INTEGRAL SYSTEMS™

PRODUCT BRIEF

ARES™

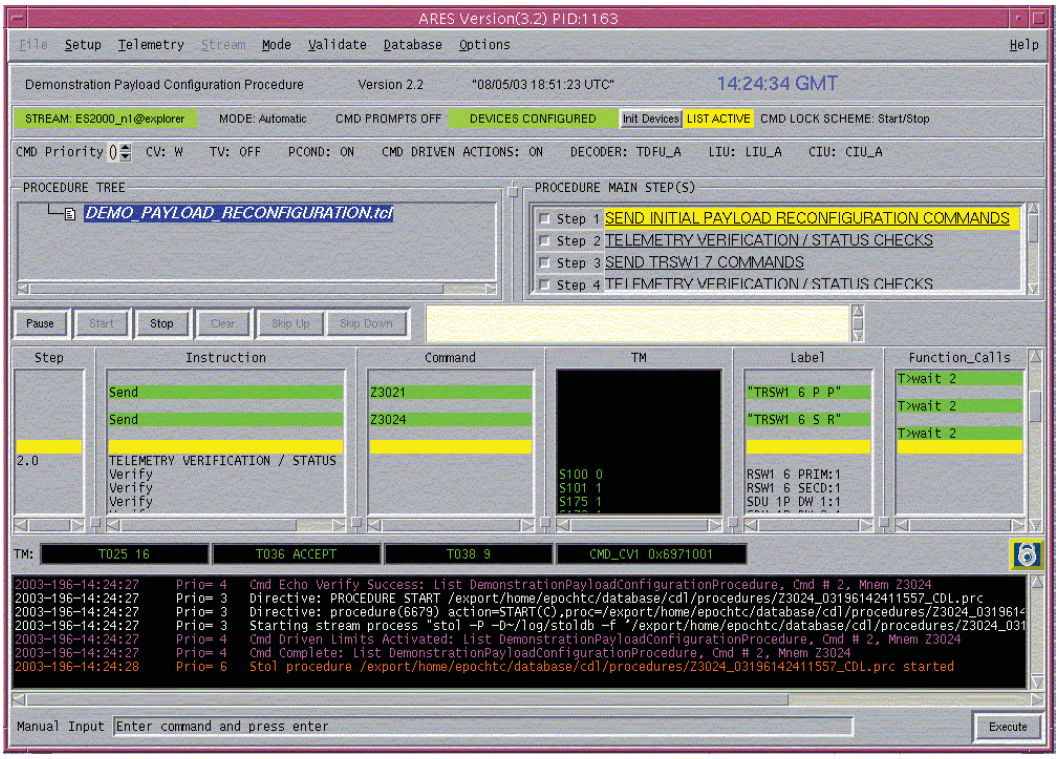
Procedure Development and Execution Suite

EPOCH IPS™

INTEGRATED PRODUCT SUITE

Complete Satellite Ground System Solutions

Product Description



ARES Procedure Execution Shell

ARES™ (Automated Real-Time Execution Suite) from ISI (Integral Systems, Incorporated) enables satellite operators and engineers to develop, edit, and execute complex spacecraft commanding procedures easily, efficiently, and accurately.

ARES provides complete end-to-end capability for procedure needs in operations. It includes both an online procedure execution interface with ISI's EPOCH T&C© (Telemetry and Command) system and a separate offline tool for building these procedures.

The ARES format mimics layouts typical of spacecraft manufacturer's procedures to maximize the user's comfort with the system while minimizing development time and errors. All functions necessary to execute and monitor the procedure, including telemetry checks, commands, and spacecraft events are presented clearly within the ARES environment in one single display.

ARES procedures are simple, individual, tab-delimited text files. Users require no special programming-related training to develop ARES procedures with the ARES Procedure Builder. Selecting options from the ARES Procedure Builder's command and telemetry pick list menus makes the process quick and easy. Furthermore, a validation process in both the ARES Execution Shell and the ARES Procedure Builder ensures that all procedures are completely correct, so that they can be executed safely on the real-time system.

ARES

Features	Benefits
• Fully Compatible with the EPOCH T&C System	- Interfaces directly to EPOCH T&C through its open data service - Offers the same telemetry monitoring, command transmission, and event monitoring capability
• Procedure Creation and Execution	- Minimizes labor required to edit, validate, save, and ultimately execute procedures - Includes separate tools for procedure creation/editing and execution - Eliminates the need to learn a procedure development language
• Familiar, Straightforward Display	- Mirrors the layout of typical spacecraft operations procedures for clarity and ease of operation
• All-Inclusive Interface	- Provides all the ingredients necessary to monitor procedure execution from one interface - Eliminates the need to toggle between several application windows during critical operations
• Library of Functions for Procedure Flow	- Presents a full-function menu selection to incorporate flow control and logic in the procedure - Supports procedure nesting through a sub-procedure function call
• Mode Options for Execution	- Offers the choice to execute automatically or to stop and request input from the user at appropriate points in the procedure - Includes the ability to run procedures in "shadow mode" on separate workstations where they are ready to take over autonomous, mission-critical activities in the event of a failure - Optionally executes in a background mode while displaying only a small status window on the screen
• Database Access for Validation	- Eliminates errors in procedure building by providing access to the TM/TC database - Offers validation against the database in both the procedure builder and the execution shell - Before execution detects and notifies users of any existing problems in the procedure - Provides quick navigation to problem areas within the procedure
• Open	- Runs on Unix or Windows - Provides compatibility with TightVNC to distribute ARES displays to remote workstations - Enables users to develop and add their own function calls

Applications/Usage

ARES offers a comprehensive, yet simple solution for operators and engineers working with procedures; but even more importantly, ARES increases the overall efficiency and accuracy of procedure generation and command procedure execution in satellite operations.

ARES is ideal for developing and executing critical spacecraft procedures containing any ordered sequence of commands and telemetry checks. Typical examples may include station-keeping maneuvers, Earth sensor inhibition, and battery reconditioning procedures. Because essential information needed to monitor the procedure is presented clearly in one interface, ARES directly addresses and alleviates many concerns associated with effectively executing complex spacecraft procedures in operations.

INTEGRAL™ SYSTEMS

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