CONGRATULATIONS!

You have successfully installed 3DMark™ 99.

We hope that 3DMark™ will help you in testing Your cutting edge hardware.

This file contains important information about using 3DMark™ 99. Please read it through carefully before running 3DMark.

Introduction

3DMark(tm) 99 is a benchmark that focuses on testing 3D performance of modern 3D accelerators in a "real world" environment. As most users will use their 3D accelerator for playing games, so 3DMark focuses on *game performance measurement* using real-world game technology.

Numbers only tell you so much. A benchmark should be much more than theoretical figures estimating theoretical throughputs. 3DMark(tm) 99 is a testing suite that will push your system's 3D performance to the limits, not just by drawing millions of triangles simultaneously on screen, but by rushing you through the most amazing 3D scenes ever done real-time on PC.

Updates via Internet

If your machine is set up for Internet access, you can download updates to 3DMark, when they are available through the 3DMark web site at http://www.3dmark.com

3DMark 99 Lite Features

- One Click Benchmarking - Get a single 3DMark score in less than 5 minutes
- Awesome Demo- A stunning Demo that is guaranteed to push your system setup to the ultimate limits. Featuring original sound track.
- Intuitive User Interface - 3DMark is fully tailored for the end users.
- Online Delivery - Download 3DMark™ 99 Lite from www.3dmark.com and visit the resource center for latest drivers and utilities.
- Powerful Result Browser - Slide, dice and compare with clinically accurate Result Browser that will make statistic

easier than ever.

- Extensive Quality Testing with Reference Pictures - Use the comprehensive Quality Tests to unveil the true capacities of the card. Never before has comparing image quality been this easy.
- System Diagnostics and information - System Info will analyze and display everything in your system starting from the driver installation dates and ending to memory.
- Flexible Benchmarking Tools - Use Templates to save your settings for later references, Projects to keep up to date with individual cards and Databases to store projects.
- Global Testing Environment - Compare Your results over the Internet to see how you fare against the fastest computers on the Planet!

Highlights in the Demo Mode

- "Armageddon" demo part with truly **realistic sun generated with particle effects**.
- Real time animated **morphing** with environment mapping
- True multi-pass **Radiosity Lighting** using Max-FX Technology(tm)
- **Real time shadows** with all 3D accelerators.
- **Texture rendering** feedback effects.
- Photorealistic jungle with a reflecting **particle waterfall**.
- Original sound track synchronized to the visuals

3DMark 99 Pro Features

- All the basic functionality from 3DMark 99 Lite
- Additional Tests - Choose from ten different additional tests to further analyze the nuances of your hardware.
- Test Selection and Templates - Save your portfolio of tests to be run into useful templates.
- Accurate Advanced Testing Options - Use Advanced Testing options to increase your accuracy and dissolve inconsistencies.
- All available High Resolutions Modes - Blast away with all available resolutions up to 1600x1200.
- Increased Color Options - Don't settle for less, see the difference between 16-bit and True 32-bit colors.
- Advanced Display Settings - Free yourself to run on all advanced display setting including z-buffer and frame buffers.
- Dazzling High Resolution Demo - Devastate Your friends by running the demo in all available high resolutions up to 1600 x 1200.

  3DMark Pro can be purchased on-line from
  http://www.3dmark.com

MINIMUM SYSTEM REQUIREMENTS

- Microsoft Windows 95 or 98 with DirectX 6.0 installed
- A DirectX 6.0 compatible 3D accelerator
- Intel Pentium 166MHz or compatible processor
- 32 MB RAM

ADDITIONAL RECOMMENDATIONS FOR TESTING

- 128 MB RAM
- Free hard disk space for Image Quality test images.

PUBLISHING YOUR BENCHMARK RESULTS

When publishing results make sure that you do the following:

- Include the official 3DMark™ logo with the results
- Refer to www.3dmark.com
- Identify the systems setup that was used for benchmarking

Please refer to the license agreement for more detail on publishing results. The default setting should be used for generic references (i.e. 1780 3DMarks running on 800x600 resolution, 16 bit color, 16 bit z-buffer and double buffering). The details required by the license agreement can be easily exported from Result Browser.

TAKING SCREEN SHOTS

You can easily take screen shots for publishing or comparison by pressing F12 at any time when running the program. All screenshots are automatically captured and stored into your installation directory as sequently numbered .bmp files.

For example:
C:\Program Files\3DMark 99\shot0001.bmp

TESTING GUIDELINES

In order to get accurate and repeatable results please make sure you have done the following:

- Stop all other programs. Under the 32-bit Windows operating systems, other tasks can preemptively run during the tests, thus affecting the results. You will want to eliminate as many of these types of tasks as possible. This action also maximises your available memory.
- Disable any network connections and file sharing. Background network activity may affect results.
- Restart the computer before running the benchmark.
- Run the tests at least three times to verify that the

- results are reproducible.
- Follow a standard testing procedure each time you run the tests. For example, if you defragment the hard disk before one test, you should defrag the hard disk before running the second test. This helps to ensure that your results are consistent.

DISTRIBUTION GUIDELINES

You are allowed to distribute the unregistered copy of 3DMark™ 99 Lite under following conditions:

- You will keep count on the number of distributed copies
- You will notify Futuremark Corporation that you are distributing the unregistered copies of 3DMark™ 99 Lite (distribution@futuremarkcorp.com) prior to the start of distribution
- You will inform Futuremark Corporation about the number of distributed copies upon request
- You will include the official 3DMark™ logo and web site (www.3dmark.com) in the media used for distribution
- You make reasonable effort to verify that you are distributing the latest version.

The software may not be distributed with commercial products without permission from Futuremark Corporation, with the only below mentioned exception of magazine cover-CD distribution. You may not charge from distributing the program under any conditions.

You may distribute the unregistered version of 3DMark™ 99 Lite on a magazine cover CD's with the following conditions:

- You will inform Futuremark Corporation how many copies you want to distribute prior to distribution (distribution@futuremarkcorp.com)
- You will include the official 3DMark™ logo and web site (www.3dmark.com) i
n the media used for distribution
- You make reasonable effort to verify that you are distributing the latest version.

Please make sure that you have carefully read and agreed with the license agreement from the 3DMark™ 99 software package for detailed information about distributing the software prior to distribution.

SUBMITTING RESULTS TO THE GLOBAL DATABASE

3DMark is a global testing environment. You can submit your results to 3DMark results database and compare your setup with setups around the World. You can find more information about global analysis at www.3dmark.com.

Submit your results to

- See how FAST your system setup is compared to the

rest of the world!

- See who is the leading 3D accelerator manufacturer and who has the fastest hardware
- Join the "3D Psycho" competition and win GREAT 3D stuff and T-shirts
- Help us to put together the definite scoreboard and 3D Hall of Fame
- See the real time situation of fastest 3D accelerators around the globe
- Find out which 3D accelerator would be most beneficial to your system setup
- Find out who has the fastest processors

You can submit your results directly from Result Browser or from our Internet site at www.3dmark.com.

TROUBLESHOOTING Q&A

Please go to http://www.3dmark.com/support for up to date support and FAQ information plus current list of problems or compatibility issues with the program.

Q: My 3DMark does not work.
A: Usually the first option is to update your display drivers. 3DMark absolutely requires DirectX 6.0 compatible 3D accelerator and drivers installed. The program behaviour can be erratic with bad drivers. Please see http://www.3dmark.com for an extensive list of 3D accelerator and chip manufacturers and their driver download sites.

Q: 3DMark reports "Error starting program. A Required .dll file, DDRAW.DLL, was not found".
A: Install DirectX 6.0. It is available from http://www.microsoft.com/directx

Q: 3DMark reports that it can not play music but I have a sound card.
A: Check that you have no other programs in the background that play music. If closing of the programs does not help, restart your computer and try again.

Q: 3DMark aborts benchmarking or demo for seemingly no reason.
A: Check that you have no other programs running in the background. If for example your e-mail client receives a new mail notification, 3DMark will very probably abort the tests. This is done to verify accurate results.

Q: My S3 Savage3D based board is not selectable in 3DMark or 3DMark fails to start.
A: The S3 Savage3D may not initialize properly if the desktop is in 256 color mode. Please switch your desktop to 16 bit color depth.

Q: Voodoo2 seems to use more system memory than other cards.
A: Because of Voodoo2's unique texture memory arrangement (two separate texture memories), unfortunately all textures need to be stored twice to memory.

Q: I see occasional quick drops in the frame rate in the demo mode on my 3D accelerator.
A: This comes from DirectX 6.0's automatic texture management. Some cards do not handle new textures as smoothly as others. It may be possible to get fixed by new drivers.

FAQ Answers

- 3DMark 99 currently does not support AMD 3DNow! instruction set. Support is planned for the next major release of 3DMark.
- 3DMark results change when the tests are run in different resolutions. Therefore the results may not be directly comparable with each other.
- Results on 3Dfx Voodoo Graphics accelerators (for example Diamond Monster 3D) are not compatible with the results run on default settings with other 3D accelerators since the 3Dfx Voodoo Graphics chipset supports only 640x480 resolution.

WINDOWS NT

3DMark was written to operate under Windows 95 and Windows 98 and does not specifically support Windows NT 4.0 or 5.0. You may get it to run under some version of Windows NT, but we do not provide any support for Windows NT users.

LEGAL