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Find the *Quantum3D Channel Compositor and Unified Channel Storage* at our website: *Click HERE*

QUANTUM3D
TRAINING. SIMULATION. TECHNOLOGY.

Independence® IDX 7000
Image Generator

A new standard for the most powerful and compact real-time image generation available in simulation, training and mission rehearsal applications



MORE REALITY...HALF THE SPACE

Ideal for all Visual Applications

Able to meet or exceed the requirements of virtually any image generation application, the Independence IDX 7000 provides the best value in open architecture, advanced IG solutions available today. IDX 7000 is perfect for any simulation system: Fixed-Wing and Rotary-Wing Aviation, FAA Level-D Full-Flight Simulators, Weapons and Gunnery Systems, Hardware-in-the-loop Sensors, Automotive Research, Developmentand Driving Simulators, Military Ground Vehicles, Fixed Base and Forward Air Traffic Control, Ship's Bridge, Mono & Stereo Scientific Visualization and Virtual Reality.

The Independence® Difference

As the top-of-the-line model in the Independence IG series, the IDX 7000 leads the way in providing the industry's highest compute perfomance density. By incorporating low profile server-class mother boards with the latest Intel processors, and up to two of NVIDIA's "Fermi" architecture GPUs on each, the IDX 7000 achieves up to 5X the performance of the previous NVIDIA technology in an overall package only half the size.

With its smaller package and increased performance, IDX 7000 sets the standard for rapid deployment, field upgradeability and scene realism.

The IDX 7000 delivers performance, fidelity, reliabilty, quality and overall value. It continues to support scalability of 1, 2 or 4 rendering units per channel with 8 independent sync groups. And with its patented NVSYNC precision synchronization technology, the IDX 7000 natively supports Super High resolution, multiple-input projectors right out of the box.

Key Features

- **Density** - The IDX 7000 achieves unmatched levels of visual computing density by combining a server-class motherboard, latest Intel processors, up to two NVIDIA Quadro 6000 "Fermi" GPUs, and Quantum3D's Precision Video Synchronization into a compact 1U Rendering Unit (IGU).
- **Scalability** - The IDX 7000 offers a choice of 1, 2 or 4 shader-based GPUs per channel to deliver the desired level of realism in every scene.
- **Open Architecture** - The IDX 7000 supports industry-standard CIGI 3.x messaging protocol over dedicated Gigabit Ethernet, and industry-standard database formats including OpenFlight, NPSI, CDB, and CTDB.
- **World Wide Database** - The IDX 7000 supports Quantum3D's World Wide Database (WWDB) - a continuous flight, worldwide terrain, modeled with 15m geo-specific imagery. Drop-in Hi-Res insets are customer-enabled using CatalystSE DBGS tools.
- **High Resolution Channels** - Super High-resolution, multiple-input, projectors (e.g. 4K x 2K) are supported with no additional effort.
- **Reliable and Secure** - Network-Attached Storage Architecture (NAS) option provides a single convenient connection to a centralized Remote Network Storage Array. The entire IDX 7000 IG becomes diskless, which eases system administration. Changing security levels has never been easier.
- **Sensor Enabled*** - The IDX 7000 ER supports QUEST2 and viXsen for correlated, physics-based NVG, IR, Day Camera EO Simulation applications and Stimulated NVG applications.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Features and Benefits:

Industry-Leading Technology Insertion Capabilities
- Low-cost upgrades for enhanced performance and fidelity
- Backwards compatibility with existing application software, synthetic environments and program certifications
- Reduce life cycle costs by using common PC components

Scalable Performance and Fidelity
- Support for single GPU and composited channels with 2 or 4 GPUs
- Performance and fidelity can be tailored at the channel level for both OTW and sensor simulation channels
- Quantum3D NVSYNC™ Precision Synchronization supports 8 independent sync domains

Maximum Visual Computing, Minimal Space
- 1U IGR7 combines server-class mother board, latest Intel processors, 1 or 2 NVIDIA GPUs, and Quantum3D NVSYNC Precision Sync Modules to provide the best performance computing density
- Ideal for 20/20 visual acuity and deployed mission rehearsal applications

Open Architecture Support
- Optimized support for CIGI 3.x over dedicated Gigabit Ethernet
- Optimized support for industry standard synthetic environment formats: NPSI, CDB, OpenFlight, and CTDB
- Optional support for DIS & HLA protocols via CIGI gateway

World Wide Database (WWDB)
- 15m background imagery
- Level 1 DTED
- Drop-in HiRes Insets
- Continuous flight

FAA Level-D Full-Flight Simulation Capable
- Lightpoints, thunderstorms, patchy fog, runway contaminants, lightning, etc.

Shader-Based Real-Time Rendering
- Advanced Weather: 3D volumetric clouds, lightning, fog, cloud shadows,
- Advanced Marine: 3D ocean, shoreline simulation, reflections on water
- Rotorwash, realtime shadows, realtime foliage, spotlights

Outputs
- Standard dual-link DVI real-time 3D output support for VESA analog and digital video formats
- Native support for High Resolution projectors
- Standard support for Genlock to external sync sources
- Optional support for interlaced outputs (OTW and sensor simulation channels)
- Optional customer-specific timings

Certifications
- CE, FCC level A, and ETL-certified to ensure compliance with U.S. and international

Export Restricted* Features and Benefits:

Enhanced Sensor Simulation (QUEST2 and viXsen)
- High-dynamic range (16-bit) real-time at aperture, environmental rendering
- JRM SigSim-based sensor simulation available
- Correlated OTW with sensor view
- Local Area Contrast Enhancement (LACE)
- Compatible with Camber RTK and Boeing MMRS
- Material classified textures from OTW databases using Quantum3D (NTDDS) and Popular Third-Party (MCM) Material Classifier Tools

Specifications:

IG Characteristics
- Noise-suppressed 12U or 18U Cabinet or, 21U Transportable Case
- Single-phase or 3-phase power with optional UPS
- KVM support for Console and Channel display switch (channel switch not avail. on 4-ch per IGU systems)
- 1U IG Controller (IGC)
- 1U IG rendering Units (IGU)
- Optional 1U Channel Compositor (CC)
- Environment Management System (EMS) monitors temperature, humidity, and smoke detection (option)
- Optional 1U SAS expansion drive bay w/ 4 x 3TB disks
- Optional Network-Attached Storage Architecture (NAS) via Fibre Channel (Dual-port 4GB/s) - No disks in IG

IGU (Rendering Units)
- 1U diskless, server -class PC
- Intel Xeon Six-Core CPU + 12GB ECC DRAM
- 64-bit Windows Operating System
- 1 or 2 NVIDIA Quadro 6000 "Fermi" GPUs
- Up to 4 video channel outputs per IGU

IGC (Controller)
- 1U Enterprise Class Server
- Dual Intel Xeon Six-Core CPUs
- 12GB ECC System Memory
- NVIDIA Quadro GPU
- Enterprise RAID controller, w/ 3 internal 3TB disks
- Microsoft Windows Server 2003

CC (Channel Compositor)
- 1U parallel renderer combines 1, 2, or 4 graphics input streams into a single video output
- Low latency (~20µsec)
- Clarity™ full-scene anti-aliasing support
- Dual-link DVI outputs

IH Channels
- Support for multi-input, high resolution projectors
- NVSync precisely synchronizes multiple inputs automatically
- No latency between the inputs results in a seamlessly smooth picture

*Note: The sensor simulation capabilities of the Independence IDX 7000 are controlled under the International Traffic in Arms Regulations (ITAR), and offered only subject to an export license from the US Department of State.

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