ATI Hybrid Graphics

Note: The core messaging presented here is intended to communicate the benefits of ATI Hybrid Graphics and to aid in the development of marketing materials.

What is ATI Hybrid Graphics?

ATI Hybrid Graphics is a ground breaking technology that features multi-GPU performance capabilities, automatic power state adjustment for power-savings, and multi-display functionality. ATI Hybrid Graphics helps bring enhanced gaming performance, productivity and platform power efficiency to the mainstream PC.

ATI Hybrid Graphics allows both an AMD 7-Series integrated graphics processor and a discrete graphics processor to communicate and work co-operatively yet independent of each other on an AMD-based system to help provide better performance, productivity and power efficiency. Additionally, in systems operating under Windows Vista®, ATI Hybrid Graphics can provide the ability for an integrated graphics processor and a discrete graphics processor to work simultaneously for high performance or dynamically for additional power savings.

ATI Hybrid Graphics is a technology umbrella brand encompassing the following technologies:

- **ATI Hybrid CrossFireX™ Technology**
  Multi-GPU technology enabling an integrated graphics processor (AMD 7-Series integrated chipset-based motherboard) and a discrete graphics processor (ATI Radeon™ HD 3400 Series or Mobility Radeon™ HD 3400 Series) to <u>simultaneously</u> work together to boost 3D graphics performance in a Windows Vista® environment[1].
  [1.] ATI Hybrid CrossFireX™ Technology is only supported with Windows Vista® operating system, and is not available with Windows® XP operating system.

- **ATI SurroundView™ Technology**
  Provides support for 4 or more monitors when you combine an integrated graphics processor (AMD 7-Series integrated chipset-based motherboard) with a discrete graphics processor (ATI Radeon™ HD 3000 Series). Each additional discrete graphics processor can provide support 2 or more independent monitors. The integrated graphics processor and the discrete graphics processor work in parallel to drive multiple displays.

- **ATI PowerPlay™ Technology**
  Power management technology enabling power saving profiles to help reduce power consumption when the graphics processor is idle or in minimal use resulting in reduced system temperatures and fan noise. ATI PowerPlay does not require both an integrated graphics processor and a discrete graphics processor in order to operate.

- **ATI PowerXpress™ Technology** (Available on notebook PCs using Windows Vista® OS)
  Power management technology that dynamically switches between a discrete graphics processor (ATI Mobility Radeon™ HD 3000 Series) and an integrated graphics processor (AMD 7-Series integrated chipset-based motherboard) for optimal power management.
  Note: Performance, technologies and features can vary with specific notebook implementations. Please consult with Notebook vendor for a complete list of supported features.

When you need to sum up ATI Hybrid Graphics in one simple statement, use this: *(ensure the appropriate statement according to the operating system is being used)*

Windows Vista® Operating System
ATI Hybrid Graphics is an AMD platform technology that enhances the user experience by combining an integrated and discrete graphics processor to work cooperatively and simultaneously in one system to deliver high performance and superior productivity with optimal power efficiency.

Windows XP® Operating System
ATI Hybrid Graphics is an AMD platform technology that enhances the user experience by combining an integrated and discrete graphics processor to work cooperatively in one system to deliver high performance and superior productivity with optimal power efficiency.

Supporting Messages

ATI Hybrid Graphics encompasses the following technologies:

- **ATI Hybrid CrossFireX™**
  Based on ATI CrossFireX™ multi-GPU technology, ATI Hybrid CrossFireX™ takes your gaming experience to the next level, in a Windows Vista® environment, boosting PC performance by enabling the chipset's integrated graphics processor and a discrete GPU to operate simultaneously with combined output to a single display for blisteringly-fast frame rates. Unleash the graphics performance that you've been waiting for on a mainstream Windows Vista® PC[1]!
  [1.] ATI Hybrid CrossFireX™ Technology is only supported with Windows Vista® operating system, and is not available with Windows® XP operating system.

  ATI SurroundView™
  ATI Hybrid Graphics technology enables ATI SurroundView™ which provides support for 4 independent monitors when an integrated graphics processor is combined with a discrete graphics processor. Each additional discrete GPU supports 2 or more independent monitors. Experience superior productivity with ATI SurroundView™. The integrated graphics processor and the discrete graphics processor work in parallel to drive multiple displays.

- **ATI PowerPlay**™

  ATI PowerPlay™ power management technology is designed to enable power saving profiles that help reduce power consumption when the GPU is idle or in minimal use. This dynamic power management enables the GPU to automatically adjust power between low, medium and high states for power efficiency and performance-on-demand. For example, when sending/receiving emails there is less demand on the GPU and it runs in a low state, whereas when gaming there is high demand on the graphics engine and the GPU runs in a high state. ATI PowerPlay does not require both an integrated graphics processor and a discrete graphics processor in order to operate.

- **ATI PowerXpress**™ (Available on notebook PCs using Windows Vista® OS)

  ATI PowerXpress™ gives you the ability to dynamically switch (no reboot required) in real time between an ATI Mobility Radeon™ HD 3400 series graphics processor and an integrated graphics processor. Experience superior discrete graphics performance while plugged in or switch over to energy efficient integrated graphics when on-the-go to help extend your battery life.

  Note: Performance, technologies and features can vary with specific notebook implementations. Please consult with Notebook vendor for a complete list of supported features.

How does ATI Hybrid CrossFireX™ work?

ATI Hybrid Graphics technology enables a discrete graphics processor and an integrated graphics processor to render simultaneously in ATI Hybrid CrossFireX™ mode, in Windows Vista® to provide a significant performance boost to AMD-based systems[1].

[1.] ATI Hybrid CrossFireX™ Technology is only supported with Windows Vista® operating system, and is not available with Windows® XP operating system.

What does an ATI Hybrid CrossFireX™ system include?

An ATI Hybrid CrossFireX™ system includes an ATI Radeon™ HD 3400 Series or Mobility Radeon™ HD 3400 Series graphics processor and a motherboard based on an AMD 7-Series integrated chipset, all operating in a Windows Vista® environment.

How is ATI CrossFireX™ different from ATI Hybrid CrossFireX™?

ATI CrossFireX™ enables 2 or more <u>discrete</u> graphics processors to work together to improve system performance in both Windows® XP and Windows Vista®. ATI Hybrid CrossFireX™ specifically refers to the ability to boost system performance by allowing a discrete graphics processor and an integrated graphics processor to work simultaneously in Windows Vista® only.

Messaging Framework

AMD 7-Series Chipsets and ATI Hybrid Graphics
Experience AMD's innovative ATI Hybrid Graphics technology for scalable gaming action. Get an additional performance boost when your AMD 7-Series integrated chipset-based motherboard is paired with an ATI Radeon™ HD 3400 Series or Mobility Radeon™ HD 3400 Series graphics processor. The AMD 7-Series chipset provides the technology stepping stone to an ATI Hybrid CrossFireX™ system (available only with Windows Vista® OS) and transforms your mainstream PC into a blistering-fast gaming rig.

ATI Radeon™ HD 3400 Series and ATI Hybrid Graphics
ATI Hybrid Graphics helps bring performance, productivity and power efficiency to the mainstream PC. Experience more gaming scalability and performance with an ATI Hybrid CrossFireX™ system (Windows Vista® only), which includes an ATI Radeon™ HD 3400 Series or Mobility Radeon™ HD 3400 Series graphics processor and an AMD 7-Series chipset-based motherboard[1].

[1] ATI Hybrid CrossFireX™ Technology is only supported with Windows Vista® operating system, and is not available with Windows® XP operating system.

Desktop Systems with ATI Hybrid Graphics
ATI Hybrid Graphics brings performance, productivity and power efficiency to the mainstream PC when you combine an ATI Radeon™ HD 3000 Series graphics processor and an AMD 7-Series chipset-based motherboard. Give your PC a performance boost with an ATI Hybrid CrossFireX™ system (available only on Windows Vista® operating systems), which includes an ATI Radeon™ HD 3400 Series graphics processor.

Notebook Systems with ATI Hybrid Graphics
ATI Hybrid Graphics brings performance, productivity and power efficiency to the mainstream PC when you combine an ATI Mobility Radeon™ HD 3000 Series graphics processor and an AMD 7-Series chipset-based motherboard. ATI PowerXpress™ provides dynamic graphics switching between integrated and discrete graphics processors for incredible power efficiency (Available on notebook PCs using Windows Vista® OS). You can experience superior multi-GPU graphics performance while plugged in or switch over to energy-efficient integrated graphics when on-the-go to help extend battery life.

Logos

ATI Hybrid Graphics Technology Logo

Motherboard Partners or Add-in-Board (AIB) Partners can use the ATI Hybrid Graphics Technology logo to promote any one of the following ATI Hybrid Graphics features:

- ATI Hybrid CrossFireX™ Technology
- ATI SurroundView™ Technology
- ATI PowerPlay™ Technology *(*On its own does not justify logo)*
- ATI PowerXpress™ Technology

OEM or SI partners can use the ATI Hybrid Graphics Technology logo in conjunction with an ATI Radeon™ Graphics logo to promote an ATI Hybrid Graphics system with the following features:

- ATI Hybrid CrossFireX™ Technology
- ATI SurroundView™ Technology
- ATI PowerPlay™ Technology *(*On its own does not justify logo)*
- ATI PowerXpress™ Technology

ATI Radeon™ Hybrid Graphics Logo

OEM or SI partners can continue using the ATI Radeon™ Graphics logo or have the option of using the ATI Radeon™ Hybrid Graphics logo to promote an ATI Hybrid Graphics system with the following features:

- ATI Hybrid CrossFireX™ Technology
- ATI SurroundView™ Technology
- ATI PowerPlay™ Technology *(*On its own does not justify logo)*
- ATI PowerXpress™ Technology

Product Model Number Logos: Introducing Hybrid X2
→ **Hybrid X2** denotes an <u>ATI Hybrid Graphics system</u> with 2 GPUs: an integrated GPU and a discrete GPU in Windows Vista® OS.
→ Model number logos will include **Hybrid X2** only to discrete graphics processors brand names to indicate ATI Hybrid Graphics systems

→ E.g. ATI Radeon™ HD 3200 (IGP) + ATI Radeon™ HD 3450 (GPU) + Windows Vista® OS
→ = **ATI Radeon™ HD 3450 Hybrid X2** (see chart below)

Products	Code Name	Brand Name
Integrated Graphics	RS780D RS780	AMD 790GX Chipset with ATI Radeon™ HD 3300 graphics AMD 780G Chipset with ATI Radeon™ HD 3200 graphics
Desktop Discrete	RV620 PRO RV620 LE	ATI Radeon™ HD 3470 Hybrid X2 ATI Radeon™ HD 3450 Hybrid X2
Notebook Discrete	M82 XT M82	ATI Mobility Radeon™ HD 3470 Hybrid X2 ATI Mobility Radeon™ HD 3450 Hybrid X2

* Please note that the integrated chipsets have both a chipset brand name and a graphics brand name that can be used independently (e.g. AMD 790GX Chipset OR ATI Radeon™ HD 3300 Graphics) or they can be used together (e.g. AMD 790GX Chipset with ATI Radeon™ HD 3300 Graphics)

ATI CrossFireX™ Logo

Use the ATI CrossFireX™ logo if you meet one of the following criteria:

- if you are a motherboard partner that is promoting a motherboard that includes 2 or more discrete GPU slots
- if you are an OEM or SI partner that is promoting a system that includes 2 or more discrete GPU slots

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