

T1/DS1 for Telecom Technicians



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Course Length:	2 Days
Course Code:	NFST1T500
Prerequisites	None, however a basic understanding of telecommunications principles will be useful for students taking this course.
Course Overview:	This course focuses on proper troubleshooting and installation practices as well as an overview of DS1/T1 fundamentals. The course is designed to teach proper testing techniques to ensure minimal down time. The majority of the course will be focused around hands-on testing with DS1/T1 testers and analyzers.
Required Equipment:	It is highly recommended that the student bring DS1/T1 test equipment to class. This will enable the student to learn on the actual equipment they will be using on a daily basis.

Course Outline

DS1/T1 Overview

- Applications
- Basic speeds/abilities

DS1/T1 Technology

- Multiplexing the signal
- Framing the signal (D4, ESF)
- Coding the signal (AMI, B8ZS)

DS1/T1 Network Equipment

- CSU, Multiplexers, DSX-1, DCS, Switch...
- Connections/cable
- Provider's equipment
- Demarcation

DS1/T1 Test Equipment

- Types of test equipment
- Equipment operation/setup
- Connections to a DS1/T1
- Testing techniques
- Test parameters

Installing DS1/T1s

- BERT
- Recommended test patterns
- Test Access points
- DS1/T1 loop back testing
- End/End testing
- Verifying service parameters

Maintaining DS1/T1s

- Test access points
- Monitoring signal quality
- Monitoring alarms and errors
- Equipment emulation
- Verifying timing/clocking

Channelized Testing

- Monitoring DS0s from DS1s
- Monitoring DS1s from DS3s
- Fractional DS1/T1s (FT1)
- Drop and Insert testing



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