

$$\begin{array}{r} 4.269 \\ -125 \\ \hline 4.394 \end{array}$$

$$\begin{array}{r} 6.272 \\ -250 \\ \hline 6.522 \end{array}$$

.065

$$\begin{array}{r} 4.471 \\ 4.394 \\ \hline .077 \end{array}$$

$$\begin{array}{r} 28.365 \\ 27.016 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 28.365 \\ -29 \\ \hline 28.335 \end{array}$$

28,365

28,037

$$\begin{array}{r} 28.365 \\ 24.037 \\ \hline \end{array}$$

$$\begin{array}{r} 22.22 \\ -29 \\ \hline 22.29 \end{array}$$

$$\begin{array}{r} 4.394 \\ 4.328 \\ \hline .066 \end{array}$$

err

28365, 6300

\*

$$\begin{array}{r} 6.1325 \\ -125 \\ \hline 6.0075 \end{array}$$

tin  
dr  
12  
129

1) p885rt.egs  
" 12+ "

ERROR

X 4886

12/22/93 - EGGS CODE ADDED HAS EXP. ERR.



\*

PARTS LIST

TITLE: STAR TPC  
 OUTER SECTOR ELECTRONICS  
 ANODE WIRE MOUNT BOARD  
 (PANEL OF B)

FILE NO.: a000890c1 REV:  
 PRINT NO.: 24A3631 C-1  
 CHANGES (\*)

ENGINEER: JIM HUNTER  
 DRAFTER: STIRKKINEN

DATE: 04/14/94  
 PAGE: 1 OF 1

Reference	Stock No.	Part Type	Description	Qty
HARDWARE				
-	NS	BBL-106-G-E	6 PIN SOCKET,STRAIGHT, SAMTEC #BBL-106-G-E	6
-	NS	BBL-108-G-E	8 PIN SOCKET,STRAIGHT, SAMTEC #BBL-108-G-E	6
-	NS	BBL-121-G-E	21 PIN SOCKET,STRAIGHT, SAMTEC #BBL-121-G-E	96
-	NS	BBL-101-G-E	1 PIN SOCKET,STRAIGHT, SAMTEC #BBL-101-G-E	12
-	NS	104716-1	1 PIN CONNECTOR,RIGHT ANGLE,AMP #104716-1 OR SAMTEC #HMTSW-1-1-08-S- S230-RA	24
-	NS	a000890u2	24A3631 U-2,PRINTED CIRCUIT BOARD (PANEL OF 6 24A3631 U-1, a000890u2)	1

PRINT LIST

TITLE: STAR TPC  
 OUTER SECTOR ELECTRONICS  
 ANODE WIRE MOUNT BOARD  
 (PANEL OF SIX BOARDS)

FILE NO.: a000890p1 REV: B  
 PRINT NO.: 24A3631 P-1  
 CHANGES (\*) 04/14/94

ENGINEER: JIM HUNTER  
 DRAFTER: STIRKKINEN

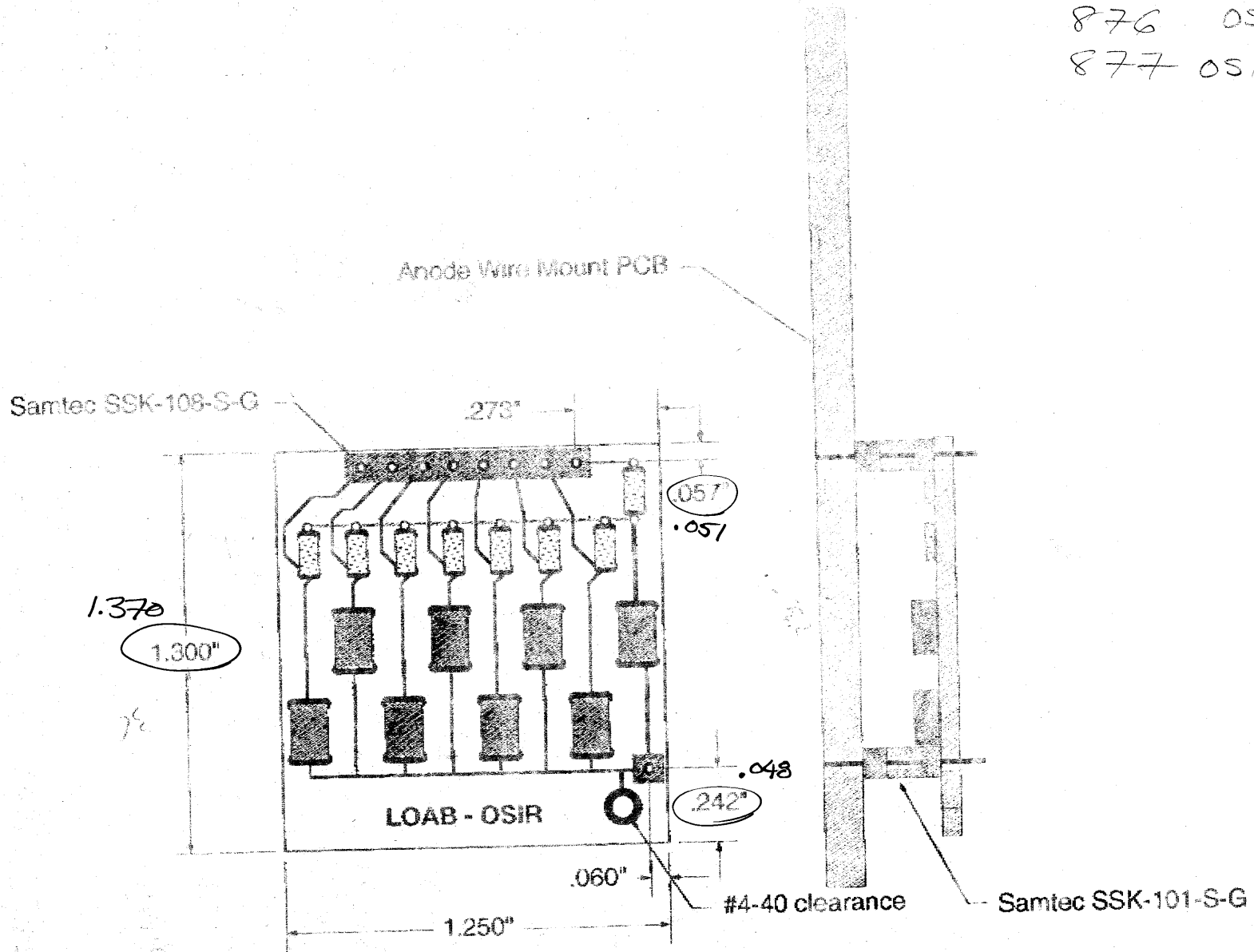
DATE: 12/01/93  
 PAGE: 1 OF 1

Drawing No.	Chg. Ltr.	Title	
24A3631 C-1 (a000890c1)		PARTS LIST (PANEL)	*
24A3634 M-1 (a000890m1)	B	BOARD OUTLINE - CUTOUTS (PANEL)	
24A3634 M-2 (a000890m2)	A	BOARD OUTLINE (PANEL)	
24A3634 E-1 (a000890e1)	A	HOLE SCHEDULE - BLIND VIAS	
24A3634 E-2 (a000890e2)	A	HOLE SCHEDULE - LAYERS 1 THRU 4	
24A3634 L-1 (a000890l1)	A	P.C. BOARD ASSEMBLY (PANEL)	*
24A3631 U-1 (a000890u1)	A	ARTWORK - SINGLE BOARD LAYER 1 - GROUND PLANE LAYER 2 - PADS LAYER 3 - H.V. CIRCUIT LAYER 4 - OUTER TRACE LAYER	
24A3631 U-2 (a000890u2)	A	ARTWORK - PANEL OF SIX 24A3631 U-1'S	

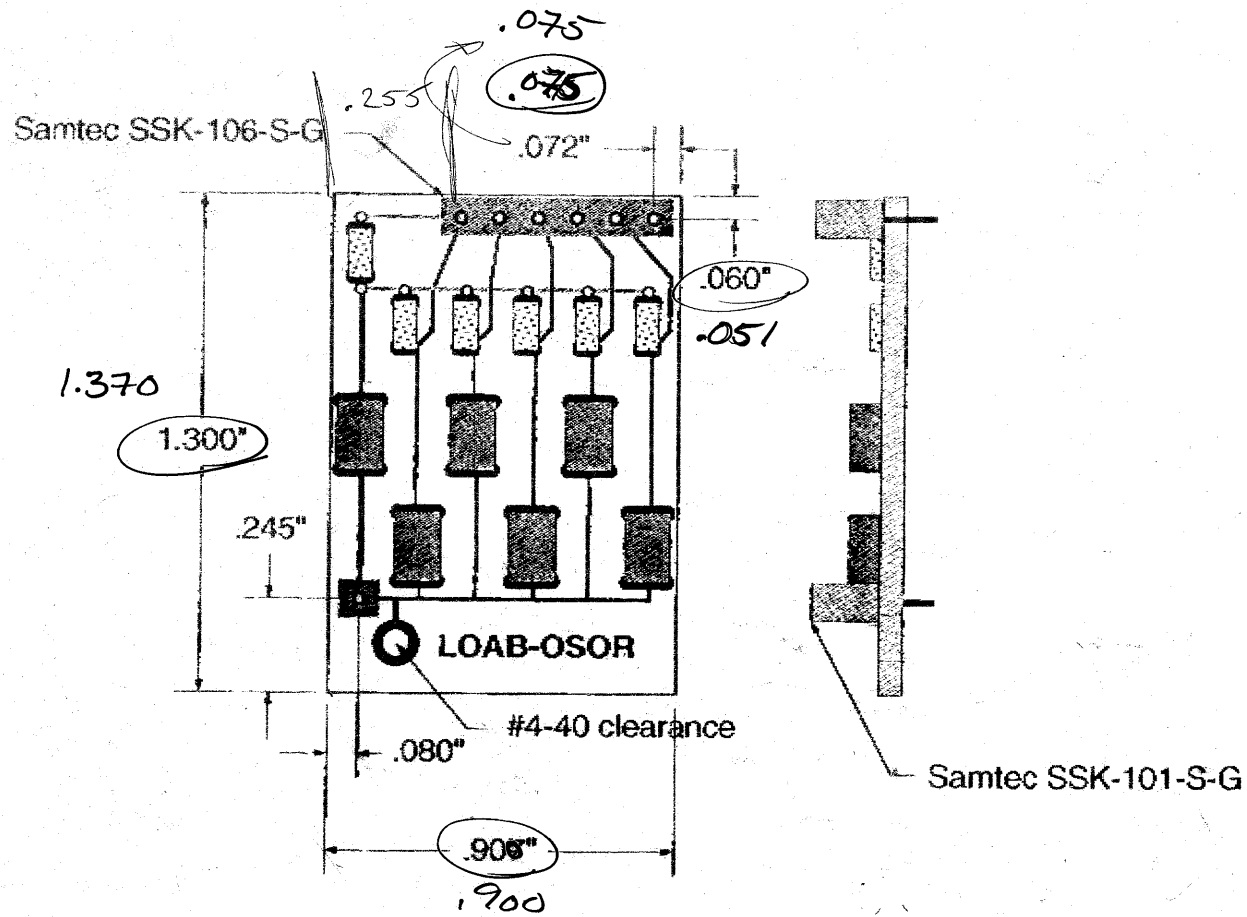
\*\* THE FOLLOWING DRAWING NOT REQUIRED FOR THIS PACKAGE:  
 SILKSCREEN

# Little Orphaned Anode Board - Type OSIR

876 OSOR  
877 OSIR



# Little Orphaned Anode Board - Type OSOR



a000869cl ✓  
a000869pl ✓  
a000888pl ✓

11/30/73

a890  
a000890ml-d ✓  
ova16-d  
a000890el-d ✓  
a000890e2-d ✓  
a000890pl ✓  
a000890wl-d ✓

12/1/73  
a000874ml-d ✓  
a000874el-d ✓  
a000874ll-d ✓  
a000874cl ✓  
a000874e2 ✓  
a000874pl

a876 & a877 12/2/73  
MOVE ⇒ a876wl → a000876wl  
a877wl → a000877wl  
TRANSFER ⇒ a876877-d  
a000877ml-d  
cl-

a00086911-d

a000888wl-d.z	141485
a000888ml-d.z	3665
v161888.arc	103564
v161888a.arc	30082
SENT 12/3/73	

1) NEED TO ADD REV. B TO ALL DRAWINGS FOR ABDB.

2) MAKE DIRECTORIES FOR ORIGINAL WORK FOR a877 & a876

a000869e1  
 a000869m1  
 a000869u1  
 a00086912  
 a000869c1

REMOVE  
 a869u1h-d

305  
 135  
 180  
 620

77  
 58  
 180  
 3/5

54

305  
 305  
 135  
 196  
 14  
 965

6200  
 9

4.595  
 79.120  
 8  
 11  
 10  
 19  
 18  
 10  
 10

6300  
 6300  
 125  
 18785

16  
 16  
 32

180  
 3) 540  
 3  
 24

32  
 24  
 56

48  
 24  
 72

14  
 4  
 56



1) FEEDTHRU CONNECTOR BOARD - PROCESS NETWORK

$$\begin{array}{r} 1307 \\ 63 \\ \hline 1244 \end{array}$$

$$\begin{array}{r} 5832 \\ 63 \\ \hline 5895 \end{array}$$

$$\begin{array}{r} 2.325 \\ 2.325 \\ 437 \\ \hline 5.087 \end{array}$$

$$\begin{array}{r} 2.265 \\ 62 \\ \hline 2.325 \end{array}$$

$$\begin{array}{r} 4.400 \\ 125 \\ 125 \\ 437 \\ \hline 5.087 \end{array}$$

DEFINITION OF GERBER FILES  
LBL JOB NO. 24A1021 U-1  
(A000885U1)

TITLE: STAR TPC  
OUTER SECTOR  
PAD PLANE OUTER SECTOR BOARD  
(2 LAYER CIRCUITRY VERSION)

ENGINEER: THOMAS NOGGLE  
COORDINATOR: JIM HUNTER  
DRAFTER: STIRKKINEN  
DATE: 07/14/93

PLOT FILES:

- 1) PL885DP = LAYER 1 (DETECTOR PADS) NEGATIVE FORMAT
- 2) PL885CP = LAYER 2 (TRACES AND PADS) POSITIVE FORMAT \*\*
- 3) PL885CG = LAYER 2 (GROUND CLEARANCE) NEGATIVE FORMAT \*\*

ROUTING FILE:

- 1) PL885RT = ROUTING FOR INSULATION BOARD (NO COPPER EITHER SIDE)

DRILL DATA FILE:

- 1) PL885DR = HOLE LOCATIONS

\*\* FOR LAYER 2 MAKE A COMPOSITE OF PLOT FILES PL885CP AND  
PL885CG \*\*

ARTWORK TO BE PLOTTED ON GLASS FOR STABILITY.

BOARD SIZE IS APPROXIMATELY 41.200 X 29.300 INCHES. THIS IS  
A MULTILAYER BOARD CONSISTING OF 4 LAYERS. LAYERS 3 AND 4  
HAVE NO COPPER. TOTAL THICKNESS OF BOARD IS .125 +/- .005.  
SEE BOARD OUTLINE DRAWING IS 24A1024 M-1 FOR DETAILS.

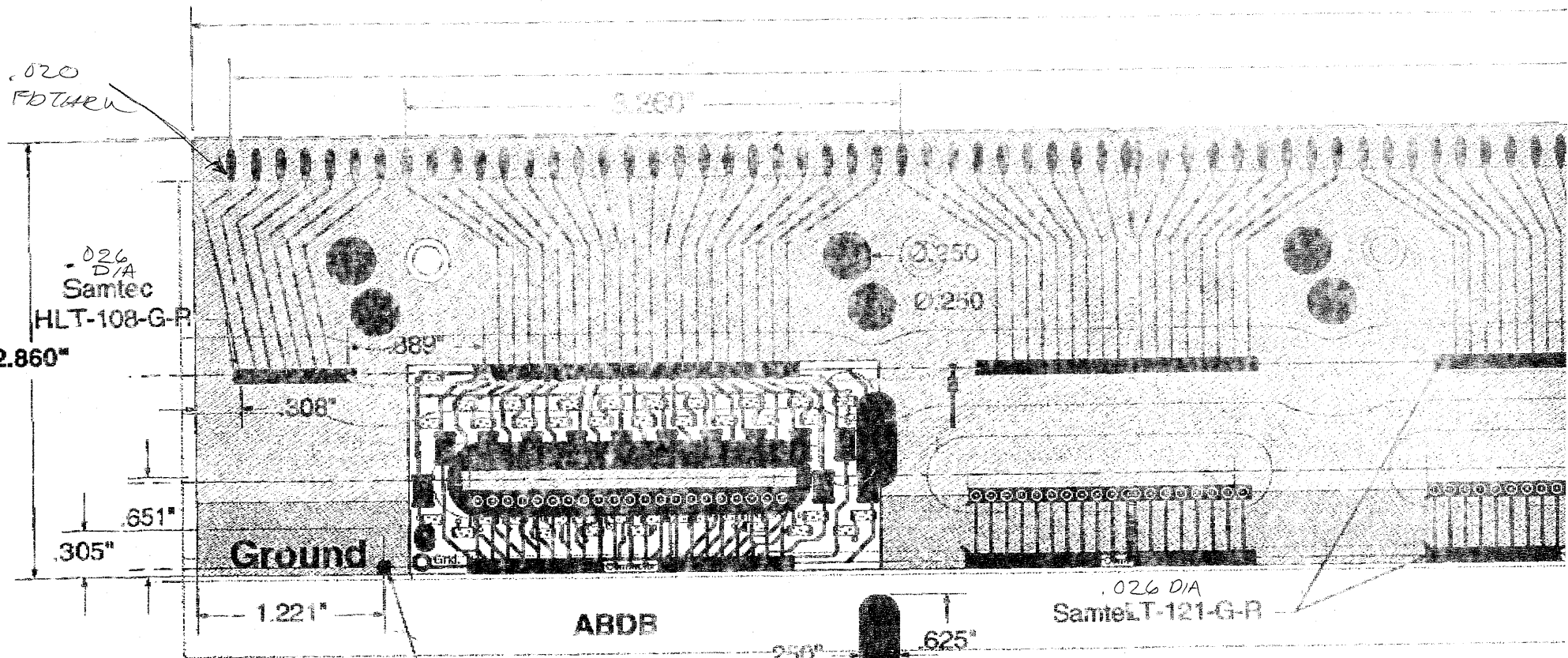
BOARD 1 MATERIAL IS .062 NEMA 610, NON FR4, GLASS EPOXY PER MIL-P-  
13949E FL-6FN 062C-2/.5-A1A (2 OZ COPPER FOR LAYER 2 AND 1/2  
OZ COPPER FOR LAYER 1).

BOARD 2 MATERIAL IS .062 NEMA 610, NON FR4, GLASS EPOXY PER MIL-P-  
13949E FL-6FN 062C-.5/.5-A1A (1/2 OZ COPPER BOTH SIDES (LAYERS 3  
AND 4), ETCHED AWAY).

PREPREG TO BE NO FLOW TYPE.

THERE IS NO TIN PLATING USED ON ANY LAYERS.

ALL DIMENSIONS ARE IN INCHES.



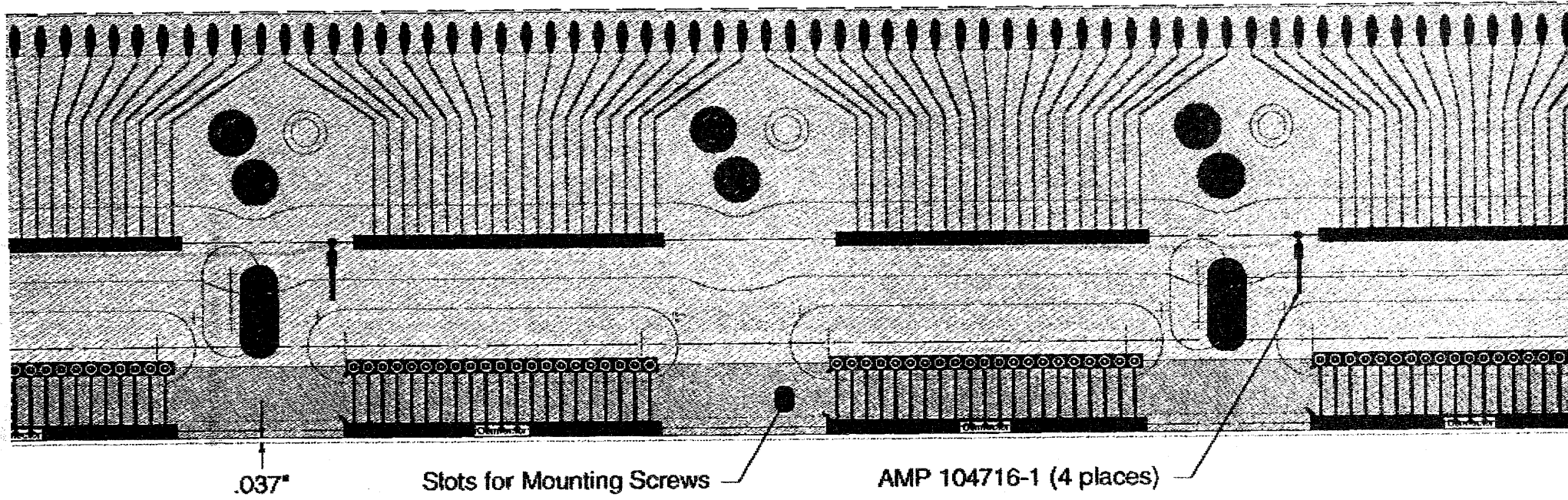
# Inner Radius

Samtec HLT-101-G-R  
2 places  
0.026 DIA

# Flexless High Voltage

28.240"

27.873"

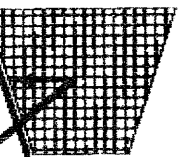


SCALE: 1X

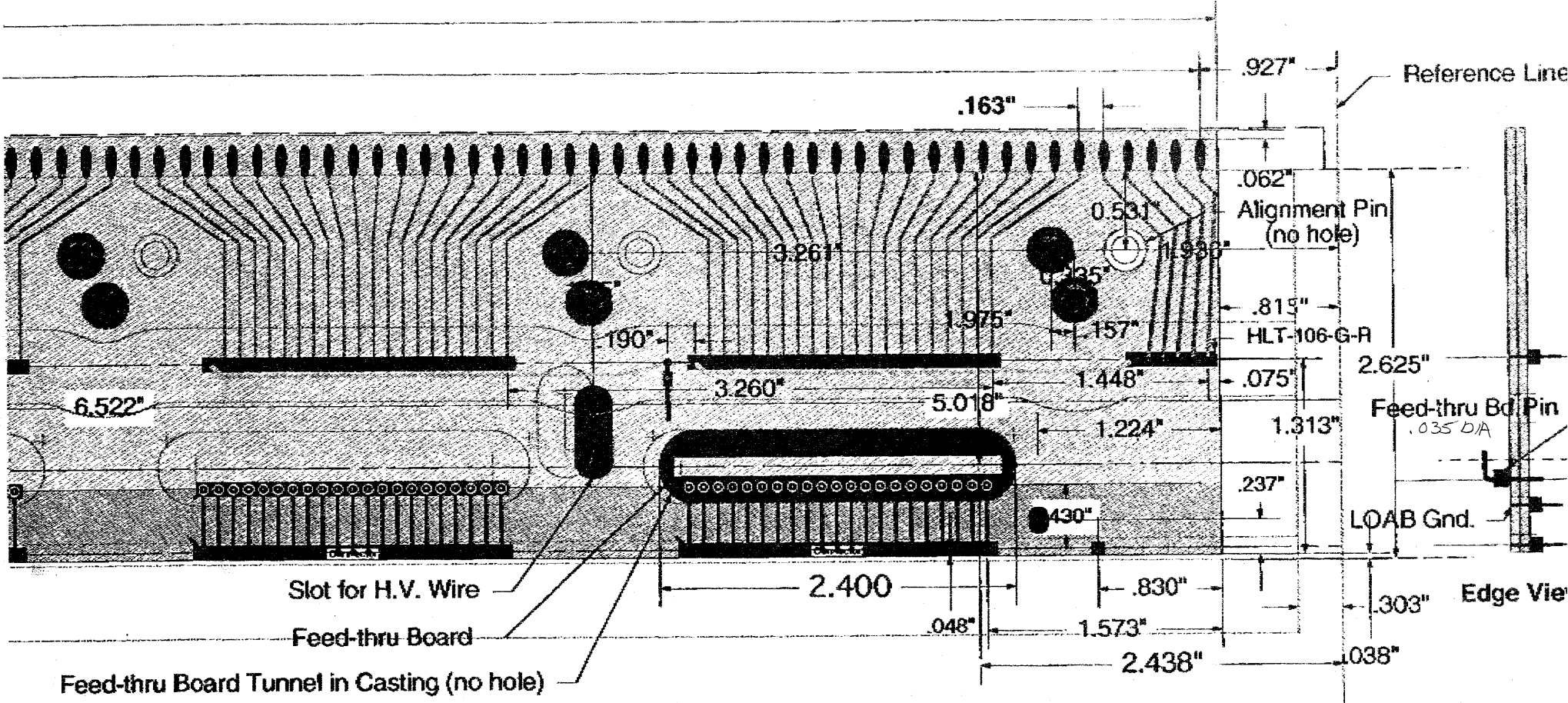
Anode Wire Mount

Pad Plane Side Up

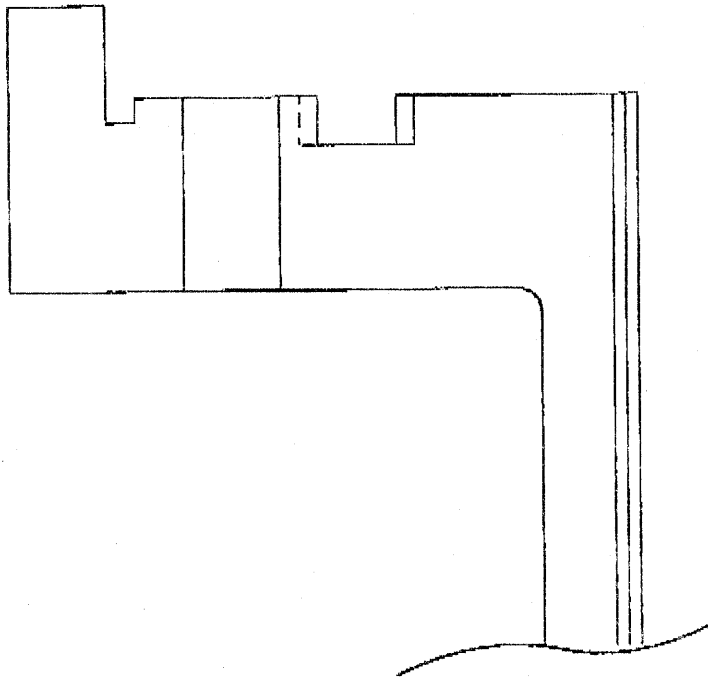
As Viewed from the Aluminium Strongback



P. UZ  
FAX NU. 5114865977  
UULBL ELEV1 INST  
NOV- 4-83 IHU 7:10



# Outer Radius



PRINT LIST

TITLE: STAR TPC  
 OUTER SECTOR ELECTRONICS  
 ANODE WIRE MOUNT BOARD  
 (PANEL OF SIX BOARDS)

FILE NO.: a000890p1 REV: A  
 PRINT NO.: 24A3631 P-1  
 CHANGES (\*) 02/08/94

ENGINEER: JIM HUNTER  
 DRAFTER: STIRKKINEN

DATE: 12/01/93  
 PAGE: 1 OF 1

Drawing No.	Chg. Ltr.	Title	
24A3634 M-1 (a000890m1)	B	BOARD OUTLINE - CUTOUTS (PANEL)	*
24A3634 M-2 (a000890m2)	A	BOARD OUTLINE (PANEL)	*
24A3634 E-1 (a000890e1)	A	HOLE SCHEDULE - BLIND VIAS	*
24A3634 E-2 (a000890e2)	A	HOLE SCHEDULE - LAYERS 1 THRU 4	*
24A3631 U-1 (a000890u1)	A	ARTWORK - SINGLE BOARD LAYER 1 - GROUND PLANE LAYER 2 - PADS LAYER 3 - H.V. CIRCUIT LAYER 4 - OUTER TRACE LAYER	*
24A3631 U-2 (a000890u2)	A	ARTWORK - PANEL OF SIX 24A3631 U-1'S	*

\*\* THE FOLLOWING DRAWINGS NOT REQUIRED FOR THIS PACKAGE:  
 PARTS LIST, SILKSCREEN, PC BOARD ASSEMBLY

NUMBERS WITHIN ( ) REFER TO EGS COMPUTER FILES

PRINT LIST

TITLE: STAR TPC  
QUTER SECTOR ELECTRONICS  
ANODE WIRE MOUNT BOARD  
(PANEL OF TWO BOARDS)

FILE NO.: a000890c1 REV:  
PRINT NO.: 24A3631 P-1  
CHANGES (\*)

ENGINEER: JIM HUNTER  
DRAFTER: STIRKKINEN

DATE: 12/01/93  
PAGE: 1 OF 1

Drawing No.	Chg. Ltr.	Title
24A3633 M-1 (a000890m1)		BOARD OUTLINE (PANEL)
24A3634 E-1 (a000890e1)		HOLE SCHEDULE - BLIND VIAS
24A3634 E-2 (a000890e2)		HOLE SCHEDULE - LAYERS 1 THRU 4
24A3631 U-1 (a000890u1)		ARTWORK - SINGLE BOARD LAYER 1 - GROUND PLANE LAYER 2 - PADS LAYER 3 - H.V. CIRCUIT LAYER 4 - OUTER TRACE LAYER
24A3631 U-2 (a000890u2)		ARTWORK - PANEL OF TWD 24A3631 U-1

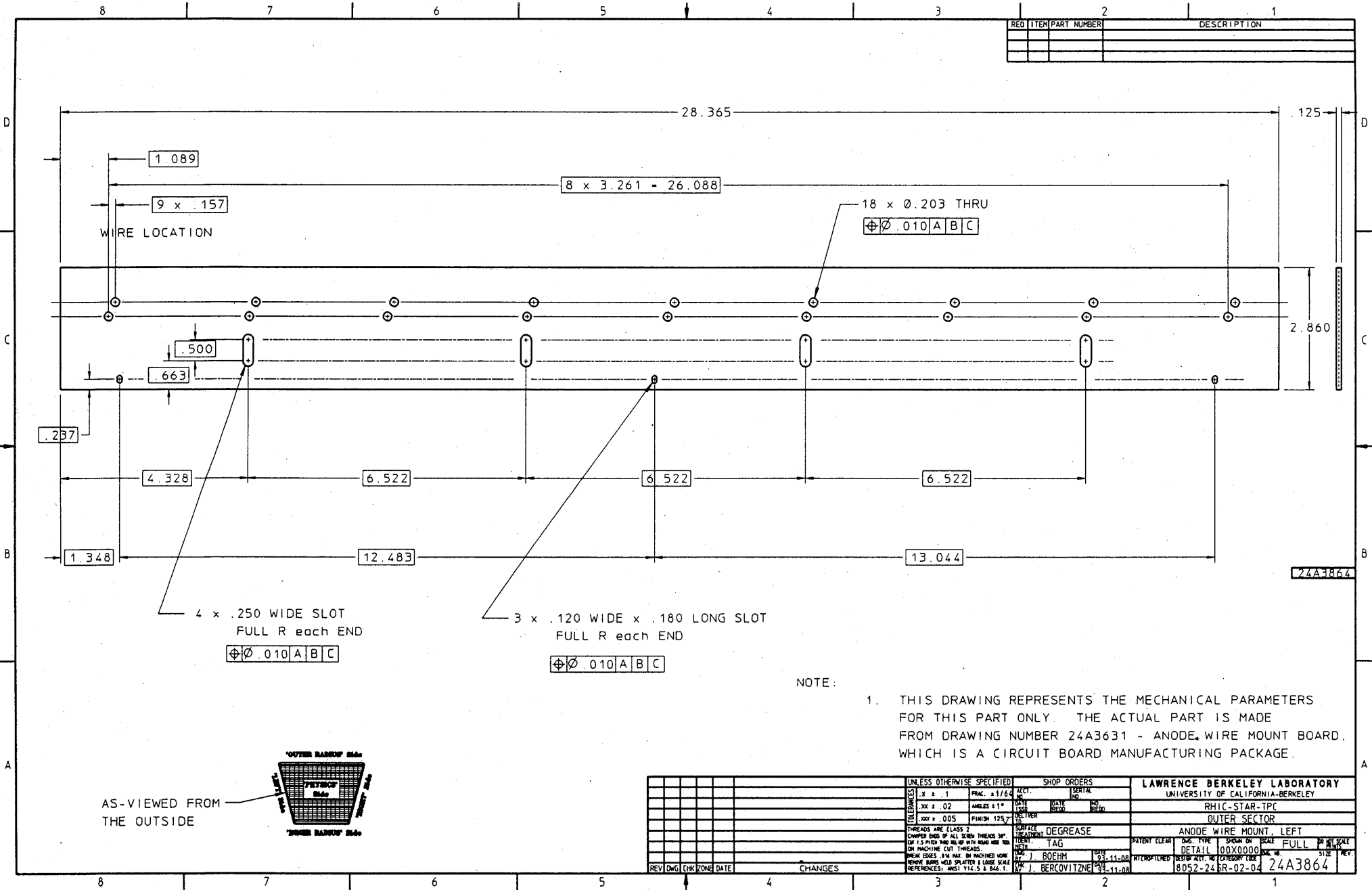
\*\* THE FOLLOWING DRAWINGS NOT REQUIRED FOR THIS PACKAGE:  
PARTS LIST, SILKSCREEN, PC BOARD ASSEMBLY

NUMBERS WITHIN ( ) REFER TO EGS COMPUTER FILES





OBSOLETE 12/13/93 12/6/93



REV	ITEM	PART NUMBER	DESCRIPTION

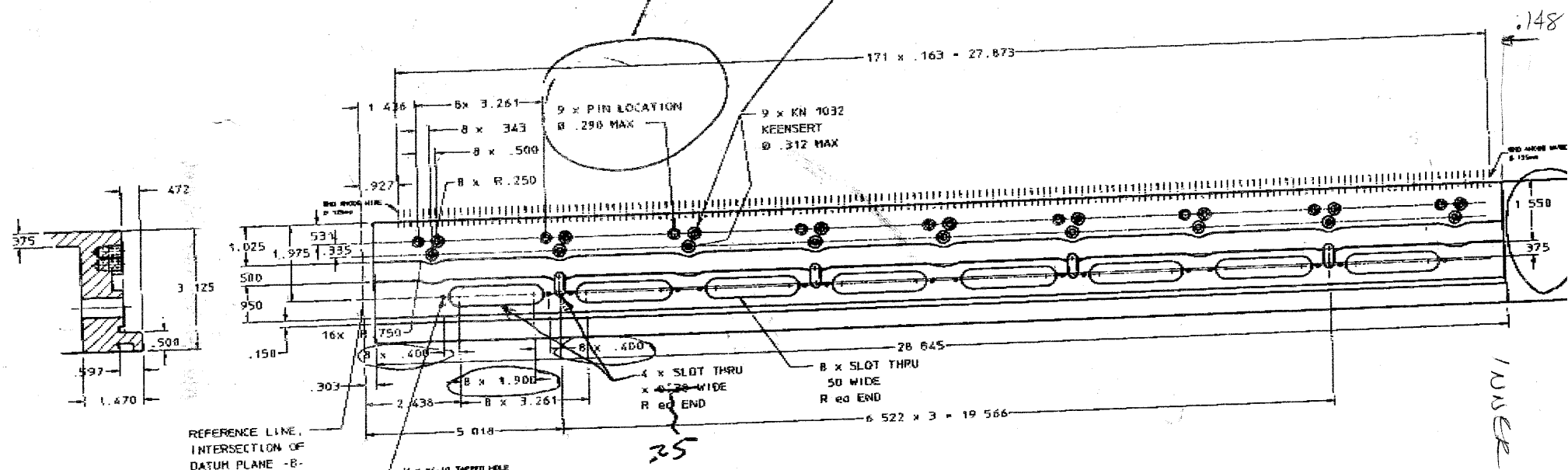
AS-VIEWED FROM THE OUTSIDE



UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		LAWRENCE BERKELEY LABORATORY	
CO	2 x .1	FRAC	± 1/64	ACI.	SERIAL
FIN	.XX ± .02	ANGLE	± 1°	DATE	NO.
ES	.XXX ± .005	FINISH	125/7	DATE	NO.
THREADS	ARE CLASS 2	SHIPLET	DEGREASE	PATENT CLEAR	DWG. TYPE
CHAMFER	ENDS OF ALL SEVEN THREADS 30°	IDENT	TAG	DWG. TYPE	SCALE
IF 1.5 PITCH	3RD END UP WITH ROAD USE 30°	DATE	BOEHR	85-11-08	DETAIL
ON MACHINE CUT	THREADS	BY	J. BOEHR	85-11-08	00X0000
BREAK EDGES	.5/4 MAX. BY MACHINED WORK	DATE	J. BERCOVITZNE	85-11-08	8052-24
REMOVE BUMP	WELD SPLATTER & LARGE SCALE	DATE	J. BERCOVITZNE	85-11-08	SR-02-04
REFERENCES	ANSI Y14.5 & Y14.1	DATE	J. BERCOVITZNE	85-11-08	24A3864
REV	DWG	CHK	DATE	CHANGES	

OCT-14-93 THU 12:11 UCLBL ELECT INST FAX NU, 51U4800911 F. UZ

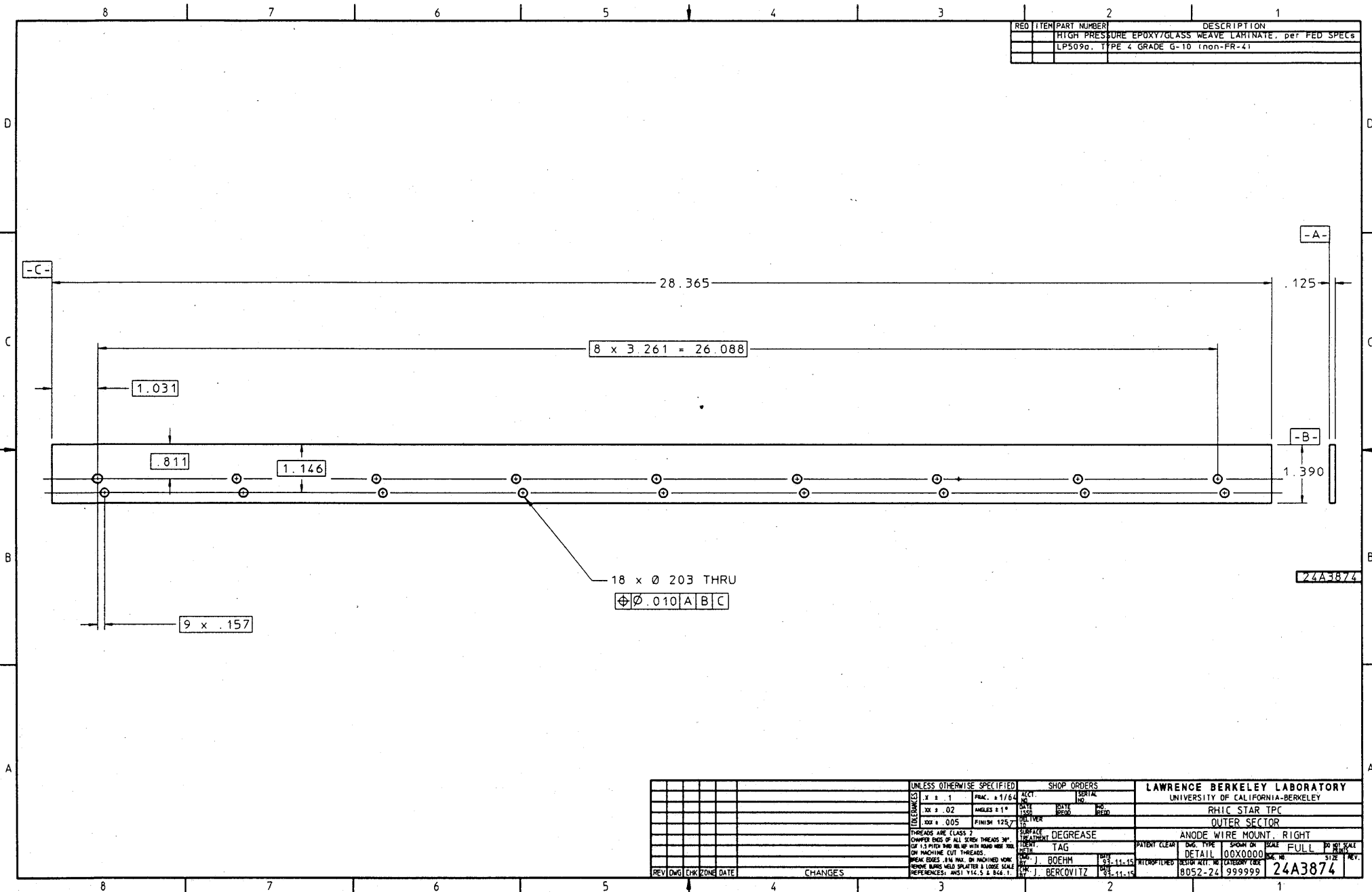
*delete this hole from hard support board  
make these  $\phi .250$  (Max)*

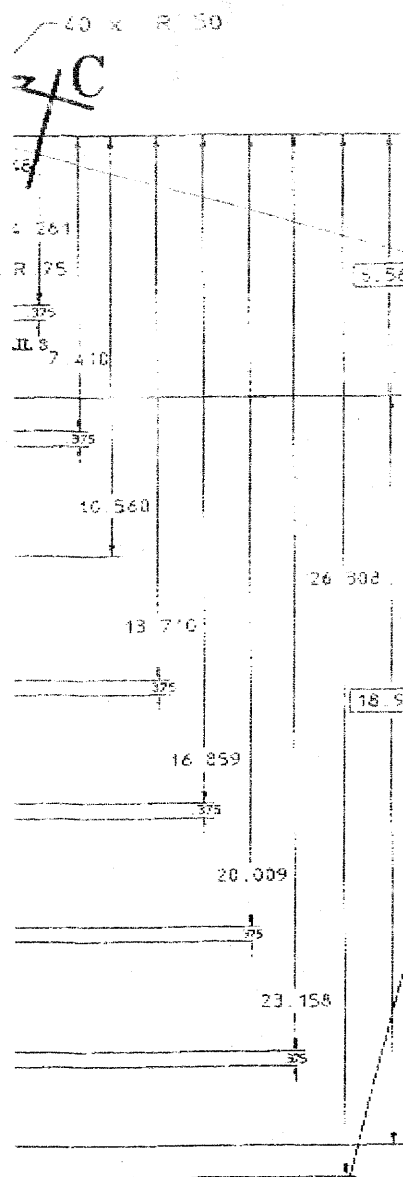


**STAR OUTER SECTOR ABDB SIDE VIEW**

10 OCT 93 J.B.  
REVISED 13 OCT 93

12/6/93





**Detail 3**  
 Scale: 1/1  
 4 Places

1/2 x 500 WIDE SLOT  
 R each END  
 Ø .010 A, B

INTERSECTION LINE  
 OF DATUM PLANE -B-  
 AND DATUM PLANE -F-

4 x .25 WIDE SLOT  
 61° ANGLE SHOWN AT ARROWS FOR SECT F-F  
 TO DEPTH SHOWN IN SECT F-F  
 R each END  
 Ø .030 A, B

**SECTION C-C**  
 SCALE: 1/2

-E-

12 x  
 R .030 MIN x  
 R .093 MAX  
 ALL AROUND

13 x .025 x 45° CHAMF  
 ALL EDGES ALL AROUND

**SECTION A-A**  
 SCALE: 1/2

- Ø .344 to DEPTH SHOWN
- .375-Ø 2 UNEF-28 to DEPTH SHOWN
- C BORE Ø .303 to DEPTH SHOWN
- C BORE Ø .625 to DEPTH SHOWN

See #4-40 Holes



$$\textcircled{1} 2.038$$

$$\textcircled{2} 4 \times 6.382 = 25.528$$

$$\textcircled{3} 2.438$$

$$\textcircled{4} 7 \times 3.261 = 22.827$$

$$\textcircled{5} 5.020$$

$$\textcircled{6} 3 \times 6.520 = 19.560$$

$$\textcircled{7} 2.343$$

$$\textcircled{8} 1.975$$

$$N2 = A$$

$$N1 = B$$

$$\begin{array}{r} 069 \\ \hline 680'1 \\ 622'1 \end{array}$$

$$2,438$$

/HP\_EGS/EWPCB/EWRC15/eur3u12t\_d  
 /HP\_EGS/EWPCB/EWRC04/euro1\_d  
 /HP\_EGS/EWPCB/EWRC14/euro1a\_d  
 /HP\_EGS/EWPCB/EWRC04/euro2\_d  
 /HP\_EGS/EWPCB/EWRC14/euro2a\_d  
 /HP\_EGS/EWPCB/EWRC04/euro3\_d  
 /HP\_EGS/EWPCB/EWRC14/euro3a\_d  
 /HP\_EGS/EWPCB/EWRC15/euro3u3t\_d  
 /HP\_EGS/EWPCB/EWRC15/euro3u4t\_d  
 /HP\_EGS/EWPCB/EWRC15/euro3u5t\_d  
 /HP\_EGS/EWPCB/EWRC15/euro3u6t\_d  
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 /HP\_EGS/EWPCB/EWRC15/euro78m\_d  
 /HP\_EGS/EWPCB/EWRC05/eurobp\_d  
 /HP\_EGS/EWPCB/EWRC05/eurocn1\_d  
 /HP\_EGS/EWPCB/EWRC05/eurocn2\_d  
 /HP\_EGS/EWPCB/EWRC05/eurocn3\_d  
 /HP\_EGS/EWPCB/EWRC14/eurocn3a\_d  
 /HP\_EGS/EWPCB/EWRC05/eurocn4\_d  
 /HP\_EGS/EWPCB/EWRC14/eurocn5\_d  
 /HP\_EGS/EWPCB/EWRC12/eurocn7\_d  
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 /HP\_EGS/EWPCB/EWRC05/eurocon3\_d  
 /HP\_EGS/EWPCB/EWRC05/eurocon4\_d  
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 /HP\_EGS/EWPCB/EWRC15/euroled\_d  
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 /HP\_EGS/EWPCB/EWRC15/fp19x7\_d  
 /HP\_EGS/EWPCB/EWRC15/fp19x8\_d  
 /HP\_EGS/EWPCB/EWRC05/fsbs130a\_d

2860  
2623

25.528  
1.348

.237

26.876

28.365  
26.876

1.4894

~~6.5~~

98  
89  
9

1.807

28.365  
25.528

26.528

1.

25.528  
1.489

27.039

1.489

6.382

7.871

~~25.528~~

25.528

1.489

~~27.017~~

27.017

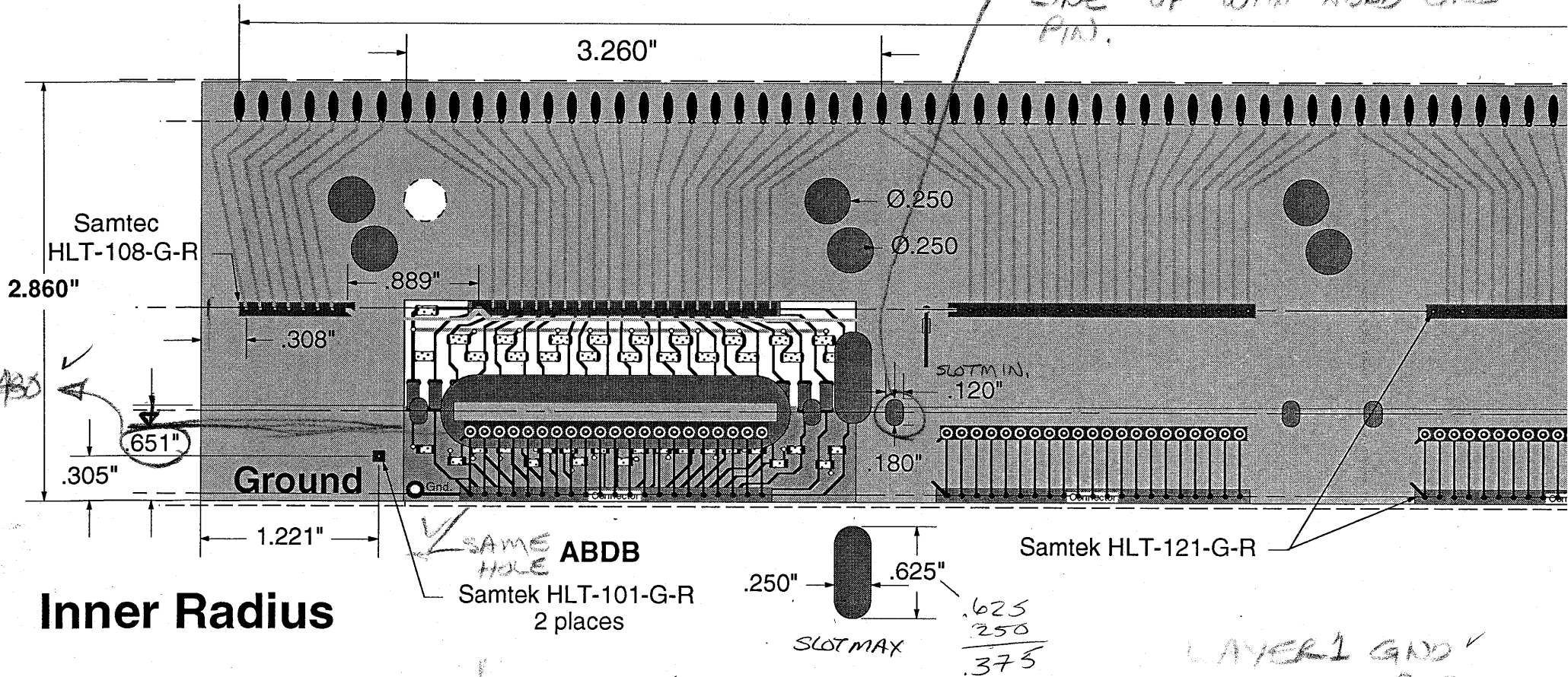
28.365  
27.017  
1.348

690

259

919

✓ 1) ELIMINATE MT SLOTS ON 2, 3, 5, 6, 7. (KEEPING FAR LT & FAR RT & MIDDLE)  
 ✓ 2) MOVE DOWN 1/4" OR LINE UP WITH AODB GND PIN.



- 1) BOARD SIZE 28.240" X 2.860".
- 2) BOARD MATERIAL: 4 LAYER / 2 .062 G10.

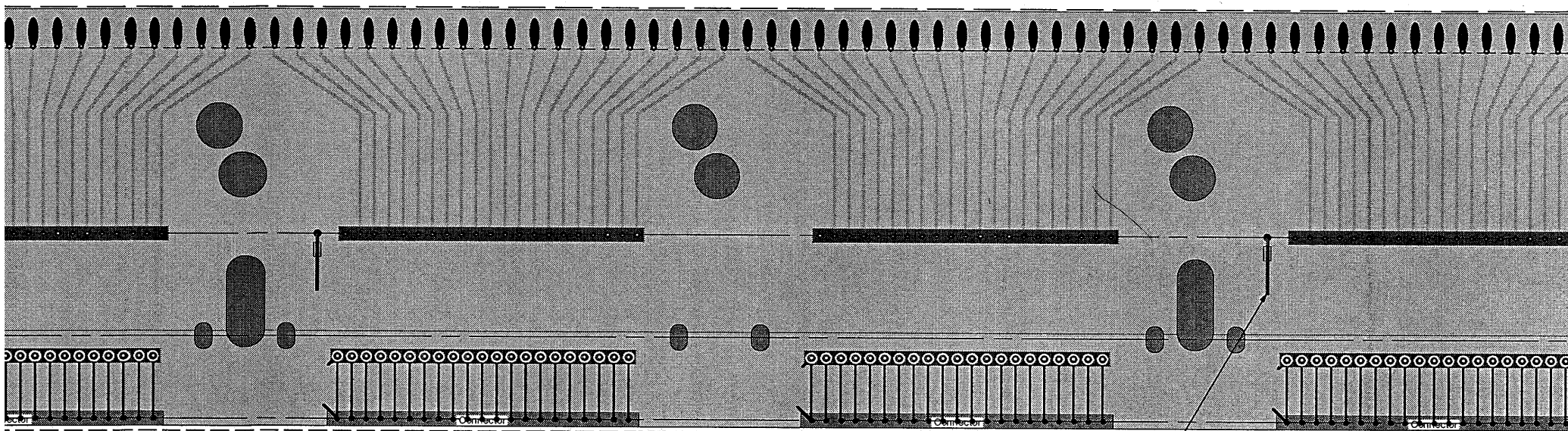
-48, -842

+301, -708



# Flexless High Voltage

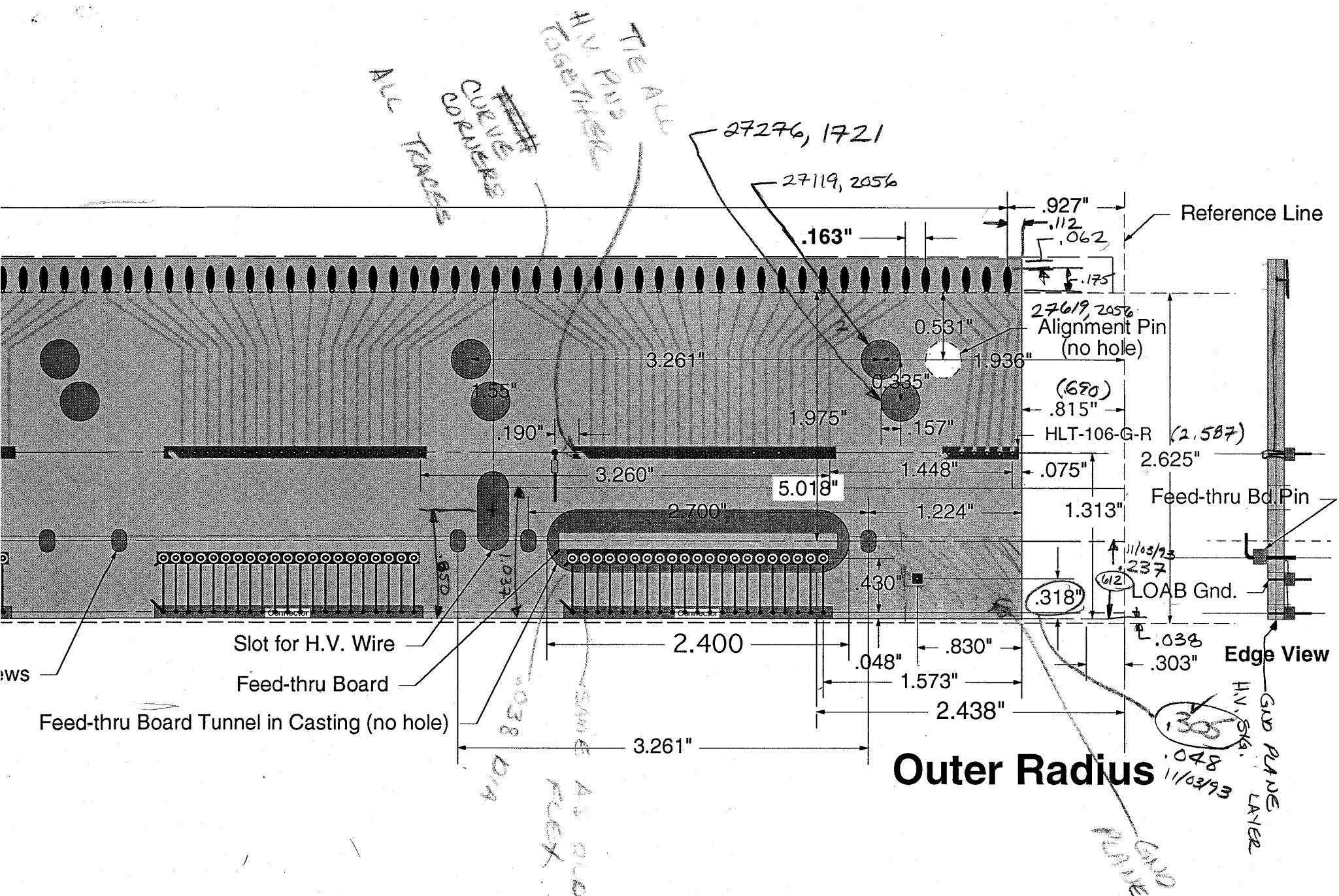
27.873"



AMP 104716-1 (4 places)

Slots for Mounting Screws

**SCALE: 1X**

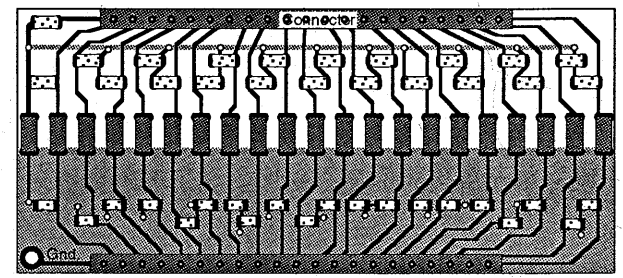
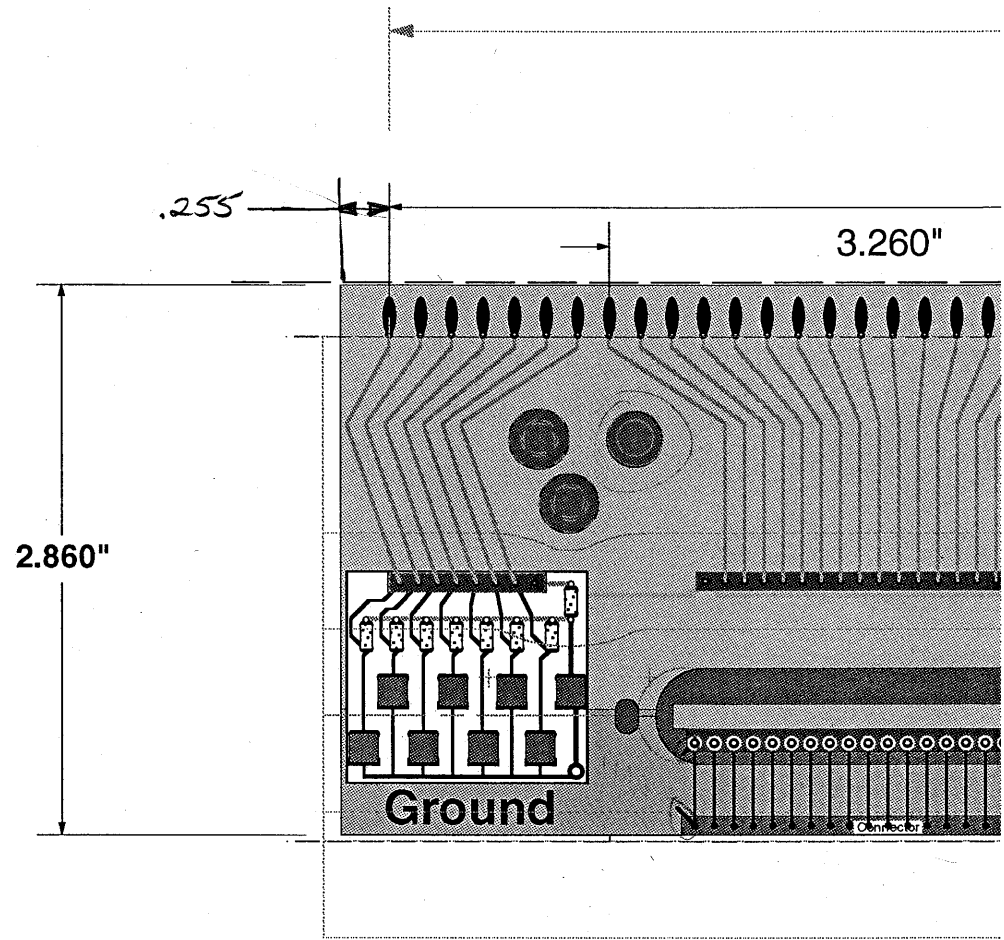
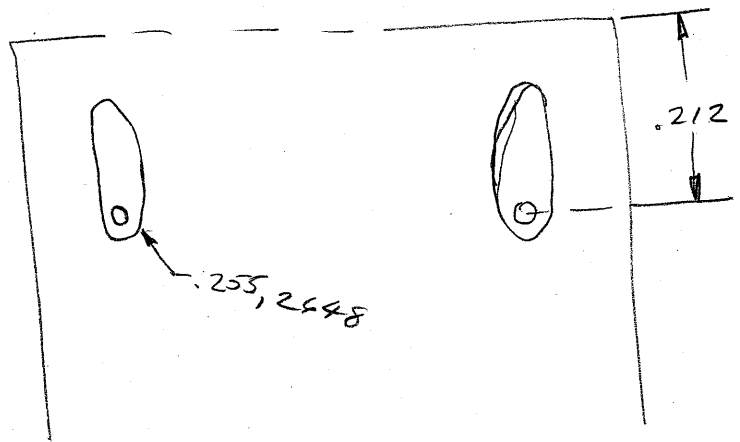


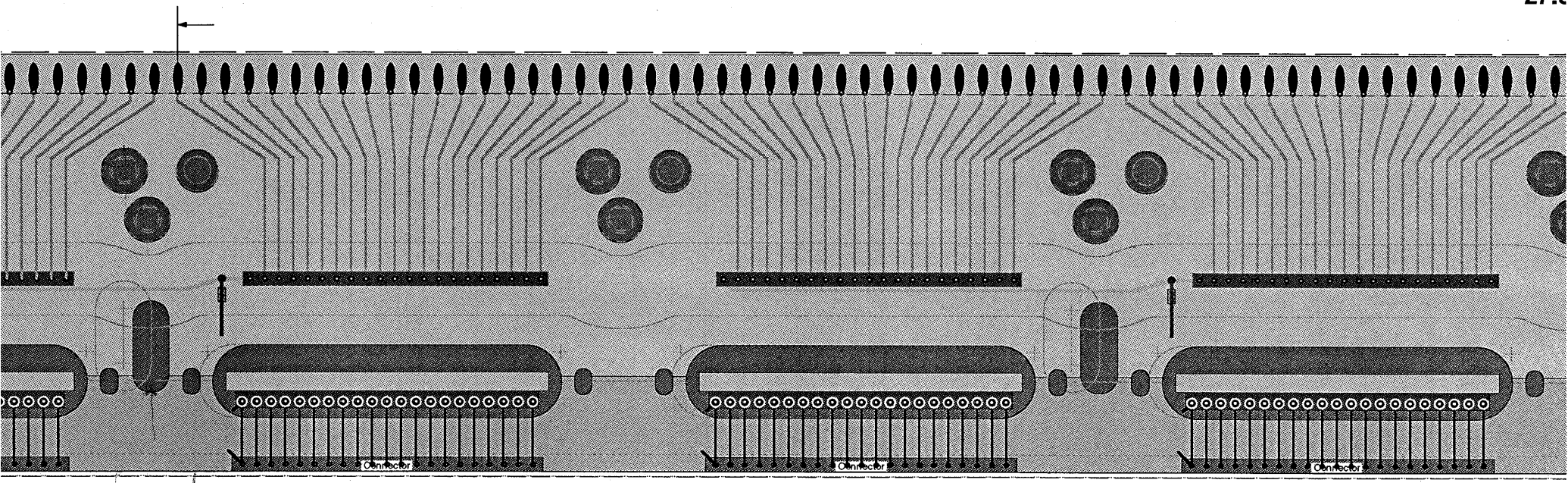
**Outer Radius**

change 1.313 TO 1.319

THIS MATCHES A.D.B.D.

Inner radius

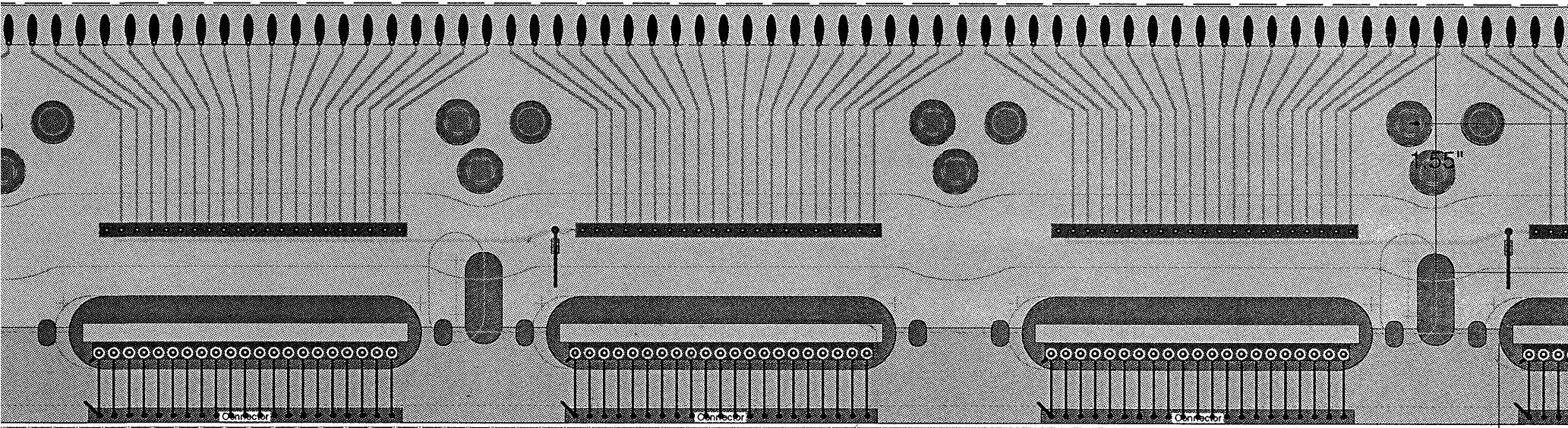




Anode wires

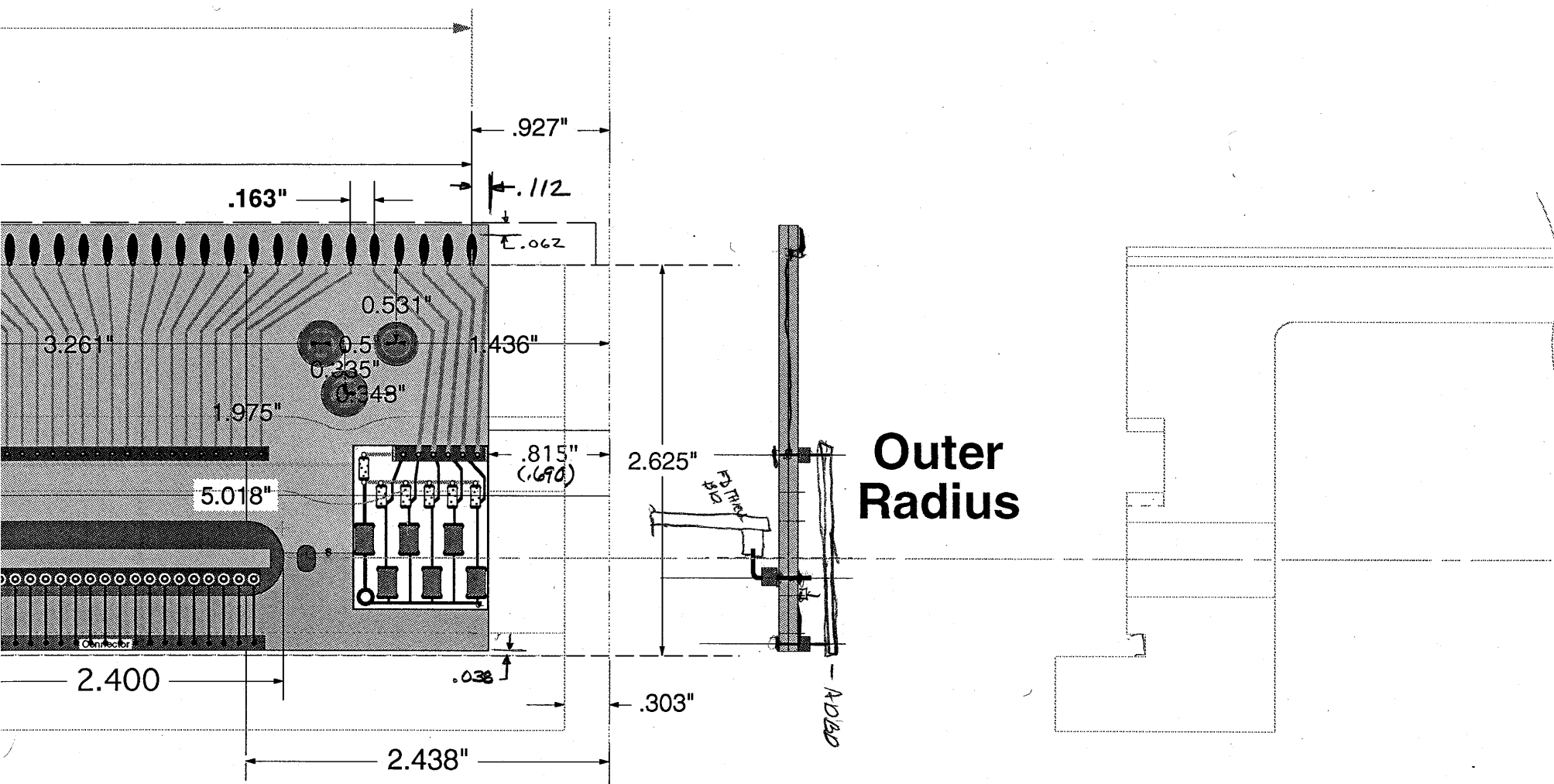
27.873

73"



SCALE: 1X

# Outer radius



Reference line  
 Intersection of datum plane -B-  
 and datum plane -F-  
 See dwg 24A0345

246 bldot1|C103|1|100KpF|

247 g013u3|B17|9|LO-RES ADC (G013U1)|  
g012u1|B14|34|Ge FAST (G012U1)|

248 g011u1|B1|43|BGO (G011U1)|  
g015u1|B4|19|TRIG (G015U1)|

249 dip8|U19|2|XC1736A|

250 g010u1|B15|16|SINE 8 (G010U1)|  
g013u2|B18|2|LO-RES ADC (G013U1)|

251 so14|U28|3|74LS00D|  
so14|U20|12|74S38D|  
so14|U20|13|74S38D|

252 so8|U31|3|LTC485CN8|  
so8|U31|2|LTC485CN8|

253 eurocon5|P2|C32|DIN96|  
fusepc|F14|3|4A|

254 so8|U33|3|LTC485CN8|  
so8|U33|2|LTC485CN8|

255 eurocon5|P1|C25|DIN96|

256 cn50dpc|PG1|32|DDM50S|  
so8|U33|7|LTC485CN8|  
sm1206r|R4|2|150|



257 cko5|C55|1|100KpF|

258 cn50dpc|PG1|43|DDM50S|  
g011u1|B1|14|BGO (G011U1)|

259

260 cn50dpc|PG1|42|DDM50S|  
g011u1|B1|15|BGO (G011U1)|

261 cko5|C51|1|100KpF|

✓ ADD GND  CONNECTION TO MT SCREW.  
 ADD PAD 4 PLATE THRU!  


3850	475	475	1.975	
	<u>250</u>	<u>250</u>		1.025
	725	225		500
				950
				<u>150</u>
				2.725
			2.725	
			<u>1.975</u>	
			.750	

1850, 725	3850, 725	
1850, 225	3850, 225	2.860

#2,078.27  
 1,690.77  
 \$ 300.00 1/28



ORIGIN = -300, 0600

STAR TPC = a890u2

REV. A. = PANEL (6)

ZENA = -300, 18750

LAYER 1 =

GND PLANE  $\Rightarrow$  #E24 <sup>#C19</sup>  $\Rightarrow$  a890g1-g

CMD890G1  $\Rightarrow$  A890L1G = PL890LLG

CIRCUIT  $\Rightarrow$  #E3 #C19 #E11 <sup>#E55</sup>  $\Rightarrow$  a890d1-g

CMD890L1 = A890L1C = PL892L1C

LAYER 2

PADS ONLY = #E3 #E9 <sup>#E12 #E55</sup>  $\Rightarrow$  a890L2-g

CMD890L2 = A890L2 = PL890L2

LAYER 3

$\Rightarrow$  #E3 #E5 #E19 <sup>#E55</sup>  $\Rightarrow$  a890L3-g

H.V.

CMD890L3 = A890L3 = PL890L3

LAYER 4

$\Rightarrow$  #E3 #E6 #E19 <sup>#E55</sup>  $\Rightarrow$  a890L4-g

CMD890L4 = A890L4 = PL890L4

DRILL INFO

(LAYERS 3 & 4)  $\Rightarrow$  #C23 #E56 = a890dr1-g

CMD890DR1 = PL890DR1

DRILL INFO

(ALL LAYERS)  $\Rightarrow$  #C1 #E56 = a890dr2-g

CMD890DR2 = PL890DR2

ASSETS - NOVEMBER 1, 1993

AUTOS:

- 1) 1991 CHEVY 4X4 FULL SIZE TRUCK, SILVERADO, CAB PLUS, LEER SHELL
- 2) 1981 CHEVY 4X4 FULL SIZE TRUCK, SILVERADO, LUMBER RACK, TOOL BOX
- 3) 1987 EL DORADO BRIA11Z
- 4) 1987 CAMERO (ON BLOCKS)
- 5) 1987 305 HONDA SCRAMBLER

TRAILERS/MOBLIE:

- 1) 1981 AUTOMATE, 19', A/C, WINNING, DUAL AXIAL
- 2) 1992 HEAVY DUTY UTILITY TRAILER, 7' X 16', 12,000 CAP, 50" SIDE DUAL AXIAL W/BRAKES
- 3) 1986 ALUMINUM BOAT TRAILER, 18' SHORELINE
- 4) 1975 SANDPONTIE, 60' X 12', 2 BED/2 BATH

BOAT:

- 1) 1986 GREGOR, ALUMINUM, 14' WITH COMPARTMENTS, 25HP EVINRUDE, VALCO SEATS, COVER, VINYL TOP

\*\*\*\*\* I.B.L BOARD A000890U2 \*\*\*\*\*  
 \*\*\*\*\* NOVEMBER 15, 1993 \*\*\*\*\*  
 \*\*\*\*\* WHEEL W890INFO \*\*\*\*\*

NEED 3 STANDARD PHOTOPLOTS, 1 COMPOSITE, 4 POSITIVES, 4 NEGATIVES AND  
 1 MULTILAYER BOARD. PLEASE RETURN DRILL TAPES WITH BOARDS.

DELIVERY DATE: DECEMBER 1, 1993 OR SOONER.

PHOTOPLOT FILES IN POSITIVE FORMAT:

- PL890L1C - LAYER 1 (DROP-IN-LAYER)
- PL890L2 - LAYER 2 PADS ONLY (INNER LAYER)
- PL890L3 - LAYER 3 H.V. CIRCUIT (INNER LAYER)
- PL890L4 - LAYER 4 (OUTER LAYER)

PHOTOPLOT FILE IN NEGATIVE FORMAT:

- PL890L1G - LAYER 1 (CLEARANCE LAYER)

FOR LAYER 1 COMPOSITE, USE PLOT FILE PL890L1C (POSITIVE) AND PL890L1G  
 (NEGATIVE).

PLEASE MAKE CONTACT COPIES OF PLOT FILES (3) AND COMPOSITE (1). I  
 NEED ONE (1) POSITIVE AND ONE (1) NEGATIVE OF EACH FILE, EMULSION  
 DOWN, RIGHT READING. THIS IS A TOTAL OF FOUR (4) POSITIVES AND  
 FOUR (4) NEGATIVES.

PC BOARD MATERIAL: .062 THICK G10 PER MIL-P-13949E FL-6EN  
 062C-2/2-A1A (2 OZ COPPER EACH SIDE). THICKNESS IS IN INCHES.  
 WE WILL SUPPLY THE G10 MATERIAL. THIS IS A MULTILAYER BOARD  
 CONSISTING OF 4 LAYERS. TOTAL THICKNESS NOT TO EXCEED .130".

DRILL INFORMATION IS AS FOLLOWS:

DRILL FILE IS PL890DR1 IS FOR HOLES THROUGH LAYERS 3 AND 4 ONLY.

TOOLING NO.	HOLE DIA.	COUNT
1	.020	344

TOTAL HOLE COUNT = 344.

DRILL FILE IS PL890DR2 IS FOR HOLES THROUGH ALL LAYERS (1-4).

TOOLING NO.	HOLE DIA.	COUNT
1	.026	704
2	.250	36
3	.035	344

TOTAL HOLE COUNT = 1084.

BOARDS TO BE THROUGH HOLE PLATED.

SPECIFIED HOLE DIA. SIZES ARE FOR FINISHED HOLES AFTER PLATING.

BOARDS ARE NOT TO BE SILKSCREENED.

THERE IS NO SOLDERMASK USED ON THIS BOARD.

BOARD SIZE IS 5.485 +.000/-.010 x 28.365 +/- .005. THESE DIMENSIONS  
 ARE IN INCHES. BOARD OUTLINE WILL BE SENT. DRAWING NO. A000890~~1~~3  
 M-1. THIS IS A 4 LAYER BOARD. PLEASE NOTE SPECIAL ROUTING WITH  
 .050 TABS.

IF THERE ARE ANY QUESTIONS OR PROBLEMS PLEASE CALL -JUDY- (916)

547-4055 OR -JIM- (510)486-7084.

tr10 10 circle trace 10;

tr12 11 circle trace 12;

tr15 12 circle trace 15;

tr20 13 circle trace 20;

tr30 14 circle trace 30;

tr40 15 circle trace 40;

tr60 17 circle trace 60;  
tr70 18 circle trace 70;  
tr80 19 circle trace 80;  
tr90 70 circle trace 90;  
tr100 71 circle trace 100;  
tr120 20 circle trace 120;  
tr130 21 circle trace 130;  
tr150 22 circle trace 150;  
fl40 23 circle flash 40;  
fl50 24 circle flash 50;  
fl60 25 circle flash 60;  
fl70 26 circle flash 70;  
fl75 27 circle flash 75;  
fl85 28 circle flash 85;  
fl90 29 circle flash 90;  
fl100 72 circle flash 100;  
fl110 73 circle flash 110;  
fl120 30 circle flash 120;  
fl130 31 circle flash 130;  
fl140 32 circle flash 140;  
fl150 33 circle flash 150;  
fl160 34 circle flash 160;  
fl200 35 circle flash 200;  
PADEX0 36 rectangle flash 80 55;  
PADEX0 37 rectangle flash 55 80;  
PADEXR 38 rectangle flash 75 55;  
PADEXR 39 rectangle flash 55 75;  
ftarget 40 square special 1.0;  
fs60 41 square flash 60;  
fs70 42 square flash 70;  
fs75 43 square flash 75;  
fs85 44 square flash 85;  
fs100 45 square flash 100;  
fs110 46 square flash 110;  
fs120 47 square flash 120;  
fs130 48 square flash 130;  
fs140 49 square flash 140;  
fs150 50 square flash 150;

11/15/93

\*\*\*\*\*  
HP EGS PHOTOPLOT/DRILL POST-PROCESSOR

AUTOFLASH: ON  
ERROR MODF: PAUSE ON ERROR  
FILL WIDTH MODE: ON

SORT DRILL: MAJOR SORT ON X  
SORT PROXIMITY: X: 5.00000000000000L+002 Y: 5.00000000000000L+0  
SORT APERTURE: ON

DRILL FORMAT: 5.1  
PHOTOPLOT FORMAT: 5.0  
DR ORIGIN SOURCE: -3.00L+002, 6.60L+003 OUTPUT: 5.00L+002, 5.00L+002  
PH ORIGIN SOURCE: -3.00L+002, 6.60L+003 OUTPUT: 5.00L+002, 5.00L+002

DRILL UNITS FACTOR: 1.00L+000  
PHOTOPLOT UNITS FACTOR: 1.00L+000  
PHOTOPLOT RESOLUTION: 3.00L+000

NO FILL USE: none specified  
NOTE USE: tr10  
POLYGON FILL USE: none specified

ATTRIBUTES FILE: /1b1/jobs/a890/RE890DR2  
WHEEL FILE: /users/sisu/w1b11

CURRENT HP EGS GENERATE SOURCE FILES:  
/1b1/jobs/a890/a890dr2\_g

NO VIRTUAL DRILL FILES HAVE BEEN SPECIFIED.

ACTUAL DRILL FILE:  
/1b1/jobs/a890/PL890DR2  
1 56

NO VIRTUAL PHOTOPLOT FILES HAVE BEEN SPECIFIED.

NO ACTUAL PHOTOPLOT FILES HAVE BEEN SPECIFIED.

TOOL LIST  
tool number count diameter

tool number	count	diameter
1	704	2.60L+001
2	36	1.40L+002 = .250 D/A
3	344	3.80L+001 = .035 D/A
<u>1084</u>		

11/15/93

\*\*\*\*\*  
HP EGS PHOTO PLOT/DRILL POST-PROCESSOR

AUTOFLASH: ON  
ERROR MODE: PAUSE ON ERROR  
FILL WIDTH MODE: ON

SORT DRILL: MAJOR SORT ON X  
SORT PROXIMITY: X: 5.0000000000000L+002 Y: 5.0000000000000L+0  
SORT APERTURE: ON

DRILL FORMAT: 5.1  
PHOTO PLOT FORMAT: 5.0  
DR ORIGIN SOURCE: -3.00L+002, 6.60L+003 OUTPUT: 5.00L+002, 5.00L+002  
PH ORIGIN SOURCE: -3.00L+002, 6.60L+003 OUTPUT: 5.00L+002, 5.00L+002

DRILL UNITS FACTOR: 1.00L+000  
PHOTO PLOT UNITS FACTOR: 1.00L+000  
PHOTO PLOT RESOLUTION: 3.00L+000

NO FILL USE: none specified  
NOTE USE: tr10  
POLYGON FILL USE: none specified

ATTRIBUTES FILE: /1b1/jobs/a890/RE890DR1  
WHEEL FILE: /users/sisu/w1b11

CURRENT HP EGS GENERATE SOURCE FILES:  
/1b1/jobs/a890/a890dr1\_g

NO VIRTUAL DRILL FILES HAVE BEEN SPECIFIED.

ACTUAL DRILL FILE:  
/1b1/jobs/a890/PL890DR1  
23 56

NO VIRTUAL PHOTO PLOT FILES HAVE BEEN SPECIFIED.

NO ACTUAL PHOTO PLOT FILES HAVE BEEN SPECIFIED.

TOOL LIST  
tool number count diameter

---

1	344	2.00L+001
---	-----	-----------

\*\*\*\*\*  
HP EGS PHOTO PLOT/DRILL POST-PROCESSOR

AUTOFLASH: ON  
ERROR MODE: PAUSE ON ERROR  
FILL WIDTH MODE: ON

SORT DRILL: MAJOR SORT ON X  
SORT PROXIMITY: X: 5.0000000000000L+002 Y: 5.0000000000000L+0  
SORT APERTURE: ON

DRILL FORMAT: 5.1  
PHOTOPLOT FORMAT: 5.0  
DR ORIGIN SOURCE: -3.00L+002, 6.60L+003 OUTPUT: 5.00L+002, 5.00L+002  
PH ORIGIN SOURCE: -3.00L+002, 6.60L+003 OUTPUT: 5.00L+002, 5.00L+002

DRILL UNITS FACTOR: 1.00L+000  
PHOTOPLOT UNITS FACTOR: 1.00L+000  
PHOTOPLOT RESOLUTION: 3.00L+000

NO FILL USE: none specified  
NOTE USE: tr10  
POLYGON FILL USE: none specified

ATTRIBUTES FILE: /lbl/jobs/a890/RE890DR1  
WHEEL FILE: /users/sisu/wlb11

CURRENT HP EGS GENERATE SOURCE FILES:  
/lbl/jobs/a890/a890dr1\_g

NO VIRTUAL DRILL FILES HAVE BEEN SPECIFIED.

ACTUAL DRILL FILE:  
/lbl/jobs/a890/PL890DR1  
23 56

NO VIRTUAL PHOTOPLOT FILES HAVE BEEN SPECIFIED.

NO ACTUAL PHOTOPLOT FILES HAVE BEEN SPECIFIED.

TOOL LIST  
tool number count diameter

---

1	344	2.00L+001
---	-----	-----------

\*\*\*\*\* LBL BOARD A000890U2 \*\*\*\*\*  
\*\*\*\*\* WHEEL W890INFO \*\*\*\*\*

NEED 3 STANDARD PHOTOPLOTS, 1 COMPOSITE, 4 POSITIVES, 4 NEGATIVES AND  
1 PANEL BOARD OF 6. PLEASE RETURN DRILL TAPES WITH BOARDS.

DELIVERY DATE: FEBRUARY 22, 1994 OR SOONER.

PHOTO PLOT FILES IN POSITIVE FORMAT:

- PL890L1C - LAYER 1 (DROP-IN-LAYER)
- PL890L2 - LAYER 2 PADS ONLY (INNER LAYER)
- PL890L3 - LAYER 3 H.V. CIRCUIT (INNER LAYER)
- PL890L4 - LAYER 4 (OUTER LAYER)

PHOTO PLOT FILE IN NEGATIVE FORMAT:

- PL890L1G - LAYER 1 (CLEARANCE LAYER)

FOR LAYER 1 COMPOSITE, USE PLOT FILE PL890L1C (POSITIVE) AND PL890L1G  
(NEGATIVE).

PLEASE MAKE CONTACT COPIES OF PLOT FILES (3) AND COMPOSITE (1). I  
NEED ONE (1) POSITIVE AND ONE (1) NEGATIVE OF EACH FILE, EMULSION  
DOWN, RIGHT READING. THIS IS A TOTAL OF FOUR (4) POSITIVES AND  
FOUR (4) NEGATIVES.

PC BOARD MATERIAL: .062 THICK G10 PER MIL-P-13949E FL-6EN  
062C-2/2-A1A (2 OZ COPPER EACH SIDE). THICKNESS IS IN INCHES.  
WE WILL SUPPLY THE G10 MATERIAL. THIS IS A MULTILAYER BOARD  
CONSISTING OF 4 LAYERS. TOTAL THICKNESS NOT TO EXCEED .130".

DRILL INFORMATION IS AS FOLLOWS:

DRILL FILE PL890DR1 IS FOR HOLES THROUGH LAYERS 3 AND 4 ONLY.

TOOLING NO.	HOLE DIA.	COUNT
1	.020	1032

TOTAL HOLE COUNT = 1032.

DRILL FILE PL890DR2 IS FOR HOLES THROUGH ALL LAYERS (1-4).

TOOLING NO.	HOLE DIA.	COUNT
1	.035	1032
2	.125	92
3	.026	2112
4	.250	108

TOTAL HOLE COUNT = 3344.

BOARDS TO BE THROUGH HOLE PLATED, EXCEPT LARGE SLOTS (SEE DRAWING  
24A3634 M-1).

SPECIFIED HOLE DIA. SIZES ARE FOR FINISHED HOLES AFTER PLATING.

BOARDS ARE NOT TO BE SILKSCREENED.

THERE IS NO SOLDERMASK USED ON THIS BOARD.

BOARD SIZE IS 18.750 +.000/-.010 x 28.365 +/- .005. THESE DIMENSIONS  
ARE IN INCHES. BOARD OUTLINE WILL BE SENT. DRAWING NO. 24A3634  
M-2. THIS IS A 4 LAYER BOARD. PLEASE NOTE SPECIAL ROUTING WITH  
.050 TABS.

IF THERE ARE ANY QUESTIONS OR PROBLEMS PLEASE CALL -JUDY- (916)

547-4055 OR -JIM- (510)486-7084.

- tr10 10 circle trace 10;
- tr12 11 circle trace 12;
- tr15 12 circle trace 15;
- tr20 13 circle trace 20;



tr50 16 circle trace 50;  
tr60 17 circle trace 60;  
tr70 18 circle trace 70;  
tr80 19 circle trace 80;  
tr90 70 circle trace 90;  
tr100 71 circle trace 100;  
tr120 20 circle trace 120;  
tr130 21 circle trace 130;  
tr150 22 circle trace 150;  
f140 23 circle flash 40;  
f150 24 circle flash 50;  
f160 25 circle flash 60;  
f170 26 circle flash 70;  
f175 27 circle flash 75;  
f185 28 circle flash 85;  
f190 29 circle flash 90;  
f1100 72 circle flash 100;  
f1110 73 circle flash 110;  
f1120 30 circle flash 120;  
f1130 31 circle flash 130;  
f1140 32 circle flash 140;  
f1150 33 circle flash 150;  
f1160 34 circle flash 160;  
f1200 35 circle flash 200;  
PADEX0 36 rectangle flash 80 55;  
PADEX0 37 rectangle flash 55 80;  
PADEXR 38 rectangle flash 75 55;  
PADEXR 39 rectangle flash 55 75;  
ftarget 40 square special 1.0;  
fs60 41 square flash 60;  
fs70 42 square flash 70;  
fs75 43 square flash 75;  
fs85 44 square flash 85;  
fs100 45 square flash 100;  
fs110 46 square flash 110;  
fs120 47 square flash 120;  
fs130 48 square flash 130;  
fs140 49 square flash 140;  
fs150 50 square flash 150;

REV. A. 2/7/94

\*\*\*\*\*  
HP EGS PHOTOPLOT/DRILL POST-PROCESSOR

AUTOFLASH: ON  
ERROR MODE: PAUSE ON ERROR  
FILL WIDTH MODE: ON

SORT DRILL: MAJOR SORT ON X  
SORT PROXIMITY: X: 5.00000000000000L+002 Y: 5.00000000000000L+0  
SORT APERTURE: ON

DRILL FORMAT: 5.1  
PHOTOPLOT FORMAT: 5.0  
DR ORIGIN SOURCE: -3.00L+002, 1.88L+004 OUTPUT: 5.00L+002, 5.00L+002  
PH ORIGIN SOURCE: -3.00L+002, 1.88L+004 OUTPUT: 5.00L+002, 5.00L+002

DRILL UNITS FACTOR: 1.00L+000  
PHOTOPLOT UNITS FACTOR: 1.00L+000  
PHOTOPLOT RESOLUTION: 3.00L+000

NO FILL USE: none specified  
NOTE USE: tr10  
POLYGON FILL USE: none specified

ATTRIBUTES FILE: /lbl/jobs/a890/RE890DR1  
WHEEL FILE: /users/sisu/wlbl1

CURRENT HP EGS GENERATE SOURCE FILES:  
/lbl/jobs/a890/a890dr1\_g

NO VIRTUAL DRILL FILES HAVE BEEN SPECIFIED.

ACTUAL DRILL FILE:  
/lbl/jobs/a890/ [REDACTED]  
23 56

NO VIRTUAL PHOTOPLOT FILES HAVE BEEN SPECIFIED.

NO ACTUAL PHOTOPLOT FILES HAVE BEEN SPECIFIED.

TOOL LIST  
tool number count diameter

---

1 1032 2.00L+001

WHEEL FILE DATA  
aperture name  
aperture number count type shape width height

No user errors in this run.

REV. A. 2/7/94

\*\*\*\*\*

HP EGS PHOTO PLOT/DRILL POST-PROCESSOR

AUTOFLASH: ON
ERROR MODE: PAUSE ON ERROR
FILL WIDTH MODE: ON

SORT DRILL: MAJOR SORT ON X
SORT PROXIMITY: X: 5.00000000000000L+002 Y: 5.00000000000000L+0
SORT APERTURE: ON

DRILL FORMAT: 5.1
PHOTO PLOT FORMAT: 5.0
DR ORIGIN SOURCE: -3.00L+002, 1.88L+004 OUTPUT: 5.00L+002, 5.00L+002
PH ORIGIN SOURCE: -3.00L+002, 1.88L+004 OUTPUT: 5.00L+002, 5.00L+002

DRILL UNITS FACTOR: 1.00L+000
PHOTO PLOT UNITS FACTOR: 1.00L+000
PHOTO PLOT RESOLUTION: 3.00L+000

NO FILL USE: none specified
NOTE USE: tr10
POLYGON FILL USE: none specified

ATTRIBUTES FILE: /lbl/jobs/a890/RE890DR2
WHEEL FILE: /users/sisu/wlb11

CURRENT HP EGS GENERATE SOURCE FILES:
/lbl/jobs/a890/a890dr2\_g

NO VIRTUAL DRILL FILES HAVE BEEN SPECIFIED.

ACTUAL DRILL FILE:
/lbl/jobs/a890/
1 56

NO VIRTUAL PHOTO PLOT FILES HAVE BEEN SPECIFIED.

NO ACTUAL PHOTO PLOT FILES HAVE BEEN SPECIFIED.

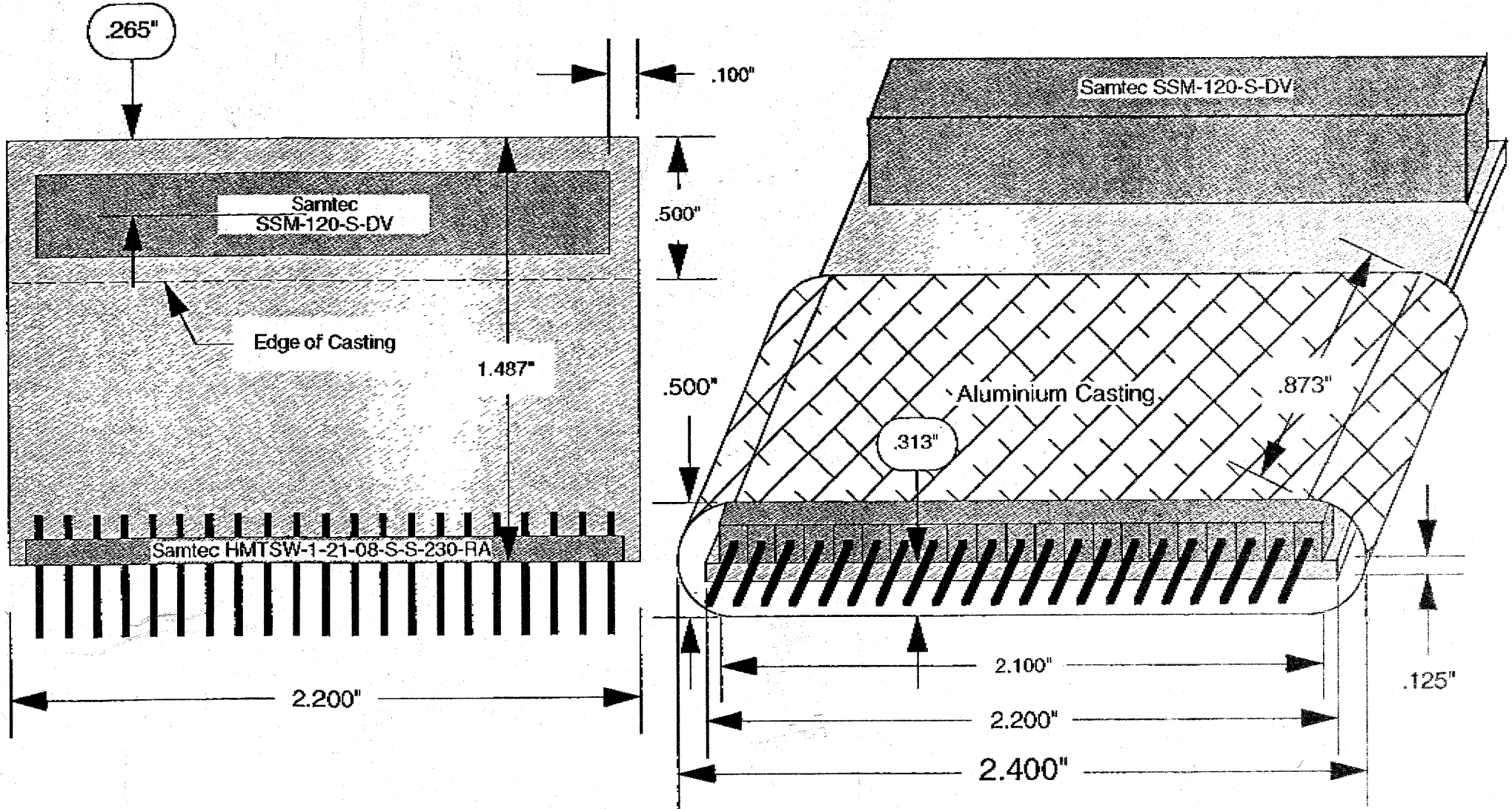
TOOL LIST
tool number count diameter

Table with 4 columns: tool number, count, diameter, and handwritten notes. Row 1: 1, 1032, 3.80L+001, = .035. Row 2: 2, 92, 1.25L+002. Row 3: 3, 2112, 2.60L+001. Row 4: 4, 108, 1.40L+002, = .250.

WHEEL FILE DATA
aperture name
aperture number count type shape width height

PRELIMINARY  
10-8-93

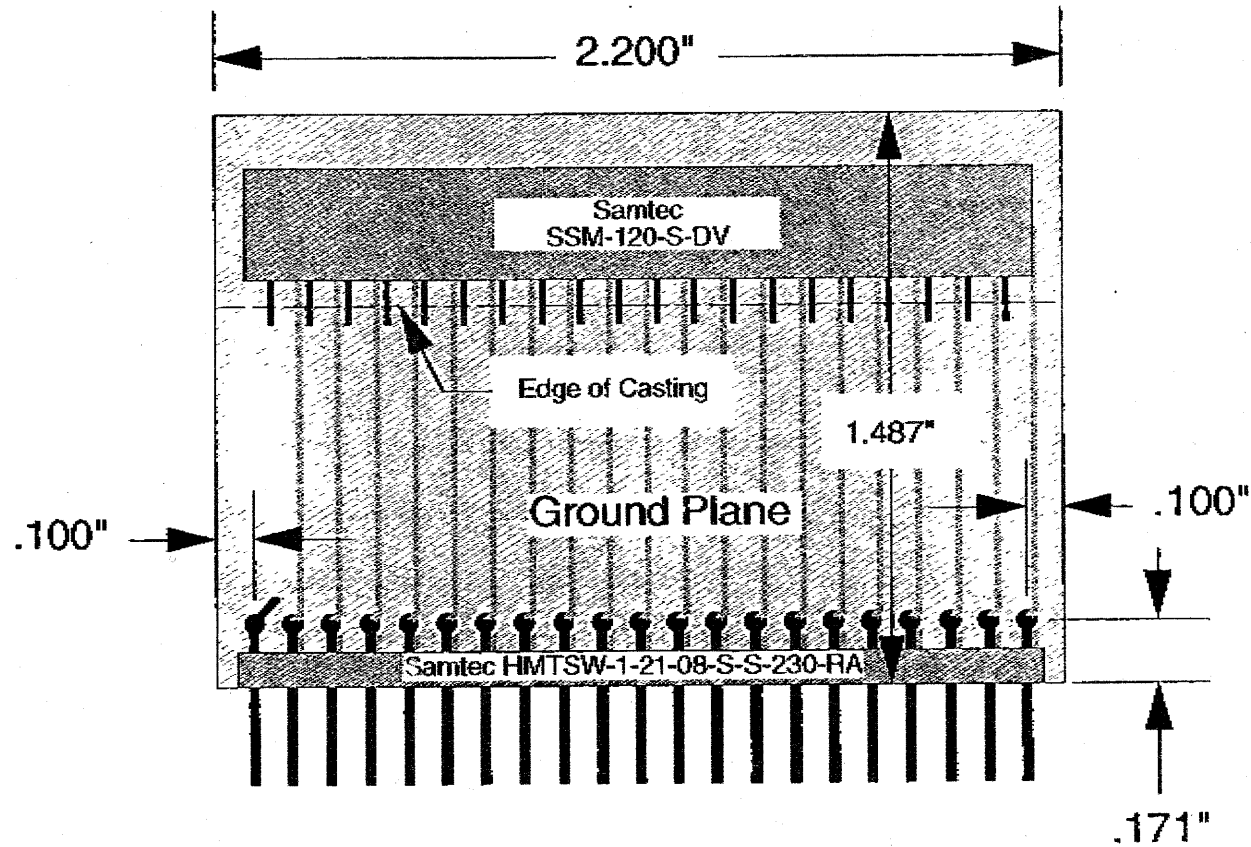
# Feed-thru Board






Component Side

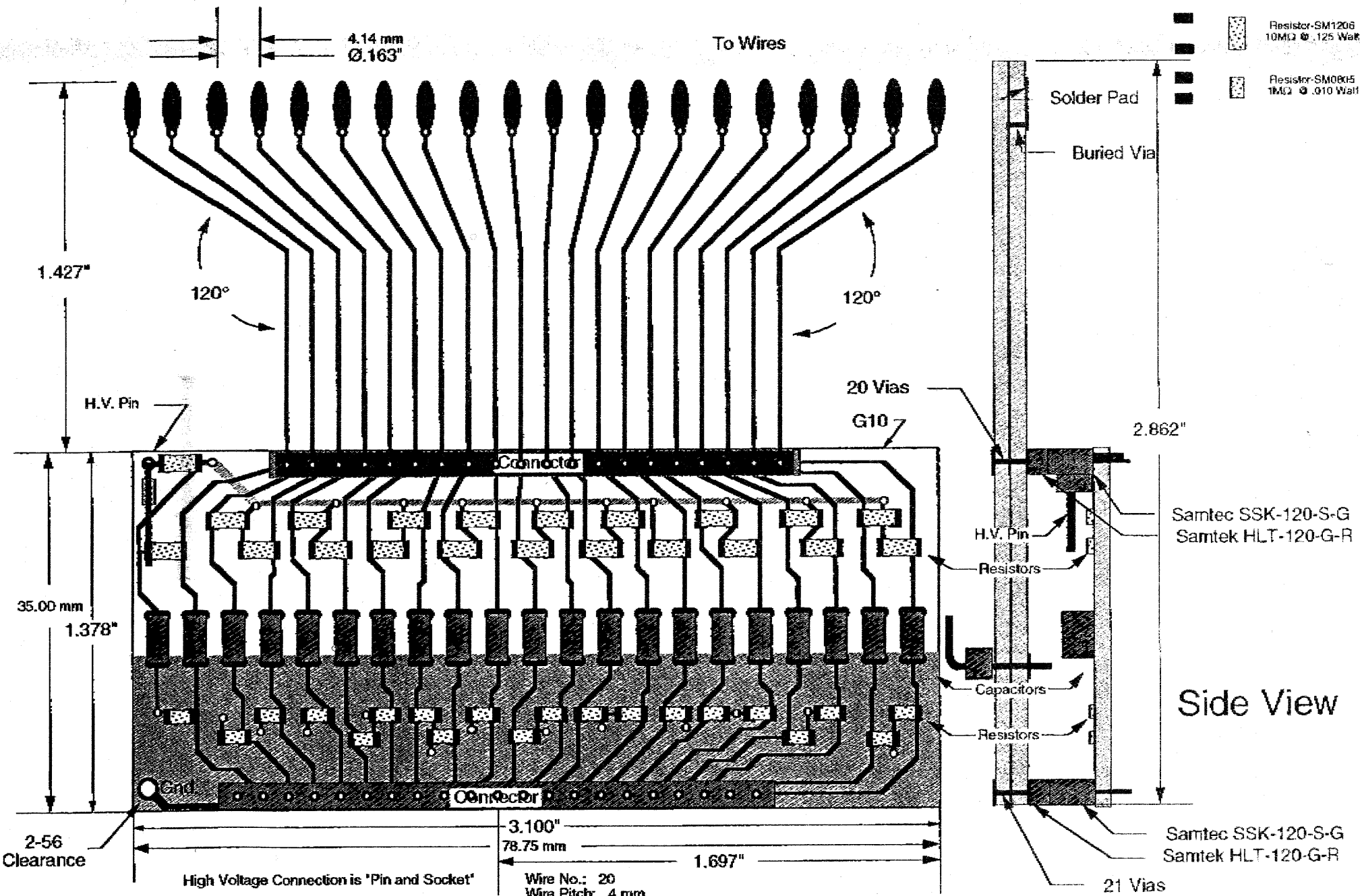
Scale: 2X

# Feed-thru Board



# ABDB Board (Rev B) & P.C.B. Circuit

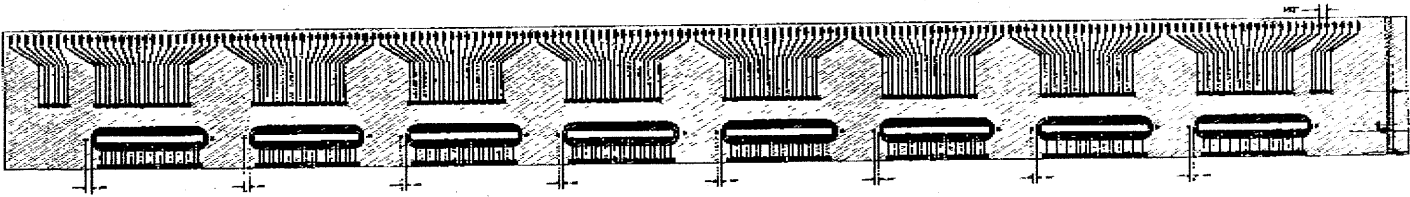
-  Capacitor-SM1515  
1000pF @ 5KV
-  Resistor-SM1206  
10MΩ @ .125 Watt
-  Resistor-SM0805  
1MΩ @ .010 Watt



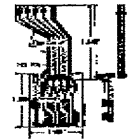
**Scale: 2X**

0.115

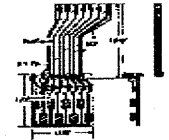
Scale: 1/4X



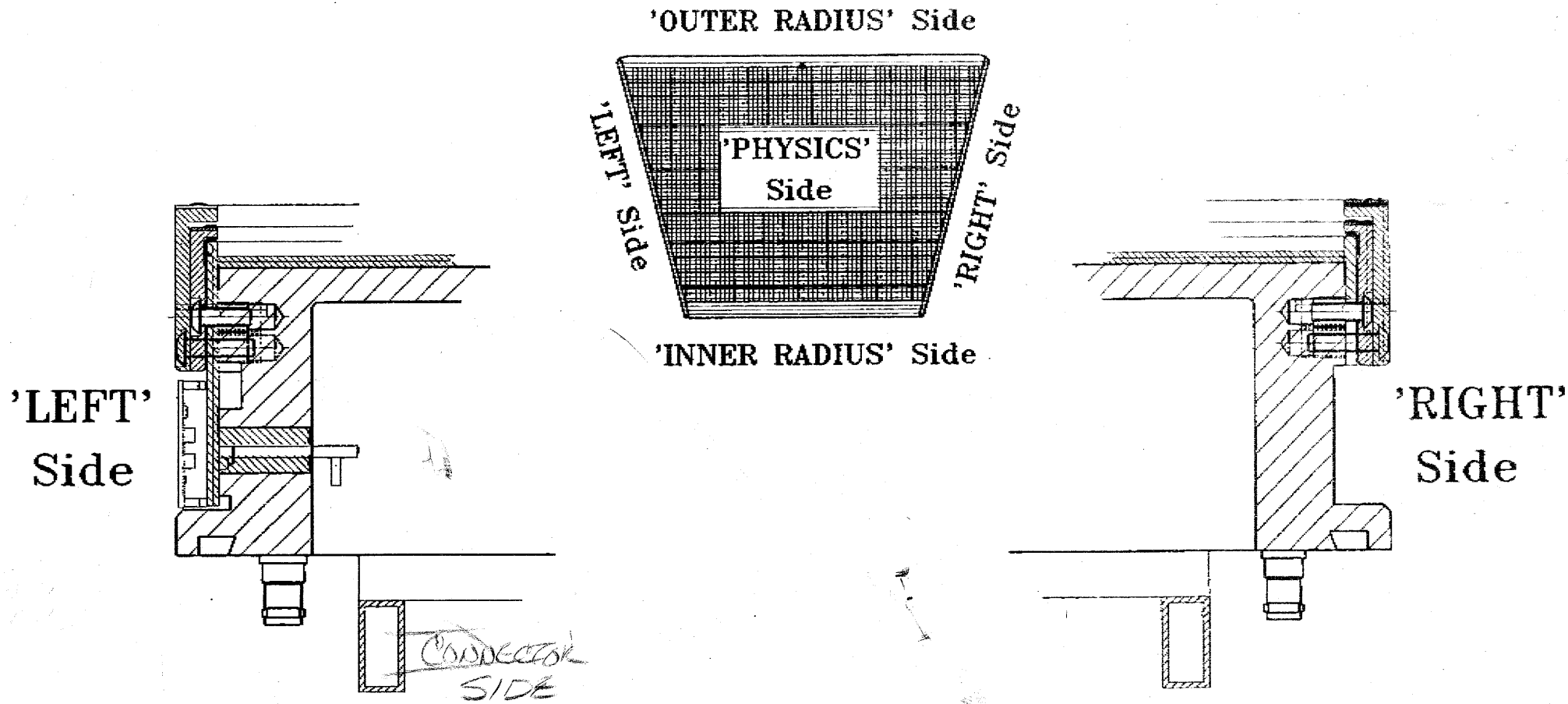
Unit Orphaned Anode Board - Type OSOB



Unit Orphaned Anode Board - Type OSIB



SCALE: 1/4X



STAR Outer Sector Wire Mount

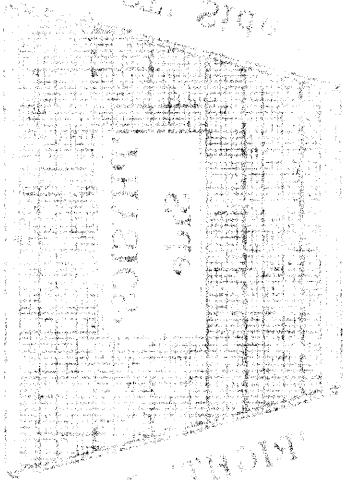


$$\begin{array}{r} 160 \\ 12 \\ \hline 172 \end{array}$$

$$\begin{array}{r} 163 \\ 171 \\ \hline 163 \\ 1141 \\ 163 \\ \hline 27873 \end{array}$$

$$\begin{array}{r} 28128 \\ 255, 2648 \\ \hline 27873 \end{array}$$

UPPER ROOMS SIDE

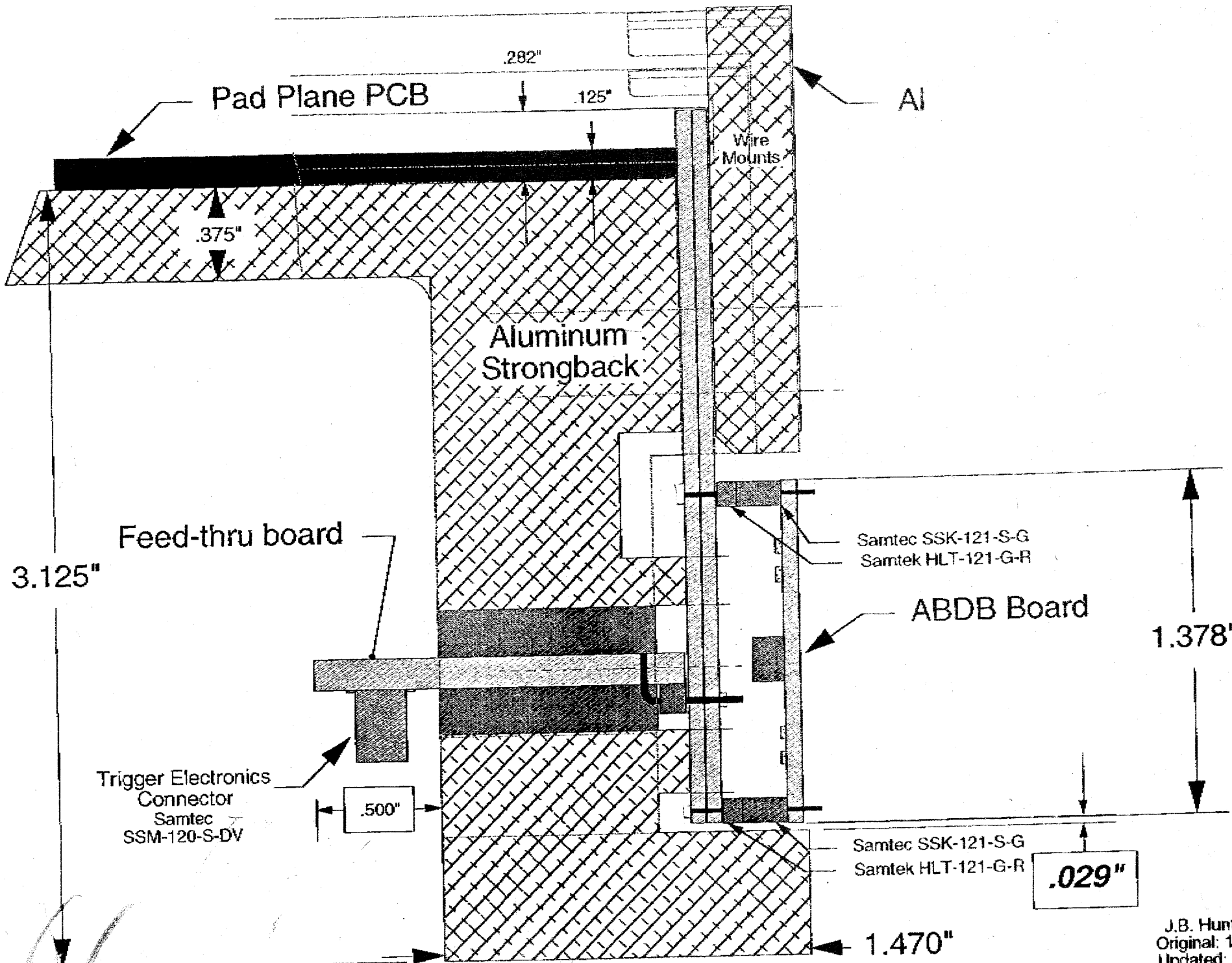


UPPER ROOMS SIDE

$$\begin{array}{r} 28.240 \\ 125 \\ \hline 68.369 \end{array}$$

UPPER ROOMS SIDE

RIGHT SIDE

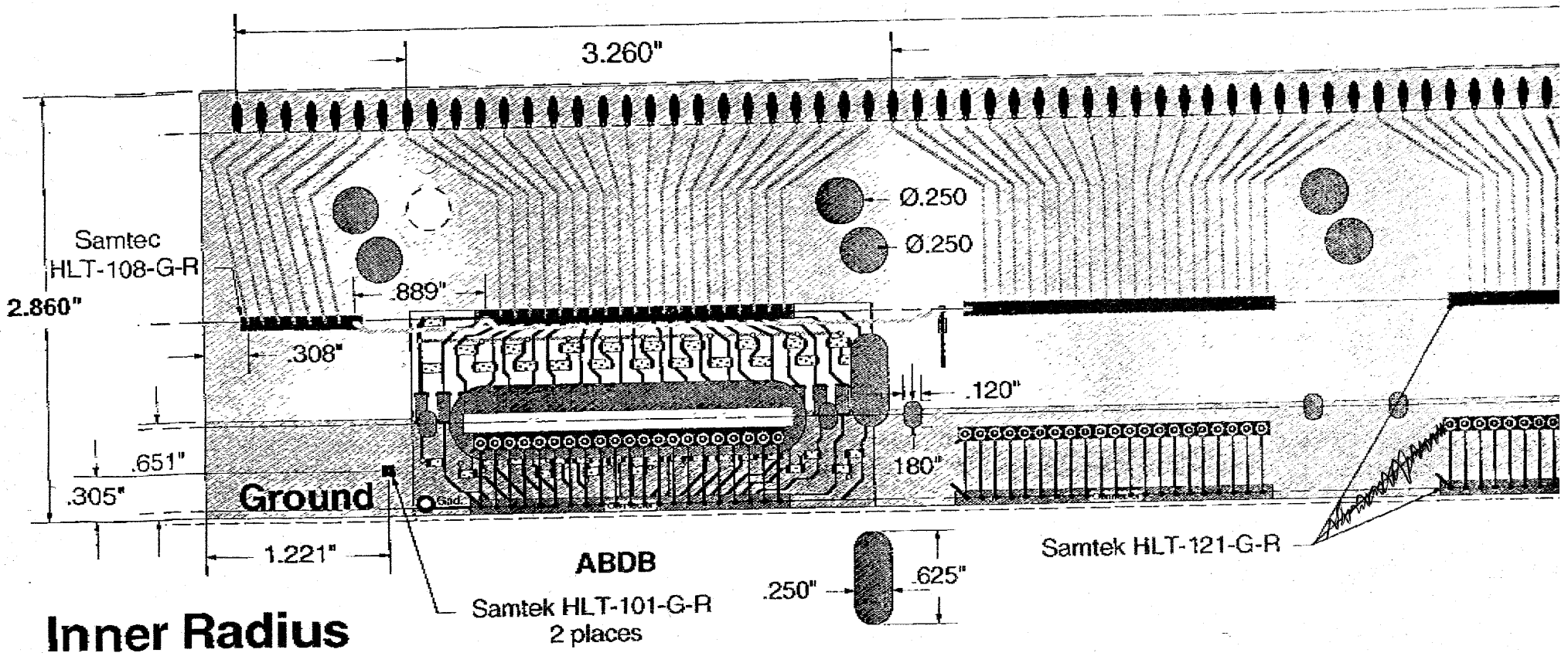


F. U I

PHX NU, 01U4000911

UULBL ELEVU INDI

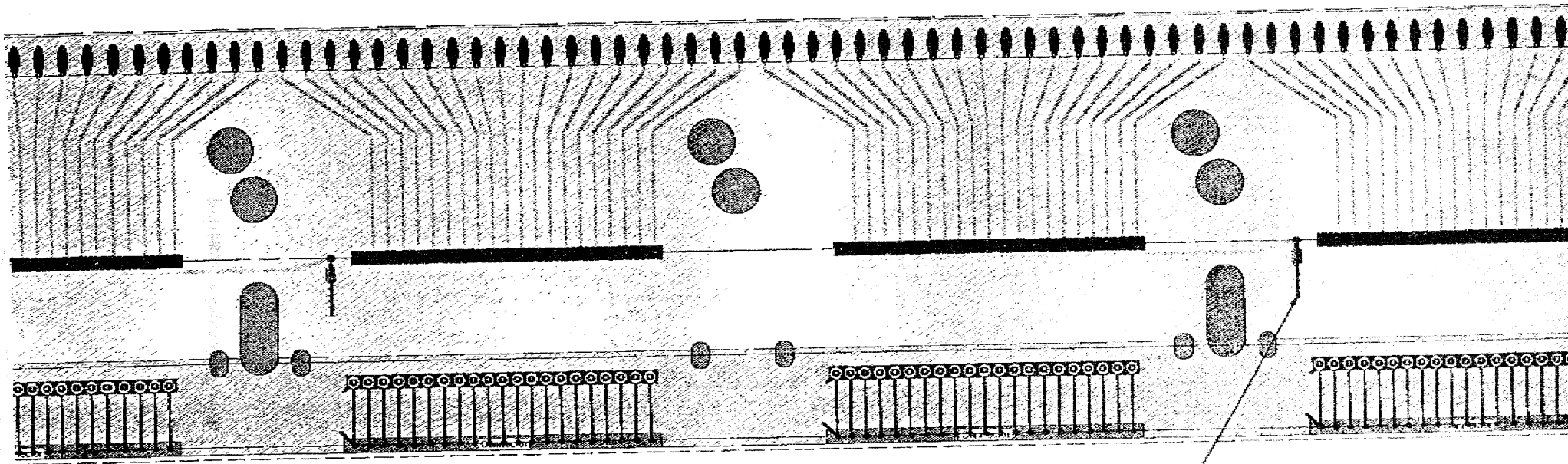
2011 UNI 0011102



RADIUS ALL H.V. TRACES

# Flexless High Voltage

27.873"



AMP 104716-1 (4 places)

Slots for Mounting

SCALE: 1X

2 of 3

F. UZ

FAX NU. 51U48009/1

UULBL ELEUUI INSI

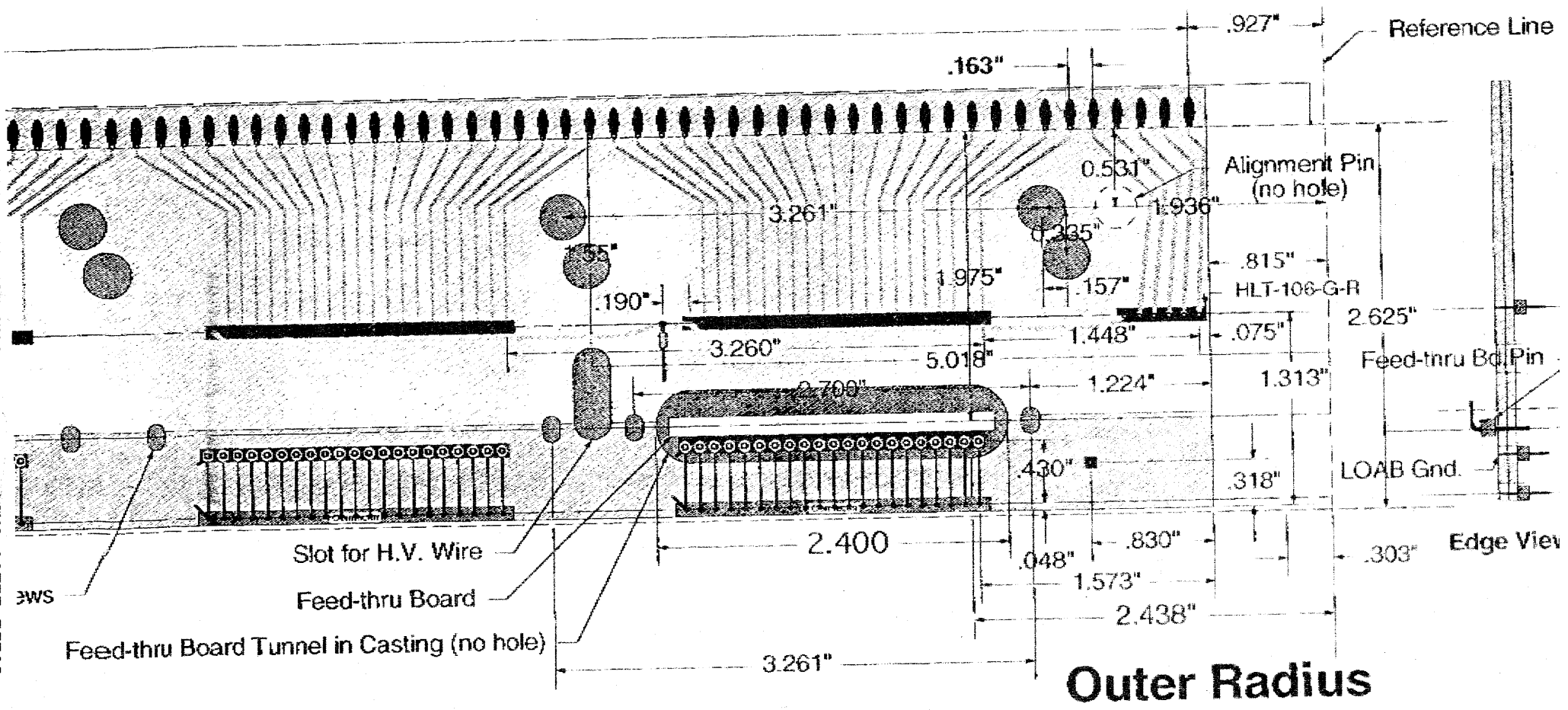
UUI-14-93 IHU 11:53

P. US

FAX NU. 51U4865977

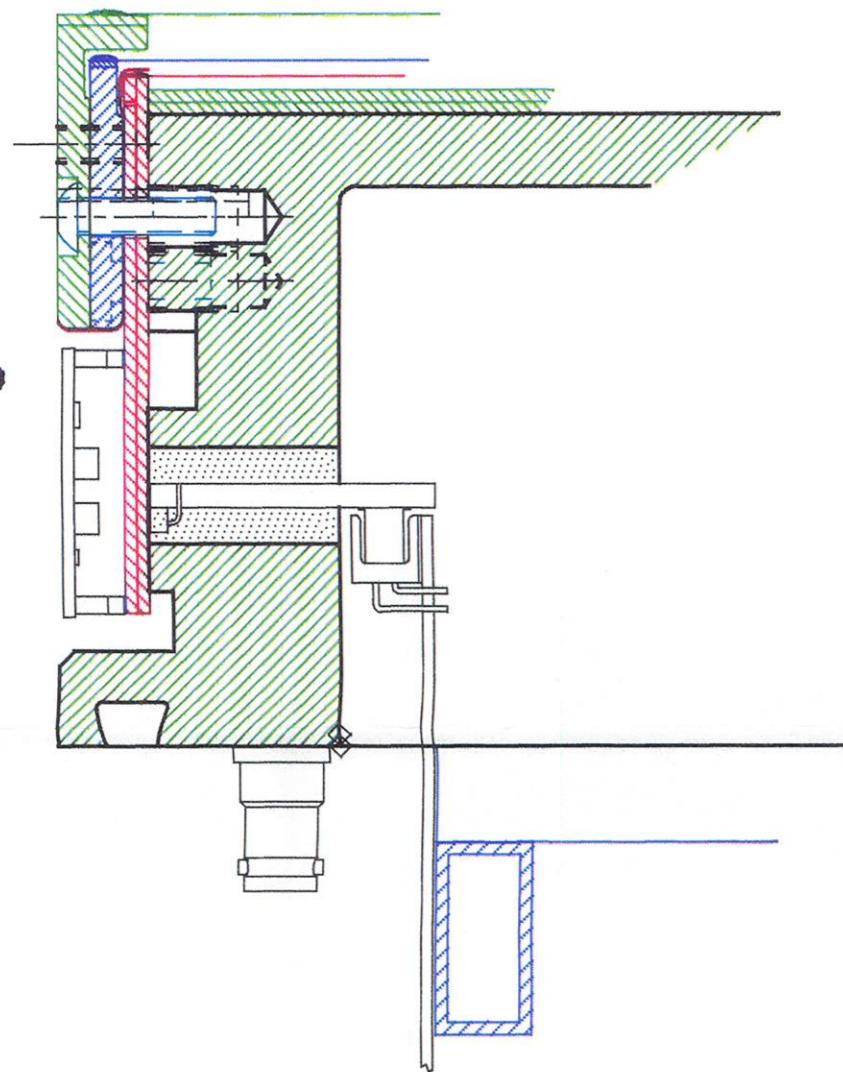
UCLBL ELECT INSI

OCT-14-93 THU 11:56

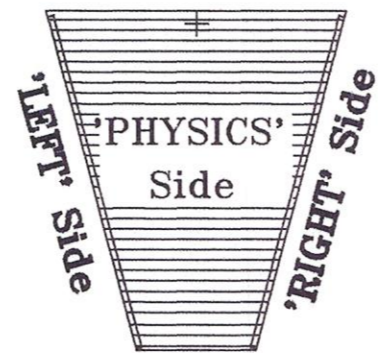


3 of 3

'LEFT'  
Side

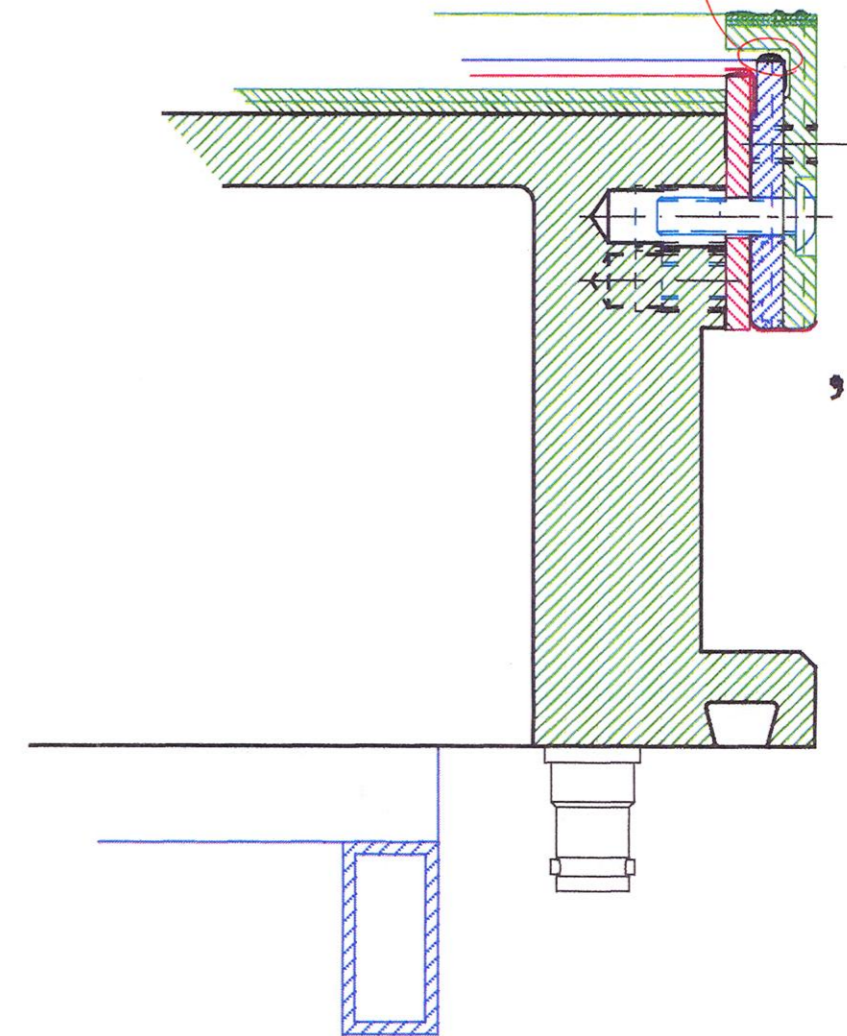


'OUTER RADIUS' Side



'INNER RADIUS' Side

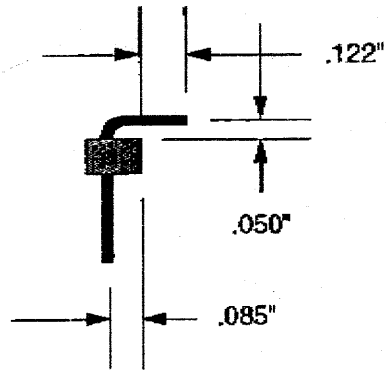
'RIGHT'  
Side



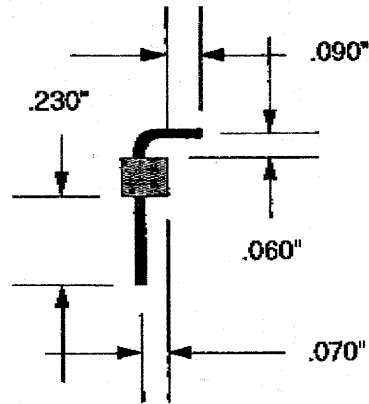
## STAR Inner Sector Wire Mount

J.B. 940126

AMP 104716-1

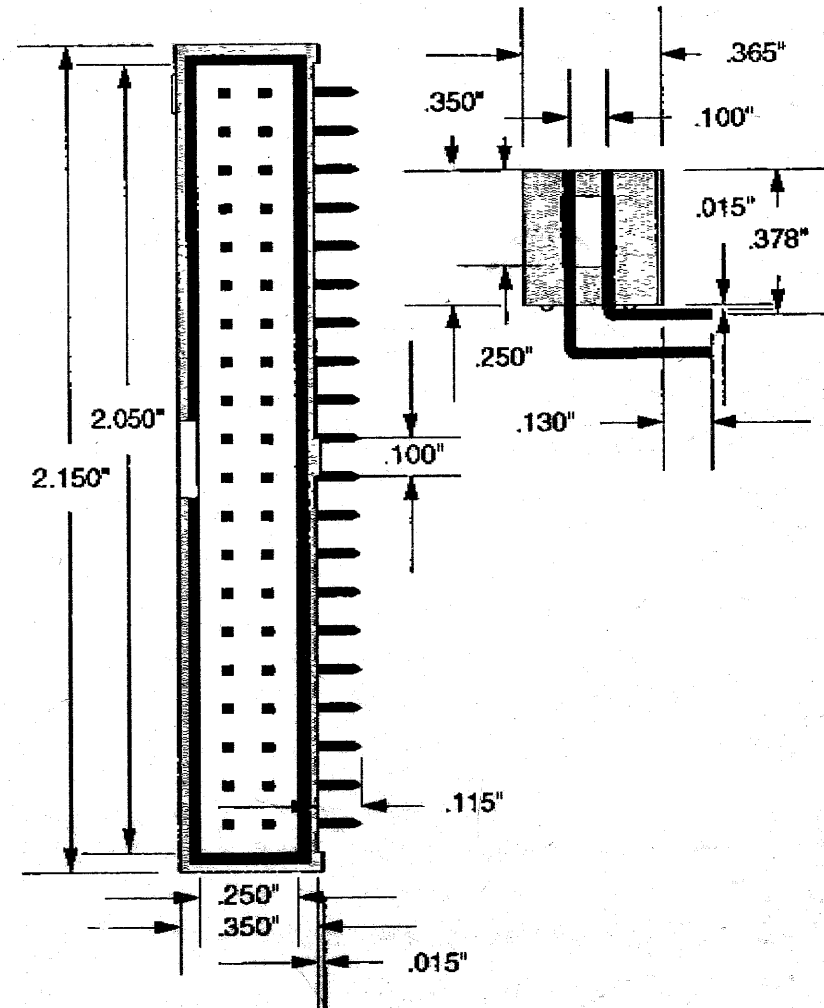


Samtec HMTSW-1-21-08-S-S-230-RA

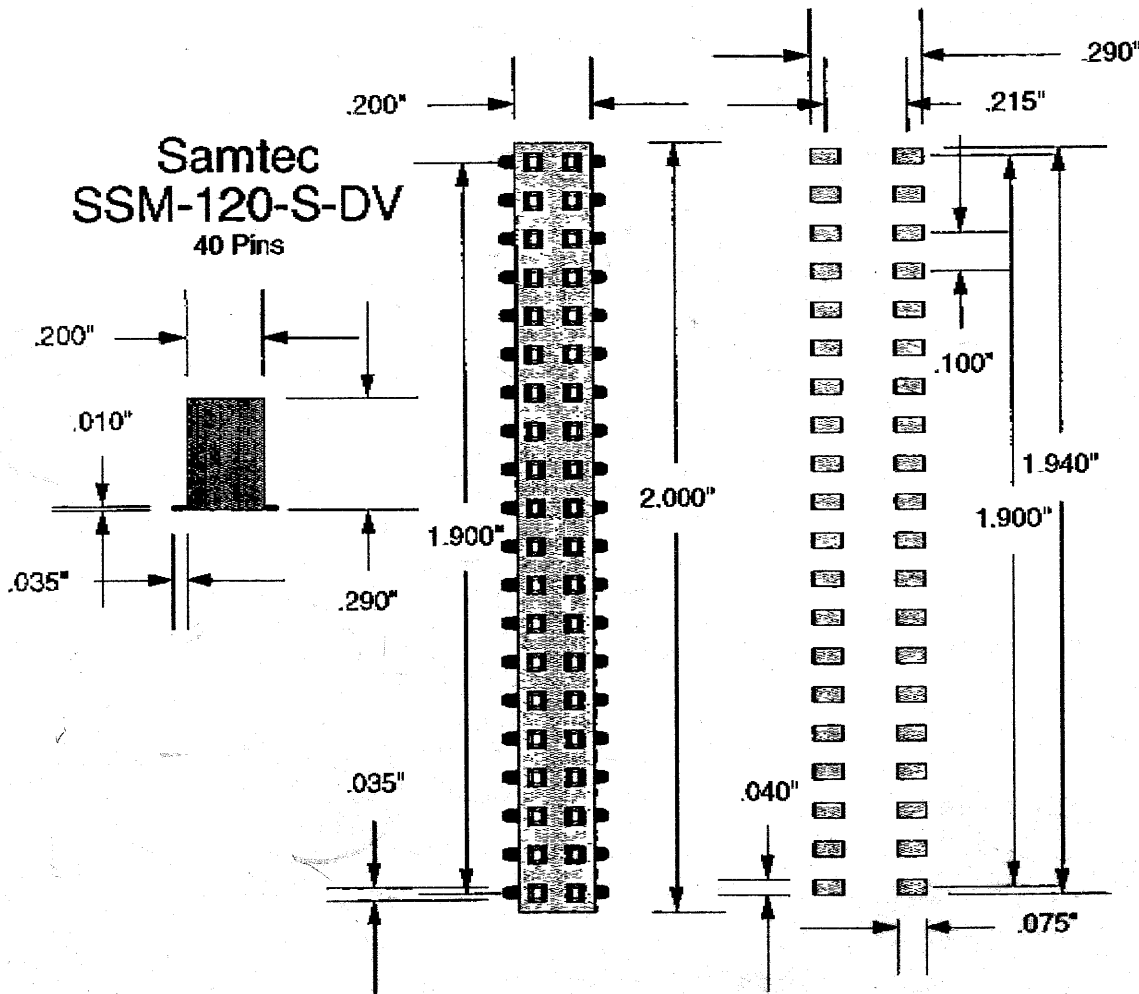


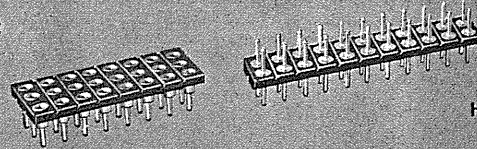
USED ON  
FEED THRU BD.  
a000871u1

Samtec TSS-1-20-130-S-D-RA



Samtec SSM-120-S-DV  
40 Pins





## CARRIER STRIPS HLS & HLT SERIES

**Mates with:**

HTS-1, HTS, BBS, BBL, BBD, BDL, LBS, TSB

Lead sockets "float" and "self-center" when this low profile carrier is soldered. Ideal for most VP or IR processes.

**Specifications:**

**HLS**  
**HI-TEMP**

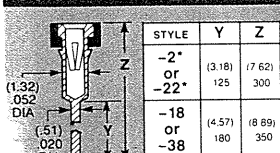
Same as SL-1 except:  
**Insulator Material:** Black High Temperature Thermoplastic  
**Temperature Range:** -65°C to +140°C  
**Heat Deflection Temp:** 215°C @ 264 psi

**Note:** These are non-standard non-returnable.

HLS	NO. ROWS	NO. PINS PER ROW	PLATING OPTION	LEAD STYLE	OPTION
<p><b>Total Pins = No. Rows x No. Pins Per Row</b></p>	<p><b>-1 thru -20</b></p>	<p><b>01 thru 20</b></p>	<p><b>-G</b> = 30µ" Gold Contact 10µ" Gold Shell</p>	<p><b>-L</b> = Locking Socket</p> <p>Requires Style -2 or -22 and .035" ± .003" DIA board hole.</p>	
			<p><b>-T</b> = 30µ" Gold Contact 200µ" Tin Shell</p>		
			<p><b>-S</b> = 10µ" Gold Contact 200µ" Tin Shell (Styles 2 &amp; 22 only)</p>		
			<p><b>-TT</b> = 200µ" Tin Contact and Shell (Styles 2, 10, 11, 12, 18, 22, 30, 31 &amp; 32 only)</p>		

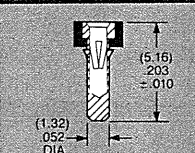
Low Insertion Force (LIF) Available

**-2 or -18 = Standard Socket**  
For LIF specify -22 or -38



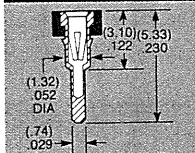
\*Locking lead available. See Option.  
Lead DIA Accepted = .015" to .022"  
Insertion Depth = .095" to .150"  
Style 2 Component Part No. = SC-1P1  
Style 22 Component Part No. = EZ-1P1  
Style 18 Component Part No. = SC-6P1  
Style 38 Component Part No. = EZ-6P1

**-3 = Body Only**  
For LIF specify -23



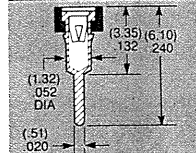
Lead DIA Accepted = .015" to .022"  
Insertion Depth = .125" to .175"  
Style 3 Component Part No. = SC-1S1  
Style 23 Component Part No. = EZ-1S1

**-10 = Low Profile Hollow Leg**  
For LIF specify -30



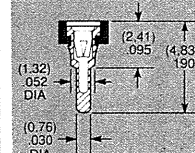
Lead DIA Accepted = .015" to .020"  
Insertion Depth = .105" to .170"  
Style 10 Component Part No. = SC-3P1  
Style 30 Component Part No. = EZ-3P1

**-11 = Low Profile Standard**  
For LIF specify -31



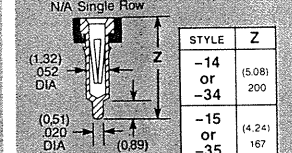
Lead DIA Accepted = .016" to .021"  
Insertion Depth = .080" to .115"  
Style 11 Component Part No. = SC-4P1  
Style 31 Component Part No. = EZ-4P1

**-12 = Micro Socket**  
For LIF specify -32



Lead DIA Accepted = .016" to .020"  
Insertion Depth = .080 to .150"  
Style 12 Component Part No. = SC-5P1  
Style 32 Component Part No. = EZ-5P1

**-14 or -15 = Short Tail**  
For LIF specify -34 or -35



Lead DIA Accepted = .015" to .022"  
Style 14/34 Insertion Depth = .125" to .150"  
Style 14 Component Part No. = SC-1M1  
Style 34 Component Part No. = EZ-1M1  
Style 15/35 Insertion Depth = .080" to .110"  
Style 15 Component Part No. = SC-1M2  
Style 35 Component Part No. = EZ-1M2

**Mates with:** HS-1, SD-1, HSS, SL, BDL, ESS, ESD, HLS

**Specifications:**  
**HLT**  
**HI-TEMP**

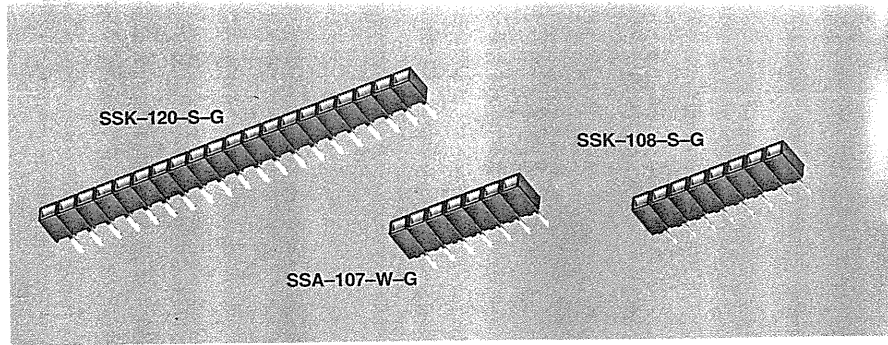
Same as HLS except:  
**Terminal Material:** Brass  
**Plating:** Au over 50µ" Ni or SN over 100µ" Cu or 50µ" Ni  
**Current Rating:** 1amp continuous @ 100 VDC per contact  
**Terminal Retention in Body:** 5 lbs against barb

**Note:** These are non-standard non-returnable.

*.021 DIA.*

HLT	NO. ROWS	NO. PINS PER ROW	PLATING OPTION	LEAD STYLE
<p><b>Total Pins = No. Rows x No. Pins Per Row</b></p>	<p><b>-1 thru -20</b></p>	<p><b>01 thru 20</b></p>	<p><b>-G</b> = 20µ" Gold</p>	<p><b>-R</b></p> <p>Component No. T-2R6-</p>
			<p><b>-T</b> = 200µ" Tin</p>	
				<p><b>-T = Short Tail</b></p> <p>Component No. T-3R6-</p>





on 20s row - d → SSK-120-S-G

# LOW COST SOCKET STRIPS SSK & SSA SERIES

## Specifications: SSK HI-TEMP

**Insulator Material:**  
Black PET Polyester  
**Flammability Rating:**  
UL 94V-O  
**Insulation Resistance:**  
5000 MΩ min  
**Operating Temp Range:**  
-65°C to +125°C with Gold  
-65°C to +105°C with Tin  
**Heat Deflection Temp:**  
215°C @ 264 psi (1,8 MPa)  
**Dielectric Withstanding Voltage:** 1000 VRMS  
**Contact Material:**  
Phosphor Bronze  
**Plating:** Au or Sn over 50" (1,27μm) Ni  
**Current Rating:** 1A  
**Contact Resistance:** 10 mΩ  
**Lead Size Range:**  
.015" (0,38mm) to .022" (0,56mm) DIA and most IC leads  
**Insertion Depth:**  
.060" (1,52mm) to .125" (3,18mm)  
**Insertion Force:**  
8 oz (2,22N) average  
**Withdrawal Force:**  
2 oz (0,56N) average  
**Note:**  
Non-standard strip lengths are non-returnable.

<b>SSK</b>	<b>1</b>	<b>NO. OF POSITIONS</b>	<b>S</b>	<b>PLATING OPTION</b>	<b>RA OPTION</b>
<b>01 thru 36</b> (36 positions standard)				<b>-G</b> = 10μ" (0,25μm) Gold Contact 200μ" (5,08μm) Tin on tail  <b>-T</b> = 200μ" (5,08μm) Tin	<b>-RA</b> = Right Angle  

High reliability double side-wipe contacts.

Snap-Strip feature.

UL Rated 94 V-O High Temp PET Polyester Body.

Mates with:  
TS-1. HTS.  
BBS. BBL.  
BHS. LBS.  
HLT. TSB. TSF

Standoffs allow for easy board cleaning.

Selectively plated for lower contact resistance.

USE .032 DIA. HOLE

## Specifications: SSA

**Insulator Material:**  
Black PET Polyester  
**Flammability Rating:**  
UL 94V-O  
**Insulation Resistance:**  
5000 MΩmin  
**Operating Temp Range:**  
-65°C to +125°C with Gold  
-65°C to +105°C with Tin  
**Heat Deflection Temp:**  
215°C @ 264 psi (1,8 MPa)  
**Dielectric Withstanding Voltage:** 1000 VRMS  
**Contact Material:**  
Phosphor Bronze  
**Plating:** Au or Sn over 50μ" (1,27μm) Ni  
**Current Rating:** 1A  
**Contact Resistance:** 10 mΩ  
**Lead Size Range:**  
.015" (0,38mm) to .022" (0,56mm) DIA and most IC leads  
**Insertion Depth:**  
.050" (1,27mm) to .130" (3,30mm)  
**Insertion Force:**  
10 oz (2,78N) average  
**Withdrawal Force:**  
5 oz (1,39N) average  
**Note:**  
Non-standard strip lengths are non-returnable.

<b>SSA</b>	<b>1</b>	<b>NO. OF POSITIONS</b>	<b>LEAD STYLE</b>	<b>PLATING OPTION</b>	<b>RA OPTION</b>
<b>01 thru 32</b> (32 Positions Standard)			<b>-S</b> = P.C.  	<b>-G</b> = 10μ" (0,25μm) Gold  <b>-T</b> = 200μ" (5,08μm) Tin	<b>-RA</b> = Right Angle  

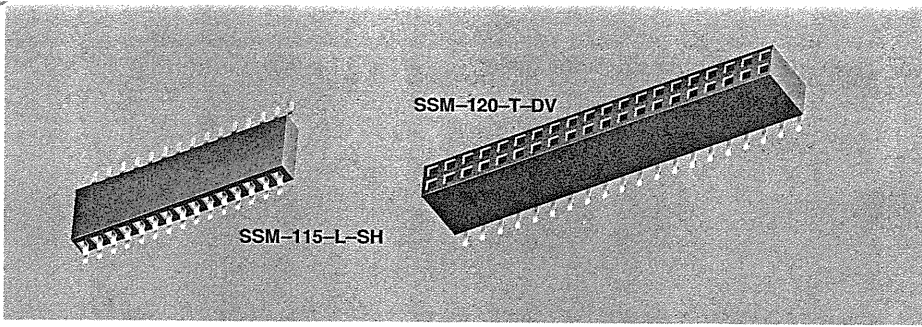
Mates with:  
TS-1. HTS. BBS. BBL.  
BHS. LBS. HLT. TSB. TSF

PEN 1 - BLUE = CASTING  
PEN 2 - RED = CONNECTOR  
PEN 3 - BLK = ALL LINES

# samtec

*New!*

**SURFACE MOUNT  
HI-TEMP**



## .025" SQ SOCKET STRIPS SSM SERIES

Mates with:  
TSW, MTSW, LCW, TST,  
TSS, ZST, ZSS, DW,  
TW, ZW, TLW, TSM

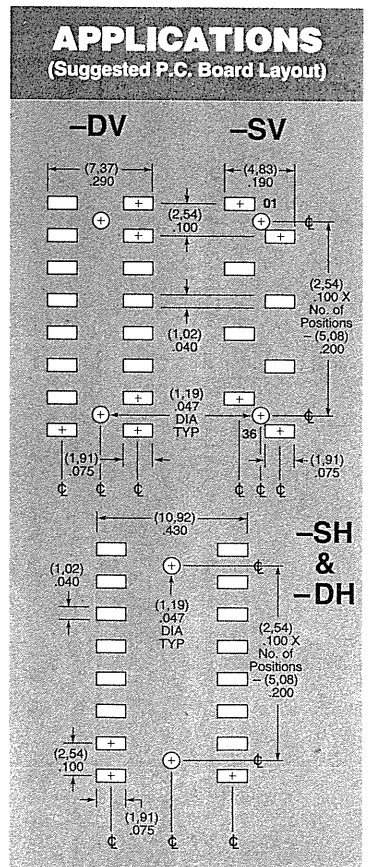
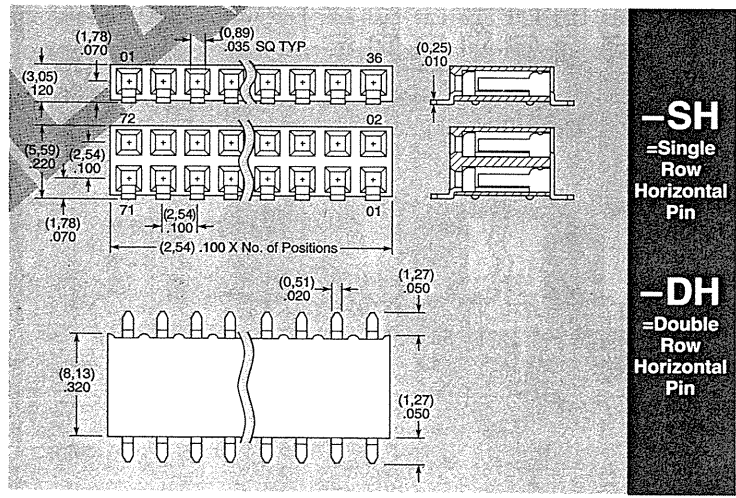
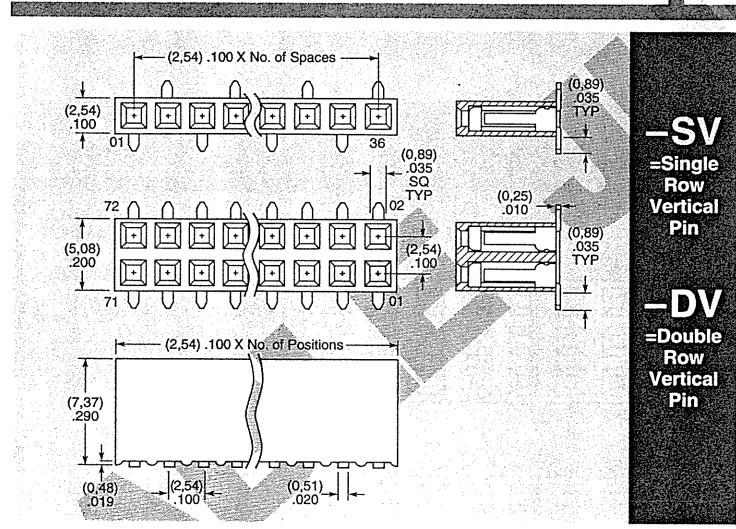
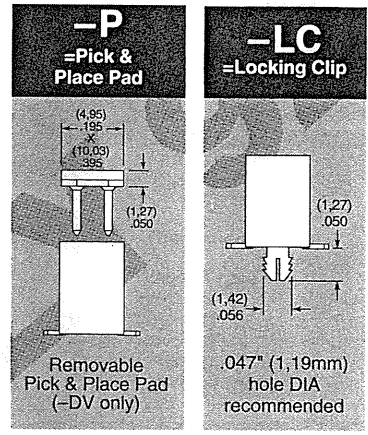
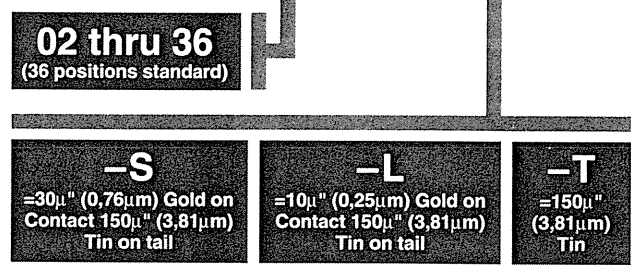
### Features:

- High quality double beam contacts insure performance
- Can be terminated in four styles, depending on your application: standard vertical profiles, and a choice of two horizontal profiles
- LCP for high temperature reflow soldering
- Optional Locking Clips and Pick & Place Pads

### Specifications: SSM

**Insulator Material:**  
Black Liquid Crystal Polymer  
**Flammability Rating:**  
UL 94V-O  
**Insulation Resistance:**  
5000 MΩ min  
**Max Processing Temp:**  
260°C for 10 seconds and  
230°C for 30 to 60 seconds  
**Operating Temp Range:**  
-65°C to +125°C with Gold  
-65°C to +105°C with Tin  
**Dielectric Withstanding Voltage:**  
1000 VRMS @ 60 Hz  
**Contact Material:**  
Phosphor Bronze  
**Plating:** Au or Sn over  
50μ" (1,27μm) Ni  
**Contact Resistance:**  
10 mΩ max  
**Current Rating:**  
1 A  
**Lead Size Range:**  
.024" (0,61mm) SQ to .026"  
0,66mm) SQ  
**Insertion Depth:**  
SV/DV is .140" (3,56mm) to  
.290" (7,37mm) SH/DH is  
.140" (3,56mm) to .230"  
(5,84mm)  
**Insertion Force:**  
5oz (1,39N) average  
**Withdrawal Force:**  
2oz (0,56N) average  
**Lead Coplanarity:**  
.006" (0,15mm) max

**Note:**  
Non-standard strip lengths  
are non-returnable.



- Surface Mount
- Through-Hole
- Compressive

### Unshrouded Headers (AMPMODU)

Single Row  
.100 [2.54] Centers

.025 [0.64] Square  
Right-Angle Post

**Material:**

**Housing** — Glass-filled thermoplastic, green

**Posts** — Phosphor bronze

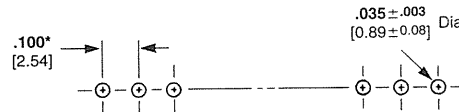
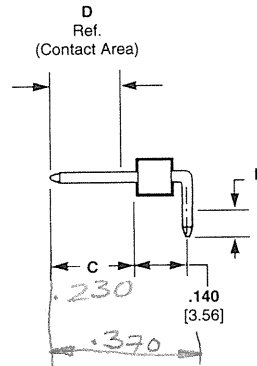
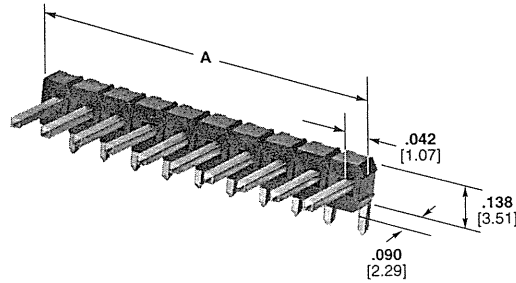
**Finish:**

**Duplex A** — .000030 [0.00076] gold on contact area, .000200 — .000300 [0.00508 — 0.00762] matte tin-lead on solder tail, with entire post underplated .000050 [0.00127] nickel

**Duplex B** — .000030 [0.00076] gold on contact area, .000100 — .000200 [0.00254 — 0.00508] matte tin-lead on solder tail, with entire post underplated .000050 [0.00127] nickel

**Related Product Data:**

**Mateable Receptacles** —  
Catalog 82187



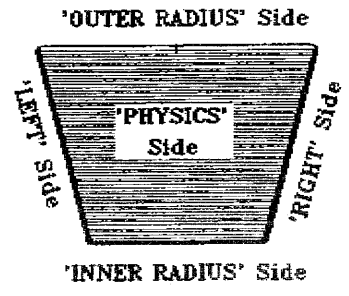
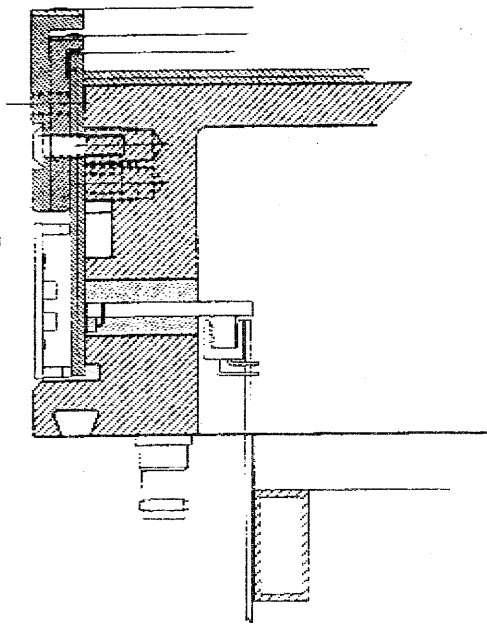
**Recommended Pc Board Hole Layout**

\* ± .003 [0.08] tolerances not to accumulate within one connector pattern.

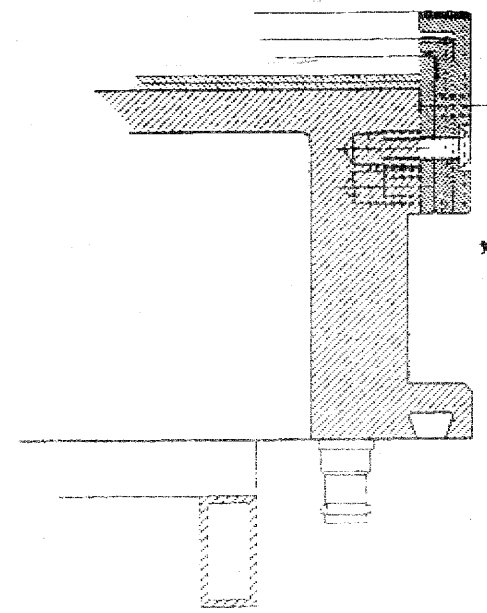
No. of Positions	Dimensions				Part Numbers	
	A	B	C	D	Duplex A Finish	Duplex B Finish
40	3.984	.120	.230	.185	104716-1	—
	101.19	3.05	5.84	4.70		
		.110	.318	.200	—	104717-1
		2.79	8.08	5.08		

Through-Hole  
Level 3

'LEFT'  
Side



'RIGHT'  
Side



SELDINE

STAR Outer Sector Wire Mount

18 940124





\*

PARTS LIST

TITLE: STAR TPC  
OUTER SECTOR ELECTRONICS  
ANODE WIRE MOUNT BOARD  
(PANEL OF 6)

FILE NO.: a000890c1 REV:  
PRINT NO.: 24A3631 C-1  
CHANGES (\*)

ENGINEER: JIM HUNTER  
DRAFTER: STIRKKINEN

DATE: 04/14/94  
PAGE: 1 OF 1

Reference	Stock No.	Part Type	Description	Qty
HARDWARE				
-	NS	BBL-106-G-E	6 PIN SOCKET, STRAIGHT, SAMTEC #BBL-106-G-E	6
-	NS	BBL-108-G-E	8 PIN SOCKET, STRAIGHT, SAMTEC #BBL-108-G-E	6
-	NS	BBL-121-G-E	21 PIN SOCKET, STRAIGHT, SAMTEC #BBL-121-G-E	96
-	NS	BBL-101-G-E	1 PIN SOCKET, STRAIGHT, SAMTEC #BBL-101-G-E	12
-	NS	104716-1	1 PIN CONNECTOR, RIGHT ANGLE, AMP #104716-1 OR SAMTEC #HMTSW-1-1-08-S- S230-RA	24
-	NS	a000890u2	24A3631 U-2, PRINTED CIRCUIT BOARD (PANEL OF 6 24A3631 U-1, a000890u2)	1



PRINT LIST

TITLE: STAR TPC  
 OUTER SECTOR ELECTRONICS  
 ANODE WIRE MOUNT BOARD  
 (PANEL OF SIX BOARDS)

FILE NO.: a000890p1 REV: B  
 PRINT NO.: 24A3631 P-1  
 CHANGES (\*) 09/28/94

ENGINEER: JIM HUNTER  
 DRAFTER: STIRKKINEN

DATE: 12/01/93  
 PAGE: 1 OF 1

Drawing No.	Chg. Ltr.	Title
24A3634 M-1 (a000890m1)	B	BOARD OUTLINE - CUTOUTS (PANEL)
24A3634 M-2 (a000890m2)	A	BOARD OUTLINE (PANEL)
(a000890e1)		
24A3634 E-2 (a000890e2)	B	HOLE SCHEDULE - LAYERS 1 THRU 4 *
24A3631 U-1 (a000890u1)	A	ARTWORK - SINGLE BOARD LAYER 1 - GROUND PLANE LAYER 2 - PADS LAYER 3 - H.V. CIRCUIT LAYER 4 - OUTER TRACE LAYER
24A3631 U-2 (a000890u2)	A	ARTWORK - PANEL OF SIX 24A3631 U-1'S

\*\* THE FOLLOWING DRAWINGS NOT REQUIRED FOR THIS PACKAGE:  
 PARTS LIST, SILKSCREEN, PC BOARD ASSEMBLY

NUMBERS WITHIN ( ) REFER TO EGS COMPUTER FILES

PRINT LIST

TITLE: STAR TPC  
 OUTER SECTOR ELECTRONICS  
 ANODE WIRE MOUNT BOARD  
 (PANEL OF SIX BOARDS)

FILE NO.: a000890p1 REV: B  
 PRINT NO.: 24A3631 P-1  
 CHANGES (\*) 09/28/94

ENGINEER: JIM HUNTER  
 DRAFTER: STIRKKINEN

DATE: 12/01/93  
 PAGE: 1 OF 1

Drawing No.	Chg. Ltr.	Title
24A3634 M-1 (a000890m1)	B	BOARD OUTLINE - CUTOUTS (PANEL)
24A3634 M-2 (a000890m2)	A	BOARD OUTLINE (PANEL)
(a000890e1)		
24A3634 E-2 (a000890e2)	B	HOLE SCHEDULE - LAYERS 1 THRU 4 *
24A3631 U-1 (a000890u1)	A	ARTWORK - SINGLE BOARD LAYER 1 - GROUND PLANE LAYER 2 - PADS LAYER 3 - H.V. CIRCUIT LAYER 4 - OUTER TRACE LAYER
24A3631 U-2 (a000890u2)	A	ARTWORK - PANEL OF SIX 24A3631 U-1'S

\*\* THE FOLLOWING DRAWINGS NOT REQUIRED FOR THIS PACKAGE:  
 PARTS LIST, SILKSCREEN, PC BOARD ASSEMBLY

NUMBERS WITHIN ( ) REFER TO EGS COMPUTER FILES

ORIGIN -1000, 8400

a870u2 - FLEX

COMPONENT SIDE - #E29 - P29 #E19 #E5 = a870c-g

CMD870C = A870C

SOLDER SIDE = #E29 - P29 #E19 #E6 = a870s-g

CMD870S = A870S

drill info = #C1 #E56 = a870dr-g

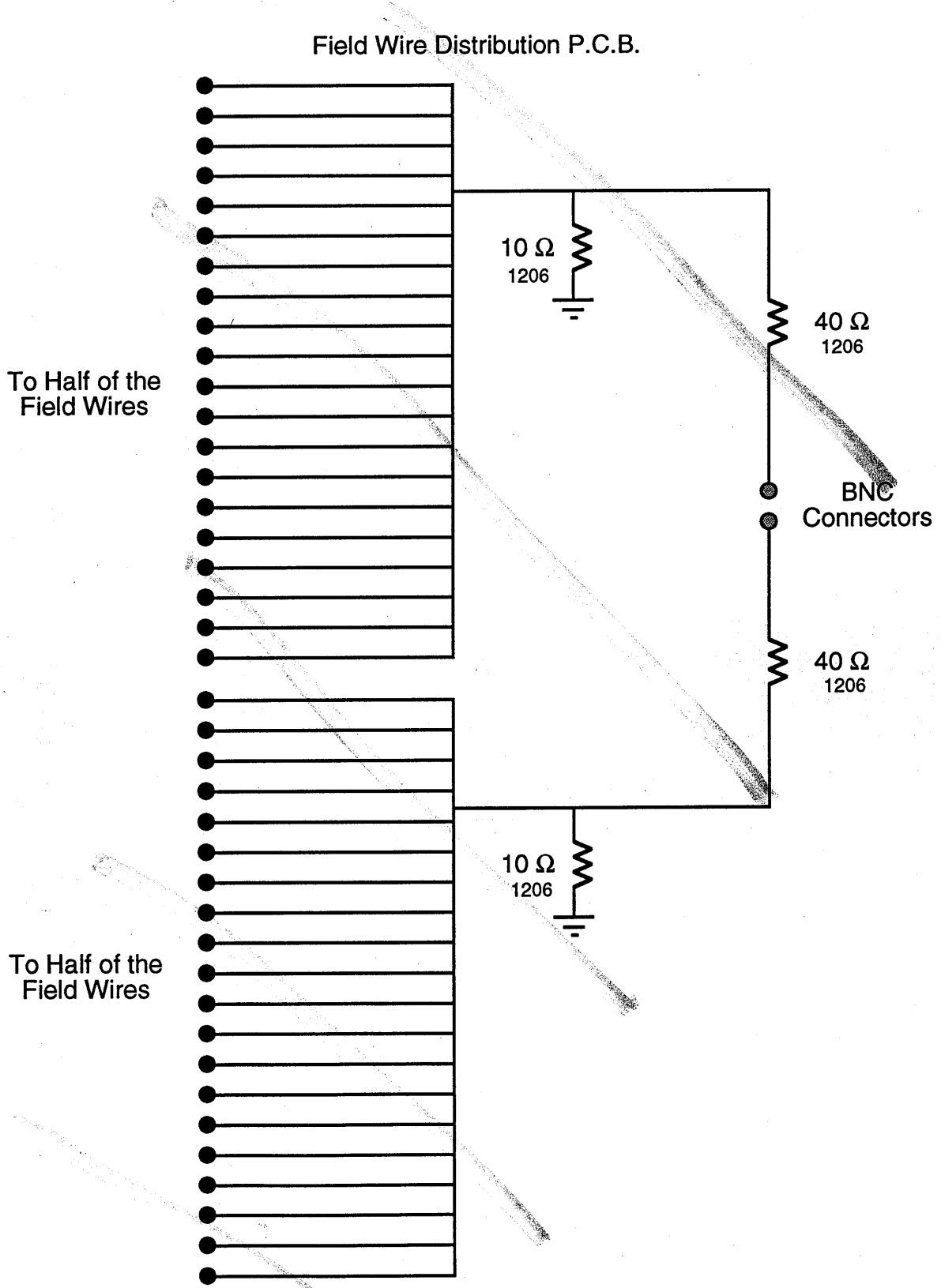
CMD870DR = PL870DR

400 holes @ .026

245-1055  
810 LAKE  
DARLING CO.  
A:30

NO BOARD = USING CU STRIP.

# STAR TPC Field Wire Schematic



\*\*\*\*\* LBL BOARD A000870U2 \*\*\*\*\*  
 \*\*\*\*\* APRIL 6, 1993 \*\*\*\*\*  
 \*\*\*\*\* WHEEL W870INFO \*\*\*\*\*

NEED 2 STANDARD PHOTOPLOTS, 2 POSITIVES, 2 NEGATIVES AND 2 PC BOARDS.

PLEASE RETURN DRILL TAPE OR FLOPPY WITH BOARDS.  
 DELIVERY DATE: APRIL 13, 1993 OR AS SOON AS POSSIBLE.  
 PHOTOPLOTS FILES ARE: PL870C - COMPONENT SIDE AND PL870S - SOLDER

SIDE. THESE PLOT FILES ARE IN POSITIVE FORMAT.  
 PLEASE MAKE CONTACT COPIES OF PLOT FILES (2). I NEED ONE (1) POSITIVE  
 AND ONE (1) NEGATIVE OF EACH FILE, EMULSION DOWN, RIGHT READING.

THIS IS A TOTAL OF TWO (2) POSITIVES AND TWO (2) NEGATIVES.  
 PC BOARD MATERIAL: .003" THICK KAPTON, 2 SIDED, 1 OZ. COPPER EACH  
 SIDE. TOTAL THICKNESS NOT TO EXCEED .007".

DRILL INFORMATION IS AS FOLLOWS: (DRILL FILE IS PL870DR)

TOOLING NO.	HOLE DIA.	COUNT
1	.026	400

.021 CALLED GARY  
4/7/93

TOTAL HOLE COUNT = 400. ± .003

BOARDS TO BE THROUGH HOLE PLATED.  
 SPECIFIED HOLE DIA. SIZE ~~ARE~~ <sup>IS</sup> FOR FINISHED HOLES AFTER PLATING.  
 THIS BOARD IS NOT TO BE SILKSCREENED.

BOARD SIZE IS 6.589 X 8.244 + ~~0.005~~ / - .005. THESE DIMENSIONS ARE IN  
 INCHES. BOARD OUTLINE WILL BE MAILED. DRAWING NO. A0008703 M-1.

PLEASE NOTE SPECS ON THE BOARD OUTLINE IN RESPECT TO THE TABS.  
 THERE IS ONE TAB APPROXIMATELY .100" THICK ~~ON EACH SIDE~~ <sup>ON EACH SIDE</sup>  
 OF THE SINGLE BOARDS. THE SPACING BETWEEN BOARDS IS .125". THE  
 SINGLE BOARD SIZE IS 3.232 X 1.549 +/- .005.

THIS BOARD IS NOT TO BE SOLDERMASKED.  
 IF THERE ARE ANY QUESTIONS OR PROBLEMS PLEASE CALL -JUDY- (916)275-4743  
 OR -KAZ- (510)486-6530.

- tr10 10 circle trace 10;
- tr12 11 circle trace 12;
- tr15 12 circle trace 15;
- tr20 13 circle trace 20;
- tr30 14 circle trace 30;
- tr40 15 circle trace 40;
- tr50 16 circle trace 50;
- tr60 17 circle trace 60;
- tr70 18 circle trace 70;
- tr80 19 circle trace 80;
- tr90 20 circle trace 90;
- tr100 21 circle trace 100;
- tr120 22 circle trace 120;
- tr130 23 circle trace 130;
- tr150 24 circle trace 150;
- f140 25 circle flash 40;
- f150 26 circle flash 50;
- f160 27 circle flash 60;
- f170 28 circle flash 70;
- f175 29 circle flash 75;
- f185 30 circle flash 85;
- f190 31 circle flash 90;
- f1100 32 circle flash 100;
- f1110 33 circle flash 110;
- f1120 34 circle flash 120;
- f1130 35 circle flash 130;
- f1140 36 circle flash 140;
- f1150 37 circle flash 150;
- f1160 38 circle flash 160;
- f1200 39 circle flash 200;
- PADEXO 36 oval flash 75 55;
- PADEXO 37 oval flash 55 75;
- PADEXR 38 rectangle flash 75 55;
- PADEXR 39 rectangle flash 55 75;
- ftarget 40 square special 1.0;
- fs60 41 square flash 60;
- fs70 42 square flash 70;
- fs75 43 square flash 75;
- fs85 44 square flash 85;
- fs100 45 square flash 100;
- fs110 46 square flash 110;
- fs120 47 square flash 120;
- fs130 48 square flash 130;
- fs140 49 square flash 140;
- fs150 50 square flash 150;

4/16/93 = Jim FOUND HOLES TO  
 BE .0165 - CONNECTORS  
 DO NOT FIT. CALLED  
 GARY TO REDO FLEX  
 BD. INCREASED HOLE  
 DIA TO .026 ± .003