

KT400A

www.DataSheet4U.com



**7th Generation Performance
Chipset for the
AMD Athlon™ XP**

VIA Confidential and Proprietary

www.DataSheet4U.com

KT400 - 31 Design Wins

"If you want to pick up an Athlon motherboard any time soon, you really ought to take a look at the KT400 models, Our recommendation is based quite simply on the high equipment standard and the undisputedly great performance with DDR333" October 2002



Manufacturer	Motherboard	Manufacturer	Motherboard
Asus	A7V8X	FIC	AN19E, AN19C
MSI	KT4V, KT4 Ultra KT4M	ECS	L7VTA, L7VTM
Gigabyte	GA-7VA, GA-7VAXP, GA-7VAXP Ultra	DFI	AD77 Infinity AD77 Max
Epox	EP-8K9A, EP-8K9A2	Biostar	M7VIT
Abit	KD-7G, AT7 Max2	Azza	KT400-ALH
		Acorp	7KT400
Aopen	AK77-8X AK77-8X Max, AK77-8XN	Soltek	SL-75FRV
Albatron	KX-400 8X	Fretech	A7F156
Shuttle	AK37GT/R	Iwill	KK400, KK400RS
Soyo	SY KT400 Dragon Ultra	Jetway	Polaris 400



VIA Apollo **KT400A**



- **7th Generation Socket A Chipset From VIA**
- **VIA FastStream64™ Technology Maximizes Performance with the new AMD Athlon XP 3000+ CPU, and leaves Nforce2 trailing**
- **AGP 8X with VIA Hyperion 4in1 Drivers For Maximum Frame Rates in Doom 'III' Generation Games**
- **First to Market Native Serial ATA support in the VT8237 South Bridge**
- **VIA XXXX Onboard Audio For Surround Gaming**



DualDDR: Cost Without Benefit

- **AMD 333MHz FSB is maxed out at 2.7GB/s, equivalent to the maximum theoretical bandwidth in a single channel DDR333 configuration**
- **Dual DDR configurations for the AMD Athlon™ XP are overkill and needlessly raise the cost of the platform**
- **The key to performance is the efficiency of the North Bridge memory controller and CPU interface**

	AMD Athlon™ XP 333MHz Front Side Bus Data Capacity	Theoretical Memory Bandwidth (DDR333)	Actual bandwidth	Efficiency
VIA KT333	2700MB/s	2700MB/s	2520MB/s	93 %
Nvidia nforce2	2700MB/s	5400MB/s	2599MB/s	48 %

Source: tech-report.com, Oct 1st 2002. Benchmark figures: Asus A7N8X (nforce2) vs Epox 8K3A (KT333)
Identical System Configurations, Sisoft Sandra 2002 Memory (ALU)



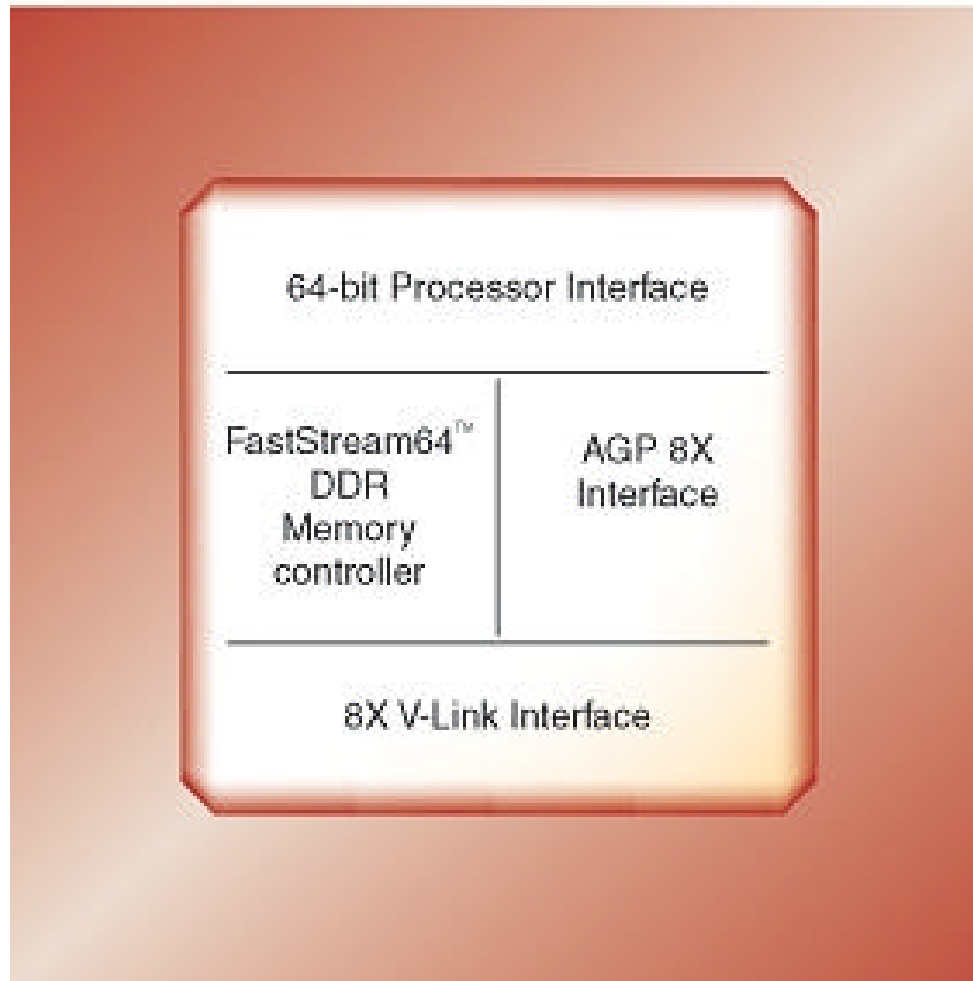
FastStream64™ Technology

- **FastStream64™ Technology enables the single channel 64-bit memory controller of the KT400A to out perform the Nforce2 Chipset in 128-bit mode**
- **VIA FastStream64™ Technology uses an expanded array of pretech buffers to reduce latency in the memory controller, enabling more intelligent read / write sequencing and extending performance at a lower transistor cost than dual channel implementations**
- **KT400A is designed to maximize performance in both synchronous (DDR333 / 333MHz FSB) & asynchronous (DDR400 / 333MHz FSB) modes**



KT400A North Bridge Summary

KT400A North Bridge Architecture



- ▣ Leading Edge Performance Features
 - ▣ 200/266/333MHz Front Side Bus
 - ▣ Ultra-fast FastStream64 Memory Controller with 200/266/333/400MHz system bus
 - ▣ Support for up to 4GB High-Speed DDR200/266/333/400 SDRAM
 - ▣ 8X V-Link Architecture
 - ▣ Peak bandwidth of 533MB/s
 - ▣ AGP 8X with 2.1GB/s of dedicated bandwidth for the GPU
 - ▣ Supports full range of Socket A 462-pin AMD Athlon™ XP processors including the new 'Barton' core CPU's



Onboard Audio Superiority

- **VIA VT1616 Six Channel Codec**
 - **Hi-performance solution in combination with VT8235 / 8237 SB**
 - **Higher Quality and Fidelity Than Nforce2 mainboards featuring inferior codec solutions**
 - **New level of AC'97 codec performance with full Sensaura support**
 - **EAX1**
 - **EAX2**
 - **A3D**
 - **DualMax -- hardware downmixing technology**
 - **CoolAmp -- reduced heat for consistent performance**



Positional 3D
EAX 1.0
EAX 2.0
A3D™ 1.x compatibility
Bass Boost
I3DL2
Fast Panning 3D Algorithm fallback
MMX optimization
SSE2 optimization
Voice manager
Multichannel
Multidrive
Global Reverb
Multidrive 5.1



VIA: Leading The Way

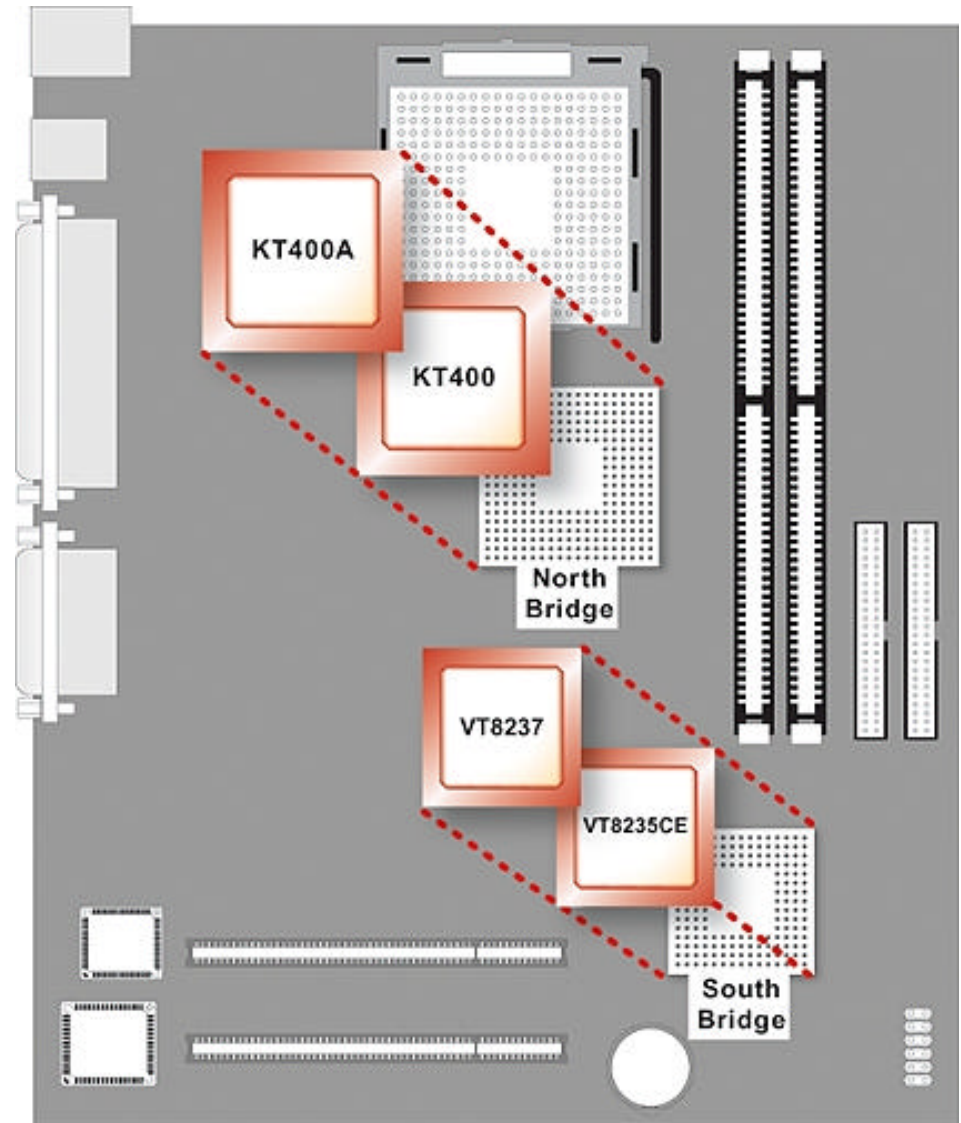


Discrete - Shipping Now	VT6420  VIA VT6420 0236CD TAIWAN 2IA004851	▣ 1st Combined SATA, PATA & RAID Controller ▣ Supports 2 channels for up to 4 SATA Devices ▣ Supports 1 channel for up to 2 PATA Devices ▣ Supports RAID Levels 0,2,0+1 & JBOD ▣ SATALite Interface allowing 2 additional channels with external phy ▣ Tiny 15mm BGA package
Integrated - April	VT8237  VIA VT8237 0243CD TAIWAN 12A1621974	▣ Supports up to 4 SATA Devices ▣ Supports up to PATA Devices ▣ Supports 8 X USB 2.0 ▣ Supports Ultra V-Link (1.06GB/s) Chip Interconnect ▣ Pin compatible with VT8235CE for simple mainboard upgrade



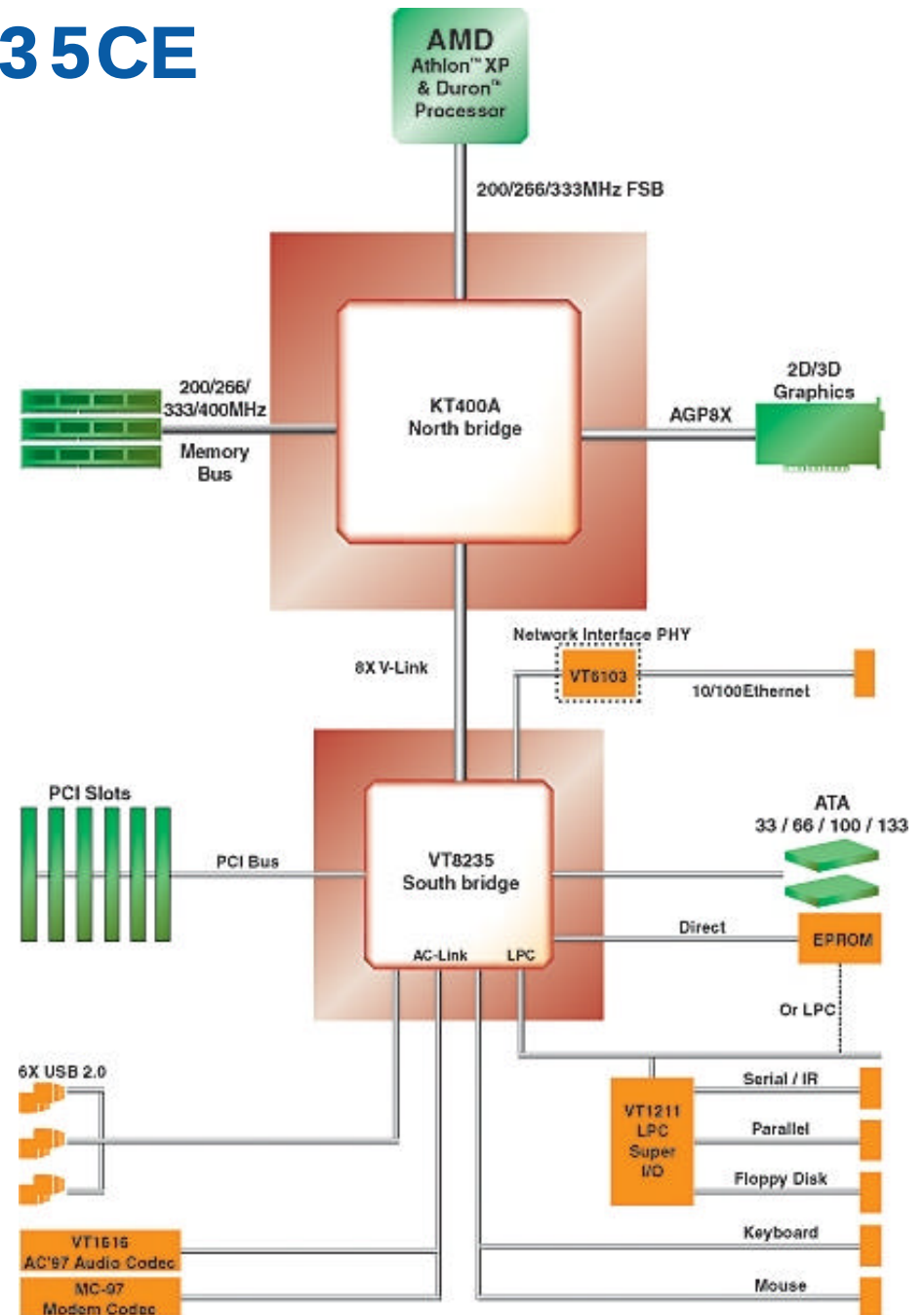
VIA Modular Architecture Platform

- **V-MAP**
 - Pin-to-Pin Compatible South Bridge options
 - Drop-in North Bridge replacement for KT400
- **Seamless product transitions on a single motherboard platform**
 - Faster Time to Market
 - Lower Product Development, Validation, and Production costs



KT400A + VT8235CE

- VIA FastStream™ Technology
- DDR266/333/400 Support
- 333MHz FSB
- AGP 8X
- 8X V-Link
- USB 2.0
- ATA-133
- 10/100 Fast Ethernet
- 6-ch. AC'97 Audio



VT8235 – High Degree of Integration

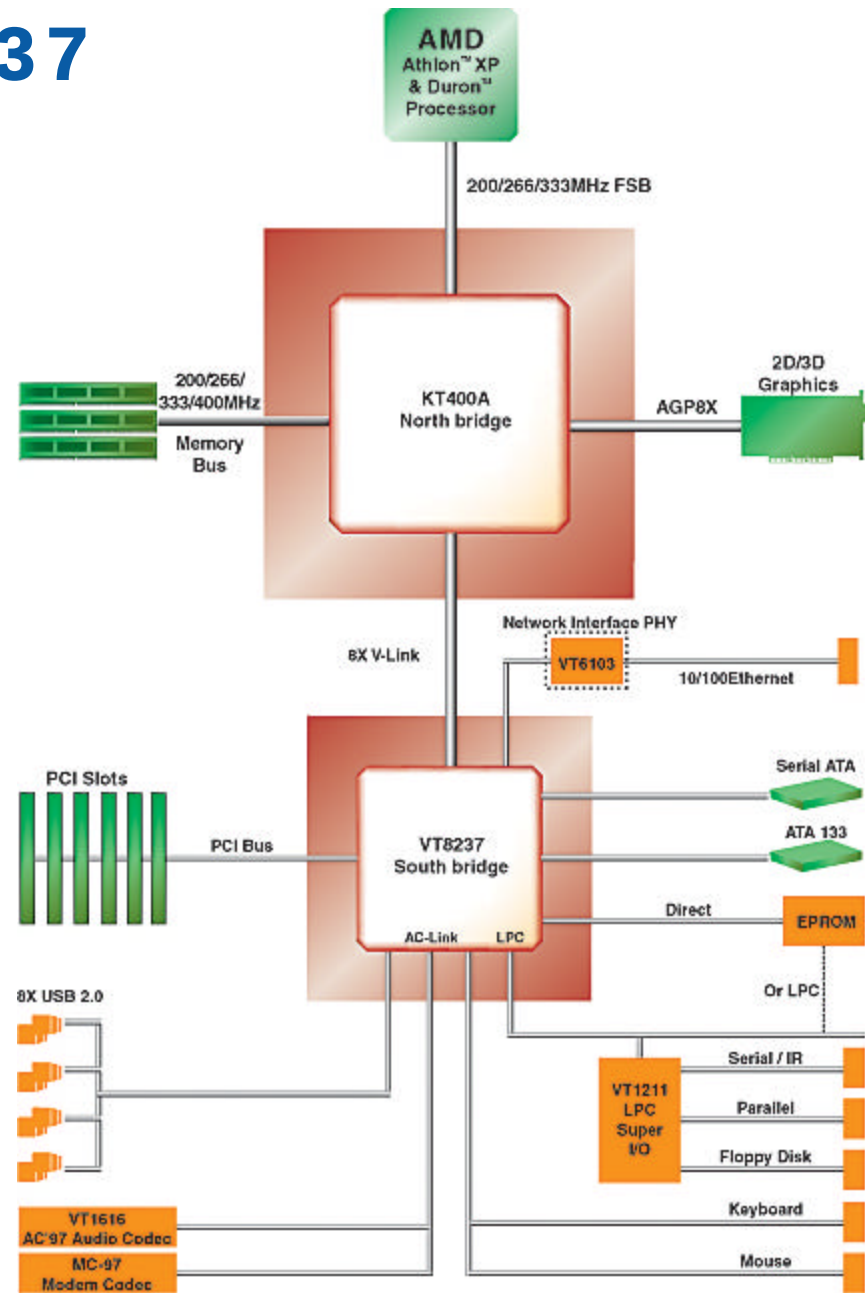
VT8235 South Bridge Architecture



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KT400A + VT8237

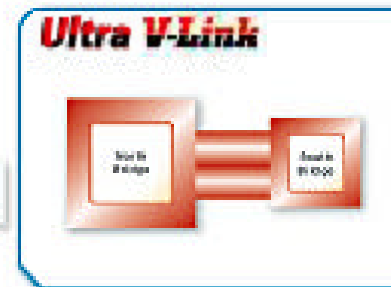
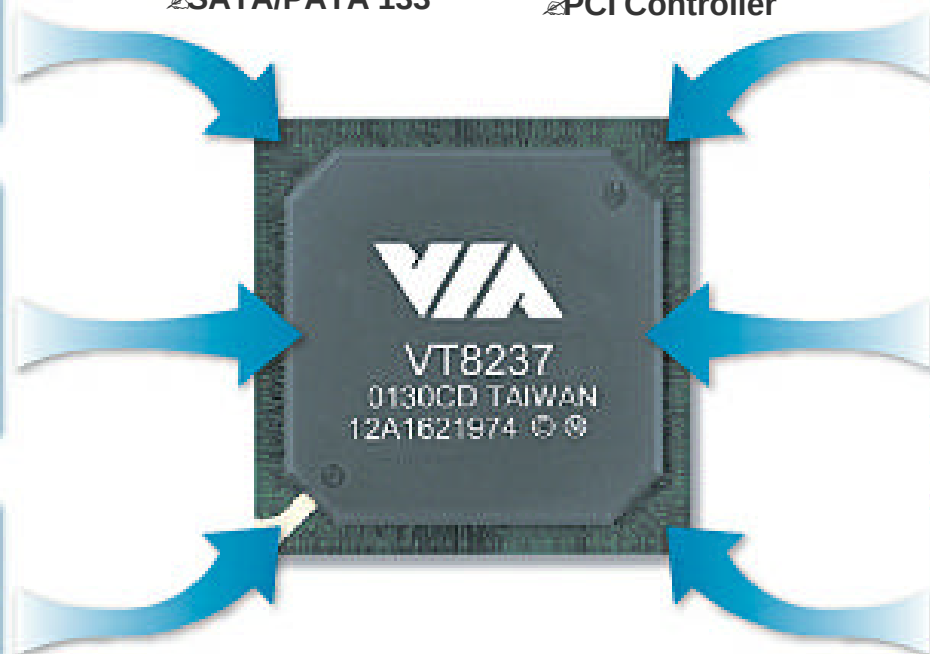
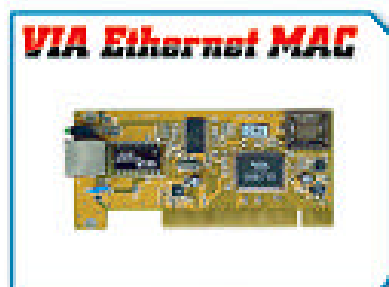
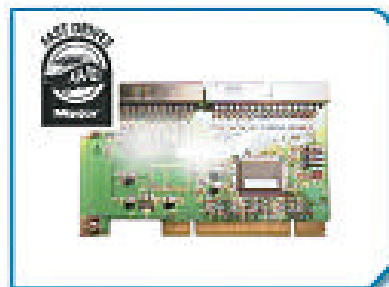
- VIA FastStream™ Technology
- DDR266/333/400 Support 333MHz FSB
- AGP 8X
- 8X V-Link
- USB 2.0
- SATA
- ATA-133
- 10/100 Fast Ethernet
- 6-ch. AC'97 Audio



VT8237 – Connectivity in 2003

VT8237 South Bridge Architecture

- Ultra V-Link
- 6 Channel Audio
- 8 USB 2.0 Ports
- MC'97 Modem
- VIA Ethernet MAC
- LPC
- SATA/PATA 133
- PCI Controller



Unified Performance Drivers



- **Maximum System Performance**
- **Maximum Compatibility and Stability**
- **Regular Updates**
- **Downloads and support at www.viaarena.com**
- **Reducing Support Costs for VIA and VIA motherboard customers**



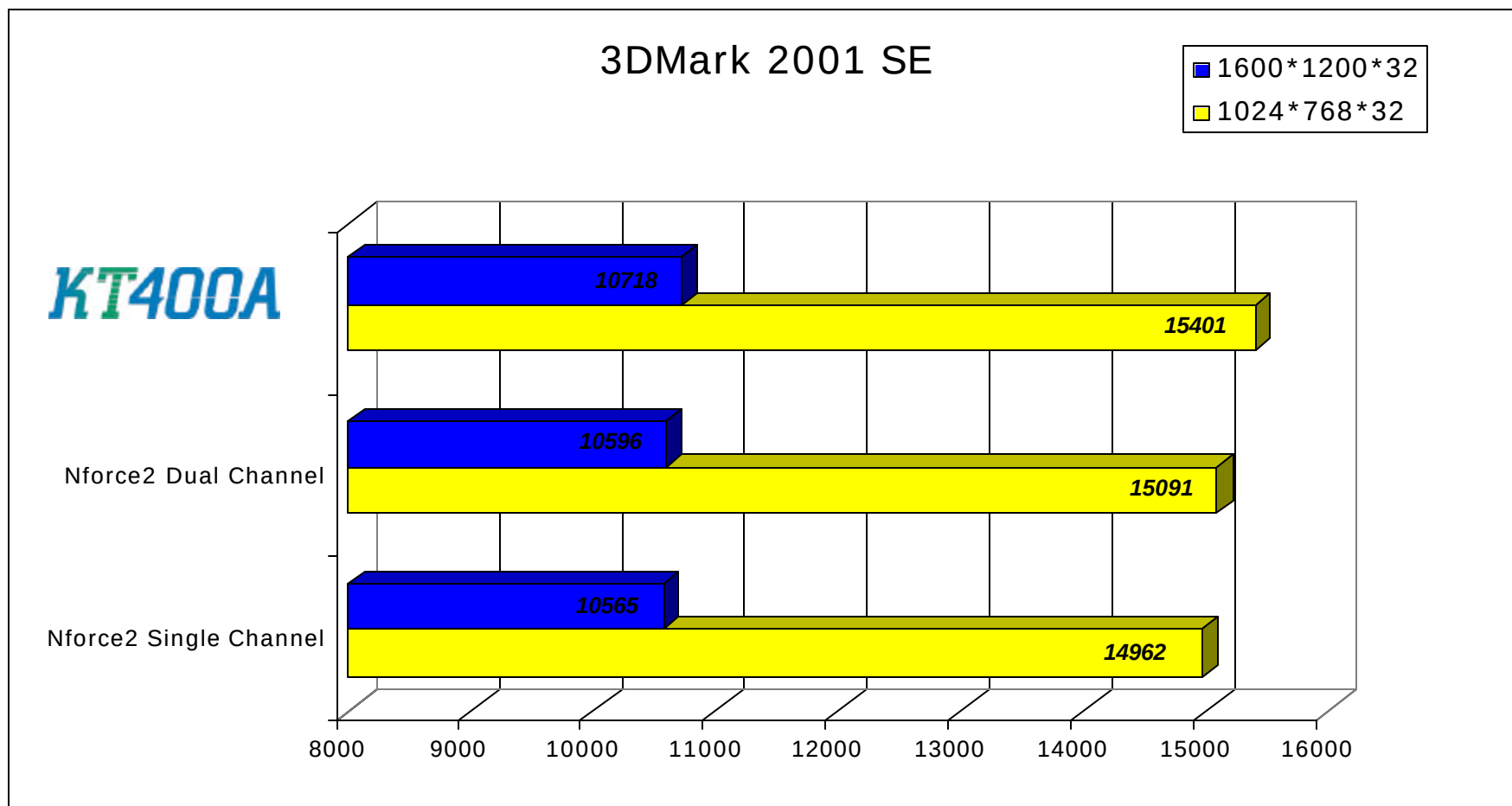
Performance Highlights

- **Single Channel
KT400A faster than
Dual Channel
Nforce2!**
- **Two memory
modules not
required for fastest
performance
configuration saving
system cost**



3D Graphics Performance

- Second to None



KT400A Test Set Up: KT400A Reference Board + AMD Athlon XP 2800+, 512MB Winbond DDR333, Maxtor DX740X-6L 40GBHDD, Windows® XP

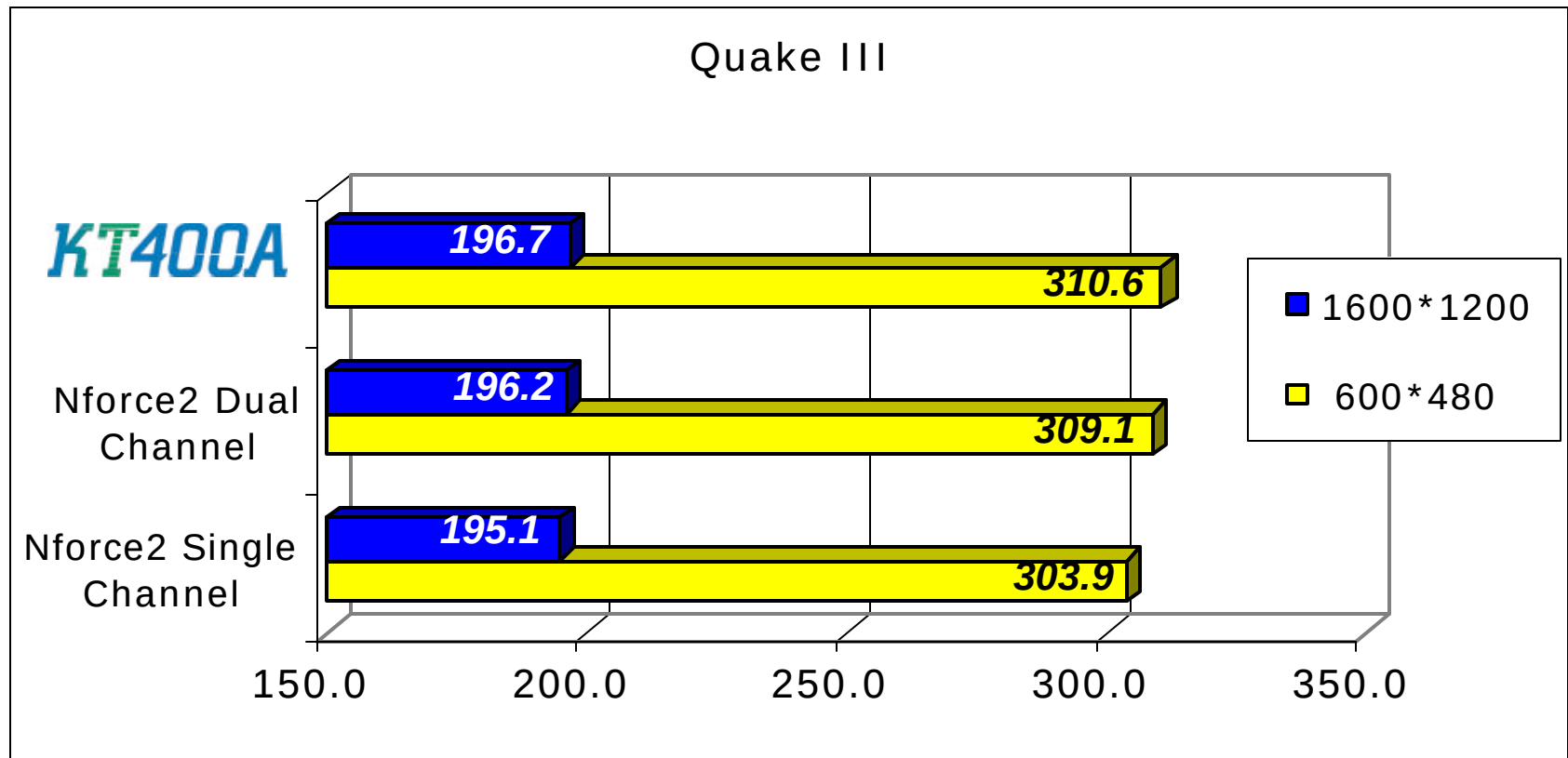
Nforce2 Test Set Up: Asus A7N8X + AMD Athlon XP 2800+, 512MB Winbond DDR400 (2 x 256MB for Dual Channel set up), Maxtor DX740X-6L 40GBHDD, Windows® XP



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KT400A: The Fastest Gaming Platform

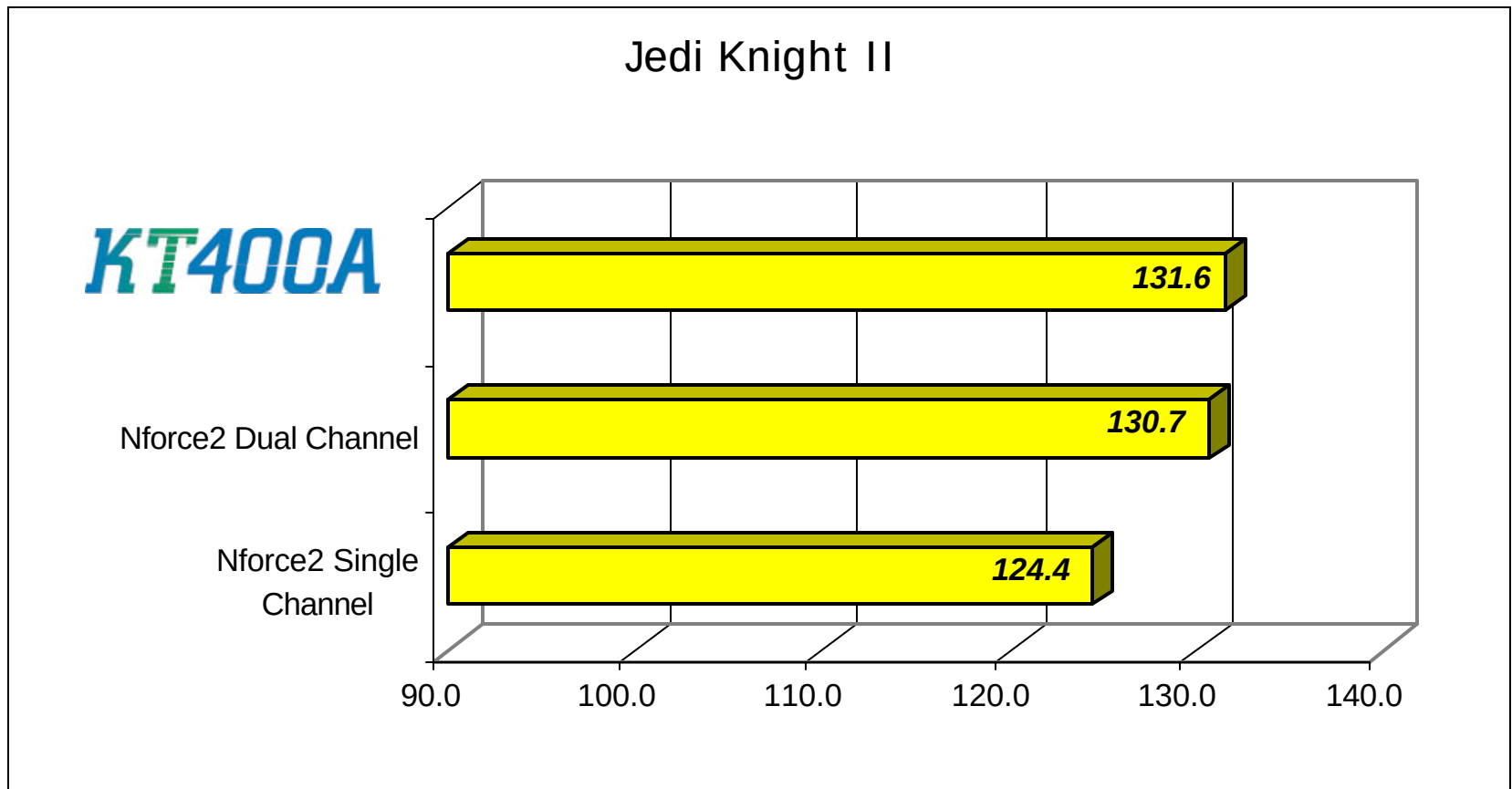


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Jedi Knight II

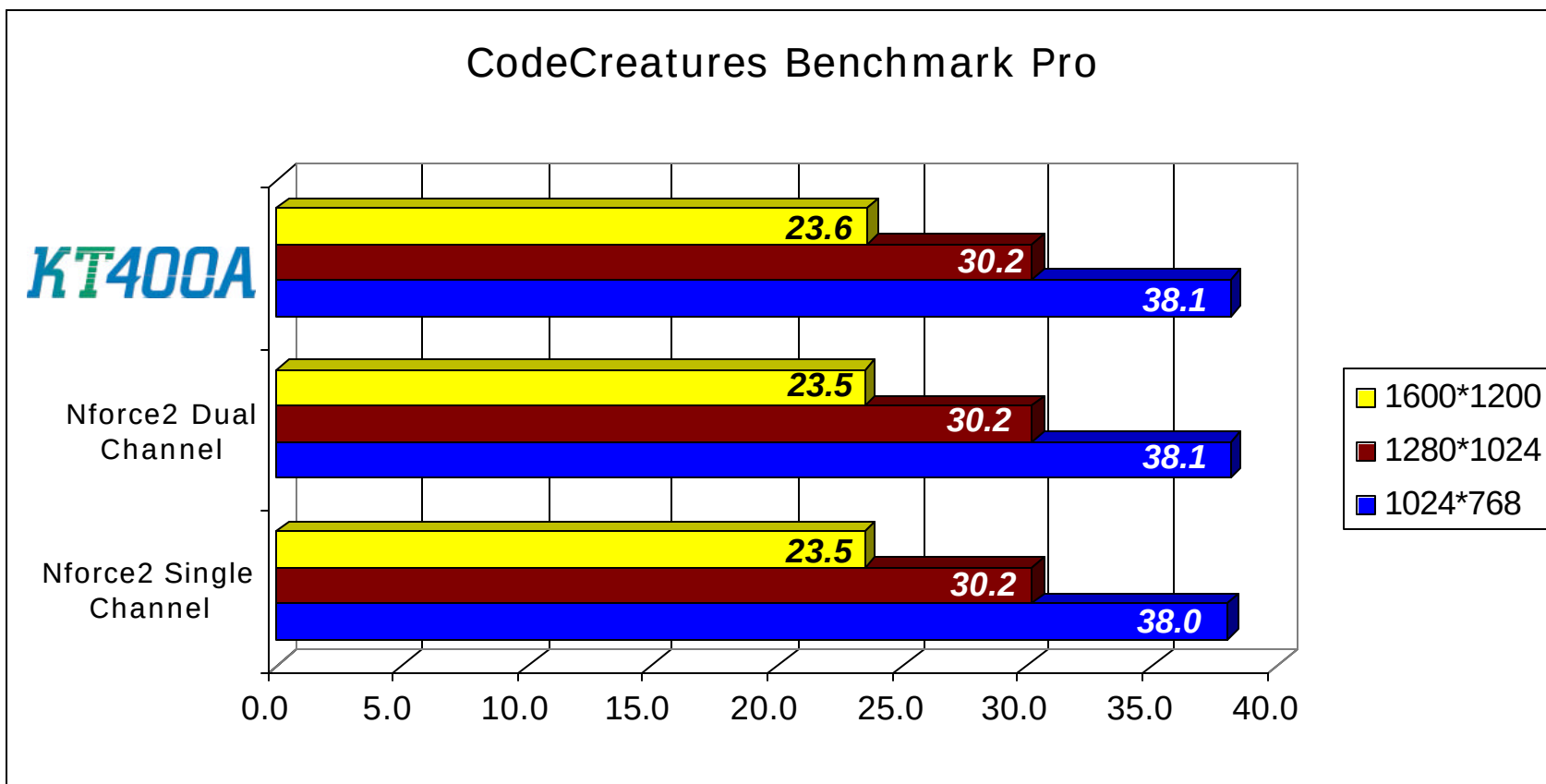


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Great Performance in The Toughest Benchmarks

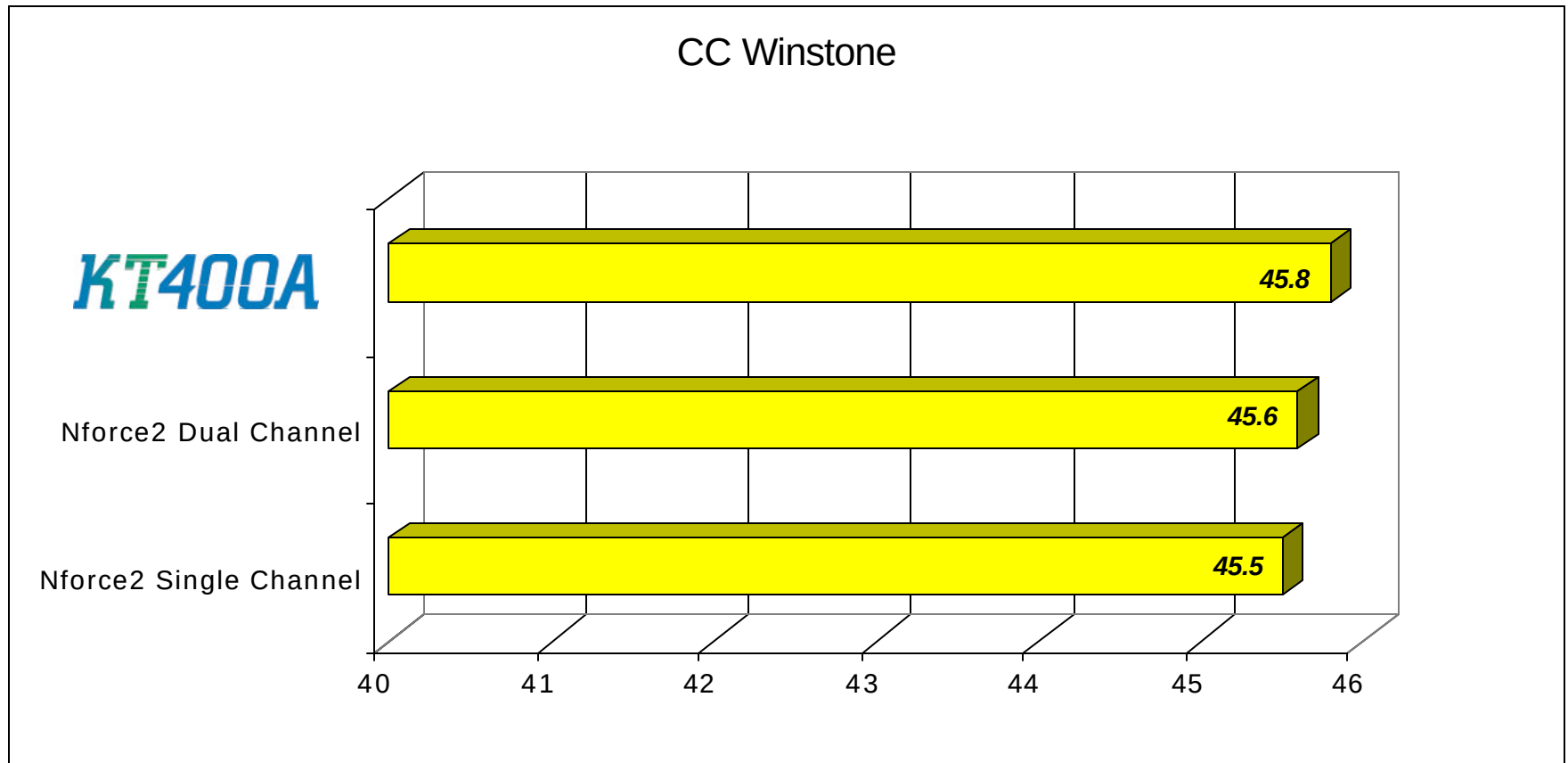


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Content Creation Performance



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VIA Motherboard Partners

The ASUS logo in blue, featuring the word "ASUS" in a stylized font with a registered trademark symbol.The TYAN logo, with the word "TYAN" in large blue letters and the tagline "Innovative Internet Platforms" in smaller blue text below it.The BIostar Group logo, featuring a red triangle and the text "BIostar GROUP" in blue.The ECS ELITEGROUP logo, with "ECS" in blue and "ELITEGROUP" in blue, accompanied by a stylized blue and white graphic.

More of the World's Leading Motherboard
Makers Choose VIA than any other AMD
Compatible Chipset Supplier!





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**Thanks for your time.
Please Remember
Publication Embargo
until 4th March**