Course Name: T1/DS1 Testing with Fluke Networks QuickBert

Course Overview: This course focuses on proper troubleshooting and installation practices as well as an overview of fundamentals utilizing the 635 QuickBERT. Over 60% of this course is hands-on labs and exercises.

Course Length: 2 days

Who should attend:

- Field Service Technicians
- Switch Technicians
- Design Engineers
- Managers/Field Supervisors
- Field Engineers
- Installers

You will learn:

- Understand the basic steps in building a DS1 Signal (Multiplexing, Framing, Coding)
- Set up, operate and interpret results on standard DS1/T1 test equipment
- Efficiently install and test new DS1/T1 transport systems
- Troubleshoot existing DS1/T1 systems to ensure signal quality
- Effectively work with DS1/T1 providers to ensure faulty systems are restored quickly and new systems are installed with standardized acceptance test.
- Describe DS1/T1 test parameters and be able to accurately interpret these parameters at multiple test access points.
- Perform channelized testing on existing systems

Prerequisites: None

Customizable: Yes

Course Content:

Product Overview
- Hardware Overview
- Graphical Display
- Buttons
- Connectors
- Battery
- Cables

DS1 and Industry Standards and Industry Overview

Building a DS1 Signal
- Muxing
- Framing
- Coding

DS1 Network Equipment
- CSU, NIU, Span repeaters, Office repeaters,
- DSX-1, DCS, etc

Framing
- Frame Organization
- D4/Superframing
- ESF framing
- SLC Framing
- Fractional DS1

Line Coding
- AMI
- B8ZS

Timing
- Clock Sources
- Timing Options

SLA (Service Level Agreements)
- MTTR
- Availability

Installing DS1's
- BERT
- Recommended Stress patterns
- DS1 Test Access
- DS1 loop back Testing
- Straight away testing
- Testing for misoptions

Maintaining DS1's
- Monitoring Alarms and Errors

Isolating Troubles
- Test Access points
- DS1 Alarms
- RAI (yellow)
- AIS (alarm indication signal)

Performance Monitoring
- BPV's (CV's)
- Frame Errors
- CRC's

Network Synchronization Testing
- Timing
- Jitter