RASP

Reconfigurable Airborne Sensor Platform (RASP)–Sim

Reconfigurable Simulator Providing Realistic Manned and Unmanned Aircraft ISR Capabilities

RASP – Is an easy to use, laptop-based system capable of simulating virtually any manned or unmanned ISR platforms/sensors ranging from generic to aircraft/sensor-specific. RASP's reconfigurable architecture allows users to switch between simulated ISR platforms/sensor types either during or between missions

Training Supported – RASP-Sim provides realistic scenario-based training (including AI scene content supporting a variety of training applications including:

- UAVs and manned ISR platforms supporting ground operations
  - Military – Convoys, infantry, security forces, etc.
  - Civilian – Public safety (police, fire, rescue, etc.)
  - Natural Disaster – Floods, forest fires, etc.
- JTAC Type-2 Control/VDL (Aka "Rover") training
- Stimulation of Intelligence Exploitation Centers
- Stimulation of Tactical Operations Centers/Command Posts (Military/Civilian)
- Training of Intel personnel using real-world analysis tools
- Sensor operator training (basic or advanced, generic or aircraft/sensor-specific)
  - Sensor-only (virtually any UAS)
  - Combined pilot/sensor operator (typical Tier-II UAS, Tier-I small UAS or smaller)

Capabilities Include

- Wide variety of aircraft (manned/unmanned, small/large, fixed/rotary-wing)
- Virtually any sensor configuration from generic to specific
- Realistic GMTI, EO, IR and SAR (optional) sensor capabilities with meta-data
- Streaming Full Motion Video (FMV) in various formats
  - Includes sensor-specific metadata, generic metadata or raw video
- Realistic terrain scenes with 3D content (urban or open terrain)
- Realistic tactical scenarios provided by SDS' LIFE AI-driven scene content (vehicles, ships, aircraft, humans, animals, special effects)
- Stand-Alone or Networked (Local or Distributed) Training

Typical Single-Laptop Version Includes SDS'

- Instructor Operator Station (IOS) software
- LIFE Content Development Tool/Runtime Application software
- ROVATTS unmanned vehicle and LiteFlite® manned aircraft software
- CYBORG Physics-Based Game-Engine Technologies – Includes IG' Visual & Sensor Software

Modes of Operation – Selectable based upon desired training audience/tasks

- **Automated –** Provides pre-determined sensor feeds to other users during scripted events without need for human intervention
- **Programmable –** Provides sensor feeds to other users during dynamic scenarios requiring unknown changes or total free-play by the ISR platform but not requiring an actual sensor operator
- **Manual –** Used where realistic operator-level skills are needed for "fog-of-war" considerations, or for sensor operators training

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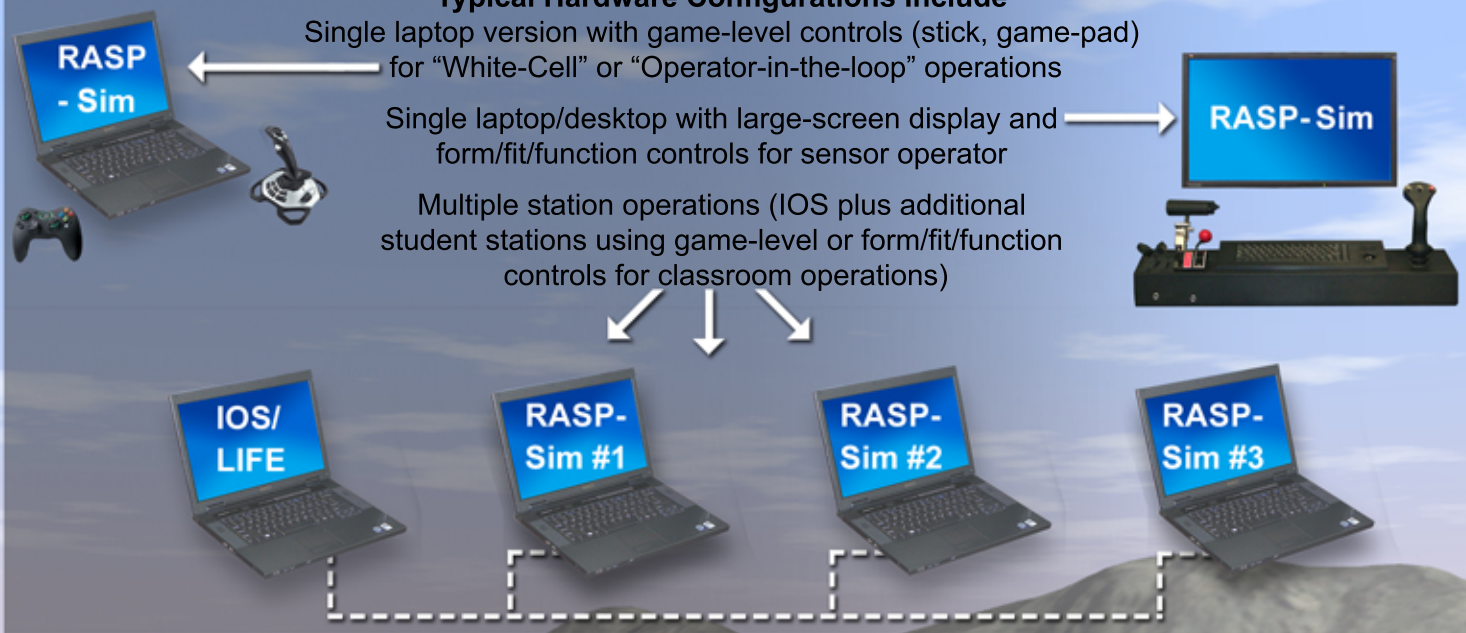
Typical Hardware Configurations Include

Single laptop version with game-level controls (stick, game-pad) for "White-Cell" or "Operator-in-the-loop" operations

Single laptop/desktop with large-screen display and form/fit/function controls for sensor operator

Multiple station operations (IOS plus additional student stations using game-level or form/fit/function controls for classroom operations)



SDS' LIFE-based Scene Content Capabilities Ensure Realistic RASP-based Training

LIFE-based Scene Content Includes

- Special Effects (predictable, random, reactive)
- Fixed-Location (static) ground-based entities
- Dynamic (moving and articulated) air, land, sea based entities
- Scripted and AI entities (vehicles, humans, animals, special–effects)
- Entity reaction to instructor or trainee input (Action results-in Reaction)
- AI behaviors, collision detection, path change, speed change, heterogeneous actions
- Multiple "AI-Areas" where AI driven entities are contained within a defined area
- Partially active AI Groups (not all members of a defined group or crowd utilize their "AI Brains")
- Path guided AI entities (supports multiple paths, AI interaction with other entities, and node Triggers)
- Triggered behaviors and behavior changes, including event triggers based on range, time or activities
- Triggers may initiate onset of the scenario, specific actions or reactions
- Looping capability within the scenario

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