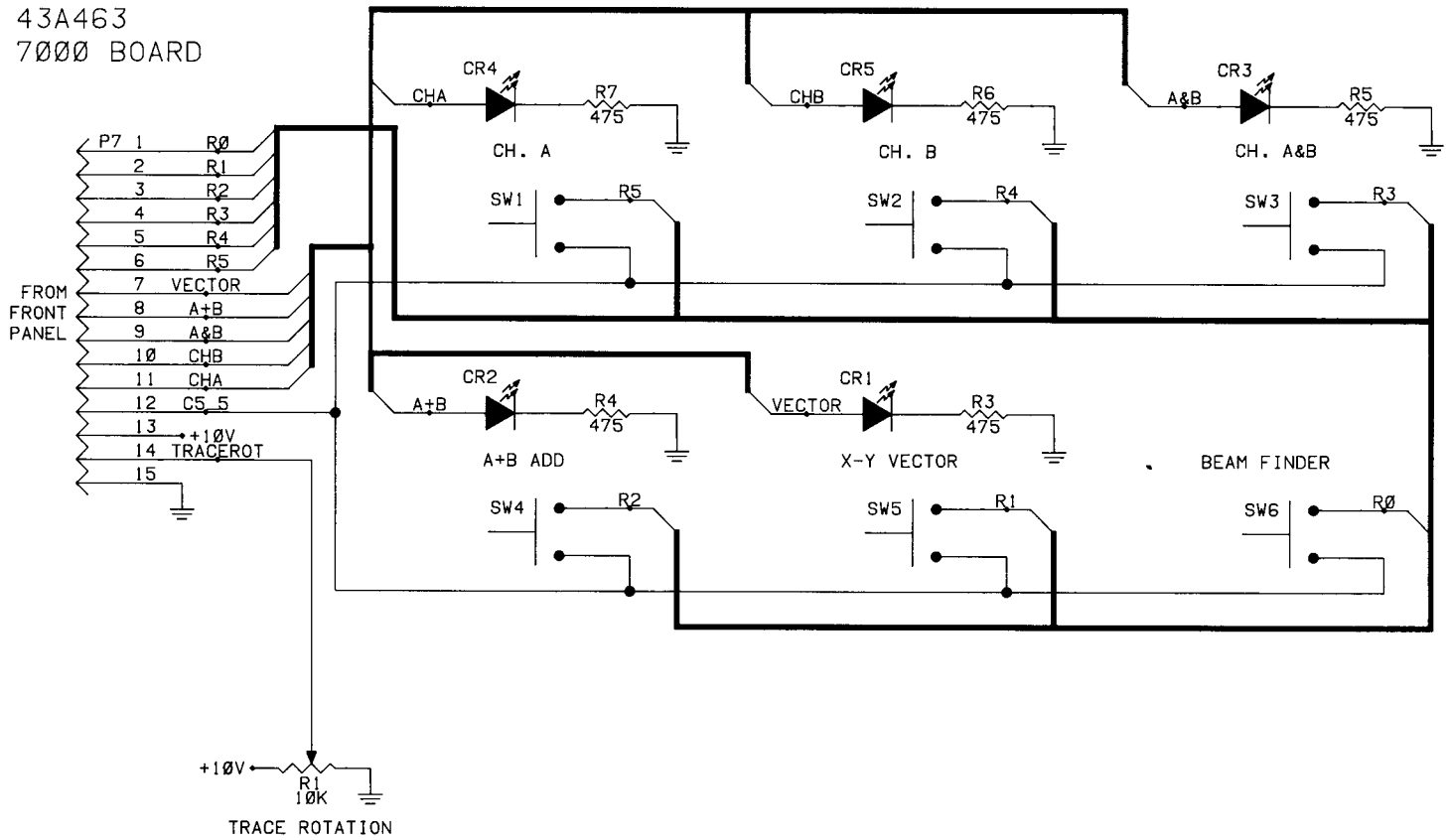
DESCRIPTION

DVM (4000) BOARD

| | | |
|---------------|----------|---------------------------------|
| C1,2,18-22,27 | 24G104 | CAP,DISC.,.1UF,100V,80/-20%,Z5V |
| C3,4,17,25,26 | 24G104 | CAP,DISC.,.1UF,100V,80/-20%,Z5V |
| C6 | 24G471 | CAP,POLY.,.33UF,50V,5% |
| C7 | 24G674 | CAP,MET.POLY.,.15UF,100V,10% |
| C8,9 | 24G571 | CAP,STKD MET FILM,1UF,50V,5% |
| C10 | 24G571 | CAP,STKD MET FILM,1UF,50V,5% |
| C11 | 24G512 | CAP,MET.POLY.,.1uF,250V,10%,BUL |
| C12,28,32 | 24G384 | CAP,LYTIC,2.2UF,50V,20% |
| C13,23,24,29 | 24G384 | CAP,LYTIC,2.2UF,50V,20% |
| C16 | 24G404 | CAP,POLYPROP.,.033uF,200V,10% |
| C33 | 24G368 | CAP,DISC.,.001UF,100V,10% |
| C34,35,37 | 24G404 | CAP,POLYPROP.,.033uF,200V,10% |
| C36 | 24G404 | CAP,POLYPROP.,.033uF,200V,10% |
| CR1,2 | 16G14 | DIODE,PWR COMP,100V,3A,500uA, |
| CR3 | 50C12-1 | DIODE,ZENER,6.2V,7.5mA,5%,825 |
| CR4 | 50C12-1 | DIODE,ZENER,6.2V,7.5mA,5%,825 |
| CR5,6,8,15 | 50C5-2:A | DIODE,SIL,75V,100mA,.25uA,4148 |
| CR7 | 16G5 | DIODE,SILICON,800V,1A,10uA, |
| CR11-14 | 50C5-2:A | DIODE,SIL,75V,100mA,.25uA,4148 |
| CR16,17 | 50C5-2:A | DIODE,SIL,75V,100mA,.25uA,4148 |
| FL1 | 44G28 | FUSE,600V,3A |
| IC2,23 | 69G310 | IC,OPTOCOUPLER,PS2501 |
| IC3 | 69G730 | OP AMP,SINGLE,LO-OFFSET,LM11 |
| IC6 | 69G705 | IC,CONV,A/D,16PIN,TSC500ACPE |
| IC8 | 69G705 | IC,CONV,A/D,16PIN,TSC500ACPE |
| IC10 | 69G116 | IC,REG,-5V,100mA,79L05 |
| IC11 | 69G29 | IC,REG,+5V,100mA,78L05 |
| IC13-14 | 69G601 | IC,OPTO COUPLER,TIL-114 |
| IC15 | 69G675 | IC,COUNTER,UP/DWN,BIN,74HCT191 |
| IC18 | 69G117 | IC,AMP,DIFF,VIDEO,733 |

| SCHEMATIC REFERENCE | PART NO. | DESCRIPTION |
|-----------------------------------|--------------|--------------------------------|
| DVM (4000) BOARD CONTINUED | | |
| IC19,20 | 69G700 | IC,8BIT SHIFT REG,74HC4094 |
| IC22 | 69G183 | IC,MUX,,16PIN,CA4052,RCA |
| L1 | 41G39 | RELAY REED,712-12 |
| L2 | 41G34 | RELAY,PWR,5A 250V |
| L3-6 | 41G35 | RELAY,REED,711-12 |
| L7 | 41G35 | RELAY,REED,711-12 |
| R1 | 14A38-5906A | RES,MET.F,5.9M,1/4W,1%,100PPM |
| R3 | 14C29-1051A | RES,MET.F,10.5,1/2W,1%,100PPM |
| R4,5 | 15A36-2 | POT,VPC20T CERM,500,,10% |
| R7 | 15A36-1 | POT,VPC20T CERM,1K,,10% |
| R8,116 | 15A36-2 | POT,VPC20T CERM,500,,10% |
| R10,126 | 15A36-6 | POT,VPC 20T,CERM,1M,10% |
| R11 | 15G66-104 | POT,VPC,CERM,100K,10%,.5W,20T |
| R12 | 15A36-1 | POT,VPC20T CERM,1K,,10% |
| R15,16 | 14C1-301 | RES,CARBON,300,1/4W,5% |
| R17-19,33,71,84, 118,119 | 14C1-103 | RES,CARBON,10K,1/4W,5% |
| R20 | 14C1-103 | RES,CARBON,10K,1/4W,5% |
| R21 | 14C1-823 | RES,CARBON,82K,1/4W,5% |
| R22,23 | 14C1-203 | RES,CARBON,20K,1/4W,5% |
| R26-28,72-75,82 | 14C1-102 | RES,CARBON,1K,1/4W,5% |
| R29,32,89 | 14C1-203 | RES,CARBON,20K,1/4W,5% |
| R30,31,81,113 | 14A38-1003A | RES,MET.F,1K,1/4W,1%,100PPM |
| R35 | 14C1-104 | RES,CARBON,100K,1/4W,5% |
| R37 | 14C1-472 | RES,CARBON,4.7K,1/4W,5% |
| R38 | 14C1-471 | RES,CARBON,470,1/4W,5% |
| R39 | 14A38-2212A | RES,MET.F,221,1/4W,1%,100PPM |
| R40 | 14C1-562 | RES,CARBON,5.6K,1/4W,5% |
| R41 | 14A38-1603A | RES,MET.F,1.6K,1/4W,1%,100PPM |
| R42 | 14C1-243 | RES,CARBON,24K,1/4W,5% |
| R46 | 14C29-1215B | RES,MET.F,121K,1/2W,1%,50PPM |
| R47,48 | 14C1-682 | RES,CARBON,6.8K,1/4W,5% |
| R49 | 14C1-201 | RES,CARBON,200,1/4W,5% |
| R50 | 14A38-5113A | RES,MET.F,5.11K,1/4W,1%,100PPM |
| R51 | 14A38-2804A | RES,MET.F,28K,1/4W,1%,100PPM |
| R52 | 14A38-9093A | RES,MET.F,9.09K,1/4W,1%,100PPM |
| R54 | 14A38-5905A | RES,MET.F,590K,1/4W,1%,100PPM |
| R55 | 14A38-5903A | RES,MET.F,5.9K,1/4W,1%,100PPM |
| R56 | 14A38-7503A | RES,MET.F,7.5K,1/4W,1%,100PPM |
| R57 | 14A38-2004A | RES,MET.F,20K,1/4W,1%,100PPM |
| R60,61 | 14C26-14856A | RES,MET.F,1.485M,1/2W,1%,100P |
| R64,65 | 14C1-105 | RES,CARBON,1M,1/4W,5% |
| R66,67 | 14C1-563 | RES,CARBON,56K,1/4W,5% |
| R68,69 | 14C1-223 | RES,CARBON,22K,1/4W,5% |
| R70 | 14C1-224 | RES,CARBON,220K,1/4W,5% |
| R79 | 14C26-1007A | RES,MET.F,10M,1/2W,1%,100PPM |
| R86,87 | 14C1-105 | RES,CARBON,1M,1/4W,5% |
| R88,124 | 14Z1-161 | RES,CARBON,160,1/4W,5% |
| R90,91 | 14C1-333 | RES,CARBON,33K,1/4W,5% |
| R92 | 14C1-101 | RES,CARBON,100,1/4W,5% |
| R95,96 | 14C1-101 | RES,CARBON,100,1/4W,5% |
| R97 | 14C1-511 | RES,CARBON,510,1/4W,5% |
| R98 | 14C1-510 | RES,CARBON,51,1/4W,5% |
| R101 | 14C1-514 | RES,CARBON,510K,1/4W,5% |
| R102 | 14C1-155 | RES,CARBON,1.5M,1/4W,5% |
| R104,105 | 14C1-204 | RES,CARBON,200K,1/4W,5% |
| R106,107 | 14C1-223 | RES,CARBON,22K,1/4W,5% |
| R108,109 | 14C1-563 | RES,CARBON,56K,1/4W,5% |
| R110,111 | 14C1-105 | RES,CARBON,1M,1/4W,5% |
| R114,115 | 14C1-103 | RES,CARBON,10K,1/4W,5% |
| R117 | 14C29-1004A | RES,MET.F,10K,1/2W,1%,100PPM |
| R120-123 | 14C1-102 | RES,CARBON,1K,1/4W,5% |
| R125 | 14C1-680 | RES,CARBON,68,1/4W,5% |
| R127 | 14A38-9706A | RES,MET.F,9.7M,1/4W,1%,100PPM |
| RT6-9 | 33G260 | VARISTOR,430V,10% |
| RT11 | 33G246 | SURGE ARRESTOR,GAS DISCHG |
| T1 | 48G10 | TRANSDUCER, 2.3KHZ, 5VDC |
| TR1,4,6,22 | 19A33-1 | TRANS,NPN,40V,200mA,2N3904 |
| TR5 | 19G139 | TRANS,NPN,300V,.5A,MJE340 |
| TR7,13-16 | 19A33-1 | TRANS,NPN,40V,200mA,2N3904 |
| TR8,18,21,23,24 | 19A34-1 | TRANS,PNP,40V,200mA,,2N3906 |
| TR9 | 19A34-1 | TRANS,PNP,40V,200mA,,2N3906 |
| TR11,12,17 | 19G70 | TRANS,N-CHNL,60V,200mA,2N7000 |
| TR19 | 19A41 | TRANS,P-CHNL,40V,10mA,,2N5460 |
| TR20 | 19A33-1 | TRANS,NPN,40V,200mA,2N3904 |

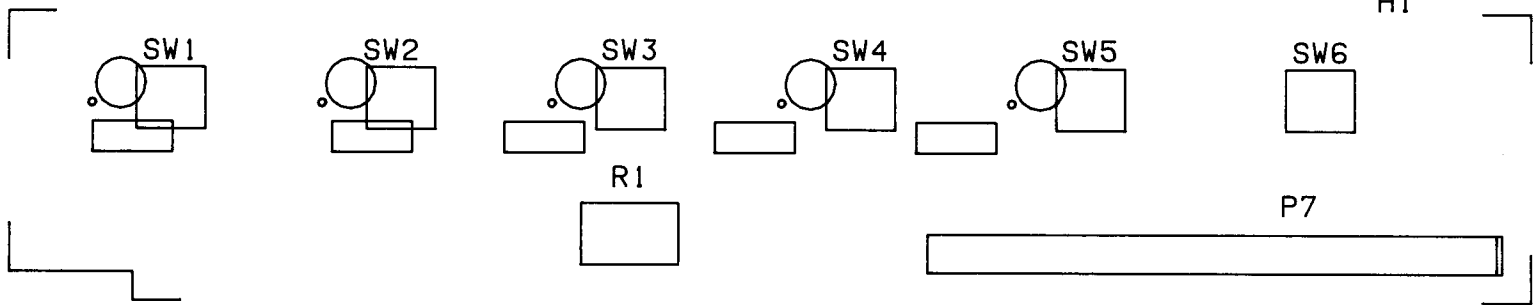
CRT MODE
43A463
7000 BOARD



7000 CRT MODE BOARD

H2

H1



**SCHEMATIC
REFERENCE**

PART NO.

DESCRIPTION

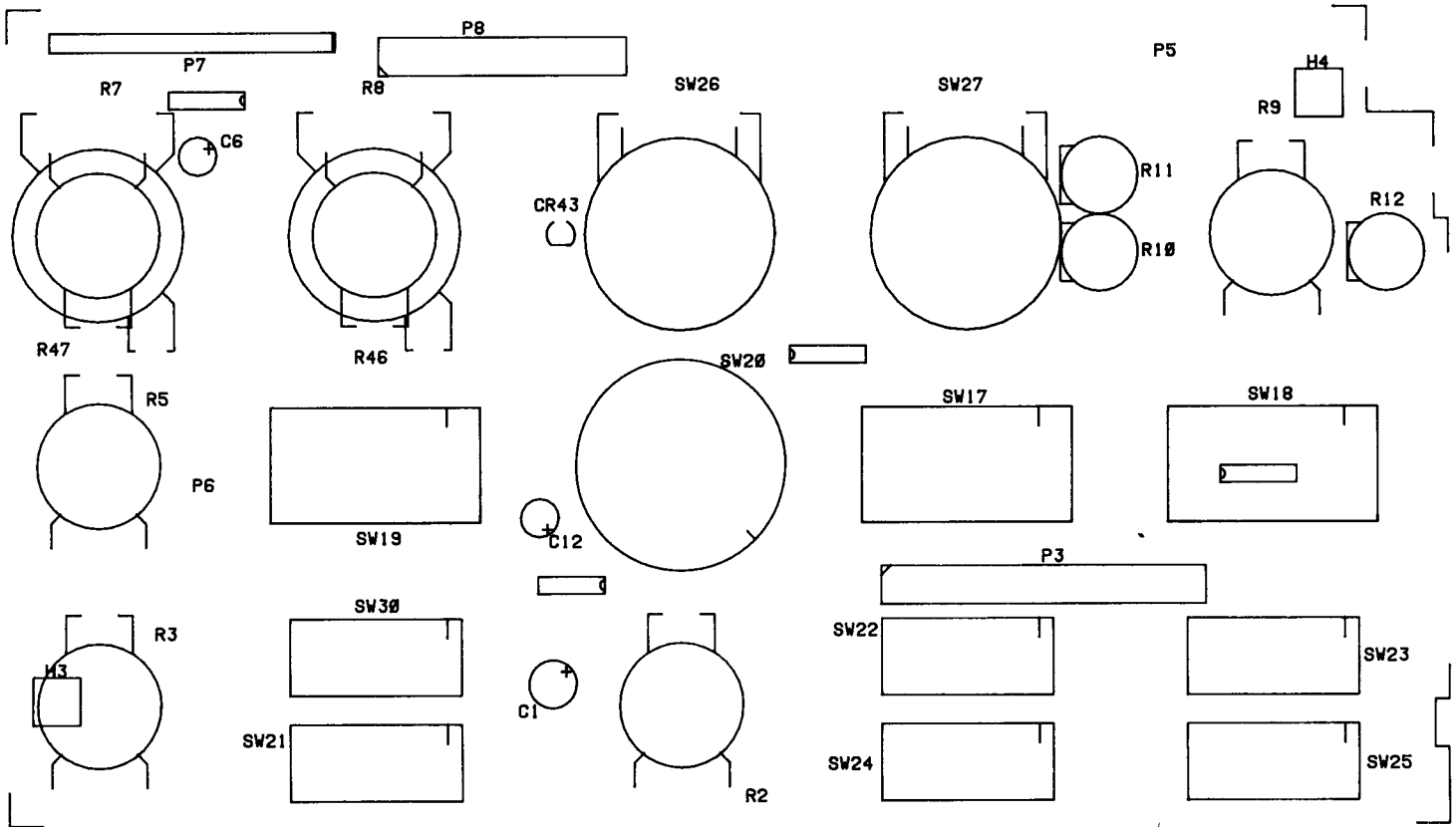
CRT MODE (7000) BOARD

CR1-5
R3-7
SW1-6

20G37
14G102-4752A
25B417-2

SMTLED,RED,2.2V,10MA
RES,CHIP,475,1/8W,1%,100PPM
SWITCH PAD, CRT MODE

5000 FRONT PANEL BOARD



SCHEMATIC REFERENCE

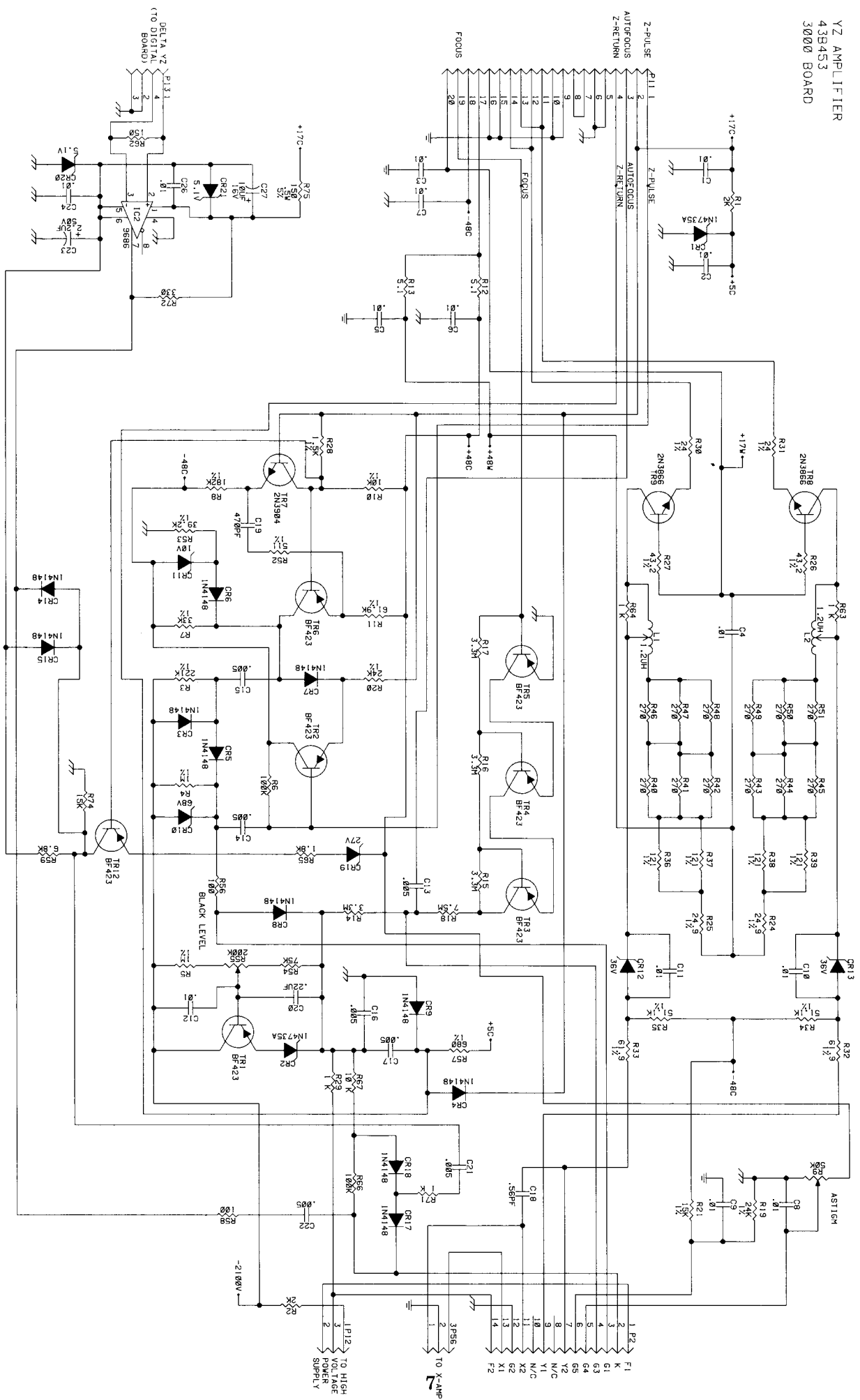
PART NO.

DESCRIPTION

FRONT PANEL (5000) BOARD

| SCHEMATIC REFERENCE | PART NO. | DESCRIPTION |
|----------------------|--------------|--------------------------------|
| C1 | 24G407 | CAP,RLYTIC,47UF,25V,+/-20% |
| C2 | 24G618 | CAP,CHIP,.022UF,50V,10%,X7R |
| C3 | 24G465 | CAP,CHIP,.01uF,50V,10%,X7R |
| C4,5,19 | 24G612 | CAP,CHIP,100PF,50V,5%,NPO |
| C6,12 | 24G382 | CAP,RLYTIC,10UF,16V,20% |
| C9,13,16-18 | 24G575 | CAP,CHIP,.1UF,50V,10%,X7R |
| C14,15 | 24G606 | CAP,CHIP,.001UF,50V,10%,X7R |
| CR1,2,21-41,44,45-47 | 50G36 | SMT DIODE,SIL,75V,100MA,4148 |
| CR43 | 20G14 | LAMP,LED,2V,10mA,,MV5054-1 |
| IC1 | 69G529 | SMTIC,SWITCH,JFET,74HC4066 |
| IC2 | 69G474 | SMTIC,COUNTER,DECADE,74HC4017 |
| IC3 | 69G693 | SMTIC,8 BIT SHIFT REG,74HC4094 |
| IC4 | 69G445 | SMTIC,SH REG,PAR/SER,74HC165 |
| R2,3,5,9 | 15B47 | POT,PCMT,10K,EXTENDED LEGS |
| R10-12 | 15C26-24 | POT,MHPC CERM,10K,1/2W,20% |
| R31 | 14G102-4752A | RES,CHIP,475,1/8W,1%,100PPM |
| R32 | 14G102-9093A | RES,CHIP,9.09K,1/8W,1%,100PPM |
| R33 | 14G102-5623A | RES,CHIP,5.62K,1/8W,1%,100PPM |
| R34 | 14G102-1744A | RES,CHIP,17.4K,1/8W,1%,100PPM |
| R35 | 14G102-5113A | RES,CHIP,5.11K,1/8W,1%,100PPM |
| R36,37,44,45,59-69 | 14G102-1003A | RES,CHIP,1K,1/8W,1%,100PPM |
| R38,39 | 14G102-5112A | RES,CHIP,511,1/8W,1%,100PPM |
| R40,51-58 | 14G102-1005A | RES,CHIP,100K,1/8W,1%,100PPM |
| R41,48 | 14G102-5110A | RES,CHIP,5.11,1/8W,1%,100PPM |
| R46,47 | 15B52 | POT,VPC,CERM,10K,MULTI-TURN |
| R49,50 | 14G102-1004A | RES,CHIP,10K,1/8W,1%,100PPM |
| SW17,18 | 25B441 | SWITCH,BCD W/POT,14 POS |
| SW19 | 25B443 | SWITCH,BCD W/POT,24 POS |
| SW20 | 25G358 | SWITCH,ROTARY,1 POLE;12 POS. |
| SW21-23 | 25B421 | SWITCH,TOGGLE,2P2T |
| SW24,25,30 | 25B420 | SWITCH,TOGGLE,2P3T |
| SW26,27 | 15B46 | POT,VPC CARB,10K,1/2W,20%,PUSH |
| | 25G424 | SWITCH,POWER,PUSH-PUSH |

YZ AMPLIFIER
43B453
3000 BOARD



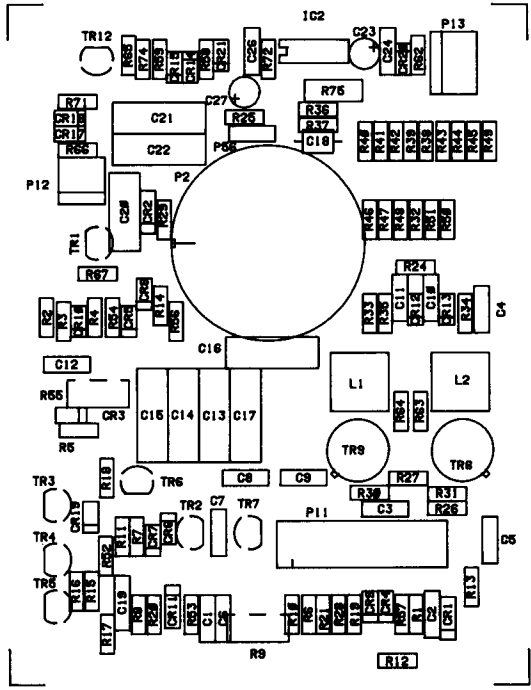
3000 YZ BOARD

SCHEMATIC REFERENCE

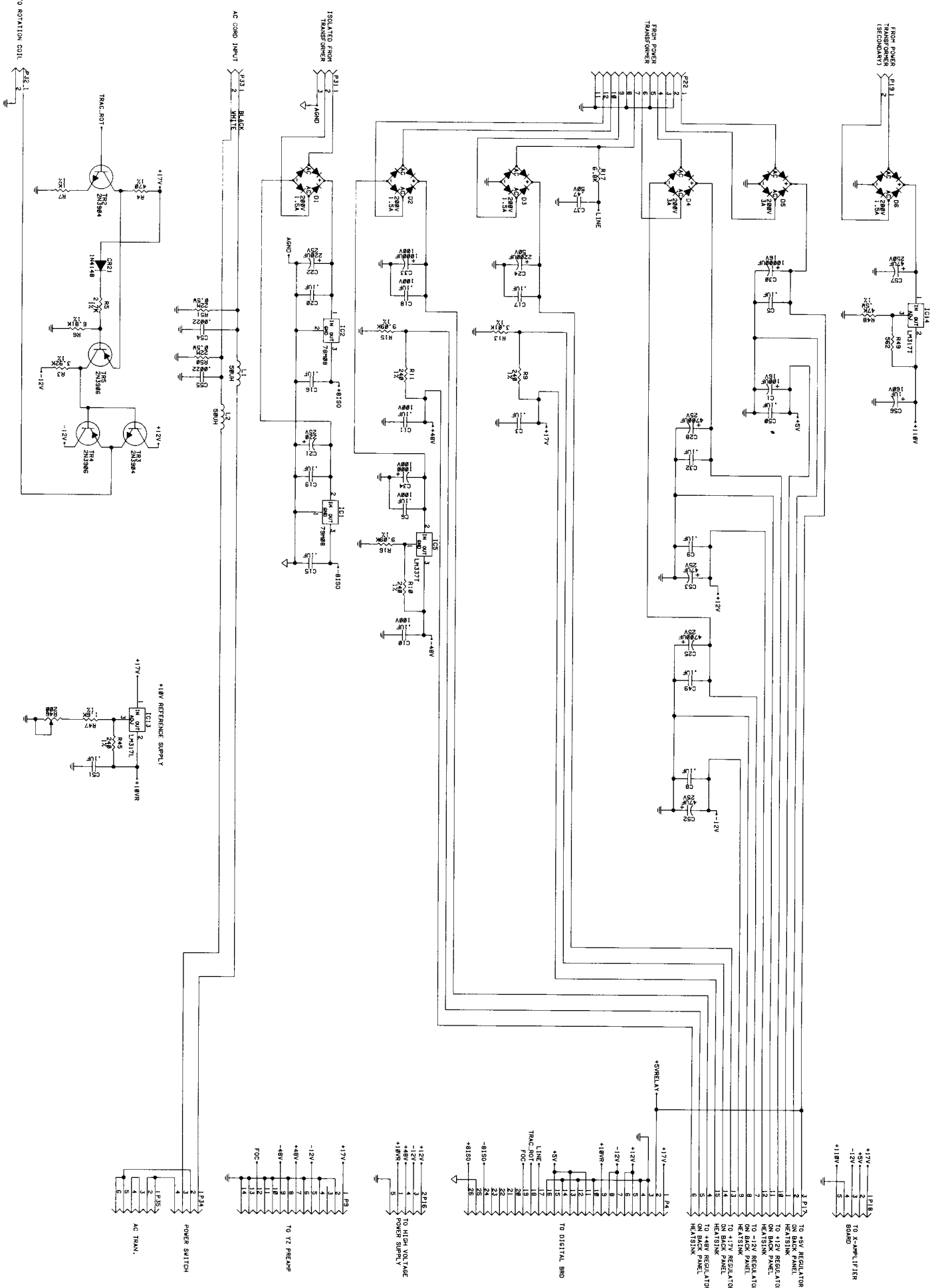
PART NO.

DESCRIPTION

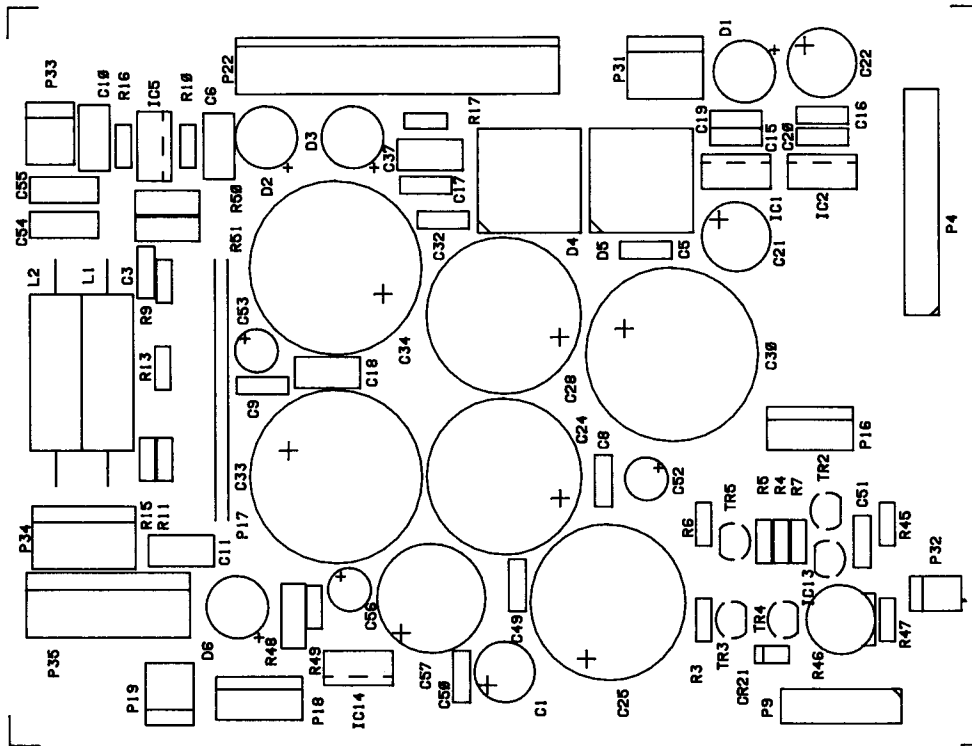
YZ (3000) BOARD



| | | |
|----------------|-------------|--------------------------------|
| C1-3,5-9 | 24G483 | CAP,MYLAR,.01UF,50V,5%,5MM |
| C4,10-12,24,26 | 24G483 | CAP,MYLAR,.01UF,50V,5%,5MM |
| C13-17 | 24G305 | CAP,DISC,.005UF,3000V,20% |
| C18 | 24G322 | CAP,DISC,.56PF,500V,10% |
| C19 | 24G119 | CAP,DISC,470PF,500V,10% |
| C20 | 24G168 | CAP,MYLAR,.22UF,100V,10% |
| C22,21 | 24G305 | CAP,DISC,.005UF,3000V,20% |
| C23 | 24G384 | CAP,LYTIC,2.2UF,50V,20% |
| C27 | 24G382 | CAP,LYTIC,10UF,16V,20% |
| CR1 | 50C4-6:A | DIODE,ZENER,6.2V,100mA,5%,4735 |
| CR2 | 50C4-6:A | DIODE,ZENER,6.2V,100mA,5%,4735 |
| CR3-9 | 50C5-2:A | DIODE,SIL,75V,100mA,.25uA,4148 |
| CR10 | 50C4-9 | DIODE,ZENER,68V,14mA,5% |
| CR11 | 50C4-12 | DIODE,ZENER,10V,95mA,10%,4740 |
| CR12,13 | 50C4-10 | DIODE,ZENER,36V,30mA,10%,4753 |
| CR17,18,15,14 | 50C5-2:A | DIODE,SIL,75V,100mA,.25uA,4148 |
| CR19 | 50C4-33 | DIODE,ZENER,27V,1W,5%,4750 |
| CR20,21 | 50C4-29 | DIODE,ZENER,1N4733A,5.1V,5% |
| IC2 | 69G674 | IC,HI SPD,TTL,COMPARATOR,9686 |
| L1,2 | 28A132 | CRT PEAKING COIL |
| R1 | 14C1-202 | RES,CARBON,2K,1/4W,5% |
| R2 | 14C1-202 | RES,CARBON,2K,1/4W,5% |
| R3 | 14A38-2215A | RES,MET.F,221K,1/4W,1%,100PPM |
| R4,5 | 14A38-1006A | RES,MET.F,1M,1/4W,1%,100PPM |
| R6 | 14C1-104 | RES,CARBON,100K,1/4W,5% |
| R7 | 14A38-3304A | RES,MET.F,33K,1/4W,1%,100PPM |
| R8 | 14A38-1825A | RES,MET.F,182K,1/4W,1%,100PPM |
| R9 | 15C26-9 | POT,MVPC CERM,50K,1/2W,20% |
| R10 | 14A38-1004A | RES,MET.F,10K,1/4W,1%,100PPM |
| R11 | 14A38-6194A | RES,MET.F,61.9K,1/4W,1%,100PPM |
| R12,13 | 14C1-51 | RES,CARBON,5.1,1/4W,5% |
| R14 | 14C1-335 | RES,CARBON,3.3M,1/4W,5% |
| R16-17 | 14C1-335 | RES,CARBON,3.3M,1/4W,5% |
| R18 | 14C1-755 | RES,CARBON,7.5M,1/4W,5% |
| R19,20 | 14A38-2404A | RES,MET.F,24K,1/4W,1%,100PPM |
| R21 | 14A38-1504A | RES,MET.F,15K,1/4W,1%,100PPM |
| R25,24 | 14A38-2491A | RES,MET.F,24.9,1/4W,1%,100PPM |
| R26,27 | 14C1-430 | RES,CARBON,43,1/4W,5% |
| R28 | 14A38-1503A | RES,MET.F,1.5K,1/4W,1%,100PPM |
| R29,71 | 14C1-102 | RES,CARBON,1K,1/4W,5% |
| R30,31 | 14C1-240 | RES,CARBON,24,1/4W,5% |
| R32,33 | 14A38-6191A | RES,MET.F,61.9,1/4W,1%,100PPM |
| R34,35 | 14A38-5114A | RES,MET.F,51.1K,1/4W,1%,100PPM |
| R36-39 | 14A38-1212A | RES,MET.F,121,1/4W,1%,100PPM |
| R40-50 | 14A38-2702A | RES,MET.F,270,1/4W,1%,100PPM |
| R52 | 14A38-5112A | RES,MET.F,511,1/4W,1%,100PPM |
| R53 | 14A38-3924A | RES,MET.F,39.2K,1/4W,1%,100PPM |
| R54 | 14C1-753 | RES,CARBON,75K,1/4W,5% |
| R55 | 15C26-11 | POT,MVPC CERM,200K,1/2W,20% |
| R56,58 | 14C1-101 | RES,CARBON,100,1/4W,5% |
| R57 | 14C1-681 | RES,CARBON,680,1/4W,5% |
| R59 | 14C1-682 | RES,CARBON,6.8K,1/4W,5% |
| R62 | 14C1-151 | RES,CARBON,150,1/4W,5% |
| R63,64 | 14C1-102 | RES,CARBON,1K,1/4W,5% |
| R65 | 14C1-182 | RES,CARBON,1.8K,1/4W,5% |
| R66 | 14C1-104 | RES,CARBON,100K,1/4W,5% |
| R67 | 14C1-103 | RES,CARBON,10K,1/4W,5% |
| R72 | 14C1-331 | RES,CARBON,330,1/4W,5% |
| R74 | 14C1-153 | RES,CARBON,15K,1/4W,5% |
| R75 | 14C4-151 | RES,CARBON,150,1/2W,5% |
| TR1,12 | 19G101 | TRANS,PNP,50MA,BF423 |
| TR2-6 | 19G101 | TRANS,PNP,50MA,BF423 |
| TR7 | 19A33-1 | TRANS,NPN,40V,200mA,2N3904 |
| TR8,9 | 19A13-1 | TRANS,NPN,30V,400mA,,2N3866 |



9000 LOW VOLTAGE BOARD



**SCHEMATIC
REFERENCE**

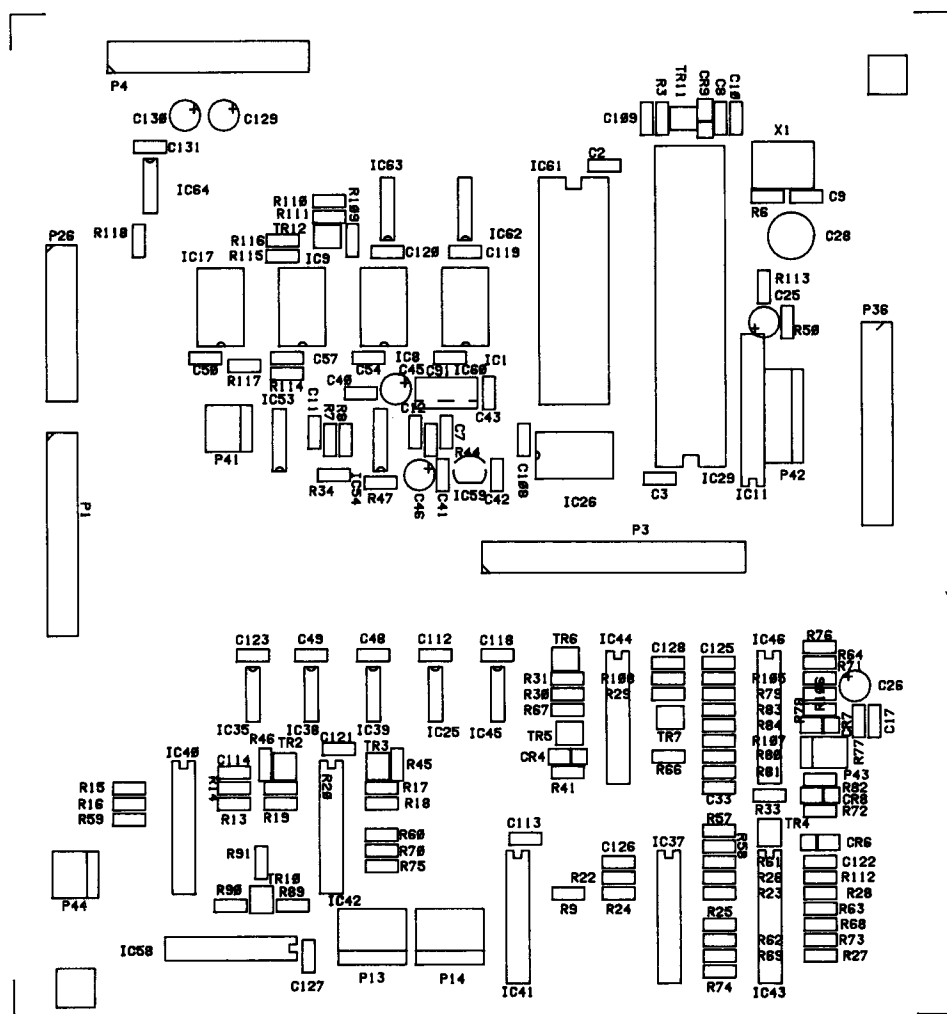
PART NO.

DESCRIPTION

LOW VOLTAGE POWER SUPPLY (9000) BOARD

| | | |
|--------------------------------|-------------|-------------------------------------|
| C1 | 24G442 | CAP, RLYTIC, 100UF, 16V, +/-20% |
| C3, 5, 8, 9, 17, 32, 49, 50 | 24G482 | CAP, MYLAR, .1UF, 50V, 5%, 5MM |
| C11, 10, 6, 18 | 24G216 | CAP, MYLAR, .1UF, 100V, 10% |
| C15, 16, 19, 20, 51 | 24G482 | CAP, MYLAR, .1UF, 50V, 5%, 5MM |
| C21, 22 | 24G410 | CAP, RLYTIC, 220UF, 25V, +/-20% |
| C24 | 24G672 | CAP, RLYTIC, 2200UF, 50V, +/-20% |
| C25, 28 | 24G635 | CAP, RLYTIC, 4700UF, 25V, +100/-20 |
| C30 | 24G413 | CAP, RLYTIC, 10000UF, 16V, +30/-10 |
| C33, 34 | 24G422 | CAP, RLYTIC, 1000UF, 100V, +30/-10 |
| C37 | 24G496 | CAP, MYLAR, .47UF, 50V, 10%, BULK |
| C53, 52 | 24G407 | CAP, RLYTIC, 47UF, 25V, +/-20% |
| C54, 55 | 24G686 | CAP, DISC, 2200PF, 125VAC, 20%, CSA |
| C56 | 24G698 | CAP, RLYTIC, 1UF, 160V, 20% |
| C57 | 24G697 | CAP, RLYTIC, 47UF, 250V, 20% |
| CR21 | 50C5-2:A | DIODE, SIL, 75V, 100mA, 25uA, 4148 |
| D1-3, 6 | 16G27 | DIODE, BRIDGE, 200V, 1.5A |
| D4, 5 | 16G28 | DIODE, BRIDGE, 200V, 3A |
| IC1 | 69G79 | IC, REG, -8V, 500mA, MC79M08CT |
| IC2 | 69G78 | IC, REG, +8V, 500mA, 78M08 |
| IC5 | 69G287 | IC, REG, NEG, ADJ, LM337T |
| IC13 | 69G212 | IC, REG, ADJ, 1.5A, LM317 |
| IC14 | 69G212 | IC, REG, ADJ, 1.5A, LM317 |
| L1, 2 | 46G92 | IND, WIREFORM, 50uH, 1.5A |
| R3 | 14A38-3923A | RES, MET.F, 3.92K, 1/4W, 1%, 100PPM |
| R4 | 14A38-4702A | RES, MET.F, 470, 1/4W, 1%, 100PPM |
| R5 | 14A38-2703A | RES, MET.F, 2.7K, 1/4W, 1%, 100PPM |
| R6 | 14A38-6813A | RES, MET.F, 6.81K, 1/4W, 1%, 100PPM |
| R7 | 14A38-1003A | RES, MET.F, 1K, 1/4W, 1%, 100PPM |
| R9-11 | 14A38-2402A | RES, MET.F, 240, 1/4W, 1%, 100PPM |
| R13 | 14A38-3013A | RES, MET.F, 3.01K, 1/4W, 1%, 100PPM |
| R15, 16 | 14A38-9093A | RES, MET.F, 9.09K, 1/4W, 1%, 100PPM |
| R17 | 14C1-682 | RES, CARBON, 6.8K, 1/4W, 5% |
| R50, 51 | 14C4-226 | RES, CARBON, 22M, 1/2W, 5% |
| R45 | 14A38-2402A | RES, MET.F, 240, 1/4W, 1%, 100PPM |
| R46 | 15C26-2 | POT, MVPC CERM, 200, 1/2W, 20% |
| R47 | 14A38-1603A | RES, MET.F, 1.6K, 1/4W, 1%, 100PPM |
| R48 | 14C29-4704A | RES, MET.F, 47K, 1/2W, 1%, 100PPM |
| R49 | 14A38-5622A | RES, MET.F, 562, 1/4W, 1%, 100PPM |
| TR2, 3 | 19A33-1 | TRANS, NPN, 40V, 200mA, 2N3904 |
| TR4, 5 | 19A34-1 | TRANS, PNP, 40V, 200mA, 2N3906 |

8000 DIGITAL BOARD



SCHEMATIC REFERENCE

PART NO.

DESCRIPTION

DIGITAL (8000) BOARD

C2,3,7,40-43,48-50,24G575

54,57,91,108,109,

112-114,118-123,

125-129,131

C8,9

C10

C11,12,17

C25,26,45,46,

129,130

C28

C33

CR4,6-9

IC1

IC8,9,17

IC11

IC25,64

IC26

IC29

IC35

IC37,58

IC38,39

IC40,42,43

IC41

IC44

IC45

IC46

IC53,54

IC59

IC60

24G615

24G607

24G465

24G448

24G387

24G606

50G36

69G433

69G441

69G238

69G438

69G605

69G546

69G436

69G81

69G440

69G132

69G76

69G83

69G604

69G133

69G428

69G147

69G79

CAP,CHIP,.1UF,50V,10%,X7R

CAP,CHIP,33PF,50V,5%,NPO

CAP,CHIP,10PF,50V,.25PF,NPO

CAP,CHIP,.01uF,50V,10%,X7R

CAP,RLYTIC,10UF,35V,+/-20%

CAP,TRIM,2.5-18PF

CAP,CHIP,.001UF,50V,10%,X7R

SMT DIODE,SIL,75V,100MA,4148

SMTIC,F-FLOP,D,OCTAL,74HC373

SMTIC,F-FLOP,TRI-S,D,74HC374

IC,RES NET,PULLUP, 8 X 100K

SMTIC,NAND,2-IN,74HC00

SMTIC,BUFFER,74HCT244

IC,MICRO,8032

SMTIC,F-FLOP,DUAL,D,74HC74

IC,F-FLOP,"D",DUAL,10231,ECL

SMTIC,COUNTER,BINARY,74HC393

IC,NOR,2-IN,10H102

IC,NOR,2-IN,ECL,10102

IC,F-FLOP,J-K,DUAL,10135

SMTIC,F-FLOP,DUAL,D,74F74

IC,3xLINE,ECL,16 PIN,10H116

SMTIC,CONV,8BIT,DAC-08E

IC,REG,+8V,100mA,78L08,TTL

IC,REG,-8V,500mA,MC79MO8CT

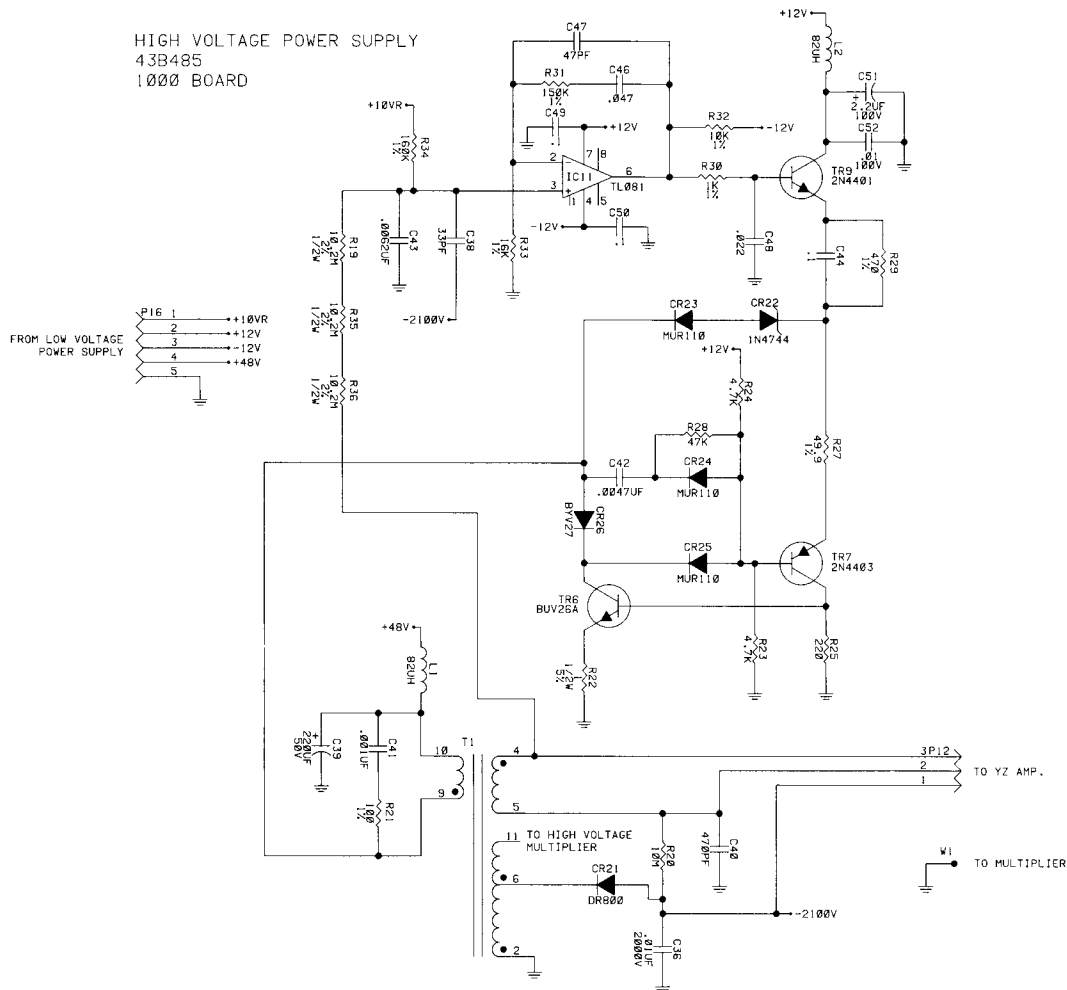
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REFERENCE**

PART NO.

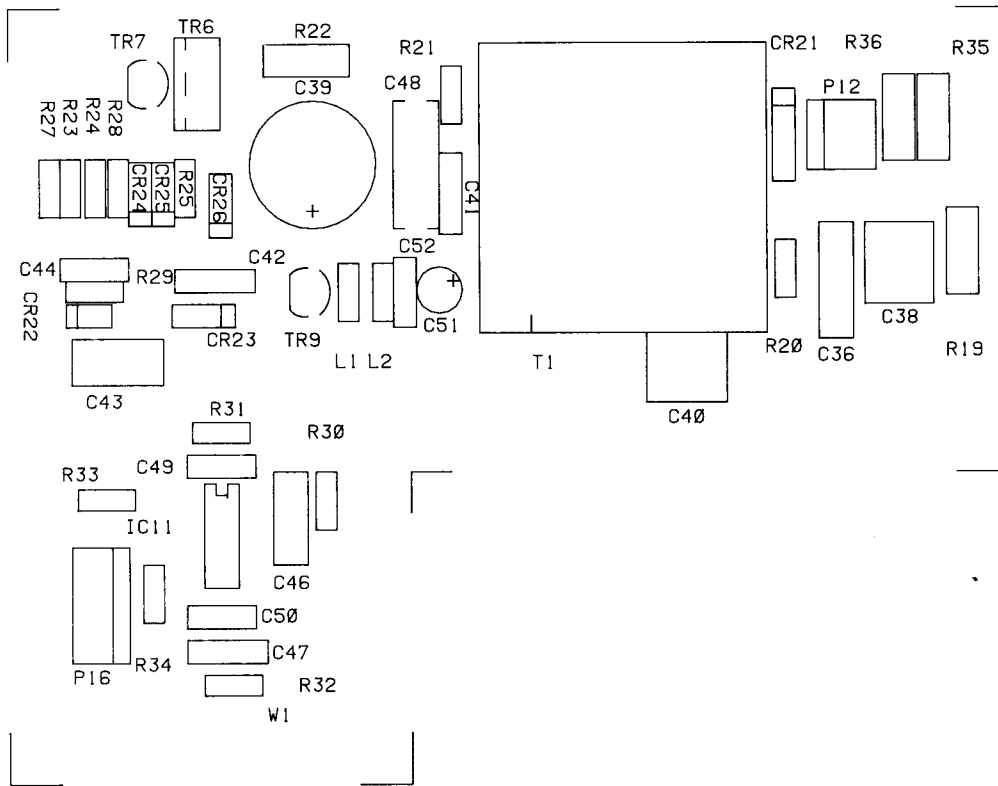
DESCRIPTION

DIGITAL (8000) BOARD CONTINUED

| | | |
|---|--------------|------------------------------------|
| IC61 | 69G536 | IC, EPROM, 27C512 |
| IC62,63 | 69G695 | SMTIC, 3 TO 8 DECODER, 74HC237 |
| R3 | 14G102-5112A | RES, CHIP, 511, 1/8W, 1%, 100PPM |
| R6 | 14G102-1302A | RES, CHIP, 130, 1/8W, 1%, 100PPM |
| R7 | 14G102-4324A | RES, CHIP, 43.2K, 1/8W, 1%, 100PPM |
| R8,9,13-20, 22-31,33,89,90, 108,109,113 | 14G102-1003A | RES, CHIP, 1K, 1/8W, 1%, 100PPM |
| R34 | 14G102-4754A | RES, CHIP, 47.5K, 1/8W, 1%, 100PPM |
| R41 | 14G102-2002A | RES, CHIP, 200, 1/8W, 1%, 100PPM |
| R44-47,91 | 14G102-1503A | RES, CHIP, 1.5K, 1/8W, 1%, 100PPM |
| R50 | 14G102-8253A | RES, CHIP, 8.25K, 1/8W, 1%, 100PPM |
| R57 | 14G102-9092A | RES, CHIP, 909, 1/8W, 1%, 100PPM |
| R58,82,83 | 14G102-3323A | RES, CHIP, 3.32K, 1/8W, 1%, 100PPM |
| R59 | 14G102-1502A | RES, CHIP, 150, 1/8W, 1%, 100PPM |
| R60-64 | 14G102-2003A | RES, CHIP, 2K, 1/8W, 1%, 100PPM |
| R66 | 14G102-6812A | RES, CHIP, 681, 1/8W, 1%, 100PPM |
| R67 | 14G102-4321A | RES, CHIP, 43.2, 1/8W, 1%, 100PPM |
| R68-72,81 | 14G102-2673A | RES, CHIP, 2.67K, 1/8W, 1%, 100PPM |
| R73-76,110 | 14G102-1504A | RES, CHIP, 15K, 1/8W, 1%, 100PPM |
| R77 | 14G102-7501A | RES, CHIP, 75, 1/8W, 1%, 100PPM |
| R78 | 14G102-6192A | RES, CHIP, 619, 1/8W, 1%, 100PPM |
| R79 | 14G102-1303A | RES, CHIP, 1.3K, 1/8W, 1%, 100PPM |
| R80,105-107 | 14G102-2672A | RES, CHIP, 267, 1/8W, 1%, 100PPM |
| R84,111 | 14G102-6193A | RES, CHIP, 6.19K, 1/8W, 1%, 100PPM |
| R112 | 14G102-4991A | RES, CHIP, 49.9, 1/8W, 1%, 100PPM |
| R114-118 | 14G102-1003A | RES, CHIP, 1K, 1/8W, 1%, 100PPM |
| TR2-7,10 | 19G95 | SMT TRANS, PNP, 40V, 200MA, 3906 |
| TR11,12 | 19G92 | SMT TRANSISTOR, NPN, 3904, SOT23 |
| X1 | 47A36 | CRYSTAL, QTZ, 10MHZ, .005%, 30PPM |



1000 HIGH VOLTAGE POWER SUPPLY BOARD



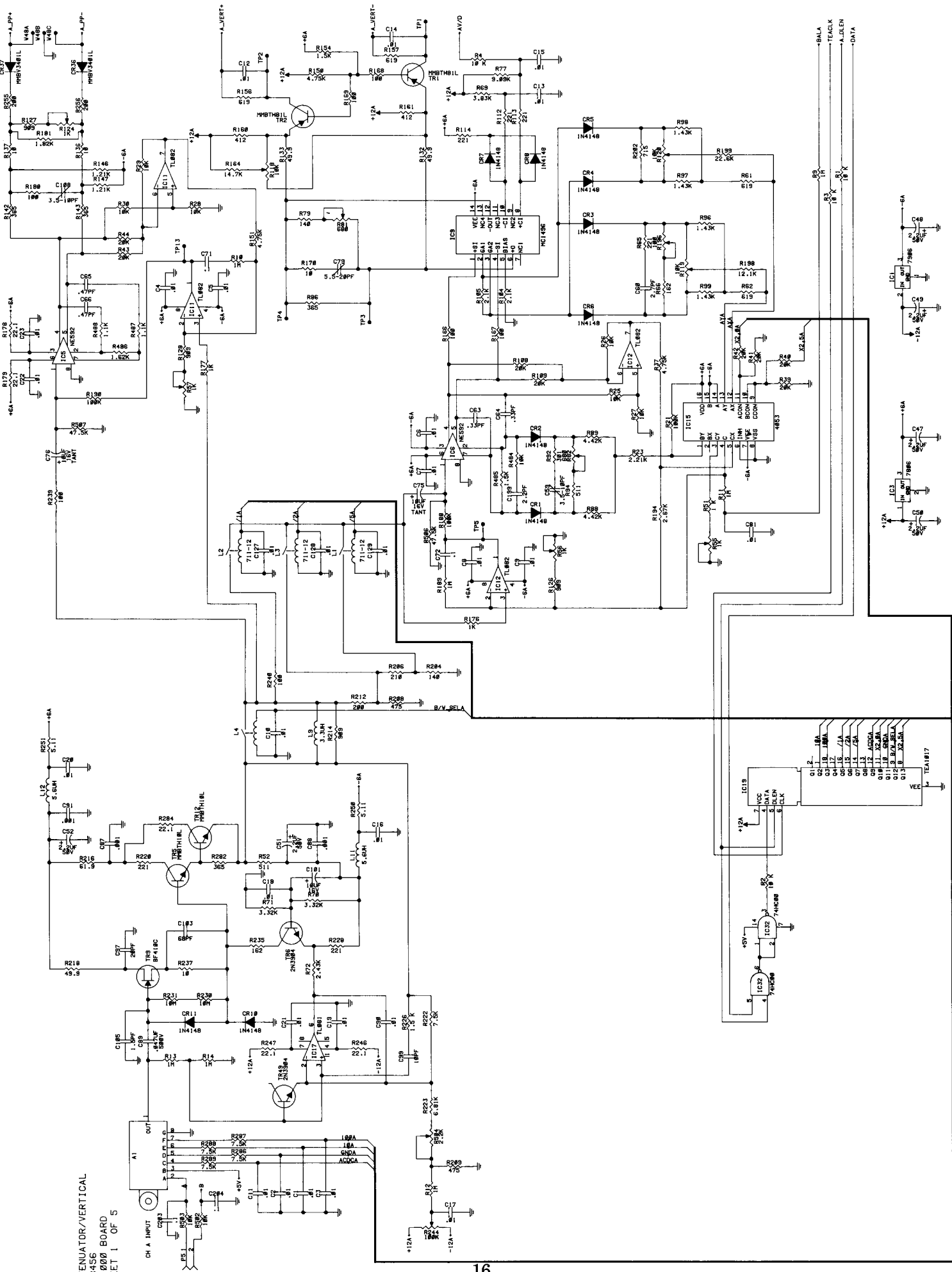
SCHEMATIC REFERENCE

PART NO.

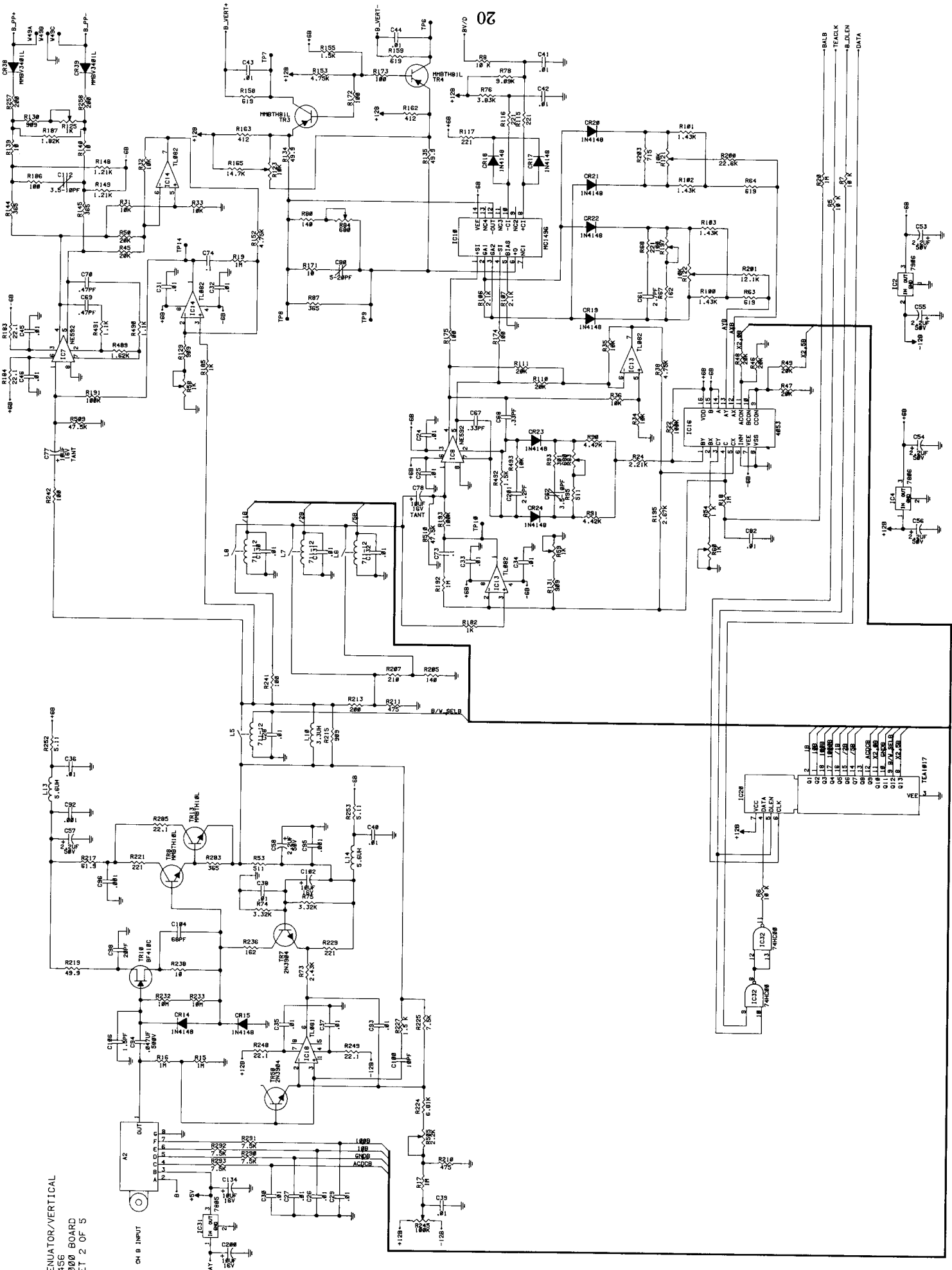
DESCRIPTION

HIGH VOLTAGE POWER SUPPLY (1000) BOARD

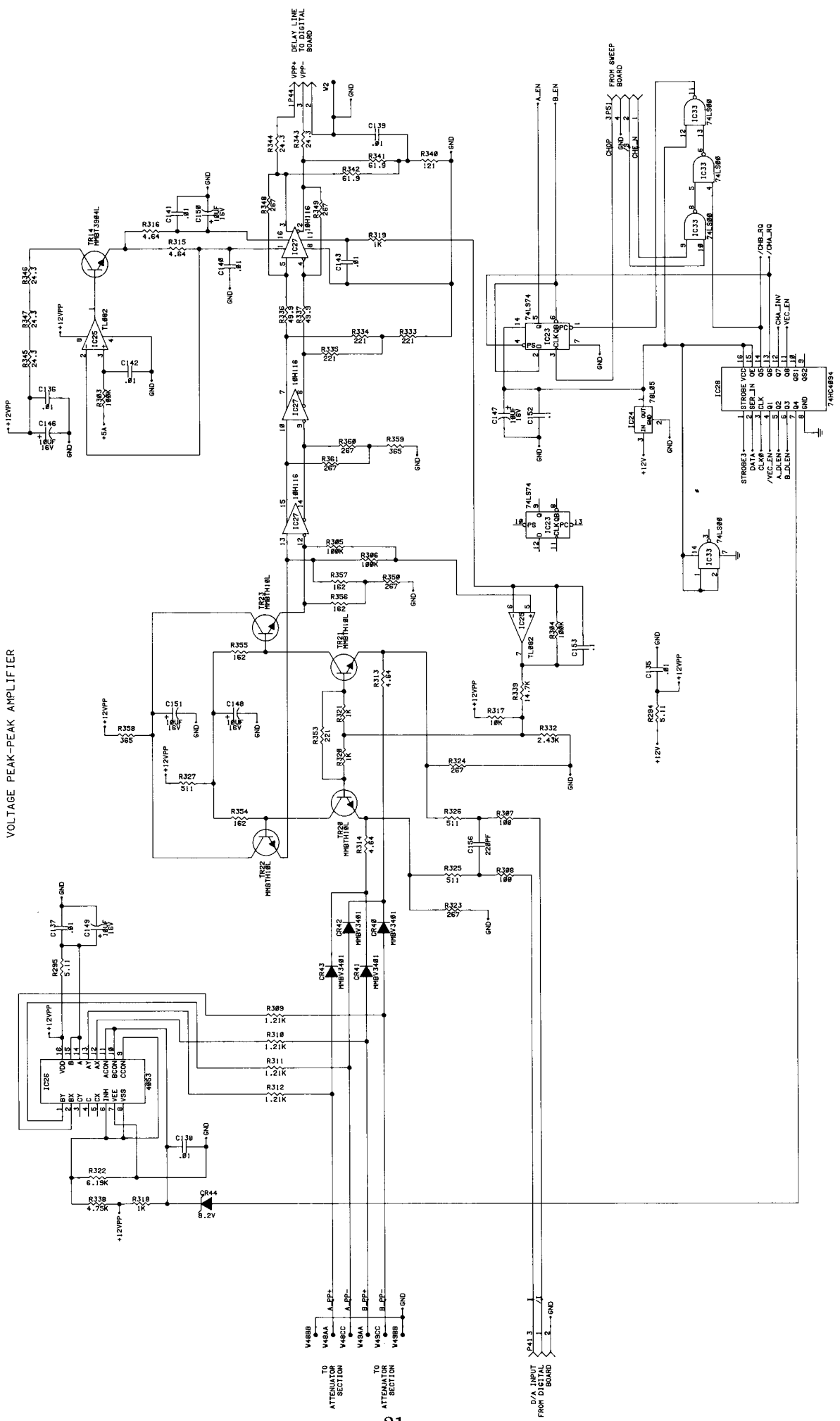
| SCHEMATIC REFERENCE | PART NO. | DESCRIPTION |
|---------------------|-------------|--------------------------------|
| C36 | 24G221 | CAP,DISC,.01UF,3000V,+80/-20% |
| C38 | 24G621 | CAP,DISC,33PF,3KV,20% |
| C39 | 24G411 | CAP,RLYTIC,220UF,50V,+/-20% |
| C40 | 24G622 | CAP,DISC,470PF,3KV,20% |
| C41 | 24G214 | CAP,DISC,.001UF,500V,10%,Z5F |
| C42 | 24G125 | CAP,DISC,.0047uF,200V,20%,Z5U |
| C43 | 24G261 | CAP,POLY,.0062UF,33V,5% |
| C44,49,50 | 24G482 | CAP,MYLAR,.1UF,50V,5%,5MM |
| C46 | 24G212 | CAP,MYLAR,.047UF,100V,10% |
| C47 | 24G176 | CAP,DISC,47PF,500V,5%,NPO |
| C48 | 24G195 | CAP,MYLAR,.022UF,250V,10% |
| C51 | 24G569 | CAP,RLYTIC,2.2UF,100V,20% |
| C52 | 24G207 | CAP,DISC,.01UF,100V,20% |
| CR21 | 16G16 | DIODE,FAST REC,8KV,25mA,1uA |
| CR22 | 50C4-11 | DIODE,ZENER,15V,61mA,5%,IN4744 |
| CR23-25 | 16G21 | DIODE,FAST REC,100V,1A,10uA |
| CR26 | 50G39 | DIODE,FAST RECOVERY,BYV27 |
| IC11 | 9G63 | IC,OP-AMP,SINGLE,BIFET,TLO81 |
| L1,2 | 46G105 | IND,MINIATURE,82uH,,10% |
| R19,35,36 | 14C29-1027A | RES,MET.F,10.2M,1/2W,1%,100PPM |
| R20 | 14C1-106 | RES,CARBON,10M,1/4W,5% |
| R21 | 14A38-1002A | RES,MET.F,100,1/4W,1%,100PPM |
| R22 | 14C4-10 | RES,CARBON,1,1/2W,5% |
| R23,24 | 14C1-472 | RES,CARBON,4.7K,1/4W,5% |
| R25 | 14C1-221 | RES,CARBON,220,1/4W,5% |
| R27 | 14A38-4991A | RES,MET.F,49.9,1/4W,1%,100PPM |
| R28 | 14C1-473 | RES,CARBON,47K,1/4W,5% |
| R29 | 14A38-4702A | RES,MET.F,470,1/4W,1%,100PPM |
| R30 | 14A38-1003A | RES,MET.F,1K,1/4W,1%,100PPM |
| R31 | 14A38-1505A | RES,MET.F,150K,1/4W,1%,100PPM |
| R32 | 14A38-1004A | RES,MET.F,10K,1/4W,1%,100PPM |
| R33 | 14A38-1604A | RES,MET.F,16K,1/4W,1%,100PPM |
| R34 | 14A38-1605A | RES,MET.F,160K,1/4W,1%,100PPM |
| T1 | 28B125 | TRANSFORMER,FLYBACK,HV BOARD |
| TR6 | 19G112 | TRANS,NPN,FAST SW,BUV26A |
| TR7 | 19G40 | TRANS,PNP,40V,500MA,2N4403 |
| TR9 | 19A44 | TRANS,NPN,40V,600mA,,2N4401 |

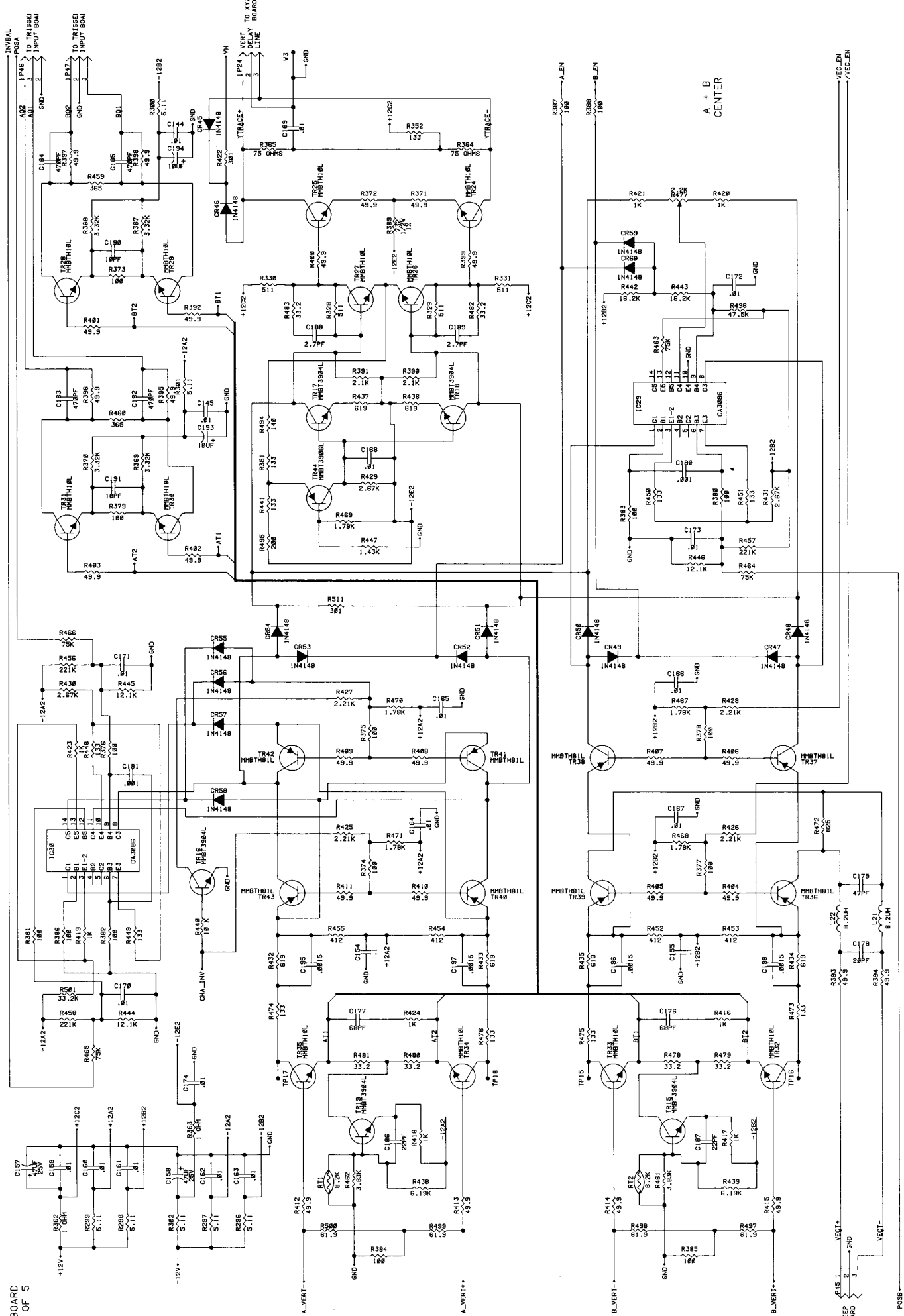


ATTENUATOR/VERTICAL
439456
12,000 BOARD
SHEET 1 OF 5



VOLTAGE PEAK-PEAK AMPLIFIER





**SCHEMATIC
REFERENCE**

PART NO.

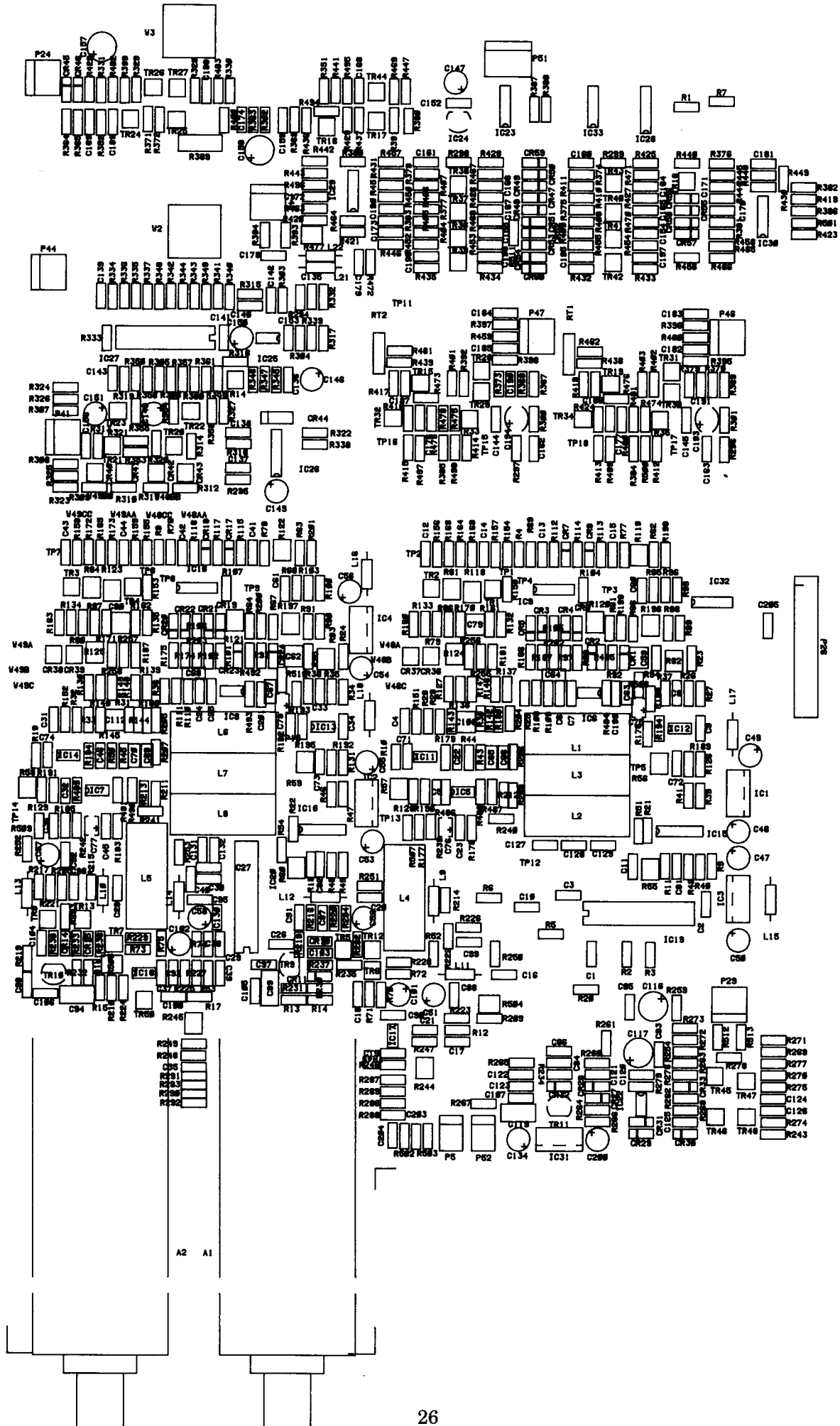
DESCRIPTION

ATTENUATOR (12,000) BOARD CONTINUED

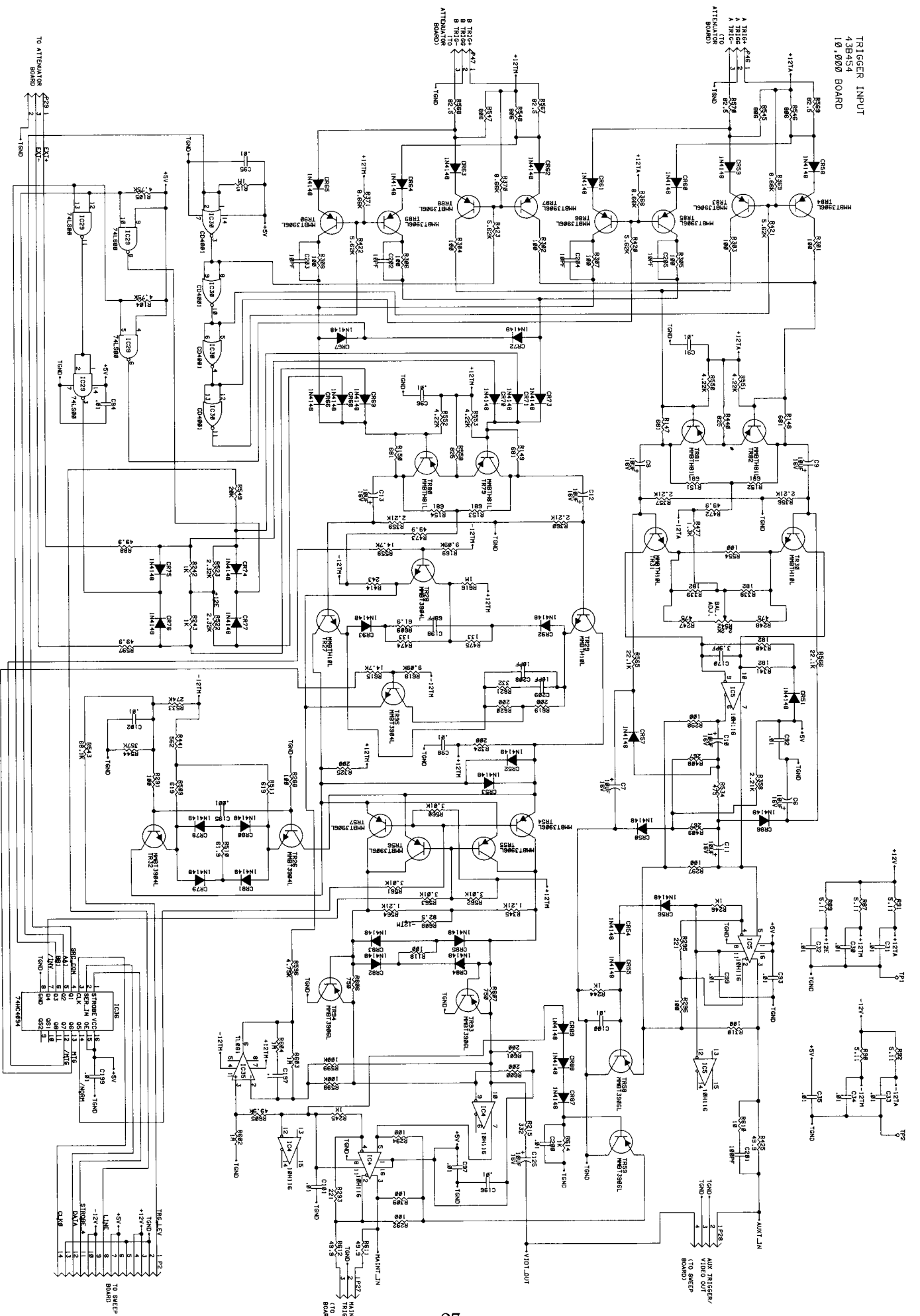
| | | |
|--|--------------|--------------------------------|
| CR36-43 | 50G35 | SMT DIODE,PIN,MMBV3401 |
| CR44 | 50C4-1 | DIODE,ZENER,8.2V,110mA,5%,4738 |
| CR45-60 | 50G36 | SMT DIODE,SIL,75V,100MA,4148 |
| IC1,2 | 69G259 | IC,REG,NEG 1 AMP, 6V, 7906T |
| IC3,4 | 69G258 | IC,REG,1AMP,6V,7806T |
| IC5-8 | 69G702 | SMTIC,VIDEO AMP,NE592D8 |
| IC9,10 | 69G430 | SMTIC,MOD,BALANCED,1496 |
| IC11,14,25 | 69G432 | SMTIC,OP-AMP,DUAL,BIFET,TL082 |
| IC12,13 | 69G750 | SMTIC,DUAL,BIFET,TL082ACD |
| IC15,16,26 | 69G450 | SMTIC,SW,TRIPLE,4053 |
| IC17,18,22 | 69G463 | SMTIC,OP-AMP,SINGLE,TL081 |
| IC19,20 | 69G506 | IC,CONVERTER,S/P,TEA1017 |
| IC23 | 69G533 | SMTIC,F-FLOP,D,74LS74 |
| IC24 | 69G29 | IC,REG,+5V,100mA,78L05 |
| IC27 | 69G133 | IC,3xLINE,ECL,16 PIN,10H116 |
| IC28 | 69G693 | SMTIC,8 BIT SHIFT REG,74HC4094 |
| IC29,30 | 69G502 | SMTIC,TRANS ARRAY,NPN,3086 |
| IC31 | 69Z352 | IC,REG,+5V,1A,7805 |
| IC32 | 69G438 | SMTIC,NAND,2-IN,74HC00 |
| IC33 | 69G500 | SMTIC,NAND,2-IN,74LS00 |
| L1-8 | 41G35 | RELAY,REED,711-12 |
| L9,10 | 46G102 | IND,RADIAL,3.3uH,100mA,10 |
| L11-18 | 46G133 | IND,AXIAL,5.6UH,50MA,10% |
| L21,22 | 46G122 | IND,COIL,8.2uH,25mA,10% |
| R1-8,25-36,317, 440,484,493, 502,503 | 14G102-1004A | RES,CHIP,10K,1/8W,1%,100PPM |
| R9-12,13-20,189,192 | 14G102-1006A | RES,CHIP,1M,1/8W,1%,100PPM |
| R21,22,188,190, 191,193,303-306 | 14G102-1005A | RES,CHIP,100K,1/8W,1%,100PPM |
| R23,24,425-428 | 14G102-2213A | RES,CHIP,2.21K,1/8W,1%,100PPM |
| R37,38,150-153, 268,269,338 | 14G102-4753A | RES,CHIP,4.75K,1/8W,1%,100PPM |
| R39-50,108-111 | 14G102-2004A | RES,CHIP,20K,1/8W,1%,100PPM |
| R51,54,176,177, 182,185 | 14G102-1003A | RES,CHIP,1K,1/8W,1%,100PPM |
| R52,53,94,95, 277,325-331 | 14G102-5112A | RES,CHIP,511,1/8W,1%,100PPM |
| R55-60,124,125 | 15G50-102 | SMT,POT,VPC CERM,1K,.2W,30% |
| R61-64,156-159, 432-437 | 14G102-6192A | RES,CHIP,619,1/8W,1%,100PPM |
| R65,68,112-117, 220,221,228,229, 333-335,353 | 14G102-2212A | RES,CHIP,221,1/8W,1%,100PPM |
| R66,67,235,236, 354-357 | 14G102-1622A | RES,CHIP,162,1/8W,1%,100PPM |
| R69,76,461,462 | 14G102-3833A | RES,CHIP,3.83K,1/8W,1%,100PPM |
| R70,71,74,75, 366-370,501 | 14G102-3323A | RES,CHIP,3.32K,1/8W,1%,100PPM |
| R72,73,332 | 14G102-2433A | RES,CHIP,2.43K,1/8W,1%,100PPM |
| R77,78 | 14G102-9093A | RES,CHIP,9.09K,1/8W,1%,100PPM |
| R79,80,204,205,494 | 14G102-1402A | RES,CHIP,140,1/8W,1%,100PPM |
| R81-84 | 15G50-681 | SMT POT,VPC CERM,680,.2W,30% |
| R86,87,142-145, 254,282,283,358, 359,459,460 | 14G102-3652A | RES,CHIP,365,1/8W,1%,100PPM |
| R88-91 | 14G102-4423A | RES,CHIP,4.42K,1/8W,1%,100PPM |
| R92,93,422,511 | 14G102-3012A | RES,CHIP,301,1/8W,1%,100PPM |
| R96-103,447 | 14G102-1433A | RES,CHIP,1.43K,1/8W,1%,100PPM |
| R104-107,272,273, 390,391 | 14G102-2103A | RES,CHIP,2.1K,1/8W,1%,100PPM |
| R118-123 | 15G50-103 | SMT POT,VPC CERM,10K,.2W,30% |
| R126-131,214,215 | 14G102-9092A | RES,CHIP,909,1/8W,1%,100PPM |
| R132-135,218,219, 267,274-276,336, 337,392-399 | 14G102-4991A | RES,CHIP,49.9,1/8W,1%,100PPM |
| R136-140,170,171, 237,238,512,513 | 14G102-1001A | RES,CHIP,10,1/8W,1%,100PPM |
| R146-149,263, 309-312 | 14G102-1213A | RES,CHIP,1.21K,1/8W,1%,100PPM |
| R154,155,226,227, 485,492 | 14G102-1503A | RES,CHIP,1.5K,1/8W,1%,100PPM |
| R160-163,452-455 | 14G102-4122A | RES,CHIP,412,1/8W,1%,100PPM |
| R164,165,271,339 | 14G102-1474A | RES,CHIP,14.7K,1/8W,1%,100PPM |

| SCHEMATIC REFERENCE | PART NO. | DESCRIPTION |
|--|--------------|-------------------------------|
| ATTENUATOR (12,000) BOARD CONTINUED | | |
| R166-169,172-175, 180,186,239-243, 307 | 14G102-1002A | RES,CHIP,100,1/8W,1%,100PPM |
| R178,179,183, 184,246-249, 278,284,285 | 14G102-2211A | RES,CHIP,22.1,1/8W,1%,100PPM |
| R181,187 | 14G102-1823A | RES,CHIP,1.82K,1/8W,1%,100PPM |
| R194,195,270, 429-430 | 14G102-2673A | RES,CHIP,2.67K,1/8W,1%,100PPM |
| R196,197 | 15G50-101 | SMT,POT,VPC CERM,100,.2W,30% |
| R198,201,262, 444-446 | 14G102-1214A | RES,CHIP,12.1K,1/8W,1%,100PPM |
| R199,200 | 14G102-2264A | RES,CHIP,22.6K,1/8W,1% |
| R202,203 | 14G102-7152A | RES,CHIP,715,1/8W,1%,100PPM |
| R206,207 | 14G102-2102A | RES,CHIP,210,1/8W,1%,100PPM |
| R208-211 | 14G102-4752A | RES,CHIP,475,1/8W,1%,100PPM |
| R212,213,255-258, 495 | 14G102-2002A | RES,CHIP,200,1/8W,1%,100PPM |
| R216,217,341,342, 497-500 | 14G102-6191A | RES,CHIP,61.9,1/8W,1%,100PPM |
| R222,225,286-293 | 14G102-7503A | RES,CHIP,7.5K,1/8W,1%,100PPM |
| R223,224 | 14G102-6813A | RES,CHIP,6.81K,1/8W,1%,100PPM |
| R244,245 | 15G50-104 | SMT POT,VPC CERM,100K,.2W,30% |
| R250-253,259-261, 294-302 | 14G102-5110A | RES,CHIP,5.11,1/8W,1%,100PPM |
| R264 | 14G102-6815A | RES,CHIP,681K,1/8W,1%,100PPM |
| R265,478-483 | 14G102-3321A | RES,CHIP,33.2,1/8W,1%,100PPM |
| R266 | 14G102-3165A | RES,CHIP,316K,1/8W,1%,100PPM |
| R279 | 14G102-1826E | RES,CHIP,1.82M,1/8W,1%,500PPM |
| R313-316 | 14G102-4640A | RES,CHIP,4.64,1/8W,1%,100PPM |
| R322,438,439 | 14G102-6193A | RES,CHIP,6.19K,1/8W,1%,100PPM |
| R323,324,348-350, 360,361 | 14G102-2672A | RES,CHIP,267,1/8W,1%,100PPM |
| R343-347 | 14G102-2431A | RES,CHIP,24.3,1/8W,1%,100PPM |
| R351,352,441, 448-451,473-476 | 14G102-1332A | RES,CHIP,133,1/8W,1%,100PPM |
| R364,365 | 14G102-7501A | RES,CHIP,75,1/8W,1%,100PPM |
| R371,372,400, 401-415 | 14G102-4991A | RES,CHIP,49.9,1/8W,1%,100PPM |
| R389 | 14C29-7322A | RES,MET.F,732,1/2W,1%,100PPM |
| R442,443 | 14G102-1624A | RES,CHIP,16.2K,1/8W,1%,100PPM |
| R456-458 | 14G102-2215A | RES,CHIP,221K,1/8W,1%,100PPM |
| R463-466 | 14G102-7504A | RES,CHIP,75K,1/8W,1%,100PPM |
| R467-471 | 14G102-1783A | RES,CHIP,1.78K,1/8W,1%,100PPM |
| R472 | 14G102-8252A | RES,CHIP,825,1/8W,1%,100PPM |
| R477,504,505 | 15G50-222 | SMT POT,VPC CERM,2.2K,.2W,30% |
| R486,489 | 14G102-1623A | RES,CHIP,1.62K,1/8W,1%,100PPM |
| R496,506-510 | 14G102-4754A | RES,CHIP,47.5K,1/8W,1%,100PPM |
| TR1-4,36-43 | 19G113 | SMTTRANS,PNP,600MHZ,MMBTH81L |
| TR5,8,12,13,20-35 | 19G98 | SMT TRANS,VHF/UHF AMP,MMBTH10 |
| TR6,7,14-19,45-48 | 19G92 | SMT TRANSISTOR,NPN,3904,SOT23 |
| TR9-11 | 19G114 | TRANS,N-CHNL,LO NOISE,BF410 |
| TR44 | 19G95 | SMT TRANS,PNP,40V,200MA,3906 |

12,000 ATTENUATOR BOARD



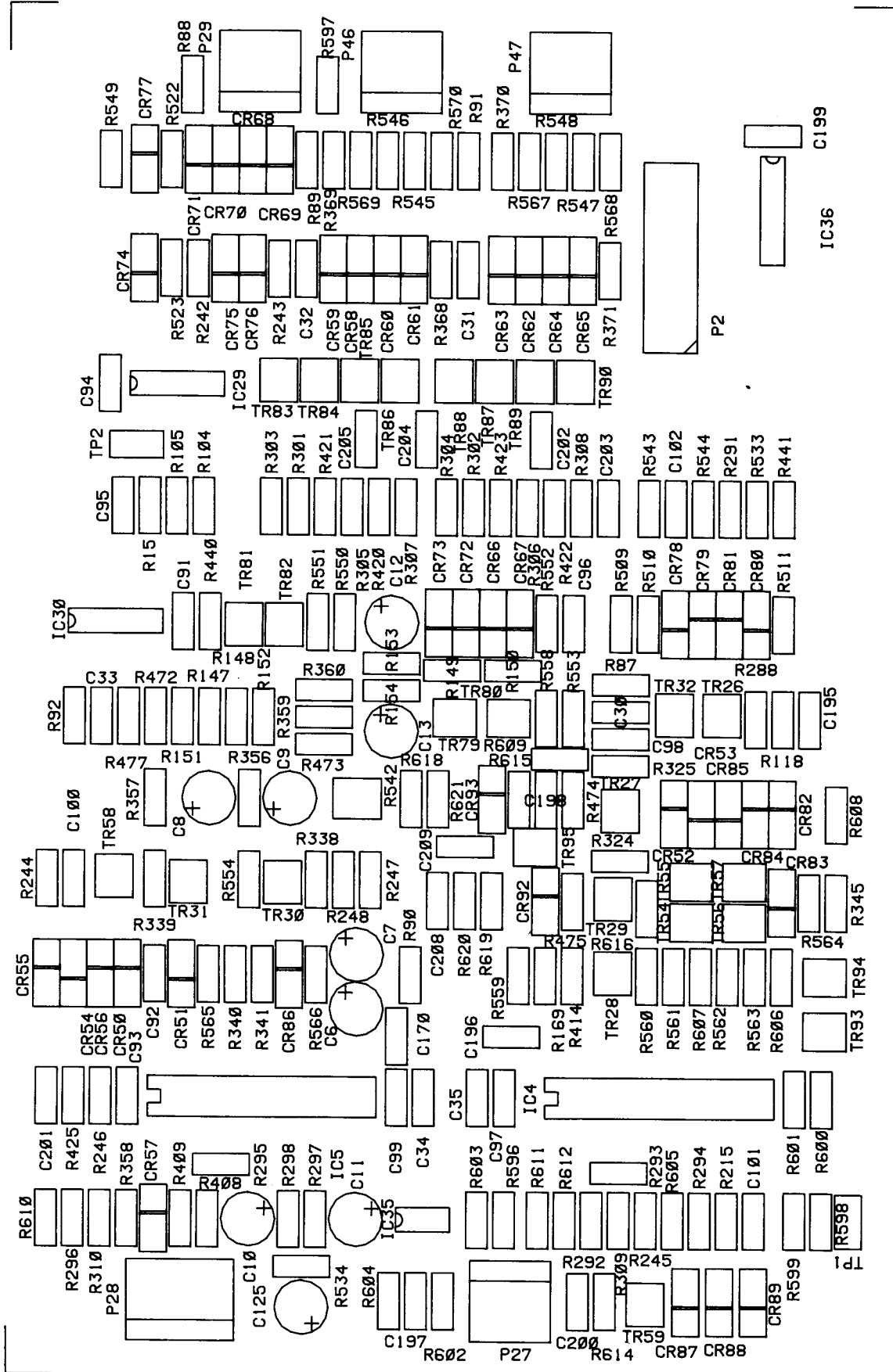
TRIGGER INPUT
43B454
10,000 BOARD



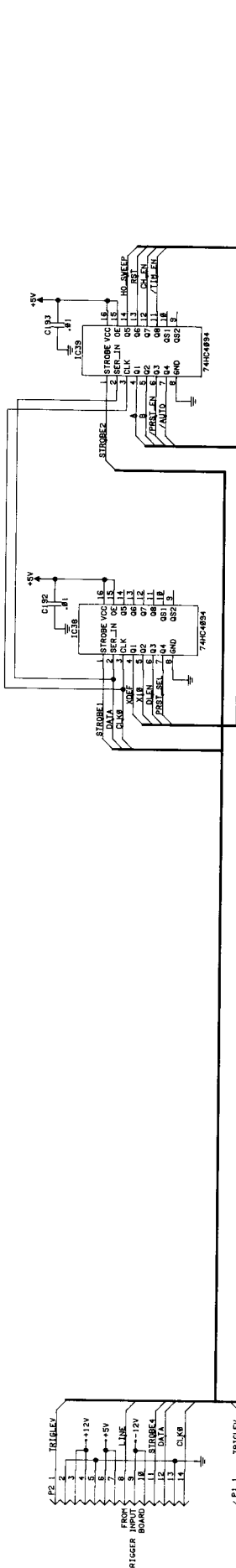
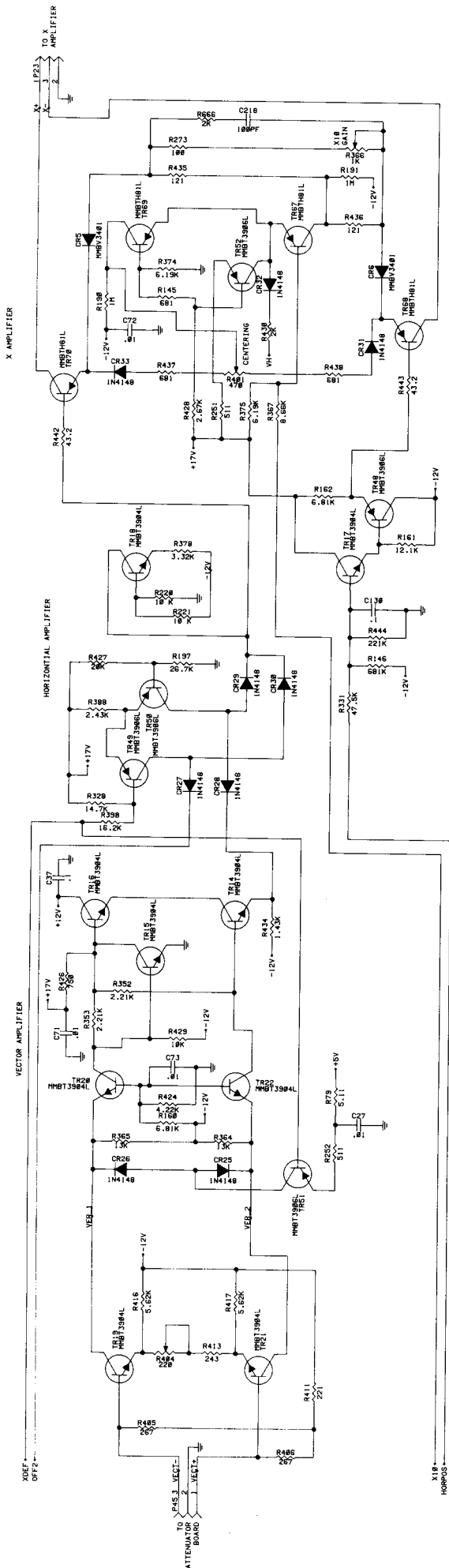
10,000 TRIGGER INPUT P/P BOARD

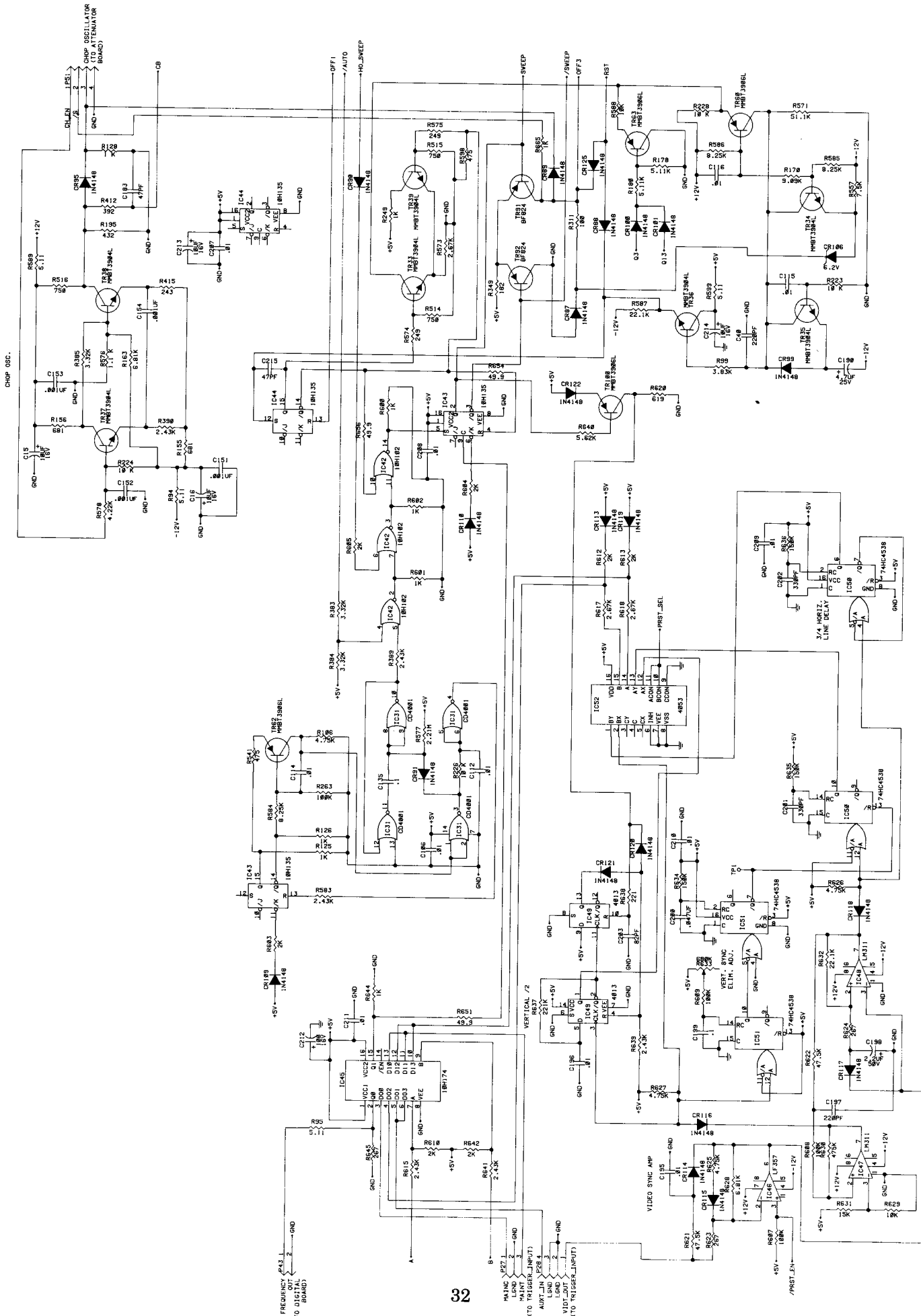
H2

H1



| SCHEMATIC REFERENCE | PART NO. | DESCRIPTION |
|---|--------------|--------------------------------|
| TRIGGER INPUT P/P (10,000) BOARD | | |
| C30-35,91-102,196,199,200 | 24G465 | CAP,CHIP,.01uF,50V,10%,X7R |
| C6-13,125 | 24G382 | CAP,RLYTIC,10UF,16V,20% |
| C170 | 24G566 | CAP,CHIP,3.9PF,50V,10%,X7R |
| C195 | 24G606 | CAP,CHIP,.001UF,50V,10%,X7R |
| C197 | 24G575 | CAP,CHIP,.1UF,50V,10%,X7R |
| C198 | 24G587 | CAP,CHIP,68PF,50V,5%,NPO |
| C201 | 24G612 | CAP,CHIP,100PF,50V,5%,NPO |
| C202-205,208,209 | 24G607 | CAP,CHIP,10PF,50V,.25PF,NPO |
| CR50-89,92,93 | 50G36 | SMT DIODE,SIL,75V,100MA,4148 |
| IC4,5 | 69G133 | IC,3xLINE,ECL,16 PIN,10H116 |
| IC29 | 69G500 | SMTIC,NAND,2-IN,74LS00 |
| IC30 | 69G497 | SMTIC,NOR,2-IN,4001 |
| IC35 | 69G463 | SMTIC,OP-AMP,SINGLE,TL081 |
| IC36 | 69G693 | SMTIC,8 BIT SHIFT REG,74HC4094 |
| R15,602-604,616 | 14G102-1006A | RES,CHIP,1M,1/8W,1%,100PPM |
| R87-92 | 14G102-5110A | RES,CHIP,5.11,1/8W,1%,100PPM |
| R88,425,472,473,597,611,612 | 14G102-4991A | RES,CHIP,49.9,1/8W,1%,100PPM |
| R104,105,596 | 14G102-4753A | RES,CHIP,4.75K,1/8W,1%,100PPM |
| R118,288,291,292 | 14G102-1002A | RES,CHIP,100,1/8W,1%,100PPM |
| R147-154 | 14G102-6812A | RES,CHIP,681,1/8W,1%,100PPM |
| R169,618 | 14G102-9093A | RES,CHIP,9.09K,1/8W,1%,100PPM |
| R215,621 | 14G102-3322A | RES,CHIP,332,1/8W,1%,100PPM |
| R242-246,614 | 14G102-1003A | RES,CHIP,1K,1/8W,1%,100PPM |
| R247,248,534 | 14G102-4752A | RES,CHIP,475,1/8W,1%,100PPM |
| R293,295 | 14G102-2212A | RES,CHIP,221,1/8W,1%,100PPM |
| R294,296-310,554 | 14G102-1002A | RES,CHIP,100,1/8W,1%,100PPM |
| R324,325,600,601,619,620 | 14G102-2002A | RES,CHIP,200,1/8W,1%,100PPM |
| R338-341 | 14G102-1822A | RES,CHIP,182,1/8W,1%,100PPM |
| R345,564 | 14G102-1213A | RES,CHIP,1.21K,1/8W,1%,100PPM |
| R356-360 | 14G102-2213A | RES,CHIP,2.21K,1/8W,1%,100PPM |
| R368-371 | 14G102-8663A | RES,CHIP,8.66K,1/8W,1%,100PPM |
| R408,409 | 14G102-2672A | RES,CHIP,267,1/8W,1%,100PPM |
| R414 | 14G102-2432A | RES,CHIP,243,1/8W,1%,100PPM |
| R420-423 | 14G102-5623A | RES,CHIP,5.62K,1/8W,1%,100PPM |
| R440,558 | 14G102-8252A | RES,CHIP,825,1/8W,1%,100PPM |
| R441 | 14G102-5622A | RES,CHIP,562,1/8W,1%,100PPM |
| R474,475 | 14G102-1332A | RES,CHIP,133,1/8W,1%,100PPM |
| R477 | 14G102-1303A | RES,CHIP,1.3K,1/8W,1%,100PPM |
| R509,511 | 14G102-6192A | RES,CHIP,619,1/8W,1%,100PPM |
| R510,609 | 14G102-6191A | RES,CHIP,61.9,1/8W,1%,100PPM |
| R522,523 | 14G102-2323A | RES,CHIP,2.32K,1/8W,1%,100PPM |
| R533 | 14G102-2745A | RES,CHIP,274K,1/8W,1%,100PPM |
| R542 | 15G50-222 | SMT POT,VPC CERM,2.2K,2W,30% |
| R543 | 14G102-6814A | RES,CHIP,68.1K,1/8W,1%,100PPM |
| R544 | 14G102-3575A | RES,CHIP,357K,1/8W,1%,100PPM |
| R545-548 | 14G102-8062A | RES,CHIP,806,1/8W,1%,100PPM |
| R549 | 14G102-2004A | RES,CHIP,20K,1/8W,1%,100PPM |
| R550-553 | 14G102-4223A | RES,CHIP,4.22K,1/8W,1%,100PPM |
| R560-563 | 14G102-3013A | RES,CHIP,3.01K,1/8W,1%,100PPM |
| R565,566 | 14G102-2214A | RES,CHIP,22.1K,1/8W,1%,100PPM |
| R567-570,608 | 14G102-8251A | RES,CHIP,82.5,1/8W,1%,100PPM |
| R598,599 | 14G102-1005A | RES,CHIP,100K,1/8W,1%,100PPM |
| R599,615 | 14G102-1474A | RES,CHIP,14.7K,1.8W,1%,100PPM |
| R605 | 14G102-4994A | RES,CHIP,49.9K,1/8W,1%,100PPM |
| R606,607 | 14G102-7502A | RES,CHIP,750,1/8W,1%,100PPM |
| R610 | 14G102-1001A | RES,CHIP,10,1/8W,1%,100PPM |
| TR26,28,32,95 | 19G92 | SMT TRANSISTOR,NPN,3904,SOT23 |
| TR27,29-31 | 19G98 | SMT TRANS,VHF/UHF AMP,MMBTH10 |
| TR54-59,83-90,93,94 | 19G95 | SMT TRANS,PNP,40V,200MA,3906 |
| TR79-82 | 19G113 | SMTTRANS,PNP,600MHZ,MMBTH81L |





| SCHEMATIC REFERENCE | PART NO. | DESCRIPTION |
|--|--------------|--------------------------------|
| SWEEP (11,000) BOARD | | |
| C15,16,213,214 | 24G382 | CAP,RLYTIC,10UF,16V,20% |
| C25,37,60,62,126, 127,129,130,135, 199,216,217 | 24G575 | CAP,CHIP,.1UF,50V,10%,X7R |
| C27,48,54,56, 59,61,64,65, 66,69,70 | 24G465 | CAP,CHIP,.01uF,50V,10%,X7R |
| C40,197 | 24G561 | CAP,CHIP,220PF,100V,10%,NPO |
| C43 | 24G594 | CAP,CHIP,1500PF,50V,10%,X7R |
| C71-73,106,112, 114-116,192,194, 195,196,205-211 | 24G465 | CAP,CHIP,.01uF,50V,10%,X7R |
| C118-120,122,191 | 24G407 | CAP,RLYTIC,47UF,25V,+/-20% |
| C136 | 24G387 | CAP,TRIM,2.5-18PF |
| C142 | 24G637 | CAP,POLY,.0099UF,50V,1% |
| C143,218 | 24G612 | CAP,CHIP,100PF,50V,5%,NPO |
| C144 | 24G496 | CAP,MYLAR,.47UF,50V,10%,BULK |
| C145,183,215 | 24G577 | CAP,CHIP,47PF,50V,10%,NPO |
| C146 | 24G638 | CAP,POLY,10UF,50V,10% |
| C151-154 | 24G606 | CAP,CHIP,.001UF,50V,10%,X7R |
| C190 | 24G491 | CAP,RLYTIC,4.7UF,25V,+100/-20% |
| C198 | 24G384 | CAP,LYTIC,2.2UF,50V,20%, |
| C200 | 24G601 | CAP,CHIP,.047UF,50V,10%,X7R |
| C201,202 | 24G583 | CAP,CHIP,330PF,50V,5%,NPO |
| C203 | 24G584 | CAP,CHIP,82PF,50V,5%,NPO |
| C212 | 24G442 | CAP,RLYTIC,100UF,16V,+/-20% |
| C212 | 24G500 | CAP,RLYTIC,100UF,16V,20%,LOESR |
| CR5,6 | 50G35 | SMT DIODE,PIN,MMBV3401 |
| CR10-16,22-33 | 50G36 | SMT DIODE,SIL,75V,100MA,4148 |
| CR87-91,95,99-101, 108-110,113-122 124,125 | 50G36 | SMT DIODE,SIL,75V,100MA,4148 |
| CR104-106 | 50C4-6:A | DIODE,ZENER,6.2V,100mA,5%,4735 |
| CR107 | 50C3-2:A | DIODE,GERM,20V,100mA,2uA,1N695 |
| IC6 | 69G506 | IC,CONVERTER,S/P,TEA1017 |
| IC7,13,54 | 69G463 | SMTIC,OP-AMP,SINGLE,TL081 |
| IC9,10,52 | 69G450 | SMTIC,SW,TRIPLE,4053 |
| IC11 | 69G452 | SMTIC,SW,1 X 8,4051 |
| IC12 | 69G501 | SMTIC,OP-AMP,LO-PWR,324 |
| IC31 | 69G497 | SMTIC,NOR,2-IN,4001 |
| IC38,39 | 69G693 | SMTIC,8 BIT SHIFT REG,74HC4094 |
| IC40,53 | 69G429 | SMTIC,COMP,SINGLE,8PIN,LM306 |
| IC41 | 69G691 | IC,EXCLUSIVE OR/NOR,10H107 |
| IC42 | 69G132 | IC,NOR,2-IN,10H102 |
| IC44 | 69G687 | IC,J-K FLIP-FLOP,DUAL,10H135 |
| IC45 | 69G686 | IC,DUAL 4 TO 1 MTPLXR,10H174 |
| IC46 | 69G736 | SMTIC,OP-AMP,LF357M |
| IC47,48 | 69G699 | SMTIC,COMPARATOR,LM311 |
| IC49 | 69G698 | SMTIC,F-FLOP,DUAL,D,14013 |
| IC50,51 | 69G701 | SMTIC,DUAL,MULTIVIB,74HC4538 |
| IC55,56 | 69G431 | SMTIC,MUX,16PIN,4052 |
| R73-75,78,79,94, 95,589,599 | 14G102-5110A | RES,CHIP,5.11,1/8W,1%,100PPM |
| R77,159,651, 654,656 | 14G102-4991A | RES,CHIP,49.9,1/8W,1%,100PPM |
| R96,250,271,317, 388-390,583, 615,639,641 | 14G102-2433A | RES,CHIP,2.43K,1/8W,1%,100PPM |
| R99 | 14G102-3833A | RES,CHIP,3.83K,1/8W,1%,100PPM |
| R100,144,145,155, 156,437,438 | 14G102-6812A | RES,CHIP,681,1/8W,1%,100PPM |
| R100,620 | 14G102-6192A | RES,CHIP,619,1/8W,1%,100PPM |
| R103,106,625-627 | 14G102-4753A | RES,CHIP,4.75K,1/8W,1%,100PPM |
| R108,113,577 | 14G102-2216E | RES,CHIP,2.21M,1/8W,1%,500PPM |
| R110,112,424,578 | 14G102-4223A | RES,CHIP,4.22K,1/8W,1%,100PPM |
| R111,114,115,125, 126,128,232-234, 249,600-602, 644,646,665 | 14G102-1003A | RES,CHIP,1K,1/8W,1%,100PPM |
| R133-136,138,139, 220,221,223,224, 226,228,329,347, | 14G102-1004A | RES,CHIP,10K,1/8W,1%,100PPM |

**SCHEMATIC
REFERENCE**

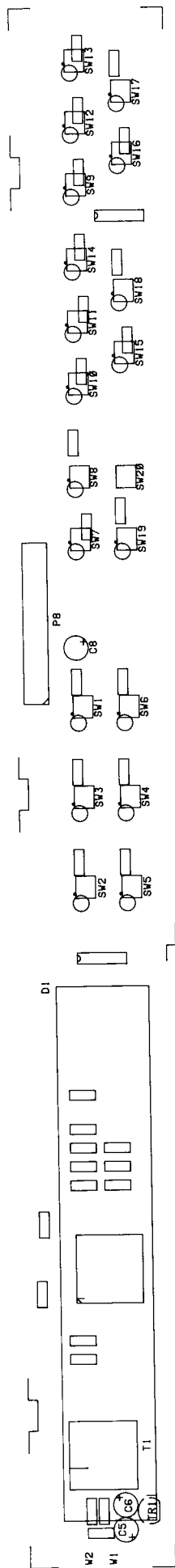
PART NO.

DESCRIPTION

SWEEP (11,000) BOARD CONTINUED

| | | |
|--|--------------|-------------------------------|
| 429,588,629,664 | | |
| R146 | 14G102-6815A | RES,CHIP,681K,1/8W,1%,100PPM |
| R160,162,163, 208,219,628 | 14G102-6813A | RES,CHIP,6.81K,1/8W,1%,100PPM |
| R161,313 | 14G102-1214A | RES,CHIP,12.1K,1/8W,1%,100PPM |
| R170,661 | 14G102-9093A | RES,CHIP,9.09K,1/8W,1%,100PPM |
| R171,261,263, 607-609 | 14G102-1005A | RES,CHIP,100K,1/8W,1%,100PPM |
| R172 | 15G50-104 | SMT POT,VPC CERM,100K,.2W,30% |
| R173,557,657 | 14G102-7503A | RES,CHIP,7.5K,1/8W,1%,100PPM |
| R174 | 14G102-6814A | RES,CHIP,68.1K,1/8W,1%,100PPM |
| R175,177,178,180 | 14G102-5113A | RES,CHIP,5.11K,1/8W,1%,100PPM |
| R181,182,229,350, 428,573,617, 618,658 | 14G102-2673A | RES,CHIP,2.67K,1/8W,1%,100PPM |
| R188-191 | 14G102-1006A | RES,CHIP,1M,1/8W,1%,100PPM |
| R192 | 14G102-1024A | RES,CHIP,10.2K,1/8W,1%,100PPM |
| R193-195 | 14G102-4322A | RES,CHIP,432,1/8W,1%,100PPM |
| R196,197 | 14G102-2674A | RES,CHIP,26.7K,1/8W,1%,100PPM |
| R198,331,621,622 | 14G102-4754A | RES,CHIP,47.5K,1/8W,1%,100PPM |
| R199 | 14G102-8250A | RES,CHIP,8.25,1/8W,1%,100PPM |
| R200-204 | 14G102-3321A | RES,CHIP,33.2,1/8W,1%,100PPM |
| R205,206,659 | 15G50-103 | SMT POT,VPC CERM,10K,.2W,30% |
| R207,218,378, 383-385 | 14G102-3323A | RES,CHIP,3.32K,1/8W,1%,100PPM |
| R209,541,598 | 14G102-4752A | RES,CHIP,475,1/8W,1%,100PPM |
| R216,217,330,427 | 14G102-2004A | RES,CHIP,20K,1/8W,1%,100PPM |
| R251,252 | 14G102-5112A | RES,CHIP,511,1/8W,1%,100PPM |
| R266,268-270,272, 273,311,592 | 14G102-1002A | RES,CHIP,100,1/8W,1%,100PPM |
| R267,596 | 14G102-4423A | RES,CHIP,4.42K,1/8W,1%,100PPM |
| R312,374,375 | 14G102-6193A | RES,CHIP,6.19K,1/8W,1%,100PPM |
| R322 | 14G102-2002A | RES,CHIP,200,1/8W,1%,100PPM |
| R323,343,430, 603-605,610,612, 613,642,666 | 14G102-2003A | RES,CHIP,2K,1/8W,1%,100PPM |
| R326-328 | 14G102-1474A | RES,CHIP,14.7K,1.8W,1%,100PPM |
| R334 | 14G102-1503A | RES,CHIP,1.5K,1/8W,1%,100PPM |
| R335 | 14G102-4993A | RES,CHIP,4.99K,1/8W,1%,100PPM |
| R336,349 | 14G102-1822A | RES,CHIP,182,1/8W,1%,100PPM |
| R337,434 | 14G102-1433A | RES,CHIP,1.43K,1/8W,1%,100PPM |
| R342 | 14G102-3013A | RES,CHIP,3.01K,1/8W,1%,100PPM |
| R351-353 | 14G102-2213A | RES,CHIP,2.21K,1/8W,1%,100PPM |
| R361 | 14G102-1007E | RES,CHIP,10M,1/8W,1%,500PPM |
| R362,660 | 14G102-9092A | RES,CHIP,909,1/8W,1%,100PPM |
| R364,365 | 14G102-1304A | RES,CHIP,13K,1/8W,1%,100PPM |
| R366 | 15G50-102 | SMT POT,VPC CERM,1K,.2W,30% |
| R367 | 14G102-8663A | RES,CHIP,8.66K,1/8W,1%,100PPM |
| R398 | 14G102-1624A | RES,CHIP,16.2K,1/8W,1%,100PPM |
| R401 | 15G50-471 | SMT POT,VPC CERM,470,.2W,30% |
| R404 | 15G50-221 | SMT POT,VPC CERM,220,.2W,30% |
| R405,406,623, 624,645 | 14G102-2672A | RES,CHIP,267,1/8W,1%,100PPM |
| R411,638 | 14G102-2212A | RES,CHIP,221,1/8W,1%,100PPM |
| R412 | 14G102-3922A | RES,CHIP,392,1/8W,1%,100PPM |
| R413,415 | 14G102-2432A | RES,CHIP,243,1/8W,1%,100PPM |
| R416,417,640 | 14G102-5623A | RES,CHIP,5.62K,1/8W,1%,100PPM |
| R426,514-516 | 14G102-7502A | RES,CHIP,750,1/8W,1%,100PPM |
| R435,436 | 14G102-1212A | RES,CHIP,121,1/8W,1%,100PPM |
| R442,443 | 14G102-4321A | RES,CHIP,43.2,1/8W,1%,100PPM |
| R444,637 | 14G102-2215A | RES,CHIP,221K,1/8W,1%,100PPM |
| R571 | 14G102-5114A | RES,CHIP,51.1K,1/8W,1%,100PPM |
| R574,575 | 14G102-2492A | RES,CHIP,249,1/8W,1%,100PPM |
| R576 | 14G102-1103A | RES,CHIP,1.1K,1/8W,1%,100PPM |
| R584-586,597 | 14G102-8253A | RES,CHIP,8.25K,1/8W,1%,100PPM |
| R587,632 | 14G102-2214A | RES,CHIP,22.1K,1/8W,1%,100PPM |
| R593,594 | 14G102-7501A | RES,CHIP,75,1/8W,1%,100PPM |
| R630 | 14G102-4755A | RES,CHIP,475K,1/8W,1%,100PPM |
| R631 | 14G102-1504A | RES,CHIP,15K,1/8W,1%,100PPM |
| R633 | 15G50-684 | SMT POT,VPC CERM,680K,.2W,30% |
| R634-636 | 14G102-1505A | RES,CHIP,150K,1/8W,1%,100PPM |
| R653 | 14G102-2211A | RES,CHIP,22.1,1/8W,1%,100PPM |
| R662 | 14G102-9094A | RES,CHIP,90.9K,1/8W,1%,100PPM |
| R663 | 14G102-1783A | RES,CHIP,1.78K,1/8W,1%,100PPM |

6000 DIGITAL SELECT DISPLAY BOARD



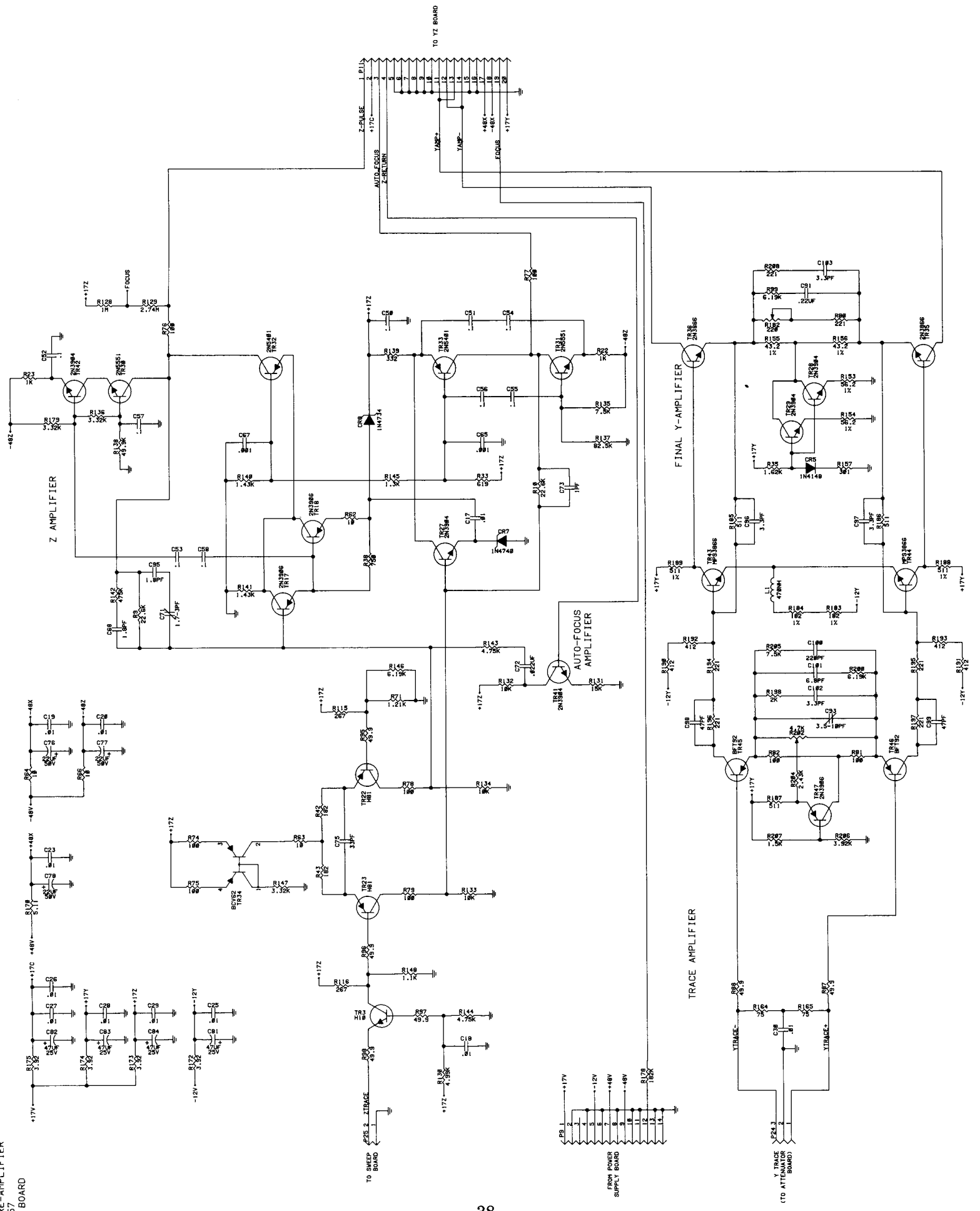
**SCHEMATIC
REFERENCE**

PART NO.

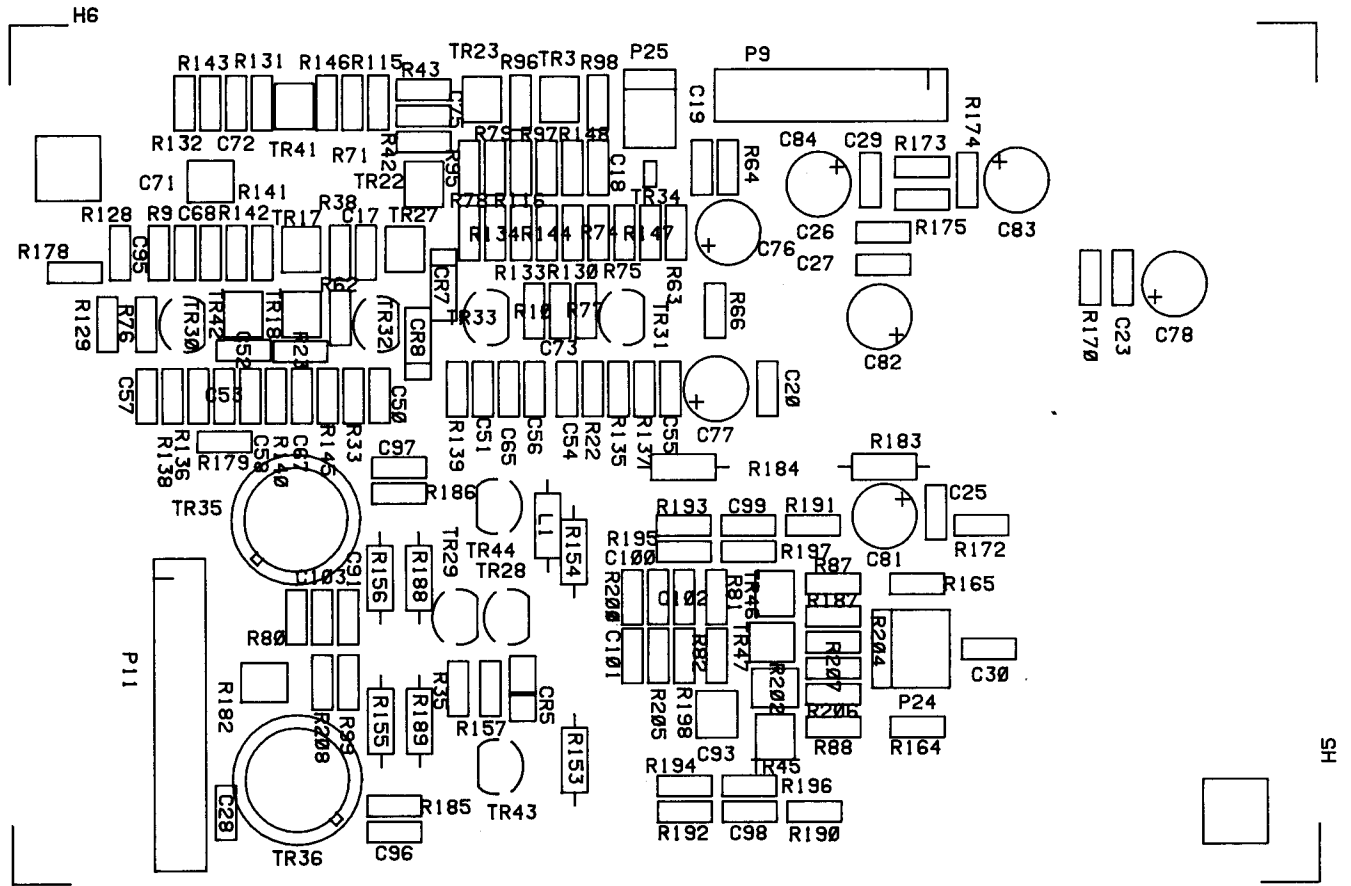
DESCRIPTION

DIGITAL SELECT/DISPLAY (6000) BOARD

| | | |
|--------|--------------|--------------------------------|
| C1-4 | 24G465 | CAP,CHIP,.01uF,50V,10%,X7R |
| C5,6 | 24G382 | CAP,LYTIC,10UF,16V,20% |
| C7 | 24G601 | CAP,CHIP,.047UF,50V,10%,X7R |
| C8 | 24G384 | CAP,LYTIC,2.2UF,50V,20% |
| C9 | 24G575 | CAP,CHIP,.1UF,50V,10%,X7R |
| CR1-19 | 20G37 | SMTLED,RED,2.2V,10MA |
| IC1 | 69G196 | SMTIC,DRIVER IC,52 PIN,UPD7225 |
| IC2 | 69G474 | SMTIC,COUNTER,DECADE,74HC4017 |
| IC3 | 69G693 | SMTIC,8 BIT SHIFT REG,74HC4094 |
| | 69G690 | IC,VOLTAGE REG,12V,1.5A |
| | 69G277 | IC,REG,+5V,500mA,LM340-5 |
| R1,2 | 14G102-1825A | RES,CHIP,182K,1/8W,1%,100PPM |
| R3-5 | 14G102-4753A | RES,CHIP,4.75K,1/8W,1%,100PPM |
| R6-24 | 14G102-4752A | RES,CHIP,475,1/8W,1%,100PPM |
| R25 | 14G102-1001A | RES,CHIP,10,1/8W,1%,100PPM |
| R26 | 14G102-3324A | RES,CHIP,33.2K,1/8W,1%,100PPM |
| R27 | 14G102-8251A | RES,CHIP,82.5,1/8W,1%,100PPM |
| R28 | 15G50-221 | SMT,POT,VPC CERM,220,.2W,30% |
| R29 | 14G102-1003A | RES,CHIP,1K,1/8W,1%,100PPM |
| T1 | 28G121 | TRANSFORMER,EL BACKLIGHT |
| TR1 | 19A44 | TRANS,NPN,40V,600mA,,2N4401 |
| SW1-20 | 25B417-1 | SWITCH PAD, DIGITAL SELECT |
| | 44G12 | FUSE,FASTBLOW 3AG,2A,250V |
| | 44G32 | FUSE,FASTBLOW,3AG,1/8A,250V |
| | 44G20 | FUSE,SLOWBLOW 3AG,1AMP,250V,, |



2000 YZ PREAMP



**SCHEMATIC
REFERENCE**

PART NO.

DESCRIPTION

YZ PREAMP (2000) BOARD

| | | |
|-----------------|--------|------------------------------|
| C17-20,23,25-30 | 24G465 | CAP,CHIP,.01uF,50V,10%,X7R |
| C50-58 | 24G575 | CAP,CHIP,.1UF,50V,10%,X7R |
| C65,67 | 24G606 | CAP,CHIP,.001UF,50V,10%,X7R |
| C68,95 | 24G630 | CAP,CHIP,1.8PF,50V,.25PF,NPO |
| C71 | 24G676 | CAP,TRIM,1.7-3.0PF,100V |
| C72 | 24G618 | CAP,CHIP,.022UF,50V,10%,X7R |
| C73 | 24G629 | CAP,CHIP,1PF,50V,.25PF,NPO |
| C75 | 24G615 | CAP,CHIP,33PF,50V,5%,NPO |
| C76-78 | 24G451 | CAP,RLYTIC,22UF,50V,20% |

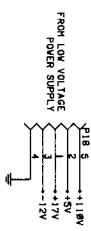
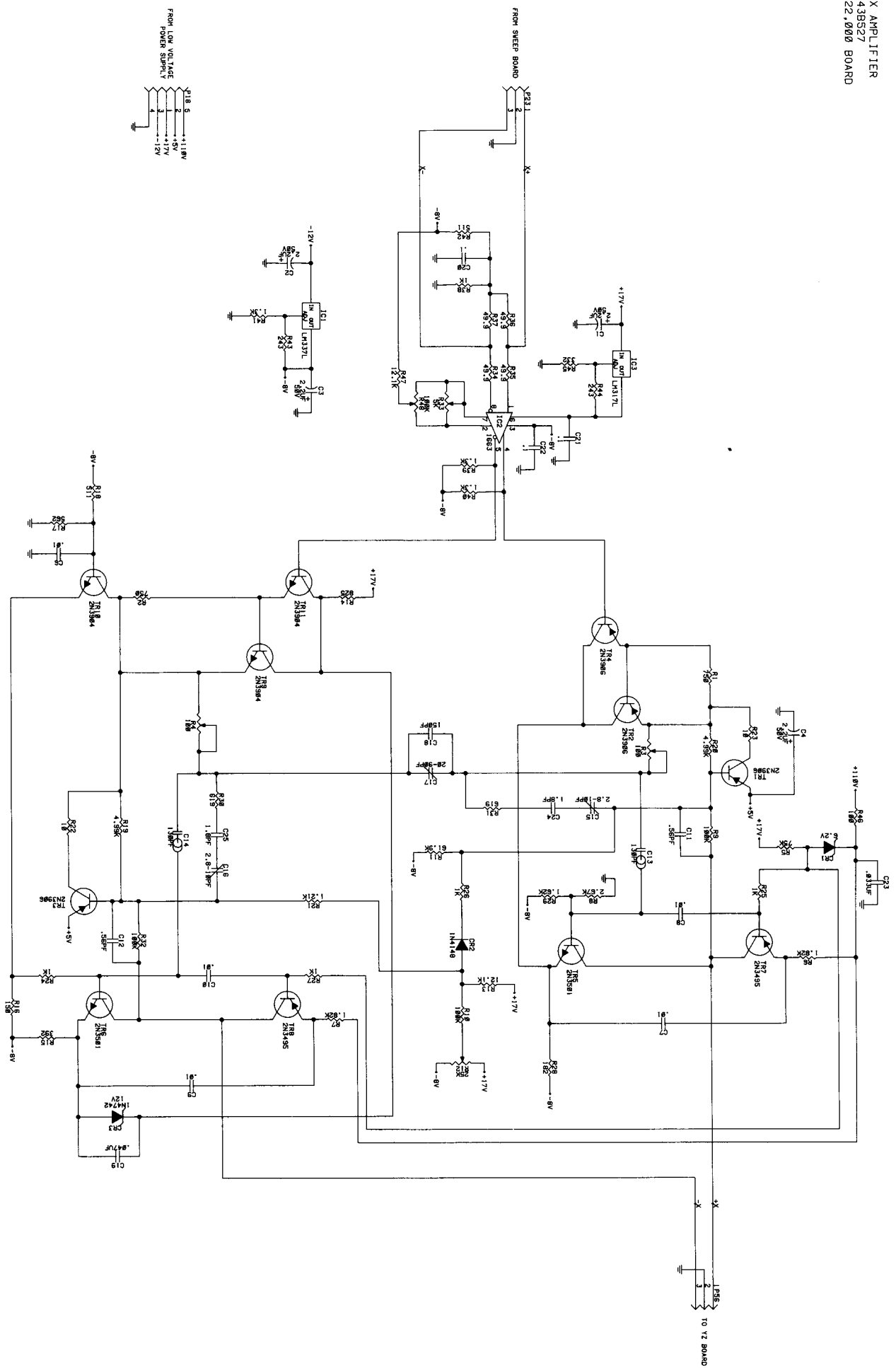
**SCHEMATIC
REFERENCE**

PART NO.

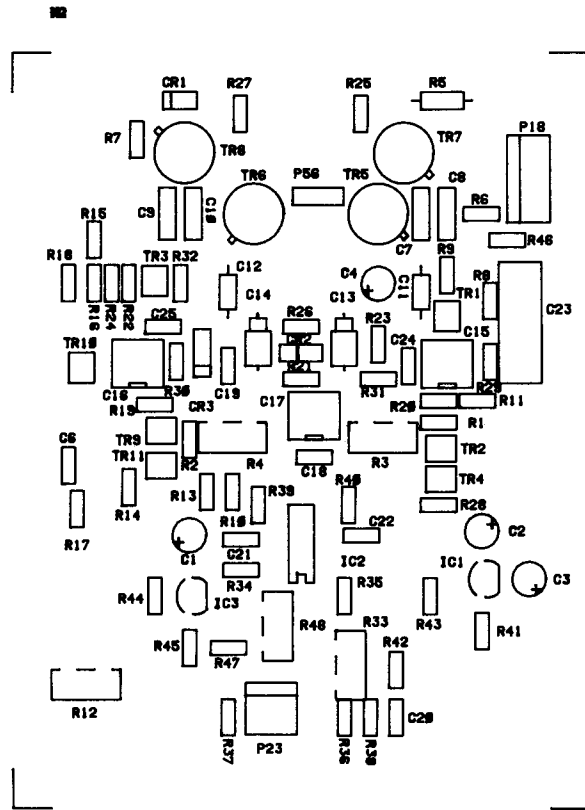
DESCRIPTION

YZ PREAMP (2000) BOARD CONTINUED

| | | |
|-----------------|--------------|--------------------------------|
| C81-84 | 24G407 | CAP,RLYTIC,47UF,25V,+/-20% |
| C91 | 24G624 | CAP,CHIP,.22UF,50V,+80/-20,Y5V |
| C93,102 | 24G677 | CAP,TRIM,3.5-10pF,100V |
| C96,97,102,103 | 24G611 | CAP,CHIP,3.3PF,50V,.25PF,NPO |
| C98,99 | 24G577 | CAP,CHIP,47PF,50V,10%,NPO |
| C100 | 24G561 | CAP,CHIP,220PF,100V,10%,NPO |
| C101 | 24Z599 | CAP,CHIP,6.8PF,50V,.25PF,NPO |
| CR5 | 50G36 | SMT DIODE,SIL,75V,100MA,4148 |
| CR7 | 50C4-12 | DIODE,ZENER,10V,95mA,10%,4740 |
| CR8 | 50C4-14 | DIODE,ZENER,5.6V,162mA,5%,4734 |
| L1 | 46Z190 | IND,.47UH,10% |
| R9,10 | 14G102-2264A | RES,CHIP,22.6K,1/8W,1% |
| R22,23 | 14G102-1003A | RES,CHIP,1K,1/8W,1%,100PPM |
| R33 | 14G102-6192A | RES,CHIP,619,1/8W,1%,100PPM |
| R35 | 14G102-1623A | RES,CHIP,1.62K,1/8W,1%,100PPM |
| R38 | 14G102-7502A | RES,CHIP,750,1/8W,1%,100PPM |
| R42,43 | 14G102-1822A | RES,CHIP,182,1/8W,1%,100PPM |
| R62-64,66 | 14G102-1001A | RES,CHIP,10,1/8W,1%,100PPM |
| R71 | 14G102-1213A | RES,CHIP,1.21K,1/8W,1%,100PPM |
| R74-79,81,82 | 14G102-1002A | RES,CHIP,100,1/8W,1%,100PPM |
| R80,194-197,208 | 14G102-2212A | RES,CHIP,221,1/8W,1%,100PPM |
| R87,88,95-98 | 14G102-4991A | RES,CHIP,49.9,1/8W,1%,100PPM |
| R99,146,200 | 14G102-6193A | RES,CHIP,6.19K,1/8W,1%,100PPM |
| R115,116 | 14G102-2672A | RES,CHIP,267,1/8W,1%,100PPM |
| R128 | 14G102-1006A | RES,CHIP,1M,1/8W,1%,100PPM |
| R129 | 14G102-2746E | RES,CHIP,2.74M,1/8W,1%,500PPM |
| R130 | 14G102-4993A | RES,CHIP,4.99K,1/8W,1%,100PPM |
| R131 | 14G102-1504A | RES,CHIP,15K,1/8W,1%,100PPM |
| R132-134 | 14G102-1004A | RES,CHIP,10K,1/8W,1%,100PPM |
| R135,205 | 14G102-7503A | RES,CHIP,7.5K,1/8W,1%,100PPM |
| R136,147,179 | 14G102-3323A | RES,CHIP,3.32K,1/8W,1%,100PPM |
| R137 | 14G102-8254A | RES,CHIP,82.5K,1/8W,1%,100PPM |
| R138 | 14G102-4994A | RES,CHIP,49.9K,1/8W,1%,100PPM |
| R139 | 14G102-3322A | RES,CHIP,332,1/8W,1%,100PPM |
| R140,141 | 14G102-1433A | RES,CHIP,1.43K,1/8W,1%,100PPM |
| R142 | 14G102-4755A | RES,CHIP,475K,1/8W,1%,100PPM |
| R143,144 | 14G102-4753A | RES,CHIP,4.75K,1/8W,1%,100PPM |
| R145 | 14G102-1303A | RES,CHIP,1.3K,1/8W,1%,100PPM |
| R148 | 14G102-1103A | RES,CHIP,1.1K,1/8W,1%,100PPM |
| R153,154 | 14A38-5621A | RES,MET.F,56.2,1/4W,1%,100PPM |
| R155,156 | 14A38-4321A | RES,MET.F,43.2,1/4W,1%,100PPM |
| R157 | 14G102-3012A | RES,CHIP,301,1/8W,1%,100PPM |
| R164,165 | 14G102-7501A | RES,CHIP,75,1/8W,1%,100PPM |
| R170 | 14G102-5110A | RES,CHIP,5.11,1/8W,1%,100PPM |
| R172-175 | 14G102-3920A | RES,CHIP,3.92,1/8W,1%,100PPM |
| R178 | 14G102-1825A | RES,CHIP,182K,1/8W,1%,100PPM |
| R182 | 15G50-221 | SMT,POT,VPC CERM,220,.2W,30% |
| R183,184 | 14A38-1822A | RES,MET.F,182,1/4W,1%,100PPM |
| R185-187 | 14G102-5112A | RES,CHIP,511,1/8W,1%,100PPM |
| R188,189 | 14A38-5112A | RES,MET.F,511,1/4W,1%,100PPM |
| R190-193 | 14G102-4122A | RES,CHIP,412,1/8W,1%,100PPM |
| R198 | 14G102-2003A | RES,CHIP,2K,1/8W,1%,100PPM |
| R202 | 15G50-472 | SMT POT,VPC CERM,4.7K,.2W,30% |
| R204 | 14G102-2433A | RES,CHIP,2.43K,1/8W,1%,100PPM |
| R205 | 14G102-2673A | RES,CHIP,2.67K,1/8W,1%,100PPM |
| R206 | 14G102-3923A | RES,CHIP,3.92K,1/8W,1%,100PPM |
| R207 | 14G102-1503A | RES,CHIP,1.5K,1/8W,1%,100PPM |
| TR3 | 19G98 | SMT TRANS,VHF/UHF AMP,MMBTH10 |
| TR17,18,47 | 19G95 | SMT TRANS,PNP,40V,200MA,3906 |
| TR22,23 | 19G113 | SMTTRANS,PNP,600MHZ,MMBTH81L |
| TR27,41,42 | 19G92 | SMT TRANSISTOR,NPN,3904,SOT23 |
| TR28,29 | 19A33-1 | TRANS,NPN,40V,200mA,2N3904 |
| TR30,31 | 19G103 | TRANS,NPN,160V,600MA,2N5551 |
| TR32,33 | 19A32 | TRANSISTOR,PNP,2N5401 |
| TR34 | 69G547 | SMTIC,MATCHED PNP TRANS,BCV62 |
| TR35,36 | 19A13-1 | TRANS,NPN,30V,400mA,,2N3866 |
| TR43,44 | 19G66 | TRANS,NPN,30V,400mA,,MPS3866 |
| TR45,46 | 19G102 | SMT TRANS,PNP,15V,25MA,BFT92 |
| | 28B124 | TRANSFORMER,POWER,SC3100 |



22,000 X-AMP BOARD



SCHEMATIC REFERENCE

PART NO.

DESCRIPTION

X-AMP (22,000) BOARD

| | | |
|----------|--------------|--------------------------------|
| C1-4 | 24G384 | CAP,LYTIC,2.2UF,50V,20%, |
| C6 | 24G465 | CAP,CHIP,.01uF,50V,10%,X7R |
| C7-10 | 24G126 | CAP,DISC,.01UF,200V,20%,Z5U |
| C11,12 | 24G322 | CAP,DISC,.56PF,500V,10% |
| C13,14 | 24G71 | CAP,DISC,130PF,500V,10%,NPO |
| C15,16 | 24G693 | CAP,TRIM,2.8-10PF,100V,10% |
| C17 | 24G692 | CAP,TRIM,20-90PF,100V,10% |
| C18 | 24G582 | CAP,CHIP,150PF,50V,5%,NPO |
| C19 | 24G601 | CAP,CHIP,.047UF,50V,10%,X7R |
| C20-22 | 24G575 | CAP,CHIP,.1UF,50V,10%,X7R |
| C23 | 24G404 | CAP,POLYPROP,.033uF,200V,10% |
| C25,24 | 24G630 | CAP,CHIP,1.8PF,50V,.25PF,NPO |
| CR1 | 50C4-6:A | DIODE,ZENER,6.2V,100mA,5%,4735 |
| CR2 | 50G36 | SMT DIODE,SIL,75V,100MA,4148 |
| CR3 | 50C4-17 | DIODE,ZENER,12V,76mA,5%,IN4742 |
| IC1 | 69G288 | IC,REG,ADJ,NEG,LM337 |
| IC2 | 69G729 | IC,AMP,DIFF,WIDEBAND,1663 |
| IC3 | 69G231 | IC,REG,ADJ,POS,LM317 |
| L13,14 | 46G88 | IND,FERRITE BEAD |
| R1,2 | 14G102-7502A | RES,CHIP,750,1/8W,1%,100PPM |
| R3,4 | 15G65-101 | POT,VPC,CERM,100,1/2W,20% |
| R5 | 14C1-753 | RES,CARBON,75K,1/4W,5% |
| R6,7 | 14G102-1823A | RES,CHIP,1.82K,1/8W,1%,100PPM |
| R8 | 14G102-2673A | RES,CHIP,2.67K,1/8W,1%,100PPM |
| R9,10,32 | 14G102-1005A | RES,CHIP,100K,1/8W,1%,100PPM |
| R11 | 14G102-6194A | RES,CHIP,61.9K,1/8W,1%,100PPM |
| R12 | 15C26-33 | POT,MHPC CERM,25K,1/2W,20% |
| R13,47 | 14G102-1214A | RES,CHIP,12.1K,1/8W,1%,100PPM |
| R14 | 14G102-8252A | RES,CHIP,825,1/8W,1%,100PPM |
| R15 | 14G102-3922A | RES,CHIP,392,1/8W,1%,100PPM |
| R16 | 14G102-1502A | RES,CHIP,150,1/8W,1%,100PPM |
| R17 | 14G102-5622A | RES,CHIP,562,1/8W,1%,100PPM |
| R18,42 | 14G102-5112A | RES,CHIP,511,1/8W,1%,100PPM |
| R19,20 | 14G102-4993A | RES,CHIP,4.99K,1/8W,1%,100PPM |

**SCHEMATIC
REFERENCE****PART NO.****DESCRIPTION****X-AMP (22,000) BOARD CONTINUED**

| | | |
|-----------|--------------|-------------------------------|
| R21 | 14G102-1213A | RES,CHIP,1.21K,1/8W,1%,100PPM |
| R22,23 | 14G102-1001A | RES,CHIP,10,1/8W,1%,100PPM |
| R24-27,38 | 14G102-1003A | RES,CHIP,1K,1/8W,1%,100PPM |
| R28 | 14G102-1822A | RES,CHIP,182,1/8W,1%,100PPM |
| R29 | 14G102-1623A | RES,CHIP,1.62K,1/8W,1%,100PPM |
| R30,31 | 14G102-6192A | RES,CHIP,619,1/8W,1%,100PPM |
| R33 | 15C26-32 | POT,MHPC CERM,5K,1/2W,20% |
| R34-37 | 14G102-4991A | RES,CHIP,49.9,1/8W,1%,100PPM |
| R39-41 | 14G102-1303A | RES,CHIP,1.3K,1/8W,1%,100PPM |
| R43,44 | 14G102-2432A | RES,CHIP,243,1/8W,1%,100PPM |
| R45 | 14G102-3322A | RES,CHIP,332,1/8W,1%,100PPM |
| R46 | 14G102-1002A | RES,CHIP,100,1/8W,1%,100PPM |
| R48 | 15C26-14 | POT,MVPC CERM,100K,1/2W,20% |
| TR1-4 | 19G95 | SMT TRANS,PNP,40V,200MA,3906 |
| TR5,6 | 19G138 | TRANS,NPN,150V,300MA,2N3501 |
| TR7,8 | 19G137 | TRANS,PNP,120V,100MA,2N3495 |
| TR9-11 | 19G92 | SMT TRANSISTOR,NPN,3904,SOT23 |

 **WARNING****Avoid damage to parts caused by static electricity!**

Most solid-state devices and film resistors are susceptible to damage due to discharge of electricity. Observe the following precautions when a PC board is removed from the unit, or when handling components:

1. The person handling the part must be grounded through a 1 megohm resistor via a wrist strap or similar ground collection.
2. A PC board or component should never be placed on an insulated surface. The surface must be ground (through a 1 megohm resistor) and conductive.
3. All replacement parts must be left in a completely enclosed, conductive container or package until ready for use. The person removing the part from the container must be properly grounded. All parts susceptible to static damage are shipped in conductive containers when ordered from the Sencore Service Department.

Components not listed are standard replacement parts and may be purchased locally. When ordering parts, please specify instrument model number, schematic reference, part number, and description. Please include remittance (check or money order) with your order, otherwise invoice will be shipped C.O.D. Minimum billing is \$5.00.

**TOLL FREE 1-800-SENCORE****SENCORE**3200 Sencore Drive
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with your time in mind.*