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Find the *Abaco Systems / SBS VP74221-P0BC* at our website: ***Click HERE***

# VP7
## Pentium® III All-In-One PC
### 6U VMEbus Embedded Computer

## Features

- High Performance **Pentium®III**, 500-**600 MHz** Celeron-A, 366-433 MHz
- **Ultra compact** all-in-one PC Occupies **2** VMEbus **slots only**
- Windows **NT**, Windows **98**, **QNX**, **VxWorks**, **Solaris**, **MS-DOS**, ...
- **VME-64 - Tunda Universe-2**
- Up to **512 MB SDRAM 100 MHz** with **ECC**
- **FlashDrive** up to 220 MB
- **VGA** and **LCD** up to **1600x1200 2(4) MB** high speed **SDRAM**
- **Fast+ Ethernet**
- **Wide SCSI** up to 40 MB/sec
- PCIbus enhanced **IDE**
- **PMC** extension slot
- **4x serial** I/O with FIFOs RS-232 or **RS-422/485** interf.
- **2x** IEEE 1284 **parallel** ports
- **2x USB**
- **Watchdog**, **NMI ticker**, **temperature sensor**
- Single **+5 volt** supply **only**
- Optional **–40°/+75°C**
- **Custom specific**, **low cost** assembly versions



The *VP7* VMEbus all-in-one 6U single board computer is designed to meet the needs of embedded application developers addressing markets like telecommunication (high bandwidth, broadband data or intelligent network switching), industrial automation, military and aerospace, medical, scientific, and imaging. Supported operating systems are Windows NT, Windows 98, MS-DOS, QNX, VxWorks, Solaris and others.

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

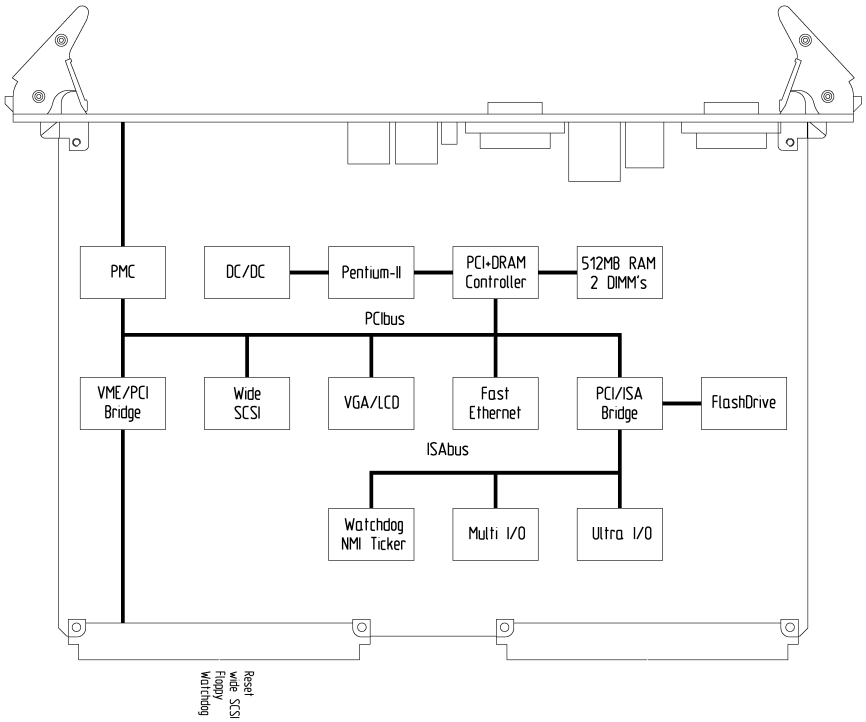
Rugged and military needs are addressed with extended temperature range of up to –40°C to +75°C, and features like LCD supporting a large variety of rugged flat panels.

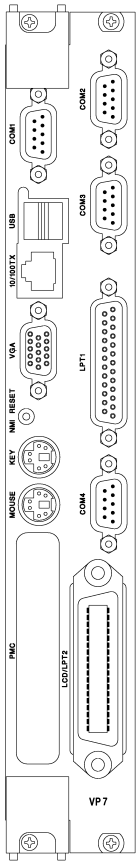
Special features include four serial channels with flexible RS-232 or RS-422/485 interfacing and single +5V supply.

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## Block Diagram and Front Panel I/O




## Specifications

***VME-64*** - Tundra Universe-2
Industry standard CA91C142 Universe-2 PCI to VMEbus controller
60-70 Mbytes/sec transfer rate, full VMEbus system controller
FIFOs for write posting, DMA controller with linked list support
Master/slave transfer modes: BLT, ADOH, RMW, LOCK, RETRY
A32 / A24 / A16 and D64(MBLT) / D32 / D16 / D8

***Processor*** - scaleable
Scaleable processing power with flexible Slot 1 design
Intel Pentium®III: 500 - 600 MHz and faster frequencies
Intel Celeron-A: 333 - 433 MHz
Please see price list for latest CPU versions
High efficiency on-board switching regulator (DC/DC)
Fanless cooling with heatsink

***Performance***

| CPU | Frequency | Winstone 98 business/high | SPEC 95 int/fp |
|---|---|---|---|
| Celeron-A | 366 MHz | 27.3/34.2 | |
| | 433 MHz | 28.1/37.0 | |
| Pentium®III | 500 MHz | 31.6/41.7 | |
| | 600 MHz | 33.3/45.2 | |

(128 MB RAM, 1024x768 256 color, ST34502LW HD)

***Chipset*** - long term availability
Intel 82443BX PCI chipset with 82371EB (PIIX4) ISA-bridge
100 MHz system bus with Pentium®III (66 MHz with Celeron-A)
PCI burst mode transfers faster than 110 Mbytes/sec
32-bit wide PCIbus (33 MHz)

| ***Cache*** | level 1 | level 2 |
|---|---|---|
| Pentium®III | 32 KB | 512 KB, half speed |
| Celeron-A | 32 KB | 128 KB, full speed |

***Memory*** – high-speed 100 MHz SDRAM
2 DIMM sockets for 32 to 512 Mbytes 64-bit wide 100 MHz SDRAM
Optional with error correction (ECC)

***FlashDrive*** - up to 220 Mbytes
Optional 4 to 220 Mbytes on-board SanDisk ATA FlashDrive
Higher capacities on request

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***VGA*** and ***LCD*** - 1600 x 1200, 2 MB SDRAM
CT69000: 64-bit Windows accelerator and LCD flat panel interface
On-chip high speed 2 Mbytes synchronous DRAM (83 MHz)
Resolution up to 1600x1200 (60 Hz), 1280x1024 (75 Hz), 135 MHz
1600x1200 (75 Hz, 170 MHz) with 4 Mbytes SDRAM on request
Monochrome and color TFT or STN panel support
Flexible 9, 12, 15, 18 or 24-bit panel interface (also dual-scan)
Up to 16.7 million true colors on STN panels with HiQColor

***Fast+ Ethernet*** - 10/100 Mbits/sec with DMA
AMD 79C972 controller
12 Kbytes FIFO buffers and DMA for max. PCIbus offload
10BaseT and 100BaseTX auto-negotiation interface

***Wide-SCSI*** - up to 40 Mbytes/sec
53C875 controller with PCI local bus DMA
Active low power termination on-board

***EIDE*** - with PCIbus DMA, 33 Mbytes/sec
Ultra DMA/33 sync. DMA mode up to 33 Mbytes/sec
PIO mode 4 and bus master IDE up to 14 Mbytes/sec
2 devices supported, on-board FlashDisk or 2.5" hard disk

***PMC Extension Slot***
32-bit PCIbus interface with front panel I/O

***4x Serial I/O*** - RS-232 and RS-422/485
Four async. 16550 compatible full duplex serial channels
High-speed transfer up to 115.2 kbaud with 16 byte FIFOs
COM 1+2 user selectable RS-232 or RS-422/485 interface
COM 3+4 with RS-232 interface, RS-422 on request

***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<br>720 KB and 1.44 MB |
| ***2x USB*** | Two 12 Mbits/sec universal serial bus channels |
| ***Keyboard*** | PS/2 compatible, separate front connector |
| ***Mouse*** | PS/2 compatible, separate front connector |
| ***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*** | SW readable from –55°C to +125°C,<br>0.5°C increments |
| ***NMI-Ticker*** | User programmable NMI timer 0.3 to 18 ms<br>for real-time applications |
| ***LED*** | Front panel LED (red) user programmable |

***BIOS Features***
AMI BIOS, in-system programmable Flash ROM
CPU, memory and IDE auto-detection/selection
Integrated VGA, Ethernet and SCSI BIOS
Supports various LCD panels (see www. for detailed information)
Password protection, BIOSpost, system and video BIOS shadowing
Extensive setup with remappable serial/parallel ports
Diskless, keyboardless and videoless operation

***Front and Rear I/O***

| Function | Front I/O | On-board I/O | Rear I/O |
|---|---|---|---|
| VGA | HD-15 | - | - |
| 10/100BaseTX | RJ-45 | - | - |
| PMC slot | yes | - | - |
| Keyboard | mini-DIN | - | - |
| Mouse | mini-DIN | - | - |
| 2x USB | 2x USB | - | - |
| Reset | switch | - | yes |
| LED | LED | - | - |
| COM 1 | D-09 | - | - |
| COM 2-4 | 3x D09 | 3x 10-pin | - |
| LPT 1 | D-25 | 26-pin | - |
| LPT 2 | (36-pin) | 26-pin | - |
| LCD | 36-pin | 40-pin | - |
| Speaker | - | speaker | - |
| EIDE | - | 44-pin, 2.0 mm FlashDisk/ 2.5" HD | - |
| Wide SCSI | - | - | 50-pin, 68-pin |
| Floppy | - | - | 34-pin, 26-pin |
| Watchdog | - | - | yes |

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

***Power Requirements*** - +5 volt only (under MS-DOS)

| CPU | Frequency | Idle | Operating |
|---|---|---|---|
| Celeron-A | 366 MHz | 1.9 A | 4.4 A typ. |
| | 433 MHz | 1.9 A | 4.9 A typ. |
| Pentium®III | 500 MHz | 2.3 A | 5.9 A typ. |
| | 600 MHz | 2.3 A | 6.3 A typ. |

***Mechanical***
6U, 2 slot wide (233 x 160 x 40 mm) including FlashDrive
Most external I/O on front-panel using standard PC connectors only

| ***Temperature*** | Operating | Storage |
|---|---|---|
| C-Style | 0°C to +55°C | –40°C to +85°C |
| I-Style (Celeron-A) | –40°C to +75°C | –40°C to +85°C |
| I-Style (Pentium®III) | | –40°C to +55°C–40°C to +85°C |
| ***Humidity*** | 5 - 90% @ 40°C | 5 - 95% @ 40°C |
| ***Altitude*** | 15.000 ft. (4.5 km) | 40.000 ft. (12 km) |

| | |
|---|---|
| ***Shock*** | TBD G, TBD ms |
| ***Vibration*** | TBD G @ 5 to TBD Hz |
| ***MTBF*** | TBD hours according MIL-HDBK-217, 20°C, GB<br>approx. TBD hours based on field test |
| ***Safety*** | All PCBs are manufactured with a flammability<br>rating of 94V-0 by UL recognized manufacturers |

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# VP7
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## Ordering Information

| V P 7 | 0 0 0 0 | - H | 0 1 | C | |
|---|---|---|---|---|---|
| | 0 | | | | no VGA |
| | 3 | | | | VGA\LCD (PCI) 2 MB SDRAM |
| | 0 | | | | no LAN |
| | 2 | | | | 10BaseT and 100BaseTX |
| | 0 | | | | no SCSI |
| | 2 | | | | Wide Ultra Fast SCSI-2 (PCI) |
| | 0 | | | | no COM3+4 |
| | 1 | | | | 0+ COM3+4 = RS-232, LPT2 |
| | 2 | | | | 0+ COM3+4 = RS-422, LPT2 |
| | | J | | | 32 Mbyte DRAM |
| | | L | | | 64 Mbyte DRAM |
| | | N | | | 128 Mbyte DRAM |
| | | P | | | 256 Mbyte DRAM |
| | | Q | | | 512 Mbyte DRAM |
| | | | 0 | | no Flash |
| | | | G | | 4 Mbyte Flash |
| | | | J | | 10 Mbyte Flash |
| | | | K | | 20 Mbyte Flash |
| | | | L | | 40 Mbyte Flash |
| | | | M | | 80 Mbyte Flash |
| | | | N | | 140 Mbyte Flash |
| | | | P | | 220 Mbyte Flash |
| | | | 4 | | 2.1 Gbyte hard disk |
| | | | 8 | | 8.4 Gbyte hard disk |
| | | | | E | Celeron-A, 366 MHz |
| | | | | G | Celeron-A, 433 MHz |
| | | | | 8 | Pentium®III, 500 MHz |
| | | | | K | Pentium®III, 600 MHz |
| | | | | C | 0°/+55°C |
| | | | | I | -40°/+75°C(+55°C) |

### Hardware Accessories

| | |
|---|---|
| SPC-R422C | RS-422/485 driver for one channel (max. 2) |
| VP6-TM | I/O transition module |
| SC304F | Floppy disk 3.5 inch, 19"-box: 3U/4HP, cable |
| SC306HS04G | SCSI hard disk 3.5", 4.3 GB, 3U/6HP-box, cbl. |
| YLBSCSI304A | Flatcable for external SCSI drive, 60 cm, 3U/4HP front panel, 50-pin Centronics conn. |
| XCARD10C | PMC module: PCcard adapter |
| DOS-CARD | MS-DOS PCcard driver for XCARD10 |

### Operating Systems

| | |
|---|---|
| DOS-SETUP2 | Default setup (BIOS) modification tool |
| DOS-MD600x | MS-DOS operating system |
| WIN-98xC | Windows 98 operating system |
| WIN-NT4xC | Windows NT 4.x operating system |
| QNX-11252 | QNX4 operating system |
| QNX-11294 | QNX4, Photon microGUI |
| SOL-x | Solaris (on request) |

### VMEbus Software

| | |
|---|---|
| DOS-VME | VME driver for MS-DOS |
| W98-VME | VME-DLL and I/O driver for Windows 98 |
| WNT-VME2 | VME-DLL and I/O driver for Windows NT |
| QNX-VME | VMEbus driver for QNX |
| VXW-BVX7 | VxWorks BSP with VMEbus driver |

### Chassis

| | |
|---|---|
| SC-784TV13000B | 7U/84HP, EMI-chassis, 13 slot 6U VMEbus backplane 110/220 VAC supply 250 watts, 3x fan |

Special chassis, supplies, backplanes and drives on request.

**Please ask for your complete starter-kit including, CPU module, pre-installed operating system and chassis**.


SBS Technologies

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