Providing a Cohesive Approach to Embedded Solutions

CPB4612

PICMG® 2.16 PSB System Processor Blade

Diversified Technology's CPB4612 PICMG 2.16-compliant packet switched backplane (PSB) processor blade combines high performance with low power for telecom and Internet IP-based applications.

The CPB4612 features the low power, high performance Intel® Pentium® M processor with speeds ranging up to 1.8GHz and 2MB L2 cache. The CPB4612 is based on the Intel® 855GME chipset with 400MHz front side bus. System memory of up to 2GB is supported via two PC-2700 SO-DIMMs. Onboard are dual 100/1000Mbps Ethernet ports routed according to PICMG 2.16, one 10/100Mbps Ethernet port available at the front panel, an Ultra-ATA IDE interface, Serial ATA, two PMC sites (one 64-bit/66MHz and one 32-bit/33MHz), High Speed USB, and serial ports. The CPB4612 also includes a two-stage watchdog timer for enhanced system reliability.

The CPB4612 has a universal PCI bridge to the backplane and can therefore operate in any slot of a PICMG® 2.16-compliant Packet Switched Backplane (PSB). PICMG® 2.9 system management is also supported via a satellite management controller.

Part of DTI's PlexSys family of PSB products, the CPB4612 was validated in DTI's PlexSys-4, 4U general purpose, carrier grade computing platform with CSB4240 Ethernet level 2/3 switch. The IPMI 1.5-compliant Baseboard Management Controller (BMC), when used with the CCM3402 chassis management module supports a comprehensive, protected lights-out management scheme.

The CPB4612 system/peripheral processor blade is a cost effective choice for application developers addressing high performance, converging Telecom and Internet IP-based markets such as VPN switches, media gateways, 2.5G/3G wireless, server clusters, IP DSLAM and voice/video/data servers.

Product Features

Form Factor
CompactPCI CPU Blade based on the Intel® Pentium® M processor

CPU/Cache
Intel® Pentium® M processor with max speeds of 1.8GHz and up to 2MB L2 cache

Bus Interface
• Intel 855GME Chipset
• 400MHz Front Side Bus; 64-bit/66MHz CompactPCI Bus interface

Memory
• Two SO-DIMM sockets
• 128MB to 2GB of total memory

I/O
• Two 100/1000 Ethernet Interfaces on 2.16 Switched Fabric
• 10/100 Ethernet Interface
• Ultra-ATA IDE interface
• Serial ATA
• 2 PMC Sites
• High Speed USB
• Serial Ports

BIOS
AMI BIOS

Physical Dimensions:
9.2" x 6.3" x 0.8"

OS Support
Windows 2000, Windows NT, Windows XP, Red Hat Linux, Solaris, QNX

Warranty
Parts and labor covered for 2 years

www.diversifiedtechnology.com • **sales@dtims.com** • **1.800.443.2667**

Diversified Technology®
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CPU / Cache
• Intel® Pentium® M processor with max speeds of 1.8GHz and up to 2MB L2 cache
• 32KB internal L1 cache; 1 or 2MB 64-bit on-die L2 Cache

Bus Interface
• Intel® 855GME Chipset
• 400MHz Front Side Bus; 64-bit/66MHz CompactPCI Bus interface
• 5V/3V CompactPCI signaling as host
• Supports one onboard 64-bit/66MHz 3.3V PMC card
• Supports one onboard 32-bit/33MHz 3.3V/5V PMC card

Memory
• Two SO-DIMM sockets
• ECC support with x72 DIMMs
• 128MB to 2GB of total memory
• PC-1600, PC-2100, and PC-2700 memory speeds

Data Path
• 64-bit/400MHz on CPU and memory bus
• 64-bit/66MHz on off-board CompactPCI bus; 64-bit/66MHz on onboard PCI bus

Flash Memory
• 1MB Flash for BIOS

Ethernet
• Two 100/1000 Ethernet Interfaces on 2.16 Switched Fabric
• 10/100 Ethernet Interface

Peripherals and I/O Interface
• 2.5" IDE HDD drive mounted on board or 32-bit/33MHz IEEE P1386.1 PMC site
• 64-bit/66MHz PMC site

I/O Interface	Front Panel	Rear Panel
COM 1	DB9	N/A
COM 2	N/A	J5
USB 0	USB Conn	N/A
USB 1	N/A	J5
USB 2	N/A	J5
EIDE	N/A	J5
Gigabit Ethernet	N/A	J3
Gigabit Ethernet	N/A	J3
10/100 Ethernet	RJ-45	
S-ATA	N/A	J5
CRT	N/A	J5

Clock / Calendar
• Real-time clock with 256 byte battery backup CMOS RAM

Supervisory
• Two-stage programmable watchdog timer drives NMI or "INIT" on 1st stage, hardware reset on 2nd stage

Interoperability
• Validated to operate in a PICMG 2.16-compliant system platform such as DTI's cPS-4081
• DTI's cSB-4240 24-port level 2/3 Ethernet Switch Blade
• 3rd party PSB products

OS Compatibility
Windows 2000, Windows NT, Windows XP, Red Hat Linux, Solaris, QNX

BIOS
• AMI BIOS
• Console redirection (disabled by default - video to RTM)
• PCI 2.2
• ACPI 1.0b and 2.0
• SMBIOS 2.3.1
• PnP 1.0a

BIOS (cont'd)
• Multi-boot Support (Floppy, HD, CD, USB, Network)
• Legacy USB Support
• S.M.A.R.T. Support
• Pop-up Boot Menu
• PXE 2.1 Boot Rom

Management
• Integrated IPMI compliant satellite management controller
• Communicates with system management BMC or host processor
• Compliant with PICMG 2.9

Mechanical
• 9.2 in. x 6.3 in. 0.8 in. (233.35 mm x 160 mm x 20.32 mm)
• 6U x 4HP
• Conforms to PICMG 2.0 R3.0 (Core), 2.9 (Management) 2.12 (SW interoperability), 2.15 (PTMC) and 2.16 R1.0 (PSB) specifications

Power Requirements
Max Power Dissipation		48.2W
ICC typ.	+5V	6.89A
	+3.3V	2.39A

Environmental
Operating (with HD)
• Temperature: 0° to 50°C full speed up to 70°C with speed throttling
• Humidity (RNC): up to 98%
• Altitude: 8,000ft @ 70°C / 25,000ft @ 25°C
• Vibration: 5-100Hz @1g Random RTCA DO-160D. Zone 1, Category C 1.9gRMS
• Shock: 10g half-sine shock for 11ms, 3 in each direction 6g saw-tooth for 6 and 11 ms, 3 in each direction

Storage and Transit (in approved packaging)
• Temperature: -55°C to 85C
• Altitude: 15240m / 50,000ft
• Shock: 24" free fall, 40g half-sine shock for 6ms, 500 in each direction
• Vibration: 0.5g 5-50Hz, 3g 50-500Hz Random mode 5-20Hz @ .01g2/Hz ; 20-500 with -3dB slope

Reliability and Serviceability
• MTBF: 237,399 hours @ 25°C (performed to Issue 6, Method I, Case 3 of the Bellcore IR Program)
• 2 year limited warranty

Regulatory Compliance
• Designed for NEBS/ETSI Compliance
• CE Certificate of Incorporation
• Safety: cUL-US 60950-1; EN/IEC 60950-1
• EMI/EMC: FCC 47 CFR Part 15 Class A; EN 55024:1998, EN 61000-3-2, EN 61000-3-3, EN 55022:1998, CISPR22:1997, AS/NZS3548:1995

Ordering Information
CPB4612/1100 *
SBC with 1.1GHz/400MHz Intel® Pentium® M processor and 1MB L2 cache

CPB4612/1800 *
SBC with 1.8GHz/400MHz Intel® Pentium® M processor 745 and 2MB L2 cache

* long life-cycle support

Options
CRT4612, 6U x 4HP Rear I/O Transition Module

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