

AMD Desktop Processor Benchmarks

AMD Athlon™ 64 FX processors

AMD Athlon 64 X2 processors

AMD Athlon 64 processors

May 2006

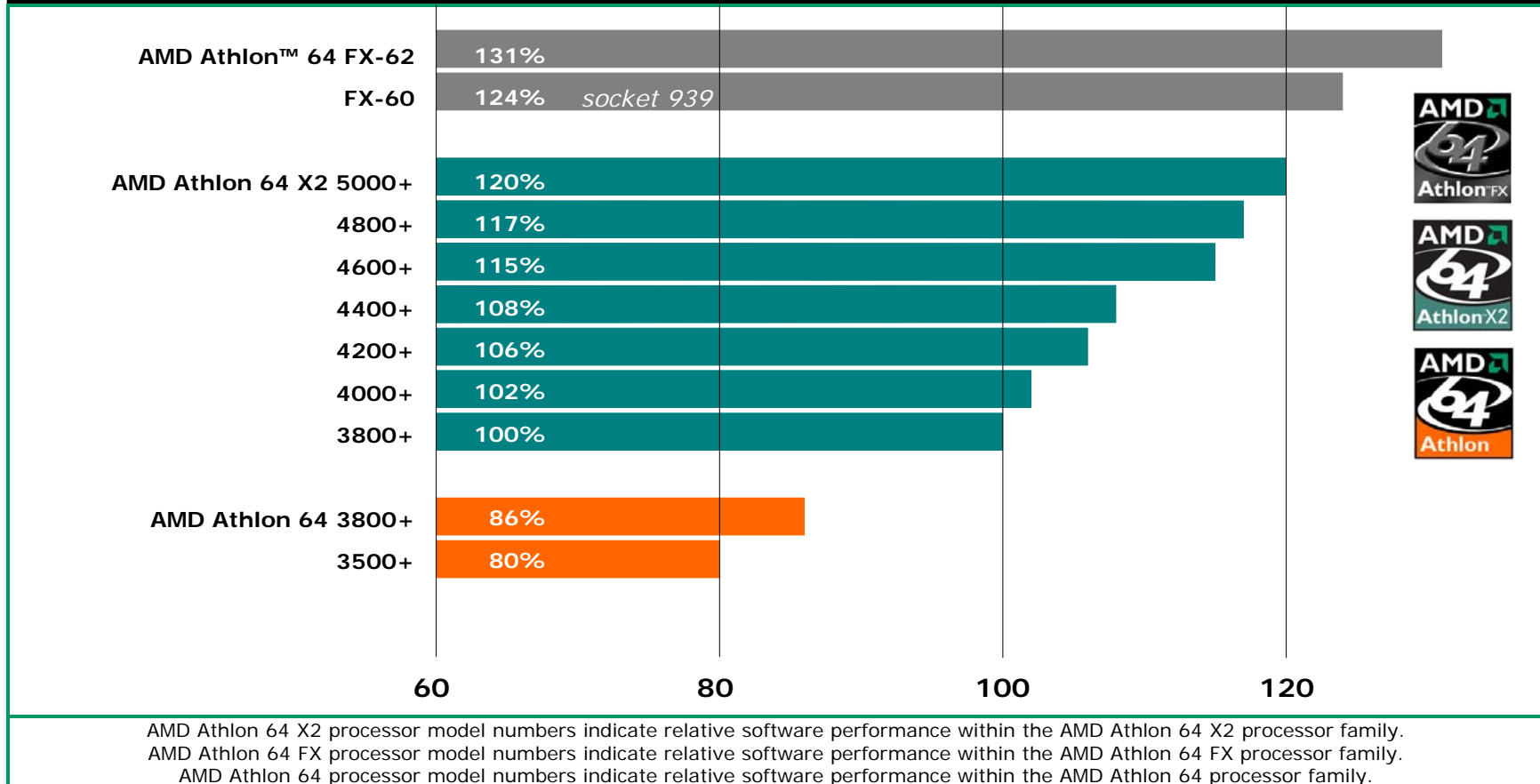
*A summary of desktop processor
performance benchmarks*

Socket AM2 - Overall Performance

(Geometric Mean of: Office Productivity, Digital Media and Games)

AMD Athlon™ 64 Processor Performance Benchmark

Desktop Performance – Overall Performance

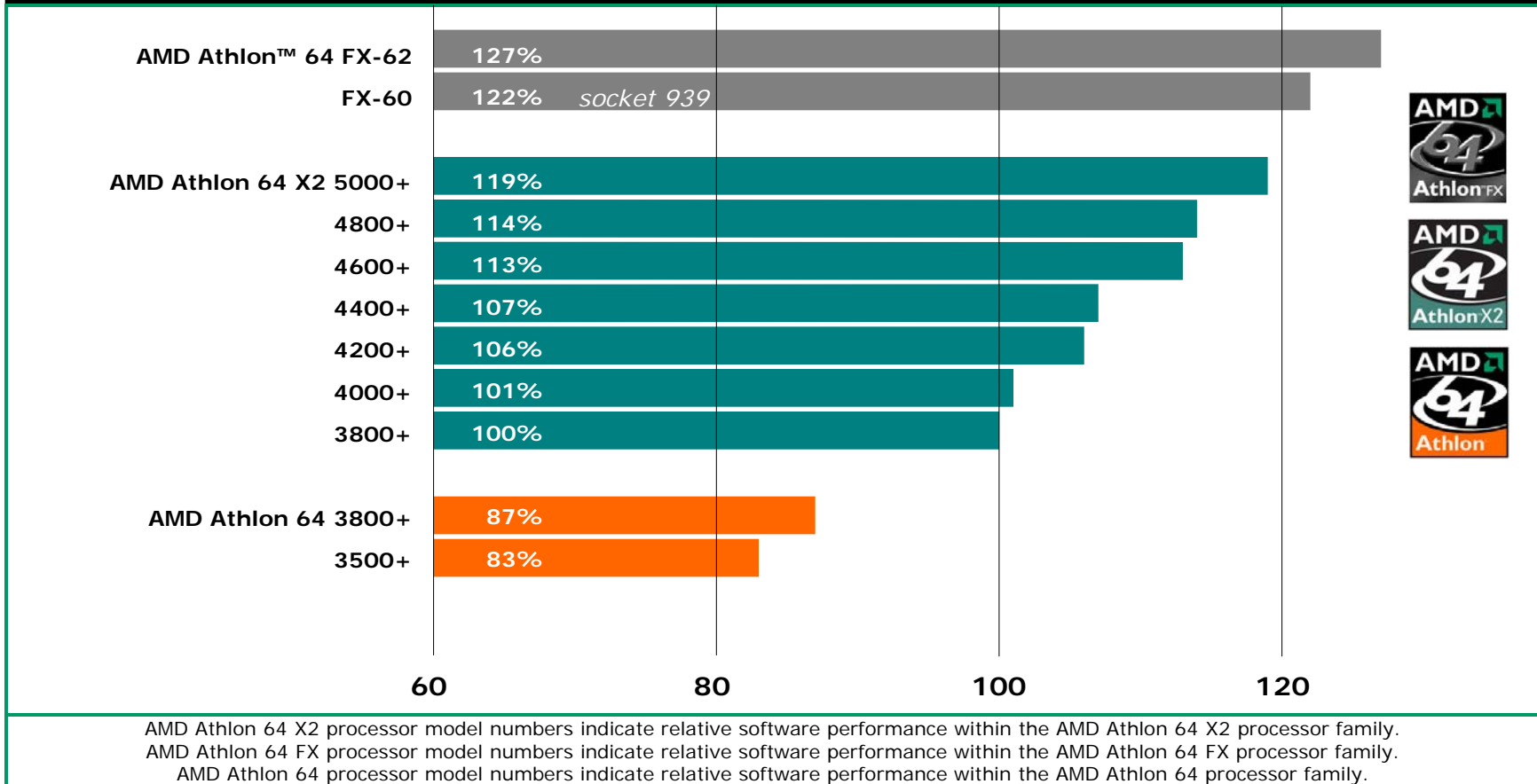


Socket AM2

Overall Office Productivity (Geometric Mean of Benchmark Suite)

AMD Athlon™ 64 Processor Performance Benchmark

Desktop Performance – Overall Office Productivity

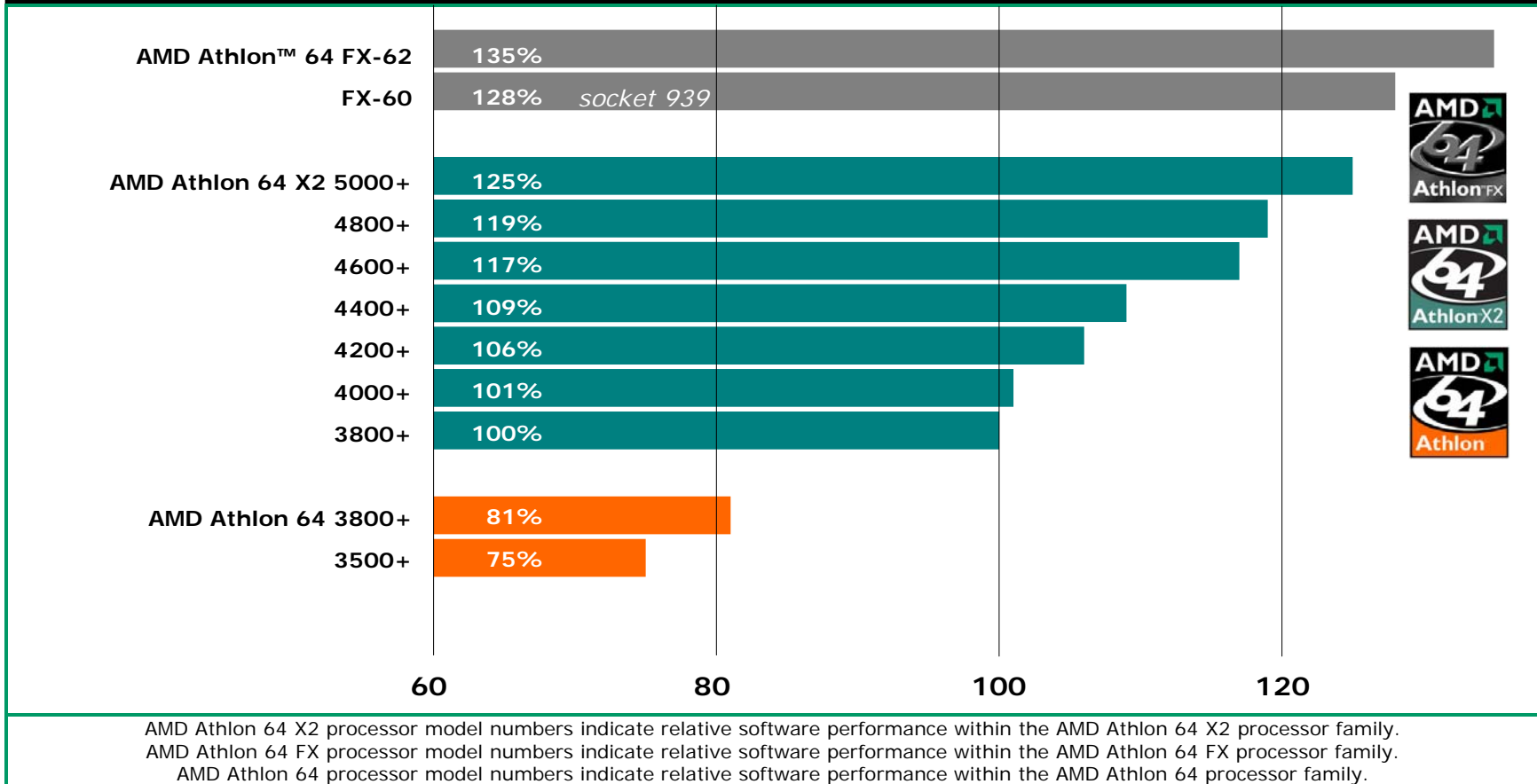


Socket AM2

Overall Digital Media (Geometric Mean of Benchmark Suite)

AMD Athlon™ 64 Processor Performance Benchmark

Desktop Performance – Overall Digital Media

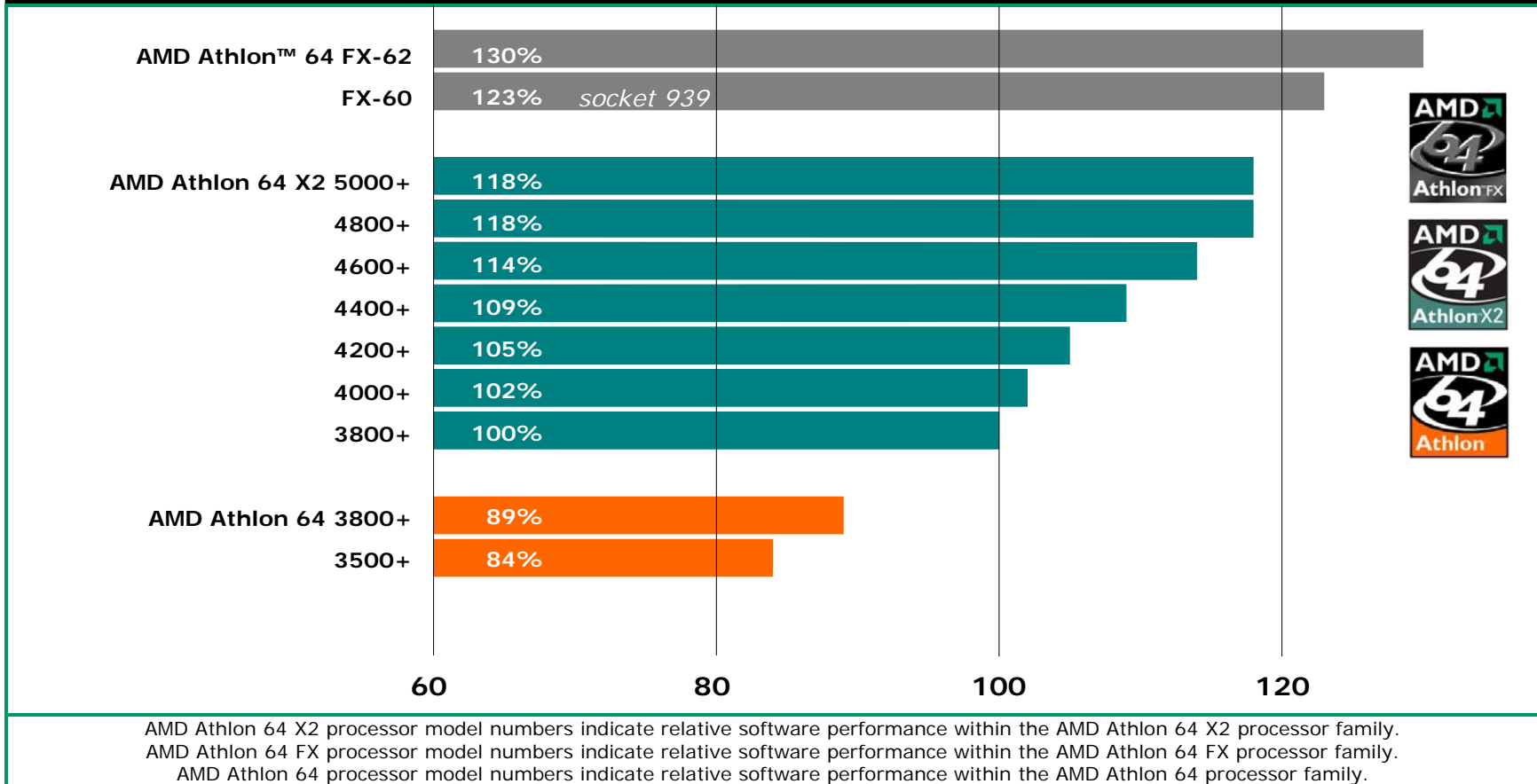


Socket AM2

Overall Games (Geometric Mean of Benchmark Suite)

AMD Athlon™ 64 Processor Performance Benchmark

Desktop Performance – Overall Games



Benchmark System Configuration

AMD Athlon™ 64 X2 and FX processors

Socket AM2 Configuration

Operating System	
Name:	Microsoft Windows XP Professional
Version:	RTM, Service Pack 2 installed
Build #:	2600
DirectX Version:	DirectX 9.0C
Processor	
AMD Athlon™ 64 FX-62, AMD Athlon 64 X2, and AMD Athlon 64 processors	
Hardware	
Motherboard:	Asus M2N32SLID
BIOS Info:	3092
Is BIOS publicly available?	Yes No X Unknown
Chipset:	C51-MCP55 (Nvidia)
Memory	
Manufacturer & Type:	Corsair CM2X512-8500
Quantity & Size: (each)/(MB)	Qty (2) 512 MB DIMM Module
Total Memory Size: (MB)	1 GIG total
Hard Drive	
x1	
Model Name:	Western Digital Raptor
Model Number:	WD1500A0FD
Hard Drive Size:	150 GB
Transfer Mode:	SATA 10K RPM
Other Info:	NTFS was used to format the hard disk
Network Card	
Included with Operating System:	Yes X No (If No, provide info)
Name:	Integrated on motherboard
Model Number:	Nvidia (Marvel)
Sound Card	
Manufacturer's Name:	SoundMAX Integrated Digital HD Audio
Model Number:	
Version Number:	N/A
Video Card	
Graphics Adapter:	X1900XTX
Memory Size (MB) and Type:	512 DDR3
Drivers	
Network Card	Publisher Name: Nvidia Version: 55.2.1.0 Date if applicable: 3/22/2006
IDE Drivers	Publisher Name: Nvidia Corporation Version: 5.10.2600.654 Name: NVIDIA MCP55 Serial ATA Date if applicable: 3/16/2006
Sound Card	Publisher Name: AnalogDevices Version: 5.10.1.4490 Date if applicable: 3/21/2006
Video Card	Publisher Name: ATI Technologies Inc. Version: 8.241.0.0 Date if applicable: 3/21/2006 Graphics Resolution: 1024x768 Color Depth: 32 bit Refresh Rate: 85Hz Texture Format: n/a
Other: (Specify any other special conditions or enhancements that are made to the system.)	Details: Memory timing used were 4/4/4/12 800 / Used ATI CAT Drivers 6.4 / Microsoft .Net Framework 2.0 Nvidia reference 9.14 were used as Chipset drivers

Socket 939 Configuration

Operating System	
Name:	Microsoft Windows XP Professional
Version:	RTM, Service Pack 2 installed
Build #:	2600
DirectX Version:	DirectX 9.0C
Processor	
AMD Athlon™ 64 FX-60 processor	
Hardware	
Motherboard:	Asus ABN32SLI-Deluxe
BIOS Info:	1103
Is BIOS publicly available?	Yes X No Unknown
Chipset:	NVIDIA nForce4 SLI X16
Memory	
Manufacturer & Type:	Corsair CMX512-3200XLP
Quantity & Size: (each)/(MB)	Qty (2) 512 MB DIMM Module
Total Memory Size: (MB)	1 GIG total
Hard Drive	
x1	
Model Name:	Western Digital Raptor
Model Number:	WD1500A0FD
Hard Drive Size:	150 GB
Transfer Mode:	SATA 10K RPM
Other Info:	NTFS was used to format the hard disk
Network Card	
Included with Operating System:	Yes X No (If No, provide info)
Name:	Integrated on motherboard
Model Number:	Marvell Yukon 88E8053 PCI-E Gigabit Ethernet Controller
Sound Card	
Manufacturer's Name:	Realtek AC'97 Audio
Model Number:	
Version Number:	N/A
Video Card	
Graphics Adapter:	X1900XTX
Memory Size (MB) and Type:	512 DDR3
Drivers	
SATA	Publisher Name: Nvidia Version: 5.10.2600.552 Name: Nvidia nForce4 Serial ATA Controller Date if applicable: 8/18/2005
Network Card	Publisher Name: Marvell Version: 8.24.3.3 Date if applicable: 3/30/2005
IDE Drivers	Publisher Name: Microsoft Version: 5.1.2600.2180 Name: IDE ATA/ATAPI Controller Date if applicable: 7/1/2001
Sound Card	Publisher Name: Realtek Semiconductor Corp. Version: 5.10.0.5900 Date if applicable: 8/19/2005
Video Card	Publisher Name: ATI Technologies Inc. Version: 8.241.0.0 Date if applicable: 3/21/2006 Graphics Resolution: 1024x768 Color Depth: 32 bit Refresh Rate: 85Hz Texture Format: n/a
Other: (Specify any other special conditions or enhancements that are made to the system.)	Used ATI CAT Drivers 6.4 / Microsoft .Net Framework 2.0 / Nvidia Chipset 6.85

Performance & Mainstream Processors

Benchmark Suite

OFFICE PRODUCTIVITY

- BAPCo® SYSmark® 2004SE Office Productivity, Version 1.0 (w/patch 2)
- VeriTest Business Winstone 2004, Version 1.0.1 (w/SP2 reg fix)
- VeriTest Business Winstone Multitasking Test Scores, Version 1.0.1
- PC World WorldBench 5.0 Overall, 5/10/04 (w/SP2 Reg Edit)
- Remote Collaboration Scenario:
 - Windows® NetMeeting 3.01; and
 - Windows Media Encoder Series 9 (9.00.00.3250)
- Travel Ready Scenario
 - Microsoft® Office Publisher 2003 (11.5525.5606); and
 - Nero Vision Express (3.1.0.0)

DIGITAL MEDIA

- BAPCo SYSmark 2004SE Internet Content Creation
- VeriTest Multimedia Content Creation Winstone 2004, Version 1.0.1
- DivXNetworks, Inc., DrDivX, Version 1.0.6
- Smokey City Design, LLC, The Panorama Factory, Version 3.3
- Itunes, Version 6.0.4.2
- Cakewalk SONAR 5 Producer Edition (5.0.1)
- Virus Scan w/HD Media Playback
 - Symantec AntiVirus (Version 10.0.1.1000)
 - Windows Media Player 10 (Version 10.00.00.3646)
- Sony Vegas Studio (6.0)

GAMING (all at 1024x768x32)

- Futuremark Corp. 3DMark05™ Patch 1.20 (Hardware Vertex Shaders)
- Futuremark Corp. 3DMark05 Patch 1.20 (Software Vertex Shaders)
- Futuremark Corp. 3DMark06™ Patch 1.02 (Hardware Vertex Shaders)
- Futuremark Corp. 3DMark06 Patch 1.02 (Software Vertex Shaders)
- Half-Life 2 at_coast_05_rev7.dem (1.0.1.0 Protocol Version 7)
- Half-Life 2 at_prison_05_rev7.dem (1.0.1.0 Protocol Version 7)
- Lucas Arts Star Wars Jedi Knight II Demo, Version 1.04
- Id Software, Inc. Quake4 v1.04
- Epic Games Unreal Tournament 2004 Flyby (3369)
- Epic Games Unreal Tournament 2004 Botmatch (3369)
- Ubisoft Entertainment Splinter Cell Chaos Theory (1.0.2)
- Ubisoft Entertainment Far Cry Version 1.3.3 Pier
- Id Software, Inc. Doom3™ Version 1.1
- Crafty 32bit Version 19.19 by Bob Hyatt
- NCSOFT City Of Villians
- Croteam Serious Sam 2 (2.068)

Disclaimer & Attribution

DISCLAIMER

The information presented in this document is for information purposes only. AMD has used commercially reasonable efforts to confirm that the procedures and other information set forth in this document are accurate and reliable. Despite such efforts, the information contained herein may contain technical inaccuracies, omissions and typographical errors.

The information contained herein is subject to change and may be rendered inaccurate for many reasons, including, but not limited to product and roadmap changes, component and motherboard version changes, new model and/or product releases, product differences between differing manufacturers, software changes, BIOS flashes, firmware upgrades, or the like. AMD assumes no obligation to update or otherwise correct or revise this information. However, AMD reserves the right to revise this information and to make changes from time to time to the content hereof without obligation of AMD to notify any person of such revisions or changes.

AMD MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE CONTENTS HEREOF AND ASSUMES NO RESPONSIBILITY FOR ANY INACCURACIES, ERRORS OR OMISSIONS THAT MAY APPEAR IN THIS INFORMATION.

AMD SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT WILL AMD BE LIABLE TO ANY PERSON FOR ANY DIRECT, INDIRECT, SPECIAL OR OTHER CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF ANY INFORMATION CONTAINED HEREIN OR FOR THE PERFORMANCE OR OPERATION OF ANY PERSON, INCLUDING, WITHOUT LIMITATION, ANY LOST PROFITS, BUSINESS INTERRUPTION, DAMAGE TO OR DESTRUCTION OF PROPERTY, OR LOSS OF PROGRAMS OR OTHER DATA, EVEN IF AMD IS EXPRESSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Tests were performed without independent verification by the VeriTest testing division of LionbridgeTechnologies or Ziff Davis Media Inc., and neither Ziff Davis Media Inc. nor VeriTest make any representation or warranty as to the results of the tests.

ATTRIBUTION

AMD, the AMD Arrow logo, AMD Athlon, and combinations thereof are trademarks of Advanced Micro Devices, Inc. Microsoft and Windows are registered trademarks of Microsoft Corporation in the U.S. and other jurisdictions. SYSmark is a registered trademark of Business Applications Performance Corporation. Winstone is a registered trademark of Ziff Davis Publishing Holdings Inc., an affiliate of eTesting Labs Inc. 3DMark is a trademark of Futuremark Corporation. Other names are for informational purposes only and may be trademarks of their respective owners.