

Copper & ADSL Network Testing with the HST-3000c

Course Number	Delivery Method	Course Length	Language of Instruction
TT-HST3000c	Instructor-Led at Customer Site	2 Days	English
TT-HST3000c-VC	Instructor-Led via Virtual Classroom	Five 2-hour sessions	English

Synopsis

This course is designed to give a detailed overview of how to use the HST-3000c, building on basic technology concepts including POTS/Copper and ADSL, and moving to full testing capabilities. Participants will use this knowledge to perform basic POTS copper qualification measurements and local loop service verification for ADSL.

Prerequisites

A basic understanding of telecommunications principles and strong knowledge and skill in POTS copper testing and qualifying copper and ADSL Fundamentals and Test Applications (TT-ADSL).

Who Should Attend

Technicians, engineers, and technical support personnel who are directly or indirectly responsible for installing, maintaining, or troubleshooting local loop services and any one who uses the HST-3000c to for POTS and ADSL.

Course Goals

Upon completion of this course, participants will be able to:

- Describe the characteristics of the copper loop and how they affect bandwidth
- Describe ADSL network components from the customer site to the central office
- Describe ADSL signal characteristics and how they are affected by circuit design
- Describe a layered approach to testing ADSL services
- Demonstrate ability to perform a series of tests necessary for copper qualification and ADSL service verification

Course Outline

HST-3000c Overview and General Use (Hands-on, VC Session 1)

- Test set features, benefits, and capabilities
- Communications
- TestPad UIM and menus
- Status and configuration

Copper Qualification requirements (VC Session 2)

- Overview of Copper Technology
- Copper qualification tests
 - AC/DC Voltage
 - Current
 - Insulation and loop resistance
 - Longitudinal balance (power influence-noise)
 - Load coil detection
 - Single trace TDR (bridged taps, wet sections, load coil location, shorts, opens, splices)

Using the HST-3000c Copper SIM (Hands-on, VC Session 3)

- Navigating Copper SIM menus and results

- Locating LEDs and Results
- Manual Copper provisioning and maintenance
- Performing Copper qualification testing
- TDR and RFL

ADSL technology overview (VC Session 4)

- Loop Characteristics
- ADSL Network Components
- ADSL Framing and Overhead
- ADSL Transmission

Using the HST-3000c ADSL SIM (Hands-on, VC Session 5)

- Navigating ADSL SIM menus and results
- Locating LEDs and Results
- Qualify the loop
- Physical layer connectivity
- Manual ADSL provisioning and maintenance
- ADSL service verification w/ATU-R modem emulation
- IP ping (purchasable test set option)

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