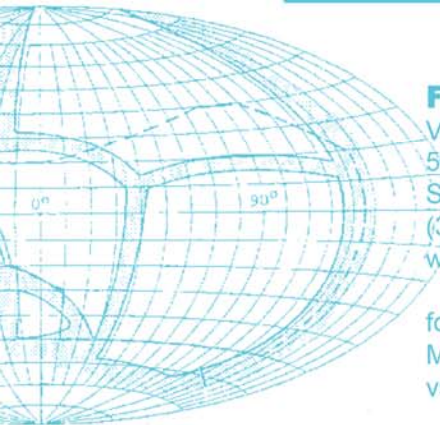




FlightSafety
international

VITAL X
reality simulated.



FlightSafety International

Visual Simulation Systems
5695 Campus Parkway
St. Louis, Missouri 63042
(314) 551-8400
www.flightsafety.com

for more information contact:
Milton Fulghum or Robert McGahan
vss.info@flightsafety.com

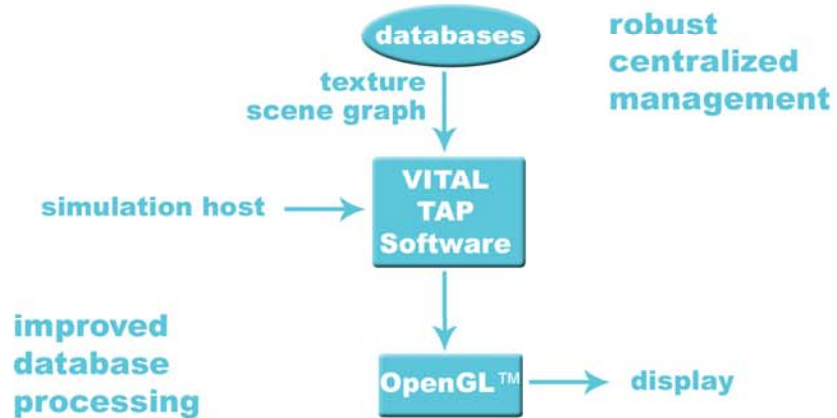
a brand new visual simulation system

Through its Visual Simulation Systems division, FlightSafety International has produced the VITAL line of visual systems for over 36 years. Continuing our tradition of high performance training products, we are very excited to present our latest breakthrough in visual technology, the new VITAL X visual system. The VITAL X blends the product line's rich heritage of traditional visual simulation concepts and innovations with the new and evolving technologies of an ever-changing industry. As always, the role of the visual system in a flight simulator is to produce the most exact replica possible of the pilot's real world. VITAL X does this more realistically than ever before by marrying FlightSafety's training application software with state-of-the-art commercial PC technology. Embracing FlightSafety's philosophy of providing the highest quality products, the new VITAL X emphasizes modular design and reliability. The simulated reality of the visual training environment reaches new heights with VITAL X.

VITAL X reduces logistical requirements by using the latest in commercial off the shelf (COTS) technology. The COTS PC-IG combines multi-core CPUs with advanced graphics processors (GPU). The GPUs interface through the industry-standard PCI-Express™ bus, maximizing high bandwidth bi-directional video transfers for superior speed and performance.



VITAL X system architecture

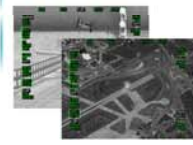


features

- global synthetic natural environment provides continuous flight anywhere in the world
- day, dawn, dusk, night, continuous time of day and NVG modes
- tens of thousands of unmeshed, fully processed, textured, shaded polygons per channel
- advanced software presents complex visual databases at high speed
- physics-based MultiVis™ atmospheric model provides realistic weather effects
- hundreds of 6 DOF moving models with full articulation
- 3D sea states calibrated to Beaufort Scale used by National Weather Service
- FAA Level D and DoD Simcert certifiable
- z-buffer occulting unrestricted
- scalable from laptops to high-end PC-IG
- programmable resolution, full support of standard interfaces
- open architecture allows interoperability for LOFT and mission rehearsal

sensor simulation

VITAL X supports FLIR, ColorTV, LLLTV/EO, ALLTV, and DVO sensors. Major features include post-processing, zoom, target tracking, multiple track modes, symbology, and video interfaces. VITAL X is also compatible with HUD and EVS.



VITAL X Performance



Atmospheric and Meteorological Effects: Using a physics-based atmospheric model called MultiVis™ the VITAL X provides the most realistic meteorological effects.

Realistic Training: VITAL X meets or exceeds every visual requirement for amazing realistic visual simulation.



Visual Simulation that Feels Right: VITAL X maintains the proper high speed throughput required for the highest accreditation levels of the FAA and the military services.

Robust Design and Construction: Embracing FlightSafety's philosophy of providing the highest quality products, the new VITAL X design emphasizes modular design and reliability.

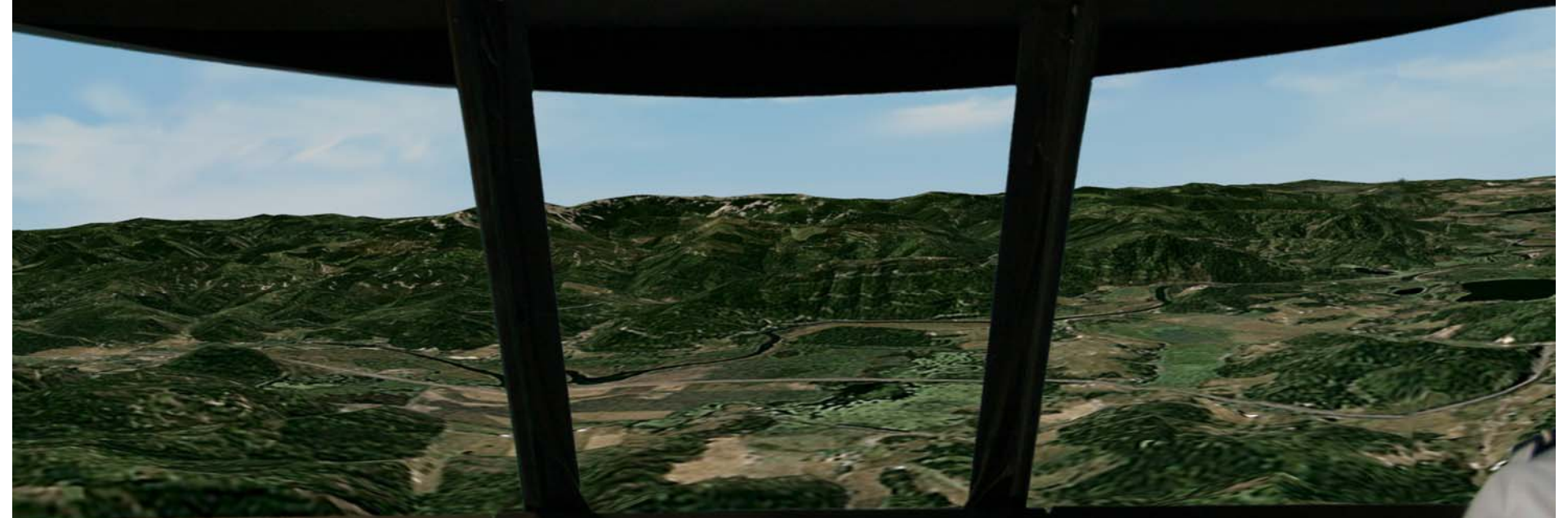


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VITAL X
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heritage

Since its inception in 1969, VITAL has provided millions of pilots with visual flight simulation while giving the industry numerous leading technological innovations. The product line's breakthroughs include being the first to achieve FAA accreditation, the first to incorporate satellite images in commercial scenes, and the first to introduce realistic weather simulation. The new VITAL X benefits from this lineage of creative technological achievement and takes it to a new level through the use of state-of-the-art COTS PCs and graphics processing enhancements. VITAL X proves that state-of-the-art PCs can perform at fully accredited flight training levels.

advantages

Performance: VITAL X training application software is scalable and runs on laptops to high-end PC-IGs.
Exceeds Training Requirements: Using today's latest PC technology and high performance off-the-shelf graphics processors VITAL X gives the industry an FAA Level D and DoD Simcert certifiable PC-IG.
Interoperability and Mission Rehearsal: The system is easily deployed and supports rapid database generation and network training.
Models: The number of moving models and other entities is programmable. Thousands of models, animations, and special effects can be simulated.
World Database: The global synthetic natural environment allows continuous flight anywhere.

VITAL X

Sensors: Physics-based sensor simulation is used for FLIR, ColorTV, Low Light Level TV, and Direct View Optic devices.
3-D Sea States: VITAL X's three-dimensional seas are calibrated to the Beaufort Scale for unprecedented realistic sea states.
Shaders: By synthesizing the pixels, VITAL X focuses on fidelity. Using multi-thread shaders, physics processes and other dynamic simulations are performed. Virtually every feature is rendered through shaders. As a result, the images—weather simulations, illuminations, atmospheric scattering, sensors, etc.—going to the display devices are more realistic than ever.



FlightSafety's state-of-the-art VITAL X visual system uses a multi-channel, Liquid Crystal on Silicon (LCOS) projector to display the MCTT's high-resolution, photo-realistic images. VITAL X employs the Beaufort scale to classify three-dimensional sea states, simulating realistic calm and light seas, strong gales, and changes in wind speed and direction.

A Visible Training Advantage

The more convincing the training environment, the more effective and lasting the training experience. The MCTT presents panoramic real-world scenarios with great accuracy and in vivid, lifelike detail. Our industry-leading VITAL X visual package gives pilots high-resolution flight simulation digitally projected via the PC Image Generator (PC-IG). VITAL X training application software is scalable and can even be operated from a laptop for mission preview exercises.

The system is configurable to virtually all helicopter and fixed-wing aircraft types, with correct presentation of graphical and real-world controls. Capitalizing on the same VITAL family image libraries used in FlightSafety's full-flight simulators, the MCTT conveys utmost realism in topography and climate presentations, along with the accurate simulation of mechanical failures specific to the aircraft in your operation.

Managed through the PC-based Battlemaster Control Station, training events are repeatable. So when your flight crews or mission pilots are finished training, you'll know they are mission-ready, because they have had the opportunity to rehearse it.

Extraordinary Quality, Exceptional Value

From a financial standpoint, the purchase of the Mobile Combat Tactics Trainer (MCTT) offers significant benefits. The system's use of commercially available PCs and dual graphic processors greatly reduces initial procurement costs. VITAL X's Windows™ operating system ensures ease of maintenance and allows operators to perform updates over the life of the unit.

For a sound investment built by the world leader in aviation training technology, the MCTT is the best solution. The system increases crew proficiency, reduces risk, and ensures successful mission completion.

FlightSafety International

More than 75,000 aviation professionals train each year with the company whose name is synonymous with safety. If you aspire to be the most proficient pilot in the air, train with the leading provider of aviation training on the ground: FlightSafety International.

For more information please contact:

John Marino, Vice President, Defense Training Systems
(703) 414-5500

FlightSafety International
Marine Air Terminal
LaGuardia Airport, NY 11371-1061

www.FlightSafety.com



The Team that Trains as One, Succeeds as One.

At FlightSafety, we believe that working together is the best way to ensure mission success. That's why we designed our Mobile Combat Tactics Trainer with the capacity to train multiple flight crews at the same time, under the same conditions, and in the same virtual airspace. Integrated with the most advanced visual system available and high-fidelity control loading for enhanced realism, FlightSafety's Mobile Combat Tactics Trainer helps to prepare your team to complete every mission with a greater degree of efficiency and effectiveness.



| *Mobile Combat Tactics Trainer*

Coordinated Training for Every Mission

Every year, aviators from all branches of the military achieve proficiency on FlightSafety-built training devices, including full-flight simulators. Now the world leader in aviation training is pleased to offer the latest advance in the evolution of modern training systems. The Mobile Combat Tactics Trainer (MCTT), the first training system of its kind, can be built to match any aircraft in the military inventory and is reconfigurable within type/model series.

The system's networking capabilities allow units to conduct mission type training, combat exercises, or other customized training events with real-time interaction between all networked simulators and the Battlemaster Control Station.



Inside the MCTT's virtual training network, pilots and crews can train together during fully synchronized mission rehearsals.

SYNCHRONIZED MISSION REHEARSAL

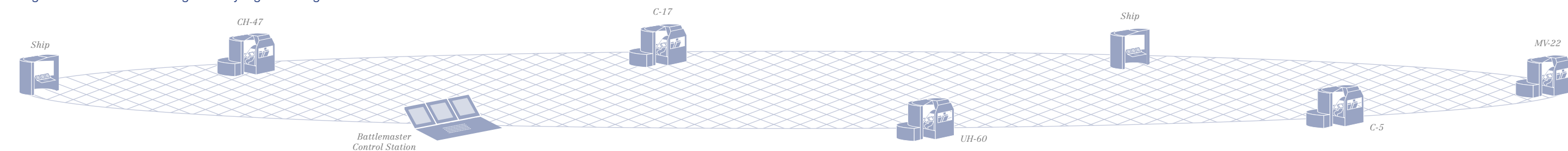
Using one of the MCTT's most revolutionary features, the system can be designed and configured to allow multiple trainers to be linked for real-time collective training. A Windows™ -based Battlemaster Control Station brings structure and efficiency into the training.

CUSTOMIZED TRAINING SCENARIOS

When your assignment calls for mission-specific rehearsal training, FlightSafety can help you develop rapid-build visual databases, bringing geographic and infrastructure elements to life quickly and with superb accuracy. Training scenarios can be populated with abnormal event insertions – such as mechanical failures, inclement weather, or hostile encounters – to reinforce abnormal procedures and actions upon enemy contact.

FLEXIBILITY FOR THE FIELD

The MCTT provides military units the capability and flexibility to train their pilots in any location they are deployed. The entire system can be operated from inside a trailer, portable container, or fixed training site, and is capable of being networked with other high-fidelity flight training devices.



With advanced simulated flight graphics, easy-to-use touch screens, and high-fidelity control loading for enhanced realism, the MCTT system is backed by decades of technical innovation and military experience.

TRAINING FOR THE DIVERSE FLEET

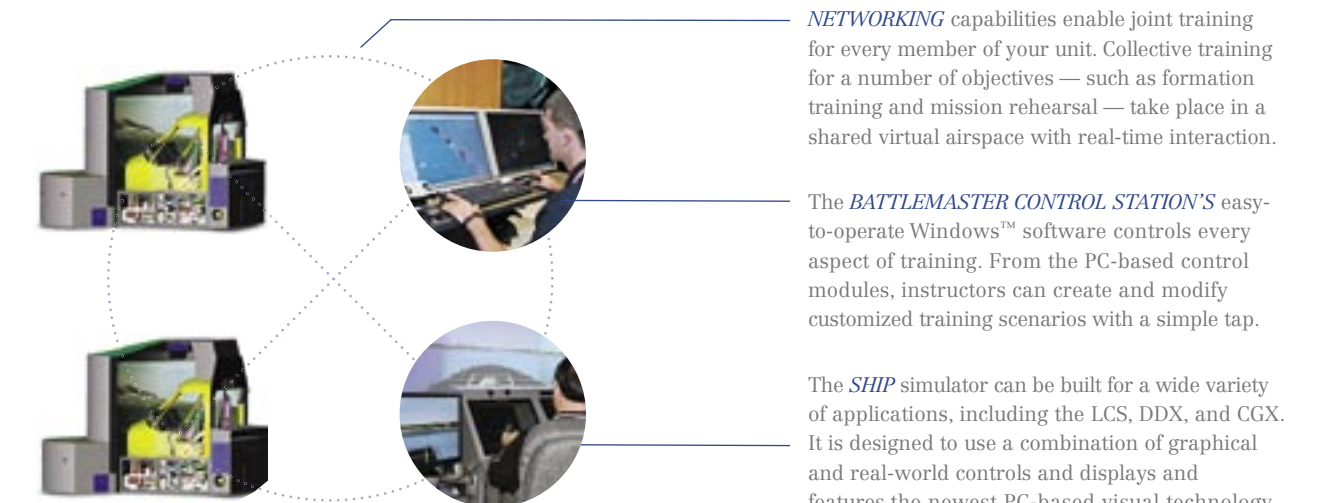
Our goal is for every pilot's training to closely resemble an in-flight experience, no matter what aircraft is being operated. The MCTT can be configured to match your unit's aircraft, providing organizations the capability to train their pilots at any level, from individual to collective. As a result, you ensure consistent, standardized training and increase mission readiness.

MISSION-SPECIFIC VISUALS

The newest class of VITAL family high-definition flight visuals forms the integral core of the MCTT's graphics system. Each MCTT ships with VITAL X, the advanced Liquid Crystal on Silicon (LCOS) digital projector, and an immense database of geo-specific visual training libraries.

Inside the Mobile Virtual Training Theater

With electric control loading, correct instrumentation layout, photo-realistic VITAL X visuals, and a centralized Battlemaster Control Station for collective training, the MCTT is designed to be one of the most advanced networked training solutions available for military use.



NETWORKING capabilities enable joint training for every member of your unit. Collective training for a number of objectives — such as formation training and mission rehearsal — take place in a shared virtual airspace with real-time interaction.

The **BATTELMASTER CONTROL STATION'S** easy-to-operate Windows™ software controls every aspect of training. From the PC-based control modules, instructors can create and modify customized training scenarios with a simple tap.

The **SHIP** simulator can be built for a wide variety of applications, including the LCS, DDX, and CGX. It is designed to use a combination of graphical and real-world controls and displays and features the newest PC-based visual technology. The ship simulator enables a wide range of coordinated ship-to-air training exercises and shipboard training capabilities, integrated at the Battlemaster Control Station.



The **MOBILE COMBAT TACTICS TRAINER** can be configured to include virtually any aircraft in your fleet.

HIGH-RESOLUTION VITAL X visuals surround each pilot with customized, geo-specific images.

ELECTRIC CONTROL LOADING transmits important motion cues to the pilot's hands through carefully calibrated sensations, enhancing training realism.

Designed to meet any **MOBILE TRAINING** requirement, the complete system can be installed and operated discretely from inside a trailer; built-in power conversion allows global compatibility.

