VIA CN400
Digital Media Chipset

Advanced VIA Processor Platform Chipset for Digital Lifestyle Devices
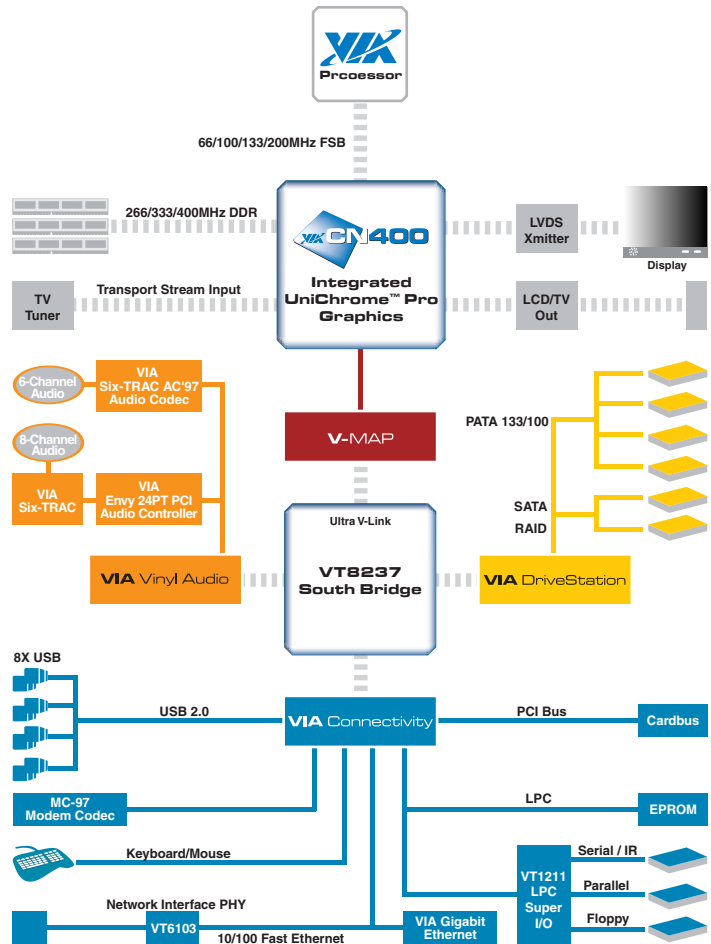
CN400   DriveStation   Vinyl

UniChrome Pro

Optimized to deliver a great Hi-Def™ visual experience, the VIA CN400 provides excellent digital media performance across the highly efficient VIA processor platforms for small form factor/low profile PCs, digital entertainment systems and notebooks, as well as next generation HDTV-ready Media Center PCs. Integrating a rich feature set and advanced power management, the CN400 extends the capabilities of VIA processor platforms across x86 entertainment devices for the home, vehicle and mobile markets.

Integrating the S3 Graphics UniChrome Pro IGP graphics core, the chipset features the Chromotion CE Video Display engine with hardware MPEG-2 and MPEG-4 acceleration. Together with an advanced 2D/3D graphics core, the VIA CN400 offers exceptional playback or streaming of various digital video formats while maintaining ultra low power consumption and exerting minimal load on the processor. The CN400 also features a robust shared memory architecture and support for up to 8GB of DDR400 memory with the acclaimed single channel FastStream64™ memory controller, and a high speed Ultra V-Link interface for a 1GB/s connection to VIA's feature-leading South Bridge options.

To connect to the latest displays, the VIA CN400 integrates a DVI flat panel interface and support for all HDTV formats including the latest 1080p displays and content. For systems with an integrated display, the VIA CN400 provides a DFP interface that supports single or dual channel LVDS encoders, while a dedicated interface is also provided for TV encoders to standard NTSC or PAL TV displays.

Combined with VIA VT8237 South Bridge, the VIA CN400 offers a comprehensive range of integrated storage, multimedia and connectivity options, including native Serial ATA and V-RAID, with support for RAID 0, RAID 1, RAID 0+1 and JBOD arrays, as well as support for VIA Vinyl Audio and high throughput Gigabit Ethernet with the VIA Velocity controller.

Block Diagram

- Processor
- 66/100/133/200MHz FSB
- 266/333/400MHz DDR
- CN400 — Integrated UniChrome™ Pro Graphics
- LVDS Xmitter — Display
- TV Tuner — Transport Stream Input
- LCD/TV Out
- 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
- VIA Vinyl Audio
- Ultra V-Link — VT8237 South Bridge
- VIA DriveStation
- 8X USB
- USB 2.0 — VIA Connectivity — PCI Bus — Cardbus
- 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 — VIA Gigabit Ethernet

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Features	CN400	CLE266
Processor	VIA Eden™, VIA Antaur™, VIA C3™	VIA Eden™, VIA Antaur™, VIA C3™
Front Side Bus	200MHz	133MHz
Memory Controller	FastStream64	Single Channel
Memory Support	DDR400/333/266	DDR266/200
Max. Memory	8GB	2GB
AGP Support	AGP 8X	AGP 8X
North/South Bridge Link	Ultra V-Link (1GB / s)	V-Link (266MB/s)
Graphics Core	UniChrome Pro IGP	UniChrome IGP
Video Acceleration	MPEG-4, MPEG-2	MPEG-2
Dual Monitor Support	Yes	Yes
Video De-blocking	Yes	No
Adaptive De-interlace	Yes	No
Hardware Display Rotation	Yes	No
Video Capture Ports	2 x VIP Direct to NB	1 x VIP

Benefits

Hi-Def Visual Experience
UniChrome Pro with its optimized shared memory architecture and high definition video support through the Chromotion CE Video Display Engine, offers a breathtaking visual experience with the latest 1080p HDTV formats such as Microsoft's® WMV HD.

Flawless Digital Media Playback
UniChrome Pro includes native support for the most popular digital video and audio formats through hardware MPEG-2/4 acceleration and the acclaimed VIA Vinyl Audio suite, delivering spectacular playback for entertainment devices.

S3 Graphics UniChrome Pro Graphics Core
With an internal data flow equivalent to what is available to the latest AGP 8X graphics cards, UniChrome Pro has a separate 128-bit data path between the North Bridge for pixel data flow and texture/command access. Separate 128-bit 2D and 3D graphics engines ensure optimal performance for all multimedia, entertainment, and productivity applications.

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

Ultra Low Power Consumption
With its unmatched feature set, the VIA CN400 assists in lowering overall system power consumption by reducing the workload on the processor during critical applications such as digital video and audio playback, while consuming a maximum of just 2.5W. Power consumption is further reduced through advanced power management features that vary its power consumption according to workload, essential for conserving battery life in mobile systems.

Features

- Supports up to 8GB DDR266/333/400 SDRAM
- High Bandwidth 1GB/s 16-bit Ultra V-Link Host Controller supporting V-Map Modular Architecture
- Chromotion CE Video Display Engine
- o MPEG-4 Acceleration
- o MPEG-2 Decoder
- o Video De-blocking
- o Adaptive De-interlace
- o Full HDTV support up to 1080p
- Integrated UniChrome Pro IGP Graphics Core
- Optimized Unified memory Architecture (UMA)
- 200MHz Graphics Engine Clock with separated 128-bit data paths
- 128-bit 2D and 3D Graphics engine
- Two 8-bit Video Capture ports
- Three 12-bit Digital Video ports for connection to TV out, Video Capture In, and external TMDS transmitter
- Support for VIA Vinyl Gold 8-channel Audio Controller & integrated VIA Vinyl 6-channel Audio
- Serial ATA support for up to 4 devices
- Integrated V-RAID 0, RAID 1, and 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
- Support for VIA Velocity Gigabit Ethernet companion controller & Integrated 10/100 Fast Ethernet
- Advanced System Power Management Support

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