FLIGHTFREERIGHT5.pcb - Fri Dec 05 09:39:16 2003

REVISION				
SYM	ZONE	DESCRIPTION	DATE	APPROVAL

SIZE	QTY	SYM	PLTD
13	1521	+	PLTD
32	149	×	PLTD
40	167	⊡	PLTD
62	4	◇	NPLTD
96	8	⧖	NPLTD
129	11	⋈	NPLTD
129	1	A	PLTD

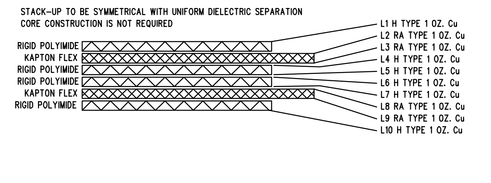
FABRICATION NOTES

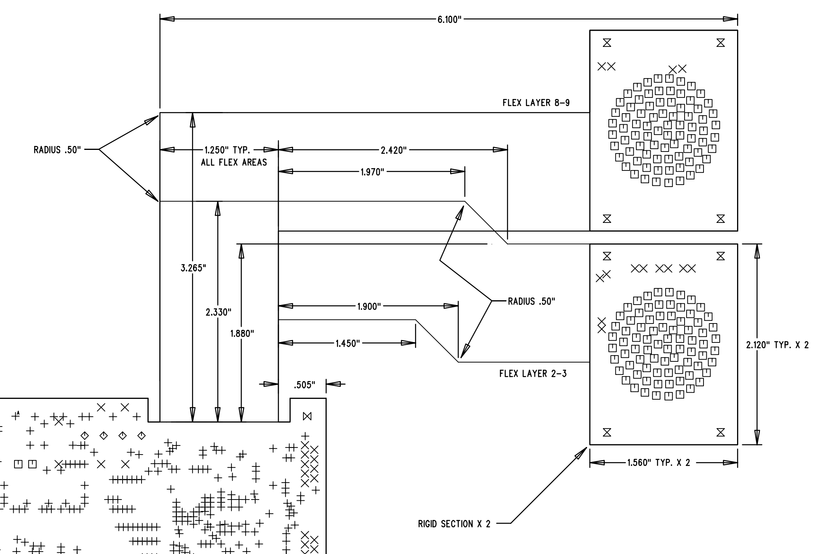
1. FABRICATE PER IPC 6013 TYPE 4 CLASS 3
2. MATERIAL TYPE POLYIMIDE RIGID/KAPTON FLEX PER IPC-4101/40 AND IPC-FC-241
3. FINISHED RIGID THICKNESS .062" +/-.007" , FLEX THICKNESS .010" +/-.003" OVER COVER FILM
4. COVER FILM REQUIRED FOR FLEX AREAS BOTH SIDES PER IPC-FC-232 .001" ADHESIVE/.001" KAPTON MINIMUM
5. BOARD FINISH HASL SMOBC
6. ALL MASTER ARTWORKS ARE VIEWED THRU COMPONENT SIDE
7. LAY-UP OF LAYERS TO BE AS MARKED ON MASTER ARTWORKS
   LAYER 1 -PRIMARY COMPONENT SIDE THRU LAYER 10 -SECONDARY COMPONENT SIDE
8. MINIMUM DIELECTRIC THICKNESS SHALL BE .0035" 2 PLY IN RIGID AREAS
9. EXPOSED WEAVE IS PROHIBITED
10. PINK RING IS PROHIBITED
11. NEGATIVE ETCHBACK IS PROHIBITED
12. MINIMUM LINE WIDTH .0065" SPACING .0065"
13. MINIMUM ANNULAR RING INTERNAL .002" EXTERNAL .005"
14. DRILL BREAKOUT IS PROHIBITED
15. BOW AND TWIST OF RIGID SECTIONS .5X MAXIMUM
16. LIFTED LAND IN EXCESS OF .001" AFTER THERMAL STRESS TEST ARE PROHIBITED
17. SOLDERMASK BOTH SIDES USING LPI TYPE MASK COLOR RED THAT MEETS
    NASA OUTGASSING REQUIREMENTS OF TML < 1.0% AND CVCM <.01%
18. SILKSCREEN BOTH SIDES PER MIL-I-43553 COLOR WHITE
19. ALL DIMENSIONS ARE IN INCHES - TOLERANCE +/-.005 UNLESS OTHERWISE NOTED
20. ALL SIZES LISTED IN THE DRILL SYMBOL CHART ARE IN THOUSANDTHS
    OF AN INCH AND ARE FINISHED DIAMETERS AFTER PLATING.
    HOLE SIZE TOLERANCE +/-.003" UNLESS OTHERWISE NOTED
21. RADIUS ALL CORNERS .062" UNLESS OTHERWISE NOTED
22. 100X NETLIST TESTING IS REQUIRED
23. VENDOR IS RESPONSIBLE FOR DFM AUDIT FOR COMPLIANCE WITH IPC-6103 AND THESE NOTES
24. VENDOR TO PERFORM 100X VISUAL INSPECTION FOR COMPLIANCE TO IPC-6013 AND THESE NOTES
25. VENDOR SHALL PERFORM DIELECTRIC WITHSTANDING VOLTAGE AND MOISTURE INSULATION RESISTANCE TEST
    PER IPC-6013 FOR THE BOARD LOT
26. VENDOR IS RESPONSIBLE TO READ ALL NOTES AND COMPLY WITH ALL SPECIFICATIONS
    SEE NOTES 1 THROUGH 25

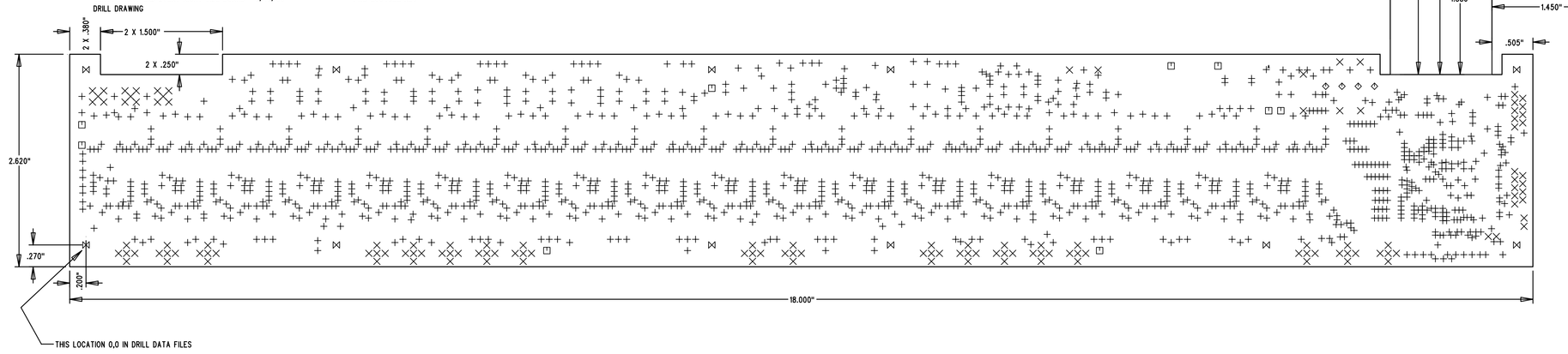
NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03
DRILL DRAWING

PWB 2054522 REV -

STACK-UP TO BE SYMMETRICAL WITH UNIFORM DIELECTRIC SEPARATION
CORE CONSTRUCTION IS NOT REQUIRED







ITEM NO.	REQD	REQD	PART NO.	DESCRIPTION	MATERIAL	MATERIAL SPEC	& NO.

LIST OF MATERIALS

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
.XX .XXX FRACTIONS 1/2
+/-.01 +/-.005 +/-.3 +/-1/16
REMOVE ALL BURRS AND SHARP EDGES R OR CHAMFER .010 MAX.

☐ FLIGHT HARDWARE
☐ HARDNESS TEST NOT REQUIRED ☐ NON-FLIGHT
☐ TEST HARDNESS PER ASTM E-18, LOCATION OPTIONAL
☐ TEST HARDNESS PER ASTM E-18, WHERE INDICATED ON FIELD OF DRAWING THUS ⊗

☐ NO NON-DESTRUCTIVE EXAMINATION (NDE) REQD
☐ NDE REQUIRED PER S-310-009 CODE

2054514	GLAST ACD
NEXT ASSY	USED ON

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — GODDARD SPACE FLIGHT CENTER — GREENBELT, MARYLAND

NAME	INIT	DATE
DESIGNER F. GOODWIN		
DRAWN F. GOODWIN		
CHECKED		
APPROVED		
APPROVED		
APPROVED-STRESS		
APPROVED-ENGINEER		

DRAWING INTERPRETED PER GSFC-1673-04-1

TITLE
GLAST FRONT END EVENT
RIGHT SIDE BOARD
DRILL DRAWING

GJ 2054522 REV -

CODE | SCALE 2:1 | WT | SH 1 OF 1

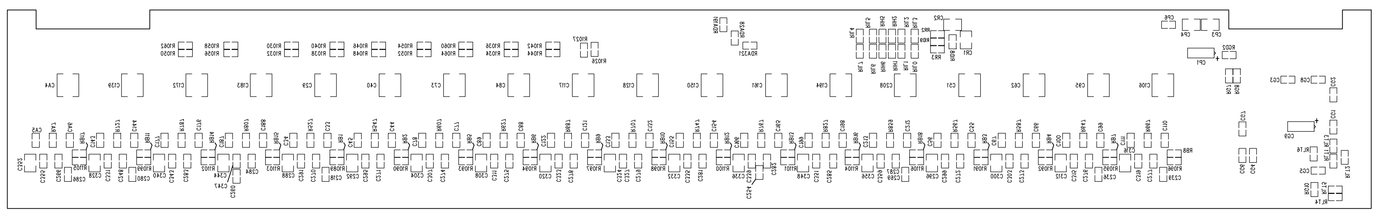
PLOT DATE	11/28/03
THIS DRAWING WAS PRODUCED USING	
SOFTWARE PADS-POWERPCB VERSION	3.0.1
FILE NAME	
BOARD DATABASE FLIGHTFREERIGHT5.PCB	

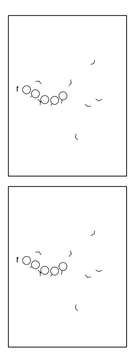
PLOT LINE B
SI 1
2054522
CGE

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03

PWB 2054522 REV -

SECONDARY COMPONENT SIDE SILKSCREEN
LAYER 10 OF 10



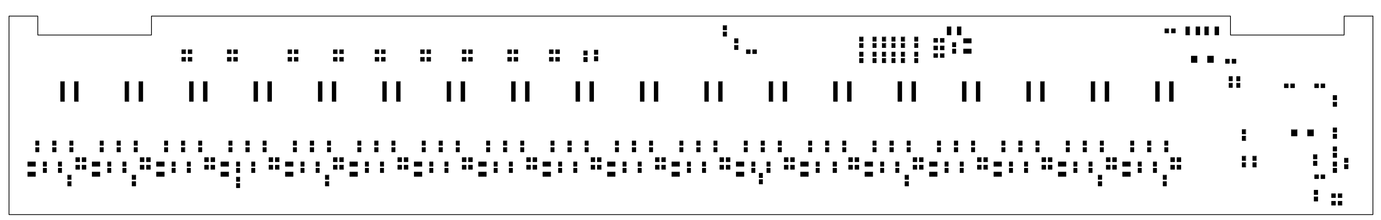


ssb00029.pho - Fri Dec 05 09:47:44 2003

smd010022.pho - Fri Dec 05 09:47:22 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03 PWB 2054522 REV -

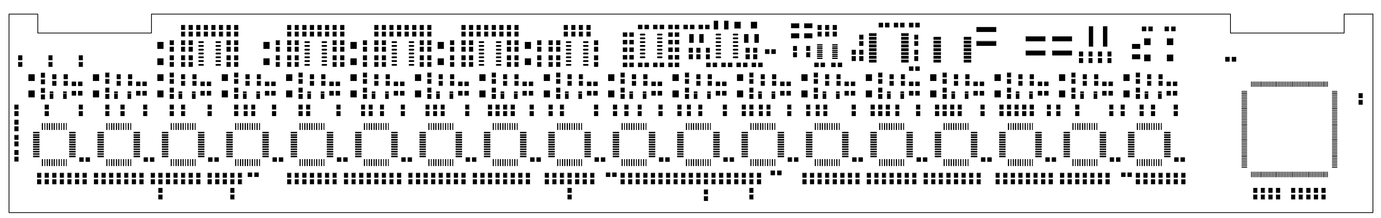
SECONDARY COMPONENT SIDE SOLDER PASTE STENCIL
MIRROR FOR SQUEEGEE SIDE VIEW



smd001023.pho - Fri Dec 05 09:47:01 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03 PWB 2054522 REV -

PRIMARY COMPONENT SIDE SOLDER-PASTE STENCIL
SQUEEGEE SIDE VIEW

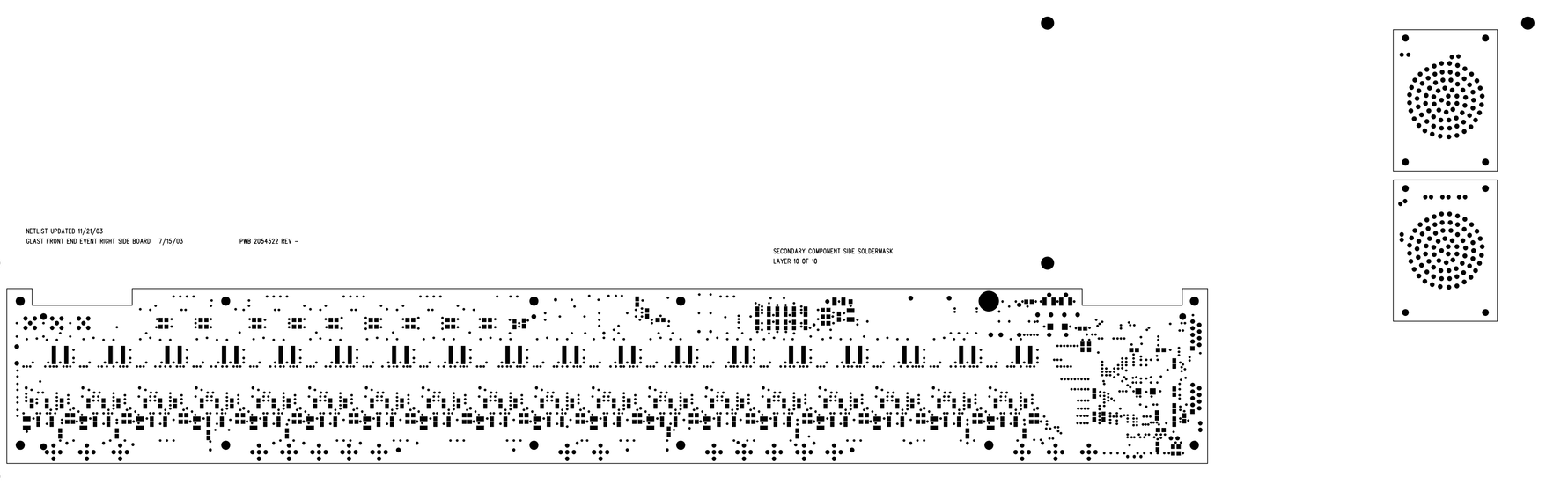


sm010028.pho - Fri Dec 05 09:46:42 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SDE BOARD 7/15/03

PWB 2054522 REV -

SECONDARY COMPONENT SDE SOLDERMASK
LAYER 10 OF 10

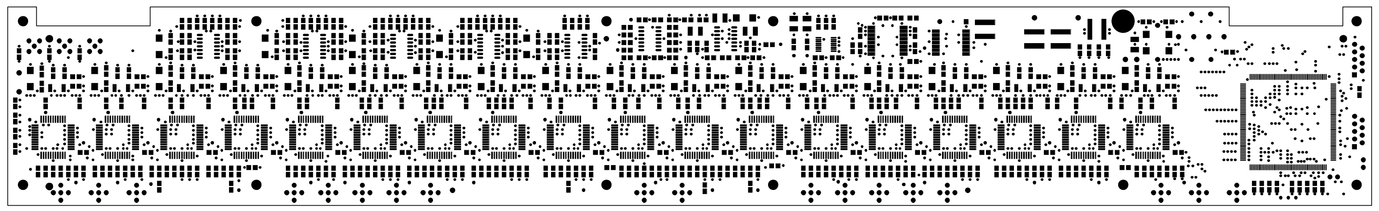


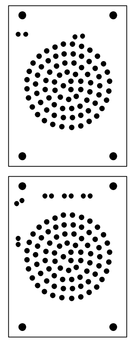
sm001021.pho - Fri Dec 05 09:46:21 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SDE BOARD 7/15/03

PWB 2054522 REV -

PRIMARY COMPONENT SIDE SOLDERMASK
LAYER 1 OF 10



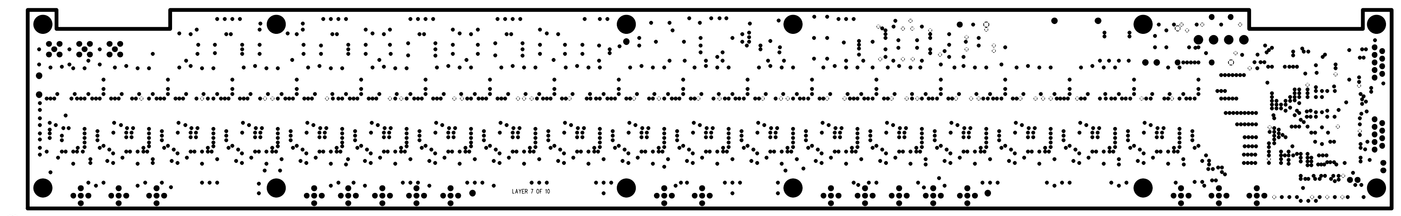


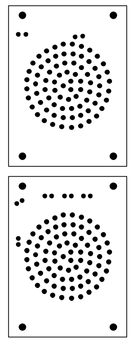
pgp007.pho - Fri Dec 05 09:45:53 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03

PWB 2054522 REV -

VDD POWER PLANE
LAYER 7 OF 10



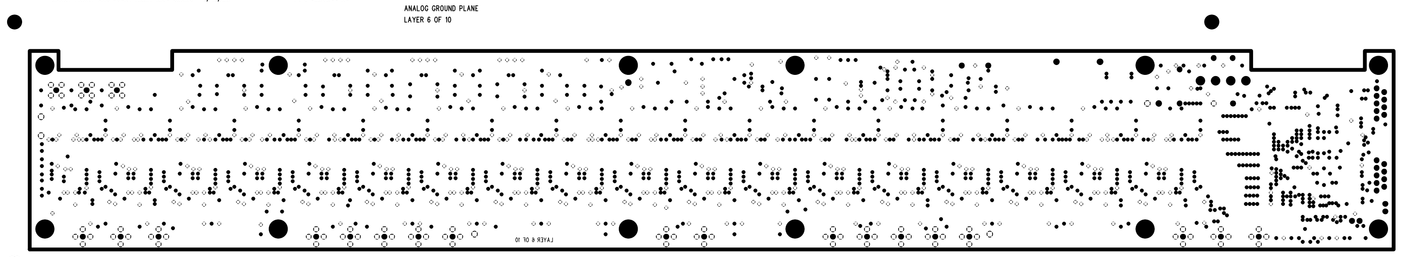


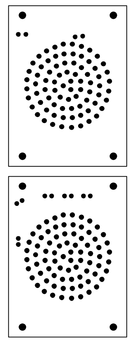
pgp006.pho - Fri Dec 05 09:45:36 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03

PWB 2054522 REV -

ANALOG GROUND PLANE
LAYER 6 OF 10

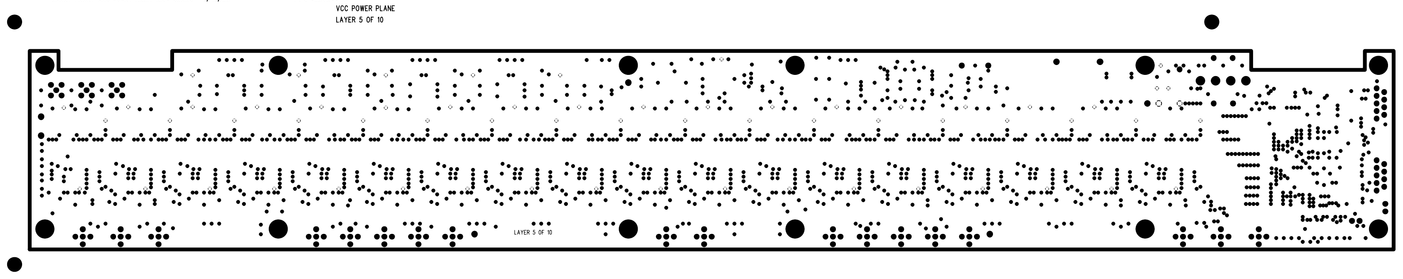


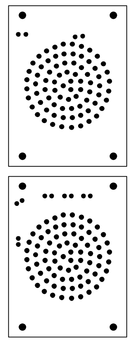


pgp005.pho - Fri Dec 05 09:45:18 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03

PWB 2054522 REV -
VCC POWER PLANE
LAYER 5 OF 10

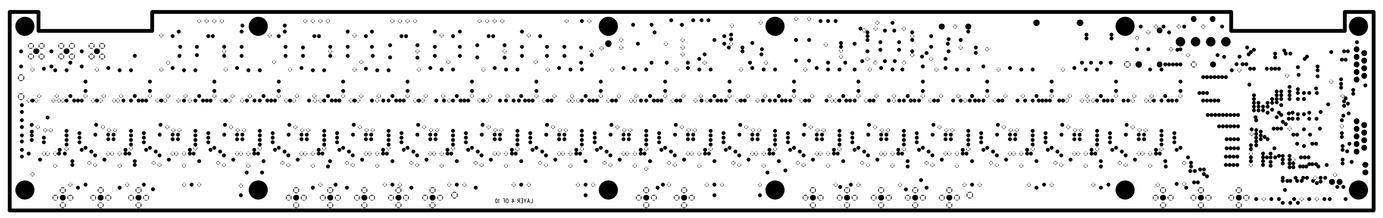


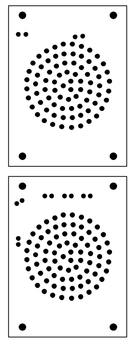


pgp004.pho - Fri Dec 05 09:45:00 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03

PWB 2054522 REV -
ANALOG GROUND PLANE
LAYER 4 OF 10





COVERLAY89.pho - Fri Dec 05 09:44:03 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SDE BOARD 7/15/03 PWB 2054522 REV -

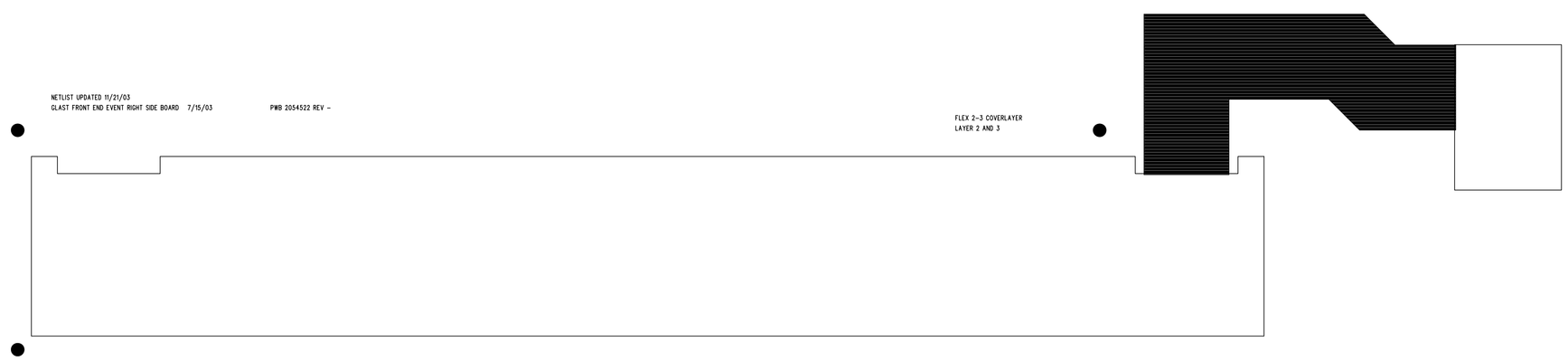
FLEX 8-9 COVERLAYER
LAYER 8 AND 9

COVERLAY23.pho - Fri Dec 05 09:43:45 2003

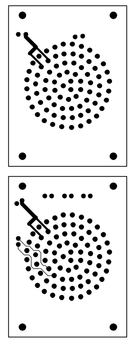
NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SDE BOARD 7/15/03

PWB 2054522 REV -

FLEX 2-3 COVERLAYER
LAYER 2 AND 3



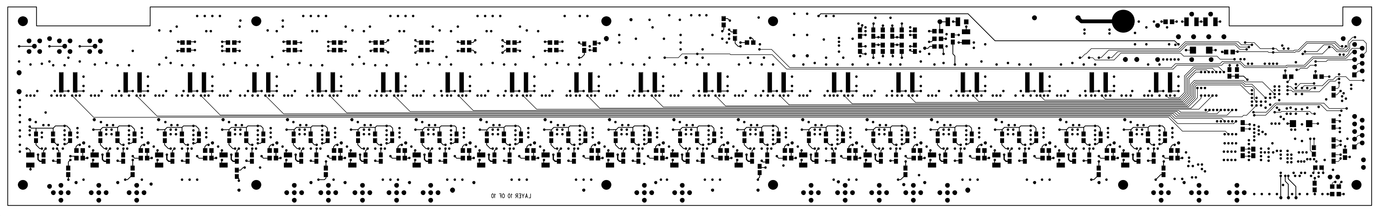
art10.pho - Fri Dec 05 09:43:21 2003



NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SDE BOARD 7/15/03

PWB 2054522 REV -

SECONDARY COMPONENT SIDE
LAYER 10 OF 10

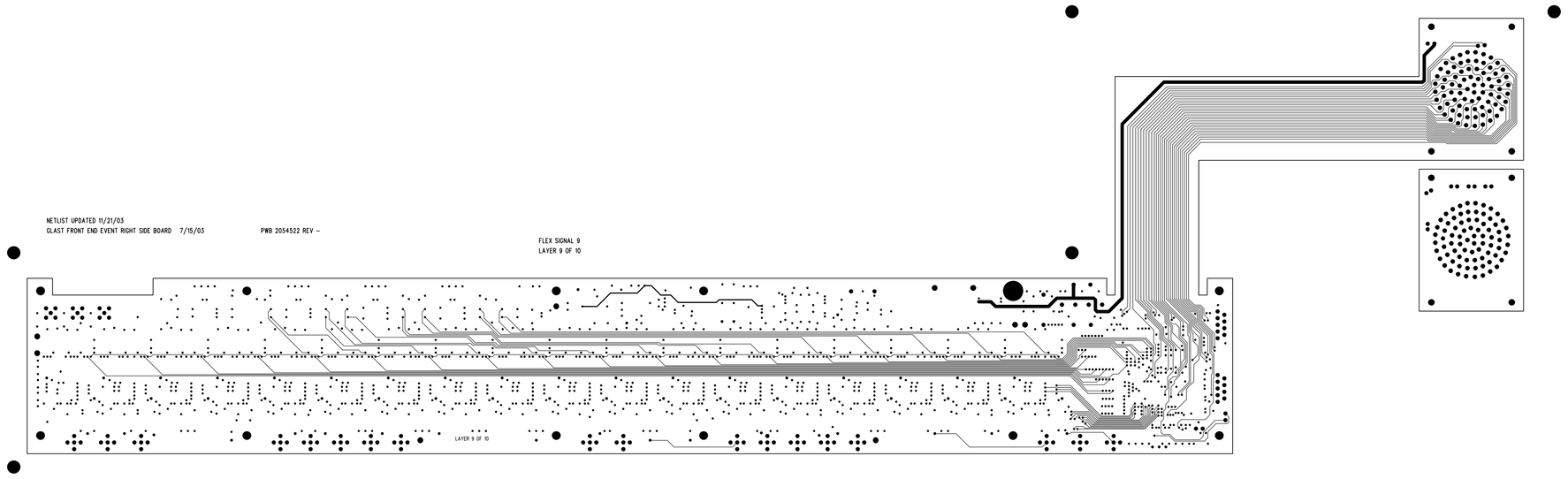


ar1009.pho - Fri Dec 05 09:42:56 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SDE BOARD 7/15/03

PWB 2054522 REV -

FLEX SIGNAL 9
LAYER 9 OF 10

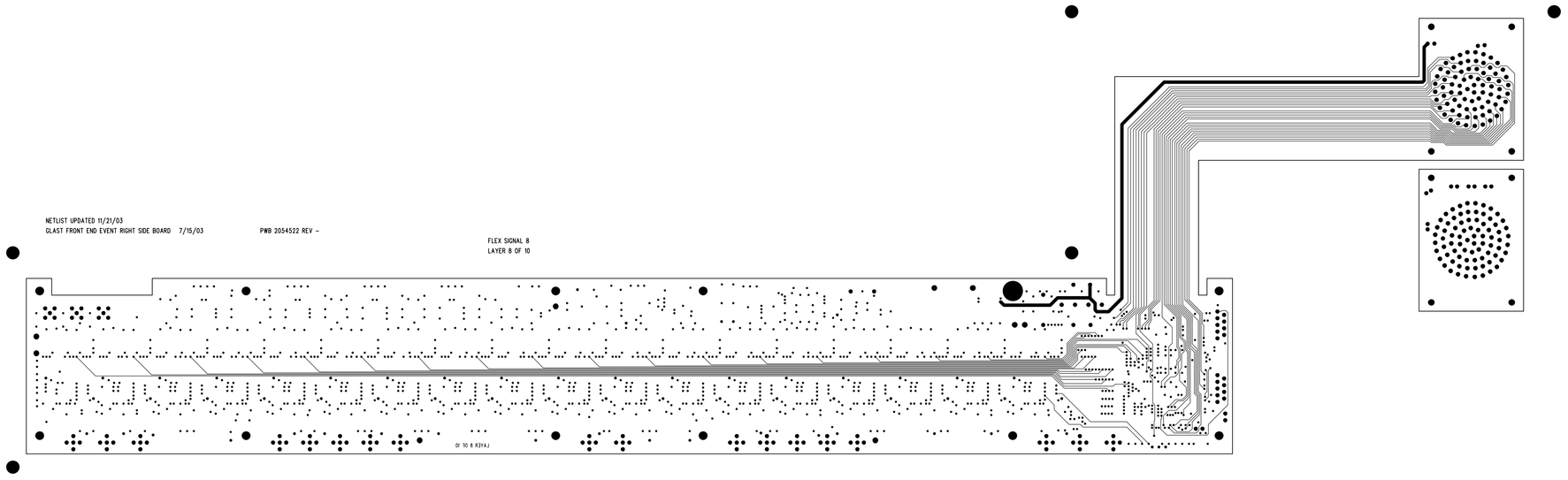


ar1008.pho - Fri Dec 05 09:42:37 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SDE BOARD 7/15/03

PWB 2054522 REV -

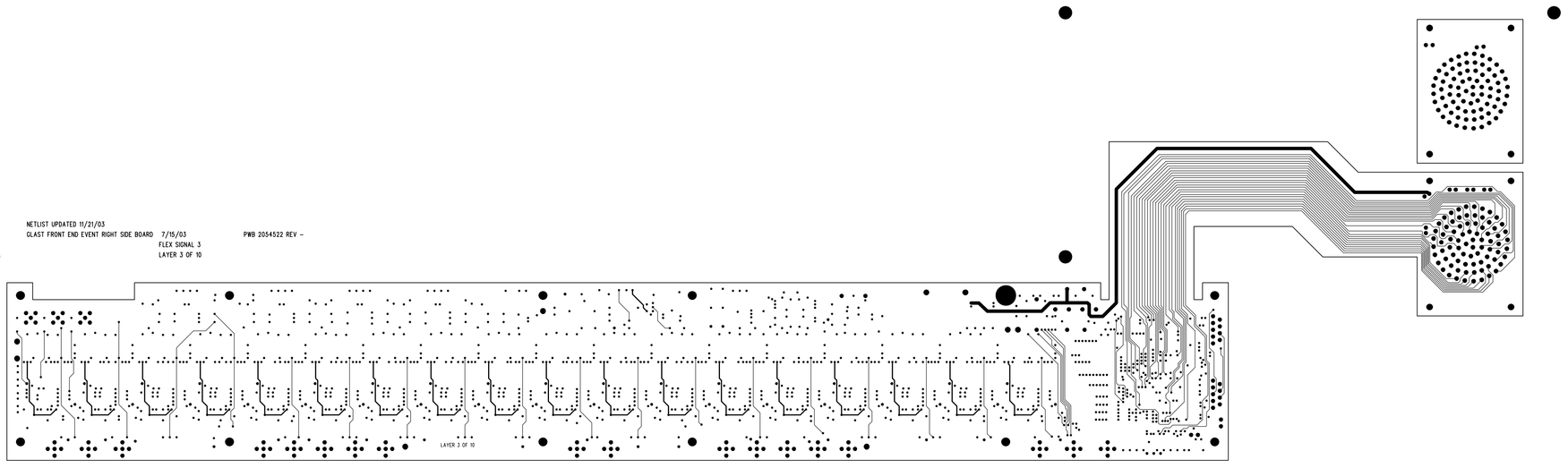
FLEX SIGNAL 8
LAYER 8 OF 10

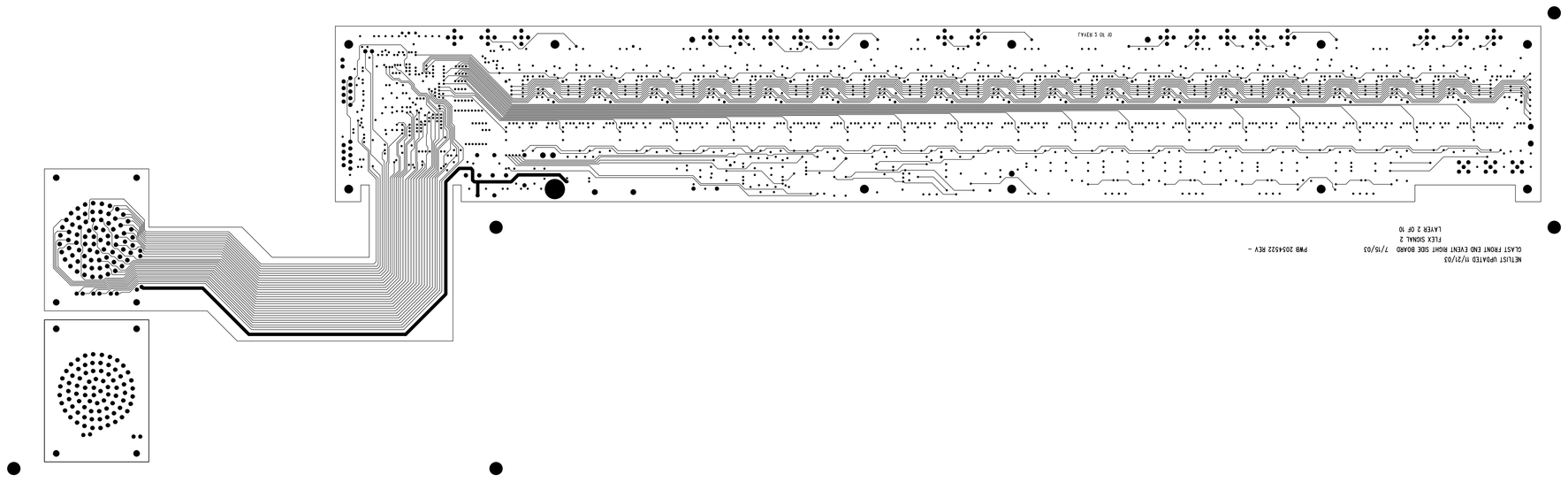


ar1003.pho - Fri Dec 05 09:42:09 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SDE BOARD 7/15/03
FLEX SIGNAL 3
LAYER 3 OF 10

PWB 2054522 REV -

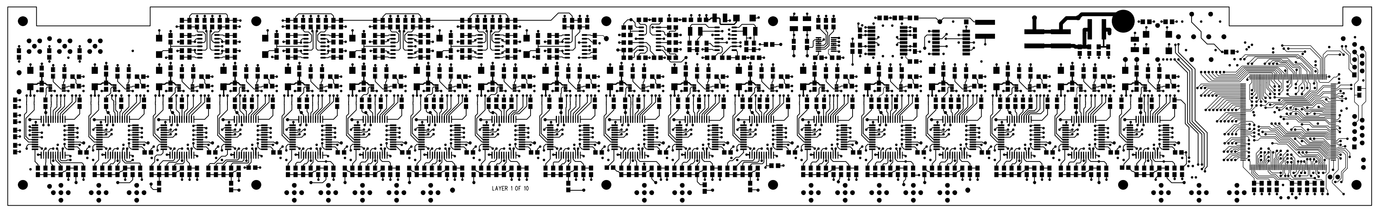


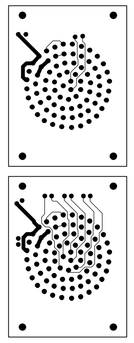


art002.pho - Fri Dec 05 09:41:46 2003

ar101.pho - Fri Dec 05 09:41:20 2003

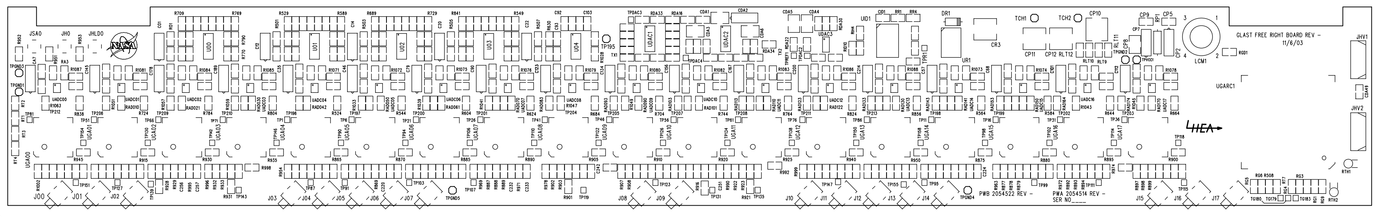
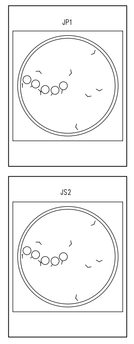
NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03 PWB 2054522 REV -
PRIMARY COMPONENT SIDE
LAYER 1 OF 10





ss10010126.pho - Fri Dec 05 09:48:06 2003

NETLIST UPDATED 11/21/03
GLAST FRONT END EVENT RIGHT SIDE BOARD 7/15/03

PWB 2054522 REV -

PRIMARY COMPONENT SIDE SILKSCREEN
LAYER 1 OF 10