


Challenges of Meeting Category 6 In The Field

Fanny Mlinarsky

A Day in the Life of a Field Technician

- **Challenge #1: Configuring the Tester**
- **Challenge #2: Selecting Test Probes**
- **Challenge #3: Locating Faults**
- **Challenge #4: Dealing with Changing Standards**
- **Challenge #5: Managing Test Reports**



Challenge #1

Configuring the Tester



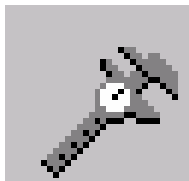
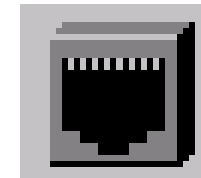
Test Limits

Probes



Cable

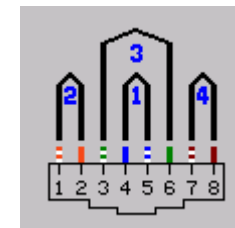
Connectors



Measurements



Pair numbering



Challenge #2

Selecting Test Probes



Brand A



Brand B



Brand C

- Vendor-specific category 6 test probes

← Link

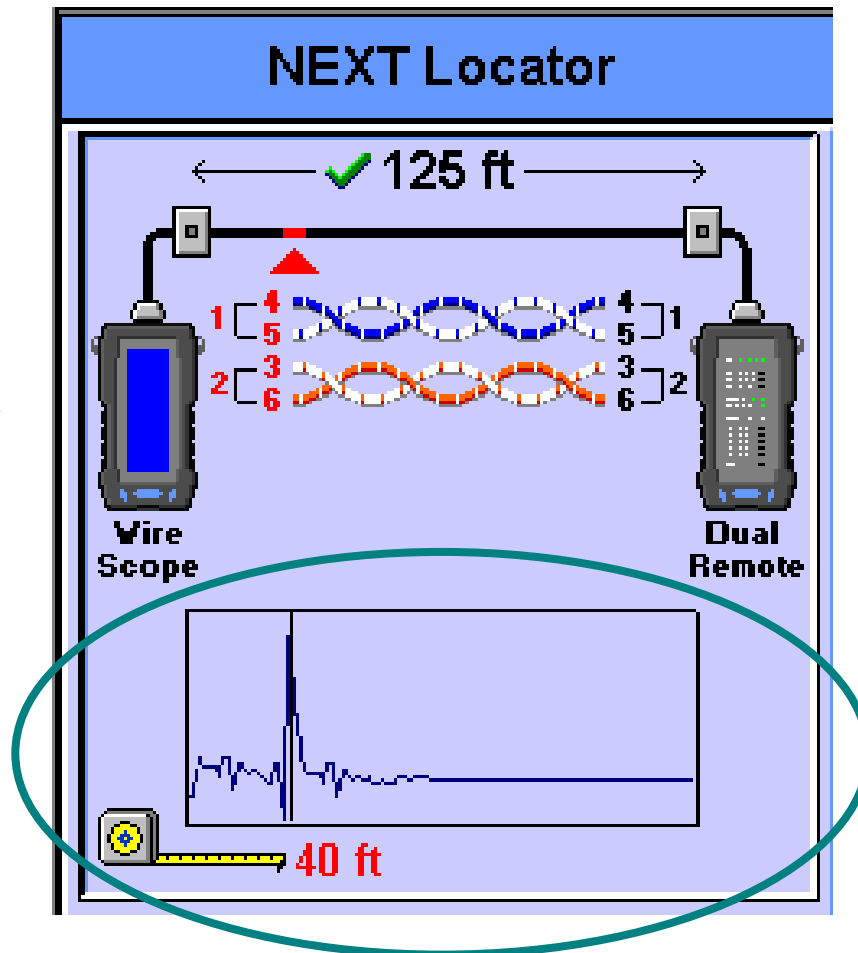
← Channel



Challenge #3

Locating Faults

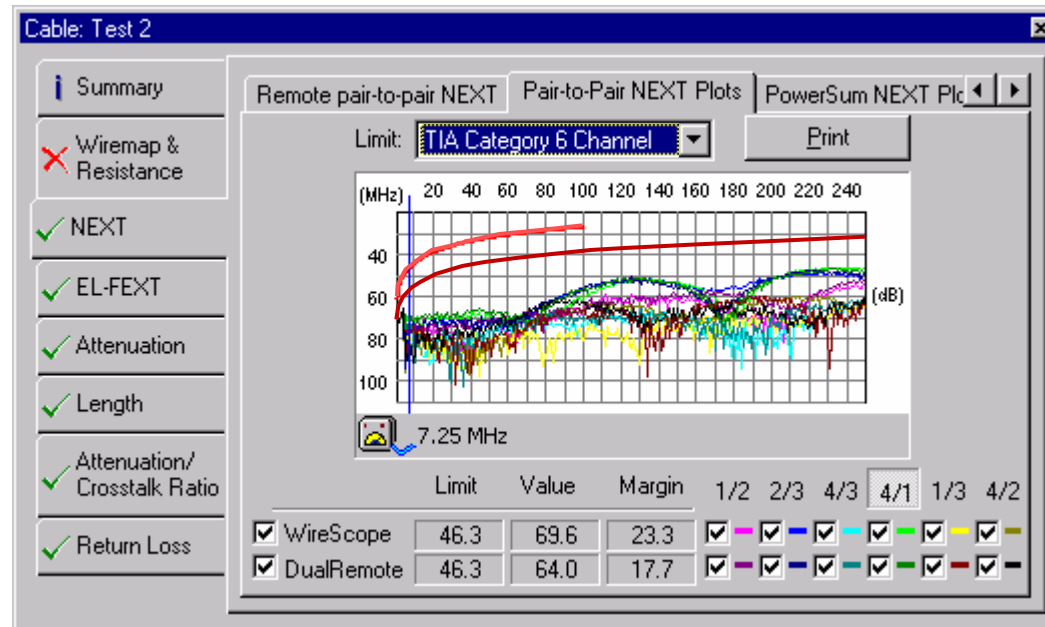
Frequency
data
converted
to time
domain for
fault
location



Challenge #4

Dealing with Changing Standards

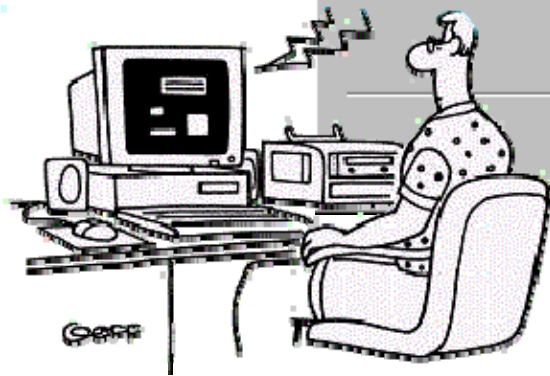
Stored plot data
re-evaluated
against
different test
limits



Challenge #4

Dealing with Changing Standards

Stored test records can be re-certified if plots are available



Copper Re-Certification Target

Please select re-certification target for copper cables

TIA ISO Cenelec Australian/NZ Custom Networks

Cat. 3

Re-certification results preview

Click Finish to create new test records

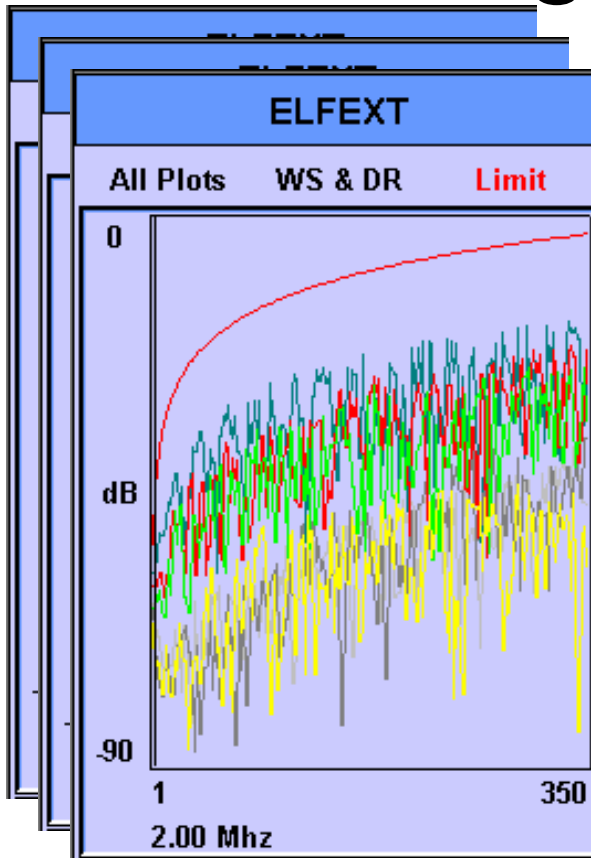
Target: Cat. 6

Results preview:

	Tag	Result
	RA-C4	FAIL
	RA-C5	FAIL
	UR-AWP2	PASS
	XA58	PASS
	XA59	PASS
	XA60	PASS

< Back Finish Cancel Help

Challenges Posed By Saving Plots



Plots can be saved using CFLASH storage.

Approx. \$3/MB

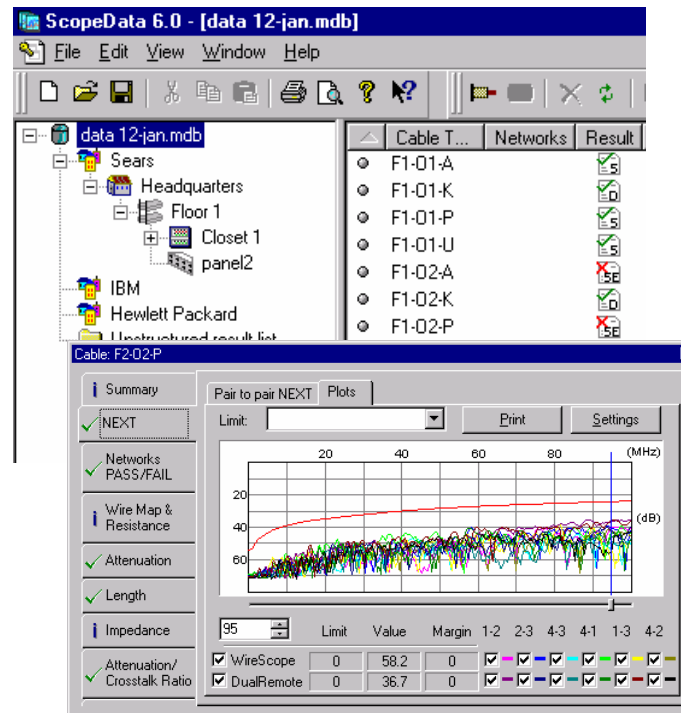


The most popular format for digital camera "film"



Challenge #5

Managing Test Reports



- Saving test records on a PC
- Associating test records with cabling administration

Challenge #5

Managing Test Reports

Cable Certification Report 9/15/1998

Cable ID Test 09
 Company : Scope
 Comments : second f
 Tested : 9/10/19
 Cable : UTP CAT5

Pair
 Length(m) : 103m
 Delay(ns) : 510n
 Resistance(ohms)
 Impedance(ohms)
 Return Loss Loc(dB)
 at (MHz)
 Limit (dB)
 Return Loss Rem(dB)
 at (MHz)
 Limit (dB)
 Attenuation(dB)
 at (MHz)
 Limit (dB)
 Pair Combination
 NEXT Local(dB)
 at (MHz)
 Limit (dB)
 NEXT Remote(dB)
 at (MHz)
 Limit (dB)
 ACR Local(dB)
 at (MHz)
 Limit (dB)
 ACR Remote(dB)
 at (MHz)
 Limit (dB)
 Worst Pair Result
 PS NEXT Local
 PS NEXT Remote
 PS ACR Local
 PS ACR Remote
 PS EL-FEXT
 PS EL-FEXT

Networks Pass: ATM
 TP-
 TR

TIA-568 Category
 Signature: _____

Your Logo Here

Building: Headquarters
 Floor: Floor 1
 Panel: Panel 2
 Cable ID: PZ-02-P

PASS

Cable Certification Report (Pair-to-pair data)

Tester: 5011801 Class D
 Tested: 12/2/98 11:30 AM
 Cable: UTP CAT5
 Cable Length: 95 m
 #2 ISS: 020695-001-06 with Channel probe
 DR ISS: 031397-005-07 with Channel probe

95 m

Attenuation @WS

Worst pair: 18.9
 Value (dB): 19.4
 Limit (dB): 23.2
 Margin (dB): 4.0
 Frequency (MHz): 100.0

Pair to pair NEXT @WS @DR

Worst combo: 18.9 - 3(1,2) 18.9 - 3(1,2)
 Value (dB): 30.7 30.0
 Limit (dB): 25.3 28.3
 Margin (dB): 15.4 11.3
 Frequency (MHz): 01.0 05.0

Return Loss @WS @DR

Worst pair: 3 (1,2) 18.9
 Value (dB): 21.1 21.7
 Limit (dB): 10.0 10.0
 Margin (dB): 11.1 11.7
 Frequency (MHz): 70.0 70.0

Pair to pair ACR @WS @DR

Worst combo: 18.9 - 3(1,2) 18.9 - 2(3,0)
 Value (dB): 22.1 17.2
 Limit (dB): 0.7 4.1
 Margin (dB): 15.4 13.1
 Frequency (MHz): 01.0 00.0

Networks tested

ATM-155	PASS	100BASE-T	PASS	100BASE-TX	PASS
100BASE-T0	PASS	100VG-ANV	PASS	70-PHD	PASS
100BASE-T	PASS	ATM-51	PASS	ATM-25	PASS
TR-8 ACTIVE	PASS	TR-8 PASSIVE	PASS	TR-4 ACTIVE	PASS
TR-4 PASSIVE	PASS	ADONET	PASS		
LOCAL TALK	PASS	3K-AS400	PASS	3270	PASS

Page 1 of 1 Printed 01/14/99 05:12 PM Signature: _____
 Visit www.wirescope.com for information about our equipment used

- Text Reports
- Graphical Reports

Meeting the Challenges

- **Challenge #1: Configuring the Tester**
 - ← Automated configuration using a Test Profiles
 - ← Built-in automated checking for problem configurations
- **Challenge #2: Selecting Test Probes**
 - ← Probe availability
 - ← Automated probe recognition
- **Challenge #3: Locating Faults**
 - ← Time-domain analysis
- **Challenge #4: Dealing with Changing Standards**
 - ← Saving plots for re-certification
- **Challenge #5: Managing Test Reports**
 - ← Support for structured labeling
 - ← Graphical test reports

