



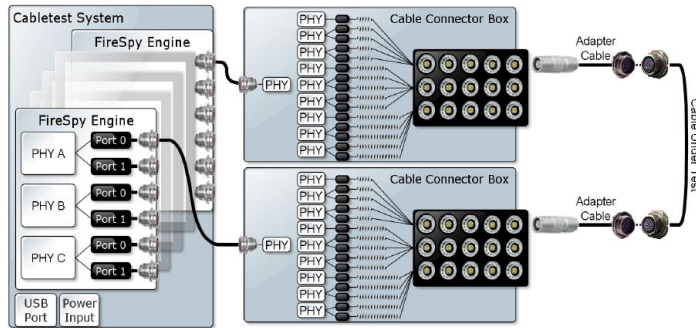
INTEGRATED ANALYZERS

CABLE TESTER



PRODUCT OVERVIEW

The Cable Test System is a perfect example of a special solution built on existing DapTechnology building blocks. The system, which was developed with the cooperation of a key A&D cable harness supplier, replaces a cable test system with proven FireSpy Technology. The new system makes use of the FireSpy engine in combination with custom hardware and software to improve test times and reliability. The system is a true functional test system that verifies if Mil1394 signaling can pass a cable under test with a series of cable extensions.



The cable test system comprises a single Cable Test System (CTS) device, multiple Cable Connector Box (CCB) devices and the accompanying Cable Test Application software.

The diagram above depicts an abstract representation of all components involved in a cable test setup. On the left side, among the multiple FireSpy engines shown, two are connected to CCBs. In the middle one can see that a CCB contains several PHY chips to form an active network switch that regenerates the signals close to the extension cables. Each extension cable is fed into a LEMO socket on the front panel of the CCB. The cable under test is connected in-between two CCBs using adapter cables to mate the connectors.

CABLE TEST SYSTEM (CTS)

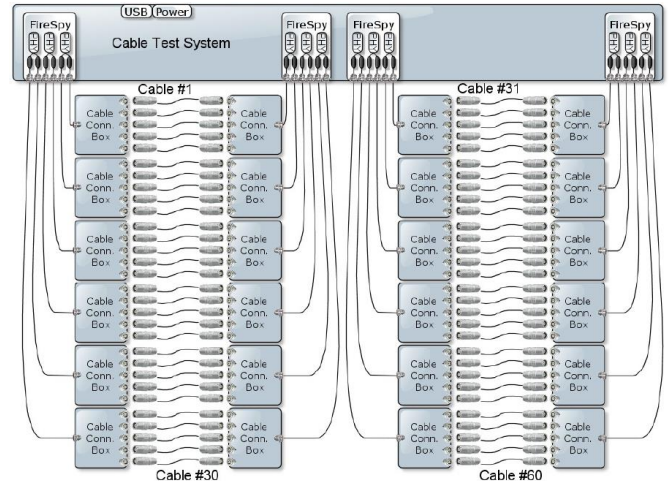
A CTS combines up to six FireSpy engines in a rugged test system housing. Each couple of FireSpy engines forms 3 independent 1394 interconnects allowing the execution of 3 cable tests simultaneously. In addition to running tests in parallel, each FireSpy engine is capable of controlling six Cable Connector Boxes exposing a total of 30 switchable 1394 ports. This means a set of two FireSpy engines forms a total of 30 1394 interconnects. Therefore, when testing 3 connections in parallel at a time, it takes 10 runs to test all 30 connections. Expanding the CTS to 6 FireSpy engines supports testing of 90 1394 connections - 9 at a time in parallel. The CTS is connected via USB to a host computer running the cable test software. The CTS has just one power input port that is sufficient to power the CTS itself, as well as all connected CCBs.

CABLE CONNECTOR BOX (CCB)

Cable Connector Boxes fulfill the need for larger connectivity (15 ports per CCB) to make testing cables quicker and at the same time CCBs offer an easy way to patch-in an extension cable as required by the test specification. Each CCB contains 5 sets of 3 ports with three different extension lengths. So when connecting 5 cables under test, for each cable the operator can choose the right extension by choosing one of three ports.

Cable Connector Boxes are designed for optimal signal preservation. A transformer-coupled PHY port is connected to one end of a cable extension and a circular LEMO socket is connected to the other end of the cable extension. Therefore, even though a complex switchable network is used, the actual test signal is generated very close to the extension cable.

The example in the next column shows how the basic Test system can be expanded using CCBs.



FIRESPY ENGINES

Each FireSpy Engine contains 3 IEEE 1394 nodes, with each node having 2 ports which provides full control over the IEEE 1394 signals used for testing. The FireSpy Engine uses the FireSpy Generator to send data as it is able to use all the available bandwidth on all the buses simultaneously.

The FireSpy Monitor and Filter/Trigger are used to examine the incoming packets and check them for errors. As it is designed in hardware, its real-time capabilities allow it to monitor 3 buses without missing packets. The test uses stream packets with random data patterns.

SOFTWARE

The software provides a foolproof user interface to test the cables. It provides the user with a wizard-like interface to guide him through the various steps. It interacts with the FireSpy API to control the FireSpy Engines within the CTS. It also controls the CCBs using commands sent over the IEEE 1394 connections.



MAIN FEATURE SUMMARY:

GENERAL

- Compliant with IEEE1394-2008
- Supports 400(B) Mbps transfer rates
- Utilizes proven FireSpy HW
- Expandability:
 - CTS: 3/6/9/... parallel tests
 - with CCB(s): 30/60/90 parallel tests

PICTURES:



Cable Test System (CTS) – front and back



Cable Connector Box(CCB) – front and back

SPECIFICATION:

Dimensions:	CTS: 470 x 506 x 293mm CCB: 283 x 286 x 178mm
Weight:	CTS: 15kg / CCB: 8kg
Operating Range:	0 – 70 C
Power Requirements:	750 Watts (max.)
Compliance:	FCC Class A
Connections:	CTS: D38999 / USB CCB: D38999/ LEMO
Indicators:	Power
Switches:	-
Package Content:	
Product warranty:	36 months limited warranty
Part Number:	CTS, CCB-A, CCB-B

Please check our [website](#) for pictures of cables and accessories and contact Dap directly for special cable requirements.

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