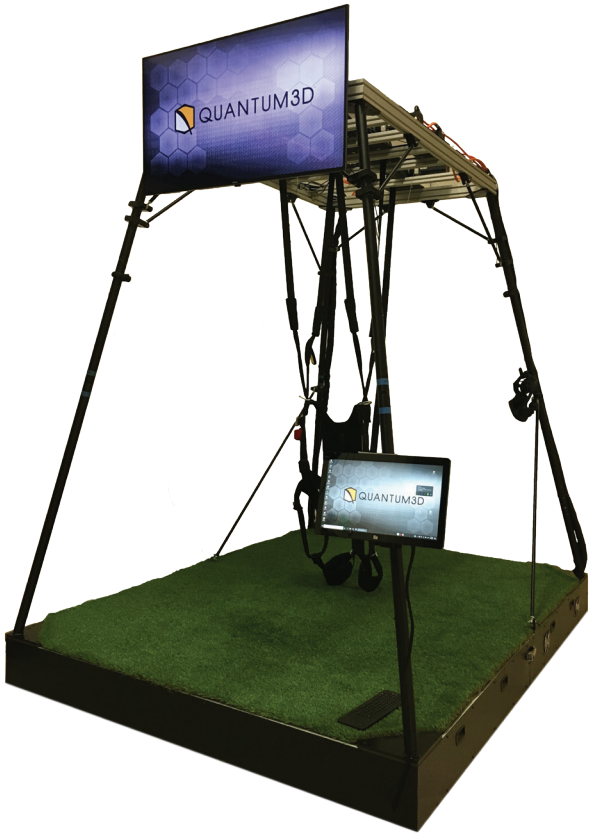
QUANTUM3D
TRAINING. SIMULATION. TECHNOLOGY.

# Virtual Reality Parachute Simulator




**The Quantum3D Virtual Reality 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

- State-of-the-art Virtual Reality technologies
- Calibration-free Body Motion recognition
- Real time Virtual and Real behavior screens
- Advanced and realistic aerodynamic parachute models
- Modular aluminum structure (easy mount/dismount)
- Compact design, improved reliability, designed with commercial off-the-shelf (COTS) equipment, allows easy maintenance
- Touch screen controls
- Free fall training
  - Wireless body joint/motion recognition
  - Realistic aerodynamic free fall
- Group jump simulation (up to six jumpers)
  - Jumpers can see each other
  - Instructor can see from desired jumper's eye
  - Group jump tactical training
  - Group jump performance analysis
- Collision avoidance trainings
- Individual virtual jumping environment (with HMD)
- Realistic parachute training
  - Force feedback parachute controls
  - Aerodynamic parachute models
  - Instrumented links for agile maneuvers

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## Features

- Static and professional parachute training environment
- Training with realistic harnesses
- Multiple parachute configurations available
- Emergency and Malfunction Training
- Pre-flight or in-flight emergency and malfunction generation
- Multi Language support
- Record and Replay jumps for detailed evaluations
- Analysis capability with time history plots
- Intercom between instructor and jumpers
- Wind/Snow/Rain, Day/Night choices

## Instructor Operator Station (IOS)

### IOS Features

- 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
- After action review

## 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)