



# SCSI Harbor Status

**Benjie Sun**

**sgi**

# Status Summary

- **Testing is awaiting backplane completion**
- **Thermal testing underway**
- **Awaiting drive receipt**

# Progress

- **Wrapper and plastics received (5/21/99)**
- **10 device backplane schematic completed**
- **Thermal testing begun**
- **RV testing setup completed**

# Schedule

- **Testing (round 1)**
  - **Complete thermal testing Aug 18, 1999**
  - **Complete vib testing Sep 16, 1999**
- **Design**
  - **Design review Sep 16, 1999**
  - **Design review Jan '00**
  - **Finalize design May '00**
- **Fab Cycle - assume 6 weeks**

# Prototype Costs

- **Wrappers**      **\$22k**
- **Plastics**      **\$10k**
- **Sheet Metal** **\$ 2k**
  - Fujitsu      \$14k
  - SGI      \$9k
  - Intel      \$7k
  - Quantum      \$4k
- **Backplane - Molex**

# Old Issues

- Intel to provide design personnel (3/99)
- Contact names for testing
  - Seagate - David Allsup
  - IBM - Tom Winsemius
  - Quantum - Larry Wittig
  - Fujitsu - Masaya Suwa
  - Western Digital - ?
- Drive Proprietary Information
  - PES & error rejection curve information
  - Quantum, IBM, Seagate, WD must supply
- Vibration testing - sgi to perform

# New Issues

- **Require assistance on backplane design completion**
- **Intermec patent litigation**
  - **on the concept of removable disk cannisters**
- **Spectral Dynamics' software notice of understanding**

# Backplane Status

- **10 drive backplane**
  - schematic complete
  - layout incomplete
- **15 drive backplane**
  - require expanders
  - neither schematic nor layout begun
- **QLogic will be unable to complete backplane design**
- **require another resource for layout**

# Drive Receipt

## – Thermal

- 68-pin drives
- Thermocouple location and max temp product spec
  - sgi c/o Mark Olson (715) 726-8218  
1050 Lowater Road  
Chippewa Falls, WI 54729

## – Rotational Vibration

- 80 pin SCA-2 drives
  - sgi c/o Benjie Sun (650) 933-5573  
2011 N. Shoreline Blvd. m/s 565  
Mountain View, CA 94043

# Drive Receipt

- **Quantum - awaiting drives**
- **Western Digital - awaiting drives**
- **Seagate - received 5 of 6 sets**
- **IBM - received 2 of 6 sets**
- **Fujitsu - performing testing in Japan**

# Design Issues

- **Zinc vs Aluminum wrappers**
- **LED solution to be in wrapper (light pipe)**
- **Look into 3+u high box - may not be necessary**
- **EMI solution - upgradable attachment**
  - **Instrument Specialties**
- **Rotational vibration spring**
  - **constrained layer damping material**
- **Manufacturability**
  - **castability - draft, tolerances, tooling (C. deJesus, Quantum)**
  - **Isolation bumper assembly**

# Resources

- **sgi - project coordination/design, prototyping, testing, analysis**
- **Intel - project design, testing, prototyping, analysis**
- **Molex/QLogic - backplane design and prototyping**
- **IBM, Quantum, Fujitsu, Western Digital - drive supply, testing, and prototyping**
- **Consultant, T. Irvine**
- **Modal Shop - data acquisition hardware**
- **Spectral Dynamics - Modal software**
- **Instrument Specialties - EMI solution**

# Goals for Next Review

- **Sept 16, 1999 - Huntington Beach, CA**
- **Hold Design Review**
  - **Incorporate thermal and RV results into redesign**
  - **Discuss detailed feature design for wrapper, handle, EMI, and bezel**
    - **Attendees should include mechanical experts from drive mfgs to discuss drive specific needs**