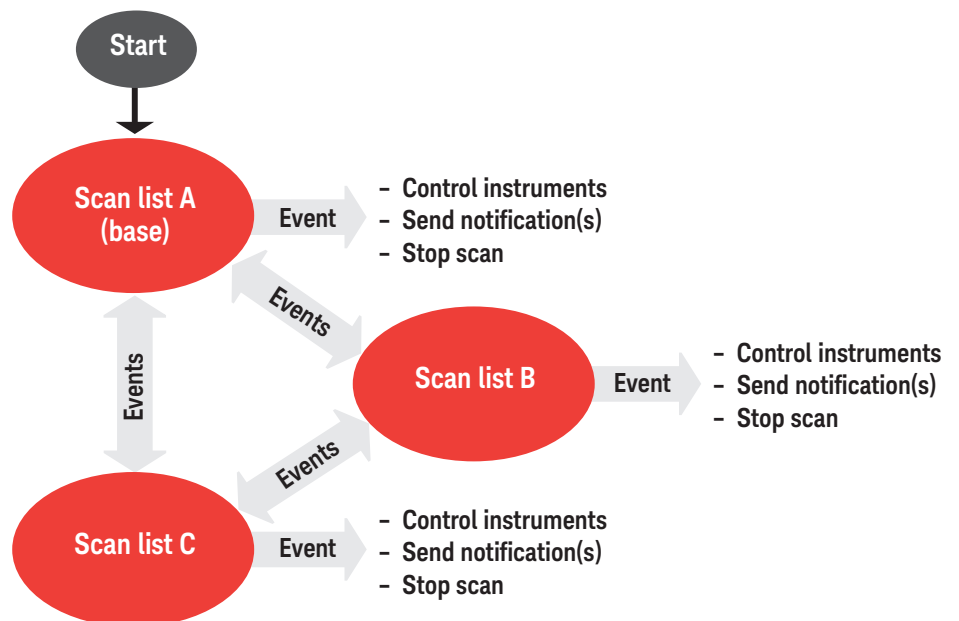Keysight Technologies
34830A BenchLink Data Logger Pro Software for Keysight 34970A/34972A

Data Sheet

Advanced data logging
and decision making with
no programming

Start

**Scan list A
(base)**

Event – **Control instruments**
– **Send notification(s)**
– **Stop scan**

Events

Events

Scan list B

Event – **Control instruments**
– **Send notification(s)**
– **Stop scan**

Events

Scan list C

Event – **Control instruments**
– **Send notification(s)**
– **Stop scan**

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Introduction

Key features

– Quick test setup and execution

– Create multiple scan lists

– Execute different events based on predefined limits

– Use advanced math functions

– Collect, monitor and manage data

– Present data on a single or multiple graphs

– Export data to other applications for presentation and analysis

The Keysight Technologies, Inc. BenchLink Data Logger Pro software provides a convenient way to collect and analyze your data. This software is a Windows-based application that uses a familiar spreadsheet environment to define measurement data to be collected. The tab-based format makes it easy to set up multiple scanlists and initiate scans based on predefined limits. Simply identify the measurements you want to acquire, define limits and actions to be performed, and then initiate the process. Your data is then collected, acted on real-time and displayed in table and graphical formats.

With the BenchLink Data Logger Pro software you get advanced data logging and decision making capabilities without spending hours programming.

BenchLink Data Logger 3

Your 34970A/34972A Data Acquisition Unit comes standard with the BenchLink Data Logger 3 Software. This software gives you all the basic data logger capabilities including:
– Easy connection to the PC
– Set up measurements and scan lists
– Computed channels and alarms
– Collection, graphing and export of your data

The BenchLink Data Logger Pro software adds advanced data logging and decision making with no programming required. See Table 1 for a list of standard features in both products.

Multiple scan lists

With BenchLink Data Logger Pro you can identify multiple scan lists to be executed based on different limits specified in your configuration.

Setting limits and events

Set limits to identity when to start other tasks. For out of limit conditions, you can specify for different events to be completed.

Scripts can be used to close switches or send DIO within the data acquisition unit, or SCPI commands can be sent to other instruments connected to the PC. For example, when an oven reaches the desired temperature limit, you can start a script. The script can send a SCPI comm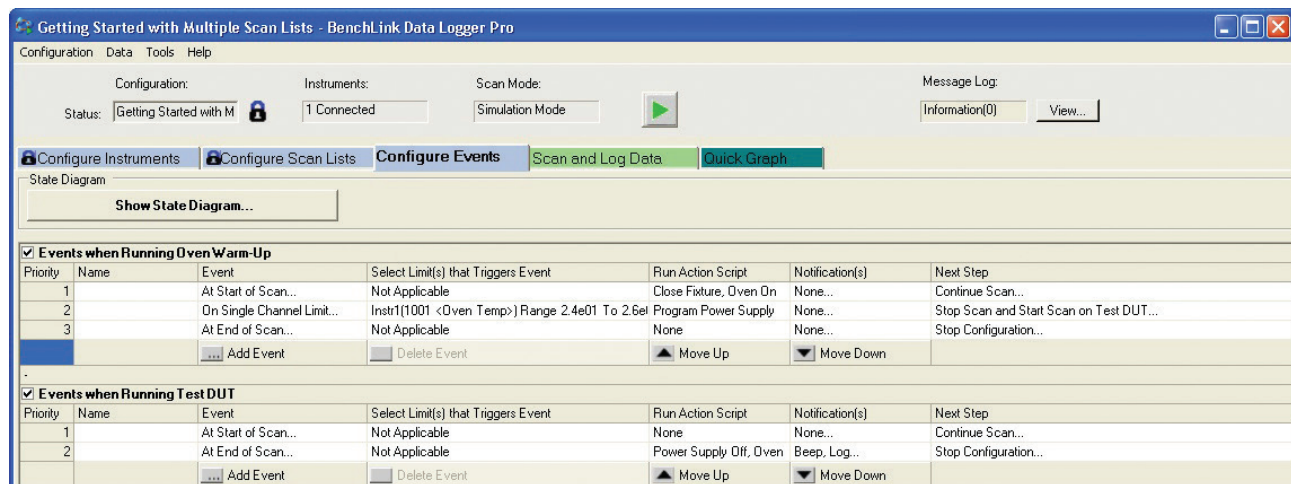and to the power supply to change the input power to your device under test and switch to a faster scan rate to collect the desired measurements.

For out of limit conditions other notifications such as an audio beep, log events or run an external program can also be performed. See Figure 1.

Table 1. Comparing BenchLink Data Logger 3 and BenchLink Data Logger Pro

Feature	BenchLink Data Logger 3	BenchLink Data Logger Pro
Easy set up and configuration	·	·
Identify measurement for each channel	·	·
Set up and execute scans	·	·
Set up alarms conditions	·	·
Math functions including mx+ b	·	·
View real-time and historical data	·	·
Support of multiple graphs	·	·
Log data to disk	·	·
Save and export data	·	·
Limit checking and decision making		·
Support of multiple scan lists		·
Customizable scripts		·
Run external programs based on alarms and events		·
Conditional control other instruments via SCPI		·
State diagram documentation		·
Advanced math and formula support		·
Data reduction rules		·
Simulation mode		·

Figure 1. Configuring events for out of limit conditions

The state diagram feature graphically shows the limits and the order of execution for scan lists, scripts and other notifications. See Figure 2.

Computed channels

Statistical calculations can be added to analyze unique data points. Create computed channels for mathematical relationships with +, −. *, /, dB, dBm, dBV, x2, SRT, full, ½ or 1/4 bridge strain. BenchLink Data Logger Pro adds a calculator function for additional math functions such as Sin, Cos, Tan and Log. Formulas can also be used for more complex equations including polynomial equations.

Graphing and exporting data

Graph your data, save it to disk, or export it to other applications for further analysis.

Use the quick graph tab to monitor data real time. You can specify multiple channels per graph, or send collected data to multiple graphs.

Use strip charts with markers and alarm indication, or histograms with statistics. The data can be displayed with the auto scale or centered on a common reference point.

The data reduction features allow you to filter the data begin graphed or exported so that you only view or collect the data of interest.

The raw data is saved in Comma separated variable format (.CSV) and can be easily imported into standard Microsoft applications such as Microsoft Word and Excel for further analysis and documentation. Whether monitoring incoming data or reviewing historical data, you can use one of the many analog or digital options to display your data.

Figure 2. Oven control state diagram

Data management is vital for data logging applications. The BenchLink data logger software features a data manager that allows you to easily manage all configurations and dataset files. Use this feature to copy instrument settings, find related data logs, rename files, edit comments, export data logs to .CSV format or just delete unwanted data.

The Windows user interface is also localized into multiple languages an includes context sensitive help.
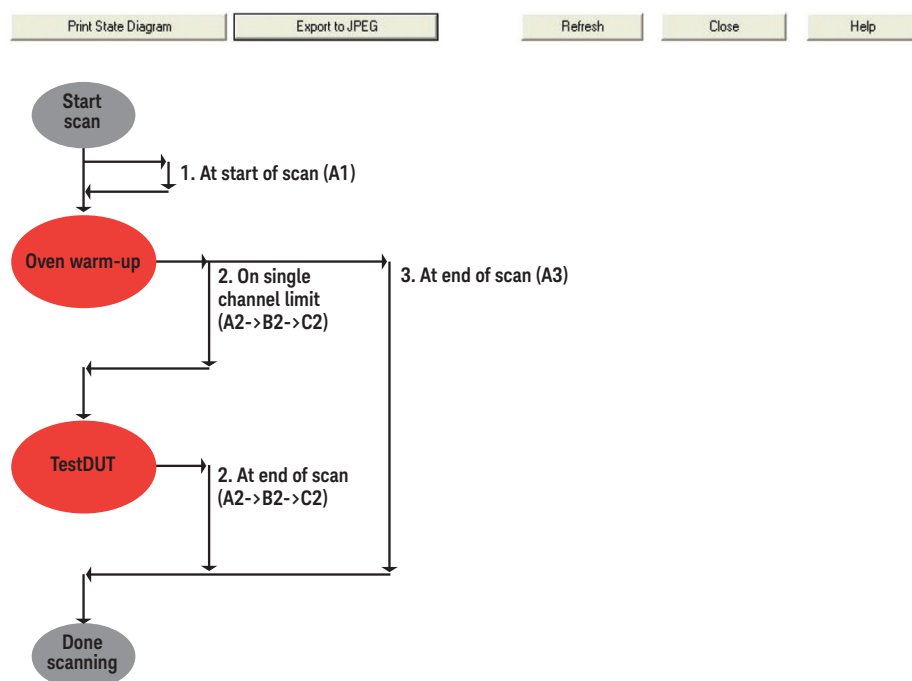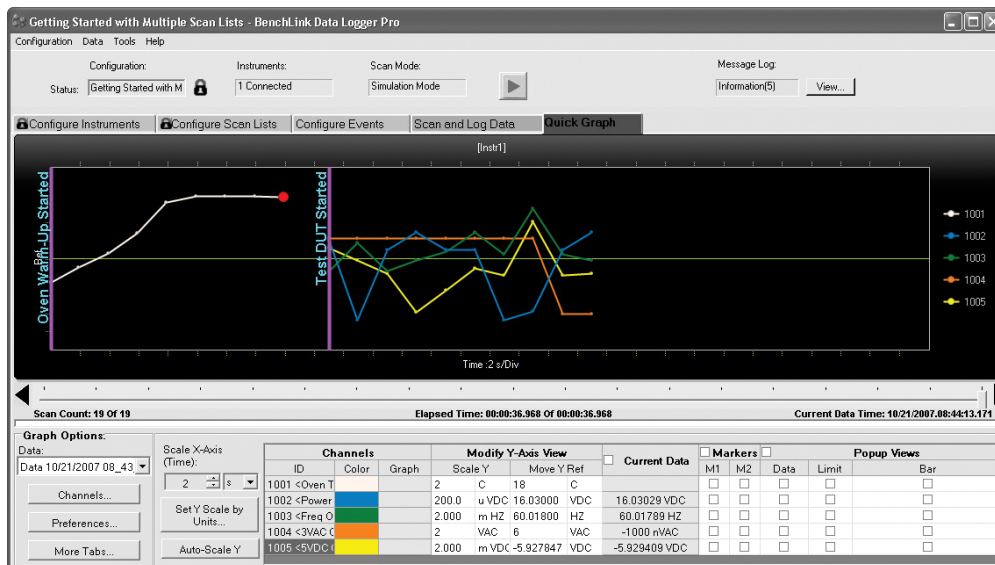

Figure 3. Graphing your data

Specifications

System requirements

Operating system:

Windows 7/Windows Vista Pro Enterprise and Ultimate (32 bit and 64 bit); XP SP1, SP2, SP3. (Does not support any Home edition)

Controller: Recommend Pentium 4, 800 MHz or greater, min. Pentium III, 500 MHz

RAM: Recommend 256 MB or greater, min. 128 MB

Disk space: Recommend 200 MB, min. 100 MB

Display: 1024 x 768 resolution, 256 colors

Adobe Acrobat Reader V5.0 or higher (to view documentation)

Included run-time software components

– Microsoft .NET V2.0

– Microsoft Data access

  components V2.8 SP1

– Microsoft Internet Explorer V6.0

– Keysight IO Libraries Version 14.1 or later (included on a separate CD)

Supported instruments

34970A or 34972A Data Acquisition Units with DMM and any of the plug-in modules. Supports up to four 34970A/34972A instruments in a single configuration. If you have a 34832A license as well, then you can configure up to two 34970A/34972As and one 34980A into a single configuration.

Supported interfaces

– IEEE-488 GPIB, RS-232 (at 9600 baud rate)

Localization

GUI fully localized with context-sensitive help in English, Simplified Chinese, Japanese, Korean, French, and German.

Ordering and licensing information

The BenchLink Data Logger 3 software ships for free with every 34970A that has the internal DMM. The BenchLink Data Logger Pro (34830A) software can be found on the same CD-ROM and can be used for 30 days with no obligation. After 30 days a software license is required to continue to use this software. Each PC requires a separate license.

Go to www.keysight.com/find/34830A
for purchasing information.

Related literature

34970A/34972A Data Acquisition Unit, Data Sheet 5965-5290EN

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