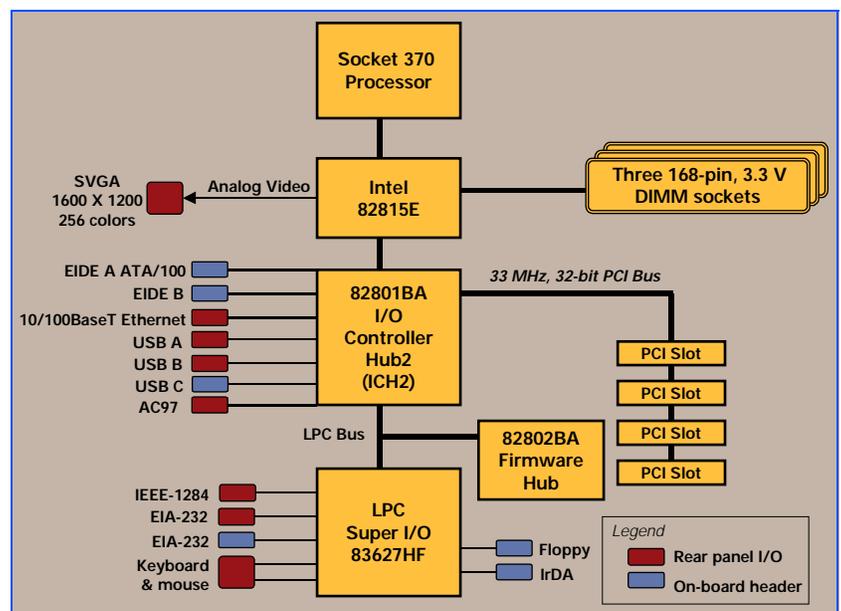**MOTOROLA**
intelligence everywhere™

A full-featured microATX motherboard for high-speed embedded applications

The VP22 is Motorola's fully featured product based on a standard microATX form factor. This motherboard supports a single Pentium III or Celeron processor (66/100/133 MHz front-side bus) on the Intel 815E chipset with integrated graphics. The VP22 brings the benefits of a socketed FC-PGA processor configuration, integrated Ethernet, three DIMM sockets for up to 512MB SDRAM memory, four PCI expansion slots, standard I/O ports and a high level of integration within the small footprint of a microATX motherboard. The VP22 is a cost-competitive performance or value-added motherboard, which couples Motorola's encompassing engineering ingenuity with Intel's strong market designs in a long-life, value-added embedded solution.

The VP22 motherboard is designed for high-speed embedded applications in industries such as medical diagnostic, digital imaging and print, automated test, and semiconductor equipment.

- Single Intel PGA370 socket Pentium III or Celeron processor
- 66/100/133 MHz processor-side bus
- Intel 815E chipset
- 256KB of L2 cache (Pentium III), 128KB of L2 cache (Celeron)
- Up to 512MB PC133 SDRAM memory
- Three 168-pin DIMM sockets
- Four 32-bit, 33 MHz PCI expansion slots
- 10/100Mbit Ethernet interface
- Two EIDE Ultra DMA/100 hard drive ports
- Video and audio interfaces
- Two asynchronous serial ports, parallel port, PS/2 floppy port, PS/2 keyboard/mouse support and an infrared header
- Three Universal Serial Bus (USB) ports
- Hardware monitor
- Three year warranty
- Supported by industry-standard operating systems such as Windows® NT, Windows 2000, Linux, and VxWorks

Intel Pentium III and Celeron Processors
For high-end embedded applications, the VP22 motherboard fully supports the Pentium III and Celeron processors. Both Intel processors are combined with the Intel 815E chipset resulting in exceptional processing capability. The Pentium III supports 256KB of integrated on-die Level 2 cache and the Celeron supports 128KB of integrated on-die Level 2 cache, delivering rapid data access to complex applications. For continual Pentium III and Celeron processor speed enhancement options, consult your Motorola sales representative.

Memory
The VP22 provides three 168-pin DIMM sockets on board. Up to 512MB PC133 SDRAM memory is supported.

On-Board I/O
The VP22 supports the standard motherboard I/O. On the rear panel is one RJ-45 connector for Ethernet, DB-9 serial connector, DB-9 video connector, parallel port connector, PS/2 mouse/keyboard connectors and two USB connectors. There are headers on the board for serial, IDE, floppy, and IrDA.

SPECIFICATIONS

Processor

PGA370 socket; supports 370-pin FC-PGA, 566+ MHz Pentium III or Celeron processor

L2 Cache

Pentium III:	256KB on-die
Celeron:	128KB on-die

Memory

Type:	SDRAM (PC133)
Connectors:	Provides three 168-pin DIMM sockets on board
Capacity:	512MB memory using DIMMs

Intel 815E Chipset

66/100/133 MHz processor-side bus

Ultra ATA/66 EIDE Interface

Controller:	Integrated into ICH2
Connector:	Two 40-pin headers

Ethernet Interface

Controller:	Integrated into ICH2
Interface Speed:	10/100Mb/s
PCI Local Bus DMA:	PCI bus master
Connector:	RJ-45

USB

Dual rear panel USB channels for 1.5Mb/s and 12Mb/s transfer rates allow for easy, hot plugging of USB peripherals, such as mouse, keyboard and game controls. An additional USB interface is available for internal use.

Super I/O Device

Controller:	LPC 83627HF
Interfaces:	Two asynchronous serial ports, parallel port, PS/2 floppy port, PS/2 keyboard/mouse interfaces, and an infrared header

Integrated Super I/O Interfaces

Floppy:	34-pin header (panel I/O) and compact FDD header
Keyboard Port:	6-pin mini DIN, panel I/O
Mouse Port:	6-pin mini DIN, panel I/O
Serial Ports:	9-pin D-sub, panel I/O, 10-pin header on-board
Parallel Port:	25-pin D-sub, panel I/O

Power Requirements

(board power usage only)

	+5 V	+3.3 V	+12 V	−12 V
866 MHz Pentium III	.73 A typ. 9.7 A max.	2.12 A typ. 9.2 A max.	22 mA max.	28 mA max.

Board Size

microATX Form Factor:	244 mm (9.6 in.) x 244 mm (9.6in.)

Demonstrated MTBF

(based on a sample of eight boards in an accelerated stress environment)

Mean:	190,509 hours
95% Confidence:	107,681 hours

Environmental

	Operating	Storage/Transit
Temperature:	0° C to +60° C (with approved airflow to properly cool P3 to meet Intel specifications)	−40° C to +85° C
Humidity (NC):	5% to 90% @ 40° C	5% to 95% @ 40° C
Vibration:	0.5 G RMS, 20–2000 Hz random	6 Gs RMS, 20–2000 Hz random

Electromagnetic Compatibility (EMC)

Intended for use in systems meeting the following regulations:

U.S.: FCC Part 15, Subpart B, Class B

Canada: ICES-003, Class B

This product was tested in a representative system to the following standards:

CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class B; Immunity: EN55024

Safety

All printed wiring boards (PWBs) are manufactured with a flammability rating of 94V-0 or better.

ORDERING INFORMATION

All models of the VP22 motherboard include: Ethernet, three DIMM sockets, four PCI slots, two EIDE ports, video and audio interfaces, two async serial ports and two USB ports.

Part Number	Description
VP22-566C	Standard product feature set with a 566 MHz Celeron processor and heatsink option
VP22-733P	Standard product feature set with a 733 MHz Pentium III processor and heatsink option
VP22-866P	Standard product feature set with a 866 MHz Pentium III processor and heatsink option
DIMM Memory Options (ordered separately)	
(0–4 DIMMs and same size limit per order)	
MEMSD-MB128-F	128MB SDRAM, PC133,unbuffered, non-ECC
MEMSD-MB128-K	128MB SDRAM, PC133, unbuffered, non-ECC
MEMSD-MB256-F	256MB SDRAM, PC133, unbuffered, non-ECC
MEMSD-MB256-K	256MB SDRAM, PC133, unbuffered, non-ECC
Documentation	
VP22A/IH1	VP22 microATX Motherboard Installation and Use
VP22BIOSA/RM1	VP22 microATX Motherboard BIOS and Programmer's Reference Guide
Documentation is available for online viewing and ordering at http://www.motorola.com/computer/literature	

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