

FireSpy400

**hitex**   
DEVELOPMENT TOOLS



**IEEE1394**  
**FireSpy400**  
Analyzer



# FireSpy400



## FireSpy400 IEEE1394 Analyzer

The FireSpy400 is the ideal debugging device for IEEE1394 hardware and software developers. It is a small, cost-effective but powerful analyzer with 128 MByte packet memory and extensive hardware filter and trigger possibilities. It supports up to 400Mb transfer rate and is IEEE1394a compliant.

The analyzer has a USB-interface to connect to a Windows PC or MAC, running a graphical user-interface to analyse and display the bus-traffic in a user-friendly way and has four main functions: Monitor, Recorder, Commander and Generator.



### Monitor

The Monitor gives a quick indication of bus activity. The monitor displays the number of packets passed on the bus and some additional events. The packets are differentiated to speed and type, including all isochronous, asynchronous, phy packets and acknowledge packets types. Also the number of packets with different kinds of errors and the IEEE1394 bus voltage are monitored and displayed.



### Recorder

Comparable with a logic analyzer, events and packets can be stored in the internal memory and viewed later, using a number of possible "Views", which can all be switched on or off individually.

The "Timing View" enables the user to view the timing of events and packets (including acknowledge packets and the packet prefix) at a resolution of about 20nS. A time cursor is used to make time measurements.



The "Topology View" shows the bus topology at the cursor position of the "Timing View" in a graphical way. Note that the topology may change during recording because of node connection or disconnection.

The "Packet View" displays all packets in a list. Each packet can be viewed in detail, by showing its packet fields, packet layout or packet errors. Packets can be displayed as any possible packet type, so the user can find out what kind of packet an erroneous packet may be.

The "Transaction View", displays a list of all complete and incomplete transactions. The details of each transaction can be displayed as a packet list or as a graphical flow presentation.





## Filter/Trigger settings

The packets and events the recorder will store can be selected using a powerful record filter. The Recorder can be triggered manually, externally or using extensive hardware trigger logic.

Both Filter and Trigger logic use any combination of four basic packet Sets. These Sets consist of any combination of primary (asynchronous and isochronous) packets with optional value range checking on important packet fields.

With the Recorder Filter one can select the different kinds of isochronous packets, asynchronous packets, phy packets, various erroneous packets and a number of status events.



## Commander

The Commander has four separate functions: The “Topology” is used to display the current bus topology with, optionally, more detailed node information. One can also generate bus resets here and display the new bus topology.

With the “Phy Register R/W” function, one can read and write the registers of the local or a remote phy-interface. The register layout and a list of all register fields are shown. The registers can easily be altered by editing the register fields and issue the “Write Changes” command.

The “Memory R/W” function is used to read and or write the memory of remote nodes. Read, Write and Lock operations can be performed on a selected set of predefined addresses (like the CSR registers) or on user definable addresses.

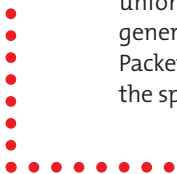
With the “Packet S/R” function, one can send all kinds of packets including phy packets, unformatted packets and erroneous packets to a selected node. Optionally one can wait for and display the response. Both the packet sent and the packet received can be displayed as layout or field list.



## Generator

With the Generator large amounts of isochronous and asynchronous packets can be generated. The isochronous Generator includes a powerful graphical editor to specify what isochronous ‘blocks’ should be sent for up to 64 channels simultaneously. Each ‘block’ consists of one or more isochronous packets with selectable data source, which can be fixed, random or from file. For each block one can select various options such as speed, packet size and header fields, including erroneous values.

The asynchronous Generator includes an editor to define a list of packets and wait actions. Various packets, including phy packets, unformatted packets and erroneous packets can be defined easily. During generation the generator goes through the list from top to bottom. Packets in the list are sent and for the wait actions the generator waits for the specified action before going on.



## FireSpy400 Technical Data

### Specifications

IEEE1394	IEEE1394-1995 and 1394a compliant
Transfer Rates	Supports 100, 200 and 400 Mb transfer rates
Memory	128 MByte for packet and event storage
Firmware / Upgrade	Firmware field upgradable to enable future expansions
Functions	Four functions which can operate simultaneously: Monitor Recorder Commander Generator
Package	Dimensions 209 x 125 x 48 mm
Weight	670 g
Power requirements:	5 V, 1 A maximum through included adaptor, certified for CE and UL
Connections	USB-connector for host-computer Two IEEE1394-connectors for bus to be analysed BNC-connector for trigger-input
Indicators	Green LEDs for USB-connection, power on, ready and trigger Red LEDs for record and active
Switches	Push button for manual triggering Tumble switch for power on/off
Product warranty	One year limited warranty, as described in the manual

We reserve the right to change the features and specifications of the FireSpy400 without notice.



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