



## ET 2.0: Telecommunications Technical Curriculum (TTC)

### Program 5: Audio/Video Knowledge

### Course 4: Audio/Video Impairments and Testing

#### PROGRAM OVERVIEW

The ExperTech 2.0 series is a library of CD-ROM or intranet-based products covering key communications topics. Seminar style presentations provide telecom professionals with easy access to the information they need. Topics are presented by Hill Associates instructors renowned for their technical expertise, industry experience, and outstanding presentation style.

The *Telecommunications Technical Curriculum (TTC)* has a total of five programs, each of which consists of one or more courses. TTC is a modular, yet comprehensive program designed around the needs of those who want the details but can not attend a more traditional classroom-based, leader-led program.

*Program 5: Audio/Video Knowledge* is a four course series that deals with concepts and terminology related to services focused on delivering audio and video services over a cable network. In this fourth and final course of the series, *Audio/Video Impairments and Testing*, we provide an overview of signal impairments that can occur in analog and digital television distribution systems. We describe test equipment and tests that can be used to diagnose these problems. The course includes a discussion of the eye pattern and constellation diagram in analyzing a transmission cable plant.

*Program 5, Course 3: Audio/Video Impairments and Testing* runs 63 minutes, and includes two lessons of audio, interactive elements, review slides, section knowledge checks, and a final exam. The participant can expect to spend about twice this amount of time to complete the course.

This program has two primary objectives:

- Examine the types of impairments that can occur in an audio/video network
- Examine the types of testing and test equipment that are used to diagnose these problems

Specific topics can be developed, or packaged together to create a unique and customizable curriculum. All of our standard titles are available for preview at our store ([www.hill.com/store](http://www.hill.com/store)).

#### About Hill Associates

At Hill Associates, we excel at creating custom talent development programs. Our experts help identify and assess your needs, and create training and educational programs that exactly meet those needs. Though we specialize in information technology, we've strengthened companies and organizations in a wide range of industries for over 25 years. Let us help you create a world-class talent development program that moves your business forward.

#### PROGRAM OUTLINE

##### Lesson 1: Cable System Architecture

- Describes the differences between how analog and digital signals degrade
- Explores the design compromises required in cable TV system design
- Defines the term decibel, differentiates between bit error rate (BER) and modulation error rate (MER)
- Describes five signal problems that can negatively affect audio/video quality

##### Lesson 2: Service Requirements

- Identifies six pieces of test equipment and describes their basic function
- Identifies and describes audio and video tests
- Explores the use of the eye pattern and constellation diagrams to diagnose transmission problems
- Defines the concept of a sweep