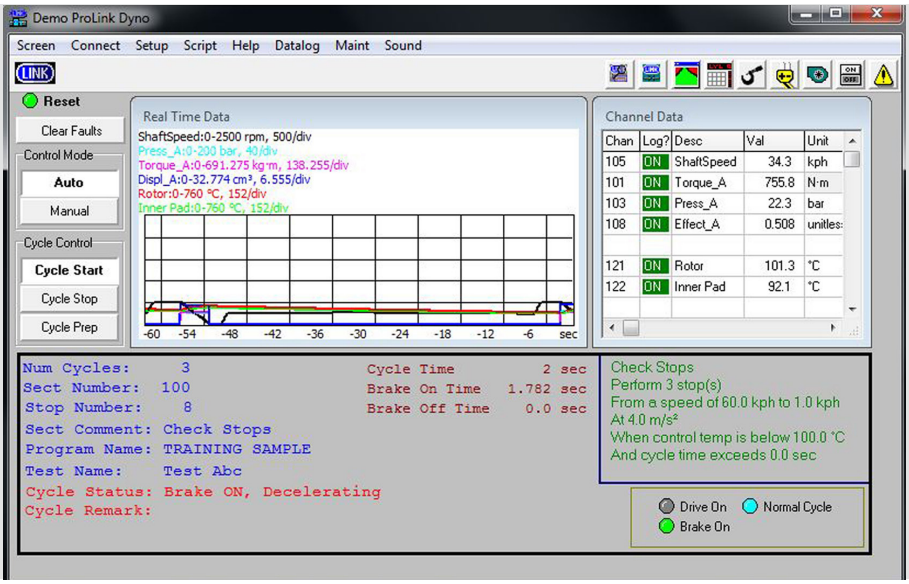
ProLINK Overview

Software That Thinks Like an Engineer



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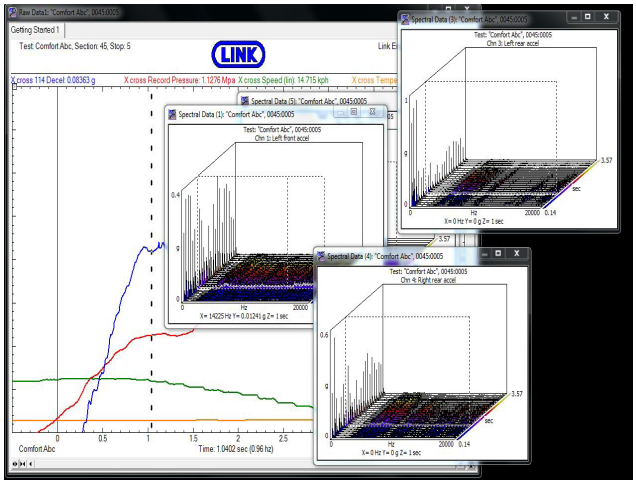
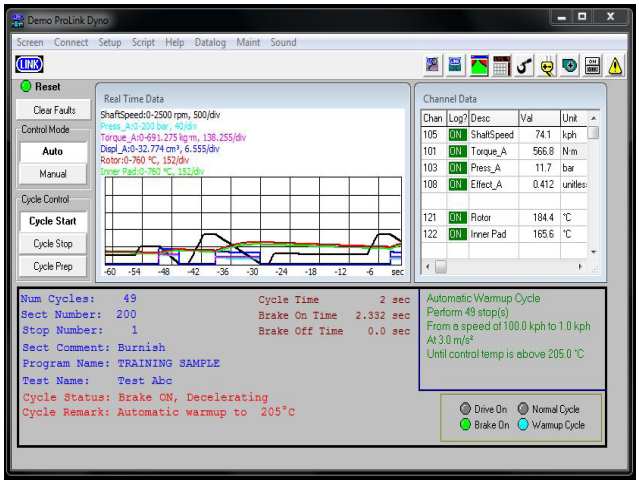




Application **Overview**

Since the late 1990s, LINK has implemented its ProLINK control and data acquisition software on more than 1,000 pieces of test equipment around the world. ProLINK is the most in-depth and reliable software available for the testing industry and has the flexibility to quickly adapt to your changing needs. This intuitive program can be utilized across a wide range of testing applications and is renowned for its ease of use.

ProLINK's well laid out visual scripting interface gives users the capability to design and execute complicated test programs. A user configurable window allows for customized display of real time and summary data to suit a specific test program. An automated notification system allows for e-mail messages to be sent out upon completion of a test program or machine faults.

The control system consists of five main application modules that work together to provide a robust environment for the most demanding control and test systems. Each software tool corresponds to a step in the overall testing process: Test Setup, Procedure, Execution, Data Review, Final Report.

Programming, control, and data review may be performed locally at the control PC, or remotely across a network connection. The ProLINK system was designed to perform control and data logging for a wide range of test stands that grows with the installed base of systems. Plug-in dynamic LINK libraries expand the system's capabilities and provide a common interface to new types of control and data acquisition hardware.

Key **Features**

- Designed to perform control and data acquisition for a wide range of test stands
- Real time, digital data made easy
- Fundamental NVH analysis
- Compatible with any test system
- RevDataPlus: Cohesive data graphic tool
- Immediate review of test results
- Customized screen displays
- Configurable graphical user interface
- Integrated control with other technical systems (B&K, Flir, etc.)
- Modular system for data viewing, test scripting and data reporting
- Test simulation module

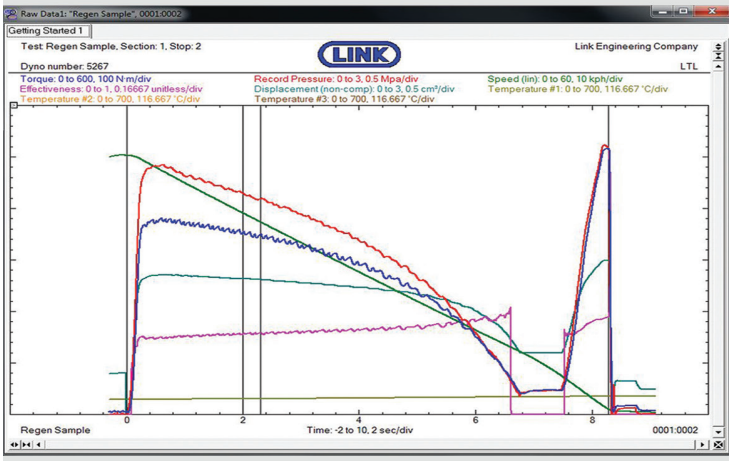
5 Main Application **Modules**

The control system consists of five main application modules that work together to provide a robust environment for the most demanding control and test systems. Each software tool corresponds to a step in the overall testing process whether it is test setup, procedure, execution, data review or the final report.

- Configuration Manager (Dyno Control)
- Visual Scripting Interface
- DynoView
- RevData Plus
- ScriptEdit

Key **Benefits**

- Intuitive, easy to learn
- Off-the-shelf ready
- Users can employ Windows interface
- Flexible/adaptable to suit your needs
- Layers of sophistication to grow with you
- Same software used for multiple machine types



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Configuration Manager/ **Dyno Control**

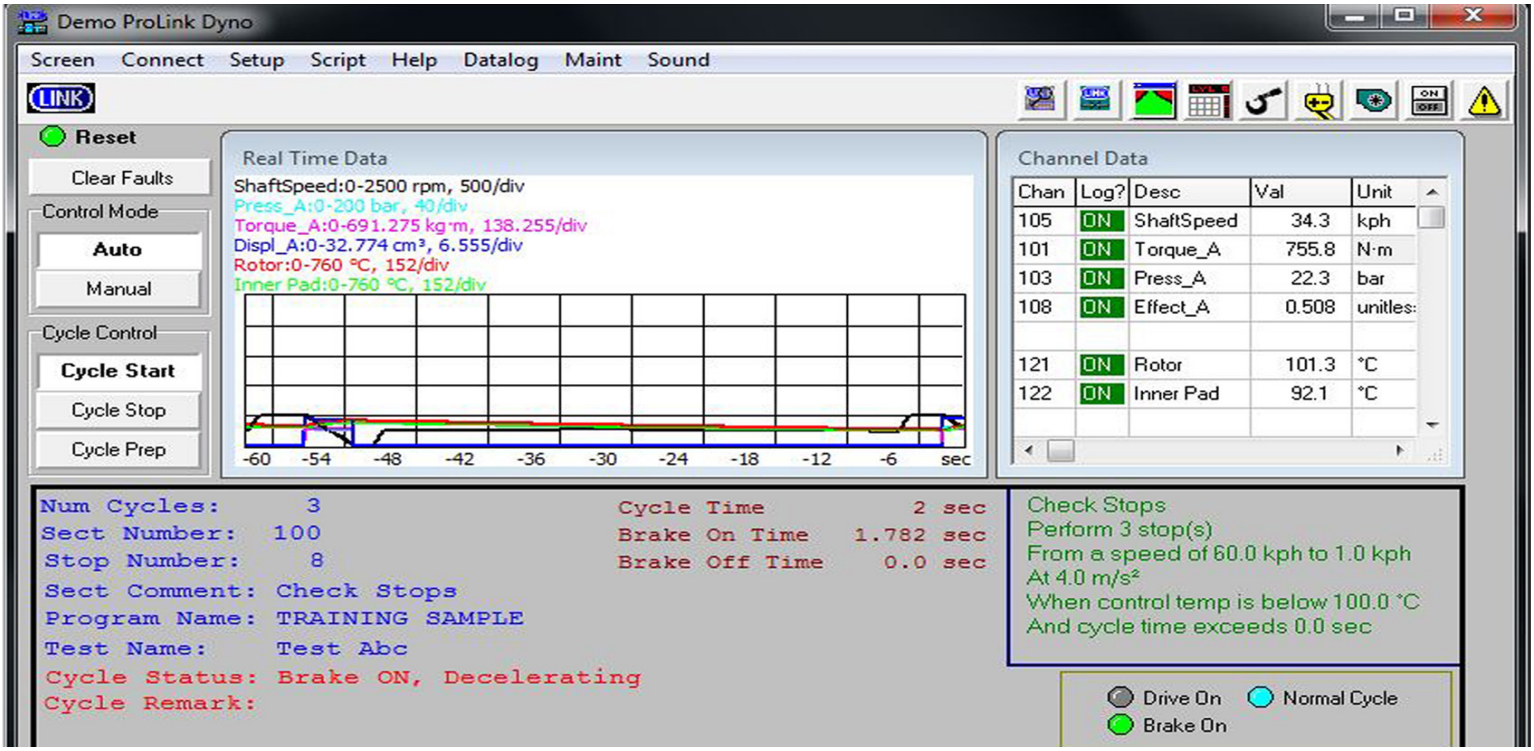
Configuration Manager (CfgMgr) configures and controls the test stand. This module handles the entire physical analog and digital inputs and outputs of the machine. In addition, it controls all peripheral equipment such as drives, motors, valves, etc., and logs all available data. During normal operation, CfgMgr is rarely seen by the operator as all operator interfaces are handled by the DynoView module.

KEY MODULE FEATURES

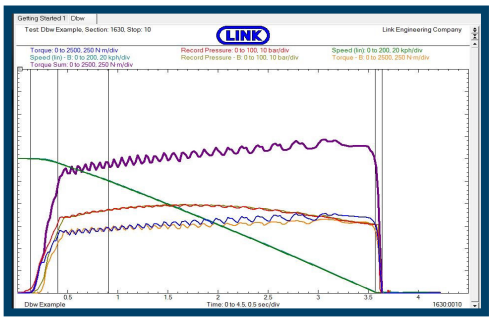
- Allows multiple scripts to run simultaneously, thereby simplifying the design of control scripts and sequences. This results in scripts which are simpler, easier to modify, and less prone to errors.
- Supports up to 64 analog channels at user configurable sample rates of 0.01 to 5000 hz (machine dependent).
- In-apply or in-stop data can be saved at two different sampling rates called fast and slow. The specific rates are user defined.
- Continuous data collection can be performed using a LINK created feature called Global Slow. Global slow is a separate data file from in-stop data, which collects data up to 20 Hz.
- Data can be automatically copied to a network location to allow immediate engineer data view.
- Data acquisition may be selected to begin at specific events, i.e. start of an application, pressure thresholds, or manually via keyboard selection.

Visual Scripting **Interface**

Visual Scripting Interface or VSI2 is an easy to use control program writing tool within ScriptEdit. Its graphical representation takes the difficulties of syntax sensitive program writing and replaces it with a simpler pushbutton method.



Dyno **View**



DynoView is the module that provides the entire interface between the operator and the control system. DynoView is the user interface with the machine. All real time test monitoring and set up steps are performed in this user configurable tool.

KEY MODULE FEATURES

- Windows are completely user-configurable.
- All channel information can be viewed in real time for monitoring purposes.
- Allows multiple windows for various tasks such as cycle control, environmental system, and noise analysis.
- DynoView runs on all Windows platforms, making it widely accessible and easy to use.
- DynoView can be run remotely across a network allowing engineers to monitor tests in real-time at another location.
- The fault window allows rapid and accurate identification of machine faults.

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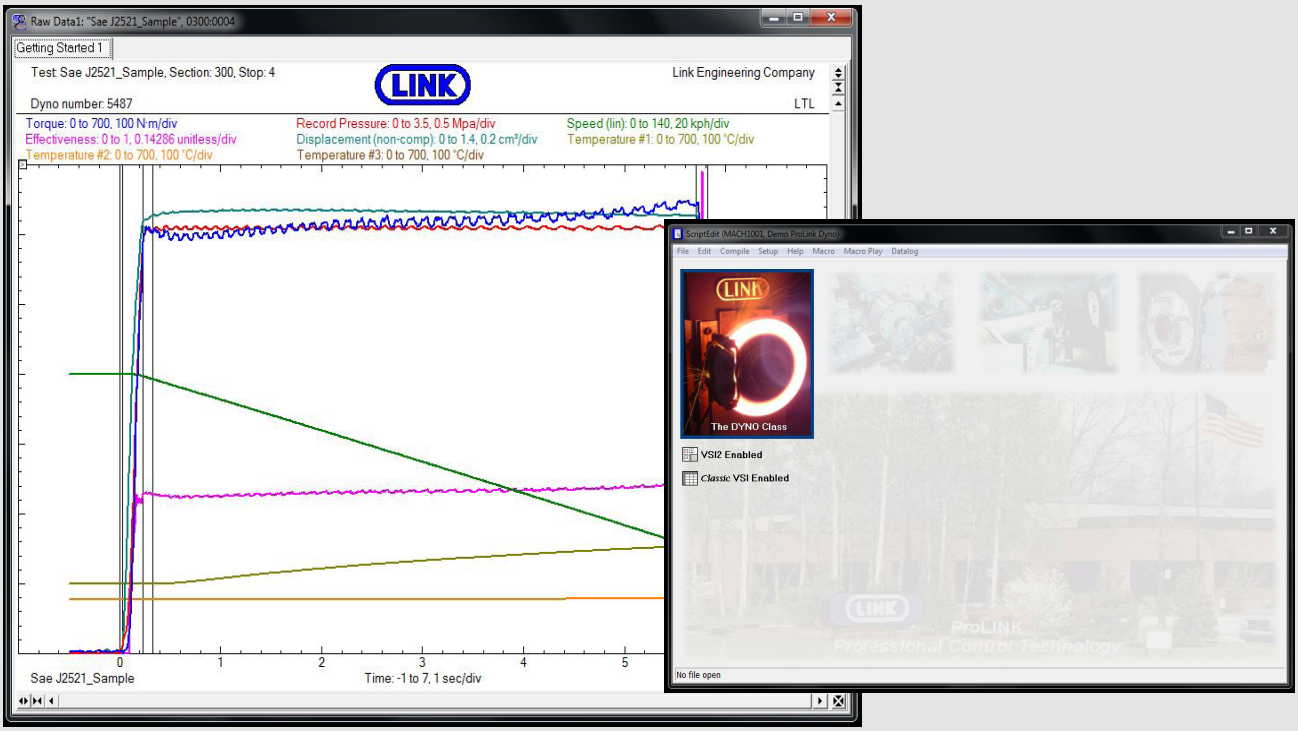

RevData Plus

RevDataPlus serves as a powerful but simple to use data graphic analysis and review tool within ProLINK, it takes the data received from a test and coverts it into a graphical representation. The tool includes graphical and tabular windows, and can export, for the many types of data collected and supported in ProLINK. This includes summarized and calculated, header and setup information, raw time based, spectral and frequency, dimensional and wear, audio and video, and other data types. ProLINK scripts allow users to add capabilities and customized calculations to RevDataPlus in addition to a library of included add-ins.

KEY MODULE FEATURES

- Provides graphical review capability for test data.
- Data can be reviewed both locally and remotely.
- Provides tabular or graphical output.
- Capability for user-defined calculated fields.
- Allows for report generation with additional programming.
- Data can be easily copied and pasted to other Windows programs in tabular graphical format.

Script**Edit**

ScriptEdit is a control script programming editor. It is an integrated editor-compiler-debugger that provides special features associated with control programming. In particular, this environment allows the user to develop and test control programs offline.

The LINK Windows Control (scripting) language consists of keywords targeting test stand and datalogger functions, as well as programming constructs similar to those found in popular programming languages such as C, BASIC, and Pascal. Engineering units and math functions are fully supported, and the user may configure unit preferences.

The script language allows for a very flexible and powerful machine control environment that can adapt to the ever-changing requirements of test equipment. Additionally, the language provides a rich set of commands for executing profiles, communicating with servo controllers and PLCs, creating pop-up windows, logging messages to files, and a host of other features.

KEY MODULE FEATURES

- The attributes of this environment include multiple text windows, flying "hint" help, "AutoType" code completion, breakpoints, single-stepping and more.
- Users can have full control over all aspects of the machine, including direct access to all physical input and output points.
- Easy access to machine files for viewing and troubleshooting purposes.

Additional **Features**

- **Creep Groan Cycle:** The ProLINK Software Creep Groan Cycle supports testing at very low speed conditions where a stick-slip phenomenon can occur causing groan and/or vibration from the brake.
- **Dual-by-Wire:** This is a feature that enables two brake dynamometers to be used in coordination to simulate the brake function of two brakes as though they were components of the same vehicle.
- **Regen-Sim:** This enables the ProLINK control system to act as a vehicle's Electronic Control Unit (ECU), distributing the amount of work to be done between the friction brake and the regenerative source.
- **Vehicle to Dyno:** Capability to simulate a vehicle test route directly on a dynamometer.
- **TrackSim:** Program cycles similar to a race track sequence rather than temperature/cycle time control cycles
- **Parking Brake and Static Cycles:** Simulates hill hold sequence of parking brake. Dynamic parking brake stops are also supported.
- **Waterspray:** Allows the control of waterspray at various sections of a test to simulate rain/soak conditions.

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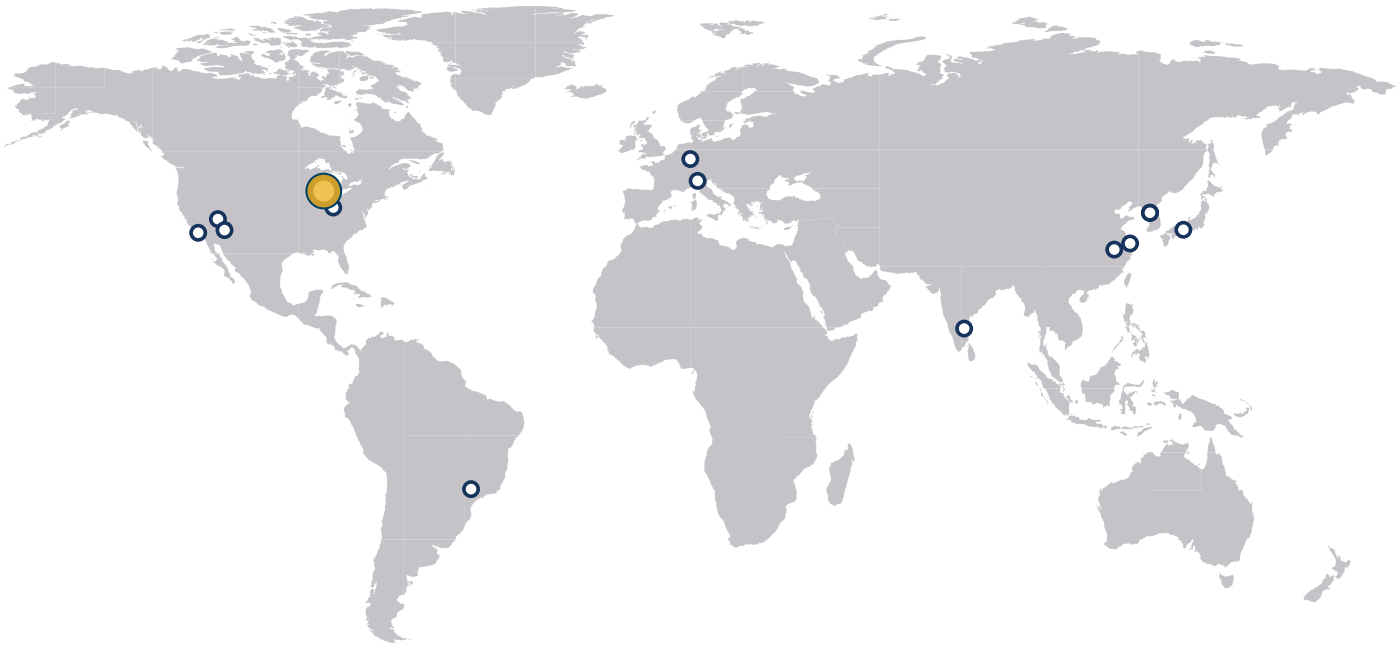

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