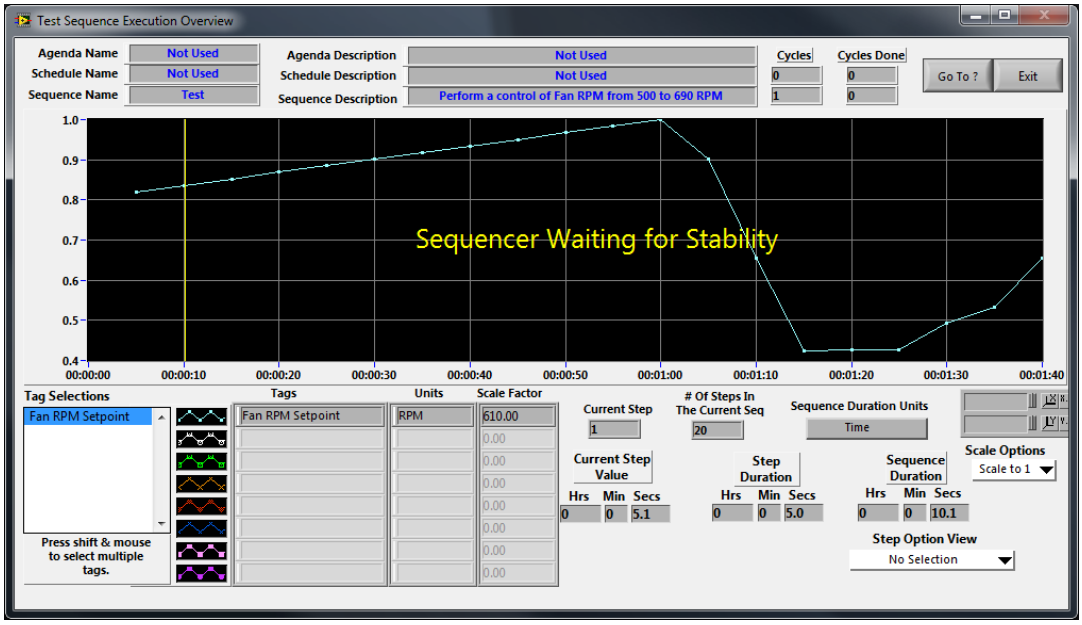
Test SLATE Supervisory Control

With roots spanning over decades, Test SLATE provides intelligent supervisory event orchestration for all control and measurement activities within an automated testing environment. Test SLATE does this from solutions as simple as single PC configurations to multi-system networked architectures comprised of a variety of simple and complex data acquisition and control systems from multiple manufacturers. As Test SLATE is not driven toward a single-source hardware solution, you can select the best systems and components on the market for your application with Test SLATE as the unified integrator.

Supervisory control allows setpoints to be commanded by our automated sequencer or manually by an operator to process control systems or test articles. Multi-source data acquisition and data integration allows gathering of data from many hardware and software data sources at varying rates and coordinate collection, integration, processing and storage. For lower speed applications, this can be accomplished in a single PC, including PID control. For higher speed applications, this can be the integration of multiple distributed data acquisition hardware systems networked together using technologies such as Ethernet, reflective memory, or field busses.

Test SLATE Automated Test Sequencer

The Test Sequence builder enables you to configure test sequences to fit specific test applications. A variety of conditions or events can trigger data storage or other actions. Example configurable items in the Test Sequence builder include facility or test article setpoints; time to remain at each step; the number of data points to be taken or the duration of data storage at each step/sequence; and the conditions or events causing a transition to the next step/sequence. Test SLATE's test sequencer provides multiple analog and digital setpoint generation through profile plots or alphanumeric spreadsheet-type interfaces. Analog setpoints can be generated for internal PID loop control or for output to an external controller.

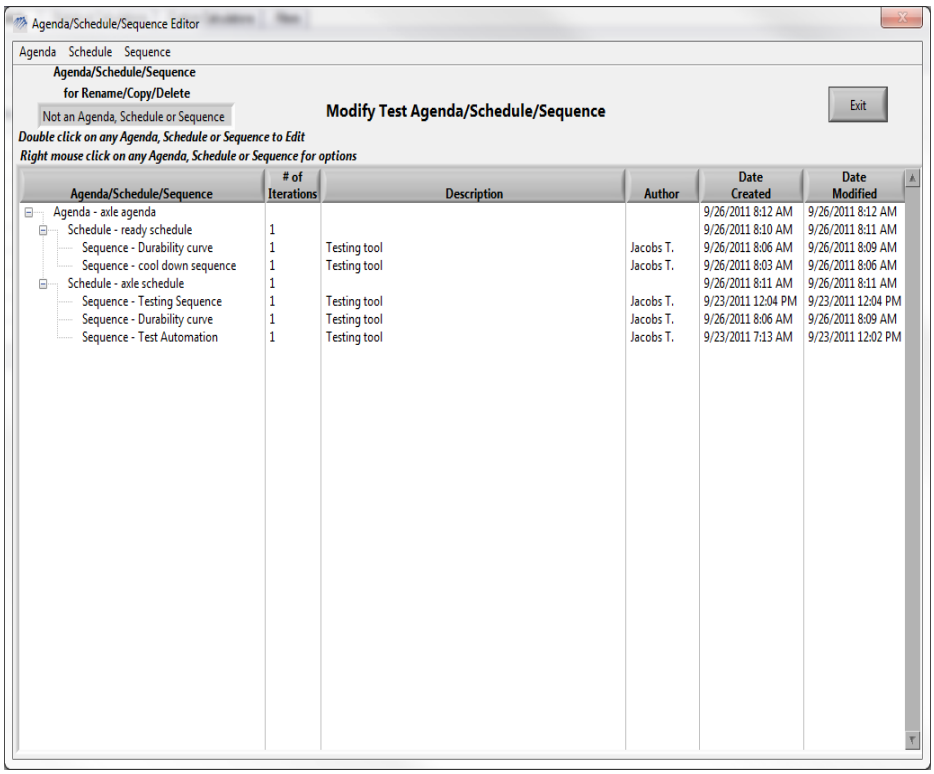


Monitor progress during testing

Programmable branching logic is included to provide automated intelligence for performing or jumping to other steps or sequences as test variations occur. The test sequencer also provides the capability to perform various functions per step, including alarm/trip checking, PID gain scheduling, pauses, operator messages with optional required response, tag stability with multiple logic conditions and a transfer on-step stability failure, data

acquisition criteria with multiple data stability logic conditions, display of any recognized file with automatic removal, and automated reports.

The test sequencer features three nested tiers of test sequences to provide for endurance or repetitive test cycling. A nested tier of sequences is referred to as a Test Schedule, and a nested tier of Test Schedules is referred to as a Test Agenda. Test sequencing messages are stored to the Message Log for later analysis.

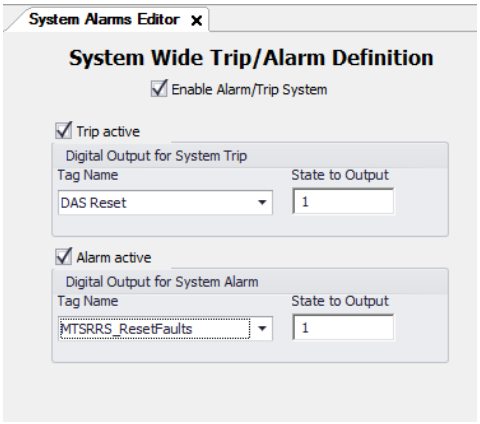


Define multiple layers of sequences

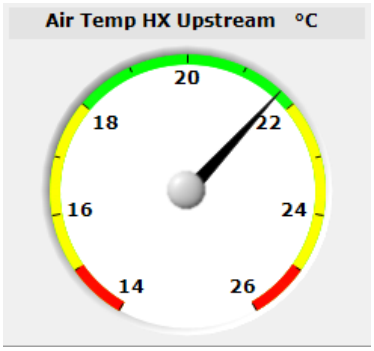
Test SLATE Alarm and Trip Detection

Test SLATE provides four levels of windowing alarms/trips with optional operator acknowledgment, two levels of rate of change alarms/trips with optional operator acknowledgment, and alarms/trips based on the variance of a group of analog type tags. Test SLATE also has the ability to alarm/trip digital input tags with optional operator acknowledgment. Digital outputs can be set on any alarm or trip to signal alarm horns, lights, or other logic devices that a fault condition exists. Tags in an alarm or trip state will change to user-defined colors on all displays. Operator messages are generated when an alarm or trip condition changes. Alarms or trips can also be used by the Test Sequencer to cause automatic jumps to shutdown or other sequences in the event of a fault condition.

Alarms and trips are easily displayed



System Alarms Editor

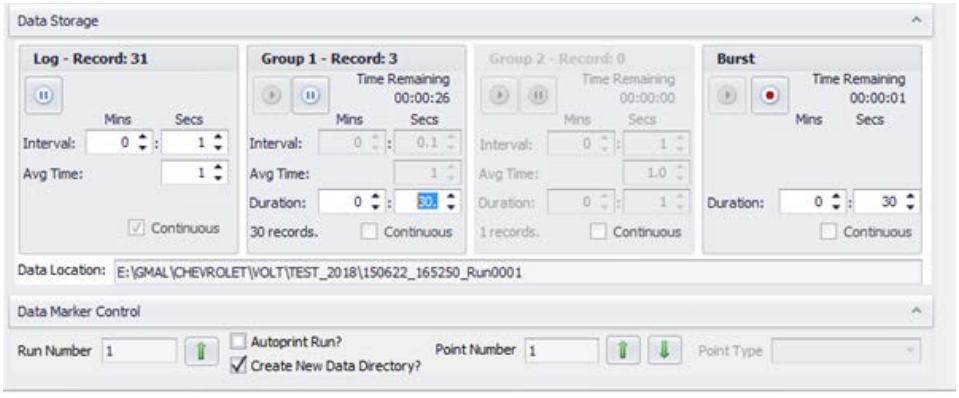


Display Gauge with Alarm Bands

Test SLATE Data Storage

Test SLATE has multiple types of data storage files including Log, Burst, Group 1, and Group 2. The Log process is automatically started when a test is loaded and continues to record throughout testing. All other file types can be controlled manually by the user, programmatically via the Test Sequencer, and programmatically via a Tag Trigger to record data at selected points. Group 1 and Group 2 align data from multiple Sources into a single storage rate and provides averaging functionality. Burst records data at the full collection rate of each Source, so that multiple rates of storage are possible. This allows a high rate of data for specified periods of time to be stored.

All test data is stored in a binary format for maximum speed; each data sample is time-stamped. After the data acquisition period is elapsed, the binary data is processed, time-aligned, stored into a file, and made available to the local archive import/export software.



Manual data storage during testing