



GEO Semiconductor Inc.

Realta Advanced Image Processor IC

HQV Image Quality and Software Processor for Advanced Displays

Key Features

HQV image processing

- HQV true HD 1080i to 1080p four-field de-interlacing
- HQV HD/SD multi-directional diagonal filtering (MDDF)
- HQV 4D per-pixel motion adaptive noise reduction
- HQV detail enhancement
- HQV automatic cadence detection with support for any cadence, including 3:2, 2:2, vari-speed (3:2:3:2:2), and animation (5:5, 6:4, 8:7)
- HQV per-pixel video/film detection for NTSC, PAL, and film cadences
- HQV 16 to 1024 tap adaptive scaling

Fully Software Programmable

- Algorithms can be customized and optimized for the display platform ; New algorithms and features can be added via software

Supports graphics resolutions up to QXGA

- Graphics input and output up to QXGA
- Video input and output up to 1080p24 and 1080p60

True 10-bit end-to-end processing

- 10-bit per component input/output with up to 16-bit internal processing

- Post-production and studio quality image processing
- Extended dynamic range
- Accurate reproduction of over 1 billion colors

Equal quality two-channel processing

- Dual-channel HD/SD de-interlacing
- Advanced PIP/POP and split-screen windowing modes

High-performance embedded RISC CPU

- System control, algorithm flow management, and OSD generation
- 2D graphics acceleration and advanced animation
- Web server support for remote software updates and statistics gathering
- Optional Web browser

eWARP2™ geometry processing

- AnyPlace™ extreme 90 degree horizontal and 75 degree vertical off-axis keystone correction. Support for up to 20% lens pincushion and barrel distortion correction. Available for sxT2-200 and sxT-400
- Continuously variable 2D scaling from 1/8 shrink to 16x zoom
- Edge blending

The Realta is a highly integrated advanced SOC that enables a new benchmark standard of video excellence called Hollywood Quality Video, or HQV. Our software algorithms, which have been refined through over 100,000 hours of content verification and have a proven reputation for quality, have been ported to run on Realta.

World Headquarters

GEO Semiconductor Inc.

2350 Mission College Blvd., Ste.1050,
Santa Clara, CA – 95054 USA

www.geosemi.com

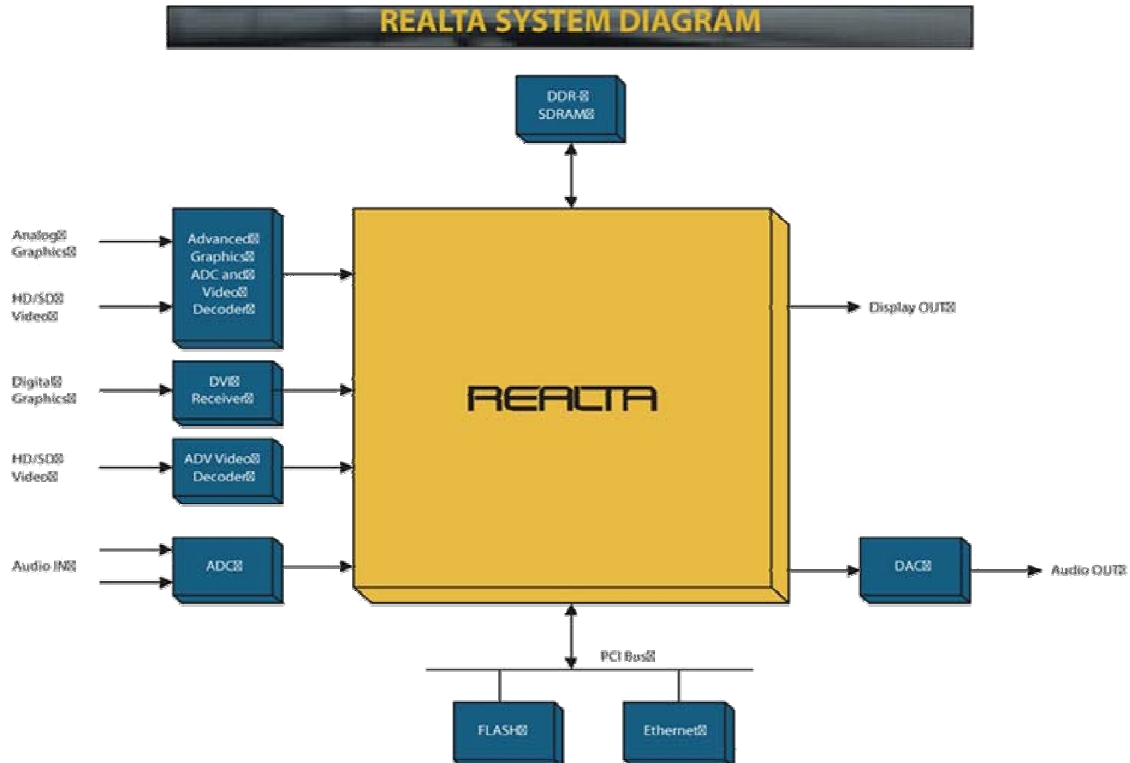
Development and Operations Center

GEO Semiconductor Inc.

155 Gordon Baker Road, Suite 201
Toronto, Ontario, M2H 3N5 Canada



GEO Semiconductor Inc.



Realta's architecture includes the industry's first fully software programmable video array processor capable of performing over 1 trillion operations per second, an image Fidelity Enhancement Engine, motion adaptive noise reduction, and up to 16-bit image processing. These core technologies are combined to enable the highest quality processing of dual standard and/or high definition image streams, delivering HQV into home entertainment and professional video display products including plasmas, RPTVs, LCD TVs, and front-projectors.

Further enhancing the user experience, Realta supports high fidelity picture-in-picture (PIP) and split -screen (side-by-side) windowing modes. Each high quality

live image window can be independently processed, scaled, sized, and positioned anywhere on the display surface. In addition, Realta contains a powerful OSD engine driven by a 250 MHz RISC CPU, enabling 2D graphics and real-time animation. Connectivity and networking are accomplished with an on-chip PCI interface allowing platforms built with Realta to be fully software upgraded and re-programmed via Web access or via a memory stick or other inexpensive storage device. New video processing algorithms can be downloaded to Realta products that are in the field, thus future proofing the display and ensuring that the user viewing experience remains fully optimized long after having purchased the display.



World Headquarters

GEO Semiconductor Inc.

2350 Mission College Blvd., Ste.1050,
Santa Clara, CA – 95054 USA

Development and Operations Center

GEO Semiconductor Inc.

155 Gordon Baker Road, Suite 201
Toronto, Ontario, M2H 3N5 Canada