

Course Name: Copper Testing Fundamentals

Course Overview:

New and existing technicians will benefit from the Copper Testing Fundamentals course to learn or update their knowledge of copper testing, changes to service offerings, and impact on high-speed data services. This course will start with fundamentals that are universal for any level of service and test equipment and expand to advanced testing topics and service specific testing parameters.

Course Length: 2 days

Who should attend?

- Field Service Technicians
- Field Engineers
- Managers/ Field Supervisors
- Design Engineers
- Electricians
- Managers or Supervisors

You will learn:

- Copper-based network fundamentals and terminology
- Electrical characteristics of copper
- DC testing and AC testing fundamentals and test equipment
- Faults and Impairments of copper
- Time Domain Reflectometer (TDR) and test equipment
- Service specific testing requirements and parameters

Prerequisites: None

Customizable Course: Yes



Course Content:

Overview of Copper Plant

- Network layout
- Cable types
- Gauges
- Color codes
- Equipment
 - Load coils
 - Build-out capacitors
 - Repeaters
 - Amplifiers
 - Telephones
 - Modems
- Distance
- Frequencies
- Service offerings

DC Testing

- Electrical characteristics
- DVOM
- Resistance measurements
- Voltage
- Current

AC Testing

- Capacitance
- Inductance
- Balance
- Noise
- Power influence
- Cable length

- Impediments

Faults

- Shorts
- Opens
- Grounds
- Length
- Gauge changes
- Splices
- High-resistive faults
- Water
- Noise
- Imbalance

Time Domain Reflectometer (TDR)

- Setting up test
- Velocity of propagation
- Interpreting test results
- Measuring distance to faults

Resistive Fault Locating (RFL)

Service Specific Testing

- POTS
- ADSLx
- HDSLx
- DDS
- T1

