ATI Radeon™ HD 5800 Series Graphics

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The Game Has Changed

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Expand, Accelerate, Dominate

Massively Immersive Gaming

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Immersive Gaming with ATI Eyefinity

Expand

Flight Simulator

Wider field of view lets you see enemies before they see you!

Tom Clancy's HAWX

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ATI Stream Accelerates the PC

Accelerate

Performance

ATI Radeon HD 5800 Series: Unrivalled GPU compute power

Standards

Driving innovation with OpenCL & DirectCompute 11

Solutions

Accelerating Games, Video and Productivity

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DirectX® 11 Benefits for Games

Dominate

Better Performance*

Multi-threading, DirectCompute 11

Better Visuals*

Tessellation, OIT, Post-Processing, Shadows, HDR Texture Compression

Better Experience*

DirectCompute 11 Physics and AI

* Compared to previous versions of DirectX

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Completing the Windows 7 Experience

Windows 7

- Gaming
- Entertainment
- Productivity

ATI Radeon™ HD 5800 Series

- DirectX 11
- ATI Stream
- ATI Eyefinity

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Executing On Our Sweet Spot Strategy

Design Goals

- Product Leadership in Every Segment
- Best Performance at Every Price Point
- The World's Most Powerful and Efficient GPU Series

Challenges

- **FOUR Chips** in Less than **SIX** Months
- The GPUs must be
  Powerful, Scalable, Affordable, Efficient

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ATI Radeon™ HD 5800 Series Graphics

Expand. Accelerate. Dominate.

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The ATI Radeon™ HD 5800 Series Graphics

World's Most Powerful, Advanced and Efficient GPU

World's Most Powerful GPU

More than 2.7 TFLOPS of Compute Power for Extreme Performance: unmatched

Redefined Gaming Experience

Enabling up to 24 megapixel HD Gaming

First GPU to Fully Support DirectX® 11

New Image Quality and Performance Enhancements

Breakthrough Energy Efficiency

Revolutionary Design for Significant Power Efficiency

Note: See slide 30 for additional information

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The World's Most Powerful GPU*

=

177x

Deep Blue Super Computers

*Note: See slide 30 for calculations

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The World's Most Advanced GPU*

DirectX®11

40nm

GDDR5

*See slide 30 for additional information.

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The World's Most Efficient GPU

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Performance Per Dollar

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ATI Radeon™ 5800 Series: Twice the Horsepower

	ATI Radeon™ HD 4870	ATI Radeon™ HD 5850	ATI Radeon™ HD 5870
Process	55nm	**40nm**	**40nm**
Transistors	956M	**2.15B**	**2.15B**
Engine Clock	750 MHz	**725 MHz**	**850 MHz**
Stream Processors	800	**1440**	**1600**
Compute Performance	1.2 TFLOPs	**2.09 TFLOPS**	**2.72 TFLOPs**
Texture Units	40	**72**	**80**
Texture Fillrate	30.0 GTexels/s	**52.2 GTexels/s**	**68.0 GTexel/s**
ROPs	16	**32**	**32**
Pixel Fillrate	12.0 GPixels/s	**23.2 Gpixel/s**	**27.2GPixel/s**
Z/Stencil	48.0GSamples/s	**92.8GSamples/s**	**108.8GSamples/s**
Memory Type	GDDR5	**GDDR5**	**GDDR5**
Memory Clock	900 MHz	**1000 MHz**	**1200 MHz**
Memory Data Rate	3.6 Gbps	**4.0 Gbps**	**4.8 Gbps**
Memory Bandwidth	115.2 GB/s	**128.0 GB/s**	**153.6 GB/s**
Maximum Board Power	160W	**170W**	**188W**
Idle Board Power	90W	**27W**	**27W**

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ATI Radeon™ HD 5870 GPU

The World's Most Powerful and Advanced GPU

- Ultimate immersion with DirectX® 11 and ATI Eyefinity Technology
- Accelerating PCs with nearly 3 teraFLOPS of compute power
- Extreme game play at high resolutions and maximum settings*

Compute Power	2.72 TFLOPS
Core Clock Speed	850 MHz
Stream Processors	1600
Frame Buffer	1GB , 4.8Gbps
Max/Idle Board Power	188W/27W
Max Res.	3x 2560x1600

< $400

**Subject to monitor resolution*

World's Fastest GPU

Note: See slide 30 for system configuration and details

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Winning at Ultra-High Quality Settings

Note: See slide 30 for system configuration and details

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ATI CrossFireX™ for the Ultimate Gaming Rig

Note: See slide 30 for system configuration and details

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ATI Radeon™ HD 5850 GPU

A New Class of Performance

- Loaded with the latest features and technology for immersion computing
- Built for ATI Stream technology with over 2 TFLOPS of compute power
- Runs highly demanding DirectX® 11 games in full HD with maximum settings

Compute Power	2.09 TFLOPS
Core Clock Speed	725 MHz
Stream Processors	1440
Frame Buffer	1GB , 4.0Gbps
Max/Idle Board Power	170W/27W
Max Res.	3x 2560x1600

< $300

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A New Class of Performance

Note: See slide 30 for system configuration and details

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Speed Has Never Been So Green

Best Power on an Enthusiast Solution

- Highest performance GPU with only 188W board power
- 27W power draw at the desktop or idling

ATI PowerPlay Improvements

- Low engine clock when idle
- Voltage Switching
- Lower GDDR5 memory power
- Board level protection from over-volting

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Coming Soon…

ATI Radeon™ HD 5870

Eyefinity⁶ Edition

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ATI Radeon HD 5800 Series

Changing the Gaming Experience

ATI Eyefinity, ATI Stream and DirectX 11

World's First and Only DirectX 11 GPU

Completes the Windows 7 experience

World's Fastest GPU

The Game Has Changed!

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Additional information

•Slide 18: The IBM Deep Blue Supercomputer has a theoretical maximum compute power of 15.36 Gflops (Source: http://www.top500.org/system/performance/2743), in comparison to the ATI Radeon™ HD 5870 which has a theoretical compute power of 2,720 Gflops, which allows for the equivalent comparison of a single ATI Radeon™ HD 5870 to 177 IBM Deep Blue Supercomputers.

•Slide 19: As of September 8, 2009, the original date of this presentation, the ATI Radeon™ HD 5000 Series of GPUs are the only GPUs with this feature set.

•Slide 20: As of this September 8, 2009 the ATI Radeon™ HD 5870 GPU has the highest GFLOPS/mm2 and GFLOPS/W of all known products

•Slide 21: Performance Per Dollar calculated as: (theoretical compute power in Gflops) / (Launch SEP)

•Slide 22: As of September 8, 2009, the original date of this presentation, the ATI Radeon™ HD 5800 Series of GPUs are the only GPUs with this feature set.

•Slide 25 and 27: All benchmark data based on 2560x1600 resolution

•System Configuration:

•ATI Video Cards: ATI Radeon™ HD 5870 1GB DDR5 850e/1200m or ATI Radeon™ HD 5850 1GB DDR5 725e/1000m

•RAM: 6GB DDR3-1600 9-9-9-24

•OS: Win7 RTM x64

•Driver: 8.66-Beta2_090819a-087204E-ATI

•Competitor Video Cards: Nvidia GeForce GTX 285 1GB GDDR3 648e/1476sc/1242m or Nvidia GeForce GTX 275 896MB GDDR3 633e/1404sc/1134m

•Motherboard: Gigabyte EX58-UD5

•CPU: Intel Core7i 965 (3.2GHz @ 3.33GHz)

•Driver: 190.38 WHQL

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