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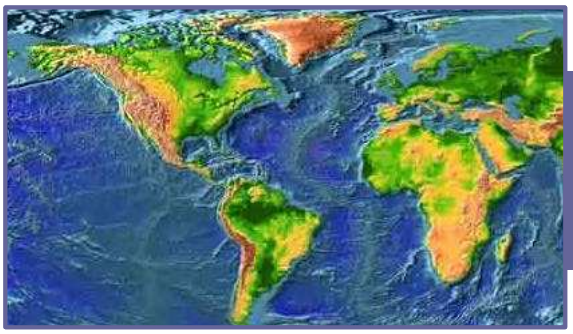
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TGA3D+ Graphics Adapter



Sun XVR-500 Graphics for Themis USPIIe Single Board Computer

Themis' new TGA3D+ is a high performance graphics accelerator for the USPIIIi and USPIIe single-board computer. The TGA3D+ features onboard 3-D geometry acceleration, hardware based texture mapping, and high resolution 24-bit 2-D support. Ideal for applications that require a high performance 3-D solution with hardware-based texture mapping, the TGA3D+ provides graphics capabilities well beyond the reach of PMC form factor graphics adapters.

XVR-500 Compatibility Ensures High Performance for Demanding 3-D Applications

Themis' TGA3D+ adapter is a high performance COTS solution for use in command and control systems, geotechnical, high-end MCAD, visualization and simulation applications. Themis' TGA3D+ is based on Sun Microsystems™ XVR-500 graphics controller, insuring software compatibility with applications running on Sun™ workstations and servers.

Themis' TGA3D+ is a graphics processing companion board for Themis' VMEbus processor. All graphics components, including the geometry processor, raster engine, PCI bridge and host interconnect are included on the single slot board. The TGA3D+ board also includes a PMC slot, to host a PMC based graphics board, such as Peritek's Eclipse3, thus achieving dual head graphics capability in a single VMEbus slot (2 slots including the USPIIe baseboard).

TGA3D+ Features



- Onboard 3D geometry accelerator
- Onboard rasterization engine
- 32 MB frame buffer memory
- 16 MB texture memory
- Up to 8.5 million triangles per second
- Up to 160 million textured pixels per second tri-linear fill rate
- Stereoscopic graphics support up to 960x680, 1152x900, 1280x800
- True color, double and Z-buffering up to 1920x1080
- 32 bit Z-buffering at all resolutions
- Support for up to two TGA3D+ boards
- Onboard 64-bit/33MHz or 64-bit/66MHz (USPIIIi feature) PMC slot
- Operating resolutions: 640x480 to 1920x1080
- Solaris 8 & 9 support
- Sun OpenGL for Solaris 1.2.1 and later

TGA3D+ Benefits

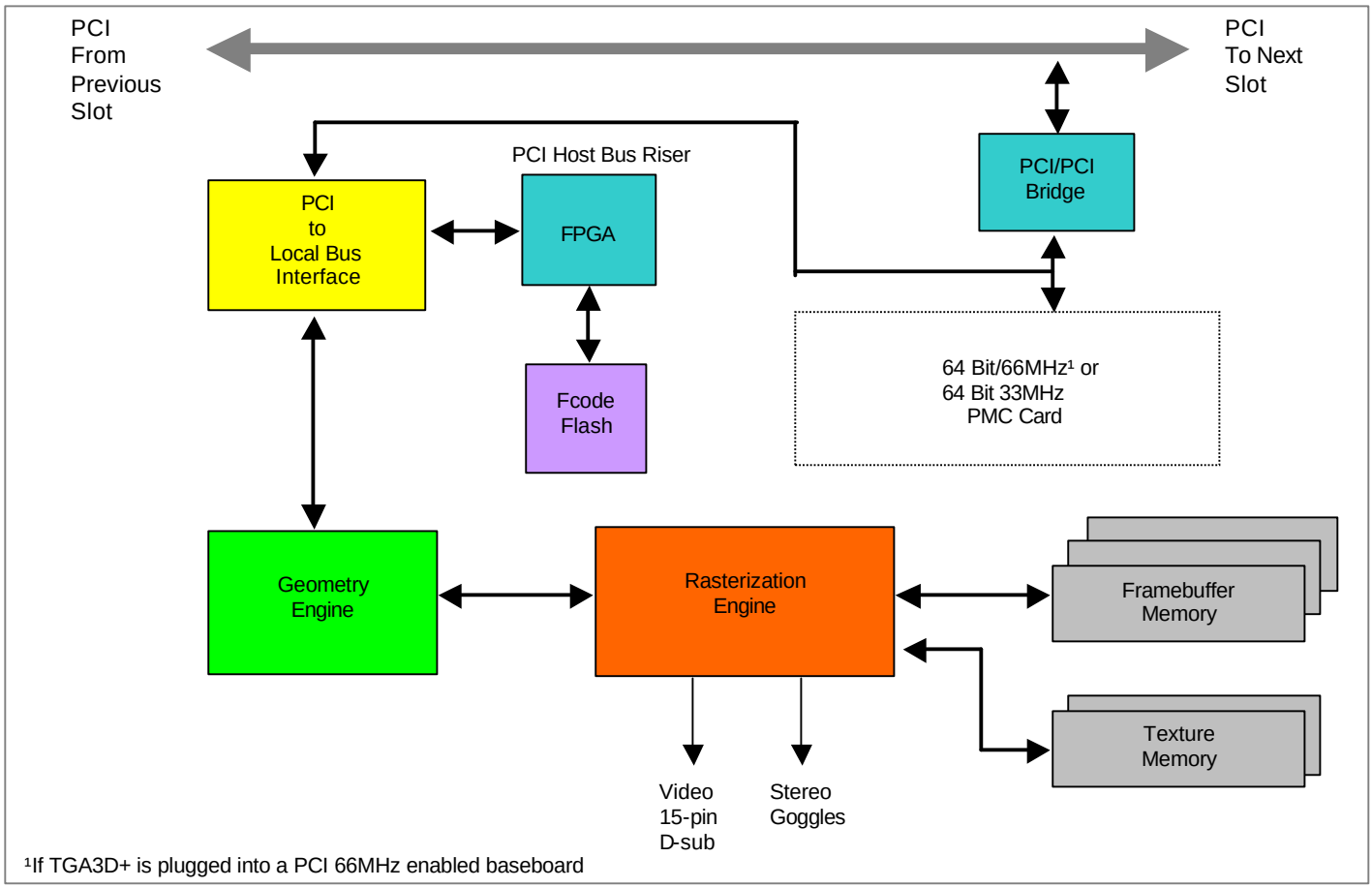
Themis Computer TGA3D+ benefits include:

- Easily configured into systems already configured with the USPIIe Single Board Computers
- Allows for two graphics heads in a single 6U slot for space constrained environments
- Compatibility with Sun workstation 24-bit 2-D and 3-D XVR-500 environments
- Designed to operate reliably in extreme environments
  - up to 40 G's shock
  - -5 - 55°C operational temperature range
- Provides the industry's highest 3-D graphics performance in a single slot VMEbus configuration

Available with many baseboard connector options, the TGA3D+ must be ordered with a baseboard. For use with other boards please contact Themis Computer.

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Themis Computer TGA3D+ Graphics Adapter



[1]If TGA3D+ is plugged into a PCI 66MHz enabled baseboard

TGA3D+ Specifications

- 6U VME Form Factor
- Graphics Memory - 3D Frame Buffer Memory: 32MB
  - 3D Texture Memory: 16MB
- PCI Interface – 64-bit/33MHz or 64bit/66MHz
- Video Connection: VGA video connector on front panel
- Stereo Goggles support via Sun standard 8-pin mini-din connector
- Operating resolutions – 640x480 to 1920x1080
- Solaris 8 and 9 Operating Environment Support
- Sun OpenGL for Solaris 1.2.1 and later
- Shock (Operating): up to 40 G @ 20 ms
- Vibration (Operating): 0.5g from 4 – 50Hz
  (Non-Operating) 1.0g from 4 – 50Hz
- Temperature Range (Operating): -5 - 55°C
- Temperature Range (Non-Operating): -40 - 85 °C
- Humidity: 10 – 95% non-condensing
- Power Reqts.: +5V (± 5%) @ 5.4 Amps maximum
- Power Consumption (base): 24 Watts
- Power Consumption (with PMC card): 29Watts
- Dimensions (HxD): 6U 6.299" (160mm) x 9.173" (233mm)
- Weight: approx. 1.2 lbs. (Baseboard only, weights vary by board configuration)

Configurations:

TGA3D+ Graphics Card – 2nd Slot (Graphics card installed in the second slot of the USPIIe board) **PN 111010-001**

- Video output from a VGA connector and includes a 3D goggle interface
- Includes a single PMC slot with 64-bit/33MHz/66MHz interface
- Support for up to two TGA3D+ boards

TGA3D+ Graphics Card – 3rd Slot (Graphics card installed in the third slot of the USPIIe board) **PN 111010-005**

The 3rd Slot configuration is only for applications where used as the second TGA3D+ card on the same USPIIe processor board

- Video output from a VGA connector and includes a 3D goggle interface
- Includes a single PMC slot with 64-bit/33MHz/66MHz interface
- Support for up to two TGA3D+ boards

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