
AVB

Audio Video Bridging
for the Broadcast
Industry

Training Course Outline

2015



AVB : Audio Video Bridging for the Broadcast Industry

Duration: 2 Days

Technical Level: High

Overview

The broadcast industry is examining network technology as a viable alternative to traditional forms of signal and communication distribution. As network speeds increase, new technology in this field now promises delivery of professional quality signals.

This course primarily examines the Audio Video Bridging (AVB) standard documented by the Institute of Electrical and Electronics Engineers (IEEE) under IEEE 802.1BA. The standard achieves time deterministic and fixed bandwidth delivery of signals and control over Ethernet and other IEEE 802 packet switched networking standards.

The motivation for AVB is the obsolescence of multiple signal and control hardware interfaces and cable standards, replacing them with ubiquitous Ethernet LAN hardware.

AVB is a multi-industry standard which has had success in the audio domain, but can AVB replace baseband technology for uncompressed high bandwidth signals such as video?

We will also see how AVB fits with other network signal distribution standards such as SMPTE2022.

The course

The purpose of this course is to establish if the technology can meet the high demands of the professional broadcast industry and be a genuine alternative to baseband distribution within a broadcast environment.

How AVB might be professionally deployed, diagnosed and maintained.

The AVB specification, function and protocol suite will be examined in high detail.

The course will also examine the heterogeneous and distributable nature of networks and explain the technology which underpins networks, particularly LAN technology on which AVB sits.

There will be multiple practical sessions with AVB compliant equipment. The delegates will be able to see first-hand the function of AVB.

Prerequisites

Basic understanding of broadcast television concepts, basic grounding in IT and networking.

Please note this course does not require a detailed knowledge of networking technology as these concepts will be discussed.

Who should attend?

Broadcast engineers and others who wish to acquaint themselves with AVB and networking technology, particularly with regard to professional signal distribution.

Learning outcomes

Delegates will:

1. Understand exactly how packet switched LAN technology works.
2. Understand the pros and cons of using such technology for signals.
3. Compare AVB with other protocols suites, such as SMPTE 2022.
4. Understand all the functions and processes employed in the AVB standard for packet switched time aware signal delivery.

All learning outcomes will be achieved using the information provided, case studies, practical demonstrations and labs.

Content

Network Fundamentals for Broadcast

- Established Broadcast Communication
- Network Technology Principles
- Protocols and Network Models
- Evolution of Networks within Broadcast

Understanding LAN Communication

- LAN Technology Principles
- Ethernet LAN Technology
- LAN Forwarding Concepts

AVB Audio Video Bridging

- Introduction to AVB

- Broadcast AVB Signals
- Timing the Network
- AVB Stream Management
- AVB and the Audio Industry
- AVB for Professional Video