

REVISIONS

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NAME		DATE	MASSACHUSETTS INSTITUTE OF TECHNOLOGY CENTER FOR SPACE RESEARCH		
DRAWN: <i>J. Keopann</i>		6/7/96	CONNECTOR ALLIGNMENT PRODECURE		
CHECKED: <i>W. Mayer</i>		6/9/96			
APPROVED: <i>OT</i>		6/14/96			
RELEASED: <i>J. Kepec</i>		6/14/96			
SCALE NONE	SHEET 1 of 4	SIZE T	CAGE CODE 80230	DRAWING NO. 36-02025	REV A

1.0 SCOPE

This specification covers the measurement and shim height requirements of Printed Wiring Boards(PWB) connectors and the lateral alignment of Circuit Card Assemblies (CCA) used on ACIS. The connector shimming and alignment of the CCA are to minimize the stresses on the connector pins and sockets due to misalignment caused by the assembly of the electronics boxes. The DEA and Back End Processor are designed for an 0.086 inch thick PWB. The Front End Processor is designed for an 0.106 inch thick PWB. The shim will compensate for the variation in PWB thickness. Each PWB will be individually shimmed.

2.0 MIT DRAWINGS

36-02024	Beryllium Handling Procedure
36-30201	Video Circuit Card Assembly
36-30201.01	Video Printed Wiring Board
36-30201.04	Video Frame Assembly
36-30201.19	Shim, 120 Pin Connector
36-30202	Heater Control and Interface "A" Circuit Card Assembly
36-30202.01	Heater Control and Interface Printed Wiring Board
36-30202.04	Heater Control Frame
36-30262	Heater Control and Interface "B" Circuit Card Assembly
36-30301	Back End Processor Circuit Card Assembly
36-30301.01	Back End Processor Printed Wiring Board
36-30301.05	Back End Processor Frame
36-30301.24	Shim, 240 Pin Connector
36-30302	Front End Processor Circuit Card Assembly
36-30302.01	Front End Processor Printed Wiring Board
36-30302.05	Front End Processor Frame
99-01003	Handling for Static Sensitive Parts
99-03002	Connector Mating/Demating Procedure

3.0 Equipment

The following items shall be available, as required:

- a. Clean Vernier or Micrometer Caliper
- b. Alignment Fixture DPA 36-60216
- c. Alignment Fixture DEA 36-60217
- c. Clean, dry grease-free hand tools and hardware
- d. Clean anti-static gloves
- e. Clean anti-static pads or mats

4.0 Shims

4.1 Measurement Procedure

- a. Measure the thickness of the PWB over the plating of each mounting hole at the J1 end indicated by sites 1,2,3,4 as shown in Figure 1. Record the results on the data sheet. Thickness should be less than 0.086 inch (and 0.106 for 36-30202.01). These sites deter-

mine the overall thickness of the PWB over the copper and solder plating.

- b. Measure the thickness of the PWB next to the J1 connector mounting holes indicated by sites 5,6,7,8 as shown in Figure 1. The locations shown are toward the middle of the PWB on the outside mounting holes and on each side of the center mounting hole. Record the results on the data sheet.



Figure 1 - Measurement Sites

4.2 Shim Thickness

To determine the thickness of shim required for each PWB, average the thickness readings from sites 5, 6, 7, 8. Subtract the result from 0.086 (0.106 for 36-30302.01). The remainder is the thickness of the shim. Refer to 36-30201.15 for the DEA shims and 36-30301.24 for the DPA shims.

5.0 CCA/Frame Alignment

Caution:

- Handle Beryllium Frames in accordance with MIT Procedure 36-02024.
 - All hardware must be clean IAW 36-02026.
 - Handle CCA IAW 99-01003
 - Record connector mating and demating IAW 99-03002.
- a. Loosen the side panels of the alignment fixture
 - b. Attach CCA to frame with copper screws. Do not tighten copper screws, connector clamp or clamp hardware.
 - c. Mate connectors and attach frame to fixture
 - d. Torque #6-32 hardware to 10 in-lb.
 - e. Torque copper screws to 44 in-oz.
 - f. Remove CCA/frame assembly from the fixture
 - g. Attach connector clamp screws, then torque the screws and connector keying hardware.

PWB P/N _____

PWB Name _____

Serno	1	2	3	4	5	6	7	8	Avg	Shim