

I

30,000 Feet

Two Minutes to Exit Solid Cloud Layer at 15,000 Feet

Just like in training.

***You did train for this scenario,
didn't you?***



System

Field reports from HAHO troops indicate that the logistics and expense of practicing HAHO jumps limit the training available. Less than acceptable results are obtained when the jumps are performed in practice or actual insertion activities. In addition, even the OPANAS-equipped troops do not have sufficient practice in the HAHO environment to have 100 percent confidence in their performance using the navigation information provided by OPANAS.

SSK Industries, Inc. has addressed this situation by developing the *On-Target* System.

Similar to an aircraft simulator, this system combines the OPANAS with the ParaSim Virtual Reality Training Simulator to enable HAHO troops to fly simulated missions using realistic wind, meteorological and terrain information. It permits multiple practice flights to be completed prior to a practice jump or actual mission.

On-Target brings the real world into the simulated mission by introducing canopy malfunctions, changing wind characteristics from those forecast, and displacing the actual exit point from the calculated exit point. The system provides this functionality for a fraction of the cost, logistic support, and risks involved in a "real" training mission.

Using the Mission Planning System (MPS) and the OPANAS/Parasim Link software (OPL), HAHO mission planners can compute exit coordinates, a constant heading for the jumper and a flight path to follow. The *On-Target* System then allows mission planning, rehearsal, and training. Available options include multiple jumpers, adverse meteorological conditions, and realistic terrain depiction.

On-Target™ System

MPS™

Mission Planning System

Mission Planning System (MPS), is a PC-based software program that permits complete HAHO / HALO mission planning. Mission information is entered into MPS, including target coordinates and elevation, forecast wind data, opening altitude and canopy performance. MPS computes exit coordinates, a constant heading for the jumper and a flight path to follow. MPS then transfers the mission data to OPANAS, eliminating hand entry.

OPL

OPANAS/ParaSim Link Module

OPL interfaces OPANAS to ParaSim, allowing mission parameters to be simulated by ParaSim. This enables ground-based OPANAS training, mission rehearsal and simulation, training for contingencies including missed exit points, canopy malfunctions and changes in forecast winds.

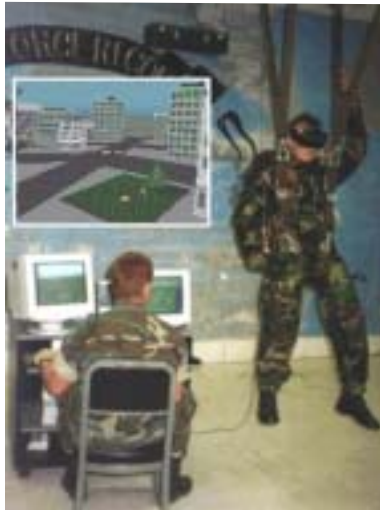


ParaSim™

Virtual Reality Training System

ParaSim was developed by Systems Technology, Inc. for the US Forest Service Smoke Jumpers. ParaSim is also being used by the US Army Special Forces and at military facilities in Canada, Italy, Egypt and Australia. It has a proven record for providing initial and recurrent training in parachute operations including malfunction recognition, emergency procedures, steering, and landing. ParaSim uses Virtual Reality (VR) goggles to provide visual and audio inputs to the jumper.

ParaSim receives inputs from the jumper through ripcord, riser, and steering toggle sensors. The software is interactive, showing changes in the virtual scene based on the inputs from the jumper. The canopy reacts to the control inputs, including common malfunctions, responding to toggle or riser input, or requiring cutaway procedures to resolve the malfunction.



SSK has integrated OPANAS, ParaSim and MPS/OPL into the *On-Target* System to provide Virtual Reality Training for HAHO jumpers. Options include multiple jumpers, canopy malfunctions, variations of winds aloft from the forecast values, and visibility restrictions. Ground features for actual mission targets can be

derived from satellite images and input to ParaSim to increase the realism of the mission simulation.

OPANAS™

Operational Parachute Navigation System



OPANAS, originally developed by NAVOCAP S.A., has been enhanced by SSK Industries for use by HAHO (High Altitude High Opening) jumpers for “stand-off” insertion activities. The parachutist becomes an instrumented glider, with OPANAS monitoring position and altitude, and continuously reporting relative position to the jumper with respect to the target.

Prior to the mission, OPANAS is programmed with course data derived from target coordinates, forecast wind aloft data and canopy performance information. OPANAS displays a flight path and the real-time position of the jumper during the flight.

FEATURES

- GPS, altimeter and magnetic compass data
- Operates in extreme temperatures and pressures
- Shock resistant
- Designed for night operations (NVG compatible)
- Ergonomic controls (heavy gloves, oxygen mask)

OPTIONS

- GPS repeater and power connector for use inside aircraft
- Transponder (4096 channel) for training jumps
- On-screen identification of other jumpers



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SSK Industries, Inc. designs, manufactures, services, and integrates advanced technology parachute systems and equipment. Since 1991 SSK has been the Western Hemisphere Service and Support Center for the CYPRES AAD (Automatic Activation Device). SSK markets OPANAS, a GPS-based guidance system for HAHO jumpers, and developed *On-Target*, a complete HAHO mission training, planning, and simulation system utilizing ParaSim and OPANAS. SSK, originally a sport harness-container manufacturer featuring the Sweethog line, has been supplying parachute equipment to DZ's since 1983. SSK is a Sustaining Member of Parachute Industry Association (PIA), a Corporate Sustaining Member of the SAFE Association, and a Corporate Member of the National Defense Industry Association (NDIA).

Systems Technology, Inc. is a research, consulting engineering, and product development firm located in Hawthorne, California. STI has specialized in vehicle dynamics and control, and related human factors for over forty years for a wide range of aerospace, automotive, and marine vehicles.

NAVOCAP S.A. is an engineering firm located in Toulouse, France. NAVOCAP designs and fabricates electronic navigation equipment that utilizes GPS technology, including positioning equipment for truck and bus fleets, and off-road rally and military vehicles.

Making HAHO Work!

www.On-Target.info

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