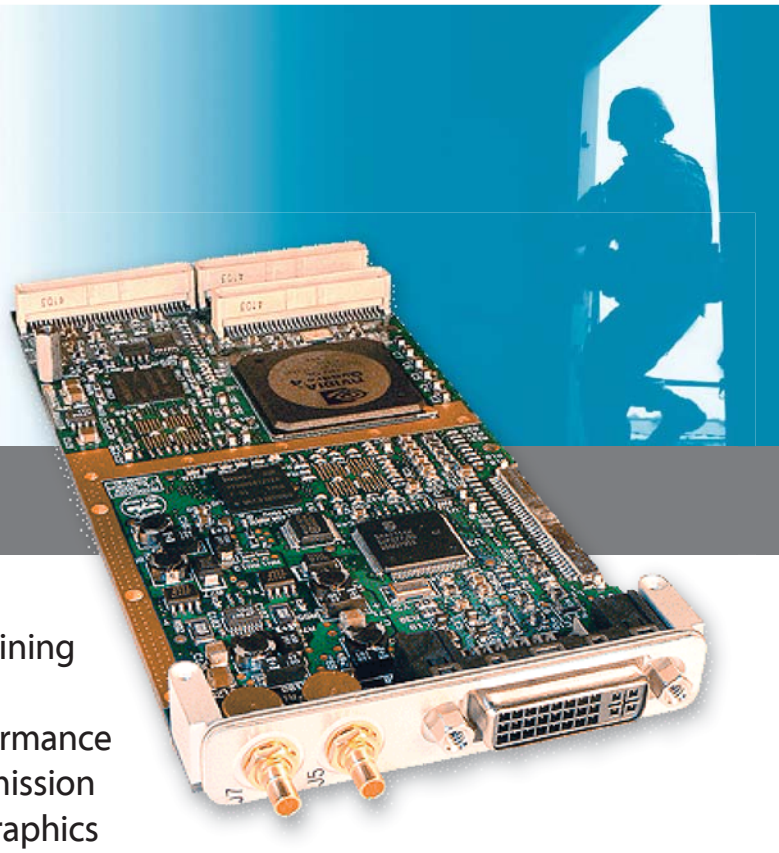
QUANTUM3D®
Delivering Affordable Reality

Sentiris® 4110

PC Mezzanine Card



Graphics Matter

When performance matters, Sentiris is the only sensible option. Whether used for embedded training applications, synthetic vision, avionics, or C41SR applications, Sentiris delivers high graphics performance per watt of power. For real-time visualization in mission critical applications and with limited power, no graphics subsystem delivers the 2D or 3D graphics performance that Sentiris does.

Ideal for a Variety of Applications

Regardless of the application, Sentiris delivers the extended or MIL-Spec environmental capabilities to meet today's demanding requirements for real-time visualization. It is ideal for ASSB Avionics digital map and situational awareness for helicopter pilots; Titan's head-down display for high-speed, fully-amphibious assault hovercraft navigation; L-3's Landing Signal Officer (LSO) workstation for aircraft recovery on U.S. Navy aircraft carriers, and both the airborne radar units and ground control stations for General Atomics' Predator unmanned aerial vehicle.

Regardless of the application, Sentiris delivers unmatched performance—with fill-rate-intensive applications exhibiting up to 130% greater performance and anti-aliased line-intensive applications exhibiting up to 630% greater performance than competing solutions.

The Sentiris 4110 Difference

The Sentiris PMC 4110 provides industry-leading image quality, which is crucial for streaming video and situational awareness. It is compatible with legacy vehicle displays and flat panels, but is also ready for next-generation display applications. Furthermore, the Sentiris was designed with features, such as render-to-texture and vertex buffer objects, that enable new capabilities from the lab to be rapidly migrated to the field.

Sentiris 4110 Features / Benefits

- **Unmatched Image Quality** – For both 2D and 3D, Sentiris leverages NVIDIA's Quadro4 processor to offer industry-leading image quality, offering a 24-bit Z buffer (8 bits of stencil rounds this out to 32-bit).
- **Flexibility** – For integration applications with multiple channel outputs, Sentiris supports implementation of 2-channel display systems per PMC. It supports legacy flat panels as well as next-gen displays.
- **Open Architecture Application Design** – Compliant with the IEEE 1386.1 PCI Mezzanine card standard, Sentiris is compatible with embedded single-board computers with either 33 MHz or 66 MHz PMC slots.
- **Designed for Mil-Spec** – Leveraging Q3D's power management technology, Sentiris delivers high performance, along with low power consumption and heat dissipation. It is available in both convection- and conduction-cooled models.
- **Development Systems Available** – For rapid development and testing, a development system can jumpstart an advanced embedded graphics development effort in Windows-, Linux-, or RTOS-based environments.

Sentiris 4110 PMC Technical Specifications:

IEEE P1381.1 Compliant PCI Mezzanine Card with either Convective or Conductive Cooling

- Convection Cooled PMC Per IEEE-P1381.1 / Draft 2.1: Model Sentiris PMC 4110 CV10
- Conduction Cooled PMC Per VITA 20-199x Draft: Model Sentiris PMC 4110 CD13

PCI Bus Support

- 32-bit PCI, 33 MHz and 66 MHz Capable
- Both 3.3V and 5V PCI Signal Compatible
- NVIDIA Quadro4 Embedded GPU (NV17GLM) with 256-bit Internal Architecture, Dual Graphics Pipeline and 220 MHz Operation
- 128-bit Wide Interface to 64MB DDR SDRAM Frame Buffer/Texture Memory with 220 MHz Operation
- Approx. 7.0 GB/Sec Dedicated Graphics Bandwidth
- Pixel Fill Rate Performance Up to 400 MP/Sec with Trilinear Filtering Enabled (RWB 2.3.3 GFILL)

On-Board Transformation & Lighting Engine:

- Up to 5.4M Independent Trilinear Textured Triangles/Sec (based on RWB 2.3.3 GVT onPCI-66 MHz Bus)
- Acceleration for Enhanced AA Point, Line and Polygon Performance
- Up to 4.8M Independent, Z-buffered, Lit Anti-Aliased Lines/Sec (based on RWB 2.3.3 GVT on PCI-66 MHz Bus)
- Support for Dual, Independent/Clone Channel Output with Two Simultaneously Active Graphics or Video Outputs (See Graphics/Video I/O Table)
- LVDS (Flat Panel, OpenLVDS) Digital Output
- Composite or S-Video

Flexible Video Input:

- NTSC, PAL, RS-170, RS-170A or S-Video (See Graphics/Video I/O Table)

Reduced Power Consumption and Heat Dissipation Technology:

- Total Power Consumption at Nominal 2D/3D/Video Load: less than 9 Watts Typical
- Reduced Power Consumption Possible with Clock De-rating

Software and Platform Support

- Microsoft® Windows2000™, WindowsXP®, and WindowsXP Embedded with OpenGL® 1.4 and DirectX 9.0 on Intel® IA32™ Platforms
- WindRiver® VxWorks™ Version 5.4 and 5.5 with OpenGL® 1.2 on Intel IA32 and PowerPC™ Platforms
- RedHat® Linux® V7.3 (and Higher) on Intel IA32 Platforms
- Quantum3D Diagnostics, Utilities and BIT for Deployed IA32 and PowerPC Environments

Environmental Compatibility

- FCC Part 15 Level A and CE on All Models
- Mil-Std-461E on Sentiris PMC 4110 CD13
- Mil-Std-810F on Sentiris PMC 4110 CD13

Safety Certification:

- UL, ETL or Equivalent and CE on All Models

P/N SEN-4110-06-06-08.

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