

## Minutes of SCSI Trade Association SCSI Harbor Technical Meeting

January 28, 1999 - Embassy Suites – Seaside, CA

### 1. Opening Remarks and Introductions

Paul Aloisi opened the meeting at 9:00 AM and he thanked the host, Larry Lamers of Adaptec. The attendees introduced themselves.

Paul reviewed the voting rules for the STA meeting.

### 2. Approval of Agenda

Approval of the agenda without changes.

### 3. Attendance and Membership

The following people attended the meeting:

Vince Bastiani	Adaptec	<a href="mailto:bastiani@corp.adaptec.com">bastiani@corp.adaptec.com</a>
Mark Delsman	Adaptec	<a href="mailto:mdelsman@corp.adaptec.com">mdelsman@corp.adaptec.com</a>
John Bauer	Amphenol	<a href="mailto:john.bauer@amphenol-usa.com">john.bauer@amphenol-usa.com</a>
Gregg Neely	Andataco	<a href="mailto:greggn@andataco.com">greggn@andataco.com</a>
Douglas Wagner	Berg Electronics	<a href="mailto:wagnerdl@bergelect.com">wagnerdl@bergelect.com</a>
Rob Elliott	Compaq	<a href="mailto:relliott@compaq.com">relliott@compaq.com</a>
A. Johnson	Eurologic Systems	<a href="mailto:ajohnson@eurologic.com">ajohnson@eurologic.com</a>
Paul Remley	Fujitsu (FCPA)	<a href="mailto:premley@fcpa.fujitsu.com">premley@fcpa.fujitsu.com</a>
Anthony Valpiani	Intel	<a href="mailto:anthony.p.valpiani@intel.com">anthony.p.valpiani@intel.com</a>
Ron Flamm	Intel	<a href="mailto:ron.flamm@intel.com">ron.flamm@intel.com</a>
J. A. Jones	Intel	<a href="mailto:James.a.jones@intel.com">James.a.jones@intel.com</a>
Jay Neer	Molex Inc.	<a href="mailto:Jneer@molex.com">Jneer@molex.com</a>
Mark Zimmer	Network Appliance	<a href="mailto:zimmer@netapp.com">zimmer@netapp.com</a>
Jim Prelack	Sawgrass Electronics	<a href="mailto:jimp@mnc.com">jimp@mnc.com</a>
Alvin Cox	Seagate Technology	<a href="mailto:alvin_cox@notes.seagate.com">alvin_cox@notes.seagate.com</a>
Steven Dean	Silicon Graphics	<a href="mailto:sjd@sgi.com">sjd@sgi.com</a>
Benjie Sun	Silicon Graphics	<a href="mailto:bsun@engr.sgi.com">bsun@engr.sgi.com</a>
Marty Matthews	Silicon Graphics	<a href="mailto:mgm@engr.sgi.com">mgm@engr.sgi.com</a>
Frank Ng	Sun Microsystems Inc.	<a href="mailto:Franklin.ng@ebay.sun.com">Franklin.ng@ebay.sun.com</a>
Paul Aloisi	Unitrode	<a href="mailto:aloisi@unitrode.com">aloisi@unitrode.com</a>
Rick DeMars	Unitrode	<a href="mailto:demars@unitrode.com">demars@unitrode.com</a>

#### 4. Approval of Minutes – November 5, 1998 Palm Springs, CA (98s011r0)

Minutes were approved as written.

#### 5. Document Distribution [www.scsita.org/harbor](http://www.scsita.org/harbor)

Benjie Sun brought Rev 5 to the meeting. It was posted on the Web Site the night before.

#### 6. Review of Old Action Items

6.1 Tom Winsemius will provide the content for sections 2.6 (EMI), 2.10 (Shock and Vibration), 2.11 (Thermal Management) and 6.0 (Handling, ref IDEMA). Carry over.

Tom is working on the vibration specifications with Tom Irvine who is a consultant that has experience specifying disk drive shock and vibration.

Additional EMI work has to be done, Tom will be getting help from SGI engineers.  
Thermal management: The group reviewed the issues with some open questions on the maximum power. The maximum limit is how much power a drive can consume; the real limits are the power an SCA-2 connector can deliver.

Can we limit power to 25, 30, or 35 watts? The response was to test at a range of power, then specify the amount of airflow required.

Anthony Valpiani (Intel) reviewed section 8.2 on thermal evaluation. Disk drive vendor testing of the drives in the wrappers, worst case drive test and future drives that would most likely be used in the wrapper.

Benjie is looking for the test that specifies the pressure drop across the drive. Benjie will have to provide the hardware to the disk drive manufacturers (the wrapper and dock). The disk drive vendors must then specify the pressure drop across the enclosure to cool the drives.

Intel uses an IOMeter test. The test is run on a drive that mounted on a steel plate. When that drive is mounted in a wrapper it can not reduce performance by 1%. The 1% test limit applies even with a full rack of drives.

RBI is the Seagate test that is similar to the IOMeter test, but the test runs on all types of drives.

6.2 Pat McGarrah will edit sections 1.1 through 1.3. Carry over.

Pat was not at the meeting. Carry Over.

6.3 Pat McGarrah will provide prototype wrappers to other drive vendors for thermal testing.

Pat was not at the meeting. Carry Over.

6.4 The other drive vendors will do thermal testing present results and anticipated future needs.

Carry over, no wrappers have been provide to the disk drive manufacturers

#### 6.5 Jay Neer will get details on 19" rack mechanical dimensions.

Presenting the Schroff 19-inch rack with 10 drive model. The 19-inch rack is used with an ANSI/EIA standard RS 310D, Section 1 - dimension 17.72 inch is the outside tolerance.

### 7. Document Review [Benjie Sun] (98s004R5)

Hard Copy Rev 5 was distributed at the meeting. Benjie led a page by page review of the document. New wrappers and partial docking units were shown with 10 1.6- or 15 1-inch drives fitting into a 19-inch rack.

Marty Matthews reviewed the EMI ground path issues. Zinc die cast metal is recommended from a cost, mass, ease of fabrication criteria. Beryllium copper EMI clips should be used; the spacing of the clips should match the 1 GHz spacing. The bottom and the back of the drive should have closer contact spacing.

ESD testing: Zapping the drives should be done in the dock. RF immunity should also be tested.

### 8. Old Business

#### 8.1 Testing Strategy [Ham]

Carry over – discussions with Intel and others (see section 6.1)

### 9. New Business

None.

### 10. Review of Action Items

We need an LVD backplane that will mount in the dock that Benjie has developed. There are issues on a common test set for the different companies for the disk drive vendors.

### 11. Meeting Schedule

The next meeting is March 11, 1999 in Camp Hill, PA (near Harrisburg) at the Radisson Penn Harris (717-763-7117). The SCSI Harbor meeting begins 30 minutes after the T10 pleantry meeting, but not before 2:30pm. See 99-002r0.pdf for the meeting announcement.

### 12. Adjournment

The meeting was adjourned at 1:15 pm. (Following the meeting some of the group continued to work into the evening working out design and test issues.)