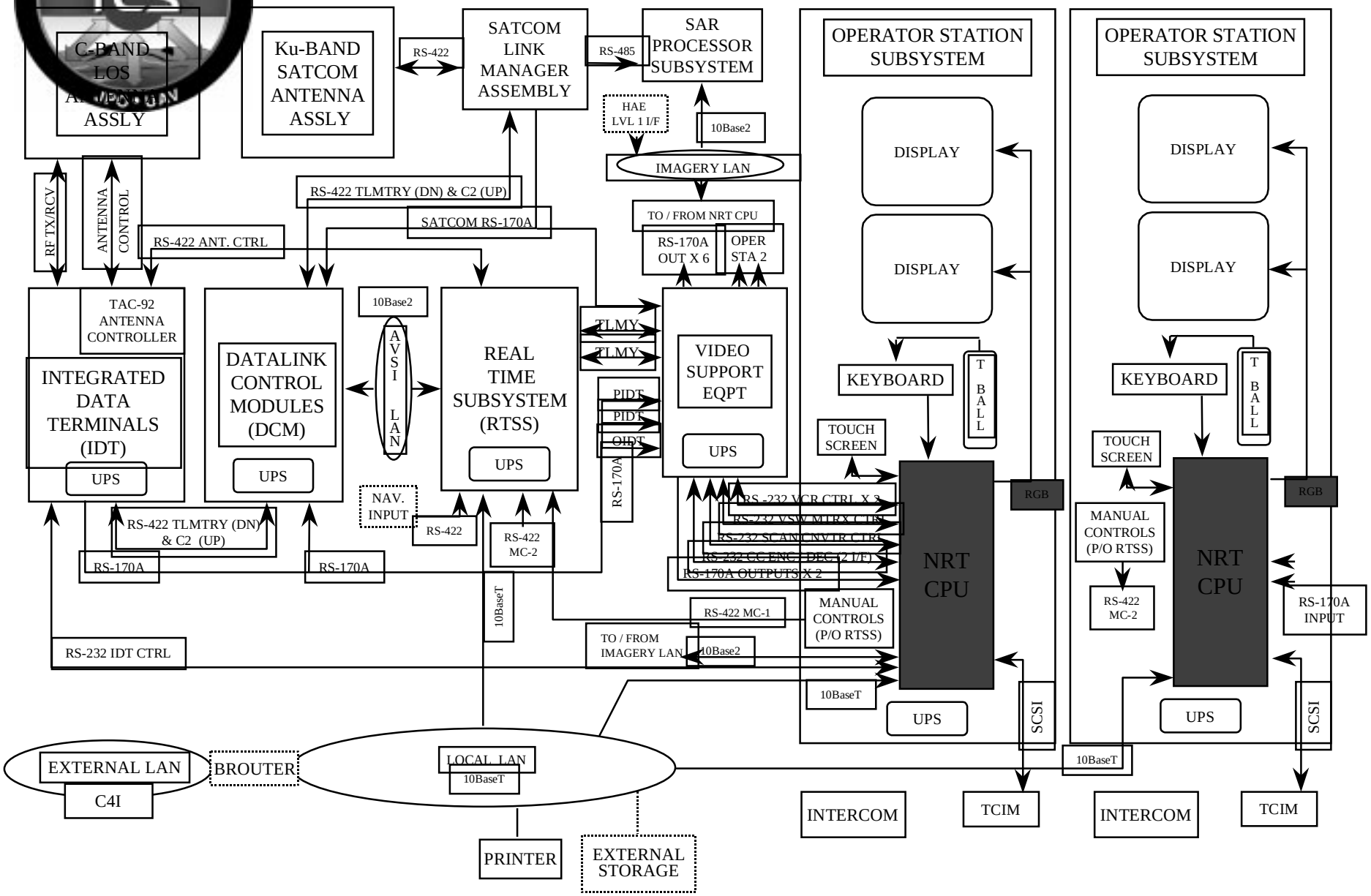
Operator Subsystem
Non-Real Time Computer
Landbased

TCS NRT HARDWARE DESIGN



Non-Real Time Computer
HWCI Requirement to EB allocation

REQUIREMENTS MATRIX SUMMARY

xx Total Requirements

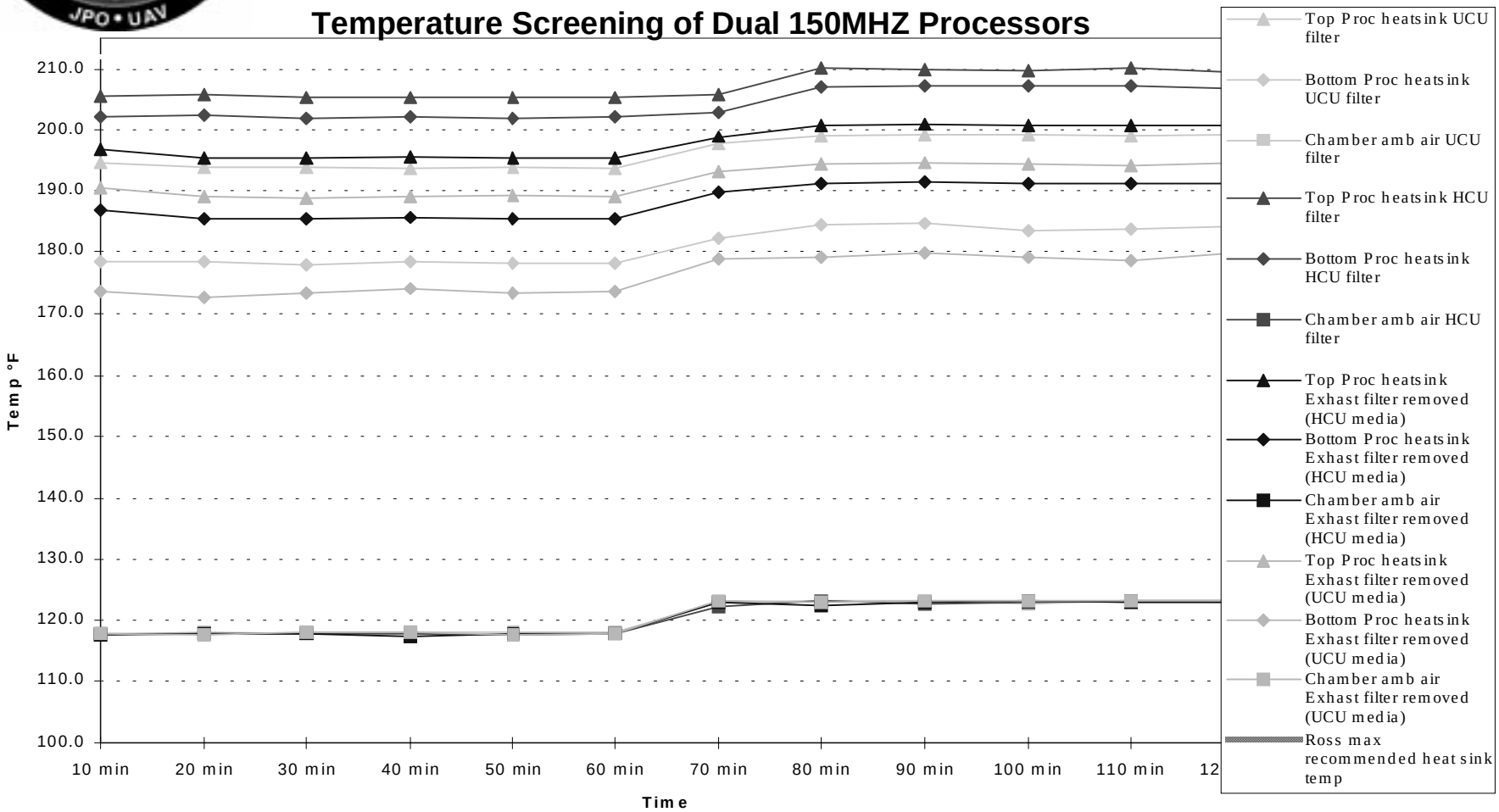
HWCI Requirements to EB Allocation

- xx With EB3
- xx With EB4
- xx With EB5

NON-REAL TIME COMPUTER(CHS-2) ENVIRONMENTAL CONSIDERATIONS

Test Article Test Section	Test	MIL-STD 810E Requirement	Test Limits
2.6	Inclined Operation	N/A	30 degree incline in any axis
3.1	Altitude (Operational)	Method 500.3, Procedure II	15,000 Ft for 2 hrs
3.2	Altitude (Storage)	Method 500.3, Procedure I	40,000 Ft for 1 hr
3.3	High Temp (Storage)	Method 501.3, Procedure I	150 °F Diurnal cycle, 7-24 hr cycles
3.4	High Temp (Operational)	Method 501.3, Procedure II	120 °F Diurnal cycle, 3-24 hr cycles
3.5	Low Temp (Storage)	Method 502.3, Procedure I	4 hr soak @ -25 °F
3.6	Low Temp (Operational)	Method 502.3, Procedure II	Stabilize @ 0 °F, turn-on within 10 min.
3.7	Thermal Shock	Method 503.3, Procedure I	0-70 °F, 120-70 °F, 3 cycles each
3.8	Rain (V2)	Method 506.3, Procedure II	Rain for duration 15 Min., equipment operational
3.9	Rain (Transit Case)	Method 506.3, Procedure I	40 MPH blowing rain for 40 Min. on 4 sides
3.10	Humidity	Method 507.3, Procedure II	10-95%, 10-24 hr cycles
3.11	Sand & Dust	Method 510.3, Procedure I & II	3.5 MPH for 20 Min.
3.12	Sand & Dust (Transit Case)	Method 510.3, Procedure I & II	20 MPH for 30 Min.
3.13	Vibration (Restrained)	Method 514.4, Category 1, Procedure I	Shaker table using Table 514.4-AIII levels (Equipment in transit case)
3.14	Vibration (Operational)	Method 514.4, Category 8, Procedure I	Shaker table using Appendix 1.2 Curves (accelerated life curves for composite of multiple wheeled vehicle types and towed trailers)
3.15	Transit Drop	Method 516.4, Procedure IV	3 drops per face from height of 3 feet, for 18 total drops, equipment in transit case
3.16	Bench Handling	Method 516.4, Procedure VI	1-4" or 30° drop per edge
3.17	Air Drop	Based on MIL-STD 669B	Static Drop on pallet from 12.6 feet (Equipment in transit case)
3.18	Fungus	Method 508.4	Analysis
3.19	Transportability (Wheeled)	Method 514.4, Category 1, Procedure I	5 passes on 5 Aberdeen Munson Rd. terrains
3.20	Transportability (Tracked)	Similar to Method 514.4, Category 1, Procedure I	Varying speeds on 6 Aberdeen tracked terrains

NON-REAL TIME COMPUTER(CHS-2) ENVIRONMENTAL CONSIDERATIONS



NON-REAL TIME COMPUTER(CHS-2) ELECTROMAGNETIC COMPATIBILITY

Meets MIL-STD-461C, Notice 2, Part 4, Requirements CE03, CS02, CS06, RE02 and RS03

NON-REAL TIME COMPUTER(CHS-2)
PRELIMINARY DESIGN DESCRIPTION

High-Capacity Computer Unit(HCU) Ruggedized CHS-2 V2 UNIX workstation

- Has a binary object code/instruction set architure
- The CPU, memory, and graphics buses has a minimum 32 bit data path
- Capable of set up, tear down, and operation in cold weather gear and MOPP IV gear
- Supports

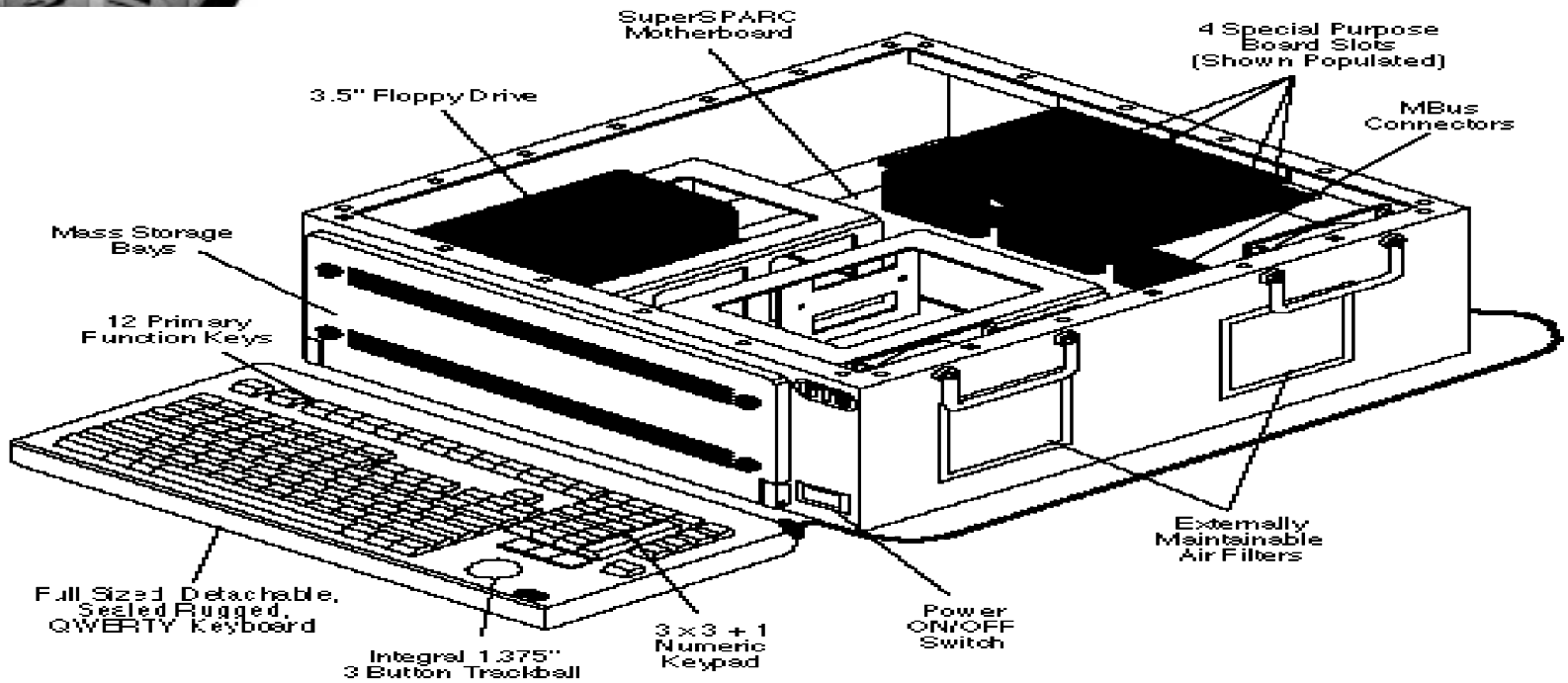
  512 MB RAM(The CPU can directly address the entire RAM)
  4 drive bays that is SCSI compatible(selectable SCSI hardwar ID switch for each bay)
  Internal 3.5” floppy
  16 MB of video RAM
  High Performance 24 Bit color graphics board
  Two monitors simultaneously
  Local Area Network(LAN) interface board
  Fiber Distributed Data Interface(FDDI) board
  RS-232 Board
  Facsimile/Modem Board
  Defense Data Network(DDN)/Mobile Subscriber Equipment Packet Network(MPN)

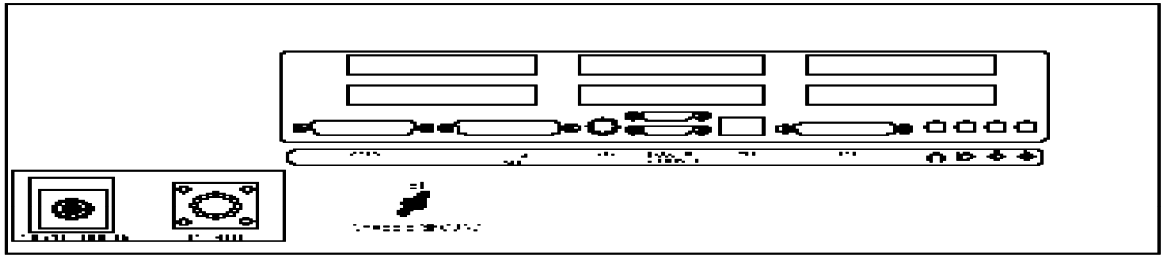
NON-REAL TIME COMPUTER(CHS-2) PRELIMINARY DESIGN DESCRIPTION

X.25 Board

- Two serial RS-232 interfaces(1 Asynchronus, 1 Synchronous)
- One SCSI interface capable of an asynchronous transfer rate of 1.4 Mbps and an synchronous transfer rate of 4 Mbps
- One parallel printer port capable of supporting a Centronics-compatible standard interface
- Supports both the 10base2(ThinLAN) and 10base5 Attachment Unit Interface(AUI) interfaces

NON-REAL TIME COMPUTER(CHS-2) PRELIMINARY DESIGN OVERVIEW

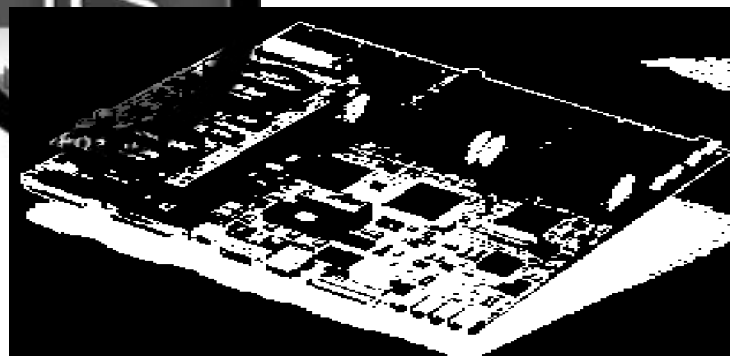


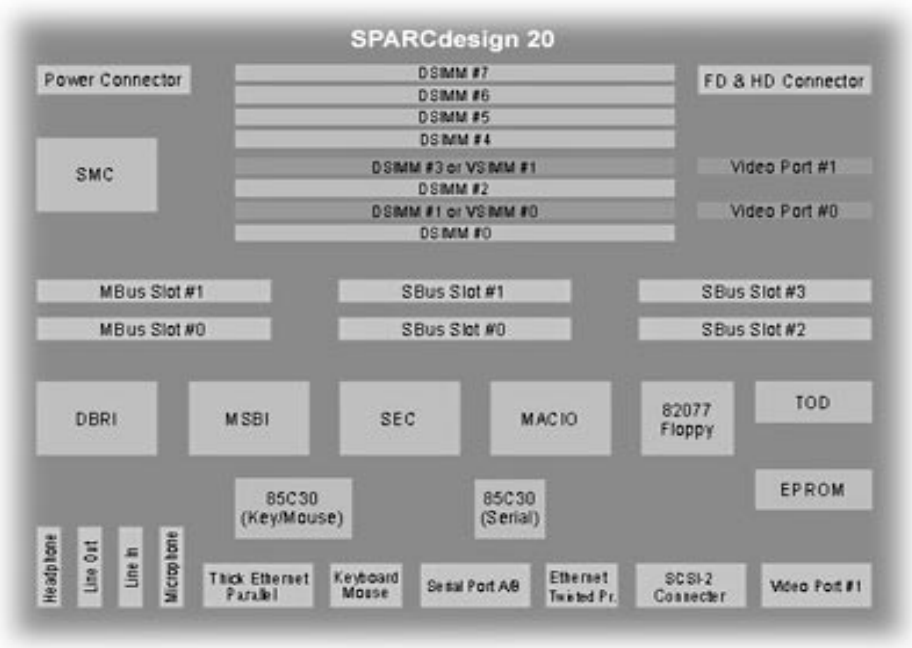


DETAIL OF REAR CONNECTORS

CE-T-11706

NON-REAL TIME COMPUTER(CHS-2)
PRELIMINARY DESIGN DRAWINGS





Board-level Specifications

Number of Processors	2 ea. 150 MHZ
SPECint92	125
SPECfp92	121
MBus Modules	Two
On-board Memory	256MB expandable to 512MB
Graphics	SBus SX 24-bit imaging
Video Port	2 ea. 8MB Video Simm
Memory Management (Cache size)	
Instruction	20KB
Data	16KB
External	1MB
EPROM Memory	256KB EPROM
PROM Contents	Boot code, exten. diagn.; monitor; FORTH interpreter
SBUS (32-bit address and data)	
Slots (master/slave)	1 Parallax Over-lay, 1 VIB, 1 Serial Board, 1 Ethernet Board
Performance	25MHz

NON-REAL TIME COMPUTER(CHS-2) SPECIFICATIONS

Capable of 110/220VAC(-/+ 10%) at 50/60(-/+ 10%) Hz with external chassis ground and input ground. Power 105 watts

22”L x 19”w x 7”h weights 45Lbs

All Non-Real Time Computer HWCI’s are COTS
Packaging is Mil-Spec
Documentation is vendor provided

NON-REAL TIME COMPUTER(CHS-2) PARTS LIST

1	V2 HCU-2 SPARC 20, 256MB RAM, SX8-1280x1024 2x150MHz
1	Video Interface Board
1	8MB Video RAM Expansion For 1280x1024(24 Bits)
2	V2 RHDD Holder Assembly
2	V2 4.2GB Hard Disk Drive
1	V1/V2 600MB 15x CD-ROM
1	V1/V2 2.6GB 4mm DAT Tape Drive
2	20" Color Flat Panel Display
1	V2 HCU Mounting Kit for 19" Rack
2	V2 CMD 19" EIA Standard Mount Kit
1	V2 Serial I/O 8:1 Mux Board
1	Parallax Video Card Sun
1	CD Writer/Reader