QUANTUM3D
TRAINING. SIMULATION. TECHNOLOGY.

Parachute Simulator

The Quantum3D Parachute Simulator is a highly efficient parachute training device for novice as well as experienced paratroopers. The simulator allows airdrop exercises to be planned, practiced, reviewed and if required, repeated until the expected training-results are achieved.

Features

- Individual or collective training
- Canopy control
- Multiple trainees in virtual environment
- User-friendly interfaces
- Malfunction recognition and correction
- Altitude awareness
- Collision avoidance
- Modular platform
- Head mounted, high resolution display system
- Different types of parachutes
- Emergency situation definition during scenario creation
- Approach and landing techniques
- High resolution visual database

Components

- Instructor Operator System (IOS)
- Virtual Reality Display System
- Environmental Sound and Communication System
- Image Generator (IG)
- Debriefing System

Instructor Operator Station (IOS)

IOS Console used for

- Scenario management
- Manage running training (view, change situations, inject malfunction, etc.)
- After action review

IOS consist of

- IOS Console hardware (console, computer, monitors, keyboard, mouse, joystick headset, speaker etc.)
- IOS Console software
- Sound and communication system

IOS Functionalities

- Start/Pause/Stop/Restart simulation
- Type of parachute
- Wind information
- Geographical area of training
- Injection/Removal of malfunction
- Management of weather conditions
- Management of time-of-day information
- Scenario management
- Display of visual environment of any trainee

Virtual Reality Display System

The display system of the parachute simulator is a Helmet Mounted Display (HMD). The HMD works with integrated sensors to change the field of view for multiple parachute jumpers simultaneously.

Environmental Sound & Communication System

Internal Communication

An internal communication subsystem is used for trainee-instructor and trainee-trainee communication. All the participants in the training environment can communicate with each other.

Environmental System

The environmental sound system is used to enhance the reality of the simulation using levels, frequency, and sound direction.

Image Generator (IG)

- Weather conditions (sunny, rainy, snowy, windy, foggy, etc.)
- Time-of-day
- COTS (commercial-off-the-shelf) hardware
- The system is designed for future modifications

Debriefing System

Main functionalties of debriefing system

- Controlled from IOS
- All communication is recorded
- Record settings (start-end time, automatic start, continuous recording)
- Record information (record duration, size)
- Transfer to storage unit
- Instructor comments/notes
- Generate reports for analysis
- Replay of records
- Display time information in replay
- Access to trainee forms for evaluation
- Speed of replay (1X, 2X, 4X)
- Fast forward/backward replay
- Display settings for replay