



Roseville Networks Division
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Date: 28 Nov 90
From: Kurt Chan, X3T9.2 Principal, Hewlett-Packard
To: X3T9.2 Membership
Subject: P-cable retention

X3T9.2/90-187

The "standoff" or "screwlock" shown on the next page was designed by HP to offer a backward compatible alternative to SCSI-2 A-cable retention. Although it will work for P-connectors, it was **NOT** intended for that purpose and we discourage this practice for two reasons:

1. HP is not in favor of allowing two different retention schemes to exist on the P-connector.
2. The HP screwlocks are not as robust as standard IPI screwlocks due to their lower profile and should be considered a custom part to improve A-cable retention, not a standard part for SCSI-3.

Because of the quality/reliability concerns I've outlined previously I want to reemphasize our desire to make IPI thumbscrew retention **mandatory** on the P-connector:

- The "breakaway" objective behind the clip design is unprecedented and doesn't serve a true need
- The compromises made to achieve this objective lower connector reliability and performance
- The reasons X3T9.3 adopted thumbscrews are now relevant to us: larger, longer, heavier cabling for high-performance, robust systems.
- Most modern computer connectors are positively retained using threaded locking of some sort.

By eliminating the clip option we not only gain the intrinsic benefits of screw retention, but also permit the best implementations to proliferate by avoiding the use of custom-designed screwlocks, which are more difficult to manufacture and more fragile than the standard IPI parts.

HP has made some compromises on the A-cable in order to use this part for backward compatibility, but no such compromises are necessary with SCSI-3, and indeed would weaken the solid work we've done on the electrical specifications thus far.

Thumbscrew-style P-connectors can be implemented quickly:

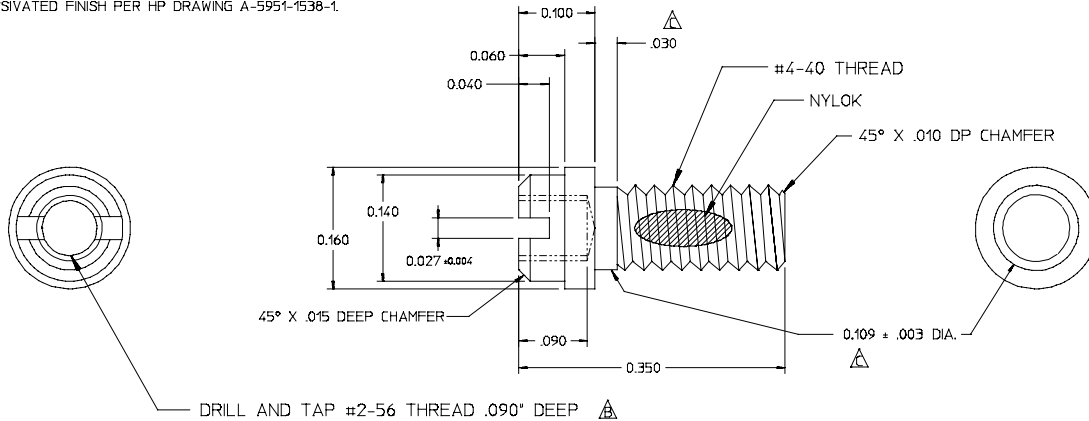
- Existing 68-pin SCSI device connectors can be used which have mounting holes tapped for 4-40 threads (instead of 2-56; these should be standard parts from some manufacturers soon if not already).
- Existing IPI screwlocks can be used to mount the device connectors to bulkheads (e.g., AMP749087-1).
- On the cable side, 68-pin thumbscrew molded cable assemblies can be manufactured independent of efforts by connector manufacturers to tool a 68-pin IPI can.

I would also suggest we act swiftly - the longer we delay on this issue the worst the compatibility issues will become as 16-bit devices proliferate.

ENGINEERING RESPONSIBILITY				A/C		B-5180-1344-1			
40	B6	33				REVISIONS		APPROVED	DATE
						A	AS ISSUED	Jan Lehl	07-25-90
						B	0.090" DEEP #2-56 THREAD WAS 0.020"/PCR 330380	Jan Lehl	08-02-90
						C	.030" WAS .040", .109" WAS .112"		

NOTES:

1. REMOVE BURRS AND SHARP EDGES.
2. PASSIVATED FINISH PER HP DRAWING A-5951-1538-1.



ENGLISH
DO NOT SCALE THIS DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		1	A/R	STAINLESS STEEL			AISI TYPE 303
THIRD ANGLE PROJECTION		ITEM	QTY.	PART/MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG NO.	MAT'L-SPEC.
TOLERANCES: XXX ± 0.05" XX.XX ± 0.01" XX.XXX ± 0.005"		DRAWN BY Arlen Roesner		DATE 07-23-90	TITLE STANDOFF		HEWLETT PACKARD 5180-1344 PART NUMBER SHEET 1 OF 1
STRIKE OUT OR FILL IN AS NEEDED		ENGINEER Jan Lehl	DATE 07-23-90	RELEASE TO PROD. DATE 07-25-90	DWG WAS GENERATED USING me series 10		
ADHERENCE TO DWG A-5951-1561-1 (CORP-STDS/SECTION 608) REQUIRED		SUPERSEDES DWG.		SCALE 10X	B-5180-1344-1		

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NOTE: This part may need to be modified for use in some applications due to variations in bulkhead thicknesses, tolerances in bulkhead cutout dimensions, etc. HP assumes no responsibility for the functionality or reliability of this part when used in non-HP applications.

RAF Electronic Hardware is producing these parts. Rep: Chuck Graves, 303-741-2122. Factory: Dave Granger or John Capice, 203-888-2133.