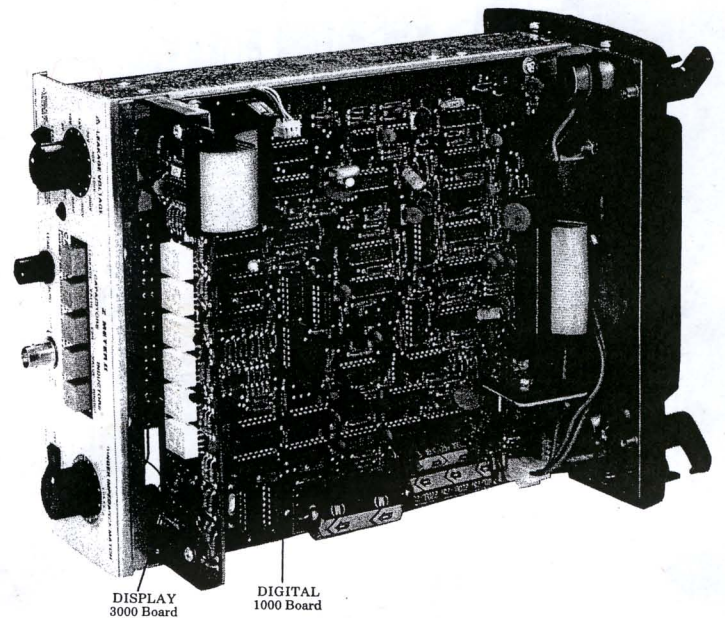
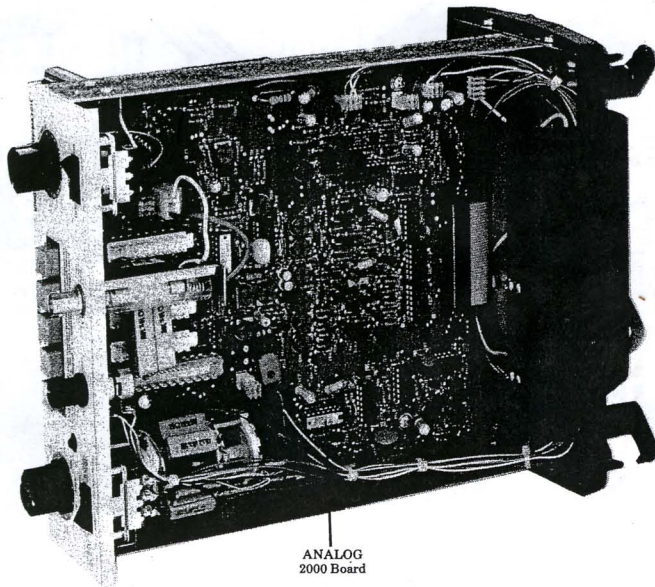


LC75

“Z METER II” CAPACITOR — INDUCTOR ANALYZER

Schematic & Parts List

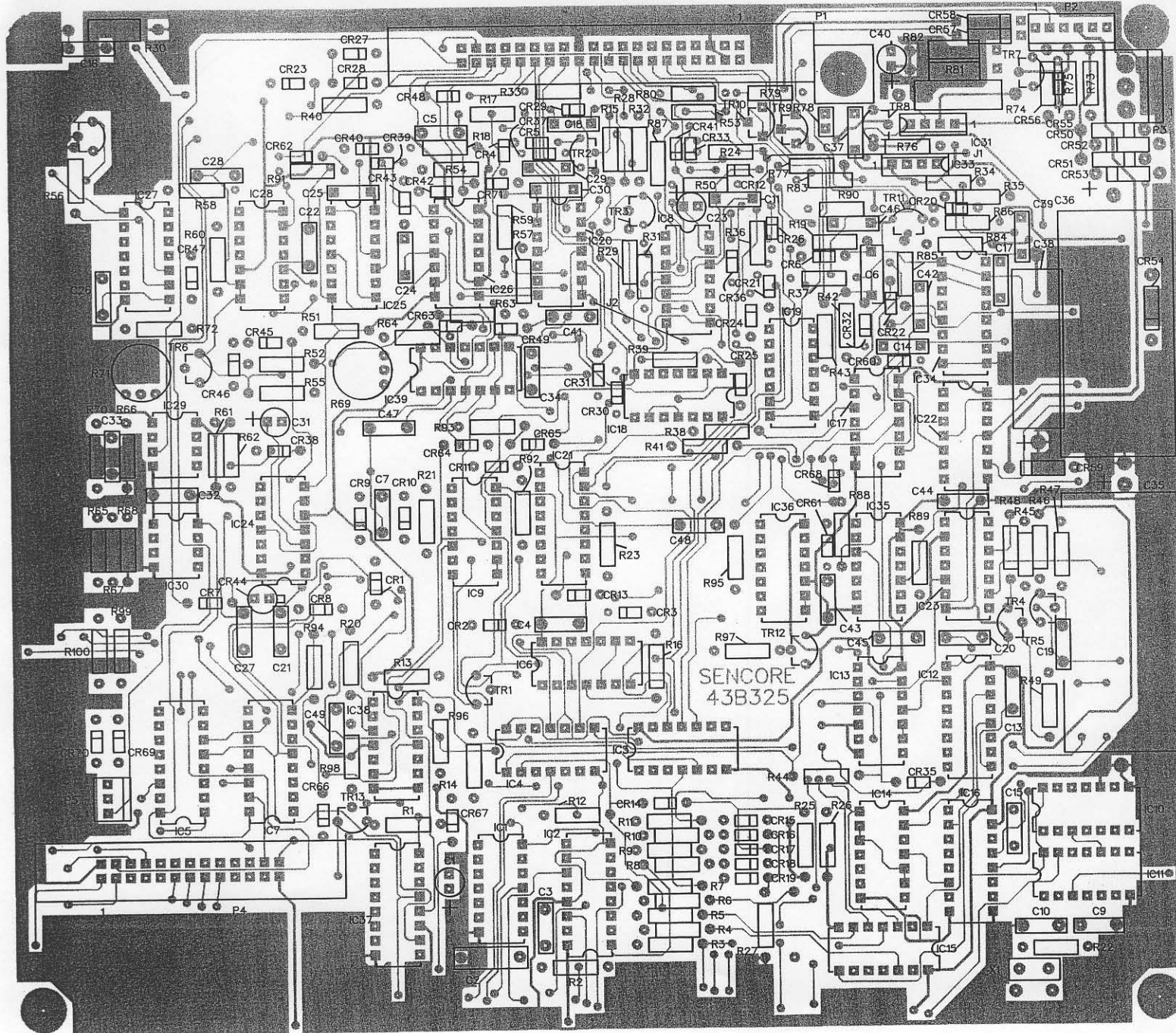


SENCORE

3200 Sencore Drive
Sioux Falls, South Dakota 57107
Telephone: (605) 339-0100

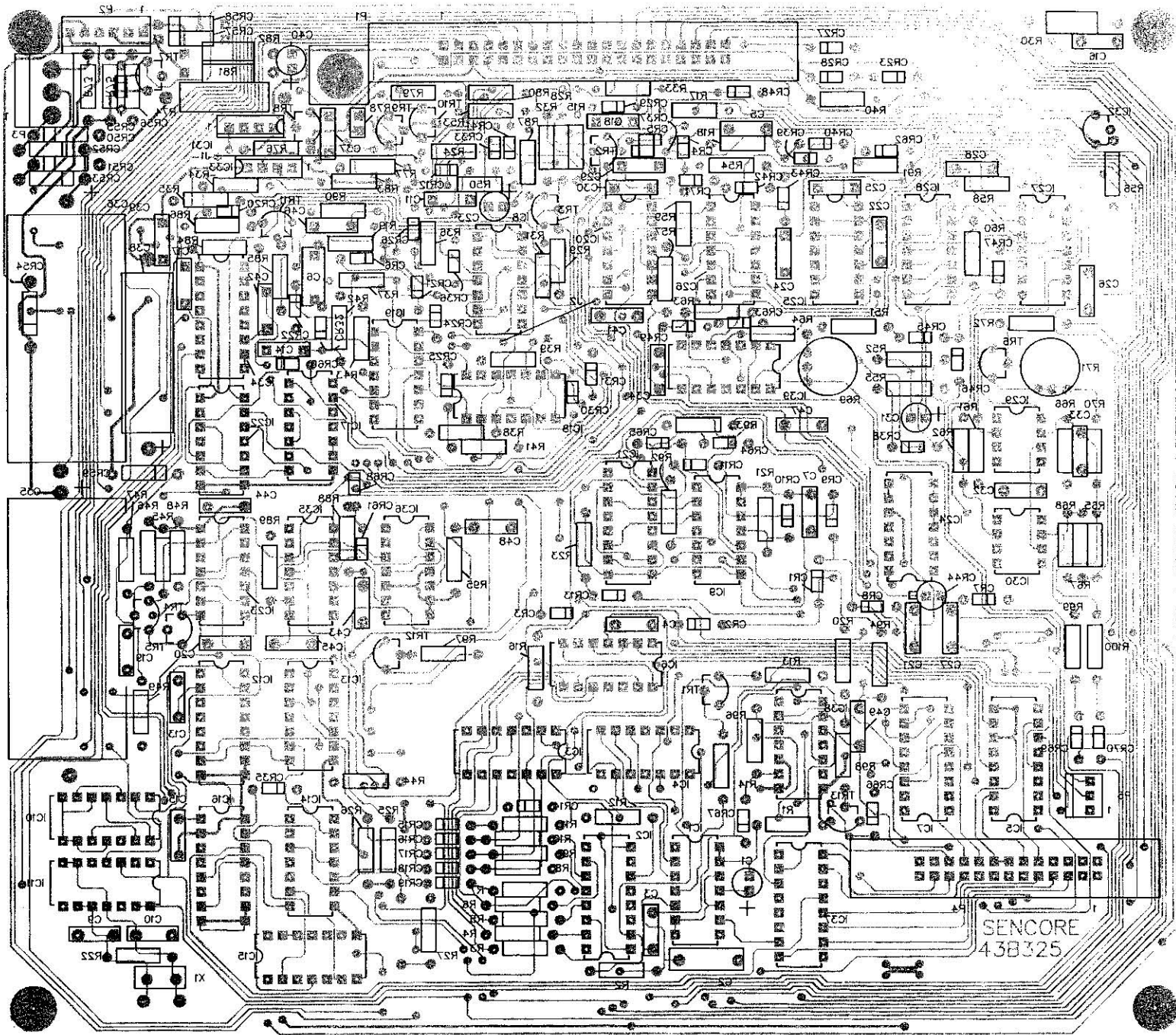
SHEET 1

This sheet contains Schematics, Digital and Display Board Layouts, and Display Board and Chassis Parts list.



SC43B325

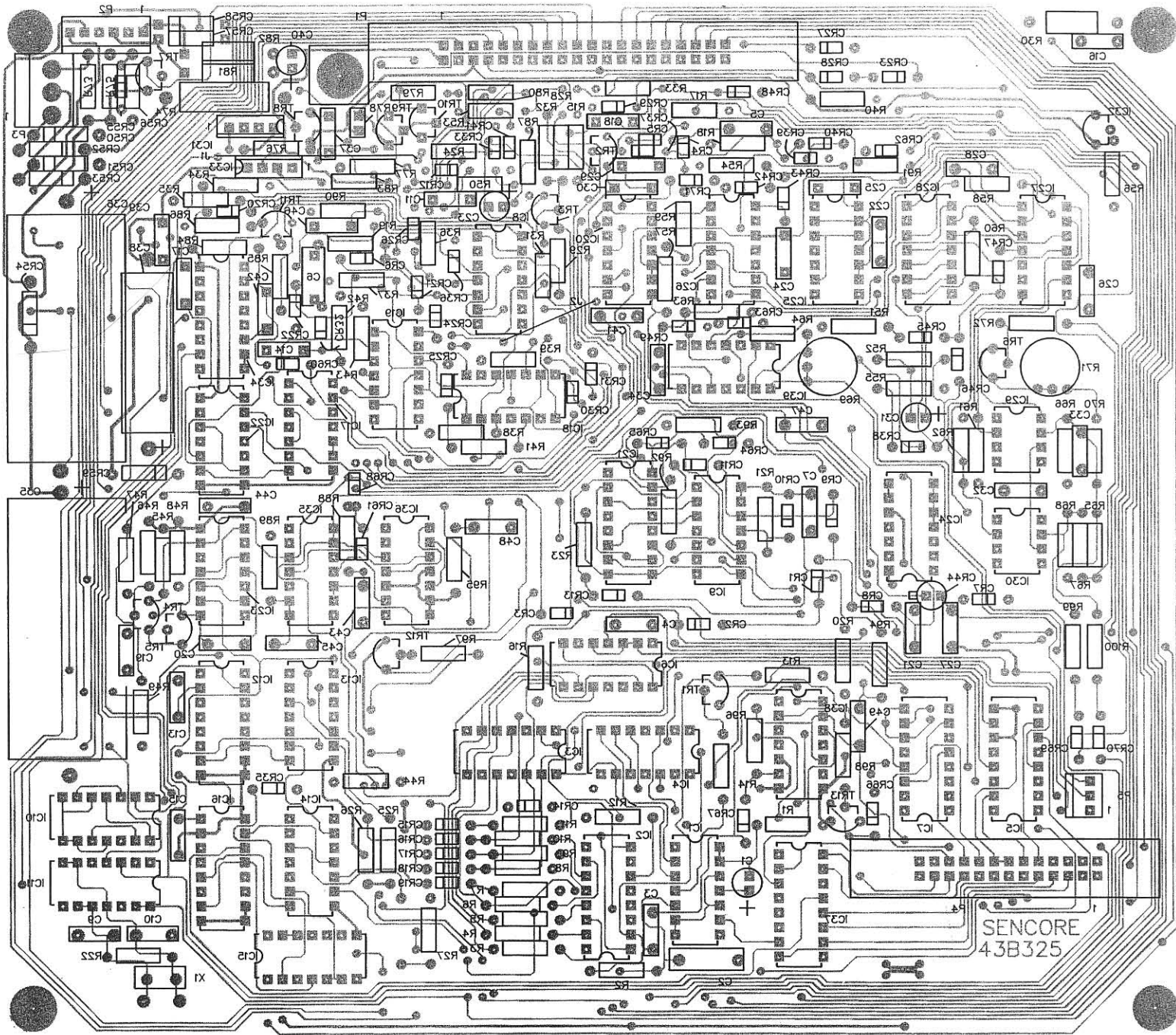
DIGITAL BOARD (COMPONENT VIEW)



SEN CORE
43B325

2C43B325

DIGITAL BOARD (FOIL VIEW)



2C43B325

DIGITAL BOARD (FOIL VIEW)

**SCHEMATIC
REFERENCE**

PART NO.

DESCRIPTION

DIGITAL P.C. BOARD (1000 Board)

| | | |
|--|-------------|--------------------------------------|
| IC1,9,17,23,35 | 69G3-B | IC, 4x2 NAND, 4011B |
| IC2 | 69G45-B | IC, Decade Counter, 4017B |
| IC3 | 69G56-B | IC, 2x4 NOR, 4002B |
| IC4 | 69G210-B | IC, 2x4 OR, 4071B |
| IC5,7 | 69G57-B | IC, Quad D Latch, 4042B |
| IC6,18,20 | 69G7-B | IC, 4x2 NOR, 4001B |
| IC8 | 69G208-B | IC, 4x2 AND, 4081 |
| IC10,19,22,24 26,28,36,38 | 69G8-B | IC, Dual D Flip-Flop, 4013B |
| IC11 | 69G209 | IC, 4x2 NOR, 4001 |
| IC12,16,21,34 | 69G36-B | IC, Dual Decade Counter, 14518B |
| IC13-15,39 | 69G123-B | IC, Quad Switch, 4066B |
| IC25 | 69G3-A | IC, 4x2 NAND, 4011A |
| IC27 | 69G7-A | IC, 4x2 NOR, 4001A |
| IC29,30 | 69G58 | IC, Voltage Comparator, LM311 |
| IC31 | 69G73 | IC, Voltage Reg. Var. Pos., UA78M GU |
| IC32 | 69G29 | IC, Voltage Regulator, + 5V, 78L05 |
| IC33 | 69G74 | IC, Voltage Reg. Var. Neg., UA79M GU |
| IC37 | 69G23-B | IC, 3x10 Counter, 14553B |
| TR1-6,11-13 | 19A33-1 | Transistor, NPN, 2N3904 |
| TR7 | 19A53 | Transistor, NPN, 2N5833 |
| TR8,9,10 | 19A29 | Transistor, Power, NPN, MJE180 |
| CR1-33,35-43 45-49,55,60-69,71 | 50C5-2A | Diode, 1N4148 |
| CR44 | 50G19 | Diode, PAD100 |
| CR50-54,57-59 | 16G10 | Diode, 1A, 1N4004 |
| CR56 | 50C4-8 | Diode, Zener, 20V, 1N4747A |
| R65 | 14A38-3014A | Resistor, 30.1K, 1/4W, 1%, 100PPM |
| R66 | 14A38-6654A | Resistor, 66.5K, 1/4W, 1%, 100PPM |
| R67 | 14A38-9093A | Resistor, 9.09K, 1/4W, 1%, 100PPM |
| R68 | 14A38-1003 | Resistor, 1K, 1/4W, 1%, 100PPM |
| R69 | 15C26-14 | Control, 100K, 20%, Linear Taper |
| R70 | 14A38-2494A | Resistor, 24.9K, 1/4W, 1% |
| R71 | 15C26-20 | Control, 5K, 20%, Linear Taper |
| R74 | 14C7-62 | Resistor, 6.2 ohm, 1W, 5% |
| R76 | 14A38-2213A | Resistor, 2.21K, 1/4W, 1%, 100PPM |
| R77 | 14A38-7153A | Resistor, 7.15K, 1/4W, 1%, 100PPM |
| R83 | 14A38-4493A | Resistor, 4.99K, 1/4W, 1%, 100PPM |
| C1,23,31 | 24G384 | Capacitor, 2.2uF 20%, Lytic |
| C2 | 24G168 | Capacitor, .22uF 10%, Mylar |
| C3,4,7,13,15,17,19 20,25,28-30,32-34 37,39,42,44,46,49 | 24G207 | Capacitor, .01uF, Disc |
| C5 | 24G31 | Capacitor, .03uF, Disc |
| C6,11,21 | 24G59 | Capacitor, .05uF, Disc |
| C9,10 | 24G86 | Capacitor, 10pF NPO, Disc |
| C14 | 24G25 | Capacitor, 220pF Y5F, Disc |
| C16 | 24G9 | Capacitor, .005uF, Disc |
| C18 | 24G208 | Capacitor, 150pF Z5F, Disc |
| C22,48 | 24G17 | Capacitor, .001uF, Disc |
| C24,41,47 | 24G125 | Capacitor, .005uF Z5U, Disc |
| C26 | 24G188 | Capacitor, .001uF 5%, Poly |
| C27 | 24G319 | Capacitor, .0056uF 10%, Mylar |
| C35 | 24G307 | Capacitor, 2000uF 20%, Lytic |
| C36 | 24G240 | Capacitor, 2000uF, Lytic |
| C38 | 24G272 | Capacitor, 1000uF 10%, Lytic |
| C40 | 24G382 | Capacitor, 10uF 20%, Lytic |
| C43 | 24G216 | Capacitor, .1uF 10%, Mylar |
| C45 | 24G190 | Capacitor, 180 pF 10%, Disc |
| X1 | 47A28 | Crystal, 4MHz |

SENCORE

ELECTRONIC TEST EQUIPMENT

Innovatively Designed With Your Time In Mind

3200 Sencore Drive
Sioux Falls, South Dakota 57107
(605) 339-0100



SHEET 2

This sheet contains Block Diagram, Analog Board layouts, and Digital and Analog Board parts lists.

**SCHEMATIC
REFERENCE**

PART NO.

DESCRIPTION

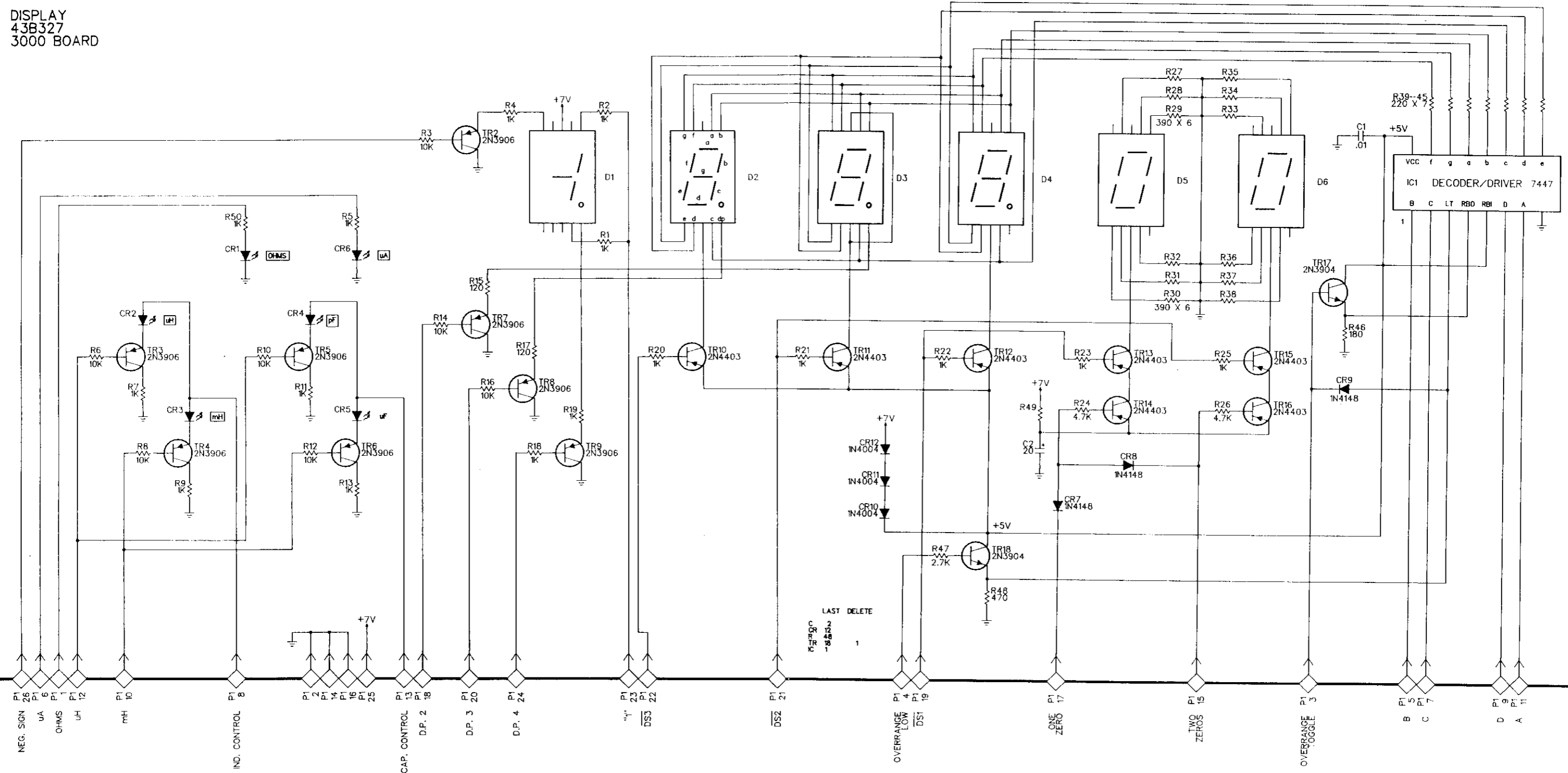
DISPLAY P.C BOARD (3000 Board)

| | | |
|------------|---------|-------------------------------------|
| IC1 | 69G35 | IC, BCD-7 Seg. Decoder/Driver, 7447 |
| TR2-9 | 19A34-1 | Transistor, PNP, 2N3906 |
| TR10-16 | 19A40 | Transistor, PNP, 2N4403 |
| TR17,18 | 19A33-1 | Transistor, NPN, 2N3904 |
| CR1-6 | 20G14 | LFD Indicator |
| CR7,8,9 | 50C5-2 | Diode, 1N4148 |
| CR10,11,12 | 16G10 | Diode, 1A, 1N4004 |
| C1 | 24G207 | Capacitor, .01uF 100V, Disc |
| C2 | 24G121 | Capacitor, 20uF, 15V, Lytic |
| D1-6 | 23G84 | Display, 7 Segment |

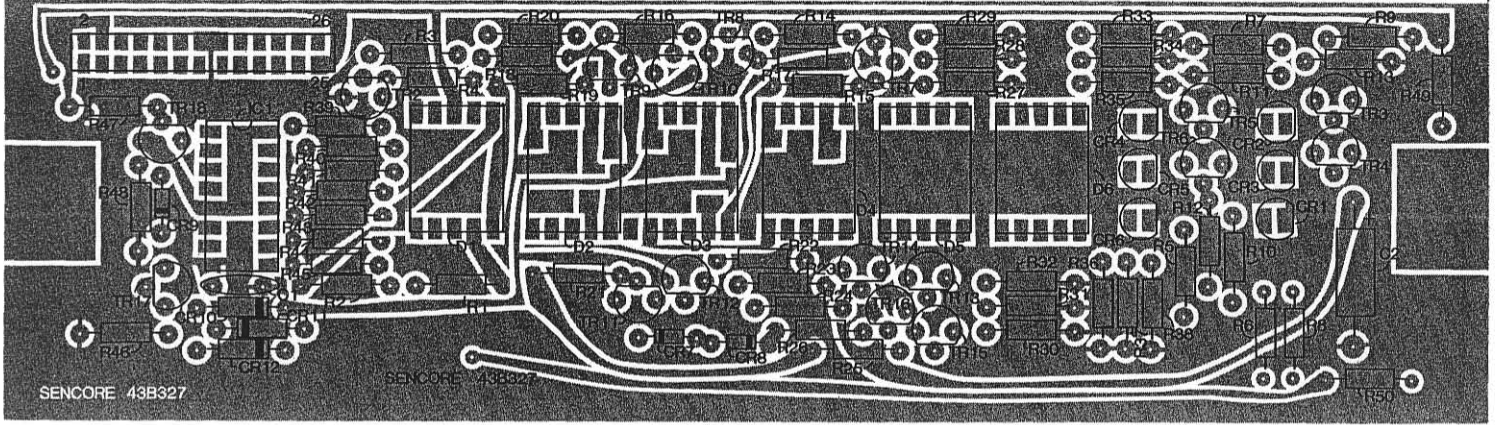
CHASSIS MOUNTED PARTS

| | | |
|--------|-----------|------------------------------------|
| CR1 | 20G14 | LFD Indicator, Voltage Warning |
| CR2,3 | 16G28 | Diode, 1A |
| R1 | 14B49-22 | Resistor, 5K, 5W, 10% |
| R2 | 14B49-23 | Resistor, 3K, 5W, 10% |
| R3 | 14B49-10 | Resistor, 1K, 5W, 10% |
| R4 | 14B49-36 | Resistor, 82 ohm, 5W, 10% |
| R5 | 14C7-62 | Resistor, 6.2 ohm, 1W, 5% |
| R6 | 14C4-22 | Resistor, 2.2 ohm 1/2W, 5% |
| R7 | 14C10-270 | Resistor, 27 ohm, 2W, 5% |
| R8 | 15C4-4 | Control, 250K, L/C Zero |
| R9A,B | 15B21-D | Control, 100K Dual Pot, Lead Zero |
| R10 | 15C3-15G | Control, 5K, Meter Zero |
| R11 | 15C3-29 | Control, 1M, ESR Zero |
| R12,13 | 14C5-105 | Resistor, 1M, 1/2W, 10% |
| C1 | 24G341 | Capacitor, 2700pF, Film, 5% |
| C2,3 | 24G279 | Capacitor, 470pF, Poly, 5% |
| C4 | 24G345 | Capacitor, 2200pF, Poly, 10% |
| C5 | 24G403 | Capacitor, .01uF, Poly, 10% |
| C6 | 24G404 | Capacitor, .033uF, Poly, 10% |
| SW1 | 25G294 | Switch, SPST Rocker, Power |
| SW2 | 25A369 | Switch Rotary, Leakage Voltage |
| SW3 | 25G245 | Switch, DPDT Rocker, Leakage Range |
| SW4 | 25A367 | Switch, Rotary, Impedance Match |
| T1 | 128K76 | Power Transformer Assembly |
| | 8C239 | Bezel, Molded |
| | 21A81 | Button |
| | 21G95 | Knob, Zero Adjust |
| | 21G96 | Knob, Leakage, Impedance Match |
| | 39G143 | Test Lead |
| | 39G144 | Test Lead Adapter |
| | 39G154 | Push Button Hold Down Rod |
| | 63A34 | Filter, Red Display |

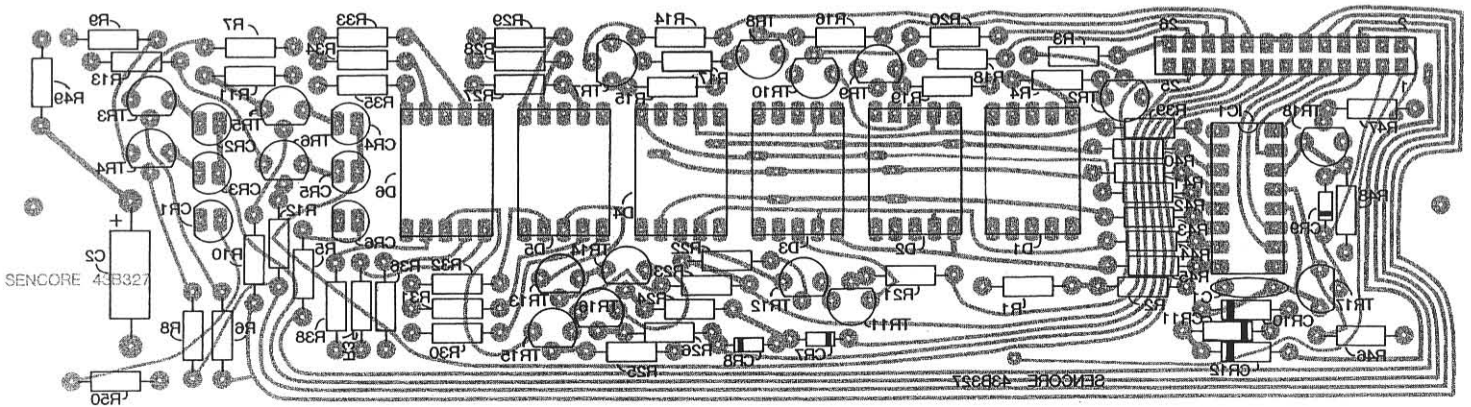
DISPLAY
43B327
3000 BOARD



3000 BOARD — DISPLAY

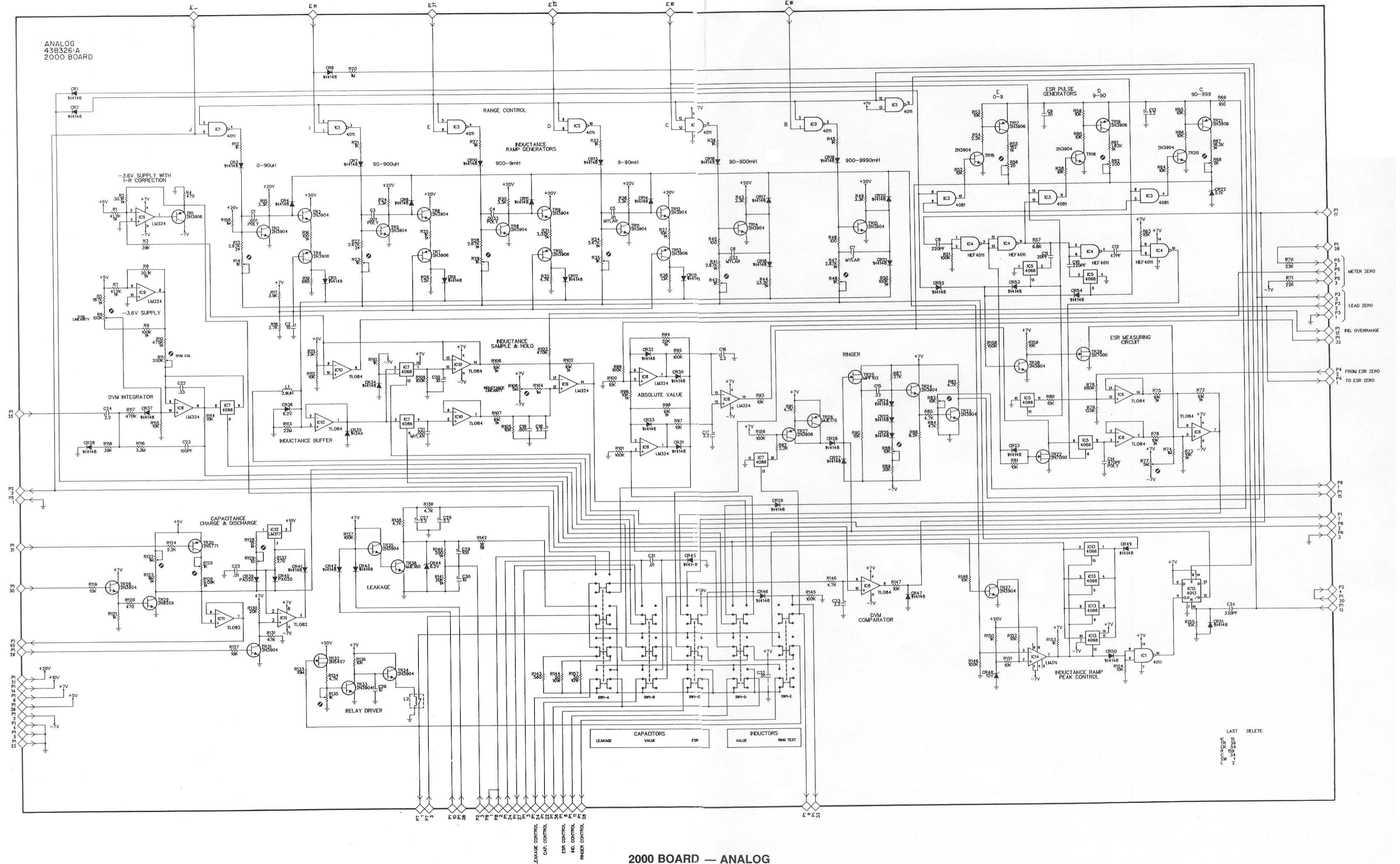


DISPLAY BOARD (COMPONENT SIDE)



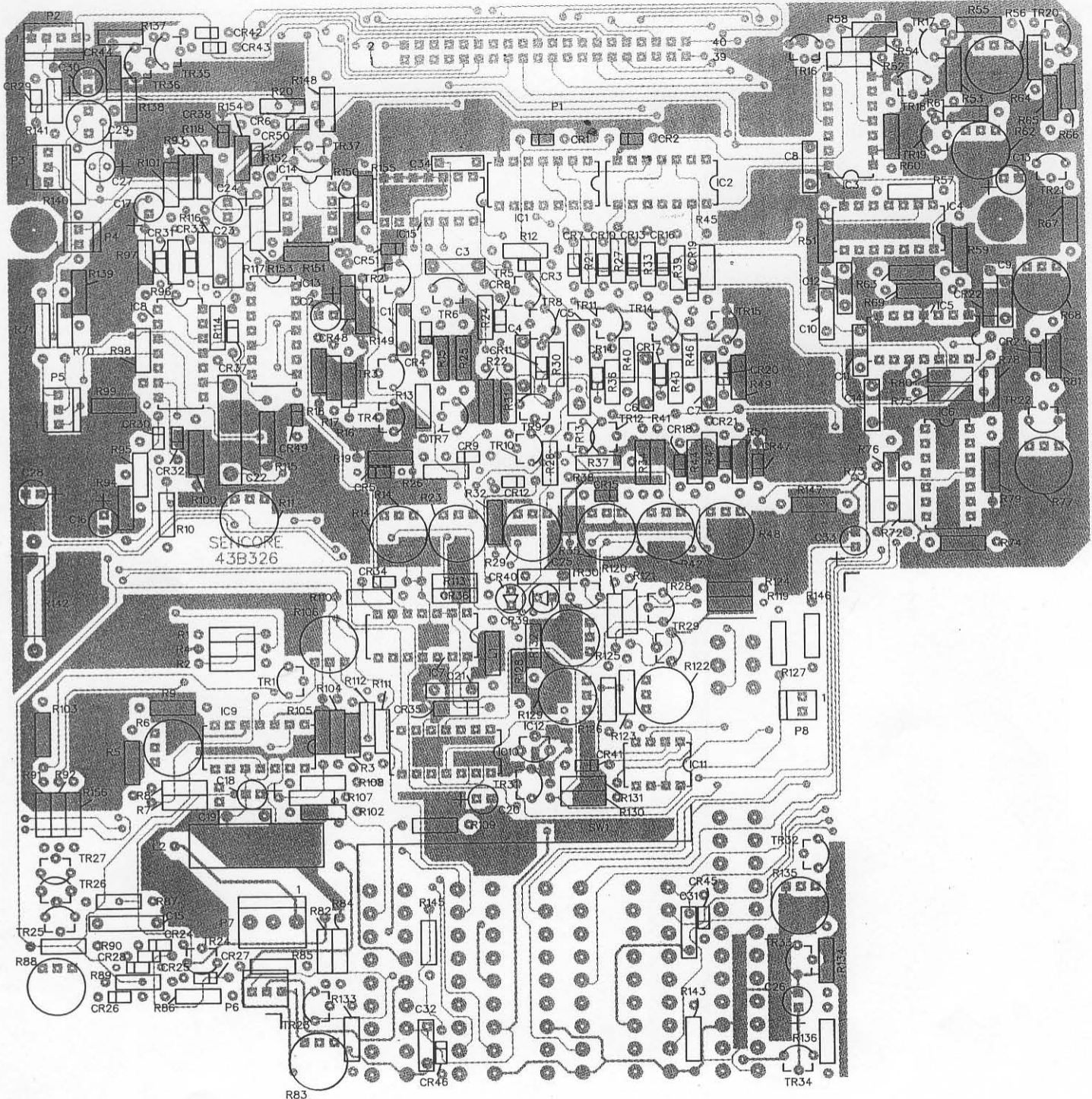
DISPLAY BOARD (FOIL SIDE)

ANALOG
43B326-A
2000 BOARD

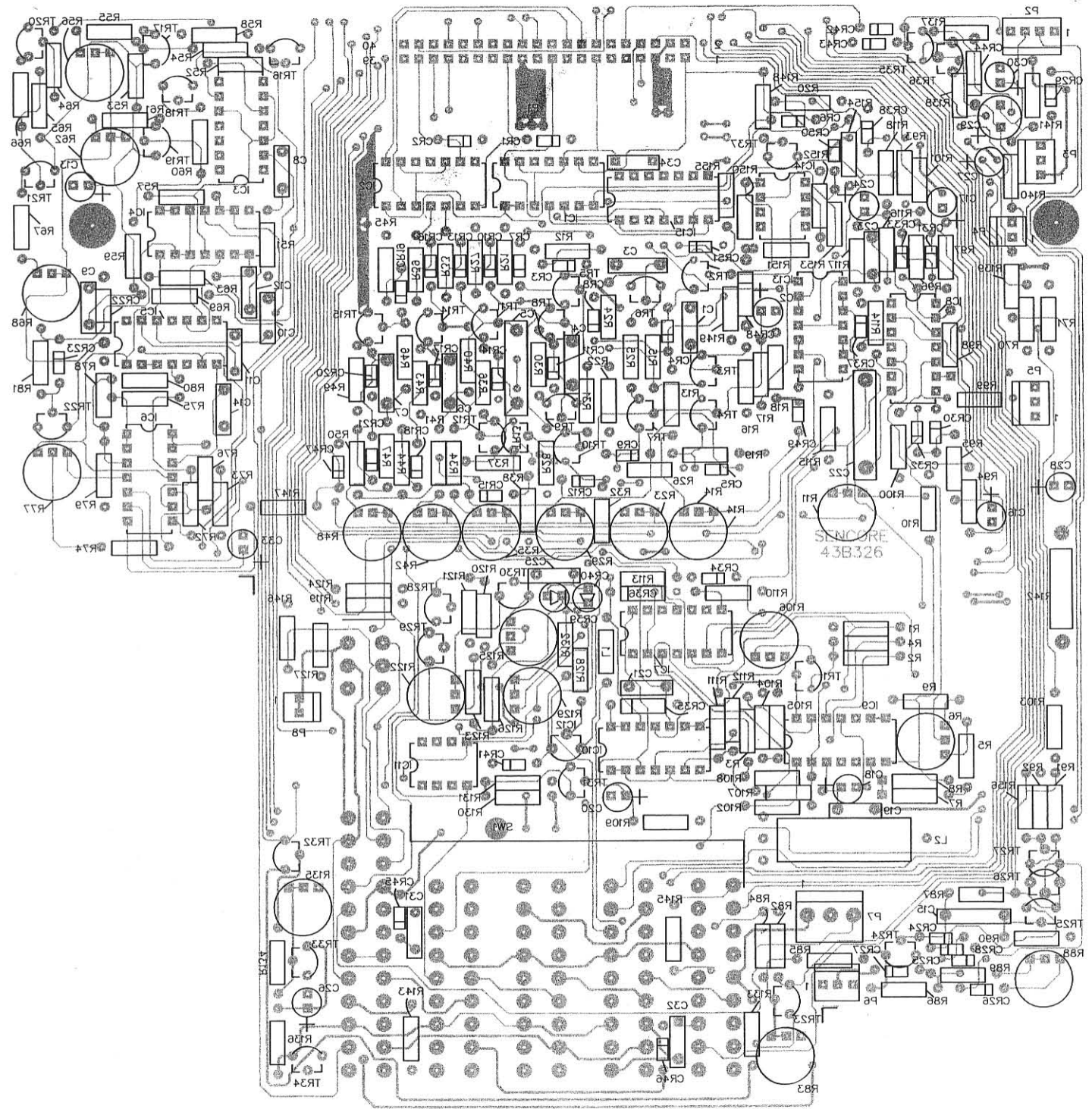


2000 BOARD — ANALOG

LAST DELETE
IC TR 15
CR 36
R 59
C 34
L SW 34
L 2



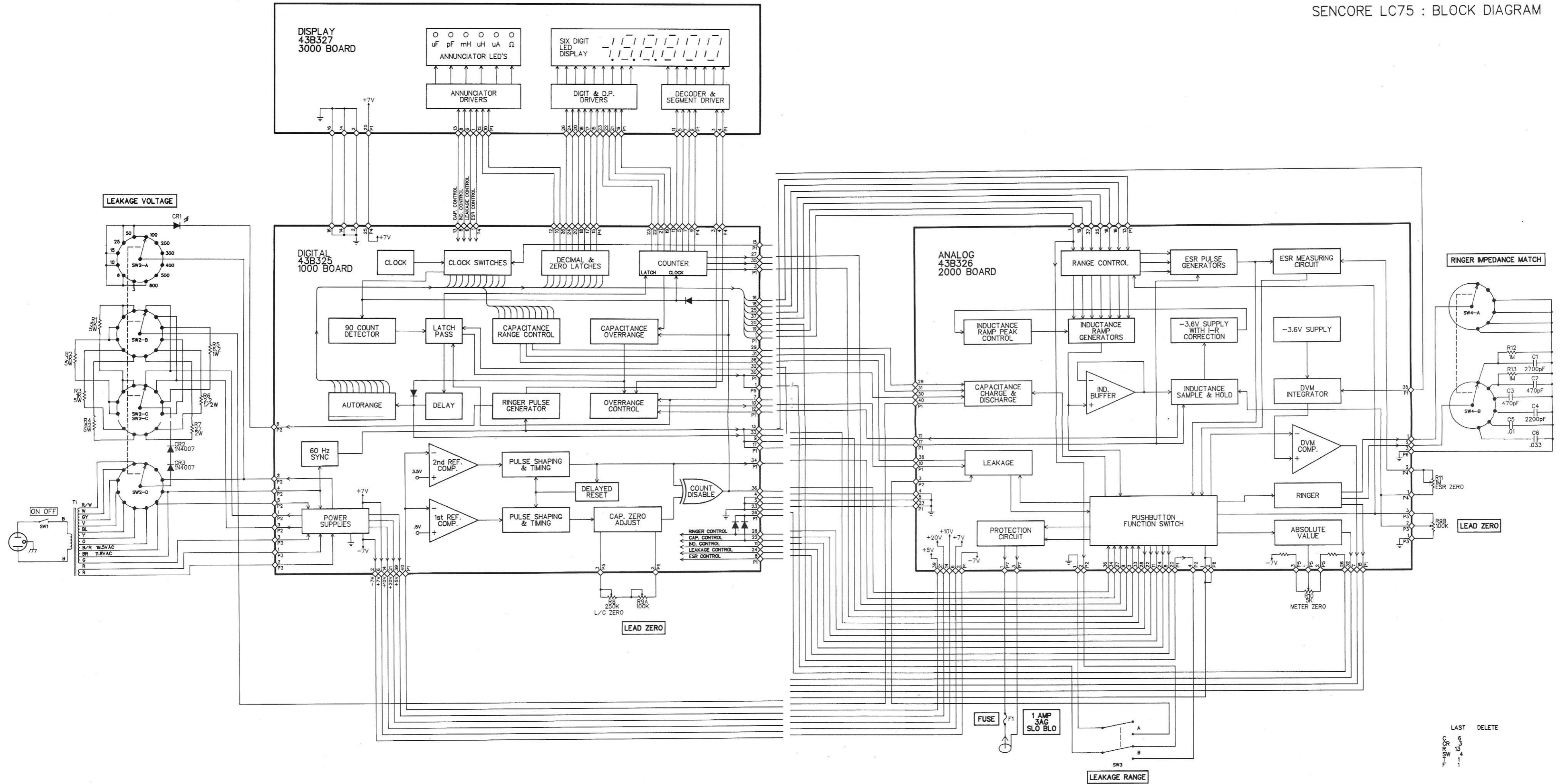
ANALOG BOARD (COMPONENT SIDE)



ANALOG BOARD (FOIL SIDE)

| SCHEMATIC REFERENCE | PART NO. | DESCRIPTION |
|--|-------------|-----------------------------------|
| ANALOG P.C BOARD (2000 Board) | | |
| IC1,2 | 69G3-B | IC, 4x2 NAND, 4011B |
| IC3 | 69G208-B | IC, 4x2 AND, 4081 |
| IC4 | 69G169-B | IC, Quad NAND, 4011 |
| IC5,7,13 | 69G123-B | IC, Quad Switch, 4066B |
| IC6,10 | 69G274 | IC, Quad BiFET OP Amp, TL084 |
| IC8,9 | 69G13 | IC, Quad OP Amp, LM324 |
| IC11 | 69G189 | IC, Dual BiFET OP Amp, TL082 |
| IC12 | 69G212 | IC, Voltage Reg. Var., LM317 |
| IC14 | 69G58 | IC, Voltage Comparator, LM311 |
| IC15 | 69G8-B | IC, Dual D Flip Flop, 4013 |
| TR2,3,5,6,8,9,11,12 14-16,18,20,22-24 28,31,33-35,37 | 19A33-1 | Transistor, NPN, 2N3904 |
| TR1,4,7,10,13 17,19,21,27 | 19A34-1 | Transistor, PNP, 2N3906 |
| TR22 | 19G70 | Transistor, MOS/PWR FET, 2N7000 |
| TR25 | 19A19 | Transistor, N-chan. FET, MPF102 |
| TR26 | 19A30-1 | Transistor, Power, PNP, MJE170 |
| TR29 | 19A58 | Transistor, NPN, 2N6559 |
| TR30 | 19A45 | Transistor, PNP, 2N5771 |
| TR32 | 19A36 | Transistor, P-Chan. FET, E201 |
| TR36 | 19A29-1 | Transistor, Power, NPN, MJE180 |
| CR1-21,23-34,37,38 41-43,45-47,49-51 | 50C5-2A | Diode, 1N4148 |
| CR22 | 50C4-13 | Diode, 5.1V Zener, 1N4733 |
| CR35 | 50C3-1 | Diode, 1N34A |
| CR36,44 | 50C4-6A | Diode, 6.2V Zener, 1N4735A |
| CR39,40 | 50G24 | Diode, PAD20 |
| CR48 | 50C4-17 | Diode, 12V Zener, 1N4742A |
| R1,7 | 14A38-4124A | Resistor, 41.2K, 1/4W, 1%, 100PPM |
| R2,8 | 14A38-3014A | Resistor, 30.1K, 1/4W, 1%, 100PPM |
| R5 | 14A38-1875A | Resistor, 187K, 1/4W, 1%, 100PPM |
| R6 | 15C26-14 | Control, 100K, Linear Taper |
| R9,50 | 14A38-1005A | Resistor, 100K, 1/4W, 1%, 100PPM |
| R10 | 14A38-4755A | Resistor, 475K, 1/4W, 1% |
| R11 | 15C26-11 | Control, 200K Miniature |
| R13,22,28 34,41,47 | 14A38-2673A | Resistor, 2.67K, 1/4W, 1%, 100PPM |
| R14,23,29,35 42,48,125,135 | 15C26-15 | Control, 1K, Linear Taper |
| R16 | 14A38-1002 | Resistor, 100 ohm, 1/4W, 1% |
| R25 | 14A38-1003 | Resistor, 1K, 1/4W, 1%, 100PPM |
| R31 | 14A38-3323A | Resistor, 3.32K, 1/4W, 1%, 100PPM |
| R37,72,73,75,76,96 98,102,107,108 | 14A38-1004 | Resistor, 10K, 1/4W, 1%, 100PPM |
| R44 | 14A38-3324A | Resistor, 33.2K, 1/4W, 1%, 100PPM |
| R55 | 14A38-1822A | Resistor, 182 ohm, 1/4W, 1% |
| R56 | 15C26-12 | Control, 20 ohm miniature |
| R61 | 14A38-1823A | Resistor, 1.82K, 1/4W, 1%, 100PPM |
| R62 | 15C26-13 | Control, 200 ohm Linear Taper |
| R67 | 14A38-1824A | Resistor, 18.2K, 1/4W, 1%, 100PPM |
| R68 | 15C26-18 | Control, 2K, Linear Taper |
| R77,106 | 15C26-21 | Control, 5M, Linear Taper |
| R83,88 | 15C26-24 | Control, 10K Trimmer |
| R94,141 | 14A38-2004 | Resistor, 20K, 1/4W, 1%, 100PPM |
| R122 | 15C26-23 | Control, 1M Trimmer |
| R123 | 14A38-9006 | Resistor, 9M, 1/4W, 1% |
| R126 | 14A38-9093A | Resistor, 9.09K, 1/4W, 1%, 100PPM |
| R128 | 14A38-1501A | Resistor, 15 ohm, 1/4W, 1% |
| R129 | 15C26-16 | Control, 10 ohm, Linear Taper |
| R140 | 14A38-2002A | Resistor, 200 ohm, 1/4W, 1% |
| R142 | 14C8-180 | Resistor, 18 ohm, 1W, 10% |
| R144,157 | 14A52-14 | Resistor, 50 ohm, 10W, 10% |
| C1,3 | 24G188 | Capacitor, .001uF 5%, Poly |
| C2,20,26,30 | 24G382 | Capacitor, 10uF 20%, Lytic |
| C4 | 24G182 | Capacitor, .0033uF, Poly |
| C5 | 24G346 | Capacitor, .01uF 10%, Mylar |
| C6 | 24G338 | Capacitor, .033uF 10%, Mylar |
| C7 | 24G216 | Capacitor, .1uF 10%, Mylar |
| C23 | 24G70 | Capacitor, 100pF 5%, NPO, Disc |
| C9,25,31,32 | 24G207 | Capacitor, .01uF, Disc |
| C8, 10 | 24G25 | Capacitor, 220pF 20%, Y5F, Disc |
| C11 | 24G77 | Capacitor, 20pF, 5%, Disc |
| C12 | 24G192 | Capacitor, 47pF, 10%, Disc |
| C13,16-18,24 27,28,33 | 24G384 | Capacitor, 2.2uF 20%, Lytic |
| C14 | 24G279 | Capacitor, 470pF 5%, Poly |
| C15 | 24G168 | Capacitor, .22uF 10%, Mylar |
| C19 | 24G17 | Capacitor, .001uF, Disc |
| C21 | 24G286 | Capacitor, .001uF 20%, Mylar |
| C22 | 24G374 | Capacitor, .33uF 10%, Film |
| C29 | 24G442 | Capacitor, 100uF, Lytic |
| C34 | 24G22 | Capacitor, 330pF 10%, Disc |
| SW1 | 25A375A | Switch, 5 Module, Pushbutton |
| L1 | 46G76 | Coil, 3.9uH, 10% |
| L2 | 41A7 | Reed Relay, 6V |

SENCORE LC75 : BLOCK DIAGRAM

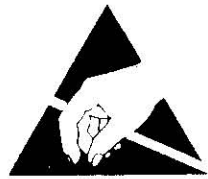


LAST DELETE
 6
 3
 13
 4
 1
 1

NOTES:

1. All resistances in ohms.
2. All capacitances greater than one are in pF, less than one in uF, unless otherwise indicated.
3. Board interconnection notes:
 - denotes a single push-on type connector.
 - denotes wire soldered to PC board.
 - ◇ denotes molex connection. Numbers inside or along side indicate the pin number of the plug-in connector.
4. All controls, jacks, and displays on exterior of unit are shown with box around the name.

WARNING



Avoid damage to parts caused by static electricity!

Most solid-state devices and film resistors are susceptible to damage due to discharge of static 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 connection.
2. A PC board or component should never be placed on an insulated surface. The surface must be grounded (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

| | | |
|--|-------------------------|--|
| SENCORE ELECTRONIC TEST EQUIPMENT Innovatively Designed With Your Time In Mind 3200 Sencore Drive Sioux Falls, South Dakota 57107 (605) 339-0100 | wats free please? | 800-843-3338 • save factory direct • call night or day • 100% made right lifetime guarantee • return privileges |
|--|-------------------------|--|