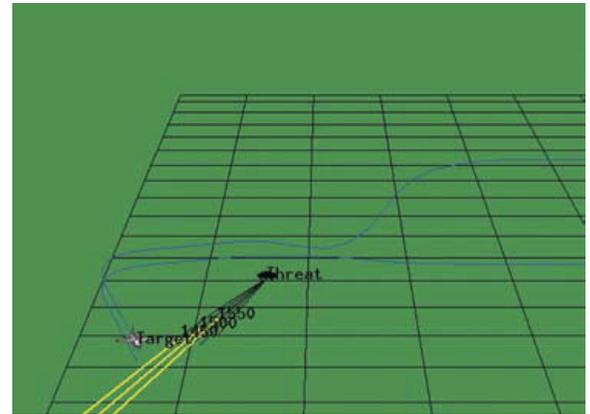


IVIEW 2000 Graphical User Interface for Output Simulation

IVIEW 2000 is a post-processing graphical presentation package, for various computer simulations modeling multiple object engagements and is used to view player activity in a real-time movie-like 3-D display. It is a powerful and dynamic modular software package developed as an engagement reconstruction tool to meet the needs of the modeling, simulation, and analysis communities. Research applications include supporting analysis of aerodynamic system engagements, supporting dynamic weapon platform analysis models, and visualizing models for ballistic missiles and space systems. IVIEW 2000 processes a scenario file, which describes an engagement, and displays time-based history files of missile and aircraft trajectories over flat or spherical Earth for viewing on the computer screen. Using 3-D representations of each of the objects and animation characteristics from the scenario data, the objects appear to fly across the screen. A set of controls allows the simulation to be played and replayed in both forward and reverse directions as well as being able to stop, pause, or advance the display frame by frame to provide a greater flexibility in control of the scenario. Additionally, a record feature provides the capability to store live data to an Aircraft Flight Data Record (AFDR) file for subsequent replay.



RADGUNS Results Viewed with IVIEW 2000

IVIEW 2000's primary display mechanism is the Viewing Window, which gives the graphical presentation of multiple engagements for a video-type replay. The scenario file does not include an actual video view of the engagement, but instead gives step-by-step information of the position of every object and what each is doing at any time. The user determines the point-of-view of the information presented in the Viewing Window. By adjusting parameters for the scene, an analyst can view the engagement reconstruction from above for a "God's-eye" view, from the cockpit for a "pilot's" view, from behind for a wingman's or a "trail-behind" view, or from any point in 3-D space for an "observer" view (the viewing perspective is detached from the player's roll, pitch, and yaw values to allow the model user to see the relative movement of the current player). Additional display mechanisms can present information about the displayed file in various ways as the playback continues. The Data Window instantaneously prints out numeric values of the scenario information presented in the Viewing Window. The Graphics Window graphically plots information from the Data Window, giving the current value and values out some time in the past. The Message Window displays messages between objects from the scenario as the reconstruction replay is occurring. Several other window options can display messages between objects or show sensors (such as radar or IRS's [Infrared Sensors]).

Input

IVIEW 2000 operates from a processed input file, identifying each player's type, team, and movement in 3-D space. Several different non-real-time analysis models, including BRAWLER, TRAP, RADGUNS, BlueMax, and SUPPRESSOR, can generate the input data. Model users may select or create icons, which accurately represent each target and threat.

Output

In addition to the several on-screen display windows, a nondisplayed mechanism is presented for writing selected portions of the scenario data to an output file for permanent storage and later retrieval. Descriptive feedback messages are output to the screen during AFDR file load processing to monitor various errors associated with reading icon names and files.

HOST SYSTEMS: SUN, SGI

PROGRAM LANGUAGE: ANSI C