
Eclipse Installation, Operation and Maintenance Course

TRN-WW-ECL-01

Course Specifics

Duration:	3 days
Class capacity:	10 students
Location(s) for open enrollment:	San Antonio, TX, USA Hamilton, Scotland, UK Paris, France Lagos, Nigeria Clark, Philippines Mexico City, Mexico
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, enabling operators to prepare for the all-IP future.

The **Eclipse Installation, Operation and Maintenance course** teaches students key functions of the Eclipse platform. The course 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) offer students with 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 implementation of 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 installation, configuration, test and maintenance procedures for the Eclipse platform.

Prerequisites

1. Participants must complete Eclipse System Overview e-learning course.
2. Participants should have a basic understanding of Electronics, Telecommunications and IP Fundamentals and have basic computer skills.
3. Each student must bring an IBM compatible laptop PC and have administrator rights on the PC (to allow installation of the Portal craft tool).

The PC must have minimum parameters of:

- Pentium 4 or later w/ 1GB of RAM and 250 Mb of free hard drive space
- Microsoft Windows XP, Vista, or Windows 7
- USB Port
- Network card (LAN Port)
- DB9 serial port connection or adapter (optional)

Objectives

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

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

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
- -NCC, -FAN, RACs, -DACs, -AUX, -NPC
- 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 DAC's

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

Eclipse Terminals

- Eclipse Terminal Overview
- Eclipse IDU GE3 16x
- Eclipse Terminal protection Operation

Eclipse ODU/RFUs

- ODU 300hp
- ODU 600
- IRU600v1, v2, and v3 (North America only)
- Antenna Mount and Coupler
- RSSI
- RAC-ODU/RFU Cable
- ODU/RFU Block Diagram

Eclipse ODU/RFU Configuration

- Protection Options
- Hot Standby 1+1
- Space Diversity
- Frequency Diversity
- Dual Protection
- TDM Ring Protection, NCM and SPDH

- CCDP with XPIC
- ACM

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	<p>One equipment rack with 48VDC power supply (note; all Eclipse equipment is positive earth)</p> <p>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 however not mandatory)</p> <p>INU configurations each INU should include as a minimum:</p> <ul style="list-style-type: none">•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. <p>IDU configurations, each IDU should have the following available;</p> <ul style="list-style-type: none">•Flash card•Relevant traffic cables•50ohm N-type cable for connection to ODU•ODU's should be a matching pair i.e. same sub band and TR spacing with one being Tx High and the other Tx Lo. <p>INU configurations it is preferred although not essential to have 3 x INU and 2x Pairs of ODU's to allow nodal configurations to be made during the training.</p>
OTHER EQUIPMENT	Not Applicable.
CLASSROOM SET UP	<p>Sufficient in size to handle all participants, instructor, desks, chairs, classroom equipment. The room must have enough 110 AC (220) AC power and air conditioning to operate equipment, all students clients PC's and the server or radio as required.</p> <p>Classroom Equipment</p> <p>Marker board, SVGA or Overhead projector and screen.</p> <p>Desk and Chairs</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>Internet Access</p> <p>Internet access through the server or through client PC.</p>

Pricing & Scheduling

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

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|-------------------|---|
| ▪ TRN- WW-ECL-01A | ECLIPSE I, M & O Course (3-days) Open Enrollment. |
| ▪ TRN- WW-ECL-01B | ECLIPSE I, M & O Course (3-days) at Aviat. |
| ▪ TRN- WW-ECL-01C | ECLIPSE I, M & O Course (3-days) at customer site |
| ▪ TRN- WW-ECL-01D | ECLIPSE I, M & O Course (3-days) at customer site with DEMO NA only |