Virtual Loadmaster Trainer System

CAPEWELL
AERIAL SYSTEMS LLC

Pennant

Introduction

The Virtual Loadmaster Training System (VLTS) has been developed by Pennant in partnership with Capewell Aerial Systems.

VLTS is the first aerial delivery simulator developed specifically for the C-130 & C-17 Loadmasters. VLTS enhances the training curriculum by giving students experience in a range of scenarios from normal operations to the most critical of airdrop emergencies.

The VLTS is an immersive training aid, giving students a real-time experience in an advanced 3D virtual world that simulates a variety of different aerial delivery scenarios in a safe training environment. The system allows two students to train simultaneously acting as both the primary and secondary loadmasters. The instructor can control environmental conditions, inject malfunctions and debrief students using the After-Action Replay (AAR) and auto-generated assessment report. All communications between the students and the instructor are also recorded and saved with the AAR for debrief.

VLTS is equipped with everything required to teach basic airdrop procedures. A variety of included payloads and scenarios cover the full range of complexity to follow the crawl, walk, run training method. Each training scenario is based on using a standard checklist that loadmasters will follow to interact with the aircraft and equipment in the same way as an actual flight. Instructors can communicate with students via an intercom and act in all crewmember roles to provide realistic feedback during each procedure.

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Key features

- Crew Resource Management (CRM)
- Tailor scenarios to student experience level
- Classroom-sized lessons or one-on-one instruction
- Small training footprint
- Selectable scenarios to include time of day and weather conditions (NVG Mode)
- Customisable terrains available - selectable terrains include desert and temperature
- Allows for mistakes in a safe environment
- Group learning opportunities and increases throughput of students
- Reduces training flight hours
- Integrated communications
- Full playback with After Action Review

Cost Savings

- Reduced training flight hours
- Space Savings
- Reduced maintenance costs of complex training equipment
- Increased throughput of student

Deployment & Load Types

- Drogue release
- Extraction chute
- Gravity fed
- Humvee (single & double)
- CDS (single & dual row)
- NWS RIBS
- Training dummy loads
- Road grader scraper

Aircraft

Current

C-130H

Planned

C-130J

C-17

A400M

Chinook

Additional aircraft available on request

Instructor Controlled Character (ICC)

The ICC feature allows an instructor to take part in the runtime scenario along with the students, using a simplified gamepad control system. Interactions and instructor responses are also recorded as part of the AAR.

Language Packs

English	
Other language pack options can be discussed, to include:	
Polish	Spanish
French	Japanese
Italian	Arabic

Emergency Procedures

VLTS allows the instructor to inject faults as the scenario is developing, creating life-like emergency situations for the students. All actions are monitored and recorded, allowing analysis of not only the student actions but reaction times and composure. Being able to provide students with experience of the full range of loadmaster emergency scenarios provides richer, more comprehensive training.

Emergency procedures include:

- Hung load
- Deployment failure
- Ramp and door manual operation
- Faulty rail lock

Supported Training

- Pre-flight inspection
- Low-level airdrop
- Container delivery systems
- Heavy equipment extraction
- Gravity extraction
- Sequential airdrop
- Emergency procedures
- Night Vision Goggle (NVG) operations

Supplied Documentation

VRADS Operator's manual

Optional Accessories

Wireless Kit

Cable Management System

Recommended Hardware

Processor	Latest Intel processor, i7 X700 series recommended (currently i7 9700k))
RAM	32 GB DDR4 3200 MHz or faster
Hard Drive	256 M.2 SSD primary, 2x2 TB 7200rpm secondary drives (Raid 1)
Graphics	Latest nVidia XX80TI card (Current: 2080ti)
VR Headset	Open VR headset (currently Vive Pro)
Motherboard	Must have a 3.1 USB port with VR Driver compatibility

ATX case with good cooling options to prevent overheating.
This spec should be reviewed every 6 months (last reviewed August 2019).

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