

# Themis USPIII High-Performance Multiprocessing VME Computers



## New Dual-Processor UltraSPARC III VMEbus Computers

The new USPIII™ is Themis' highest performance family of single-processor and dual-processor 1.28GHz UltraSPARC®-based VME computers available. The new USPIII architecture delivers the industry's best data bandwidth, providing next generation I/O performance for government, industrial, military, and commercial VME embedded processing applications.

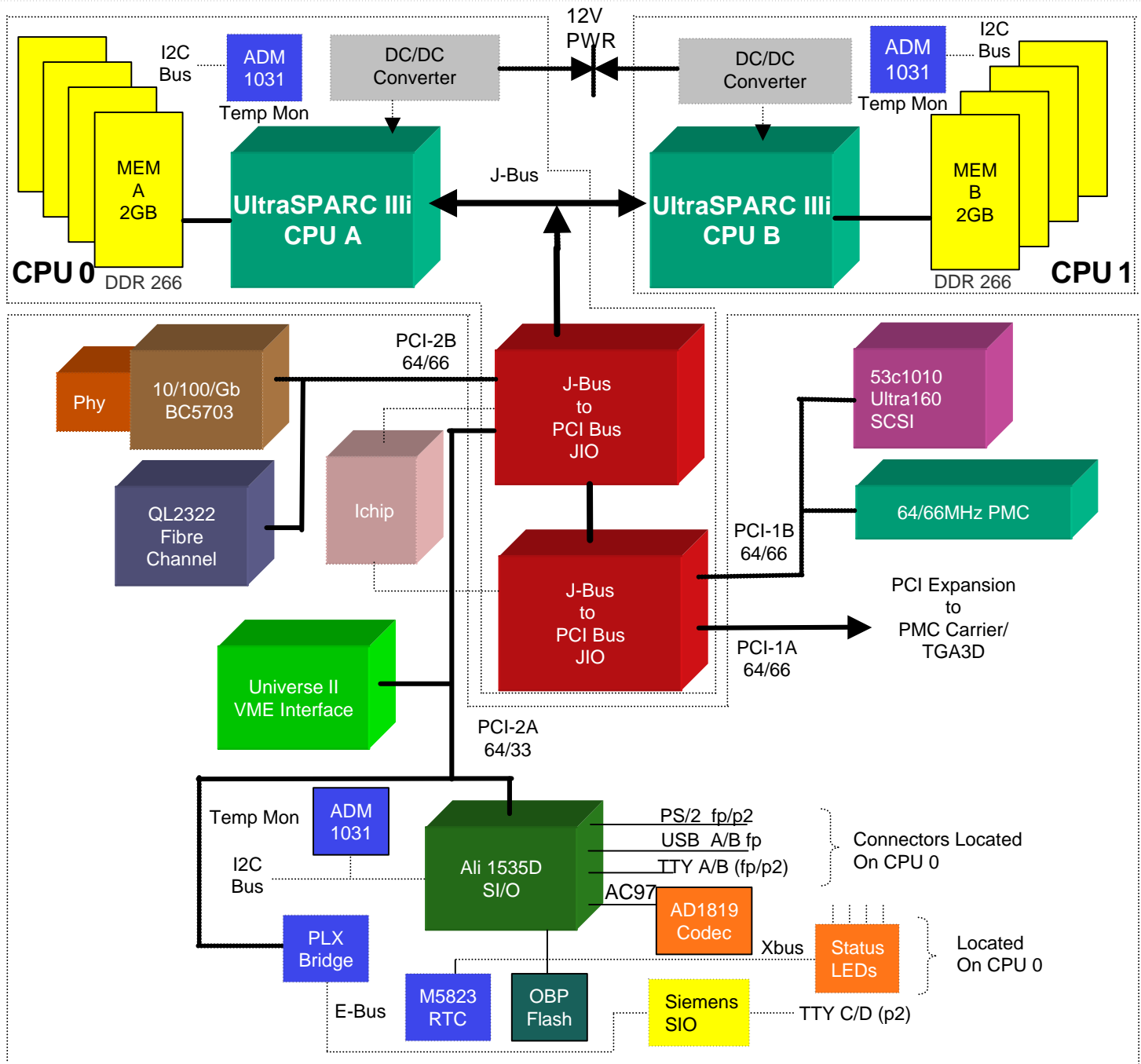
The USPIII is a multi-slot VME board assembly that implements a dual SMP UltraSPARC III architecture. Based on a standard Sun motherboard licensed reference design utilizing Sun's new UltraSPARC III chipset, the USP III is a next generation design suitable for demanding new applications or as an upgraded replacement of earlier USP-2 SMP VME products. The USPIII leverages Themis' USPIIIe-USB™ product family, and may be configured with either one or two UltraSPARC III CPUs. The single CPU configuration consists of an I/O board and a CPU board assembly occupying two VME slots. An additional processor board is available as an ordering option; it connects to the first CPU board via the UltraSPARC III processor local bus. A dual-CPU configuration occupies three VME slots. Although the I/O board includes a rich complement of I/O functionality, up to two additional 6U VME I/O boards may be configured with the base I/O board. These additional boards can be PMC carriers (two different options) or TGA3D+ graphics boards.

Like its USP-2 predecessor, the USPIII provides excellent Sun® graphics support. The Themis TGA3D+™ incorporates Sun XVR-500 graphics technologies and Solaris™ Operating Environment support. Each USPIII CPU has a local SMP readable memory module. A dual CPU configuration can have up to 8GB total memory. True SMP is maintained since each UltraSPARC III CPU can access memory from the other CPU via the high-performance J-Bus. To provide CPU connection to I/O devices, two J-Bus bridge chips are used. Data-flow bottlenecks are minimized since each J-Bus device provides two separate and independent PCI buses. One of the J-Bus bridge devices connects to high-speed I/O devices such as Fibre Channel Arbitrated Loop (FC-AL), SCSI disk drive and Gigabit Ethernet. The other J-Bus bridge connects to a 64-bit/66 MHz PCI trunk for the local PMC connection and for PCI expansion to adjacent VME I/O cards (e.g. - optional PMC carrier, PMC/IO carrier and/or TGA3D+ graphics boards). An Ultra160 SCSI interface is used to support the increased bandwidth of today's high-performance LVD SCSI devices; while automatic backward-compatibility modes protect your investment by assuring that earlier single-ended SCSI devices will continue to function properly. Serial ports, SCSI port A, and keyboard/mouse I/O are available at the VME P2 user defined pins via an optional P2 Paddle Board Adapter.

### USPIII Features & Specifications

- One or two 1.28 GHz UltraSPARC III Processors
- SPECint2k peak (estimate) 605 @ 1.2 GHz
- SPECfp2k peak (estimate) 820 @ 1.2 GHz
- Up to 8GB of DDR266 SDRAM Memory (4-GB per processor)
- L2 Cache – 1MB (on-chip)
- 2 MB Boot Flash and 8 MB User Flash
- VME Interface – VME 64x via Tundra Universe II A24/D16, A32/D32 modes
- VME Form Factor – 6U two (2) slot with one CPU, three (3) slots for two CPUs, expandable to five (5) slots with optional features
- Front panel access and I/O:
  - System and User Front Panel LEDs
  - One 10/100/1000 Mb RJ-45 Ethernet port
  - Four (4) serial ports
  - Two (2) Copper Fibre Channel Interface (FCAL) ports (DB-9 connectors)
  - Two (2) Ultra160 SCSI ports
  - PS/2 or USB keyboard and mouse support (ordering option)
- One (1) PMC Slot (64/32-bit @ 66 MHz)
- PMC expansion – two (2) or three (3) PMC slots
- System Bus – Jbus: 128-bit @ 160MHz
- SNMP Compatible Environmental Monitor (Voltage, Temp)
- VME64x Injector/Ejector Handles (traditional VME ejectors available)
- Temperature Range - Operating: -5 to 40.0°C (at 10,000 feet)  
-5 to 50.0°C (at sea level)  
Non-Operating: -40 to 85°C
- Humidity (non-condensing) – Operating: 0 to 95%
- Shock - Operating/Non-Operating: 30G @ 40 ms
- Vibration - Operating: 0.90 grms – 10-2000Hz  
Non-Operating: 2.97 grms – 10-2000Hz
- Power Requirements: +5V @ 13.4 Amps, +12V @ 13 Amps
- 64-bit Solaris 8, 9 and 10 Operating Environment Support

# USPIIIi System Board



## USPIIIi/AAA-BBBB-CCCC-D

### AAA = Board Configuration

- /1 = with no carrier cards
- /P2 = with P2 carrier cards
- /P3 = with P3 carrier cards
- /G = with TGA3D+ Graphics Card
- /G2 = with 2 TGA3D+ Graphics Cards
- /GP2 = with TGA3D+ Graphics Card and P2
- /GP3 = with TGA3D+ Graphics Card and P3

### CCCC = Frequency

1200 = 1.28 GHz

### BBBB = Memory

- 1024 = 1GB SDRAM memory
- 2048 = 2GB SDRAM memory
- 4096 = 4GB SDRAM memory
- 8192 = 8GB SDRAM memory

### D = No. Processors

- 1 = Single-processor configuration
- 2 = Dual-processor configuration

# THEMIS

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