



ET 2.0: Telecommunications Technical Curriculum (TTC)

Program 5: Audio/Video Knowledge

Course 1: Analog Cable Television

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 cannot 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 the delivering audio and video services over a cable network. In this first course of the series, *Analog Cable Television*, we provide a history of television, examine the structure of the cable distribution plant, and explore the organization of the frequency spectrum. We consider how video capture, transmission, and reconstruction are accomplished using analog technologies, and conclude with a look at how color information was added to the original black and white television signal.

Program 5, Course 1: Analog Cable Television runs 99 minutes, and includes four 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 three primary objectives:

- Provide an overview of analog television transmission concepts
- Explain and differentiate among the details associated with black/white monaural television signals vs. color stereo transmission
- Discuss the details behind various modulation techniques required for cable television infrastructures

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).

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: A Brief Look at Cable TV

- Review the early development of TV and cable TV
- Discuss the regulatory aspects of cable TV
- Describe the basic structure of the cable TV network, and address the challenges of service delivery

Lesson 2: Baseband Monochrome Video and Monaural Audio

- Examine the concepts of scanning (interlaced vs. progressive) as they relate to video
- Explore the structure of the analog television signal (blanking interval, fields, frames) and the relationship between frame speed and flicker
- Explain synchronization and strategies for audio encoding

Lesson 3: Video and Audio Modulation

- Differentiate between frequency and amplitude modulation, and discuss why each is used in analog television
- Describe the structure of the 6 MHz television channel

Lesson 4: Color Television and Stereo Sound

- Explain how color information is organized and transmitted with stereo sound incorporated
- Explore ancillary signals sent together with analog TV signals
- Differentiate among NTSC, PAL, and SECAM standards