FireSpy Family Overview

Single-Bus

Triple-Bus

Nine-Bus

i394™

AS5643
FireSpy Family Overview:

DapTechnology offers a series on IEEE1394 data analyzers which have proven their capabilities in several areas of 1394 testing. Focusing primarily on Link, Transaction and Protocol layer analysis all FireSpys feature a suite of analysis and testing functions unmatched in the industry!

With enormous amounts of data transferred on a FireWire bus, engineers need powerful tools to understand and analyze transactions between nodes. The FireSpy family of analyzers encompasses a small, powerful device with an easy to use graphical user interface that runs on a PC.

Over the years a rather large variety of analyser have been developed in order to meet the industries demands. With rising analysis demands also the analyser platforms have been updated. Our latest HW and FW platform is the 4th generation comprising the most powerful data analysis and storage platform so far.

We differentiate the different models by how many 1394 data buses they can monitor simultaneously. In each series various models exist to meet customers’ needs with respect to connectivity, transmission rates, support for AS5643, etc.

9- Bus Series (“Niner”)

The Niners are the most advanced bus analyzer from DapTechnology. Do you need to monitor an entire 9-bus avionics system simultaneously and time synced? Then the 9-bus series is the right tool for you!

3- Bus Series (“Triple”)

Triples allow To connect your analyzer to up to three independent buses. Such an tool is perfectly suited to analyze the 3 buses of a typical AS5643 avionics subsystem or an industrial application with triple redundancy. Triples come with USB, PCI or CPCI host connectivity.

1- Bus Series (“Single”)

Please refer to the FireSpy Comparison Matrix and the FireSpy Selection Chart to find the most suitable analyzer for your IEEE1394 and AS5643 testing and analysis requirements.

The FireDiagnostics Suite is the most comprehensive collection of 1394 analysis, simulation and interface tools for a wide range of applications. Apart from well established and hardware assisted analyzer tools like Monitor, Recorder, Generator, Commander and Scriptor, the suite also offers a set of software tools designed to allow the integration of the FireSpy products in a wide variety of testing applications, as well as extend customization of its functionality beyond the baseline feature set provided by DapTechnology.

The foundation for all software tools included in the FireDiagnostics Suite is formed by the Application Programming Interface (API). With its interfaces for a wide range of development environments like C/C++, LabView™ and LabWindows™ and support for both Windows and Linux operating systems, the application of FireSpy analyzers is extremely flexible. With its feature-rich function library, all hardware assisted analyzer tools like the Recorder and Generator can be controlled as well as more low-level 1394 bus functions.

The Recording Viewer is a standalone application designed to permit trace (recorded data) analysis offline, i.e. without a connected FireSpy. The same comprehensive set of analysis tasks is available but allows for a much smaller PC footprint than having the entire FireSpy application installed.

The Signal Monitor is an easy-to-use MIL1394 sub-system monitor and analysis tool that benefits from the hardware-implemented AS5643 protocol. A customizable set of status signals can be pulled from the bus and displayed in near real-time on a customizable graphical Control Panel. Alarms can be setup to alert the operator of out-of-range values.

Another cornerstone of the FireSpy products is the unparalleled high-level protocol support. Besides the hardware-assisted integration of AS5643 the FireSpys also support software-based analysis capabilities for consumer and industrial control based applications. The different protocols require very different implementation details and are therefore very unique in their implementation.

DapTechnology also offers certain analyzer models with support for AS5643. This solution which is part of DapTechnology’s more generic and much wider MIL1394 package offers transformer coupled ports and decoding/verification/generation features for the higher level ASM protocol including transmission and timing. Check the following table for analyzer models which are specifically supporting AS5643!
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**Notes:**
- "FS456S" - FireSpy
- "FS4565" - FireSpy 2
- "FS456M" - FireSpy 3
- "FS4565-T" - FireSpy 4
- "FS4565-B" - FireSpy 5
- "FS4565-T 2" - FireSpy 6
- "FS4565-B 2" - FireSpy 7
- "FS4565-T 3" - FireSpy 8
- "FS4565-B 3" - FireSpy 9
- "FS4565-T 4" - FireSpy 10
- "FS4565-B 4" - FireSpy 11

**Symbols:**
- "Y" indicates a feature is present.
- "-" indicates a feature is not applicable.

**Additional Notes:**
- "U3.0C" - USB 3.0 (Native)
- "Gen" - Generation
- "CMOS" - Chip-Mode Storage

**Images:**
- "Image 1" - Front View
- "Image 2" - Side View
- "Image 3" - Top View

**Legend:**
- "Max." - Maximum
- "U3.0C" - USB 3.0 (Native)
- "Gen" - Generation
- "CMOS" - Chip-Mode Storage
- "U3.0C" - USB 3.0 (Native)
FireSpy Decision-Making Flowchart

The attached flowchart shall help you to decide which FireSpy is right for your testing requirement. Please contact DapTechnology directly if our offering does not meet your needs.
Other Products:

Besides the Analyzer products DapTechnology also offers a variety of specialty products for various applications in the aerospace as well as embedded market.

AS5643 INTERFACE SOLUTIONS

DapTechnology offers a new line of flexible interface solutions. They include media converter / repeater as well as specialty multi-channel host adapter cards (PCI and PMC) with transformer coupling.

1394b LLC IP C

The 1394b FPGA Link Layer Controller IP Core provides a flexible IEEE 1394b Link Layer hardware design IP core. The IEEE 1394b VHDL core engine, which has been field proven on our IEEE 1394b FireSpy Analyzers for several years, is now packaged and productized as a reference design kit, with licensing for netlist, binary and source code for developers wishing to integrate IEEE 1394b embedded targets.

DapTechnology introduces two versions of the Link Layer Controller to the market, i.e. a Basic and an Extended version. The Basic version is optimized for small core sizes and the Extended version is optimized for high bandwidth throughput. Both versions have their respective feature sets and benefits. DapTechnology will gladly assist customers in selecting the appropriate version for their particular product.

TRAINING

DapTechnology IEEE 1394/FireSpy Training Workshops provide a rich hands-on forum for existing FireSpy users, both novice and experienced, to learn new tricks, share ideas and stay tuned to current technology/feature updates to the products. The course Training offers a modular structure that can be adjusted according to the customer’s educational requirements. Three major building blocks form the backbone structure of the 1394 Technology Training.

- IEEE1394 Technology Training (typically 1 day)
- FireSpy Analyzer Workshop (typically 0.5 days)
- FireSpy Scriptor Workshop (typically 0.5 days)

About DapTechnology:

Founded in 1998 in Nijmegen, Netherlands, DapTechnology B.V. is a company specializing in products, systems and solutions based on the IEEE 1394 Standard. Ever since, the company has been working closely with the IEEE 1394 standards development organizations, strategic industry partners and key customers to develop world-class products using IEEE 1394. The DapTechnology FireSpy IEEE 1394a and IEEE 1394b Protocol Analyzer products have gained worldwide acceptance and are currently being used in various aero-space & defense, industrial, consumer electronics and automotive product development efforts. DapTechnology’s business growth in recent years is a testament of the company’s commitment to meticulous engineering disciplines, exceptional quality and customer satisfaction.

DapTechnology has been a long-time member company of the 1394Trade Association and is actively participating in standards organization like the Society of Automotive Engineers.

Customer Commitment:

In an ongoing effort to be a leading provider of leading edge 1394 Test and Simulation products, DapTechnology is committed to producing only the highest quality products focusing on high reliability, broad-based applications and spanning a wide range of product implementations.

Quality:

DapTechnology delivers high quality and highly reliable products. And as part of the Dap solution, excellent service and support is provided before and after any product delivery.


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