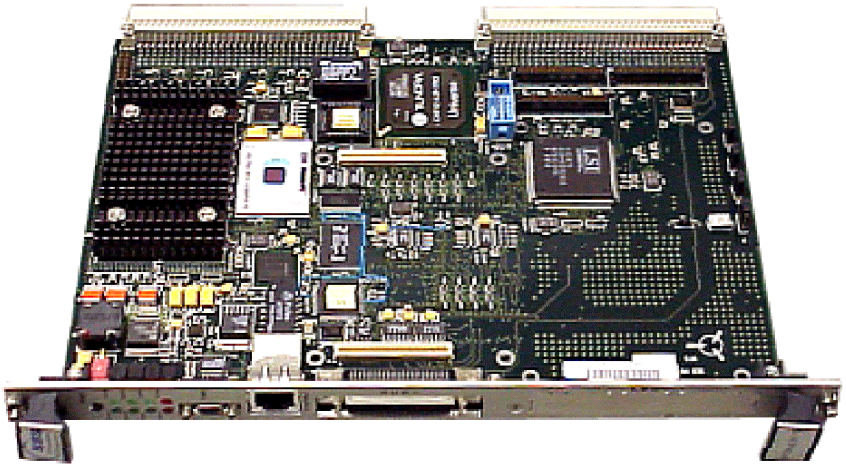
# Power7E
## PowerPC VME
## Single Board Computer

### Features:

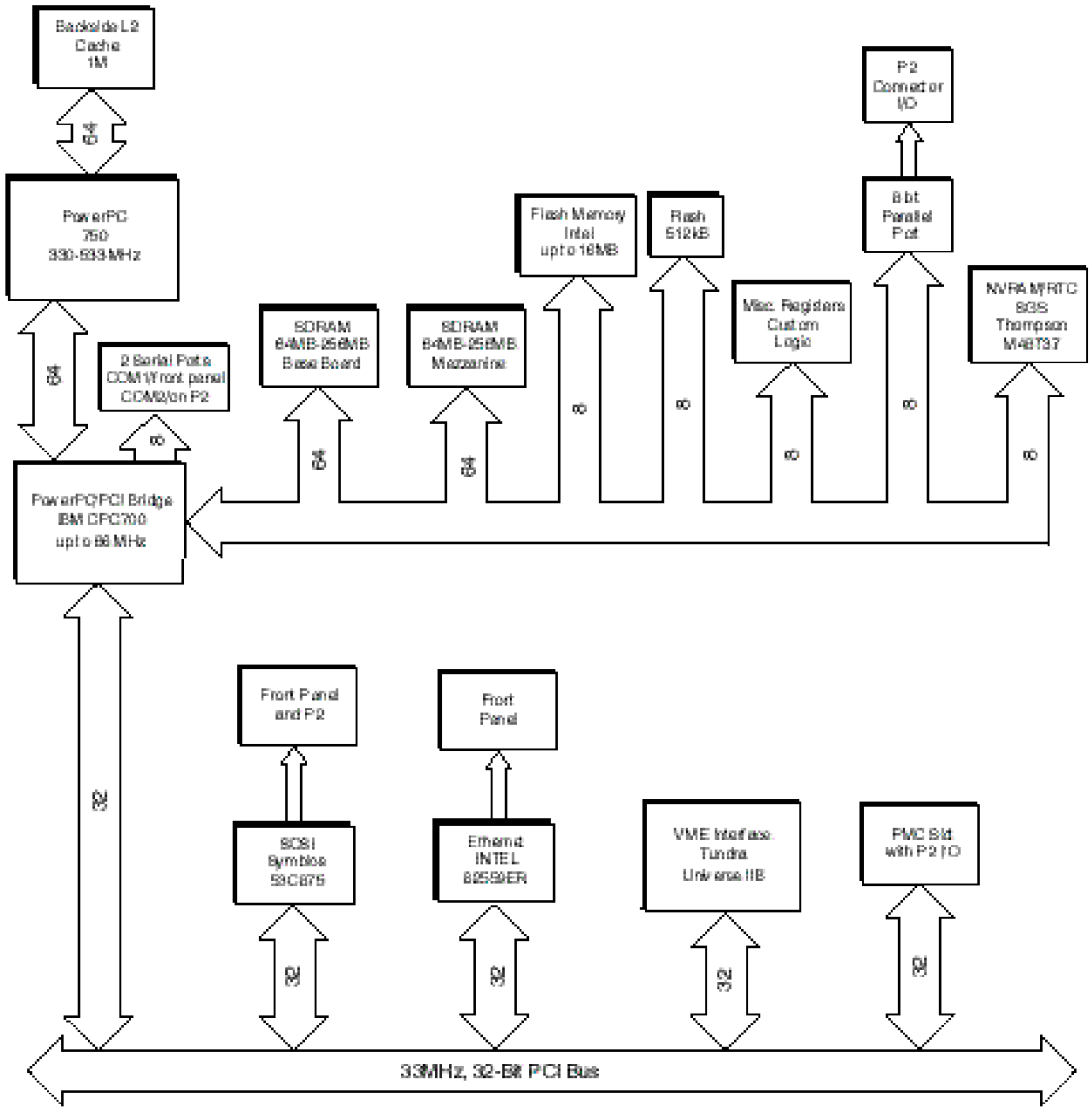
- PowerPC 750 @ up to 533MHz
- 66 MHz System Bus
- 64MB to 512MB of SDRAM with ECC at 66MHz
- 1 MB L2 Cache at up to half of processor speed
- 512kB Socketed Boot Flash and 4MB onboard Strata Flash
- 32kB NVRAM/RTC
- 10BaseT/100baseT Ethernet
- Two RS-232C Serial Ports: COM1 on Front Panel, COM2 on VMEP2
- Parallel Port on VME P2
- IBM® CPC700 PCI Bridge/ Local Bus/ Memory Controller
- Tundra Universe IIB PCI / VME Bridge
- LSI 53C875 Providing Ultra SCSI Port on Front Panel & VME P2
- PMC Expansion Slot with I/O routed to VME P2



***The Power7E*** (P7E) is a 6U VME 64 Single Board Computer. It is available with up to 256MB of ECC SDRAM. An additional 256MB may be installed via a mezzanine memory card for up to 512MB total system memory. In addition, the P7E contains 4MB of Intel Strataflash, 32kB of NVRAM, and 512kB of socketed flash memory. The P7E operates in either a system or a non-system slot.

The Power7E VME interface is implemented with the Tundra Universe IIB chip. The Universe IIB provides a fully compliant 64-bit VMEbus interface, VME interrupter and handler, and VME system controller.

# Power7E PowerPC VME Single Board Computer




### Processor Support

The Power7E is designed for a PowerPC 750 at 333 - 533MHz. The PowerPC 750 SYSCLOCK is driven at 66MHz. A JTAG emulator port is provided by a keyed 2 x 8 header on the board. JTAG (Joint Test Action Group, IEEE standard 1149.1) protocol contains commands to read/set the values of the pins (and internal registers) of devices. JTAG facilitates board testing, as signals not visible at the board connector may be read and set.

### Ethernet

The Power7E incorporates an Intel 82559ER Ethernet LAN controller. The PCI resident Ethernet controller 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.

### I/O Interfaces

The CPC700 contains two UARTs that provide two-wire, full-duplex serial interfaces to support communications with serial peripheral devices. Each UART is compatible with NS 16550 and includes a 16-byte send and a 16-byte receive FIFO. Supports 5-to-8-bit word size, 1/2 stop bits, and even/odd parity.

### PMC Expansion

The Power7E provides a PCI Mezzanine Card (PMC) slot that conforms to IEEE draft standards P1386 and P1386.1. The interface allows single-width PMC

expansion boards to be plugged into the board's PCI bus.

### Flash Memory

A socket provides 512kB bytes of flash memory organized as 512kB x 8. The socket uses 32-pin PLCC devices. The Power7E also contains an additional 4 to 16 MB of soldered flash memory. This flash (Intel StrataFlash) can be used as the boot flash by removal of a jumper on the board.

### SCSI

The LSI 53C875 provides a SCSI-3 interface capable of transferring 40 MB/sec in Ultra-Wide synchronous mode. SCSI peripherals can access the SCSI Interface by using a mini DB-50 SCSI-2 cable on the P7E's front panel. SCSI access is also available via an I/O module (P7E-TM) that plugs into the VME P2 connector behind the VME backplane. The 53C875 is a PCI peripheral, and contains several PCI configuration registers.

### NVRAM

The Power7E contains 32kB of battery-backed non-volatile SRAM. This NVRAM is physically located on the ROM bus (CPC700).

### Support

Every Power7E is shipped with a comprehensive user's manual. SBS Technologies provides free technical support for all of our board products.

## Power7E Ordering Numbers and Options

### Power7E VMEbus SBC

| | |
|---|---|
| P7E - 400 - 64 | 400MHz PowerPC750 Processor w/ 64MB SDRAM |
| P7E - 400 - 128 | 400MHz PowerPC750 Processor w/ 128MB SDRAM |
| P7E - 400 - 256 | 400MHz PowerPC750 Processor w/ 256MB SDRAM |

### Options and Accessories

| | |
|---|---|
| MEM / E64 | Memory Mezzanine Card w/ 64MB SODIMM w/ ECC |
| MEM / E128 | Memory Mezzanine Card w/ 128MB SODIMM w/ ECC |
| MEM / E256 | Memory Mezzanine Card w/ 256MB SODIMM w/ ECC |

### Software Options

| | |
|---|---|
| VXWSP - 7E | VxWorks Support Package |

# Power7E Specifications

| | | |
|---|---|---|
| **General** | Model | Power7E |
| | Form Factor | 6U VMEbus Single Board Computer |
| **Processor** | Clock Rate | 66 MHz core speed |
| | L2 Cache | Runs at a ratio of the CPU core speed |
| **PCI Bus** | Controller | CPC700 |
| **Memory** | SDRAM | 64 MB/128MB/256MB of onboard Synchronous DRAM |
| | Flash | 512 kB Boot PROM (Socketed 32 pin PLCC)<br>4-16 MB soldered flash (Intel StrataFlash) |
| | NVRAM/RTC | 32 kB NVRAM and Real Time Clock with battery back-up (removable) |
| **Ethernet** | Controller | Intel 82559ER 10BaseT/100BaseTX to front panel RJ-45 connector |
| **Serial Ports** | Controller | CPC700 contains two 16550 compatible UARTs |
| | Type | Two RS-232C (Up to 115 kBaud) |
| **PMC** | 1 PMC Slot | PMC connection allows IEEE 1386 compatible, single size PMC module<br>SBS/V I Supported PMC's include: FDDI, 1553, SCSI, PCMCIA<br>Graphics Adapters and more |
| **JTAG** | | JTAG Emulator / Debug Port on-board |
| **Software** | O/S Support | VxWorks available |
| **Electrical** | Power | +5VDC @ 5A with 1 MB at 400MHz (typical)<br>+12VDC (Memory dependent)<br>-12VDC (Memory dependent) |
| **Environmental** | Temperature | 0 to +55°C Inlet Air Operating, -40 to +85°C, Non Operating |
| | Cooling | Forced Air, 100LFM Minimum Required |
| | Humidity | 10 to 95% Relative Humidity, Non-Condensing |

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