



A/V NETWORKING – DESIGN

Networked A/V solutions are all around us, but the way media traverses a network as ethernet traffic can be mysterious at best. With straightforward examples and plain language, this course session aims to unravel the mystery, explaining design validation tools in the Network, Signal Processing, and Application domains. Delivered in-person at your location, **A/V Networking – Design** is for anyone in the field of pro A/V who wants to be more informed about putting media on a network.

Prerequisites: There are no prerequisites for **A/V Networking – Design**

Continuing Education: 4 AVIXA RUs CTS/CTS-D

Time to Complete: One half-day (in-person)

The trainee will learn:

- The primary considerations when building, or upgrading to, a networked media solution, with a focus on video traffic
- Performance factor considerations when selecting an ethernet switch
- Precision Time Protocol versions 1 & 2 - the IEEE standards essential for media playback
- Tips for building a successful physical topology
- Multicast traffic management and why careful design is mandatory for viable media transmission

KEY TOPICS COVERED

BANDWIDTH	Learn how to calculate bandwidth requirements for both video & audio signals, and why video creates significantly more traffic than audio.
ETHERNET SWITCHES	Understand primary considerations for choosing the right switch for your network and demystify terms you will encounter on switch spec sheets.
NETWORK DIAMETER	Why we are concerned with the “hop count” in a network carrying media traffic.
TOPOLOGIES	A high level look at what to consider when wiring your network, and how different arrangements affect hop count.
BOTTLENECKS	Uplinks between switches are the largest limiting factor of the network. Learn how to best provision each of them, no matter your topology.
VIDEO PROCESSING	How to manage video bandwidth, by balancing resolution, frame & bit rates, chroma subsampling, and compression.