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## CTR8780 Installation, Operation, and Maintenance

TRN-CTR8780-IOML2 A/B/C/D

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### Course Specifics

Duration:	3 days
Class capacity:	10 students
Materials provided:	Student Handbook (e-Book)

### Course Description

The CTR 8780 is a microwave router. It is a fully integrated microwave networking solution, delivering a unique combination of high-capacity all-packet transport, Carrier Ethernet, IP/MPLS, and PWE services, and comprehensive mission-critical microwave features. The CTR is purpose-built for microwaves, enabling operators to use it in an IP/MPLS and reduce the equipment on site.

The CTR8780 Installation, Operation, and Maintenance course teaches students key functions of the CTR8780 platform. The course includes an overview of all available modules and the chassis, initial setup, installation and login, basic configuration with the CLI, system commissioning, configuration, diagnostics, maintenance, and troubleshooting. Extensive hands-on labs (nearly 50% of the course duration) and case studies offer students scenarios they will face in real deployments in their networks.

Courses are conducted by AVIAT expert trainers in a mentoring environment backed by their deep technology expertise and experience in the implementation of microwave wireless and IP networks.

The CTR8780 Installation, Operation, and Maintenance course is conducted at the Aviat Training locations or can be arranged at customer sites

### Target Audience

This course is intended for installation and service personnel responsible for installation, configuration, test, and maintenance procedures for the CTR8780 product.

### Prerequisites

- Participants must complete the CTR System Overview E-Learning course.
- Participants should have a basic understanding of Microwave and IP Fundamentals and have basic computer skills.
- Each student must bring a laptop PC and have administrator rights on the PC with the following parameters.
  - Pentium 4 or later w/ 1GB of RAM and 250 Mb of free hard drive space.
  - Microsoft Windows 7, 8, or 10 and Google Chrome as the web browser.
  - USB Port / LAN Port / and DB9 serial port connection or adapter

### Objectives

Upon completing this course, participants will be able to:

- Basic installation and configuration of CTR8780 equipment
- Provisioning of features such as Management, Ethernet VLANs, QoS, and Link Aggregation
- Basic diagnostics, troubleshooting, and preventive maintenance for CTR8780



## Course Outline

### System Overview

- CTR8780 Platform Base Hardware Highlights
- Product Architecture
- Power input
- Management access
- Licensing
- Deployment options

### Installation

- Unpacking
- CTR 8780 front panel
- Requirements
- Procedure
- Grounding and power supply
- SD Card

### Basic Access & Management

- Local maintenance ports
- Management options
- Management access configuration
- Admin management

### VLAN Configuration

- VLAN concepts on CTR 8780
- VLAN configuration
- Q-in-Q concept
- Q-in-Q configuration

### LACP Configuration (optional)

- Link aggregation concepts
- LACP configuration via CLI
- LACP configuration example
- Verifying LACP

### L1LA Configuration

- L1LA concepts
- L1LA scenarios
- L1LA Configuration

### Synchronization Configuration

- Network synchronization
- Synchronization configuration
  - Global
  - Interfaces
- Verifying synchronization
- SYNCE configuration example

### QOS Configuration

- QOS concept
- Non-hierarchical QOS
  - Classification
  - Metering (Policing)
  - Color-Aware Mode
  - Scheduling and Shaping
  - Remarking
- Hierarchical QOS
  - Classifier configuration
  - Policy configuration
- QOS configuration via CLI
- QOS configuration via GUI

### ERPS Configuration (Optional)

- Ethernet Ring Protection System
- ERPS operation
- Ethernet OAM
- ERPS configuration

## Required Equipment for Training Sessions at Customer Sites

RADIO	<p>One equipment rack with 48VDC power supply (all CTR8780 equipment is positive earth)</p> <p>Chassis configurations should include as a minimum:</p> <ul style="list-style-type: none"> <li>• SD cards with relevant licenses based on Network Deployment and Configuration</li> </ul>
OTHER EQUIPMENT	<p>Ethernet tester</p> <p>Digital Multimeter.</p>
CLASSROOM SET UP	<p>Sufficient in size to handle all participants and the instructor, desks, chairs, and classroom equipment. The room must have enough 110 AC (220) AC power and air conditioning to operate equipment, all student's clients PC's and the server or radio as required.</p> <p><b>Classroom Equipment</b></p> <p>Marker board, SVGA or Overhead projector and screen.</p> <p><b>Desk and Chairs</b></p> <p>Desks or workstations with enough room for each student to write have open books, client PC and/or, keyboard and monitor.</p> <p><b>Internet Access</b></p> <p>Internet access through the server or client PC.</p>



## Pricing & Scheduling

Please contact your Aviat local sales team for a quote or email [aviatcareeducate@aviatnet.com](mailto:aviatcareeducate@aviatnet.com) and request pricing for the following items:

TRN-CTR8780-IOML2-A	CTR 8780: Installation, Operation and Maintenance, Layer 2- ILT, 3 Days, Aviat Training Center- Open Enrollment -per Student
TRN-CTR8780-IOML2-B	CTR 8780: Installation, Operation and Maintenance, Layer 2- ILT, 3 Days, Aviat Training Center- 10 Students Max
TRN-CTR8780-IOML2-C	CTR 8780: Installation, Operation and Maintenance, Layer 2- ILT, 3 Days, Customer Location- 10 Students Max
TRN-CTR8780-IOML2-D	CTR 8780: Installation, Operation and Maintenance, Layer 2- ILT, 3 Days, Customer Location-with Equipment- only for US- 10 Students Max
TRN-CTR8780-VILT-A	CTR 8780: Installation, Operation and Maintenance- VILT- 3 Days- Open Enrollment-per Student
TRN-CTR8780-VILT-B	CTR 8780: Installation, Operation and Maintenance- VILT- 3 Days- 10 Students