Test SLATE is an easy-to-use, easy-to-format, Windows®-based application that requires no special or proprietary hardware. It is a powerful, comprehensive general-purpose test management and data acquisition tool that has been designed, used, and proven for a wide range of testing applications across a variety of industries..

General System Capabilities

- Windows® 7 operating environment
- Pre-test, in-test, and post-test operating modes
- Full API capability (create your own Test SLATE plug-in)
- Multiple input/output (I/O) data acquisition systems
- Hardware/channel/sensor setup independent of configuration setup
- Setup files arranged by system with the capability to have multiple configurations per system
- Configurations contain all tag assignments, displays, test sequences, alarm/trip definitions, etc.
- Configurations may be copied locally or across networks
- Operator message generation for input/output device errors

Test Automation

- Test sequencer provides multiple analog and digital set point generation through profile plots or alphanumeric spreadsheet-type interfaces
- Analog setpoint generation can be for internal proportional integral derivative (PID) loop control or output voltage to an external controller
- Per step alarms, PID gain scheduling, pauses, and operator messages
- Per step parameter stability with up to ten logic conditions and a transfer on-step stability failure
- Per step branching
- Per sequence automated reporting or plotting
- Three nested tiers of test sequences to provide for endurance or repetitive test cycling
- Test sequencing messages stored to a log file for later analysis

Controls

- User-definable PID loops
- Control loop tuning/troubleshooting tools
- In-test controls for transfer from automatic, semi-automatic, and manual modes

System/Parameter Configuration

- User definable hardware configuration — no reprogramming is needed to add or remove hardware channels
- Parameter database
- User definable parameter tag names
- Sensor Database used to link tag names to physical channels
- Automatically enables/disables device drivers per configuration based on tag definitions
- User configurable PID control loops parameters
- User defined calculation builder for creating custom formulas
- User defined statistics builder for mean, standard deviation, minimum, maximum, variance, etc.
- User configurable timer and counter parameters

Alarms/Trips

- Four levels of windowing alarms/trips with acknowledgement

- Two levels of rate of change alarms/trips with acknowledgement
- Alarms/trips for parameter variance
- Ability to alarm/trip digital input parameters with acknowledgement
- Ability to set digital outputs based on alarms or trips
- Ability to define text color of each alarm level
- Color-coded alarm or trip states on all displays
- Operator message generation for alarms and trips

Sensor Database

- Common sensor database for all systems and configurations
- Supports analog input and frequency input data channels
- Calibration and sensor tracking information
- Engineering unit conversions support up to 14th order polynomial; platinum RTD; and B, E, J, K, N, R, S, T thermocouple conversions based on NIST Monograph 175 polynomials
- Optional post conversion 14th order polynomial correction for thermocouples

Calibrations

- All analog input or frequency input channels, end to end
- Multiple parameter calibrations with user definable groupings
- In-place sensor calibration capabilities with up to 50 stimulus points
- Up to 14th order polynomial curve generation for engineering unit data conversions
- Sensor database automatically updated on calibration completion
- As-found calibration polynomial evaluation with report and plot
- Normal or rational polynomial generation
- Report and plot generated with new accepted calibration
- Special calibrations for specific hardware if available

Pre-test autozero calibration with user definable groupings

Data Storage

- User selectable data storage list with up to four different log files
- User selectable data averaging
- User definable test configuration header
- Binary data storage for maximum speed
- Time stamped data

Operator Interfaces/Displays

- Drag and drop configuration of displays
- Display screens stored in an unlimited number of user configurable sets
- Unlimited user definable screens including contour plots, vertical bar graphs, horizontal bar graphs, trend graphs, alphanumeric fields, slide bars, graphical dials, etc.
- Ability to call user-built display screens and builders
- Operator comment during real-time test and comment stored to test log file
- Ability to use any OPC-Compliant display package to display data from Test SLATE

Diagnostics

- View all values for analog input, digital input, analog output, digital output, frequency input, and calculated parameters

- Manual control of analog output and digital output parameters
- View all channel statuses (e.g., high trip, high alarm, low alarm, low trip)
- X-Y graph for analog inputs to display counts/volts/EUD simultaneously

Data Processing

- User definable standard test initialization form used as header information on test reports
- User definable custom test initialization form used for test reports and to enter static data values for in-test calculations
- User definable standard reports
- User definable custom reports built through Microsoft® Excel and populated with stored test data
- User definable standard plots
- Automated report or plot generation available during test sequencing and at end of test
- Spreadsheet and ASCII export capabilities
- Data recalculation if conversion coefficients change post test

Example Measurement and Control Devices

New device drivers are continuously being developed for Test SLATE. Please contact us for the most current list of device drivers and for specific driver details. Some drivers do not support every hardware configuration available from the manufacturer.

- National Instruments CompactDAQ, CompactRIO, PXI Express
- National Instruments NI-DAQ and NI-DAQmx Devices (i.e., PCMCIA, PCI Bus, PXI and SCXI)
- National Instruments NI-FieldPoint devices
- Neff Instruments 470, 500/600, and 495
- VXI Technology (formerly HP or Agilent)
- Pressure Systems Incorporated (PSI) pressure measurement systems
- Scanivalve pressure measurement systems
- Datascan 7000
- Generic OPC drivers
- Various RS-232 based devices

Security

- Security options available for each function of Test SLATE for each user
- Almost unlimited number of security levels