

## **Virtual Training Suite**

For fixed-wing and rotorcraft aircraft High fidelity simulations at an affordable price FAA or JAR certified Multi-Monitor or Desktop configurable Reconfigurable Powerful instructional tools



## **Virtual Training Suite**

The Virtual Training Suite, (VTS) is a powerful set of tools and virtual instrument simulations used to create training devices for both fixed wing and rotary wing aircraft. Building upon ART's extensive industry experience, the VTS combines powerful computer system architecture with high fidelity simulation modeling.

The VTS animates photorealistic images of a flight deck with accurate simulation models enabling an aircraft to be fully represented on single or multiple screen computers.

A student can use the single screen VTS for self-paced training, aircraft familiarization, and aircraft systems training.

The VTS can be deployed on an existing computer network, stand alone computer, or laptop. The VTS can also be made accessible through the internet for Distance Learning or projected in a classroom by an Instructor.





**The Virtual Training Suite** is highly configurable and can be used for flight, maintenance and crew training.

The VTS can be equipped with a customized cockpit frame to give the look and spatial perception of the actual aircraft flight deck. This version of the VTS is ideal for integrated crew training.

The VTS will allow for training on both normal and abnormal operation of the aircraft. Using a separate instructor station, malfunctions can be activated allowing students to perform highly interactive procedures training.

All standard VTS controls and features can be made available through student control stations mounted on both sides of the forward instrument panel.



**ART has designed the Virtual Training Suite** for quick and easy customization of a solution that is tailored to a customers specific training requirements. Options include integration with tactile components such as Control Display Units (CDU) or a Mode Control Panel (MCP).

The ART VTS can be certified to FAA FTD Level 4 or JAR STD 2A FTD Level 1 for training credits. Our subject matter experts will work with you to help integrate the VTS into a training curriculum. Once integrated, the VTS will pay for itself by reducing fixed based simulator (FBS) or full flight simulator (FFS) sessions.

## **Features**

**The Virtual Training Suite** has been designed to be easily customized by the student or instructor. The instructor can edit the contents of any display screen and position or resize any of the simulated controls and instruments. The instructor can also create a new layout by dragging and dropping from a pick list of all available objects.



With this powerful feature, the trainer can be easily set up for training that focuses on specific parts of the curriculum. For example, the instructor can easily create an FMS/AUTOFLIGHT trainer by creating a screen that targets the FMS, AUTOPILOT, and EFIS as depicted. All aspects of the VTS are user configurable, including toolbars and user interface.

The VTS also has a powerful set of user controls. Features include a snapshot tool that will allow the active training scenario to be saved to a file. When recalled, the snapshot will initialize the trainer to the saved scenario. This powerful feature can be used by an instructor for specific curriculum customization.

**The Virtual Training Suite** can be used as a powerful tool for the design of interactive lessons and courseware. The lesson plan toolset will enable the instructor to create and name specific training scenarios under the course and topic titles. Once created and loaded on the trainer, a list of the various lessons will be displayed to the student for selection.

The instructor can enter text, graphics, and audio to guide a trainee through a series of steps required to complete a scenario. A lesson plan can control the status of the simulation and initialize to a known state via the installation of a simulation snapshot.

A lesson plan can monitor students actions and automatically advance to a new step if the specified actions are completed. A lesson plan step can also automatically activate a malfunction or display images or video.



1alfunction			
Malfun	ctions \/ Trigger \/ Fail Summary	ה ר	
Category:		By ATA Chapter	T
ATA List:		24 Electrical	•
ID	Malfunction		
2401	115V AC ground service bus 1 fails		
2402	115V AC ground service bus 2 fails		
2403	115V AC main bus 1 fails		
2404	115V AC main bus 2 fails		
2405	AC standby bus fails		
2406	AC transfer bus 1 fails		
2407	AC transfer bus 2 fails		
2408	APU control unit rotor underpowered		
2409	APU control unit rotor with irregular frequency		
2410	APU generator fails		
2411	Battery bus fails		
2412	Battery charger fails		
2413	Battery Discharge		
2421	IDG1 control unit rotor with irregular frequency		
2422	IDG1 fails		
2423	IDG1 fan fails		
0404	more and the second second		-
Exce	ription : 2413 ssive battery discharge is detecter ged batteries provide a minimum of	d with the battery switch on. Fully 60 minutes of standby power.	
	Go to triager wit	h this malfunction	

**The Virtual Training Suite** supports a comprehensive set of aircraft malfunctions that can be activated by the trainee for abnormal systems training. The VTS has a standard malfunction set, but this can be easily expanded to add specific malfunction definitions or behavior.

The malfunctions are organized in an easy to use pick list that can be sorted by ATA chapter or flight phase. When the malfunction is highlighted in the list a description of the actions that will be performed when activated is displayed.

An instructor or trainee can define a malfunction trigger. The trigger will enable control of when the malfunction will be activated by monitoring events such as flight phase, altitude, airspeed, heading or position in real time.

## **Interactive Procedures Training**



FMS and AutoFlight Training

ART also produces FLIGHTLAB development software to prototype, analyze, validate and simulate in real-time flight dynamics models. Pre-developed aircraft models for simulator and engineering use are also available for purchase.

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