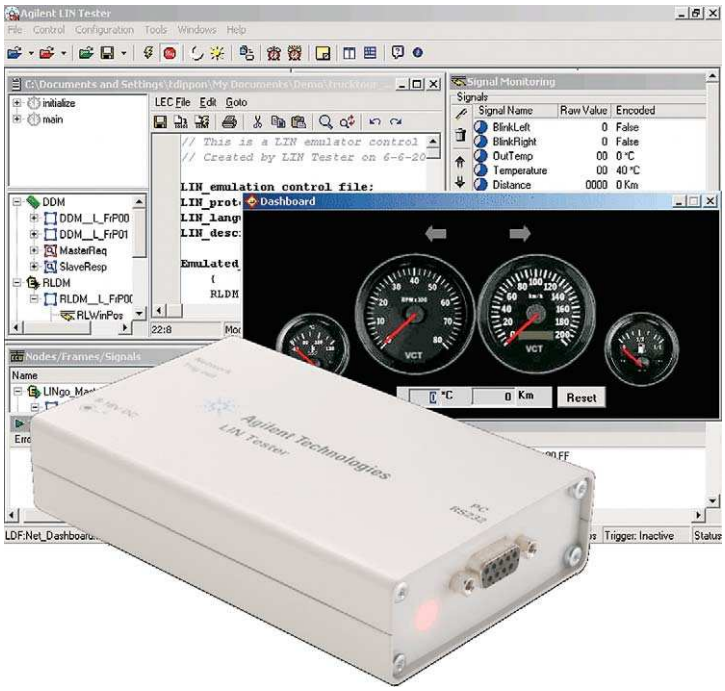
Agilent J8115A LIN Tester

Fastest Time to Insight

Data Sheet

Validation of your LIN network communication – robustness guaranteed



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Overview

Providing the fastest time to insight with the most advanced analyzer and emulator for LIN buses on the market. The Hardware Completeness with Real-Time Emulation and Analysis features allows fast testing without the need of external adapters. The superior software package with its scalability, the powerful visualization and the programmability of the LIN Tester allow for easy and fast error tracking, analyzing and validation of the communication design.

The LIN Tester, formerly known as Volcano LIN Spector, is a very flexible analysis and emulation tool used for the testing and validation of LIN communication systems.

LIN Tester

The Agilent LIN Tester combines in just one product version, both analyzing as well as emulating capabilities. The tool consists of only two components: an external hardware box and PC-based software. There is no need for external adapters or transceivers.

Complete emulation and analysis

The PC software operates in an MS Windows® XP environment and provides all features needed to do effective emulation and analysis in a LIN network. Starting with a LIN Description File (LDF) import, the LIN Tester software allows for monitoring and displaying of all LIN network related data. Signals are decoded, nodes, frames and all other information is displayed and can be accessed. Emulation can be started codeless, without the need to program.

Key emulation and analysis features are:

- Advanced analysis with logical name and scaled physical value.
- Full emulation of one or many nodes (master and/or slave).
- Communication logging and replay of captured traces (also offline).
- Start and stop logging can be controlled via logic-based triggers.
- An external trigger can be used to access external devices like logic analyzers or scopes.
- Detection and triggering on an extensive list of protocol errors.
- Extract protocol timing information from the captured trace.
- User can switch between schedule tables or modify signal values of all emulated nodes on the fly.

Advanced API

The programming interface allows control of the LIN Tester's advanced emulation features through a C-like programming language, LEC (LIN Emulation Control) and enables flexible test automation through LEC scripts. It allows full control over frame contents (sync byte, ID, payload, checksum), a programmatic error injection to stress the robustness of the system (variable break length, inter byte times, framing errors, no answer, extra bytes, wrong checksum, transfer speed) and to switch schedules, change speed, sleep/wake up. Its LEC scripts are compiled in the PC software environment and downloaded into the LIN Tester hardware guaranteeing proper real-time behavior.

GUI control panels with LIN Go

The included LIN Go application supports the creation of sophisticated GUI control panels to enable test automation control and comfortable visualization. LIN Go allows you to visualize and manipulate signal and network data and to control LEC script execution by graphical objects.

It provides an easy-to-use editor that allows the user to add pictures and predefined objects such as image lists and gauges to the panels. The software distribution contains a set of easy to use sample files that allow a fast start of creating its own LIN Go applications.

Diagnostic Transport Layer test

In order to test Diagnostic Transport Layer software implementation in LIN nodes, the user can assemble and run LIN diagnostic sequences with pre- or user defined diagnostic requests, delays and schedule table changing. Predefined diagnostic services, requests and responses can be independently set up in the software.

The LIN diagnostic tool has two modes: Diagnostic and Spy.

In Diagnostic mode, LIN Tester sends diagnostic requests and monitors the response.

In Spy mode, LIN Tester only monitors, and "decodes" the diagnostic activity on the LIN bus.

Key specification details

Features

Major product features	• Full master and slave emulation capability with variable bus termination resistance • LIN buses up to a speed of 20 KBit/s • Accurate timing measurements with 10 µs resolution • LIN Go editor to connect signals to graphical objects in the PC environment • LIN 2.0 compliant • Easy saving of trace data into log files. Log files can be "replayed" offline in the J8115A LIN Tester PC software
Real-time control	• Easy-to-use script editor • All script functions realized in HW application. Guarantees real-time behavior • Predefined functions for controlling protocol properties and error emulation • Digital I/O for external triggering or input • Trigger-out latency for the oscilloscope trigger: –40 µs... + 80 µs after the end of the ID Byte
Technical specifications	• Supports all LIN revisions up to 2.0 • Software: MS Windows XP compatible • 32-bit MCU-based HW • Compatible with LIN 12 V and 24 V versions

Environment

Temperature (AT-ETM757)	Operating: –40 °C to +65 °C Storage: –65 °C to +85 °C
Humidity (AT-ETM758)	Operating: 50% to 95% (40 °C) Storage: 90% (24 h) (65 °C)
Safety standards	• Installation category: IEC 61010-1:2001, EN 61010-1:2001, CSA 22.2 no. 61010.1: 2004, UL 61010: 2004 • Safety Class 2, Over voltage Category II, Pollution degree 2 • Environmental rating: general purpose product

General characteristics

Status LED	Connection on and traffic indicator
Connectors	• Power connector (8 V – 18 V), V_{Batt} up to 24 V • Typical power consumption: 2 W • RS-232 PC connector • LIN/trigger out connector, DB9, male • Trigger out: 5 V output • Digital IN: threshold ~7.5 V (max 12 Volt)

Related literature

Publication title	Publication type	Publication number
Agilent J8120A VPT501 Vehicle Protocol Tester Series 500	Data Sheet	5989-6818EN

Product Web site

For the most up-to-date and complete application and product information, please visit our product Web site at:
www.agilent.com/find/lintester

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Revised: March 23, 2007

Product specifications and descriptions in this document subject to change without notice.

Printed in USA, August 23, 2007
5989-6817EN

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