

# DSP Spool Test Adapter

## The test solution to verify the quality of cable “on the spool”

*The DSP Spool Test solution allows you to test the quality of the cable while it is on the spool, before it has been processed and terminated. That means you can evaluate the quality of the cable before spending valuable time or labor costs – giving you a high return on investment.*

Fluke Networks’ DSP Spool Test solution gives you a simple, cost-effective way to quickly verify critical characteristics of Cat 6/5e cable on the spool:

- Test cable on the spool within seconds.
- Test efficiently and accurately to TIA/ISO Cat 6/5e cable test requirements.
- Evaluate the quality of a cable before any time or labor costs have been invested.
- Verify both 100  $\Omega$  solid core twisted-pair horizontal cable, as well as twisted-pair stranded cable.
- Count on rugged durability for reliable performance.

## Efficiently test cable spools

In a matter of seconds, the spool test gives a thorough evaluation of the critical characteristics of the cable. Simply find the exposed cable end of the spool, strip the sheath back 3 to 5 cm, strip the insulation of each wire pair about 3 mm and plug the individual wires into the special spool test adapter connected to your DSP-4000 Series CableAnalyzer.™

The unique time-domain measurement technique in the DSP-4000 Series allows the tester to accurately measure the critical performance parameters. The tester detects the end of the cable and “ignores” all reflections and unwanted measurement disturbances generated after the test stimulus signal reaches the unterminated end of the cable.

The time domain response is then processed using the DSP algorithms to provide an analysis in the frequency domain; these measurement results are evaluated against the performance limits specified in the selected industry standard, providing you with an accurate evaluation of the quality of the cable.

## Fast and easy testing

Getting sophisticated TIA-compliant specs from the DSP Spool Test solution is quick and easy to do. Once the tester has been configured with the spool test database and the test adapter and cable are connected, select the desired standard in the setup menu. Turn the front panel knob to AUTOTEST and press the Test key. Within seconds, the measurement results are evaluated against the performance limits specified in the selected industry standard, and a thorough evaluation of the critical characteristics of the cable are complete.



## A Special Adapter

The DSP Spool Test solution for the DSP-4000 Series CableAnalyzer contains a special adapter equipped with a row of eight sockets for 24 gauge wire. Each pair of sockets is accompanied at either side with a socket to connect the shield or screen. The adapter is plugged into the main tester unit – the spool test is a one-ended test and only requires the main tester unit.

## A powerful database

The DSP Spool Test solution database can be quickly downloaded and easily installed onto your Fluke Networks DSP-4000 Series tester using LinkWare Software. The database contains the test limits for the spool test as well as patch cord testing. The spool test database also supports the main TIA and ISO link and channel test standards. If you regularly test installed cabling links to the Permanent Link test model or the Channel test model as specified in TIA or ISO standards, there’s no need to reconfigure the testers.



## Technical specifications

### General

The DSP Spool Test solution is intended to test TIA category 5e and 6, and ISO/IEC category 5 and 6 cables. Cabling standards specify cable performance for 100 m long cable segments. For testing 100 m cable segments, two DSP Spool Test adapters are required: one to connect to the DSP-4X00 main unit and the second to connect to the DSP-4X00 remote unit. Spools of cable (300 m, 500 m and 1000 m) can be tested in one direction by using a DSP Spool Test Adapter connected to a DSP-4000 Series main unit. This test option provides performance testing of the near end of the cable for the most critical transmission parameters and is suitable for cable production testing and pre-installation testing of cable.

### Parameters tested

(100 m cable segments)

- Wire map
- Insertion loss (attenuation)
- Pair-to-pair NEXT loss
- Power sum NEXT loss
- Pair-to-pair ELFEXT
- Power sum ELFEXT
- Return loss
- Propagation delay
- Delay skew
- DC resistance

### Parameters tested

(300 m, 500 m, and 1000 m spools)

- Pair-to-pair NEXT Loss
- Power sum NEXT Loss
- Return Loss
- Propagation Delay (only if the cable spool or segment is unterminated)
- Delay Skew (only if the cable spool or segment is unterminated)

### Pass/Fail limits

The DSP Spool Test solution database contains pass/fail limits as specified in:

- TIA/EIA-568-B and TIA/EIA-568-B.2-1, category 5e and 6, and
- ISO/IEC 11801-2002 category 5 and 6.

The requirements address both solid conductor and stranded conductor cable, 100 m cable segments, as well as 300 m, 500 m and 1000 m cable spools.

### Measurement accuracy

The measurement accuracy is computed in accordance with the guidelines in TIA/EIA-568-B.2-1 and IEC 61935-1. Typical accuracy is based on observed performance parameters and is significantly better than level III requirements.

## Fluke Networks delivers Network Supervision

Fluke Networks is committed to providing Network SuperVision Solutions that optimize performance and the bottom line. From innovative products and tools that comply with emerging standards, to responsive service and training to help you grow your business, Fluke Networks helps you keep pace in today's fast-moving, networked world by keeping our eye on the future for you. That's Fluke Network SuperVision. That's our promise to you.

For more information on the DSP Spool Test solution from Fluke Networks, visit us at [www.flukenetworks.com/spooltest](http://www.flukenetworks.com/spooltest). Or call us at 1-800-508-0490.

## Ordering Information

Model	Description
DSP-Spool	DSP Spool Test Adapter Includes one (1) cable spool interface adapter (suitable for spool testing; for 100 m cable testing, two must be purchased), DSP Spool Test database (CD-ROM), user manual (CD-ROM)
LinkWare	LinkWare™ Cable Test Management Software Free download from Fluke Networks' web site at: <a href="http://www.flukenetworks.com/linkware">www.flukenetworks.com/linkware</a>

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