

RECENT PROGRAMS

AC-130H PC-Based Trainers



Part-task trainers provide an efficient and effective means of training crew members to achieve and maintain the complex skills required to operate aircraft in fast-paced and demanding missions.

The problem was the lack of an off-aircraft trainer and the requirement to train aircrew members using operational aircraft of which there were only eight. The problem was compounded by the fact that most aircraft and their associated trainers normally function on different software versions of Operational Flight Programs (OFPs).

SSAI's challenge was to develop an economical, effective and efficient part-task trainer for AC-130H aircrew members and to ensure that there would be the capability for concurrent updating of OFP to avoid software version mismatch.

SSAI's approach to providing a solution was to require that the design emphasized use of existing hardware and software in as near off-the-shelf configuration as possible.

The heart of the design is a network of off-the-shelf PC computers capable of running PC-based OFP tools, flight simulation software from existing integration facilities and the current OFPs for the Mission Computer (MC) and Control Display Unit (CDU). SSAI has also integrated high-quality terrain simulation software into the trainer to increase training realism.

SSAI developed the trainer using a modified Spiral Approach in which the capabilities of the system were increased in several stages with the customer fully involved in evaluating product capabilities as each stage of development.

The trainer has been successfully qualified and has conclusively demonstrated that all objectives have been obtained. The principal benefits that have been realized are:

- Provides integrated training (NAV, FCO, Sensors, EWO) and crew coordination (MC, CDU, Aircraft Avionics, Video Terrain, Interphone Communications, Consoles)
- Trains crewmembers on enhancements/ modifications to aircraft hardware/software
- Has reduced use of actual aircraft flight time for training purposes while increasing crew readiness
- Provides rapid prototyping capability to allow integration of new avionics (e.g., Image Transfer System).

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