

In-Depth Exploration of SCSI



In this seminar students acquire a significant working knowledge of the SCSI architecture and protocol by participating in instructor-lead demonstrations and discussions. Geared to all levels of user experience, the seminar begins with the most basic concepts of SCSI operations and theory, and ends with the most advanced aspects of the interface.

You will learn how to interpret timing charts on the second and third day of the course, and see practical examples of SCSI BUS operation as you help build and issue commands to a SCSI device.

Every student who attends the seminar will receive a specially designed (and published) Reference Manual. This manual details the SCSI protocol & signalling to bit level and will prove an invaluable resource for years to come.

Introduction

History and Current Status of SCSI
What is SCSI and Why SCSI

Configurations

SCSI-2 Objectives and Differences Between
SCSI-1 and SCSI-2

SCSI System Architecture

Physical Characteristics

Host Adapters and Peripheral Controllers
Bus Configurations SCSI-1/2/3
Bus Signals, Values and Sources
Cable Alternatives, Terminator Power and
Connector Types
Logical Characteristics

Phases and Phase Sequences

Connect, Disconnect, and Reconnect
Arbitration, Selection, Reselection,
Timeout Procedures & Timing Diagrams
Information Transfer Phases
REQ/ACK Handshake of Information
(Synchronous and Asynchronous)
Fast/Wide/Ultra/LVD SCSI

Message System and Status

All Message Codes, Formats, Descriptions
and Rules
Status Format and Codes

Commands

Command Formats for All Devices
Command Examples: Direct Access
Devices, Sequential Access Devices
Examples of How to Issue and Interpret Commands

BUS/Device States and Other SCSI Topics

SCSI Pointers
Error Recovery Procedures
Multi-threading Operations
Command Control Block
Attention, Reset, and Unit Attention
Contingent Allegiance Condition (also
Extended CAC)
Linked Commands
Queued Commands
SCSI Testing Objectives
How to Use SCSI Standards
Advanced SCSI-3
FAST 80 = ULTRA3 = ULTRA160 (SPI-3)
FAST 160 = ULTRA320 (SPI-4) Some Topics
Quick Arbitration
Information Units
Data Group transfers

Who Should Attend: This In-Depth course is designed for hardware, firmware, software, test and any other engineer requiring an in-depth understanding of SCSI. It is also valuable for those who are responsible for qualifying and supporting any SCSI peripheral or computer that has an SCSI interface. This course provides a thorough understanding of the SCSI communications being carried by the advanced protocol movers like "Fibre Channel" and "iSCSI" and is recommended as a complementary course of instruction to both of these advanced communications mechanisms.

Prerequisites: An understanding of current computer interfaces or networks is useful, but not essential.

Course Length: 3 Days