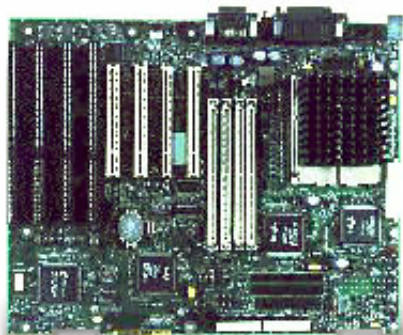# Model 686MBVS

Pentium Pro ATX Motherboard

FEATURES

- **Pentium Pro Processors**
- **Intel 440FX Chip Set**
- **Support for EDO or Fast Page Mode DRAM**
- **256MB Maximum DRAM**

DESCRIPTION

The VS440FX motherboard supports Pentium® Pro microprocessors operating at 150, 166, 180, and 200 MHz. The Pentium Pro microprocessor includes 16 KB of L1 cache on the chip. A 256KB L2 cache device is contained in the same package as the microprocessor.

The VS440FX offers the OEM and system integrators the opportunity to deliver the performance of the Pentium Pro processor at high volume desktop price points.

The VS440FX optimizes performance and reduces cost with the highly integrated Intel 82440FX PCI Chip set. Based on the Pentium Pro processor, the VS440FX offers outstanding performance on most applications, and is especially powerful for today's 32-bit applications and operating systems.

Based on the ATX form factor (which provides easy integration, more convenient end-user access, and superior thermal performance), the VS440FX is well suited for most leading edge desktop solutions.

Features of the motherboard include Desktop Management Interface (DMI) for software such as Intel's LANDesk Client Manager, support for up to 256MB of Fast Page or EDO system memory with ECC support, and PCI 2.1 compliant performance. The 82440FX PCI chip set offers high performance EIDE hard drive support for up to four devices and PIO Mode 4 transfer rates of up to 22MB/S.

SPECIFICATIONS

Processors Supported
Intel Pentium Pro
Socket 8 ZIF

Processor Clock Rate
150, 166, 180, and 200 MHz

Chip Set
Intel 82440FX (Natoma)

BIOS
Intel Flash BIOS

ISA Bus Clock
8.33MHz

PCI Bus Clock
33MHz

Memory Capacity
256MB Maximum On-board

SIMM Support
Four 72-pin SIMM sockets
Extended Data Out (EDO) or fast page memory, +5VDC
Support for non-parity, parity, or Error Checking and Correcting (ECC)

Cache Memory
256KB L2 Cache On-chip

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SPECIFICATIONS CONT.

EIDE Disk Controller

Dual Independent Channels
Four devices supported
LBA and PIO Mode 4 Support
CD-ROM Drive Support

Floppy Controller

Two drives supported
1.44MB and 2.88MB Capacity
3-Mode Support

I/O Controller

National Semiconductor
PC87308/87307 Super I/O controller
Plug and Play

Serial Port

One Serial Port, FIFO

Parallel Port

IEEE 1284 Compatible
EPP and ECP Support

Universal Serial Bus Port

Two optional USB ports
Direct connection of two USB peripherals without
external hub
Standard universal host controller interface
(UHCI)

Infrared Port

IrDA and Consumer IR Compatible

PS/2 Mouse Controller

8042A Compatible

PS/2 Keyboard Controller

8042A Compatible

Audio Subsystem

Crystal CS4236 Multimedia codec
Wavetable upgrade header

Real Time Clock

Century Reg
Year 2000 OK
±13 Minutes/year Accuracy

Special Features

Advanced Power Management
Power On, Off, Sleep, Resume

Expansion Slots

3 PCI Slots
3 ISA Slots
1 Shared ISA/PCI Slot

Board Type

ATX Standard Mounting

Board Size

9.6" x 12.0"
(244 x 305mm)

Power Requirement

+3.3 V ± 5%, 0.5A Typical
+5 V ± 5%, 6.0A Typical
-5 V ± 5%, 0.01A Typical
+12 V ± 5%, 0.4A Typical
-12 V ± 5%, 0.1A Typical

OPERATING ENVIRONMENT

Temperature

0º to 55ºC

Relative Humidity

5-95% R.H.N.C. @ 30ºC

STORAGE ENVIRONMENT

Temperature

-40º to +70ºC

Relative Humidity

5-95% R.H.N.C. @ 30ºC

Temperature

Non-Operating -40 °C to +70 °C
Operating +0 °C to +55 °C

Vibration

Unpackaged
5 Hz to 20 Hz : 0.01g² Hz sloping up to 0.02 g² Hz
20 Hz to 500 Hz : 0.02g² Hz (flat)
Packaged
10 Hz to 40 Hz : 0.015g² Hz (flat)
40 Hz to 500 Hz : 0.015g² Hz sloping down to
0.00015 g² Hz

MTBF

61,500 P.O.H. @ 55ºC

Regulatory Compliance

This printed circuit assembly meets the following
safety and EMI regulations when correctly
installed in a compatible host system.

Safety

UL 1950 - CSA 950-95, 3rd edition, 28 July 1995
The Standard for Safety of Information
Technology Equipment including Electrical
Business Equipment. (USA and Canada)
CSA C22.2 No. 950-93, 2nd Edition
The Standard for Safety of Information
Technology Equipment including Electrical
Business Equipment. (Canada)
EN 60 950, 2nd Edition, 1992 (with Amendments
1, 2, and 3)
The Standard for Safety of Information
Technology Equipment including Electrical
Business Equipment. (European Union)
IEC 950, 2nd edition, 1991 (with Amendments 1, 2,
and 3)
The Standard for Safety of Information
Technology Equipment including Electrical
Business Equipment. (International)
EMKO-TSE (74-SEC) 207/94
Summary of Nordic deviations to EN 60 950.
(Norway, Sweden, Denmark, and Finland)

Electromagnetic Interference (EMI)

FCC Class B
Title 47 of the Code of Federal Regulations, Parts
2 and 15, Subpart B, pertaining to unintentional
radiators. (USA)
CISPR 22, 2nd Edition, 1993
Limits and methods of measurement of Radio
Interference Characteristics of Information
Technology Equipment. (International)
EN 55 022, 1995
Limits and methods of measurement of Radio
Interference Characteristics of Information
Technology Equipment. (Europe)
EN 50 082-1, 1992
Generic Immunity Standard. Currently compliance
is determined via testing to IEC 801-2, -3 and -4.
(Europe)
VCCI Class 2 (ITE)
Implementation Regulations for Voluntary Control
of Radio Interference by Data Processing
Equipment and Electronic Office Machines.
(Japan)
ICES-003, Issue 2
Interference-Causing Equipment Standard, Digital
Apparatus. (Canada)

Product Certification Markings

This printed circuit assembly has the following
product certification markings:
European CE Mark Marking on the board or
shipping container.
UL Recognition Mark Marking is the UL File No.
E139761 on the component side of the board and
the PB No. on the solder side of the board. Board
material flammability is 94V-1 or -0.
Canadian Compliance Mark Marking is a small c
followed by a stylized backward UR on the
component side of the board.

ORDERING GUIDE

Model 686MBVS200

Motherboard with manual, 200MHz Pentium Pro
with heat sink and fan cooler

ACCESSORY

I/O panel for rear panel of Industrial Computer
Source chassis

Model 41865-18A

I/O Panel for 9300-ATX chassis

Model 41924-19A

I/O Panel for 7308T-23V or 7408T-23V

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