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Find the *Abaco Systems / SBS CT7* at our website: *Click HERE*

CT7

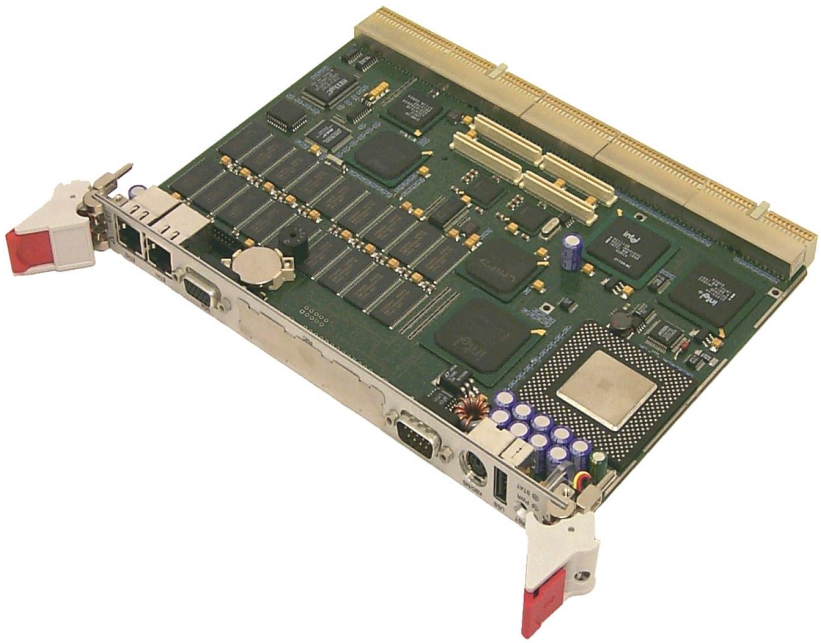
Hot Swap System / Non-System 6U cPCI® Embedded Computer

Single Board Computers

Features

- Intel® Pentium® III processor, 500 MHz to 850 MHz and Intel® Celeron® processor 566 MHz
- Optimized for telecom applications
- Ultra compact, 1 slot
- Hot Swap
- System & Non-system mode
- Dual bus support with up to 14 slots
- Extensive Software Support
- Up to 1 GB SDRAM with ECC
- Flash drive or local 2.5” hard disk
- VGA/LCD up to 1600x1200, 4(2)MB high speed SDRAM
- Two Fast Ethernet 10/100 Mbit
- Wide SCSI up to 40 MB/s

  PCI bus Enhanced IDE
- 1(2) PMC extension slots
- IPMI
- Two serial I/O with FIFOs
- IEEE 1284 parallel port
- Two USB ports
- Watchdog, NMI ticker, temperature sensors
- Optional –40°/+70°C
- Customer specific, low cost assembly versions



CT7 is a 6U CompactPCI all-in-one single board computer. The CT7 supports system / non-system and hot-swap and is designed to meet the needs of embedded application developers addressing markets like telecommunication (high bandwidth, broadband data or intelligent network switching), industrial automation, medical, scientific and imaging.

The ultra compact single slot, all-in-one design with flexible processor and RAM configuration, and an impressive array of on-board peripherals includes two Fast-Ethernet channels, one SCSI interface and one PMC extension slots. In a two slot solution with an additional bridge piggy and a second CompactPCI backplane up to 14 CPCI slots and two PMC slots are supported. This combined with a custom specific assembly service provides an optimized price / performance ratio for all kinds of OEM applications.

Special feature includes a Baseboard Management Controller (BMC) supporting the Intelligent Platform Management Interface (IPMI) architecture and UL certification.

Supported operating systems are Windows 2000/ NT/XP, QNX and VxWorks.

Specifications

CompactPCI – Intel 21554
- 64-bit PCI-to-PCI bridge for up to 8 slots (33 MHz)
- J1+2, 2mm pin and socket connectors (IEC-1076-4-101)
- Optional bridge piggy for second CompactPCI bus at J1 + J2
- Supports system and non-system mode

Processor – Socket 370 (FCBGA or BGA2)
- Scalable processing power with flexible processor design
- Intel Celeron processor: 566 MHz
- Intel Pentium III processor: 700 and 850 MHz
- Intel Mobile Pentium III processor: 500 and 700 MHz
- High efficiency on-board switching regulator (DC/DC)
- Fanless cooling with heat sink
- See price list for latest CPU versions

Performance

		Winstone 99	
CPU	Frequency	Business	High End
Celeron	566 MHz	21.5	32.0
Mobile P III	500 MHz	24.0	34.0
Mobile P III	700 MHz	26.1	43.4
Pentium III	700 MHz	26.1	43.4
Pentium III	850 MHz	27.0	47.0

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

Chipset – Intel 82443BX[*1], 82371EB
- 100 MHz system bus with Pentium III and Mobile Pentium III
- 66 MHz system bus with Celeron processor
- PCI burst mode transfers up to 110 MB/s
- 32-bit wide PCI bus (33 MHz)

[*1] CT7 V4.x: Intel 82443GX

Cache	Level 1	Level 2
Pentium III[*1]	32 KB	256 KB, full speed
Celeron [*1]	32 KB	128 KB, full speed

[*1] also valid for Mobile processor

Memory – PC66/100
- High-speed SDRAM
- 64 to 1024 Mbytes [*1], 72-bit wide with error correction (ECC)
- Rugged design with soldered components

[*1] CT7 V2.x, V3.x: 512 Mbytes

Hard Disk or Flash Drive
- Internal 2.5” IDE hard disk or 2.5” Flash Drive (for extended temperature range and higher shock/vibration immunity)

1 (2)x PMC Extension Slots - IEEE P1386/1386.1
- 64-bit PCI bus interface with front panel I/O and rear I/O
- One or two (with bridge piggy board) PMC slots

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
1024 x 768	16M @ 100Hz	64K @ 100Hz
1280 x 1024	16M @ 75Hz	256 @ 75Hz
1280 x 1200	64K @ 60Hz	-

Dual Fast Ethernet – Intel 82559ER
- 10/100 Mbits/sec controller with local bus DMA
- 3 Kbyte Transmit FIFO and 3 Kbyte Receive FIFO
- 10BaseT and 100BaseTX auto-negotiation interface

Wide SCSI – SYM 53C875
- Wide SCSI controller with PCI local bus DMA
- SCSI transfer speed up to 40 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 (4) devices supported via local EIDE connector and rear I/O

Two Serial I/Os – RS-232
- Two async. 16550 compatible full duplex serial channels
- High-speed transfer up to 115.2 kbaud with 16 byte FIFOs

Parallel Port
- Bi-directional, IEEE 1284 compatible enhanced parallel port (including EPP and ECP) for printer for printer or general purpose I/O

IPMI - Zircon
- Baseboard Management Controller with ARM7 supporting the Intelligent Platform Management Interface (IPMI) architecture in compliance with CompactPCI PICMG 2.9
- Peripheral Mode and BMC Mode are supported

Dual Bus Support – compliant to PICMG CompactPCI 2.6
- Supports up to 14 CPCI slots with standard backplanes (one left and one right justified each) via second CPCI interface on optional 6U bridge piggy back board.
- Avoids second CPCI via P4/5 requiring special backplanes

Floppy	One channel 3.5” floppy drive controller 720 KB and 1.44 MB
2x USBs	12 Mbit/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 SW control (550ms)
Temp. Sensor	Local and remote temperature (CPU case) SW readable from -65°C to +127°C, 1°C increments
3x LEDs	Three front panel LEDs hot swap (blue), Power OK (green) and user programmable (red)

Hot Swap
- In peripheral mode the board can be inserted or removed in a powered system. It is not supported for a 66 MHz CPCI system.
- In system controller mode other, non system boards can be removed or added with power on.
- Access to or interrupt on backplane /ENUM signal supported

H.110 Friendly

- Versions with non populated J4 (see table below) do not interfere with H.110 bus on P4

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
- Operation without disk, keyboard and video

Software

- The following software is supported to the extent listed below.

OS	Available
WIN XP/2000/NT	√
QNX 6	√
VxWorks	√

Front and Rear I/O (with transition module CTM10)

- The pin out of the transition module connectors (rear I/O) corresponds to standard PC connectors (press-fit cables).

Function	Front	Rear J3 + J5	Rear J4
VGA	D-15	10-pin	-
Eth 1	RJ-45	10-pin	-
Eth 2	RJ-45	10-pin	-
Keyb+Mouse	mini-DIN	-	-
Reset	button	-	-
Multi-I/O[*1]	-	26-pin	-
Floppy	-	26-pin, 1.25mm	
LED	3x	-	-
USB	USB	-	-
EIDE[*2]	-	44-pin	-
COM 1	D-09	10-pin	-
COM 2	-	10-pin	-
LPT	-	26-pin	-
LCD	-	-	40-pin
SCSI	-	50-pin (narrow) 68-pin (wide)	
PMC	Yes	64-pin	-

[1] Multi-I/O connector with keyboard, mouse, 2x USB, reset, watchdog and speaker

[2] Additional 44-pin onboard connector for Flash drive or hard disk

Power Requirements

- +5 V, +12V Required
- +3.3 V, -12 V Only if required by PMC module

Power Consumption - +5V, typical current

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

CPU	Frequency	Idle	Operating
Celeron	566 MHz	2.3 A	4.1 A
Mobile P III	500 MHz	2.2 A	3.4 A
Mobile P III	700 MHz	2.3 A	3.8 A
Pentium III	700 MHz	2.3 A	5.1 A
Pentium III	850 MHz	2.4 A	5.8 A

- Idle measured at DOS prompt, max power saving
- operating measured at DOS prompt, no power saving

Power Allowances - PMC slot

- +5 V, +3.3V: Total power max. 7 W
- ±12 V: 50mA each

Mechanical

- 6U, 1 slot wide (233 x 160 x 20.32mm) incl. Flash Drive
- 6U, 2 slot wide (233 x 160 x 40.64mm) with bridge piggy (option)
- Conforms to PICMG CompactPCI 2.0

Temperature

- Note: For detailed information about the operating temperature behavior of the board of any style it is absolutely necessary to consult the manual. The processor type and speed, the use or not use of Ethernet and video, and the type of cooling influences the board temperature range.
- All values under typical condition without PMC module

Range	Operating[*1]	Storage[*1*4]
Standard[*2]	0°C to +70°C	–40°C to +85°C
Extended[*3]	–40°C to +70°C	–40°C to +85°C

[*1] Complete board may be limited to a smaller temperature range by mounted PMC module

[*2] 0°C to +50°C with mechanical drives

[*3] Extended not available with mechanical drives

[*4] -40°C to +65°C with mechanical drives

Humidity

- Operating: 5 - 95% @ 40°C
- Storage: 5 - 95% @ 40°C

Altitude

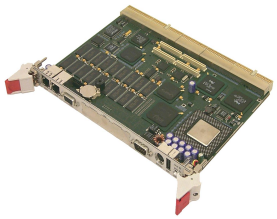
- Operating: 15.000 ft. (4.5 km)
- Storage: 40.000 ft. (12 km)

MTBF

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

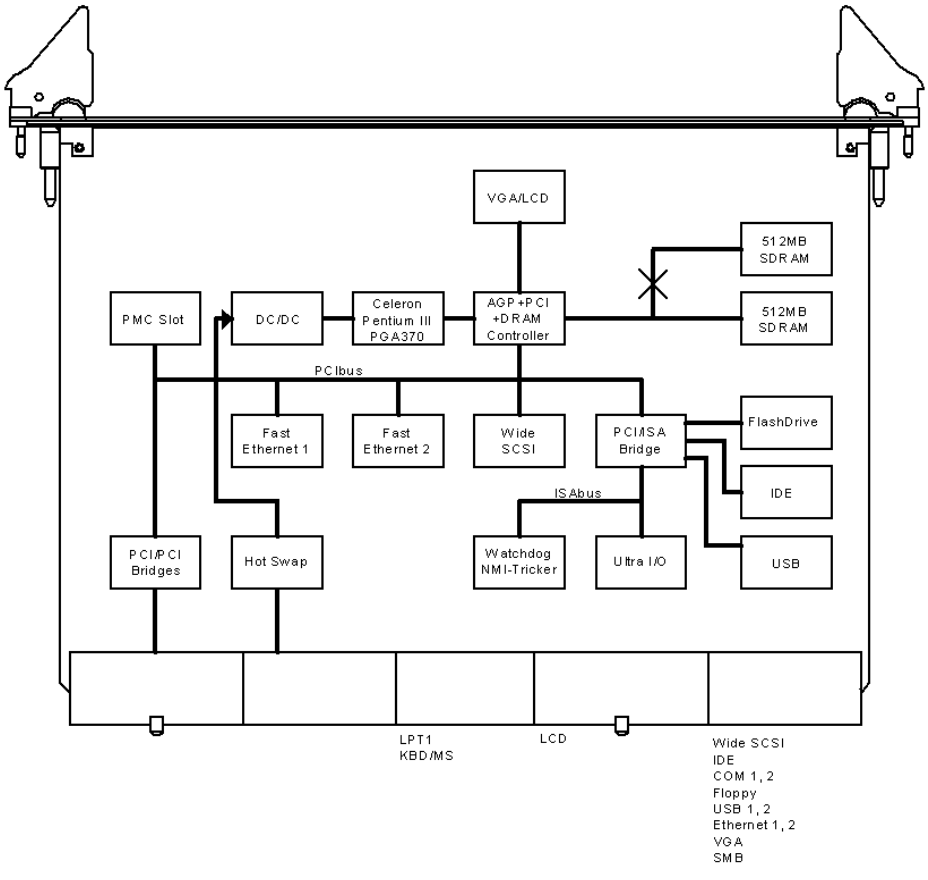
Safety

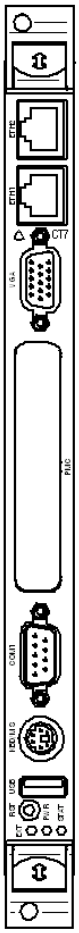
- Certified to standard UL1950



CT7

Block Diagram





Ordering Information

Hardware Accessories

CTM10:	I/O transition module for 6U backplane
CT7-TM:	I/O transition module for 6U backplane (IEEE 1101.11-1998 compliant)
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, cable
YLBSCSI304A:	Flat cable for external SCSI drive, 60cm (23.6inch)
ZKAAPS2SPLIT:	Cable for keyboard and mouse on front panel
SCC784TE08CT7:	CT7 starter cage 7U, 84HP, 8 slots, fans, 250W power supply, CDROM, hard disk, floppy drive

Operating Systems

Extensive operating systems support is available (see page 3).
Chassis with power supplies, backplanes and drives on request.
For detailed information and further options, contact SBS.

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