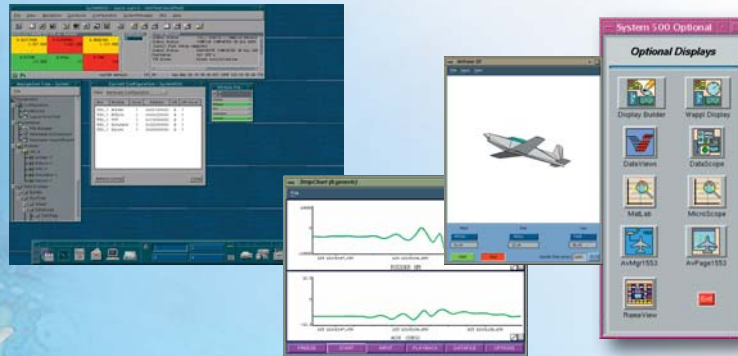


## SYSTEM 550 APPLICATIONS SOFTWARE

### SWA500 VERSION 8.0



#### **Navigator**

The System 550 graphical user interface incorporates a top-level display for viewing high-level system status and data, and it facilitates navigation to standard System 550 applications. This single, modular, highly reconfigurable display includes an annunciator panel to show status and values of user-selected measurands or parameters, view current and past system messages, and depict hardware module status. You have the option of activating functions through the menu bar's selections, clicking a tool bar's icons, or choosing a leaf on the navigation tree.

#### **Environment Manager and Editor**

Use our standard environments or create your own custom graphical environments to limit or speed access to application components. The Environment Manager's drag-and-drop editor uses icons, buttons, and graphics to depict operating environments to applications and users.

#### **Real-Time Interactive Module Setup**

Change selected module setup attributes in real time, eliminating the need to recompile and download entire databases.

#### **Real-Time Processing**

Select parameter processing by choosing from a library of over 150 algorithms. Chain multiple algorithms to create a unique process. Algorithms can use multiple inputs and outputs. Other algorithms and modules can use any of the output parameters. Generate source trees and missing source reports to aid in setup development. Update algorithm arguments in real time singularly or in multiple parameters defined in a file without recompiling. Run algorithms on front end real-time processors or the workstation.

#### **Decommuration**

Three levels of upward-compatible telemetry decommutation are available, including hardware for high-speed IRIG data, front-end processors for very complex medium rate streams, or software for complex streams that are limited only by your workstation's capabilities. All utilize the same graphical user interface (GUI) to ease development and maintain portability.

#### **Database Builder/Manager/Loader**

Use the OSF/Motif™-based GUI to define module and parameter attributes and to manipulate databases. Define parameter groups to speed editing and system control.

#### **Logical Front Ends (LFE)**

Set up module groups without affecting the real-time operation of other front-end modules. One chassis can house multiple LFEs, and a single LFE can span multiple chassis in the system.

### KEY FEATURES

The System 550 Applications Software, Version 8.0, is a complete applications suite for the management and setup of System 550 or Avalon chassis for data I/O, processing, and mass storage; and workstations for virtual front-end processing, real-time data display, and reporting.

You can accomplish these tasks via the workstations and X-Terminals on the local area network using icons, pull-down menus, pop-up windows, and drag-and-drop techniques.

Optional software modules tightly integrate algorithm development, real-time display development, post-capture data analysis, and utilization of real-time data by independent systems in the network.

*Excellence You Can Measure*



# Telemetry-West

## SYSTEM 550 APPLICATIONS SOFTWARE

### SWA500 VERSION 8.0 SPECIFICATIONS

#### FrameView

Inspect decommutator parameter definitions and view real-time data in a color-coded traditional PCM frame view. FrameView helps in the decommutator setup process by finding locations and missing definitions, or conversely, words used by multiple parameters.

#### Seamless Real-Time Data Storage

Real-time data files captured to mass storage are available to all systems on the network via full NFS™ (Version 3) services. Drag-and-drop GUI features allow you to easily select groups and/or parameters for archiving and file management tasks. Data capture can be activated on command or on the occurrence of events. Playback can be viewed directly on the workstation screen or can be directed through the MUXbus for additional processing or viewing concurrently with real-time data. Time-tagging permits direct entry to data of interest without scanning the entire file.

#### System Manager

Monitor system and module status, define your configuration by moving icons, and then view the operational configuration.

#### Print Manager

Log selected real-time or alarm (out-of-limits) data to workstation files or printers.

#### Parameter Exchange

Move parameter definition files between the 550 and your own database management system.

#### Base Displays

Choose from strip chart, cross plot, bar graph, and alphanumeric formats to view real-time data in single-function quarter, half, and full page sized displays. Change parameters being displayed in real time. Presentation is color-coded to indicate data within three bands of user-defined limits.

#### 3-D Attitude Display

Visualize the attitude of a solid vehicle in real time from pitch, roll, and yaw parameters. Select from a library of standard fixed and rotary commercial and military aircraft and missile models.

#### Alarm, Errors, and Command Logging

The front end detects out-of-limits data and reports it to the workstation. From there, the out-of-limits data, as well as system errors and operator input commands can be logged to history files. Users can select logged data of interest through a graphical-based query tool. Users can also define traditional alarm bands or utilize the Algorithm Development Environment to create unique criteria limits.

#### Avionics Analysis Software

Time correlate data from up to 32 MIL-STD-1553 buses. Display, filter, and analyze command, status, data, errors, gaps, and response times. A color-coded Motif display enhances data review and recognition.

#### Network Editor

Use drag-and-drop techniques to define the local area network and assign front ends to your workstations.

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#### Test Manager

Validate front-end chassis operation upon startup or on command. Individual modules can be tested and status viewed.

#### Algorithm Development\*

Create application-unique algorithms in C; then simulate and debug them using workstation-based tools.

#### DataScope/DV-Draw\*

Our implementation of DataViews lets you easily create unique real-time data displays from a palette of over 70 animated display objects, including multiple strip charts, annunciators, bar charts, gages, cross plots, and alphanumeric formats. Define a multi-level hierarchy of displays, where clicking on one display object brings up another view.

#### MicroScope\*

Display millions of samples on a single display spanning many hours; then zoom in on a small segment of interest and fill the display with this new data set. Continue this interaction until each data point occupies a single display pixel.

#### Application Programming Interface (API)\*

Transfer real-time data from the System 550 front-end chassis directly to your real-time application via socket connections over a local area network. Conversely, send data to the front end for command and simulation applications. Control and serve front-end chassis data to/from multiple workstations from different vendors simultaneously.

#### Real-Time PSD Display\*

Analyze the frequency content of complex signals in real time using Fast Fourier Transform (FFT) algorithms and then visualize results in Power Spectral Density (PSD) displays. Select the number of points, windowing schemes, and parameters to be analyzed.

#### MATLAB Post Data Analysis\*

Transfer archived data into Matrix Laboratory file format for analysis by MATLAB. MATLAB and its tool boxes provide an integrated technical computing environment that combines numeric computation for analysis, advanced graphics for visualization and reporting, and a high-level programming language to express technical ideas simply.

#### Telemetry Attributes Transfer Standard (TMATS)\*

Transfer setup databases to and from other airborne and ground telemetry systems that adhere to the Inter-Range Instrumentation Group's (IRIG) published specifications for portability and interoperability.

#### Compatibility

Base 550 System Chassis (PR0550A, PR0550B) Avalon System Chassis (AVALON-R)

\* optional software



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