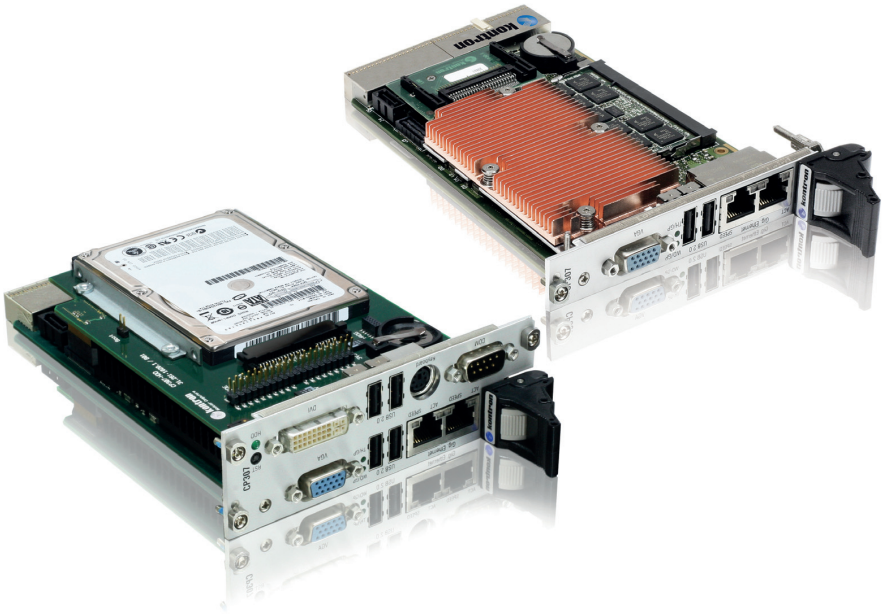
kontron

» CP307[64] «



PCI EXPRESS

Intel® Core™2 Duo 3U CompactPCI® CPU board

» **High Performance**
Intel® Core™2 Duo processor up to 2.16 GHz

» **High Memory Throughput**
Dual channel DDR2 667MHz memory

» **Comprehensive I/O capabilities**
Gigabit Ethernet, USB, VGA, DVI, SATA, CompactFlash...

The Power of Core™2 DUO

Boost to the next level of processing power ...

Explore the power and the potential of two cores in one processor with Kontron's CP307[64] based on the Intel® 64-bit Core™2 Duo processor.

Greater Performance / Watt

The CP307[64], a 3U CompactPCI® CPU board incorporates Intel®'s latest processor chip based on a new 65nm technology - the Intel® Core™2 Duo processor - delivering optimized power efficient computing and breakthrough dual-core performance with amazingly low power consumption. With its two execution cores and 64-bit access, the Intel® Core™2 Duo processor is optimized for multi-threaded applications and multitasking. Multiple demanding applications can run simultaneously such as a graphicsintensive program while at the same time serious numbercrunching programs can be handled. Furthermore the two cores give the capability to execute two operating systems independently - one core dedicated to one OS - starting a new era of software implementations.

Greater Graphic Performance

Combined with the Mobile Intel® 945GM Express chipset featuring Intel®'s latest Graphics Media Accelerator the CP307[64] delivers up to 2x improvement in graphics performance with exceptional 3D graphics performance and enables up to 25% higher data transfer compared to previous platform designs. As a dual display solution the CP307[64] offers a standard analog CRT connection with integrated 400 MHz RAMDAC and an independent DVI interface.

Greater Capacity

The CP307[64] offers a maximum capacity of 4 GB Double Data Rate (DDR2) memory running at 667 MHz dual channel mode via a combination of up to 2 GB soldered memory and a dedicated memory socket for a 2 GB SODIMM module.

Shock Resistance

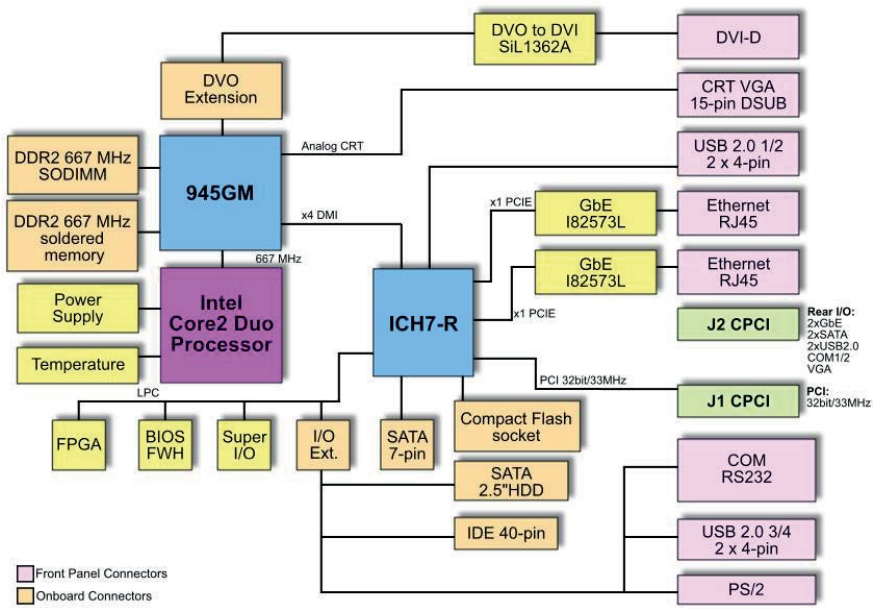
The direct soldered processor and memory provides a higher shock/ vibration - resistance than socket devices can; the fanless heat sink is tightly screwed on the board enabling the CP307[64] as an ideal solution for harsh environments.

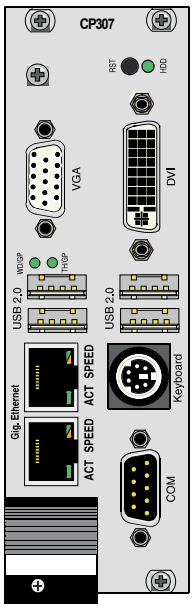
Comprehensive I/O Connectivity

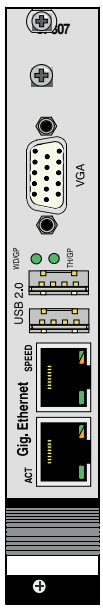
The CP307[64] comes with a comprehensive I/O connectivity supporting future oriented interface like 2x Gigabit Ethernet, up to 6x USB 2.0 ports, 4x SATA interfaces. Various versions as 4HP or 8HP - optionally combined with rear I/O support - the CP307[64] can be adapted to a wide range of different application needs. Supporting onboard PCI Express® the CP307[64] improves I/O performance significantly eliminating the bottle-neck of parallel PCI bus.

Longterm Availability

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 CP307[64] ensures long term availability. This eliminates the risk of unplanned design changes and unexpected expensive application modification. While minimizing deployment risks by providing a broad range of software support the CP307[64] eases the process of product integration and maximizes your competitive advantage to meet your time-to-market window. Thanks to the future oriented design the CP307[64] provides enough headroom for the emerging next generation applications requirements.







Technical Information

System Processor	Intel® Core™2 Duo processor in micro-FCBGA package (65nm manufacturing process): » T7400: 2.16 GHz, 667 MHz FSB, 4 MB L2, FCBGA » L7400: 1.5 GHz, 667 MHz FSB, 4 MB L2, FCBGA 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	
System memory	Up to 4 GByte dual channel DDR2 667 MHz memory via max. 2 GByte soldered memory and SODIMM-socket for max. 2 GByte memory module (no ECC)
Flash (BIOS)	1 MB Firmware hub (FWH)
EPROM	Serial EEPROM (24LC64) 64 kbit for CMOS data storing (no battery operation)
CompactFlash	Type I and II mounting within 4HP via mezzanine modul *or alternatively* Type I and II within 8HP via socket on mezzanine carrier
HDD	Onboard 2.5" SATA HDD mounting within 8HP mezzanine via carrier
Onboard Controller	
GMCH Graphic Memory Controller Hub	Intel® 945GM chipset Dual-channel DDR2 memory controller, Internal Graphics controller with dual independent VGA channels
I/O Controller Hub	Intel® ICH7R Up to 4x SATA II with RAID functionality (0,1,5,10) 6x USB 2.0, 2 x1 PCI Express® 1x 32-bit/33MHz PCI integrated on CP307
VGA	Integrated in 945GM max. 2048 x 1536 pixels (QXGA), 16M colors, @75Hz, CRT and DVI, max. 256MByte memory used from system memory
Gigabit Ethernet	2x GbE Front or Rear (s/w switchable), 82573L PCI Express® controller
Super I/O	LPC Super I/O from SMSC SCH3112I-NU with 2x UART, HWMonitor, PS/2
Watchdog	Timeout 125ms to 256s programmable in 12 steps, NMI, IRQ, Reset, dual-stage
RTC	Integrated in ICH7R with 256 bytes of battery-backed CMOS RAM
Front Panel Interfaces	
4HP version	
USB	2x USB 2.0 ports, 4-pin standard USB connectors
VGA	1x VGA-CRT 15-pin D-Sub connector
Ethernet	2x RJ45 with integrated LEDs (ACT, SPEED)
LEDs	Thermal, Watchdog or both general purpose
8HP version (additional to 4HP)	
DVI	1x 29-pin DVI-D connector
USB	2x USB 2.0 ports, 4-pin standard USB connectors
COM	1x 9-pin D-Sub connector, RS232 signaling
PS/2	1x 6-Pin shielded mini-DIN connector
Control	Reset button and HDD LED
Rear I/O via J2	The Rear I/O versions support: » 32-bit/33 MHz CompactPCI® interface » Two USB 2.0 ports » Two Gigabit Ethernet ports without LED » Two SATA interfaces » Two COM ports (TTL signalling) » One CRT VGA port » One fan control input » One power management output
CompactPCI® Bus Interface	PICMG 2.0 Rev. 3.0 compatible, 32-bit/33MHz, version with rear I/O on J2 PICMG 2.0 5V VI/O (3.3V on request), 7 Req/Gnt & clock lines
Supervisory Functions	Watchdog, software configurable, 125ms to 256s in 12 steps, generates IRQ, NMI or hardware reset, two stage configuration for NMI and Reset Hardware monitoring SCH3112 for thermal control, fan-sense/control and all important onboard voltages
Hot Swap	Support for all signals to allow peripheral boards to be hot swapped. The individual clocks for each slot and access to the backplane ENUM# signal comply with the PICMG 2.1 Hot-Swap specification.
Compliancy	CompactPCI® Core Specification PICMG 2.0 Rev. 3.0 CompactPCI® Hot Swap Specification PICMG 2.1 R2.0 Designed to meet or exceed: » Safety: UL 60950-1, CSA 22.2 No 60950-1, EN60950-1 » EMI/EMC: EN 55022 / EN 55024, EN 61000-6-3 / EN 61000-6-2
General	
Dimensions	100 x 160mm
Weight	320g / 4HP, 400g / 8HP
MTBF	141,543 h acc. to MIL-HDBK-217 FN2, Ground Benign GB, controlled at 30°C

Technical Information

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, LAN boot support. » Board identification number accessible via EEPROM » Support for Windows® XP, Windows® XP Embedded, Windows® 7, Windows® Embedded Standard 7, Linux, VxWorks (other OSs may be possible, please contact us for information)
Power Consumption	
L7400 LV 1.5 GHz and 2GB memory	Typ. 20W
Environmental	
Operating temperature	0°C to +60°C (depending on processor version and available airflow in the system)
Storage temperature	-55°C to +85°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	Description
CP307-SA-1.5D-2-4F-5V	Core 2 Duo L7400, 1.5 GHz, 4MB L2, 2GB (1GB soldered and 1GB SODIMM), 4HP, Front I/O, 5V VI/O
CP307-SA-1.5D-2-4F-5V-C	Core 2 Duo L7400, 1.5 GHz, 4MB L2, 2GB (1GB soldered and 1GB SODIMM), 4HP, Front I/O, 5V VI/O, with conformal coating
CP307-SA-1.5D-2-4R-5V	Core 2 Duo L7400, 1.5 GHz, 4MB L2, 2GB (1GB soldered and 1GB SODIMM), 4HP, Rear I/O, 5V VI/O
CP307-SA-1.5D-2-8F-5V-C	Core 2 Duo L7400, 1.5 GHz, 4MB L2, 2GB (1GB soldered and 1GB SODIMM), 8HP, Front I/O, 5V VI/O, with conformal coating
CP307-SA-1.5D-2-8F-HK-3V	Core 2 Duo L7400, 1.5 GHz, 4MB L2, 2GB (1GB soldered and 1GB SODIMM), 8HP, Front I/O, with HDD King Size, 3V VI/O
CP307-SA-1.5D-2-8F-HK-5V	Core 2 Duo L7400, 1.5 GHz, 4MB L2, 2GB (1GB soldered and 1GB SODIMM), 8HP, Front I/O, with HDD King Size, 5V VI/O
CP307-SA-1.5D-2-8R-5V	Core 2 Duo L7400, 1.5 GHz, 4MB L2, 2GB (1GB soldered and 1GB SODIMM), 8HP, Rear I/O, 5V VI/O
CP307-SA-2.16D-4-4F-5V[1)]	Core 2 Duo T7400, 2.16 GHz, 4MB L2, 4GB (2GB soldered and 2GB SODIMM), 4HP, Front I/O, 5V VI/O
CP307-SA-2.16D-4-8F-5V[1)]	Core 2 Duo T7400, 2.16 GHz, 4MB L2, 4GB (2GB soldered and 2GB SODIMM), 8HP, Front I/O, 5V VI/O
CP307-SA-2.16D-4-8F-HK-5V[1)]	Core 2 Duo T7400, 2.16 GHz, 4MB L2, 4GB (2GB soldered and 2GB SODIMM), 8HP, Front I/O, with HDD King Size, 5V VI/O
Rear Transition Modules	
CP-RIO3-04	4HP rear I/O module (2x Ethernet, 2x USB, VGA, 2x SATA connectors)
CP-RIO3-04	8HP rear I/O module (additional to 4HP COM1/2)
CP-RIO3-04S	4HP rear I/O module (2x Ethernet, VGA, COM, 2x SATA connectors)
Software	
VXW-BSP-CP307-V6.8	VxWorks 6.8 Board Support Package

Note:
Please contact your local sales representative for other configuration options.
[1)] Available RAM space depends on PCI and PCIe devices in system

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