

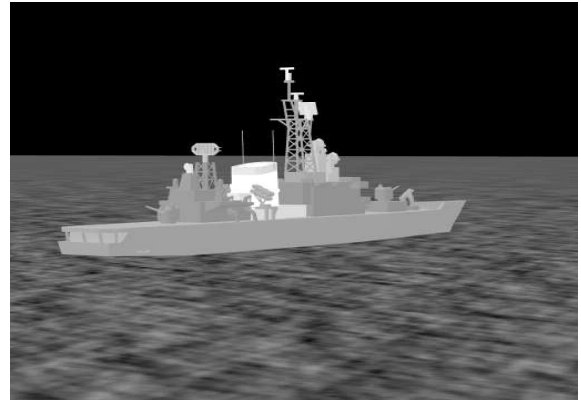
Technology Service Corporation

Real-time IR Sensor Simulation

Technology Service Corporation (TSC) has developed two software products for real-time IR sensor simulation. These products are IRGen®, for static high-fidelity modeling, and the RealIR™ application programming interface (API) toolkit for dynamic real-time IR simulation. Both products share the same fundamental physics models and material databases, and are in use by US Government agencies and their contractors. For IR simulation customers who demand physics-based real-time simulation, IRGen/RealIR provide a convenient package for incorporating IR imaging into simulation systems.

PRODUCT DESCRIPTION

The RealIR API meets the needs of users who require a dynamic IR simulation that can be rapidly reconfigured during the simulation run. The API provides complete functionality for incorporating a physics-based IR model into a real-time simulation. Using the API, a simulation application can continuously update the simulated IR sensor imagery. The API functions include sensor specification, real-time modification of environment and atmosphere, physics-based computation of scene temperatures and radiances, atmospheric propagation using LOWTRAN or MODTRAN, and visualization with 8, 12, or 16-bit image depths. The API also provides automatic conversion of terrain and target textures to physically correct IR textures.



TSC's IRGen is a stand-alone software application for IR simulation. It operates with the OpenFlight™ database format, and predicts IR signatures for static scenarios. Given the user's sensor and environment specifications, IRGen generates an IR OpenFlight database, representing the 3-D scene as seen by an IR sensor. IRGen can be used by any visualization API that imports the OpenFlight format.

WHY REAL-TIME IR SIMULATION?

Use of thermal IR imaging sensors is increasing in both military and commercial sectors for day/night surveillance, navigation, and fire control. IR simulation is essential for the development of these sensors, and for operator training. Thermal IR imagery is highly dependent on local conditions, and can change dramatically within a few hours. Only a physics-based simulation system such as RealIR/IRGen can provide realistic simulated IR imagery under all operating conditions.

WHY TSC?

TSC has extensive experience in IR and high-resolution RF sensor simulation. We have just successfully delivered an IR imaging generator to Mitsubishi Heavy Industries (MHI) as part of a smart bomb test facility being developed by the Japanese Defense Agency. Tokyo-based MHI, one of the world's leading heavy machinery manufacturers, selected us for our IR expertise and experience in defense technology exports. We can customize IRGen and RealIR to fit your specific needs or applications.

CONTACT INFORMATION

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