CC7

All-In-One Celeron™/Pentium® III PC

3U CompactPCI Embedded Computer

Features

- Celeron™, 566 MHz
- **Pentium®III**, 500-**850 MHz**
- **Low Power Mobile** CPUs

- **Ultra compact** all-in-one PC
- Occupies **2 CPCI slots only** with **Front** and **Rear I/O**

- Embedded **NT**, Windows **2000/ NT/ 98**, **QNX**, **VxWorks, Lynx, Linux, MS-DOS**

- Up to **512 MB SDRAM** w/ **ECC**

- **1.8" FlashDrive** up to 512 MB

- **VGA/LCD** up to **1600x1200**
  4(2) MB high speed **SDRAM**

- **Fast Ethernet 10/100 MBit**

- **SCSI** up to 20 MB/sec
- PCIbus enhanced **IDE**

- **CANbus** for low cost I/O
- **4x serial** I/O with FIFOs RS-232 or **RS-422** interface
- **2x** IEEE 1284 **parallel** ports
- **2x USB**
- **Watchdog**, **NMI ticker**, **temperature sensor**

- Single **+5 volt** supply **only**
- Optional **–40°/+70°C**

- **Custom specific**, **low cost** assembly versions

The *CC7* CompactPCI all-in-one 3U single board computer is designed to meet the needs of embedded application developers addressing markets like industrial automation, medical, scientific, imaging, test and measurement, and telecommunication. Supported operating systems are Windows 2000/ NT/ 98, QNX, VxWorks, Lynx, Linux, MS-DOS and others.

The ultra compact all-in-one concept with flexible processor and RAM configurations, front and rear I/O and an impressive array of on-board peripherals includes video interface, Ethernet and SCSI. This combined with a custom specific assembly service provides optimized price / performance for all kinds of OEM applications.

Rugged needs are addressed with increased shock and vibration immunity of the compact 3U design, an extended temperature range of up to –40°C to +70°C, and features like LCD interface.

Special features include four serial channels with flexible RS-232 or RS-422 interfacing, a CANbus device for low cost I/O and single +5V supply.

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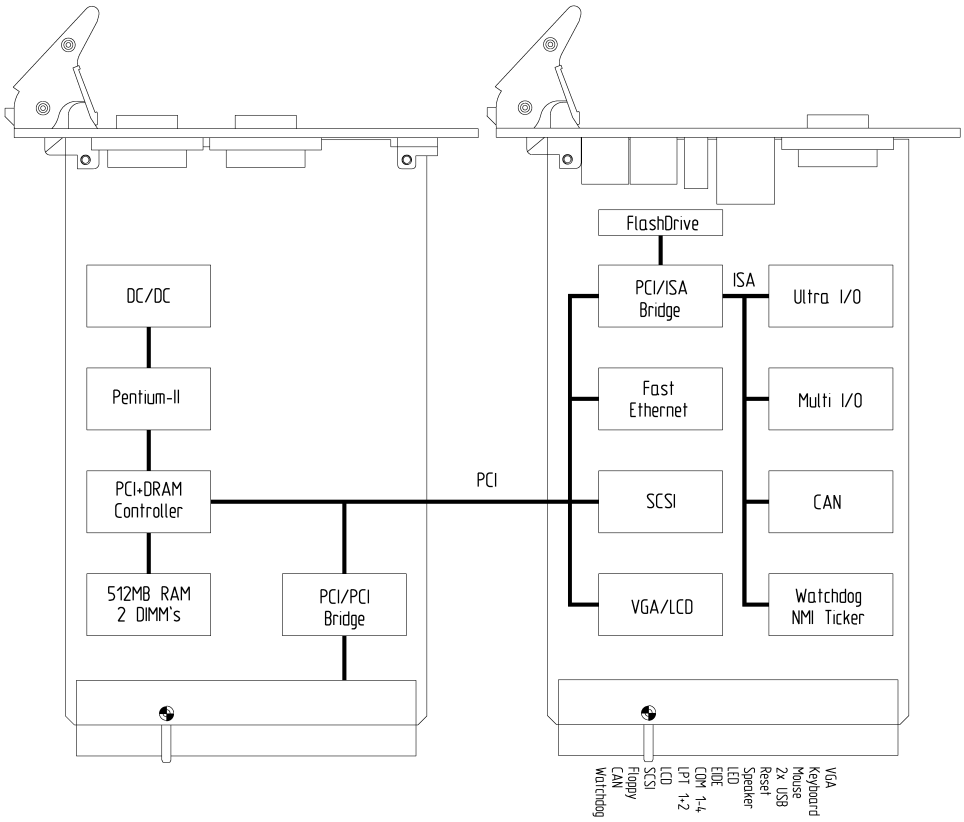
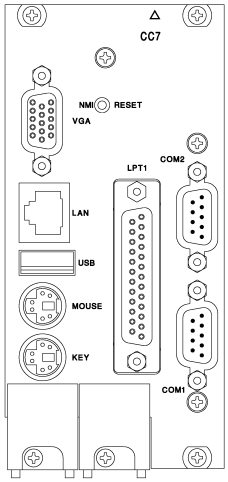
Block Diagram and Front Panel I/O





Specifications

CompactPCI - Intel 21150
32-bit PCI-to-PCI bridge for up to 8 slots (33 MHz)
J1+2, 2 mm pin and socket connectors (IEC-1076-4-101)

Processor - Slot 1-Adapter for Socket 370 and BGA2
Scaleable processing power with flexible processor design
Intel Celeron™: 566 MHz, Intel Pentium®III: 850 MHz
Intel Mobile Pentium®III: 500MHz, 700 MHz
Please see price list for latest CPU versions
High efficiency on-board switching regulator (DC/DC)
Fanless cooling with heatsink

Performance

		Winstone 99	
CPU	Frequency	Business	High End
Celeron	566 MHz	21.1	31.8
Mobile Pentium III	500 MHz	22.9	34.4
Mobile Pentium III	700 MHz	24.9	41.0
Pentium III	850 MHz	25.8	44.3

(128 MB RAM, 1024x768 64K color, ST34502LW HD)

Chipset - Intel 82443BX, 82371EB
100 MHz system bus with Pentium®III and Mobile Pentium®III
66 MHz system bus with Celeron™
PCI burst mode transfers faster than 110 Mbytes/sec
32-bit wide PCIbus (33 MHz)

Cache	level 1	level 2
Celeron™ *1	32 KB	128 KB, full speed
Pentium®III *1	32 KB	256 KB, full speed

*1 also valid for Mobile processor

Memory - PC66/100
2 DIMM sockets for 64 to 512 Mbytes, 64-bit
Optional with error correction (ECC)

FlashDrive
Internal 1.8" IDE FlashDrive (up to 512 MB) for extended temperature range and higher shock/vibration immunity

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VGA and ***LCD*** – CT 69030/69000
64-bit Windows accelerator and LCD flat panel interface
On-chip high speed 4/2 Mbytes synchronous DRAM (83 MHz)
Flexible 9, 12, 15, 18 or 24-bit panel TFT interface

CRT Resolution	CT 69030	CT 69000
1024x768	16M@100Hz	64K@100 Hz
1280x1024	16M@75Hz	256@75 Hz
1600x1200	64K@60 Hz	-

Fast Ethernet - AMD 79C972
10/100 Mbits/sec controller with PCI local bus DMA
12 Kbytes FIFO buffers for Receive and Transmit
10BaseT and 100BaseTX auto-negotiation interface

SCSI - SYM 53C860
SCSI controller with PCI local bus DMA
SCSI transfer speed up to 20 Mbytes/sec
Active low power termination on-board

EIDE
Ultra DMA/33 sync. DMA mode up to 33 Mbytes/sec
PIO mode 4 and bus master IDE up to 16 Mbytes/sec
3 devices supported via local EIDE connector and rear I/O

CAN - Intel 82527
Device supports CAN specification 2.0
Opto-isolated (500VDC) high speed ISO 11898 interface

4x Serial I/O - RS-232/422
Four async. 16550 compatible full duplex serial channels
High-speed transfer up to 115.2 kbaud with 16 byte FIFOs
COM 1+2: RS-232 or RS-422 interface
COM 3+4: RS-232 or RS-422 interface

2x Parallel Port
Two bi-directional, IEEE 1284 compatible enhanced parallel ports (including EPP and ECP) for printer or general purpose I/O

Floppy	One channel 3.5“ floppy drive controller 720 KB and 1.44 MB
2x USB	Two 12 Mbits/sec universal serial bus channels
Keyboard	PS/2 compatible
Mouse	PS/2 compatible
Real-time clock	RTC 146818 compatible, on-board Li-battery
CMOS RAM	114 bytes non-volatile CMOS RAM
EEPROM	4 kbit serial EEPROM for non volatile user data
Watchdog	Activates reset under software control (550 ms)
Temp. Sensor	Local temperature SW readable from –55°C to +125°C, 0.5°C increments
NMI-Ticker	User programmable NMI timer 0.3 to 18 ms for real-time applications
Speaker	Internal speaker (1.0 kHz to 4.2 kHz)
LED	Front panel LED (red) user programmable

Hot-Swap - compliant to PICMG CompactPCI 2.1
Other, non system boards can be removed or added with power on.
Access to or interrupt on backplane /ENUM signal supported.

BIOS Features
AMI BIOS, in-system programmable Flash ROM
CPU, memory and IDE auto-detection/selection
Integrated VGA, Ethernet and SCSI BIOS ROM
Password protection, BIOS post, system and video BIOS shadowing
Extensive setup with remappable serial/parallel ports
Diskless, keyboardless and videoless operation

Front and Rear I/O (with transition module CTM6)
The pinouts of the transition module connectors (rear I/O) corresponds to standard PC connectors (press-fit cables).

Function	Front I/O	Rear I/O
VGA	HD-15	10-pin
10/100BaseTX	RJ-45	-
Multi-I/O[*1]	-	26-pin
Keyboard	mini-DIN	-
Mouse	mini-DIN	-
USB 1+2	1x USB	-
Reset	switch	-
Speaker	on-board	-
LED	red LED	-
CAN	-	-
Watchdog	-	-
EIDE primary[*2]	-	44-pin, 2.0 mm
COM 1+2	2x D-09	2x 10-pin
COM 3+4	-	2x 10-pin
LPT 1	D-25	26-pin
LPT 2	-	26-pin
LCD	-	40-pin
SCSI	-	50-pin
Floppy	-	26-pin, 1.25 mm

[*1] Multi-I/O connector with Keyboard, Mouse, 2x USB, Reset, Watchdog, LED, CAN and Speaker
[*2] Secondary EIDE with additional 44-pin connector for 1.8” FlashDrive on-board

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Power Requirements

+5 V	Required
+3.3V, ±12V	Not required

Power Consumption - +5 volt, typical current

128 MB memory, w/o keyboard, hard disk, modules, etc.

CPU	Frequency	Idle	Operating
Celeron™	566 MHz	1.4 A	3.1 A
Mobile Pentium®III	500 MHz	1.3 A	2.4 A
Mobile Pentium®III	700 MHz	1.3 A	2.8 A
Pentium®III	850 MHz	1.5 A	4.6 A
Idle	measured at DOS prompt, max. powersaving		
Operating	measured at DOS prompt, no powersaving		

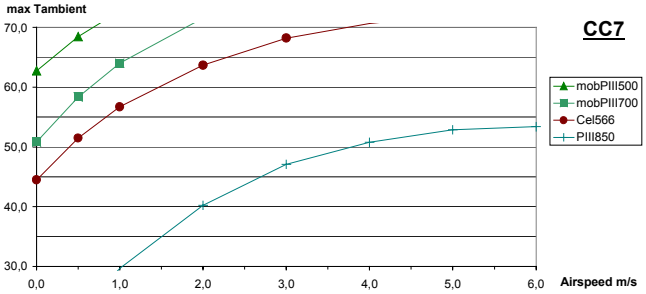
Mechanical

3U, 3 slot wide (100 x 160 x 60 mm) including FlashDrive
Occupies 2 slots on CPCI backplane
Rear I/O on left side of system slot via I/O transition module

Temperature

Highest reachable operating temperature depends on processor type, speed and ambient conditions (airflow) as shown below. All values under typical conditions.

	Operating	Storage
Standard	0°C to +70°C	–40°C to +85°C
Extended	–40°C to +70°C	–40°C to +85°C



	Operating	Storage
Humidity	5 - 90% @ 40°C	5 - 95% @ 40°C
Altitude	15.000 ft. (4.5 km)	40.000 ft. (12 km)

MTBF Calculations are available in accordance with MIL-HDBK-217. Please contact factory.

Safety All PWBs are manufactured with flammability rating of 94V-0 by UL recognized manufacturers

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Ordering Information

For detailed information call factory

Hardware Accessories

CPC-R422C2	RS-422 driver for COM1 + COM2
CTM6	I/O transition module
CT-IDE	IDE transition module 2.0 mm -> 2.54 mm
CBUS-IO	Carrier for transition module (male-male)
SC304F	Floppy disk 3.5 inch, 19“-box: 3U/4HP, cable
SC306HI10G0	IDE hard disk 3.5“, 10 GB, 19“box: 3U/6HP, cbl.
YLBSCSI304A	Flatcable for external SCSI drive, 60 cm, 3U/4HP front panel, 50-pin Centronics conn.
YLBCOM304A	Flatcable for 2x COM, 3U/4HP frontpanel

Operating Systems

DOS-MD600x	MS-DOS operating system
WIN-98xC	Windows 98 operating system
WIN-NT4xC	Windows NT 4.x operating system
WIN-2000xC	Windows 2000 operating system
QNX-11252	QNX4 operating system
QNX-11294	QNX4, Photon microGUI
VXW-BCX7	VxWorks board support package Tornado 1 (w/o SCSI driver)
VXW2-BCX7	VxWorks board support package Tornado 2
WIN-ENT4xE	Windows Embedded NT 4.x

CANopen Software

WNT-CAN	CANopen master SW for Windows-NT
DOS-CAN	CANopen master SW for MS-DOS
VXW-CAN	CANopen master SW for VxWorks
QNX-CANIO	CAN I/O library for QNX

Chassis

SCC484TC08CC7	"StarterCage: 19"", 4U, 84TE card cage, 8x 3U CPCI slots (3U, left); 3x fan, 235W power supply, EMC, 1x CBUS-IO, CD-ROM, 3.5"" floppy drive, 10 GB IDE hard disk, I/O transition module (CTM6) with frontpanel (YLBCOM304A), 0°C/+50°C"

Special chassis, supplies, backplanes and drives on request.

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