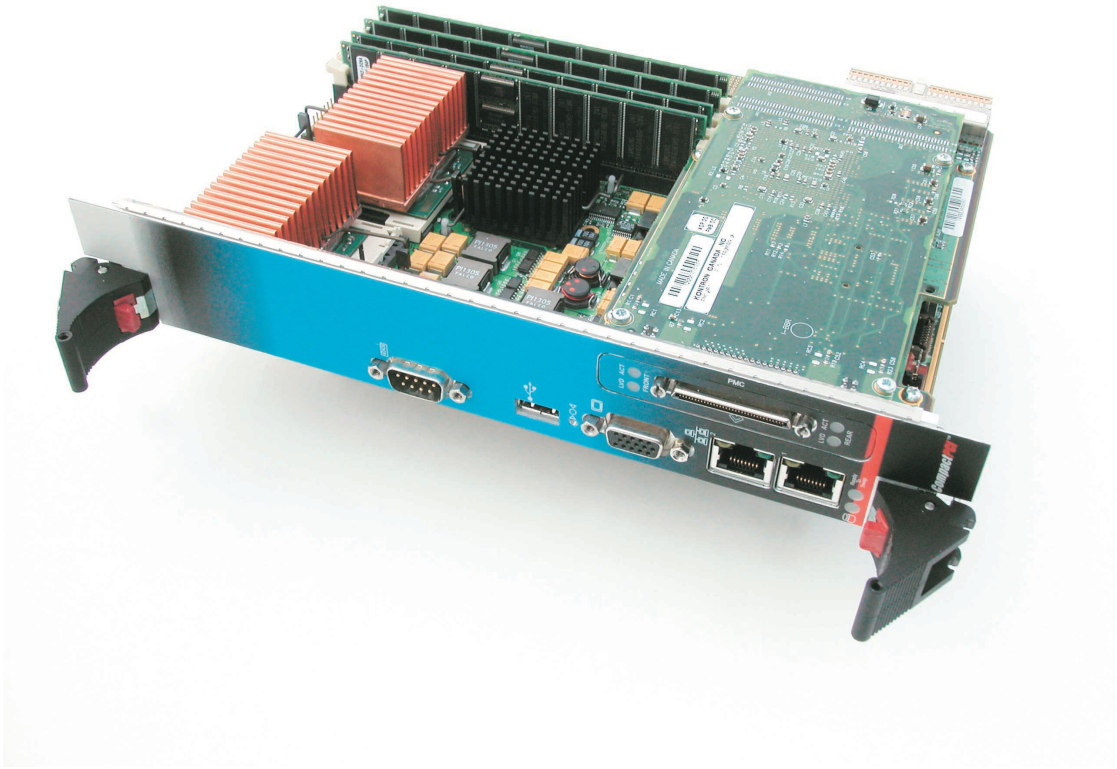
CP6010

Dual Intel® Low Voltage Xeon 6U CompactPCI CPU



Be powerful

Be flexible

Outperform

PCI-X™

CompactPCI

- Bring the Intel Xeon power to your application and benefit from the Netburst™ architecture and the Hyper-Threading technology
- Increase your I/O flexibility and performance with a 64-bit/133MHz PMC and cPCI bus interface
- Maximize your communications throughput with dual Gigabit Ethernet (PICMG 2.16) sitting on a 64-bit/ 133MHz PCI-X bus

kontron
... always a Jump ahead!

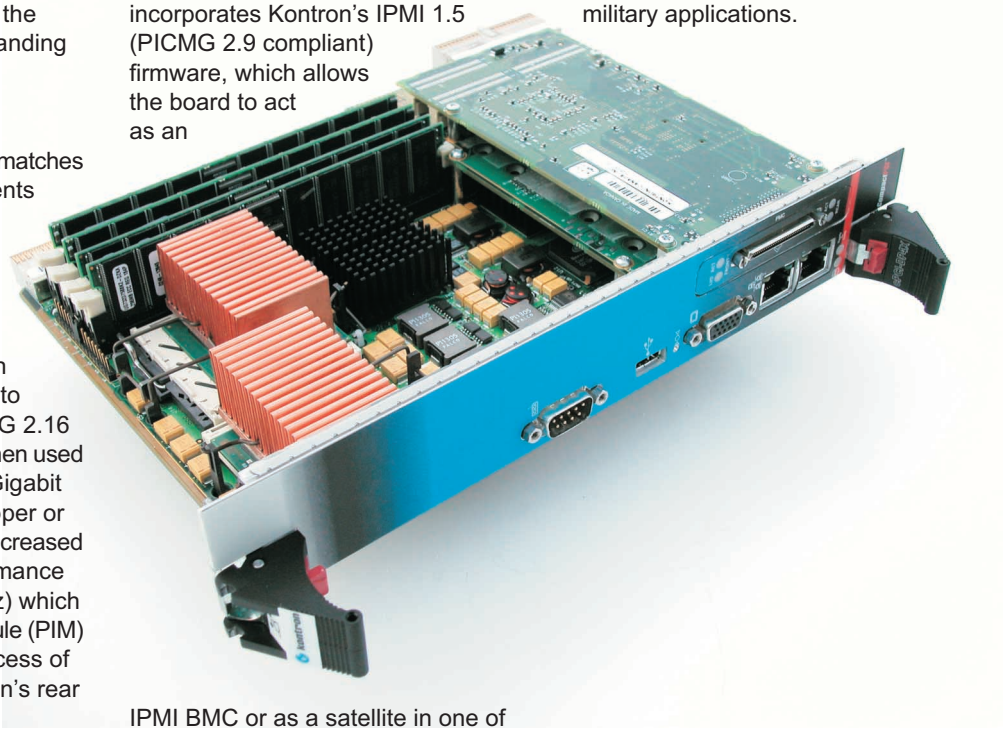
Impossible requirements?
Don't change the requirements...

Be Powerful
The CP6010 is without a doubt the most powerful CompactPCI CPU engine you can build your application around. The use of dual Intel Low Voltage Xeon processors at 1.6GHz, 2.0GHz or at 2.4 GHz (and future speeds as they become available) guarantees an unsurpassed level of performance. Combined with a large maximum memory capacity of 8GB and a high I/O throughput chipset, this board is designed to meet the requirements of the most demanding applications.

Benefit From Flexibility
Finding the product that exactly matches all of the application requirements can be a difficult task. Kontron makes it easier by offering great flexibility through several options and expansion capabilities. For instance, the dual Gigabit Ethernet ports can be routed either to the front or to the back to be used in a PICMG 2.16 compliant environment. Also, when used in front I/O configuration, the Gigabit Ethernet interfaces can be copper or optical. Flexibility can also be increased with the use of the high performance PMC slot (up to 64-bit/133MHz) which also supports the PMC I/O Module (PIM) standard, thus allowing the access of the PMC I/O signals on Kontron's rear transition module.

The CP6010 is capable of driving a cPCI bus segment. This bus can scale from 32-bit-/33MHz to 64-bit/133MHz PCI-X. Since the chipset has two independent 64-bit/133MHz PCI-X buses, it ensures that a board driving an external bus, a PMC and the dual Gigabit Ethernet, will maintain a well-balanced architecture.

Control Your Environment
In today's systems, whether they are in communications, medical or an industrial environment, serviceability is critical and the ability to manage an entire system remotely is often a "hard requirement". The groundwork for such an environment is the Intelligent Platform Management Interface (IPMI). The CP6010 includes a Baseboard Management Controller (BMC) that incorporates Kontron's IPMI 1.5 (PICMG 2.9 compliant) firmware, which allows the board to act as an IPMI BMC or as a satellite in one of Kontron's High Availability platforms. Kontron's Xtreamlink family includes three platforms with such management capabilities. Those are the XL-VHDS (10U carrier class platform), the XL-LP41 and the XL-LP42 (4U low profile platform).



The Best Fit
As a powerful and flexible CPU engine, the CP6010 is intended for applications calling for high processing capabilities, large memory capacity and bandwidth, and tremendous I/O throughput.

Typical applications are likely to be VoIP (Softswitch, Media Gateway, Signalling Gateway), Wireless infrastructure (Base Stations Controller/RNC, SGSN/GGSN, SCP, HLR/VLR, billing), Datacom (Server farms, Database management, routing devices), medical (Image processing, diagnosis), industrial and military applications.

CP6010

Specifications

... learn about the tremendous feature set

Processor

- Dual Intel Low Voltage XEON® Processor 1.6GHz, 2.0GHz or 2.4GHz (and future speeds as they become available)
- 512K L2 on-die cache
- Passive heatsink
- Supports Hyper-Threading
- NetBurst™ Architecture

Chipset

- Serverworks GC-LE chipset with CSB5 South Bridge
- Front Side Bus : 400/533 MHz, 64-bit
- Large I/O bandwidth : Two 64-bit/133MHz PCI-X bus plus one 32-bit/33Mhz bus

Memory

- Up to 8GB on 4 x 184-pin latching DIMM sockets
- Two DDR channels 72-bit/133MHz for Interleave operation
- PC-1600/PC-2100 DDR, Registered SDRAM non-ECC/ECC mode (ECC error correction up to a nibble, error detection for more than a nibble); all 8 GB cacheable

CompactPCI Bus Interface

- PCI-X 64-bit/133MHz with universal bridge (board can operate and access the cPCI bus from either a system or peripheral slot)

PMC slot

- Up to 64-bit/133MHz PCI-X
- PMC I/O module (PIM) support to J4

Flash Memory

- 512KB BIOS (field upgradable)
- 32Kb user serial EEPROM

I/O

I/O controller: SMSC PC87417 super I/O

Description	Front Plate	Rear I/O	Mezzanine	Total
Video (F/R)	1	1	-	1
USB	1	2	-	3
Serial	1	2	-	2
PS/2 Mouse	-	1	-	1
PS/2 Keyboard	-	1	-	1
Ethernet (F/R)	2	2	-	2
Hard Disk	-	2	1*	3
SCSI (optional)	-	1	1	2
CompactFlash	-	-	1*	1
Floppy	-	2	-	2
Reset Button	1	-	-	1

* Hard Disk or Compact Flash

F/R	Front or Rear
Video	PCI video controller (C&T 69030) with 4 MB video memory Supports CRT with resolution up to 1600 x 1200, 65K colors On faceplate, female D-sub 15-pin
USB	(USB 1.1 compliant)
Serial	COM2 configurable as RS-232/RS-422/485
Ethernet	PCI-X 10Base-T/100Base-T/1000Base-T- or 1000Base-SX (Intel 82546). On faceplate, two RJ-45 for copper with link/activity indicators or SFF LC optical transceiver or PICMG 2.16 compliant copper interface.
Hard Disk	PCI EIDE Ultra DMA/100, Rear I/O : Channel 1 Mezzanine: Channel 0
SCSI	Dual Channel Ultra 160 SCSI, LVD/SE based on LSI 53C1010 using PMC
Compact Flash	Can be installed on EIDE channel 0 through connector on the mezzanine (exclusive with 2.5-inch drive)

Clock

- Real-time clock with 256 bytes battery backup CMOS RAM

BIOS

- Phoenix BIOS in Boot Block Flash with recovery code; save CMOS in Flash option, and boot from LAN capability
- Auto configuration, extended setup and VGA by jumper
- Diskless, keyboardless, and videoless operation extensions
- System, video and LAN BIOS shadowing
- Programmable memory wait states
- DMI & HDD S.M.A.R.T. support
- Advanced Configuration and Power Interface (ACPI 1.0), Intelligent System Monitoring (advanced thermal management such as resume, overheat alarm and auto slow down)
- Setup console redirection to serial port (VT100 mode) with CMOS setup access

Supervisory

- Support of a system management interface (IPMI) via an IPMI controller
- IMPI 1.5 compliant
- Two-stage software programmable watchdog timer, time out from 16 msec to 4.5 min
- Silicon Serial ID TAG for unique board identification accessible via software
- Hardware system monitor (voltages, temperature), CPU temperature monitor / alarm; board temperature sensor, power failure / low battery detector; SMBus
- Current monitoring using IPMI

OS Compatibility

- Windows® 2000, 2003, XP, Linux, FreeBSD, QNX, and other OSs

Mechanical

- 6U (10.5") x 6.3" x 8HP, Standard cPCI 6U board

Compliancy

- CompactPCI Core Specification PICMG 2.0 R3.0
- 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

Power Requirements

- Supply Voltage Vcc =+3.3V +5% -3%, +5V +5% -3%, +12V ±5%, -12V ±5%
- ICC +5V: 12A* 18A**
- ICC +3.3V: 9A* 16A**
- ICC +12V: 260mA* 260 mA**
- ICC –12V: < 10mA* < 10 mA**

*Tested with a dual LV Xeon 1.6GHz and 2 GB of DDR 200
**Tested with a dual LV Xeon 2.4GHz and 8 GB of DDR 266

Environmental

	Operating	Storage and Transit
Temperature:	0-55°C/32-131°F	-40 to +70°C/-40 to 158°F
Humidity:	5% to 90% @40°C/104°F non-condensing	5% to 95% @ 40°C/104°F non-condensing*
Altitude: *	4,000 m / 13,123 ft	15,000 m / 49,212 ft
Shock:*	5G each axis	Bellcore GR-63-CORE Section 4.3
Vibration:*	1.0G, 5-500Hz each axis	2.0G, 5-50Hz; 3.0G, 50-500Hz each axis

* Designed to meet or exceed.

Reliability

- MTBF: > 110 000 hours @ 30°C / 86°F (Telcordia SR-232, Issue 1)
- USB voltage protected by an active breaker
- Mouse / keyboard voltage protected by self-resetting fuses
- Whole board protected by active breaker

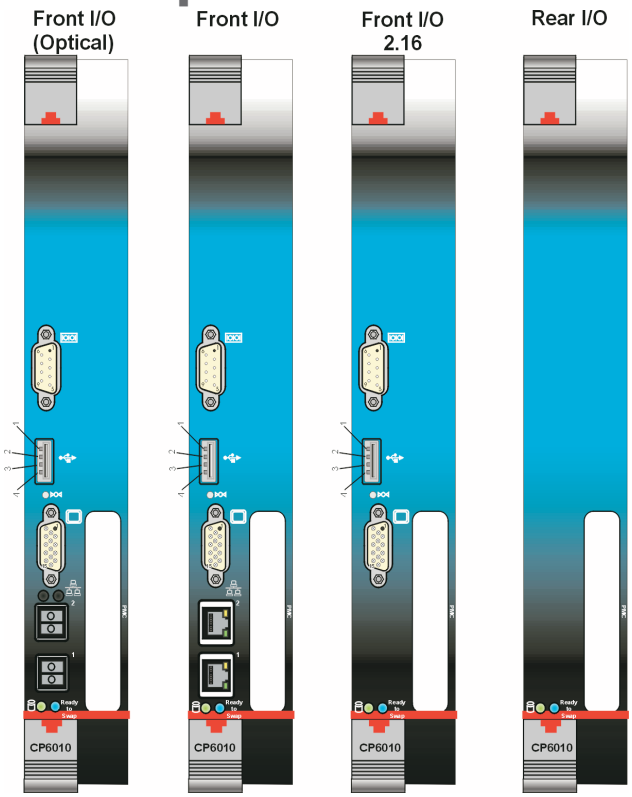
Safety/EMC

Designed to meet or exceed:
Safety: UL 60950 3rd ed.; CSA C22.2 No. 60950-00; EN 60950; IEC 60950-1
EMI/EMC: FCC 47 CFR Part 15, Class B; CE Mark to EN55022/EN55024

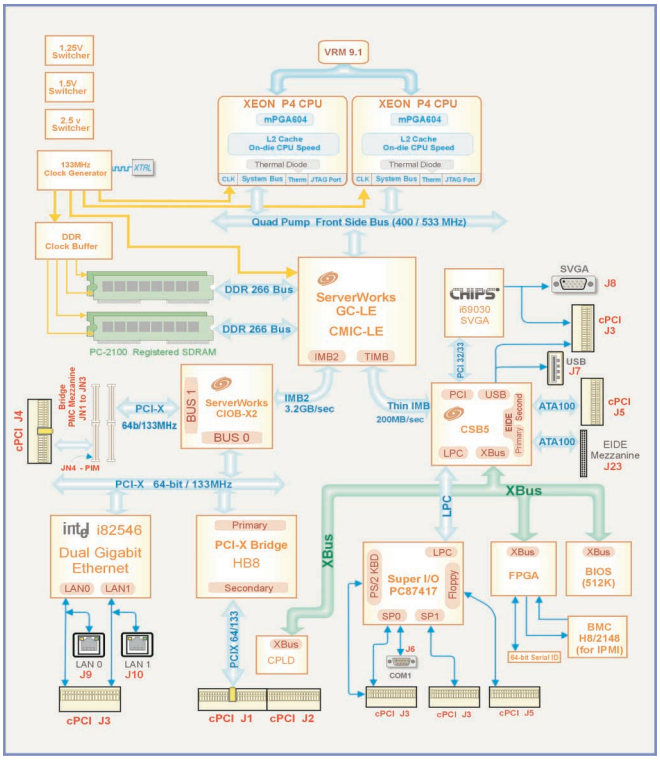
- 2 year limited warranty

CP6010

Frontpanel



Functional Block Diagram



Ordering Information

Product	Description [1]	Order No.
CP6010	Dual LV Xeon 1.6GHz, Front I/O, 1GB DDR, 128MB Cflash.	T6010BA#A_1-10P000
CP6010	Dual LV Xeon 1.6GHz, Front I/O, 2.16, 1GB DDR.	T6010BC#A_1-100000
CP6010	Dual LV Xeon 2.0GHz, Rear I/O, 2GB DDR.	T6010DB#A_1-170000
CP6010	Dual LV Xeon 2.0GHz, Front I/O, optical Ethernet, 2GB DDR.	T6010DD#A_1-170000
CP6010	Dual LV Xeon 2.0GHz, Front I/O, 2.16, 4GB DDR.	T6010DC#A_1-1B0000
CP6010	Dual LV Xeon 2.4GHz, Rear I/O, 2GB DDR.	T6010FB#A_1-170000
CP6010	Dual LV Xeon 2.4GHz, Front I/O, optical Ethernet, 2GB DDR.	T6010FD#A_1-170000
CP6010	Dual LV Xeon 2.4GHz, Front I/O, 2.16, 4GB DDR.	T6010FC#A_1-1B0000
CP6010	Dual LV Xeon 2.4GHz, Front I/O, 2.16, 8GB DDR, 256MB Cflash.	T6010FC#A_1-21Q000
Rear Transition Module (RTM)		
CTM80-2	Single slot (4HP) RTM, SCSI and LAN connectors.	T6701AA_0-00
CTM80-2	Dual slot (8HP) RTM, SCSI and LAN connectors, 1 x 80GB HD.	T6701BA_0-AE
CTM80-2	Dual slot (8HP) RTM, PIM configuration and LAN connectors.	T6701BB_0-00
CTM80-2	Dual slot (8HP) RTM, SCSI connector and 2.16 configuration.	T6701BC_0-00
CTM80-2	Dual slot (8HP) RTM, PIM and 2.16 configurations. 1 x 60GB HD.	T6701BD_0-AD

More options available, call your Kontron sales representative

Note: 1) higher processor frequencies available in the future

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