

Troubleshooting Advanced Services

OVERVIEW

This course is focused between the customer tap and the terminal equipment found in the home. It teaches the basics of digital RF signals and test equipment used in evaluating digitally modulated signals and it describes advanced services problems, instructing the student in how to isolate and resolve trouble. The course also takes the student through common difficulties encountered with personal computers, cable modems and NIUs, providing step-by-step instruction on finding and repairing problems.

Delivery Options:

📖 Learning takes place using a textbook. Lessons and final exams are taken online.

Completion Time:

Varies based on the student's self-study pace, however, the maximum time allowed is six months from enrollment.

BENEFITS

Upon completion students will:

- » solve problems in customer homes related to high-speed Internet access, digital video and broadband telephony services more effectively and efficiently
- » gain a thorough understanding of the use of test equipment, including digital system analyzers, cable modem analyzers, telephone test sets and twisted-pair cable testers
- » increase their technical knowledge base to maintain and troubleshoot the drop network and customer premises equipment
- » receive industry-recognized Jones/NCTI™ certificate of graduation
- » earn three hours of college credit
- » use this course to help prepare for SCTE's Broadband Distribution Specialist, Broadband Premises Specialist Data, Video, and Voice endorsements and Broadband Telecom Center Specialist Data and Video endorsements
- » gain 12 BICSI continuing education credits for Installer Level 2 or Technician

Ideal for:

Personnel assigned to troubleshoot and repair advanced products or services in the customer home, such as:

- » installation repair technicians
- » service technicians
- » advanced installers
- » high-speed data technicians

Students should complete one or more of the following courses before enrolling in Troubleshooting Advanced Services:

- » Installer Technician
- » Broadband Digital Installer
- » Computers and Broadband Modems
- » Service Technician

(Continued)

RELATED COURSES

Students completing this course should then enroll in:

- » System Technician
- » Fiber Installation and Activation
- » Fiber Testing and Maintenance
- » Effective Supervision
- » Principles of Management
- » Introduction to Business

TRAINING FEATURES

- » Knowledge-based, broadband and job-specific content
- » Highly illustrated and easy to read course materials
- » Curriculum advising
- » 24/7 lesson feedback and progress monitoring at www.jonesncti.com
- » Online testing

Visit www.jonesncti.com/coursepolicy.htm for important information on computer hardware/software requirements and student-to-student transfer and extension limitations



Workforce Performance Solutions™

COURSE OBJECTIVES

Upon completing this course, students will be able to:

1. explain the basics of quadrature phase shift keying and quadrature amplitude modulation schemes and their respective data transfer rates
2. access the digital set-top terminal diagnostic screen through the front panel controls of the digital set-top terminal and with the remote control
3. delineate four different kinds of digital set-top problems that disrupt digital services
4. display and interpret digital measurements
5. interpret a constellation display
6. list the tools, including software, needed to troubleshoot PCs
7. use a cable modem system analyzer to verify provisioning and register with the cable modem termination system
8. differentiate the four types of noise that may be encountered in a telephone system
9. determine the cause of noise heard at the network interface unit telephone test jack
10. use a twisted-pair cable tester to test circuit faults on twisted-pair cable utilizing one of three different wiring configurations

COURSE OUTLINE

1. Understanding RF Digital Signal Characteristics

Describing digital signal characteristics, explaining digital modulation, quantifying digital signal quality and examining digital signal applications

2. Troubleshooting Digital Video Service, I

Troubleshooting analog channels, digital channels and remote control problems, verifying digital set-top terminal configuration and operation and using digital set-top terminal diagnostic screen

3. Troubleshooting Digital Video Service, II

Differentiating picture quality problems, noting audio quality problems, identifying PPV ordering problems, reprogramming parental control code, citing various main menu screen problems, identifying return path problems, noting video playback and recording problems and delineating digital set-top terminal problems

4. Using Digital Signal Analyzers

Describing digital measurements, preparing digital signal analyzers for use, making measurements on digitally modulated carriers and using cable modem system analyzers

5. Troubleshooting Personal Computers

Using troubleshooting tools, isolating computer problems and devising a course of action, applying troubleshooting guidelines and applying support responsibilities to troubleshooting

6. Troubleshooting Cable Internet Access Service

Understanding the cable modem provisioning process, troubleshooting technical and performance problems

7. Troubleshooting Twisted-Pair Inside Wiring

Identifying problems and symptoms, describing problem causes and troubleshooting strategies, explaining reasons for common problem and troubleshooting with common test equipment

8. Troubleshooting CBR Telephony Service

Outlining the troubleshooting process, troubleshooting from power distributing tap to network interface unit, NIU problems, cross-connect problems and identifying broadband network problems

9. Using Twisted-Pair Inside Wiring Test Equipment

Using telephone test sets, a tone generator and inductive amplifier probe, a twisted-pair cable tester, a modular cable tester and introducing the wiremap field test instrument



Workforce Performance Solutions™

For more information call 866.575.7206 or email sales@jonesncti.com
9697 East Mineral Ave. • Centennial, CO 80112 • www.jonesncti.com