PRODUCT DESCRIPTION

NV15 features NVIDIA s 2nd-generation 4 x 4 architecture with NVIDIA s new Hypertexel™ pipeline. Each of the four new Hypertexel pipelines now processes two textures per clock, in life-like 32-bit color, at full speed. The 2nd-generation 4 x 4 tranform and lighting architecture also delivers 20+ Million triangles/sec transformed and lit, allowing even more stunning visuals and realism. Integrated transform and lighting (T&L) propels graphics performance to new heights, and also frees up a significant amounts of C P U processing power, allowing the host computer to focus the non-graphics aspects of 3D applications such as more realistic physics calculations, better artificial intelligence (AI) and network multiplayer functionality.
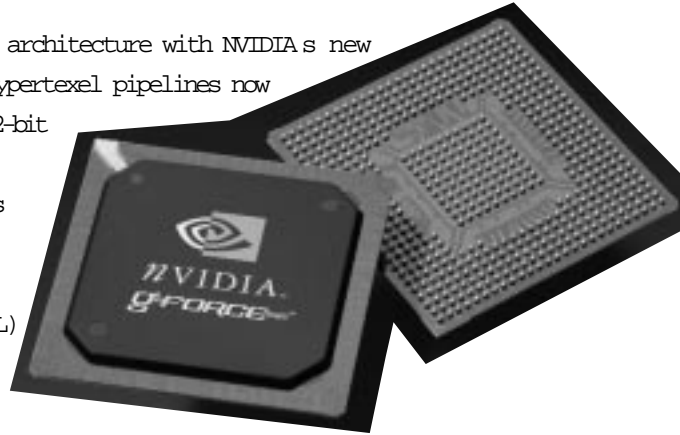
NV15 s integrated HDTV processor supports all ATSC resolutions at their specified frame rates. When combined with a high performance, high level software Mpeg-2 decoder, and a Digital TV receiver, NV15 delivers a cost effective, high quality HDTV playback solution.

NV15 offers industry-leading, breakthrough 2D and 3D performance, and trend-setting video processing capabilities for full frame rate on all HDTV and DVD resolutions. In addition, NV15 enables ground-breaking new applications like time shifting and digital VCR capabilities. NV15 is the most complete DX7 hardware implementation and meets all the requirements of the mainstream PC graphics market, including Microsoft s PC00, PC99 and PC99a initiatives.

NV15 delivers the industry s fastest Direct3D and OpenGL acceleration solution and continues NVIDIA s tradition of providing leadership, single-chip, integrated VGA, 2D, 3D and video performance enabling a range of applications from 3D games to HDTV, DVD, and video conferencing.

2nd-Generation GPU

Features Performance Quality

- 8 Texels Per Clock with Hypertexel™
- 2nd-generation T&L Engines
- 256-bit graphics architecture
- Double Data Rate (DDR) Memory
- AGP 4X with Fast Writes
- 32-bit color
- 32-bit Z/Stencil
- Cube Environment Mapping
- DirectX Texture Compression
- Order Independent Full Scene Multisample Antialiasing.

- 1000+ Mtexels Fill Rate
- 20+ Mtriangles/sec through T&L and setup
- 5GB+/sec Memory Bandwidth
- Maximum 3D/2D resolution of 2048 x 1536 @ 75Hz
- Complete DirectX 7, DirectX 6 and DirectX 5 support

- NVIDIA Unified Driver Architecture™
- Industry's First fully 1.2 compliant professional OpenGL support for Linux.
- Integrated 720p, 1080i HDTV Playback
- WHQL-certified Windows 2000, Windows NT4, Windows 3.5, Windows 98 and Windows 95
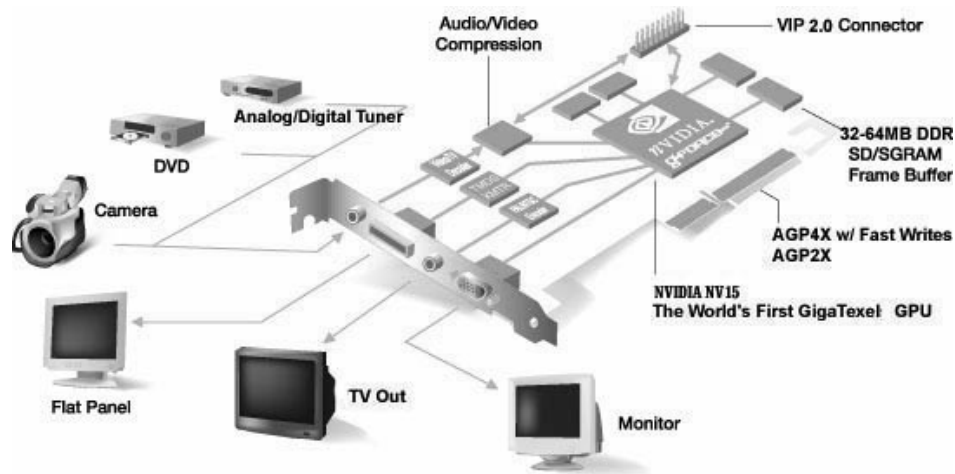
NV15 2nd generation 4x4 Architecture

	NV15
Triangles/sec through Transform and Lighting	20+ Million
Triangles/sec through Set-up	20+ Million
Textures/sec, lit, textured, gouraud shaded	1000+ MTexels
Memory Bandwidth	5GB+/s
RAMDAC	350MHz
Max Resolution	2048x1536

Visually stunning interactive 3D
* Optimized Direct3D and OpenGL acceleration
* Complete DirectX 7, DirectX 6 and DirectX 5 support
* 256-bit graphics engine
* 8 texture-mapped, filtered, lit texels per clock cycle
* Single pass multi-texturing
* 32-bit Z/stencil buffer (floating point or integer)
* Anti-aliasing: full scene, order independent
* 32-bit ARGB rendering with destination alpha
* High Quality Texture Filtering, including Anisotropic
* Advanced per-pixel, perspective-correct texturing
  • Cube environment mapping
  • Projective textures
  • Multi-texture and multi-pass
  • Per-pixel Bump mapping
  • BRDF Support: Bi-Directional Reflectance Distrubtion Functions
  • Texture modulation
  • Light maps
  • Reflection maps
  • Procedural textures
  • DX6 texture compression
* Fog and Depth Cueing
  • Radial or linear
  • Per-vertex or per-pixel

High performance 256-bit 2D acceleration
* Optimized for multiple color depths including 32, 24, 16, 15, and 8-bits per pixel
* True-color hardware cursor
* Multi-buffering (double, triple, quad buffering) for smooth animation and video playback

High quality HDTV/DVD Playback
* Enhanced Motion Compensation for full-screen, full-frame video playback of all DVD and HDTV resolutions
* Advanced support for DirectDraw
* Hardware color space conversion (YUV 4:2:2 and 4:2:0)
* 5-tap horizontal by 3-tap vertical filtering
* 8:1 upscaling and downscaling
* Per-pixel color keying
* Multiple video windows with hardware color space conversion and filtering
* DVD sub-picture alpha blended compositing
* Video acceleration for DirectShow, MPEG-1, MPEG-2, and Indeo

Robust system interface
* Comprehensive AGP 4X support, including Fast Writes and Execute Mode
* Comprehensive AGP 1X, 2X, and VAGP support
* NTSC and PAL TV output
* VIP 2.0 video I/O port
* Flexible memory configurations, up to 128MB of SDR or DDR SDRAM/SGRAM

Designed to WHQL compatibility standards
* Windows 2000, Windows NT 4.0, Window NT 3.5 display drivers
* Windows 98 and Windows 95 display drivers, DirectDraw, Direct3D, DirectVideo, ActiveX
* OpenGL ICD for Windows 95, Windows 98, Windows 2000, Windows NT, and Linux
* OS/2 display driver
* Windows 3.x display driver
* Fully PC00, PC99 and PC99a compliant