The Heart of an Advanced-Technology Flight Simulator

The VITAL image generation product line enjoys over four decades of successful history delivering the industry's most complete visual training and rehearsal experience. Its superior core Level D feature set has been deeply extended to support all aspects of training and mission rehearsal making it best in class. The VITAL visual system is the heart of an integrated product, and features industry-leading low-latency host transfer rates. VITAL's deep feature set and flexible capabilities empower users to configure the system precisely to their training needs.

- Display systems
- VITAL's deep feature set and rich interface allows innovative, industry-leading system designs
- Multiple host protocol support (VITAL ICD, CIGI, DIS, HLA, and multi-host)
- Modern 2U hardware platform with Nvidia RTX support
- Windows 10
- ISO 9001-2018
- CE Certified
- Exceeds Level-D regulatory requirements

VITAL integrates deeply with all major simulation grade projectors to produce their best image on the display system and supports up to 8K resolution and refresh rates up to 120Hz. Paired with FlightSafety’s Display Management System (DMS) the user experiences the industry’s highest fidelity and lowest maintenance system.

- Broad projector support, including 8K and 120hz
- Integration with the FlightSafety display management system (DMS) product line for automatic alignment and run-time projector control
- Deep system-level integration drives crisp clear displays

Bringing Your World Alive

Simulation of the world includes bringing a training scenario to life. VITAL integrates different simulation systems, sensors and network host protocols to create a seamless, powerful and realistic training scenario.

- SAF/CGF support including extended MACE integration
- VITAL DMO Interface (VDI) support for live, virtual, constructive (LVC) simulations and distributed mission operations (DMO)
- DI-Guy support for realistic human character animation
- Advanced sensor simulation including EVS, MWIR, SWIR, FLIR, color and LITV/EO, NVG stimulation, radar, SAR, Sensor Fusion, multiple target tracking modes
- Superior night vision goggle (NVG) stimulation

Leading Reliability and Leading Support

FlightSafety sets the gold standard for customer support and maintenance. Full 24/7, 365 support ensures any needs are met giving you peace of mind that the experts will keep you up training.

- User-friendly maintenance documentation and training
- Exceeds 99% reliability

For more information, please contact Visual Systems – St. Louis
5695 Campus Parkway • Hazelwood, MO 63042 • 314.551.8400
simulationproducts@flightsafety.com • A Berkshire Hathaway company
Environmental Effects
Whether the training is low-level route, helicopter or commercial flight training, VITAL supports a wide variety of high-fidelity weather systems and effects, including:

- MultiVis weather sim with up to 64,000 atmospheric layers
- Physics-based weather model including atmospheric scattering (Rayleigh and Mie)
- 3D clouds including storm clouds with volumetric effects and in-cloud effects, rain shafts and correlated radar profiles
- 2D and 3D ocean including 13 Beaufort sea states, two swell states, ocean wave and spray effects, and geo-specific littoral ocean water coloring
- Runway, taxiway, and area geo-specific contaminants
- Dynamic precipitation including, physics-based rain, snow with accurate density and motion, and bouncing hail

Animation and Special Effects
VITAL supports a wide variety of animation types and controls featuring outstanding visibility attenuation, weather, physics-based lighting, and special effects.

- A variety of animations controls that can be combined and chained together to create numerous complex effects
- Particle based simulations including dust clouds, brown outs, whiteout, obscuration effects, smoke, downwash, and much more

Database
VITAL 1150 maintains backward compatibility with existing databases. This key feature allows users to reliably use existing database and model content on the VITAL 1150 platform. Including support for FlightSafety’s proprietary format as well as industry standards such as common database (OGC CDB), VITAL can fly an enormous library of high quality airports.

VITAL supports the following:
- Worldwide no break flight
- Full backward content compatibility
- Extensive library of airports and moving models (available via subscription service)
- Photorealistic moving models
- Support for online and offline published databases
- High-detail areas with excellent urban culture and vegetative density
- Database format support including:
  - Proprietary (EMR/AMR)
  - OGC CDB
  - NAVAIR Portable Source Initiative (NPSI)
- Worldwide database subscription available.
- Custom content developed by contract or Database Generation System (DBGS)

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