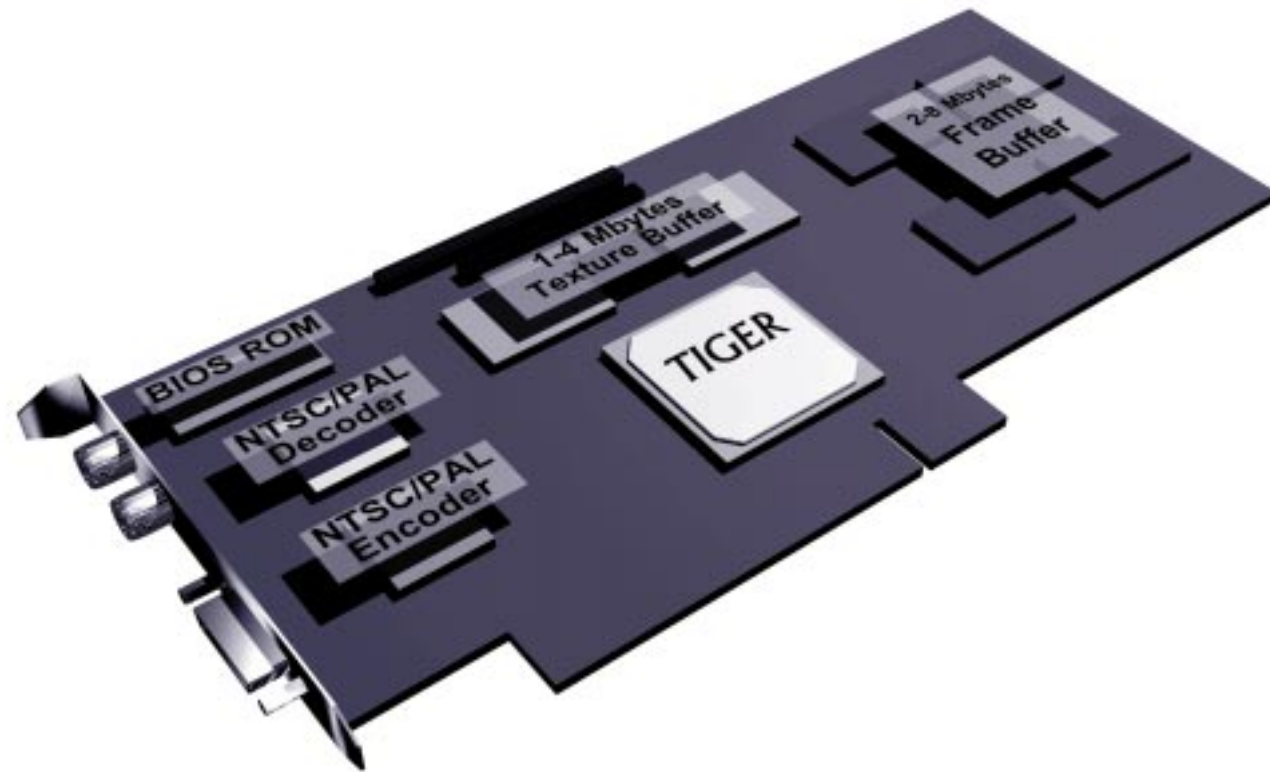


OPTIONAL CONFIGURATIONS



Ordering Information  
 ARK 8100-A, 272 pin PBGA  
 ARK 8110-A, evaluation kit, AGP  
 ARK 8120-P, evaluation kit, PCI

Company Information

ARK (Advanced Rendering Kernels) Logic develops, designs, markets and sells high-performance and integrated 2D/3D processors for personal computers. ARK Logic is a fabless semiconductor company with multiple manufacturing partners. ARK Logic is a privately held corporation with venture financing from global sources. Corporate headquarters are in California: ARK Logic, Inc., 1737 N. First Street, San Jose, CA 95112-4524. 408-467-1988. <http://www.ARKLOGIC.com>

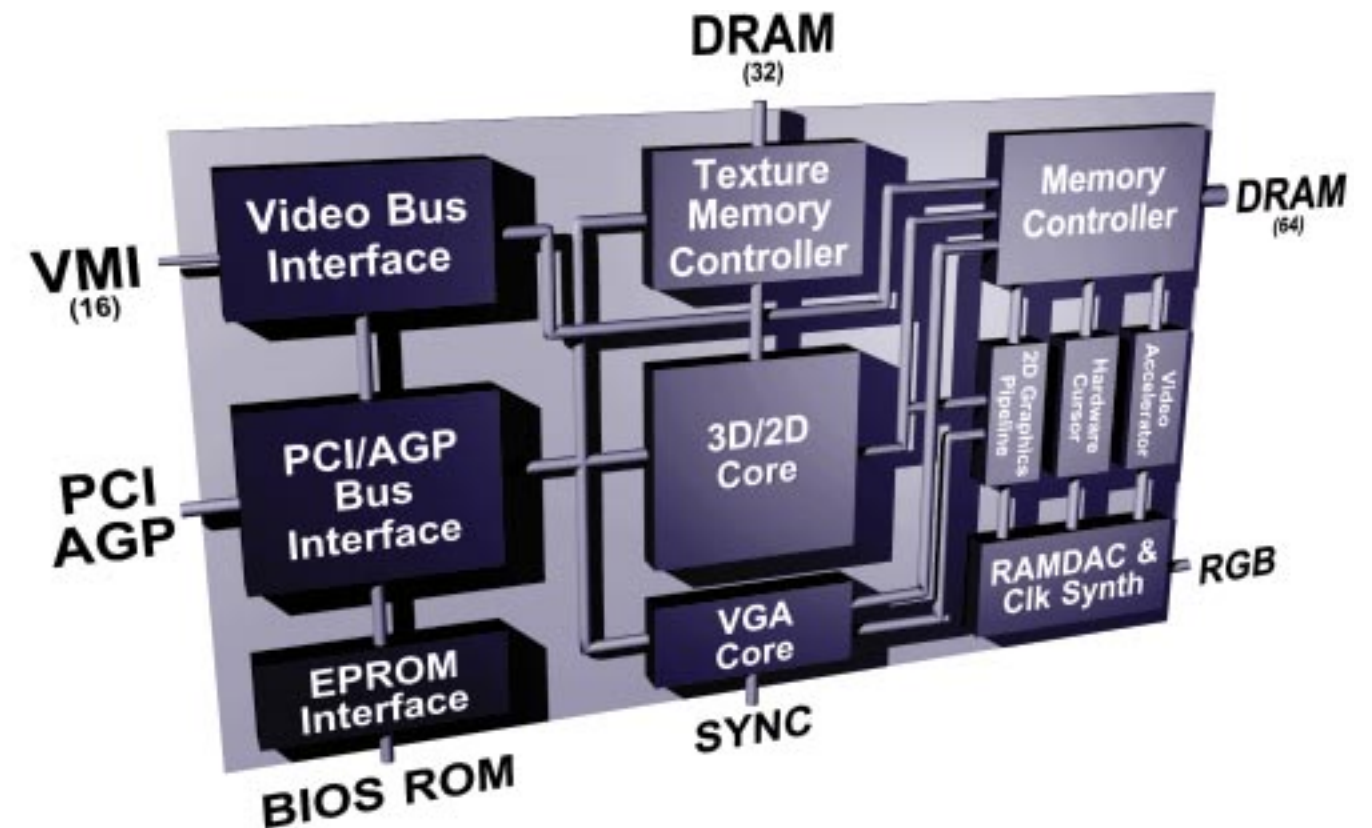
# Tiger 3D – ARK 8100

Integrated 2D-3D Graphics and Video Accelerator with Dedicated Texture Memory for High Fill and Frame Rates

DESCRIPTION

The Tiger 3D graphics accelerator incorporates a multi-stage 3D pipeline to assist in the balancing of visual quality and application performance by providing a 3D solution with both high fill rates and frame rates. The Tiger 3D is a single chip that integrates superior 2D graphics and video acceleration that enables OEMs to provide a simple, economical graphics product. The Tiger 3D has an integrated 250 MHz RAMDAC, 100 MHz pixel clock and a full-scale video accelerator. The only additional components required to produce a

high performance 2D/3D accelerator are memory for the frame and texture buffers and an EPROM for the graphics BIOS. Tiger 3D supports multiple memory options and configurations and is fully compliant with the PCI 2.1 and AGP 1.0 bus standards. The Video Peripheral Interface on the Tiger 3D provides a VMI compatible bus for simultaneous input/output of video that can support external TV tuners, output to high quality TV/Video encoders and complete DVD solutions.



## FEATURES

### 3D Geometry Setup

- Integrated high performance polygon setup engine providing 1.7 million polygons/second
- Vertex cache
- Accepts both floating point and fixed point inputs
- Optimized for OpenGL and Direct3D

### 3D Texture Mapping

- Dedicated 32-bit texture memory up to 4Mbytes
- Single pass, tri-linear, mip-mapping with automatic LOD
- Perspective correct, tri-linear and bilinear filtered textures
- Nearest neighbor
- RGBA and YUV Texture formats
- 1, 2, 4, & 8-bit palletized textures with dedicated LUT
- Text caching
- Continuous scaling of any size or shape

### SDRAM/SGRAM/EDO Support

- Frame buffer supports up to 8Mbytes
- Texture memory support up to 4Mbytes
- Memory clock speeds up to 100MHz
- Single cycle EDO DRAM
- SGRAM with block write and write-per-bit
- Support 1M x 16 SDRAM

### 2D Graphics

- High speed BitBlit with support for 256 ROPs
- Fully featured 2D rasterizer with full primitive support
- Monochrome and color expansion and color keying
- Window clipping
- Font caching
- Rectangle and pattern fill
- Line drawing
- Per pixel overlay for 3D and video

### AGP/PCI Bus Interface

- AGP 1.0 @ 66MHz with DMA Bus Mastering
- PCI 2.1 @ 66MHz with DMA Bus Mastering

### High Quality 3D Features and Special Effects

- Flat, Gouraud, and specular shading and lighting
- 100 million pixels/second with texture, trilinear, perspective-correction, Z and anti-aliasing
- 32-bit true color with 8-bit retained alpha
- 24-bit Z-buffer with 8-bit stencil buffer
- Single pass, per pixel, perspective-correct fog
- Anti-aliasing with sub-pixel accuracy
- Single pass, per pixel transparency
- Double and triple buffering
- Independent alpha blending
- Triangles and triangle strips
- Fast clear
- 3D in windows of any size or in full screen

### VMI interface for DVD/Camera Decoders

- Direct interface to DVD/MPEG-2 and Analog/Digital Camera decoder via VMI port

### Advanced video processing

- YUV 4:2:2
- Multiple video windows
- High quality Horizontal and Vertical Interpolation with jagged edge smoothing
- Color and chroma keying
- Color space conversion
- CCIR656 stream/8 bit video input support
- PC98 conformant

### High Performance Drivers and Software

- Windows 95 Display, Direct Draw, Direct Video, Direct3D, and OpenGL ICD Driver suite
- Windows NT 4.0 Display, Direct Draw, Direct3D (NT4.0), OpenGL ICD Driver suite
- VESA VBE 2 compliant BIOS with support for VGA, DDC2, and DPMS

### Advanced Manufacturing

- 272 Pin PBGA
- 3.3V with 5V tolerant I/O
- .35u/4LM technology

### Screen Refresh Rate

Resolution	60Hz	75Hz	80Hz	85Hz	100Hz	120Hz
640X480	Y	Y	Y	Y	Y	Y
800X600	Y	Y	Y	Y	Y	Y
1024X768	Y	Y	Y	Y	Y	
1280X1024	Y	Y	Y	Y	Y	
1600X1200	Y	Y	Y			

### Frame Buffer Configuration

Resolution	256 Colors	65K Colors	16M Colors
640X480	2M	2M	2M
800X600	2M	2M	2M
1024X768	2M	2M	4M
1280X1024	2M	4M	6M
1600X1200	2M	4M	8M

