

RADAR Video Simulator (RVS)



Interoperability Systems International Hellas S.A.

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The Radar Video Simulator (RVS) provides the means to simulate the visual and data link performance of a wide variety of rotating antenna radars. The RVS provides either digital or analogue Plan Position Indicator (PPI) video outputs. Customer defined data channel formats, tracking algorithms, transmitted power, receiver sensitivity, signal processing gain, pulse width, pulse repetition frequency and antenna rotation rate are accommodated in the RVS. The RVS scenario definition process provides the means to define environmental conditions (rain, clouds, etc.), effects of ECM and ECCM, line-of-sight calculation based on terrain masking, 3-D platform radar cross-section calculation, and platform movement for the period of the scenario.

ISI Hellas has produced RVSs for multiple tactical system trainers that require time coordinated presentation of video and digital information from radars. The RVSs have been incorporated within the trainers with replications of the radar controls and interfaces from the actual radar controls. Typically, a RVS requires parametric adjustments to obtain faithful replication of the real radars display appearance. Such parametric adjustments are accommodated within the RVS; but access is restricted from the normal operator.

The RVS can be provided as an integrated sub-system within a "total trainer" context or as a stand-alone simulator. A Radar Video Simulation Module (RVSM) which converts the digital radar information to analog PPI signals is available as a stand-alone product.



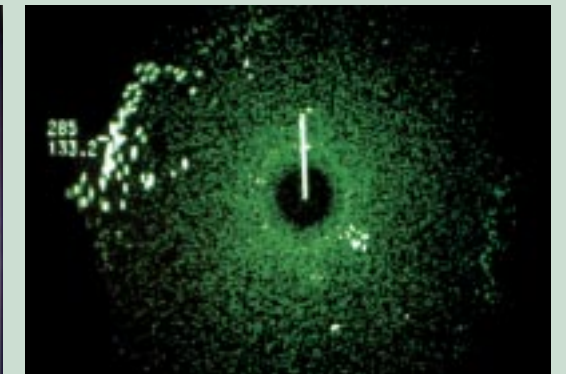
RVS Features

Radar Simulation

- > Line-of-Sight Consideration of Terrain and Static Object Masking
- > Video in Digital or Analogue (PPI)
- > Digital Track and Plot Interfaces
- > Variable PW, PRF, and Antenna RPM
- > Integrated IFF Interrogation Simulation
- > Simulation of Track Extractors and Tracking Algorithms
- > Simulation of ECM and ECCM Performance
- > React to Radar Control of Modes and Feature Selection
- > EMCON and/or Special Modes for Pre-defined Sectors

Scenario Generation

- > Land, Air, Space, Surface and Sub-surface 3-D Platform Definitions
- > Flexible Definition of Weapons and Sensors
- > Association of Platforms with Weapons and Sensors to create Entities
- > Platform Movement for the Period of the Scenario (Speed, Heading, Altitude, etc. by time)
- > Environment (Weather, Maps, Line of Sight Topography, etc.)
- > Definition of Conditional Events
- > Scenario Library Functions to Save Created Entities/Platforms



Scenario Execution Features

- > Start, Stop, Pause and Rewind
- > On-line Changes to the Scenario during Scenario Execution
- > Event/Action Recording for Later Playback
- > 'What If' Capability during Playback





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