Automated Communication Cable Test System

Testing of Low and High Frequency Parameters of Multi-pair Telecommunication Cables and Coaxial Cables

With increasing competition and customers seeking quality products with specifications and standards defined by organizations like IEEE, cable testing is fast becoming a need for every cable manufacturer to maintain cable standards at various frequencies and signal strengths.

Testing cables at different frequencies and temperature ranges provides the necessary flexibility to a manufacturer to configure his products as desired and meet the specifications demanded by customers.

Adroit's new launch of Automatic Cable Test System (ACTS) has further strengthened its footage in Cable Industry. ACTS provides a reliable and repeatable test platform available for testing twisted pair telecom cables. ACTS includes multi pair test fixtures for testing cables up to 3GHz.

ACTS is an off-the-shelf, stand-alone solution consisting of Loads, Baluns and Wire Test Frame to connect Test Cables easily and quickly. Additional time is saved because only one cable connection is needed to test all the parameters eliminating the need for multiple cable connections.

The software enables fast, simple and easy testing of cables specifically according to the cable standards. The Specification Program enables fast and easy entry of specific international cable specifications and test limits, thus cable testing is simple and easy and is performed in minutes.

With ACTS, Reporting and Data Logging highly configurable to needs of Testing. The windows based interface enables the operator to easily and quickly set parameters for testing and save recipes for future use. Limit values can be easily programmed to suite the requirements of client.

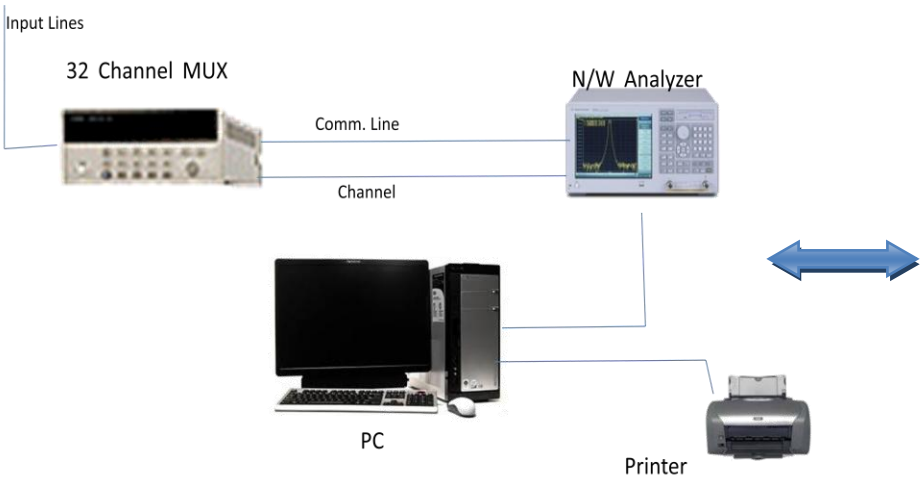
The reporting structure provides operator with various options to obtain reports as desired – from simple Pass/fail summary of test to detailed graphical and tabular representation of specific parameters.

Benefits

- Automated and fast test results – Reduces testing time considerably and eliminates requirement of Skilled operator
- Measurement on various cables – CAT V/Ve, CAT VI/VIe, Coaxial, other twisted pairs
- Standard panel available with 32 pair measurement facility and Easily scalable to meet higher requirements
- Fully, and securely, automates and controls the network analyzer – un-skilled operators can perform complex RF testing
- Automatic Selection of Cable Pairs – once cables are connected to Test Fixture, the system automatically selects pairs to measure parameters
- Measurements at different lengths of cable and Temperatures Correction Facility
- Measurements at Frequencies between 300 Khz to 3 Ghz
- Comprehensive and comparative test report for all parameters
- Fully customizable reports and results saved in desired format for future reference

Measurement Parameters

- Insertion Loss (Attenuation)
- Attenuation to Crosstalk Ratio (ACR)
- Near End Crosstalk Loss (NEXT) & Far End Crosstalk Loss (FEXT)
- Velocity of Propagation (VoP)
- Propagation Delay and Delay Skew
- Crosstalk Power Sums
- Impedance (Input and Characteristic)
- Return Loss & Structural Return Loss (SRL)



Reports

Adroit ACTS Test Report - II

Item Description : 0.50MM ABC – 16 Pairs Cable **Temp. :** 25 Cel **Date :** 3 March 2010
Item Code : ABC10P **Length :** 120 Meters **Time :** 2:15 PM
Lot No. : 0001 **Measurement : Near End Cross-Talk** **Drum No. :** D-001

Pair No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

Result : Passed / fail **Tested By :**

TECHNICAL SPECIFICATION

Cables Those can be tested	Communication cables, eg. CAT V / CAT VI, COAXIAL, Twisted pairs
Measurement Frequency Range	300 Khz – 1.5 Ghz / 3 Ghz
Number of pairs of Cables can be tested	2 pair to 32 Pair
Display	15’ Monitor (Personal Computer / laptop)
Basis of Measurement	S Parameters
Kind of Control	Automated
Operator Interface	PC / Laptop
Operating System	Windows XP
Connections (Test Cable to Equipment)	
Data Storage	PC internal Hard Disk
Communication	Ethernet
Supply Voltage	230 V A.C., 50 Hz
Ambient Temperature	5-50 ^{o}C

Humidity	20-80 %
Altitude	0 to 2,000 m (0 to 6,561 feet)
Error-Corrected Temperature Range	23 °C ± 5 °C with < 1°C deviation from calibration temperature
Vibration	0.21 G maximum, 5 Hz to 500 Hz
Panel Size (LxWxH)	2000 X 800X 600(mm)
Weight	Approx. 400Kg

COMPONENTS SPECIFICATION

Network Analyzer	Agilent E5061 / E5062
Multiplexer	Adroit
Wire-Frame	Adroit
Baluns	Reputed / Imported
Load	Reputed / Imported
Software	Adroit
PC	HP
Operating System	Windows XP
Development Platform	Visual Basic