

cPRO3

3U CompactPCI

Single Board Computer

Features:

- Processor speeds up to 333MHz
- Up to 128MB EDO RAM Memory
- 512KB of Level 2 Cache
- 10/100BaseT (Twisted Pair) Ethernet
- Floppy Controller Interface
- Primary IDE Hard Disk Interface
- Front Panel Mouse and Keyboard Port
- Rear Panel COM1, COM2, LPT1
- Rear Panel USB Port Interface
- Support for up to 144MB of Flash Disk-on-chip



The cPRO3 3U System Controller Compact PCI Single Board Computer is an extension of the Proteus family of embedded computers from SBS Technologies. The cPRO3 is targeted for embedded applications and incorporates a Socket 7 processor; offering a variety of high level processor speeds, including Low Power Pentium support. The cPRO3 is based on the CompactPCI (cPCI) specification of the PCI Industrial Computers Manufacturing Group (PICMG).

Software Compatibility

The cPRO3 PC is compatible with software written for the IBM PC/AT. Accordingly, it can run the wide variety of off-the-shelf software available for 80x86-based computers. Contact SBS Embedded Computers for information on driver-level support for common operating systems such as Wind River Systems VxWorks.

Hardware Overview

The cPRO3 has been designed to provide all the functionality of a complete PC/AT motherboard, such as keyboard and mouse ports, parallel port, serial ports (COM1/COM2 at TTL level via J2), USB port (J2), floppy and IDE. Additional features such as ethernet are also provided. The cPRO3 incorporates an ALi Aladdin IV chipset that is completely compatible with industry standard PC hardware and software.

Processor Support

The cPRO3 is available with a choice of Socket 7 processors to allow optimum speed selection. Low Power Pentium® processors are available at 166MHz and 266MHz, allowing the selection of the processor that best suits the needs of the application. The cPRO3 also supports AMD K6-2 processors, available for 333MHz operation.

Level 2 Cache

The cPRO3 incorporates 512KB of Synchronous Pipeline-Burst SRAM (PBSRAM) as Level 2 Cache. With a system bus clock of 66MHz, the cPRO3 cache provides hit rates of 3-1-1-1 for read and write cycles and 3-1-1-1-1-1 for back-to-back read and write cycles. The 512KB cache size is optimum for up to 128MB of system memory.

System Memory

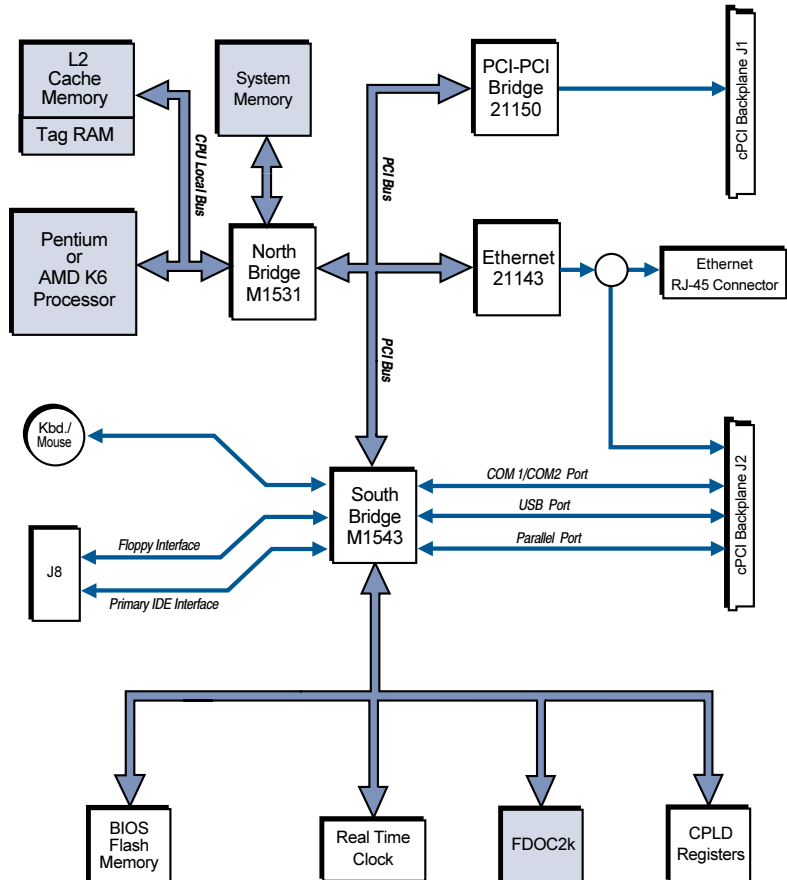
The cPRO3 is available from the factory with up to 128 MB of SDRAM memory.

Floppy Interfaces

For floppy disk drives, an integrated floppy disk controller is provided and is capable of controlling one or two 1.44MB 3.5" floppy disk drives. The floppy control signals are provided via the XB_IDE connector.

Enhanced IDE Interface

The cPRO3 incorporates a Primary PCI IDE interface which is common on desktop PCs. The on-board EIDE controller is provided by the ALi chip set with the control signals routed to the XB_IDE connector.



Ethernet

The cPRO3 incorporates a fully IEEE 802.3 compatible Ethernet interface. The PCI resident Ethernet controller (DEC 21143) is capable of master operations over the PCI bus to provide maximum throughput. The 10/100BaseT physical interface is provided through the RJ45 connector on the front panel, or through connector J2.

I/O Interfaces

The cPRO3 incorporates the I/O capabilities of a complete PC/AT by using the Aladdin M1543 Super I/O Controller. These capabilities include two Universal Serial Bus (USB) ports, two TTL level serial communications ports, and a parallel printer port. The mouse and keyboard ports are combined at the front panel. Ports other than the mouse and keyboard are also



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provided at the P2 backplane connector and require the TB_cPRO3 option board. The COM-2 serial port can be enhanced for software selectable RS-422 /RS-485 operation via the TB_cPRO3.

XB_IDE Transition Board

To further enhance the capabilities of the cPRO3, two additional Transition Boards are available. The XB_IDE2 Transition board, which comes with the cPRO3 is intended primarily as a development tool,

and will physically occupy the adjacent card slot space. It allows floppy and IDE drive access through standard PC ribbon cables.

TB_cPRO3 Transition Board

The TB_cPRO3 Transition board is an option board that may be ordered to enhance the I/O capabilities of the cPRO3. The TB_cPRO3 option provides RS-232 compatible signal levels for COM1 and COM2 serial ports, and jumper selectable

enhancement for RS-422 or RS-485 operation of the COM2 port. The TB_cPRO3 board also provides a parallel port through a standard 26-pin connector, and a 10-pin dual USB port connector.

Support

Every cPRO3 is shipped with a comprehensive User's Manual. Also, SBS Embedded Computers provides free technical support for all of our board products.

cPRO3 Ordering Numbers and Options

cPRO3 Embedded PC

cPRO3/*-166	166MHz Pentium® Low Power Pentium
cPRO3/*-266	266MHz Pentium® Low Power Pentium
cPRO3/*-333	333Mhz AMD K6 Processor

Options and Accessories

FDOCK-XX	Flash (Disk-on-Chip) - Available in capacities from 2MB to 144MB
TB_cPRO3	Transition Board Option for P2 Backplane I/O

Software Options

VxWorksSP-cPRO3	VxWorks Support Package
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General	Model Description	cPRO3 CompactPCI Single Board Computer
USB	Controller Number Transfer Rate	ALi Aladdin IV Chip Set 2 Low Speed (1.5MBs) & Full Speed (12MBs)
PCI Bus	Controller Clock Rate	ALi Aladdin IV Chip Set 33MHz
Serial Interface	Controller Number Compatibility Interface Type Signals Provided Connector	ALi Aladdin IV Chip Set (16550 compatible) 2 IBM PC COM1:TTL; COM2: TTL Rx/D, Tx/D, RTS, CTS, DSR, DTR, DCD, RI COM1 and COM2 thru the Backplane or optional TB_cPRO3 board for RS-232 and COM2 RS-485
Parallel Interface	Controller Number Compatibility Interface Connector	ALi Aladdin IV Chip Set (16550 compatible) 1 Centronics Parallel, PS/2 Bidirectional Buffered Parallel Available through the Backplane or optional TB_cPRO3 board
Mouse/Keyboard Interface	Controller Compatibility Connector	ALi Aladdin IV Chip Set Microsoft Mouse and PS/2 style Keyboard resident in a single 6-Pin mini connector, reverse IBM standard. Keyboard default, Mouse through adapter 6-pin Circular Mini-Din
Disk Drive Interface	Floppy Disk Hard Disk	ALi Aladdin IV Chip Set, Provided thru XB_IDE connector or optional TB_cPRO3 Primary PCI IDE Interface Provided Thru XB_IDE connector or optional TB_cPRO3
Ethernet Interface	Type Controller	IEEE 802.3 10/100BaseT (Twisted pair) Provided through RJ45 front panel connector or optional through the TB_cPRO3 board DEC 21143, Q6611 phy
Electrical	Power	+5VDC @ 2-5A (memory & CPU dependent) +3.3VDC @ 400mA (max) 11.5-27W (memory & CPU dependent)
Physical	Size Construction	100mm x 160mm (3.94 in. x 6.30 in) 3U Multi-Layer Printed Circuit
Environmental	Temperature Cooling Humidity Shock	0 to 55° Celsius Inlet Air, Operating (Extended Temperature versions available on request. Contact factory for more information) -40 to 85° Celsius, Non Operating Forced Air, 100LFM Minimum Required 10 to 95% Relative Humidity, Non-Condensing 6G Max. Operating, 10G Max. Non-Operating

Embedded Computers

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Specifications subject to change without notice. Rev. 2/00