



***NSTL***

# **MII-433 Final Performance Report**

Performance Testing of the Cyrix MII-433

And Intel Celeron CPUs

June, 1999

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## Table of Contents

<b>Executive Summary</b> .....	<b>3</b>
<b>About NSTL</b> .....	<b>3</b>
<b>Testing Environment and Methodology</b> .....	<b>4</b>
Testing Environment .....	4
Test Methodology .....	4
<i>Backing Up of the Factory Image</i> .....	4
<i>Installing the Environment</i> .....	4
<i>Backing up of a Clean Image</i> .....	4
<i>Running Winstone 99</i> .....	4
<b>Test Results and Analysis</b> .....	<b>5</b>
<b>Conclusion</b> .....	<b>5</b>
<b>Appendix A: System Configurations</b> .....	<b>6</b>
Cyrix System:.....	6
Celeron System: .....	7

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## **Executive Summary**

Cyrix contracted NSTL to test the performance of two CPUs, the Cyrix MII-433 and the Intel Celeron. The Cyrix MII-433 CPU was tested at 100/300. The Celeron CPU was tested at 66/433. All testing was performed using Ziff Davis' (ZD) Winstone<sup>1</sup> 99 Build 14 Benchmark Utility. These tests were performed without independent verification by ZD and ZD makes no representations or warranties as to the results of the test.

## **About NSTL**

NSTL is the leading independent information technology testing organization for the computer industry, dedicated to providing high quality services and test tools to hardware developers, software publishers, government agencies and corporations. NSTL has extensive experience developing and conducting objective tests to assess new and existing products for compatibility, performance, comparative performance, usability, and functionality. Our testing services are also used for capacity planning, acquisition support, and impact analysis. NSTL's proficiency and thoroughness provide clients with a high quality, cost-effective means to assess, differentiate and evaluate IT products. Additional information about NSTL is available through the World Wide Web at <http://www.nstl.com>.

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<sup>1</sup> Winstone is a registered trademark or trademark of ZD Inc. in the U.S. and other countries.

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## **Testing Environment and Methodology**

### **Testing Environment**

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The Cyrix MII-433 CPU was tested at 100/300. The Celeron CPU was tested at 66/433. Each test was performed in the Windows 98 environment using ZD's Winstone® 99 Build 14. All systems were similar with the exception of the CPU manufacturer. See Appendix A for more details.

### **Test Methodology**

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NSTL conducted performance testing for Cyrix on two different CPUs. In order to provide assurance of accurate benchmark scores, and by request of Cyrix, NSTL used a third party utility, ZD's Winstone® 99 Build 14. In order to expedite the testing process and obtain accurate test results, NSTL used the PowerQuest Drive Image Professional 1.01 to make backups of the factory image and clean image on the systems.

#### ***Backing Up of the Factory Image***

When the test systems arrived, a backup was made of the factory image to ensure that the system would be tested with a "clean" environment.

#### ***Installing the Environment***

NSTL then installed Windows 98. Once the install was complete, all OEM drivers were re-installed to ensure top performance of all components. The video resolution was then set to 1024x768x16-bit color.

#### ***Backing up of a Clean Image***

NSTL then used Drive Image 1.01 to make a clean backup image of the systems. If at any point an unrecoverable error occurred, NSTL could restore the clean image and continue testing.

#### ***Running Winstone 99***

NSTL installed ZD's Winstone® 99 Build 14, Business Tests only, on all test systems. This test suite ran Corel WordPerfect Suite 8, Lotus SmartSuite 97, and Microsoft Office 97. Winstone® 99's Startup Manager was used to deactivate unnecessary items at boot time. The taskbar properties were then changed so that it no longer stayed on top. The Business Tests were then selected and Winstone® 99 was executed. This was repeated two times to ensure the scores that were reported were within a 5% difference.

## **Test Results and Analysis**

The Cyrix MII-433 CPU running at 100/300 recorded the best score for the Winstone® 99 tests with an average of 17.4 Winstone Units. This was followed by the Celeron 66/433 system with a score of 16.2.

### **Test Results**

<b>Manufacturer and Speed</b>	<b>Test 1</b>	<b>Test 2</b>	<b>Test 3</b>	<b>Average</b>
Cyrix MII-433 (100/300)	17.4	17.4	17.4	<b>17.4</b>
Celeron (66/433)	16.2	16.3	16.2	<b>16.2</b>

Note: All scores are in Winstone Units and all tests were performed at 1024x768x16 bit

## **Conclusion**

NSTL performed the Winstone® 99 tests three times for each configuration. The three scores were averaged to achieve the final result. The final scores for each configuration were compared. The Cyrix MII-433 CPU running at 100/300 recorded the best time for the Winstone® 99 test. The Celeron CPU came in with the slowest score.

**Appendix A: System Configurations****Cyrix System:**

<b>System Name:</b>	Cyrix
<b>Processor Name:</b>	Cyrix MII-433
<b>Processor Speed (s):</b>	100/300
<b>Motherboard:</b>	Microstar MS 5169-Ali Chipset
<b>RAM:</b>	64MB
<b>Secondary Cache:</b>	512KB
<b>Graphics Adapter:</b>	ATI 3D Rage Pro (atir3)
<b>Video RAM:</b>	4MB
<b>Type of Video RAM:</b>	Mach64: RagePro
<b>Graphics Driver:</b>	Atir3.driv, atir3.vxd, atir3d32.dll
<b>Driver Version:</b>	4.10.1720
<b>Resolution</b>	1024x768
<b>Color Depth:</b>	16-bit
<b>Refresh Rate:</b>	N/A
<b>Hard Disk Manufacturer:</b>	Quantum
<b>Hard Disk Model:</b>	Fireball EX6.4a
<b>File System:</b>	FAT32
<b>Transfer Mode Used:</b>	N/A
<b>Hard Disk Controller Model:</b>	Ali M5229 PCI Bus Master IDE Controller
<b>Hardware Cache (if any):</b>	N/A
<b>Operating System:</b>	Windows 98 4.10.1998
<b>Service Pack (if any):</b>	N/A
<b>Bios Setup</b>	Setup defaults loaded

### **Celeron System:**

<b>System Name:</b>	Celeron
<b>Processor Name:</b>	Intel Celeron
<b>Processor Speed (s):</b>	66/433
<b>Motherboard:</b>	Lite On DR724 Chipset SIS620
<b>RAM:</b>	64MB
<b>Secondary Cache:</b>	128KB
<b>Graphics Adapter:</b>	ATI 3D Rage Pro (atir3)
<b>Video RAM:</b>	4MB
<b>Type of Video RAM:</b>	Mach64: RagePro
<b>Graphics Driver:</b>	Atir3.drv, atir3.vxd, atir3d32.dll
<b>Driver Version:</b>	4.10.1720
<b>Resolution</b>	1024x768
<b>Color Depth:</b>	16-bit
<b>Refresh Rate:</b>	N/A
<b>Hard Disk Manufacturer:</b>	Quantum
<b>Hard Disk Model:</b>	Fireball EX6.4a
<b>File System:</b>	FAT32
<b>Transfer Mode Used:</b>	N/A
<b>Hard Disk Controller Model:</b>	SiS 5513 Dual PCI IDE Controller
<b>Hardware Cache (if any):</b>	N/A
<b>Operating System:</b>	Windows 98 4.10.1998
<b>Service Pack (if any):</b>	N/A
<b>Bios Setup</b>	Setup defaults loaded