ProVidia 9685

64-Bit GUI and Video Accelerator with TV Out

64 Bit High Performance GUI Accelerator

- 64 bit internal memory data bus

- 265 Raster Operations (ROPs) for 8 bits per pixel (PsuedoColor), 15/16 bits per pixel (HiColor), and 24/32 bits per pixel (True Color) graphic modes

- Enhanced graphics engine for BitBLT's, line draws, short stroke vector draws, clipping and text transfers

- Accelerates DirectDraw functions with color keying, sprites, and double buffering for page flipping

- Built-in hardware cursor and pattern register

- 24 bit packed True Color acceleration

- Pin compatible with TGUI9680-1/9682, 208 pin PQFP

Integrated Features for TV Display

- NTSC/PAL interlaced display for 640x480 (NTSC) or 800x600 (PAL) resolutions using standard Window 3.1 and Windows 95 modes in all color depths

- NTSC/PAL display for DOS games (320x240)

- 3 Line Flicker Removal filter for output to interlaced monitors (NTSC/PAL)

- Interpolated vertical scaling from 480 or 600 lines to 400 for NTSC or 576 for PAL resolutions

- Overscan/underscan to TV display

- Direct interface to external NTSC/PAL Encoder

Direct3D Software Acceleration

- Stretch BLT

- PCI bus mastering

Extended Display Resolutions

- High resolution non-interlaced display through 1600x1200-256, 1280x1024-64K, 1024x768-16M, 800x600-16M, or 640x480-16M colors

- Extended text modes (80 or 132 columns by 25, 30, 43, or 60 rows)

High Performance Video Accelerator

- Direct Interface to MPEG and Video Decoders with True Videoâ Scaling

- On-chip Color Space Converter (CSC), True VideoÒ horizontal/vertical interpolation with proprietary edge recovery scaling, and overlay control for 30 fps software MPEG/video CODEC acceleration

- Anti-tearing support

- Dual apertures for simultaneous access to graphics and video display memory areas

- CCIR 656 and YUV planar

Video Module Interface (VMI) and Vertical Blank Interval (VBI) Support

- VMI compliant hardware interface to MPEG or video decoders for live video inputs (TV, Camera, VCR,.etc.)

- VBI (Intercast) interface can separate vertical blank interleaved data for transmission to the CPU

PCI Bus Master Support

Trident

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64-Bit GUI and Video Accelerator with TV Out

Highly Integrated Design

- Fully integrated 24 bit True Color DAC with color look-up table, 170MHz clock synthesizer, read cache, command FIFO, 100% IBM compatible VGA core GUI and Video Accelerators
- 256x18 color look-up table with HiColor and True Color bypass mode support
- Two wire interface to EEPROM or VESA DDC

Simple Bus Interface

- 32 bit "glueless" connection to PCI bus
- Flexible Bus Interface Unit (BIU) for burst
- Big-endian and little-endian data formats
- Host write buffer and read cache
- PCI burst mode support
- PCI 2.1 compliant

Unified Memory Architecture (UMA) Support

- Unified frame buffer support for leading UMA core logic chipsets
- Minimal system performance degradation w/o L2 cache

Dual Video Windows for Videoconferencing

- 2 independent scalers and CSC's for local and remote video window control
- Video data path selection from video port or PCI bus

Flexible Display Memory Interface

- 0.5MB to 4MB display memory configurations with DRAM densities of 128Kx16, 256Kx4, 256Kx8, and 256Kx16
- Only two 256Kx16 DRAM's for 1024x768-256
- FPM or EDO DRAM Dynamic frame buffer sharing

"Deep Green PC" Power Management

- VESA Display Power Management Signaling (DPMS) compatible
- RAMDAC and clock synthesizer powerdown for greater energy savings

Application Diagram