

# SONET Fundamentals

<b>Course Length</b>	One Day
<b>Course Code:</b>	NFSSON01
<b>Prerequisites</b>	A understanding of telecommunications transmission fundamentals will be useful for students taking this course
<b>Course Overview</b>	This course is a designed as an overview of SONET technologies. Special emphasis will be focused on understanding the functions of SONET equipment as well as proper installation and maintenance procedures.

\*This course can be customized or combined to meet specific requirements

\*Second day can be added for extensive hands-on applications

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## Course Outline

### SONET Overview

- Drivers
- Market
- Comparison to other technologies

### Review of the Building Blocks

- DS0
- DS1/T1
- DS3/T3

### SONET Basics

- Building the SONET signal
- Synchronous Transport Signal (STS)
- SONET Framing/Overhead
- Fiber Optics
- Optical Carriers (OC-x)
- SONET Rates/Capacity
- SONET Equipment



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Alarms  
Errors  
Concatenated SONET signals  
Linear Configuration (Point-to-Point)  
Ring Configuration

### **SONET Installation and Maintenance**

Proper Installation Techniques  
Testing Fiber Optics  
Types of SONET test equipment  
    End-End v/s Loop testing  
    In-Service v/s Out-of-Service Testing  
    Testing/Isolation methods



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