



Overview

GPU Specifications

## ATI Radeon™ HD 2400 Series - GPU Specifications

### ATI Radeon™ HD 2400 Feature Summary

- ✦ 180 million transistors on 65nm fabrication process
- ✦ 64-bit DDR2/GDDR3 memory interface
- ✦ Unified Superscalar Shader Architecture
  - ✦ 40 stream processing units
    - ✦ Dynamic load balancing and resource allocation for vertex, geometry, and pixel shaders
    - ✦ Common instruction set and texture unit access supported for all types of shaders
    - ✦ Dedicated branch execution units and texture address processors
  - ✦ 128-bit floating point precision for all operations
  - ✦ Command processor for reduced CPU overhead
  - ✦ Shader instruction and constant caches
  - ✦ Up to 16 texture fetches per clock cycle
  - ✦ Up to 128 textures per pixel
  - ✦ Fully associative vertex/texture cache design
  - ✦ DXTC and 3Dc+ texture compression
  - ✦ High resolution texture support (up to 8192 x 8192)
  - ✦ Fully associative texture & Z/stencil cache designs
  - ✦ Early Z test, Re-Z, Z Range optimization, and Fast Z Clear
  - ✦ Lossless Z & stencil compression
  - ✦ 8 render targets (MRTs) with anti-aliasing support
  - ✦ Physics processing support
- ✦ Full support for Microsoft® DirectX® 10
  - ✦ Shader Model 4.0
  - ✦ Geometry Shaders
  - ✦ Stream Output
  - ✦ Integer and Bitwise Operations
  - ✦ Alpha to Coverage
  - ✦ Constant Buffers
  - ✦ State Objects
  - ✦ Texture Arrays
- ✦ Dynamic Geometry Acceleration
  - ✦ Programmable tessellation unit
  - ✦ Accelerated geometry shader path for geometry amplification
  - ✦ Memory read/write cache for improved stream output performance
- ✦ Anti-aliasing features
  - ✦ Multi-sample anti-aliasing (up to 4 samples per pixel)
  - ✦ Custom Filter Anti-Aliasing (CFAA) for improved quality
  - ✦ Adaptive super-sampling and multi-sampling
  - ✦ Temporal anti-aliasing
  - ✦ Gamma correct
  - ✦ Super AA (CrossFire configurations only)
  - ✦ All anti-aliasing features compatible with HDR rendering
- ✦ Texture filtering features
  - ✦ 2x/4x/8x/16x high quality adaptive anisotropic filtering modes (up to 128 taps per pixel)
  - ✦ 128-bit floating point HDR texture filtering
  - ✦ Bicubic filtering
  - ✦ sRGB filtering (gamma/degamma)
  - ✦ Percentage Closer Filtering (PCF)
  - ✦ Depth & stencil texture (DST) format support
  - ✦ Shared exponent HDR (RGBE 9:9:9:5) texture format support
- ✦ CrossFire™ Multi-GPU Technology
  - ✦ Scale up rendering performance and image quality with 2 or more GPUs
  - ✦ Integrated compositing engine
  - ✦ High performance dual channel interconnect
- ✦ ATI Avivo™ HD Video and Display Platform
  - ✦ Dedicated unified video decoder (UVD) for H.264/AVC and VC-1 video formats
    - ✦ High definition (HD) playback of both Blu-ray and HD DVD formats
  - ✦ Hardware MPEG-1, MPEG-2, MPEG-4/DivX video decode acceleration
    - ✦ Motion compensation and iDCT (inverse discrete cosine transform)
  - ✦ Avivo Video Post Processor
    - ✦ Color space conversion
    - ✦ Chroma subsampling format conversion
    - ✦ Horizontal and vertical scaling
    - ✦ Gamma correction
  - ✦ High Quality Video Post Processing
    - ✦ Advanced vector adaptive per-pixel de-interlacing
    - ✦ De-blocking and noise reduction filtering \
    - ✦ Detail enhancement
    - ✦ Inverse telecine (2:2 and 3:2 pull-down correction)
    - ✦ Bad edit correction
  - ✦ Two independent display controllers
    - ✦ Drive two displays simultaneously with independent resolutions, refresh rates, color controls and video overlays for each display
    - ✦ Full 30-bit display processing
    - ✦ Programmable piecewise linear gamma correction, color correction, and color space conversion
    - ✦ Spatial/temporal dithering provides 30-bit color quality on 24-bit and 18-bit displays
    - ✦ High quality pre- and post-scaling engines, with underscan support for all display outputs
    - ✦ Content-adaptive de-flicker filtering for interlaced displays
    - ✦ Fast, glitch-free mode switching
    - ✦ Hardware cursor
  - ✦ Two integrated DVI display outputs
    - ✦ Primary supports 18-, 24-, and 30-bit digital displays at all resolutions up to 1920x1200 (single-link DVI) or 2560x1600 (dual-link DVI)<sup>1</sup>
    - ✦ Secondary supports 18-, 24-, and 30-bit digital displays at all resolutions up to 1920x1200 (single-link DVI only)<sup>1</sup>
    - ✦ Each includes a dual-link HDCP encoder with on-chip key storage for high resolution playback of protected content<sup>2</sup>
  - ✦ Two integrated 400 MHz 30-bit RAMDACs
    - ✦ Each supports analog displays connected by VGA at all resolutions up to 2048x1536<sup>1</sup>
  - ✦ HDMI output support
    - ✦ Supports all display resolutions up to 1920x1080<sup>1</sup>
    - ✦ Integrated HD audio controller with multi-channel (5.1) AC3 support, enabling a plug-and-play cable-less audio solution
  - ✦ Integrated AMD Xilleon™ HDTV encoder
    - ✦ Provides high quality analog TV output (component/S-video/composite)
    - ✦ Supports SDTV and HDTV resolutions
    - ✦ Underscan and overscan compensation
  - ✦ MPEG-2, MPEG-4, DivX, WMV9, VC-1, and H.264/AVC encoding and transcoding
  - ✦ Seamless integration of pixel shaders with video in real time
  - ✦ VGA mode support on all display outputs
- ✦ PCI Express x16 bus interface
- ✦ OpenGL 2.0 support

<sup>1</sup> Some custom resolutions require user configuration

<sup>2</sup> HDCP support for playback of protected content requires connection to a HDCP capable display

## ATI Radeon™ HD 2400 PRO - (additional) Specifications (All versions)

### What's in the Box

- ✗ ATI Radeon™ HD 2400 PRO graphics card
- ✗ 24-pin DVI to 15-pin VGA adapter
- ✗ Set-up CD
- ✗ Manual

### System Requirements

- ✗ PCI Express® based PC is required with one X16 lane graphics slot available on the motherboard
- ✗ 300 Watt or greater power supply recommended
- ✗ Certified power supplies are recommended.
- ✗ 1GB of system memory
- ✗ Installation software requires CD-ROM drive
- ✗ DVD playback requires DVD drive
- ✗ Blu-ray / HD DVD playback requires Blu-ray / HD DVD drive<sup>5</sup>

### Operating Systems Support

- ✗ Windows Vista™ & Vista 64
- ✗ Windows® XP
- ✗ Windows® XP x64 Edition
- ✗ Windows® 2000

### Display Support

- ✗ One Dual-Link DVI-I connector for high-resolution digital displays
- ✗ ATI Radeon™ DVI-I to HDMI<sup>2</sup> with 5.1 audio (adapter)
- ✗ One VGA analog connector
- ✗ HDTV Component (YPrPb) output (adapter)
- ✗ Drive two displays simultaneously with independent resolutions and refresh rates<sup>4</sup>
- ✗ TV output requires HDMI, component, S-video or composite cable (not included)

### Display Modes

- ✗ Digital Displays (Connected by DVI)
  - ✗ All Resolutions up to 2560x1600
- ✗ Analog Displays (Connected by VGA)
  - ✗ All resolutions up to 2048x1536
- ✗ TV-out
  - ✗ SDTV (analog): 480i | 525i
  - ✗ HDTV (analog): 1080p | 1080i | 720p | 480p | Custom resolution<sup>3</sup>
  - ✗ HDTV (digital): 720p | 480p | Custom resolution<sup>3</sup>
  - ✗ Note: Resolutions are limited by the performance of the attached monitor.



1. Visit [ati.com](http://ati.com) for current warranty statement and conditions

2. May not support all HDMI displays.

3. Some custom resolutions require user configuration

4. Dual VGA monitors require a DVI to VGA adapter, sold separately

5. Playing HDCP content requires additional HDCP ready components, including but not limited to an HDCP ready monitor, Blu-ray or HD DVD disc drive, multimedia application and computer operating system.

Products may not be exactly as shown.