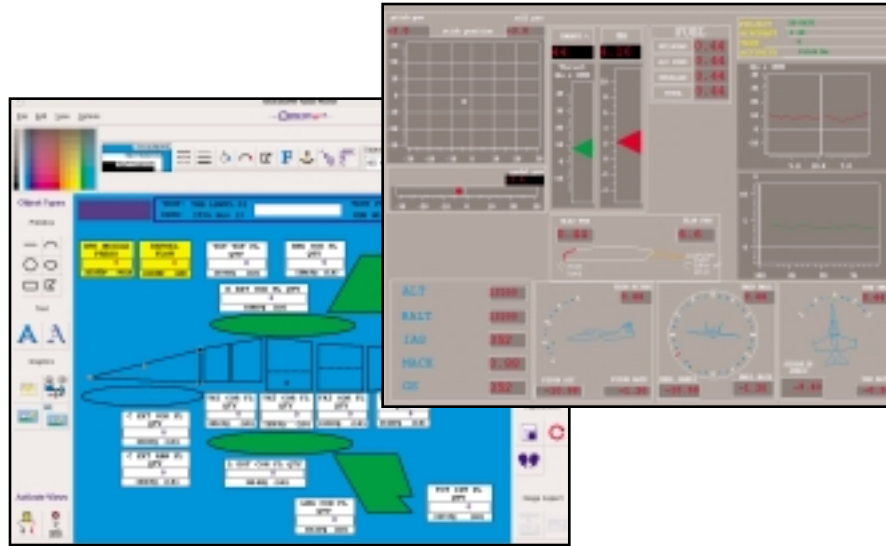


Observer



Create information-rich visual displays of your VMEwindow real-time data with Observer

Observer is an optional add-on to the VMEwindow[®] real-time graphical setup and control software package from AP Labs. Observer is an object oriented graphics editor for creating and utilizing information-rich data displays called "views". These views can depict real-time test data in a variety of visual formats that greatly enhance the situational awareness during testing. Observer is designed to meet the needs of a variety of skill and interest levels and is based upon DataViews Corporation's DV-Draw graphical engine.

The views produced by Observer are comprised of a drawing, a data source, and links between the data source and the drawing. The drawing is a collection of graphical objects such as lines, circles, and graphics. Data being acquired by the real-time system is linked to the view and can be displayed within the view by a variety of graphical objects called widgets. These widgets include strip charts, dial gages, bar charts, discrete indicators, contour plots, and digital values. Also, the graphical characteristics of each widget, such as size, orientation, location, color, etc, can be controlled and adjusted as a function of parameter values within the data source.

- Point & Click design of graphical displays; no code development required
- Displays data in real-time or during post-test analysis
- Recognizes data from real-time target system in RAW and PROCESSED (or PCM) Stream Format
- Wide range of graph and data types supported: bar, line, instrument, scatter, spectro, and text
- Operates on Sun or SGI host workstations, and displays can be viewed remotely on Window-NT workstations

In the example on the previous page, a schematic of the test article or test facility is created using *Observer* with widgets depicting current data values being placed appropriately around the schematic. The schematic elements themselves can be attached to data such that their *attributes* change in relationship to corresponding values in the data. An example of this could be a change of orientation or color of a schematic element (such as a valve or switch) as a function of the value of a parameter in the data source.

Observer is an optional addition to AP Labs' VMEwindow graphical control software, receiving real-time data from the VMEwindow NetSpray Icon. Ethernet, FDDI, and ATM are supported which enables *Observer* to display real-time data from the test item on the adjacent bench, on the other side of the factory, or on the other side of the world.

Partial List of Graph Types:

Instrument Graphs:

Artificial Horizon Graph, Indicator Graph, Radial Graph

Instrument Array Graphs:

Clock, Dial 360, Dial Graph, Knob, Meter

Line Graphs:

Point-Line, Strip Chart, Raster Waterfall, Step Graph

Primitive Graphs:

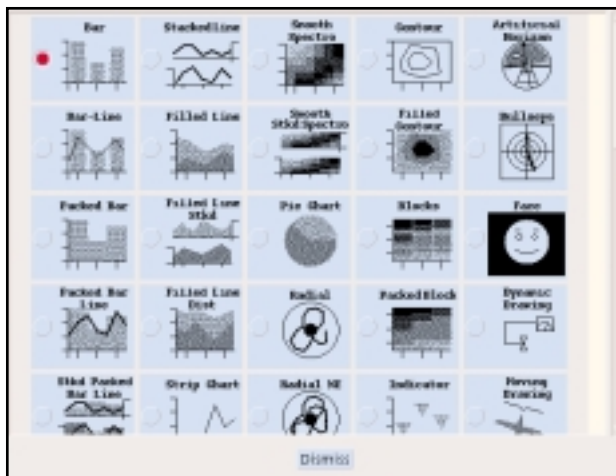
Box, Circle, Triangle Graph, Point Chart

Scatter Graphs

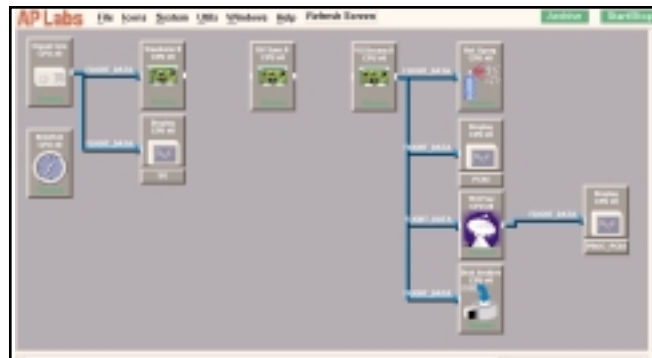
Bar Graphs

Spectro Graphs

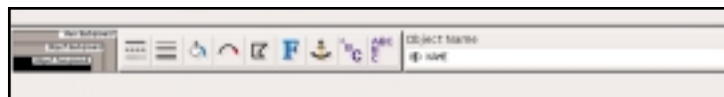
Text Graphs



In the example VMEwindow flow shown below, stream data is transmitted to *Observer* over a local area network by the Network Data Distribution Icon, or NetSpray. The NetSpray icon can accept up to 16 input streams and transmits the data out over the local area network using the Internet User Datagram Protocol (UDP/IP), thus providing a fast, efficient way to distribute data to one or more external *Observer* workstations.



To create views for data display, the main *Observer* tool bar shown below is used. With these tools, the user can select icon colors, set line types and widths, create fill patterns, select direction of arc rotation, create polygons, control text font, text size and text orientation. The tool bar also provides control over text character width, character height, line spacing, character spacing, text rotation and character slant.



The *Observer* user builds views by selecting graph types from the graph pallet shown on the left. After pasting the selected graph type on the work area, the user then associates the graph type with a stream parameter(s) provided by the NetSpray icon. The user may also link stream parameters with attributes associated with the graph type. These attributes include size, color, or orientation of the graphical element.