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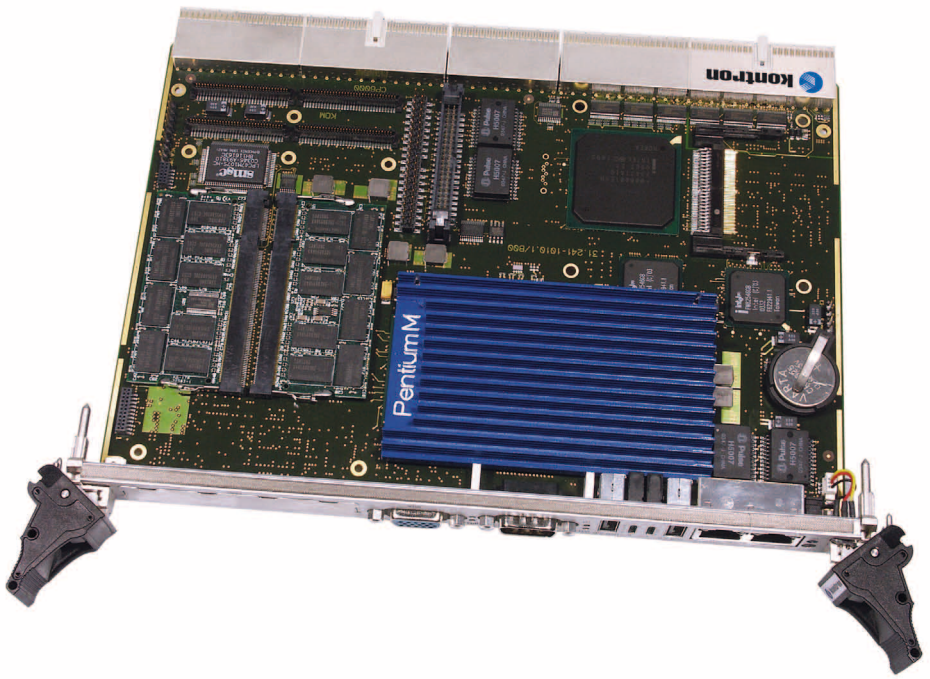
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kontron

» CP6000 «



6U Pentium® M PICMG 2.16 CPU Blade

» Maximum Performance
Intel® 1.8GHz Pentium® M processor 745

» Minimum Power Consumption
Intel® 1.4GHz Pentium® M LV processor 738 with 10W

» Optimized Price/Performance Ratio
Compact design due to 855GME and latest Intel® I/O controller hub technology

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CP6000
6U Pentium® M PICMG 2.16 CPU Blade

Kontron Modular Computers CompactPCI CP6000 CPU delivers high PC computing performance in a highly integrated cost-effective design.

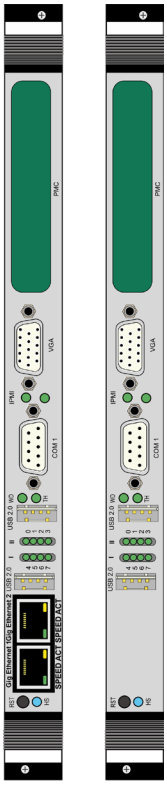
Combining the low power/high performance features of Intel®'s Mobile PentiumM processor with the 855GME chipset, the CP6000 CompactPCI system controller incorporates components commonly used in mobile applications.
Compact designed the single slot processor card integrates Intel®'s latest I/O Controller Hub technology. This all together results in lower levels of heat dissipation, which in turn leads to lower system requirements and integration costs.
Highly versatile the CP6000 can be used in a sytem or peripheral slot. With full hot swap and IPMI functionality the CP6000 is ian ideal solution for cost-effective, performance-oriented data and telecommunications applications, media gateways, networking and switching applications, airborne and industrial automation systems and more.
Outstanding Performance Capability The CP6000 supports the Pentium® M processor from 1.1 GHz LV to 1.8 GHz (performance equal to a 2.6 - 2.8 GHz Pentium 4 at about half the power). ECC memory is fast and reliable with up to 2GB of PC333 DDR SDRAM via two 200-pin SODIMM sockets.

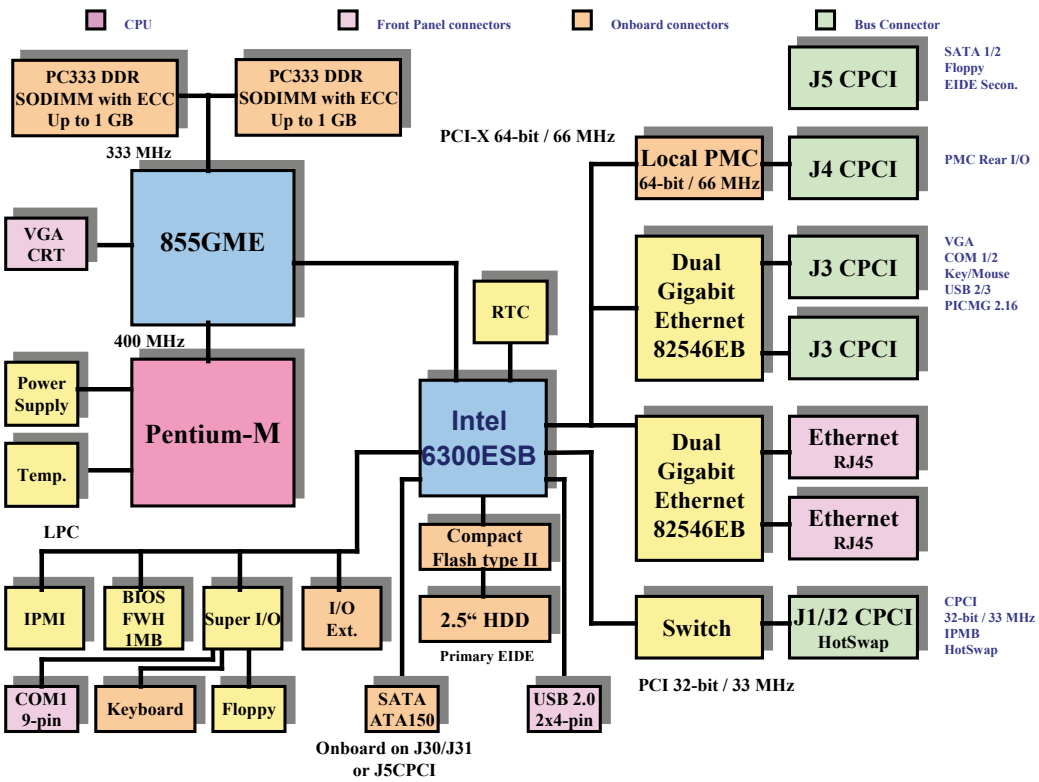
Unique Flexibility

The highly integrated CP6000 features a PCI-X PMC site, onboard 2.5-inch hard disk (optional) and compact flash - all usable at the same time in a single slot. The Intel® 6300ESB I/O Controller Hub provides advanced I/O technology including USB 2.0 (40X faster than USB 1.1), Serial ATA150 and onboard 64/66 PCI-X bus. Up to 4 Gigabit Ethernet ports (2x ports at the front and 2x for full PICMG 2.16 support) provide comprehensive connectity capabilities, enabling innovative applications today by offering enough headroom for the emerging next generation requirements. With the integrated graphics accelerator - Intel®´s Extreme Graphics 2 technology - the 855GME provides high-resolution graphics up to 2048 x 1536 x 8bit/60Hz pixel and 2D/3D multimedia-quality video. The 855GME enables balanced memory usage between graphics and system for optimized performance (up to 64MB of dynamic video memory allocation).
A rich set of LEDs at the frontpanel for debug and diagnose as well as full rear IO connectivity completes the CP6000. Versions for extended temperature range from -40°C to 85°C are optionally available.

Longterm Availibility

Investing in a new project is always a challenge and risky. Extending the lifetime of an application to the possible maximum is therefore a critical issue to save the development investments.
Delivering a stable product based on Intel®´s embedded product line the CP6000 ensures long term availability. This eliminates the risk of unplanned design changes and unexpected expensive application modification. While minimizing deployment risks the CP6000 provides a broad range of software support to ease the process of product integration and maximize the competitive advantage of meeting the timeto-market window.





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Technical Information

Processor	Mobile low power Intel® Pentium® M processor in Micro-FCBGA 479-pin package 2x 32KB L1 cache and 1MByte/2MByte L2 cache, 400MHz processor system bus. - low power dissipation: 1.1GHz (1 MByte L2) / 1.4GHz LV (2 MByte L2) extended temperature range option - high performance 1.6GHz (1 MByte L2) / 1.8GHz (2 MByte L2) All board versions are passive cooled with a heatsink within 4HP height. Forced air cooling at a specific flow rate is required depending on the processor version.
Memory	- 400MHz processor side bus, Intel 82855GME - Up to 2 GB PC333 DDR SDRAM w/ or w/o ECC via two 200-pin SODIMM sockets - Socket for CompactFlash Type II module - Connector for onboard 2.5" HDD support - 1 MB Firmware Hub (FWH) for BIOS - 8 kB for storing CMOS data when operating without battery
I/O	- Two 16C550 compatible UARTs (COM1/2) - Keyboard on rear and onboard connector and mouse interface on rear - Floppy disk controller on rear - Four USB 2.0 interfaces with up to 480 Mbit/sec, two front, two rear - Up to four 10/100/1000 MB/s Gigabit Ethernet ports based on the Intel 82546EM Ethernet 64-bit PCI bus controller. Two copper ports are routed to front and two copper ports are routed to PICMG 2.16 rear pins. - VGA Video Controller integrated in Intelfi 82855GME GMCH providing 2048x1536x8bit/60Hz resolution, max. shared memory 64MB
Front Panel Functions	
COM1	9-pin D-Sub (RS232, RS422)
VGA	15-pin D-Sub SVGA connector
Ethernet	2x RJ-45 (depending on version)
USB	2x 4-pin connectors
PMC	opening for PMC front panel
LEDs	2x LAN activity (yellow) and speed (green) one blue control LED for hot swap 2x for IPMI, 1x watchdog, 1x thermal control 8-LED-field for BIOS POST code or general purpose
Reset	reset button, guarded
Micro switch	for hot swap
Onboard Interfaces	- Two IDE connectors supporting Ultra DMA, one 40pin/2.54mm, one 44 pin/2mm for onboard 2.5 IDE HDD or Flash - One SATA connection (opt.), can be used alternatively to connect an onboard 2.5" **SATA** HDD instead of an onboard 2.5" **IDE** HDD - CompactFlash type II socket - 22-pin connector with all LPC signals - PS/2 keyboard connector - 2x200-pin SODIMM connectors - 4x 64-pin PMC interface

I/O Table Summary	Front I/O	Rear I/O	Onboard Connector	Total
Video	1	1	-	1
USB	2	2	-	4
Serial	1	2	-	2
PS/2 Mouse	-	1	-	1
PS/2 Keyboard	-	1	1	1
Ethernet	2	2	-	4
ATA100	-	1	2	2
SATA150	-	2	1	2
CompactFlash	-	-	1	1
PMC	1	via J4	Pn1-Pn4	1
Floppy	-	1	-	1

CompactPCI Bus Interface	PICMG 2.0 Rev. 3.0 compatible, 32 bit/33 MHz. 5V default signaling (3.3V on request available), REQ/GNT for 7 slots. Operating in system slot as system master and in peripheral slot in PCI passive mode (no communication to CompactPCI bus).
PMC slot	One 64-bit / 66MHz PMC slot Pn1-Pn4, rear I/O Pn3 to J4. 3.3 V PCI voltage.
Supervisory Functions, Clock/Calendar	Watchdog, software configurable, 125 msec to 256 sec generates IRQ, NMI or hardware reset. Hardware monitor LM87 for thermal control, fan speed and all onboard voltages. RTC (integrated in HanceRapids) and CMOS RAM with backup, battery replaceable.
Rear I/O via J3/(J4)/J5	J3: PICMG 2.16, VGA, COM0/1, keyboard, mouse, USB3/4 J4: PMC rear I/O J5: SATA 1/2, IDE (secondary), Floppy
IPMI	IPMI 1.5-compliant for IPMI based management and CompactPCI System Management PICMG 2.9 R1.0.
Compliancy	CompactPCI Core Specification PICMG 2.0 Rev. 3.0 CompactPCI Hot Swap Specification PICMG 2.1 R2.0 CompactPCI System Management PICMG 2.9 R1.0 CompactPCI Packet Switching Backplane PICMG 2.16 R1.0 Designed to meet or exceed: - Safety: UL 1950, UL 94, CSA 22.2 No 950, EN 60950, IEC 950 - EMI/EMC: EN 55022 / EN 55024, EN 50081-1 / EN 6100-6-2
General	Dimensions: 233 x 160 x 20.5 mm, 6U, 4HP Weight: 350g MTBF: 139.589 h @ 30 C / 86 F (Bellcore Issue 6)
Software Support	AMI BIOS with POST codes, setup console redirection to serial port (VT100 mode) with CMOS setup access, BIOS parameters saved in EEPROM, diskless, keyboardless, videoless operation LAN boot support. Board identification number accessible via EEPROM Support for Windows® 2000, XP, XP Embedded, Windows® Server 2003, Linux®, VxWorks® (other OSs may be possible, please contact us for information).

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Technical Information

Power Consumption	1.1/1.4 GHz	1.6/1.8 GHz
3.3V	typ. 8-10 W / max. 11 W	typ. 8-10 W / max. 12 W
5V	typ. 5-7 W / max. 11 W	typ. 16-18 W / max. 27 W
+12V	required	
-12V	required	

Environmental

Operating temp.: 0°C to +60°C standard
-40°C to +85°C E2 with 1.1/1.4 GHz LV Pentium® M (optional)
Storage temp.: -55°C to +95°C
Climatic Humidity: non condensing 93% at 40°C (acc. to IEC 60068-2-78)
Altitude: 50,000 ft. (15,240 m)

Ordering Information

Article	Order-No.	Description
CPU Boards		
CP6000	28251	Pentium® M 1.8GHz, 2xGigEthernet on FP, 2xGigEthernet on PICMG2.16/RIO, IPMI, J1/J2/J3
CP6000-E2	29685	LV Pentium® M 1.4GHz, 2xGigEthernet on FP, 2xGig Ethernet on PICMG2.16/RIO, IPMI, J1/J2/J3
CP6000-E2 [2]	29094	LV Pentium® M 1.4GHz, 2xGigEthernet on FP, 2xGig Ethernet on PICMG2.16/RIO, IPMI, J1/J2/J3, E2: -40°C to +85°C
Memory Modules		
SODIMM-DDR-512	27488	SODIMM, DDR SDRAM, 512MB, PC333, 200-pin, no ECC
SODIMM-DDR-512-E	27489	SODIMM, DDR SDRAM, 512MB, PC333, 200-pin, ECC
SODIMM-DDR-1024	27490	SODIMM, DDR SDRAM, 1GB, PC333, 200-pin, ECC
SODIMM-DDR-1024-E	27491	SODIMM, DDR SDRAM, 1GB, PC333, 200-pin, ECC
SODIMM-DDR-512-E-E2	27832	SODIMM, DDR SDRAM, 512MB, PC266 200-pin, ECC, extended temperature range E2: -40°C to +85°C
Services		
CP-RIO216	27829	Assembly of connectors J4/J5 and rear IO configuration for CP6000
CP-RIO216-NOJ4	27830	Assembly of connectors J5 **(no J4)** and rear IO configuration for CP6000
CP6000-MK2.5 [2]	27831	Mounting kit for 2.5" IDE-HDD onboard, mounting within 4HP, mutually exclusive with CP6000-MK2.5SATA
CP6000-MK2.5SATA [2]	30905	Mounting kit for 2.5" SATA-HDD onboard, mounting within 4HP, mutually exclusive with CP6000-MK2.5
Rear Transition Modules		
CP-CTM80-2 [3]	25127	4HP for SCSI (together with PMC261 on CP6000) and Ethernet on rear panel
CP-CTM80-2 [3]	27622	4HP for SCSI (together with PMC261 on CP6000) and PICMG 2.16
CP-CTM80-3	29974	4HP for SATA and Ethernet on rear panel
CP-CTM80-3	29973	4HP for SATA and PICMG 2.16
Software Support		
KIT-CP6000 [4]	27790	Documentation and Windowsfi driver kit on CD-ROM
LIN-BSP-CP6000 [4]	27791	Linux BSP CP6000 for Suse and RedHat
VXW-BSP-CP6001	27802	VxWorks BSP CP6000 for Tornado V. 2.2

Notes:

[1] Mounting kit CP6000-MK2.5 or CP6000-MK2.5SATA can not be used on CP6000-E2 due to larger heatsink
[2] HDD must be ordered separately
[3] No SATA150 support
[4] Free of charge downloadable from the Internet
Please contact your local sales representative for other configuration options.



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