EDUCATION SERVICES

Eclipse Installation, Operation and Maintenance Course

TRN-ECL-IOM-A/B/C/D

Course Specifics

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

Course Description

The Eclipse™ product family is a highly modular and scalable platform that delivers a unique combination of high-capacity hybrid or all-packet transport, Carrier Ethernet/IP networking, and comprehensive mission-critical microwave features, that enable operators to prepare for the all-IP future.

The **Eclipse Installation, Operation, and Maintenance course** teaches students key functions of the Eclipse platform. It includes an overview of all available equipment, basic configuration with the Portal craft tool, system commissioning, maintenance, diagnostics, and troubleshooting. Extensive hands-on labs (nearly 50% of the course duration) provide the students with scenarios they will face in real deployments in their networks.

Courses are conducted in a mentoring environment by **AVIAT expert trainers,** backed by their deep technology expertise and experience in implementing microwave wireless and IP networks.

The Eclipse 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 the Eclipse platform's installation, configuration, test, and maintenance procedures.

Prerequisites

1. Before the training session, it is recommended that participants complete the Eclipse System Overview e-learning course assigned to them.

2. Participants should have a basic understanding of Electronics, Telecommunications, and IP Fundamentals and have basic computer skills.

3. Each student must bring a laptop PC and have administrator rights on the PC (to allow installation of the Portal craft tool).

   The PC must have minimum parameters of:

   - 1GB of RAM and 250 Mb of free hard drive space
   - Network card (LAN Port)
   - DB9 serial port connection or adapter (optional)

Objectives

Upon completing this course, participants will be able to do:

- Basic installation and configuration for Eclipse radio
- Preventative maintenance on the relevant Eclipse equipment
- Basic diagnostics and troubleshooting of the relevant Eclipse equipment

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Course Outline

Eclipse System Overview

- Introduction to Basic Overview
- Introduction to Node and Terminal Platform

Eclipse Node

- Node Concept
- Basic Architecture and Capabilities
- Indoor Units: INU and INUe
- Slot Assignment Rules
- Backplane Bus
- Node Capacity Rules and Licensing
- Plug-in Cards
- Node and DAC Protection
- RF Unit Overview

Installation and Commissioning

- INU Card Handling and Rules
- Indoor Installation
- Outdoor Installation
- Commissioning
- Configuration Work Flow
- Acceptance Testing
- Records Keeping
- Lab Exercise

Ethernet DACs

- Eclipse Packet Node
- DAC GE3
- Modes of Operation
- VLANs
- Link Aggregation
- Link Status Propagation
- QOS and Scheduling
- DAC GE3 Protection
- Lab Exercise

Eclipse ODU/RFUs

- ODU 600v1 and v2
- IRU600v1, v2, and v3 (North America only)
- Antenna Mount and Coupler
- RSSI
- RAC-ODU/RFU Cable
- ODU/RFU Block Diagram
- CCDP with XPIC
- ACM (Adaptive Modulation)

Eclipse ODU/RFU Configuration

- Protection Options
- Hot Standby 1+1
- Space Diversity
- Frequency Diversity
- Dual Protection
- NCM

Portal

- Introduction to Portal Craft Tool
- Portal Installation
- Portal PC Configuration for Ethernet and V.24/RS-232 Connections
- Eclipse Network Management
- Portal Screens
- Lab Exercise

Eclipse Diagnostics and Troubleshooting

- Diagnostics Overview
- LEDs
- Alarms
- HTML Help
- Diagnostics Screens
- Loopbacks
- Event Browser
- Performance and History
- Troubleshooting Overview
- Troubleshooting Path Problems
- Troubleshooting Configuration Problems
  Lab Exercise

Preventative Maintenance

- Maintenance Overview
- Inspections
- Trend Analysis
- Fault Analysis and Reporting
- Spares
- Software Management
  Lab Exercise

Required Equipment for Training Sessions at Customer Sites

RADIO	One equipment rack with 48VDC power supply (note; all Eclipse equipment is positive earth) At least 1 Traffic free hop – 2 radios talking to each other. (Path has been simulated with at least 60dB of attenuation, for troubleshooting training variable attenuators are preferred but not mandatory) INU configurations each INU should include as a minimum: RAC card (with RAC jumper cable and 50ohm cable or M/M N-type adapters to connect to ODU). DAC card (with relevant traffic cables) Any relevant optional cards. ODUs should be a matching pair i.e. same sub-band and TR spacing with one being Tx High and the other Tx Lo. INU configurations it is preferred although not essential to have 3 x INU and 2x Pairs of ODUs to allow nodal configurations to be made during the training.
OTHER EQUIPMENT	Not Applicable.
CLASSROOM SET UP	Sufficient in size to handle all participants, 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. **Classroom Equipment** Marker board, SVGA, or Overhead projector and screen. **Desk and Chairs** Desks or workstations with enough room for each student to write have open books, client PC and/or, keyboard and monitor. **Internet Access** Internet access through the server or via the client's PC.

EDUCATION SERVICES

Pricing & Scheduling

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

TRN-ECL-OVIEW-E	ECLIPSE OVERVIEW - ELEARNING -PRICE PER STUDENT
TRN-ECL-IOM-A	ECLIPSE: INSTALLATION, OPERATION AND MAINTENANCE - ILT, 3 DAYS, AVIAT TRAINING CENTER - OPEN ENROLLMENT -PER STUDENT
TRN-ECL-IOM-B	ECLIPSE: INSTALLATION, OPERATION AND MAINTENANCE - ILT, 3 DAYS, AVIAT TRAINING CENTER- 10 STUDENTS MAX
TRN-ECL-IOM-C	ECLIPSE: INSTALLATION, OPERATION AND MAINTENANCE - ILT, 3 DAYS, CUSTOMER LOCATION- 10 STUDENTS MAX
TRN-ECL-IOM-D	ECLIPSE: INSTALLATION, OPERATION AND MAINTENANCE - ILT, 3 DAYS, CUSTOMER LOCATION-WITH EQUIPMENT- ONLY FOR US- 10 STUDENTS MAX