Chipset

VIA PT880
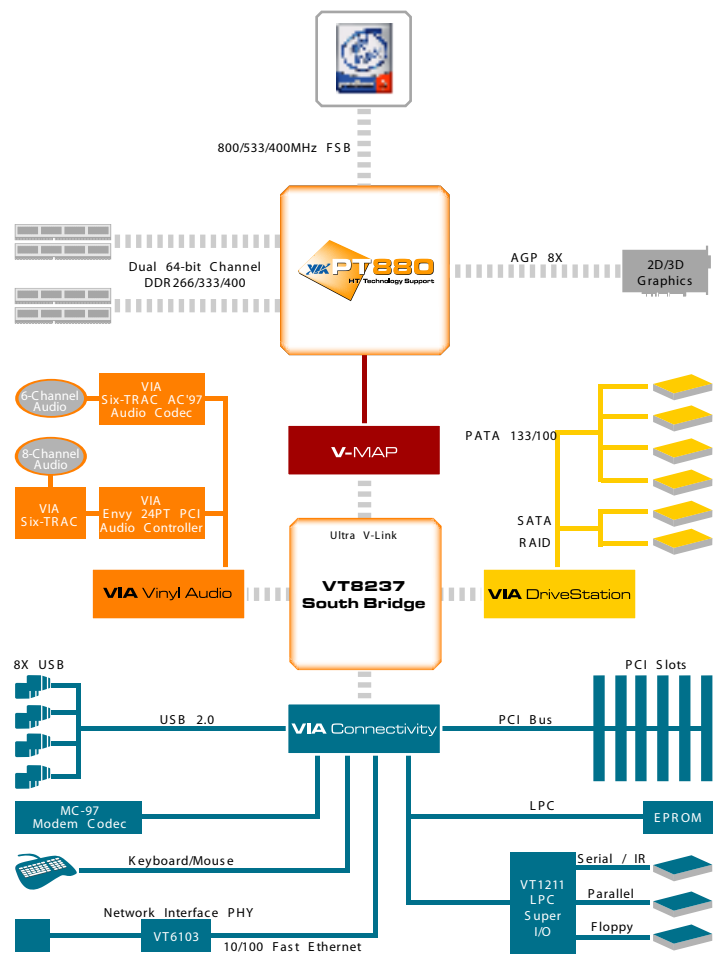## PERFORMANCE CHIPSET

Intuitive Technologies Powering the Pentium® 4 Platform

DualStream64   DriveStation   Vinyl Audio

Optimized for the Intel® Pentium® 4 processor, the VIA PT880 chipset features support for 800MHz FSB, Hyper-Threading, AGP 8X and includes the new VIA DualStream64™ dual channel DDR400 memory controller. Paired with the acclaimed VIA VT8237 South Bridge, the PT880 provides professionals and PC enthusiasts with unparalleled performance in demanding 3D graphics and computing applications, as well as a full arsenal of multimedia and I/O connectivity options including Serial ATA/RAID, 8-channel Audio, and Gigabit Ethernet.

Harnessing revolutionary new intuitive technologies, the VIA DualStream64™ memory controller enables lightning fast access to system memory and optimum system performance through an enhanced data prefetch protocol and improved memory branch predictions. Further performance enhancements include a larger on-chip branch table and a tighter read/write turn-around for improved clock timings. Furthermore, with an asynchronous bus design, the PT880 allows maximum system flexibility and optimization options, as is often demanded by today's power users.

Featuring the VIA DriveStation™ Controller Suite, the VIA VT8237 South Bridge provides the most comprehensive support high-performance integrated storage interface technologies available on the market today. In addition to enabling high-speed 150MB/s dual channel connections to Serial ATA Hard Drives while retaining support for up to four Parallel ATA-133 devices, it combines exceptionally fast disk data transfer rates and optimal data integrity with easy installation and manageability through V-RAID, the first native RAID controller integrated into a South Bridge supporting multiple RAID Level 0, RAID Level 1, RAID 0+1, and JBOD configurations. The VT8237 also features the VIA Vinyl Multichannel Audio Suite for superlative 6-channel and 8-channel immersion audio support. VIA's Advanced Connectivity Suite offers a host of high-bandwidth connectivity options, including

support for the VIA Velocity Gigabit Ethernet companion controller, integrated 10/100Mbps Fast Ethernet and up to eight high-speed USB 2.0 ports.

The PT880 benefits from VIA's unique V-MAP (VIA Modular Architecture Platform) architecture that facilitates faster product development and speeds up time to market, and features the high-throughput Ultra V-Link interconnect running at speeds of up to 1066MB/s between the North and South Bridge.

800/533/400MHz FSB

Dual 64-bit Channel DDR266/333/400

PT880
HT Technology Support

AGP 8X   2D/3D Graphics

6-Channel Audio
VIA Six-TRAC AC'97 Audio Codec

8-Channel Audio
VIA Six-TRAC
VIA Envy 24PT PCI Audio Controller

V-MAP

PATA 133/100

SATA RAID

Ultra V-Link

VIA Vinyl Audio   VT8237 South Bridge   VIA DriveStation

8X USB   PCI Slots

USB 2.0   VIA Connectivity   PCI Bus

MC-97 Modem Codec   LPC   EPROM

Keyboard/Mouse   Serial / IR
VT1211 LPC Super I/O   Parallel
                                    Floppy

Network Interface PHY
VT6103   10/100 Fast Ethernet

Chipset

VIA PT880
PERFORMANCE CHIPSET

Features	PT880	PT800
Processor	Intel® Pentium® 4	Intel® Pentium® 4
Hyper-Threading Support	Yes	Yes
Front Side Bus	800/533/400MHz	800/533/400MHz
Memory Support	Dual Channel DDR400/333/266	Single Channel DDR400/333/266
Max. Memory	8.0GB	8.0GB
AGP Support	AGP 8X/4X	AGP 8X/4X
Bus Architecture	Asynchronous	Synchronous
South Bridge	**VT8237**	**VT8237**
North/South Bridge Link	Ultra V-Link (1066MB/sec)	8X V-Link (533MB/sec)
Audio	VIA Vinyl™ 6-channel Audio (AC'97) VIA Vinyl™ Gold 8-channel Audio (PCI)	VIA Vinyl™ 6-channel Audio (AC'97) VIA Vinyl™ Gold 8-channel Audio (PCI)
Network	VIA Velocity Gigabit Ethernet companion controller VIA integrated 10/100 Fast Ethernet	VIA Velocity Gigabit Ethernet companion controller VIA integrated 10/100 Fast Ethernet
Integrated Modem	MC'97	MC'97
PCI Devices/Slots	6 slots Dual PCI-X bus - VIA VPX2 I/O expansion bridge	6 slots
SATA	Dual Channel Serial ATA supports 2 SATA devices SATALite™ interface for two additional SATA devices (4 total)	Dual Channel Serial ATA supports 2 SATA devices SATALite™ interface for two additional SATA devices (4 total)
V-RAID	RAID 0, RAID 1, and RAID 0+1* & JBOD (SATA)	RAID 0, RAID 1, and RAID 0+1* & JBOD (SATA)
PATA	Dual Channel Parallel ATA133 (up to 4 devices)	Dual Channel Parallel ATA133 (up to 4 devices)
USB	8 ports	8 ports
I/O Protocols	I/O APIC / LPC Super I/0	I/O APIC / LPC Super I/0
Power Management	ACPI/APM/PCI/PM	ACPI/APM/PCI/PM

*RAID Level 0+1 requires four Serial ATA drives; support for the two additional drives can only be implemented with two external Serial ATA ports enabled through a SATALite PHY.

Benefits

DualStream64
VIA DualStream64 is the world's most intelligent dual channel memory controller featuring revolutionary new intuitive technologies. The VIA DualStream64™ memory controller enables lightning fast access to system memory and optimum system performance through an enhanced data prefetch protocol and improved memory branch predictions. Further performance enhancements include a larger on-chip branch table and a tighter read/write turn-around for improved clock timings.

Native Serial ATA/RAID Support
The VIA DriveStation™ Advanced Connectivity Suite with native dual channel Serial ATA/RAID controller, provides direct support for two 150MB/s Serial ATA devices and its unique SATALite™ interface expands support for two additional SATA devices. The V-RAID controller features native RAID 0, RAID 1, and RAID 0+11, ensuring optimum data integrity and system performance. User friendly software interface enables easy disk array configuration.

VIA Vinyl Multichannel Audio Suite
Delivering rich, warm surround sound at resolutions as high as 24/96 through up to six- or eight-channel outputs, the VIA Vinyl Audio 5.1 surround sound and VIA Vinyl Gold Audio 7.1 surround sound enables crisp, clear performance, representing the highest levels of audio quality in a mainstream integrated or onboard solution.

Unified VIA Hyperion 4in1 Drivers
VIA's unified approach to drivers has been established for eight generations of chipsets, allowing end users to benefit from seamless hardware and software compatibility.

Features

- Supports full range of Intel® Pentium® 4 processors
- Hyper-Threading Technology support
- 800/533/400MHz FSB settings
- Supports up to 8GB Dual Channel DDR400/333/266
- Support for AGP 8X/4X
- Asynchronous bus architecture
- Ultra V-Link 1066 MB/sec high bandwidth North/South Bridge interconnect
- Support for VIA Vinyl 6-channel & Vinyl Gold 8-channel Audio
- Serial ATA support for up to 4 devices
- Integrated V-RAID with RAID 0, RAID 1, RAID 0+1*, and JBOD (SATA) support
- Parallel ATA133/100/66 support for up to 4 devices
- Support for up to 8 USB 2.0/USB 1.1 ports, UHCI compliant
- Support for VIA Velocity Gigabit Ethernet companion controller & Integrated 10/100 Fast Ethernet
- Integrated MC'97 Modem
- Advanced power management capabilities including ACPI/OnNow
- 819-pin BGA North Bridge
- 539-pin BGA VT8237 South Bridge