NORTHROP GRUMMAN
Electronic Systems

Integrated Family of Test Equipment (IFTE)

Continuing a Legacy of ATE Performance and Expertise

Today's Army relies on high-technology systems to help meet its responsibilities and maintain preparedness. These systems depend on the latest electronics for a military capability that must be useable under adverse conditions by field operators. The mission of Northrop Grumman's Integrated Family of Test Equipment (IFTE) is to support those electronics and ensure that weapon systems are combat ready when needed.

IFTE is a series of test systems used off-system for testing electronic and electro-optic weapons devices, including missile systems, vehicles, aircraft and more. IFTE products have been designed to work in a lab or in a shelter and can be moved into the field. IFTE is one of two standard testers designated by the United States Department of Defense (DoD) and will be supported by the U.S. Army for the foreseeable future.

Benefits

- VME and VXI-based configuration of IFTE
- Incorporates
  - Open architecture
  - Standard COTS instruments
  - Plug-n-play software
  - Modular, scaleable interface
- Cost effective alternative to peculiar factory tester
- Uses the same TPS hardware/software in factory, field or depot
- Enables the isolating of LRU faults and screen shop replacement units at forward areas for quick LRU turnaround and to minimize the spares pipeline. Also enables the isolating of faults in SRUs at rear areas and depots
- Reconfigurable to adapt to new weapons system technology with short development time
- Reduces maintenance and logistics costs
- Standardizes maintenance training across weapon systems

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Northrop Grumman's Integrated Family of Test Equipment consists of four main product lines: Base Shop Test Facility (BSTF), Commercial Equivalent Equipment (CEE), Rapid Deployment Automatic Test System (RDATS), and Electro-Optics Test System (EOTS).

By using standardized components and open architecture, Northrop Grumman makes it possible to scale any IFTE product, large or small, modest or costly, to the needs of users.

- **Base Shop Test Facility (BSTF)** tests and isolates faults in weapons system line replaceable units (LRUs) and shop replaceable units (SRUs). It is designed for state of the art testing of digital, hybrid, and RF electronics.

- **Commercial Equivalent Equipment (CEE)** duplicates the capabilities of the BSTF and is used by weapon systems contractors as factory test equipment, by test program sets (TPS) developers, and by the U.S. Army at depots and Special Repair Activities. All TPSs developed on the CEE are fully transportable to the militarized, field-deployable BSTF. TPSs can be developed once for factory testing and used in the field at the intermediate maintenance level, depots, and Special Repair Activities.

- **Rapid Deployment Automatic Test System (RDATS)** is a VXI configuration packaged in portable cases that utilizes an instrument complement subset of IFTE. As configured, RDATS will test both LRUs and SRUs and is compatible with existing IFTE TPSs. RDATS conforms to DoD standardization objectives and thus can be easily reconfigured to satisfy new or different weapon system requirements by utilizing other IFTE hardware elements or available commercial off-the-shelf instruments.

- **Electro-Optics Test Station (EOTS)** tests and fault-isolates electro-optical and electronics LRUs in a full range of weapon systems. EOTS tests laser transmitters, receivers, spot trackers, forward looking infrared systems (FLIRs) and TVs. The station can be housed in a standard Army shelter, forming the Electro-Optics Test Facility. It can also be floor-mounted in a free-standing version. The EO system uses the Navy-developed Electro-Optical Subsystem (EOSS+) to conform to all DoD standardization objectives.

IFTE LEGACY

Northrop Grumman has a strong history in designing, developing and manufacturing automatic test systems (ATS) for all branches of the Armed Services. Since the latter part of the 1960s, we have furnished to the United States government more than 750 ATE systems, the majority of which are still in use today.

At the forefront of ATS design, Northrop Grumman can list many firsts to its credit. In the 1970s, the Navy's CAT 3D was the first ATE system delivered to implement an online incremental compiler and bi-directional digital test capability. In the 1980s, the Army's IFTE system was the first ATE to incorporate instrument-on-a-card technology. And in the 1990s, the Air Force's Electronic System Test Set was the first ATE to incorporate a distributed interface in a VXI-based automatic system.

IFTE has been in full-scale production by Northrop Grumman since 1992. Furthermore, Northrop Grumman's IFTE has been fielded and is now supporting weapons systems in the United States and at locations around the world.

For more information, please contact:

Northrop Grumman Corporation
ATE/Simulation
Director of ATE/Simulation Business Development
600 Hicks Road
Rolling Meadows, IL 60008-1098
Phone: (847) 259-9600, ext. 5802
Fax: (847) 590-3110
e-mail: ate-elect@northropgrumman.com
website: www.northropgrumman.com

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