

Themis USPIIe-Gb Single-Board Computer



Highest Performance UltraSPARC Single- Board Computers with Gigabit Ethernet Interfaces

The new USPIIe-Gb™ high performance VMEbus Single-Board Computers (SBCs) builds on Themis' highly successful USPIIe-USB product family and is differentiated by dual Gigabit Ethernet and Ultra160 SCSI interfaces. Based on the Sun® Microsystems 64-bit UltraSPARC® processors, the USPIIe-Gb supports 64-bit Solaris™ 8 and Solaris 9 operating environments and provides users with even higher network performance for their demanding Solaris™ software applications.

Designed for the highest level of configuration flexibility and performance, the USPIIe-Gb supports graphics through a PMC slot via Themis' TGA-100 graphics card or 6U VME form factor TGA3D+ graphics card. The USPIIe-Gb integrates the 64-bit 650-MHz UltraSPARC® Ili+ processor with a local PCI bus (PMC) peripheral controller slot, and a high performance bridge. Memory is expandable up to 4-Gbytes using a memory mezzanine card. This high speed VME64 board is available in one-slot and two-slot configurations that offer a wide range of I/O and performance options.

The cost-effective USPIIe-Gb/1 is a single-slot configuration that has low power dissipation, and high flexibility for embedded computing applications. This baseboard configuration provides a 32-bit, 33 MHz PMC slot for local I/O or graphics expansion with Themis' high performance TGA3D+ graphics co-processor. The TGA3D+ uses one additional VMEbus slot and provides one additional PMC slot. Further I/O expansion of USPIIe-Gb/1 is available via a 32-bit PCI riser to the second VME slot.

The USPIIe-Gb/2P2 two-slot configuration offers significant I/O expansion options, including two additional PMC slots. This expanded I/O configuration provides AC97 audio, a fourth Ethernet port (10/100Base-T), two multiprotocol serial ports and a software readable front panel rotary switch. These features make it ideal for data and telecommunications applications.

The USPIIe-Gb/2P3 is a two-slot configuration providing users three additional PMC slots without the expansion features of the USPIIe-Gb/2P2 configuration.

Features & Specifications

USPIIe-Gb/1

Processors (64-bit) – 550, 600 or 650 MHz UltraSPARC Ili+
Performance – 25/28 SPECint95/fp (650 MHz)
VME Interface – VME 64X via Tundra Universe II
A24/D16, A32/D32 modes
VME Form Factor – 6U one (1) slot, expandable to
two (2) slots with optional features
Memory – 1-GB to 4-GB SDRAM
On-chip L1 Cache – 16-KB Instr / 16KB Data
On-chip L2 Cache – 512-KB
Flash Memory – 2-MB system, 8-MB user
Error Detection/Correction – 8-bit ECC to main memory
Timers – Three level 22-bit watchdog timers
SCSI Interface – Two (2) 160-MB/sec Ultra2 LVD SCSI ports
PMC Slot – One (1) 32-bit 33-MHz PMC slot
Ethernet Interface – Three: (2) 10/100/1000Mb with front panel
RJ45, (1) 10/100 on P2 MII
Serial I/O – Four (4) serial RS232 ports: (2) on front panel,
(2) on P2
64-bit Solaris 8 and Solaris 9 Support

USPIIe-Gb/1 (continued)

Four (4) USB 1.0 ports (2 on front panel, 2 at rear of board)
Injectors – both VME64 and traditional VME injectors available
Power Requirements -
+5V @ 6A, 12V @ 0.1A, -12V @ .04A (550MHz)
+5V @ 7A, 12V @ 0.1A, -12V @ .04A (650MHz)
Operating Temp Range: -5 to + 55°C
Cooling – 300 LFM minimum
Dimensions (HxD): 6U 6.299" (160mm) x 9.173" (233mm)
Weight: approx. 1.32 lbs. (weights vary by board configuration)

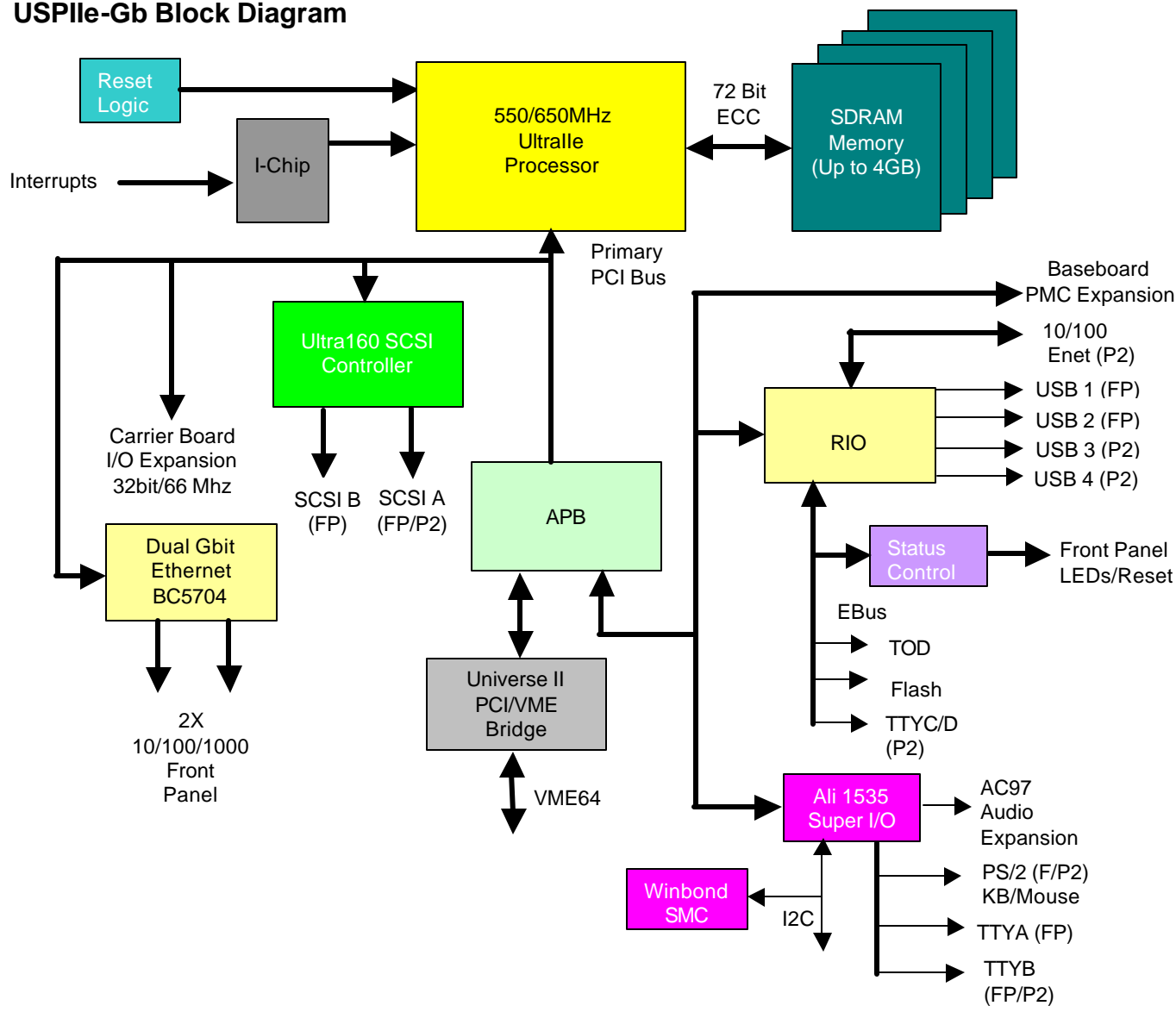
USPIIe-Gb/2P2

Audio – AC97 audio In/Out, sample rate - 48 kHz, 16 bits
Ethernet Interface– One (1) additional 10/100 MB with front
panel RJ45
Serial I/O – Two (2) additional serial RS232 ports
PMC Expansion – Two additional 32-bit, 33 MHz PMC slots
(3.3/5V)
Rotary Switch – User selectable 16-position

USPIIe-Gb/2P3

PMC Expansion – Three (3) additional 32-bit 33-MHz PMC
slots (3.3/5V)

USPIIe-Gb Block Diagram



Part Numbers USPIIe-Gb/AAA-BBBB-CCC-D-EEE

AAA = Board Configuration /1 = Baseboard with 1 PMC slot
 /2P2 = Baseboard with 3 PMC slots
 /2P3 = Baseboard with 4 PMC slots

BBBB = Memory 1024 = 1024MB RAM
 2048 = 2048MB RAM
 4096 = 4096MB RAM

I/O Transition Module with cables INT-KIT-USPIIe-Gb

CCC = Frequency 550 = 550MHz
 600 = 600MHz
 650 = 650MHz

D = Keyboard/Mouse Interface P = PS/2
 S = USB

EEE = Ejector Type No Entry = VME64 (Standard)
 V32 = VME32 (Optional)

Ejector Handles: Elma IEEE P1101.10 VME64 (Standard),
 APW "snap-lock" (Optional), Triple-E-type VME32 (Optional)



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