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## Training Catalogue

# Customer Education Services

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# Gilat Customer Education Services Overview

Gilat Customer Educational Services (CES) department enables you to make the most out of your Gilat products, offering focused, cost-effective training programs to help you successfully design, configure, operate, and manage your network. Gilat structured learning approach has been developed to meet the needs of different audience types.

Gilat courses include a blend of presentations, discussions, and hands-on exercises, designed to enable students to acquire new skills and knowledge in an instructor-facilitated environment, featuring the most updated software and hardware. Courses are updated continually, keeping pace with new product designs and technology.

Our highly skilled engineers, all of whom are professional educators with a rich background in training techniques and methodology, run Gilat CES department. Standard Gilat courses include:

- **VSAT Installation & Antenna Pointing**, which provides hands-on experience in installing and maintaining remote VSATs and antennas.
- **Hub Operations**, which guides Tier-1 and Tier-2 support personnel through system theory, architecture, dataflow, installation, operation and basic troubleshooting and maintenance procedures.
- **Advanced Hub Operations and Troubleshooting**, which enhances the skill set of Tier-2 and Tier-3 support personnel, who perform high-level network diagnostics and troubleshooting. The course provides the participants with deeper understanding of Gilat products and analysis tools and sharpens the troubleshooting technics of the students.
- **Sizing**, which guides personnel in how to perform the necessary calculations for system sizing, from simple to more complex sizing scenarios, using practical cases.
- **E-learning Academy**, which includes a selection of courses developed for online use, available on [Gilat' e-Learning Academy](#) web site.

In addition to standard courses, Gilat can customize course study according to customers' specific operations and personnel requirements.

Please review the Gilat courses in this document. If you have any questions, please contact Gilat Customer Educational Services: [ces@gilat.com](mailto:ces@gilat.com).

# 1 SkyEdge II-c x-Hub Basic Operations

**Course Name:** SkyEdge II-c X-Architecture Hub Operations

**Course Code:** PSTRSEIIcX01, PSTRSEIIcX02

**Prerequisites:** NET 101 or previous networking experience

**Duration:** Five (5) days

**Enrollment:** Twelve (12), maximum

**Locations:**

- Gilat Customer Educational Centers:
- Petach Tikvah, Israel
- Bangkok, Thailand
- Customer site (non-commercial hub only)

**Course Overview:**

The Gilat SkyEdge II-c X-Architecture Hub Operations course is aimed at Tier-1 and Tier-2 Hub operators who will be operating and maintaining the SkyEdge II-c X-Architecture Hub and remote VSATs. This course introduces the theoretical, operational, and practical aspects of the SkyEdge II-c X-Architecture system. It includes hands-on workshops and exercises, enabling participants to practice basic configuration of the Gilat system/equipment and to perform basic troubleshooting.

**Note:** Participants should enroll in a scheduled course just prior to Hub installation.

**Course Objectives:**

Upon completing the course, participants will be able to:

- Describe system components and associated functions
- Describe system Data Flow
- Identify Hub components
- Install, configure and troubleshoot a VSAT
- Describe TotalNMS architecture and the functions
- Add/delete/modify/manage VSAT Groups and VSATs
- Create/copy/modify component configurations
- Analyze TotalNMS alarms and events
- Backup and restore TotalNMS database parameters
- Perform daily and periodic Hub maintenance procedures
- Describe and perform basic configurations of common features<sup>1</sup>:
  - NMS Basic Usage
  - MG & VSAT creation
  - SLA Profiles
  - Classification Profiles
  - Users management
  - Monitoring

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<sup>1</sup> According to features implemented at customer's network.

## 2 SEII-c x-Hub Advanced Operations & Troubleshoot

**Course Name:** SkyEdgeIIc Advanced xHub Operations and Troubleshooting Course

**Course Code:** PSTRSEIIc04, PSTRSEIIc05

**Prerequisites:** Participants must first complete the x-Hub Basic Operations course **or** successfully pass the Gilat SkyEdge II-c xHub Operations Certification Exam

**Duration:** Five (5) days

**Enrollment:** Twelve (12), maximum

**Locations:**

- Gilat Customer Educational Centers:
- Petach Tikva, Israel
- Customer site (non-commercial hub only)

**Course Overview:**

The SkyEdge II-c Advanced X-Hub Operations and Troubleshooting course is aimed at field service engineers and experienced X-Hub operators who provide Tier-2 and Tier-3 system support, operate and maintain the SkyEdge II-c

X-Hub and Remote VSATs. This course introduces the detailed theoretical, operational, and practical aspects of the SkyEdge II-c system. Participants will gain thorough knowledge of the system architecture and will gain experience in the system troubleshooting.

Course participants will receive background information about Gilat system troubleshooting methodology and will learn how to use common analysis and technical engineering tools. They will also learn how to identify performance degradation and how to evaluate and repair system failures. The course includes hands-on workshops and exercises, enabling participants to practice configuration of Gilat system/equipment and to perform system troubleshooting and monitoring.

**Course Objectives:**

Upon completing the course, participants will be able to:

- Describe system architecture, features, system components and associated functions
- Identify X-Hub components
- Explain attributes of the GILAT LDPC Inbound access schemes
- Describe DVB-S2X GILAT implementations' essential attributes
- Describe SkyEdge II-c X-Hub System Architecture
- Analyze the network performance using TotalNMS monitoring tools
- Analyze NMS alarms and events
- Monitor the LAN traffic using a sniffer
- Perform Basic RF Analytics
- Perform management and maintenance procedures of NMS and NSC
- Describe and implement the troubleshooting methodology
- Effectively communicate with Gilat Technical Support

# 3 Skyedge II-c x-Hub Vsat and Antenna Installers

**Course Name:** SkyEdge II-c VSAT and Antenna Installers

**Course Code:** PSTRSEIIc012

**Prerequisites/Required Skills:**

Previous work experience in VHF/UHF Land-Mobile, cellular, TVRO, terrestrial microwave antenna installations or other RF-related fields is advantageous but not required.

**Duration:** Two (2) days

**Enrollment:** Twelve (12), maximum

**Location:** Customer site

**Course Overview:**

This course is aimed at technicians who will be installing and/or maintaining remote VSATs.

**Note:** If VSAT installation is handled by subcontractors, it is highly recommended that they participate in this course as well.

**Course Objectives:**

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

- Explain network architecture and basic theory of the VSAT operation
- Have a fundamental understanding of basic satellite communications as well as relevant satellite and RF terminology/acronyms
- Describe satellite-based network advantages and disadvantages, compared to alternative broadband technologies
- Illustrate basic Inbound and Outbound dataflow
- List and describe ODU subcomponents
- Explain IDU features, relevant LEDs and displayed LCD parameters
- Demonstrate VSAT configuration procedures
- List and describe all the steps involved in the commissioning process
- Determine the best suitable antenna mount for various installations
- Assemble all ODU/feed assembly components
- Assemble, install and point antenna for optimum performance
- Prepare IFL cables and connectors using a crimp/cutter tool for RG-6 and RG-11 coax
- Weatherproof RF connectors using MOCAP™ or COAXSEAL™
- Calculate the look angle for a given location
- Point the VSAT antenna using a DVB-capable spectrum analyzer or field strength meter
- Configure a PC with the required network parameters
- Test and troubleshoot VSAT/network integrity using basic networking commands to verify that the installation was successful

## 4 Skyedge II-c x-Hub Sizing Course

Course Name: SkyEdgeIIc xHub Sizing Course

Course Code: PSTRSEIIc07, PSTRSEIIc08

Prerequisites:

- Participants must first complete the SkyEdge II-c Hub Operations course
- At least one year's experience working with VSAT systems
- Basic knowledge of Microsoft Excel
- Some background in math and algebra

Duration: Three (3) days

Enrollment: Twelve (12), maximum

Locations:

- Gilat Customer Educational Centers:
- Bangkok, Thailand
- Petach Tikva, Israel
- Customer site

Course Overview:

This course teaches how to perform the necessary calculations for system sizing.

The training progresses from simple to more complex sizing scenarios, using practical cases. It also provides the tools to understand different aspects of the SkyEdge II-c system and its current capabilities. Participants gain the skills to handle sizing tools and related items, such as frequency planning. In addition, the course explains the need to reformulate link budgeting to ensure optimization.

Course Objectives:

Upon completing this course, participants will be able to:

- Calculate Forward bandwidth and all other characteristics, given specific requirements
- Make knowledgeable decisions about the entire Return mechanism, bandwidth, frequencies and schemes
- Describe the Link Budget considerations and its relation to Sizing
- Evaluate system for scenarios involving single/multiple applications
- Evaluate the benefit of adopting system enhancements
- Understand consequences of modifying system parameters
- Gain proficiency with sizing tools and spreadsheets

## 5 Skyedge II-c NMS Operations Course (VNO)

Course Name: SkyEdgeIIc VNO Operations

Course Code: PSTRSEIIc16, PSTRSEIIc17

Prerequisites: NET 101 or previous networking experience

Duration: Three (3) days

Enrollment: Twelve (12), maximum

Locations:

- Gilat Customer Educational Centers:
- Bangkok, Thailand
- Petach Tikva, Israel
- Customer site (non-commercial hub only)

Course Overview:

The Gilat SkyEdge II-c VNO Operations course is aimed at Tier-1 and Tier-2 ISP or VNO operators who will be operating the SkyEdge II-c network and remote VSATs. This course introduces the theoretical, operational, and practical aspects of the SkyEdge II-c system. It includes hands-on workshops and exercises, enabling participants to practice basic configuration of the Gilat system and to perform basic VSAT troubleshooting.

Note: Participants should enroll in a scheduled course just prior to Hub installation.

Course Objectives:

Upon completing the course, participants will be able to:

- Describe the system operational concept
- Describe system Data Flow
- Register and Provision a VSAT in NMS
- Monitor VSAT Telemetries
- Describe NMS architecture and the functions
- Add/delete/modify/ Managed Groups and VSATs
- Analyze NMS alarms and events
- Use the NMS reports and telemetries to monitor the network
- Describe and perform basic configurations of common features :
  - QoS
  - NMS Basic Usage
  - MG & VSAT creation
  - SLA Profiles
  - Classification Profiles
  - Monitoring



## 6 Skyedge II-c x-Hub Customized Course

**Course Name:** SkyEdgellc xHub Customized Course

**Course Code:** PSTRSEIIC14, PSTRSEIIC15

**Prerequisites:**

- Participants must have completed the Hub Operations Course
- At least six months' working experience with SkyEdgellc system
- Strong background in basic networking, RF, and satellite communications fundamentals is an advantage

**Duration:** Customized

**Enrollment:** Twelve (12), maximum

**Locations:**

- Gilat Customer Educational Centers:
- Petach Tikva, Israel
- Customer site (non-commercial hub only)

**Course Overview:**

This course is aimed at field service engineers and Hub operators who will be providing Tier-2 and Tier-3 system support and who wish to be trained on the specific topics related to SkyEdge II-c system. Course participants will receive extensive background information on SkyEdge II-c supported technologies.

The course includes daily, hands-on workshops, enabling participants to practice system/equipment configurations.

This course is customized, enabling participants to select topics of interest from the training modules presented below, and to determine the length of the course.

**Training Modules**

The table below lists the available modules and their duration<sup>2</sup>:

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<sup>2</sup> Modules that don't appear in the table may be added as well according to customer request.

Training Module	Description	Duration (Days)	Notes
<b>Hub Architecture Refresher</b>	Refresh and extend your knowledge of the system introduction, architecture and working modes as a basis for the rest of the course.	1	Mandatory
<b>System Analysis &amp; Monitoring</b>	Perform system analysis and monitoring using system monitoring tools such as TotalNMS reports and telemetries.	1	
<b>TotalControl</b>	Extend your knowledge in various Bandwidth Management mechanisms and QoS.	1	The hands-on is performed on non-commercial hub only
<b>VoIP</b>	Understand VoIP technology and Gilat's implementation of this feature.  Configure Gilat's VoIP solution.	1/2	The hands-on is a subject to the availability of the VoIP equipment.
<b>Cellular Backhauling</b>	Understand Gilat's Backhauling implementation.  Practice the configuration of this feature.	1	The hands-on is performed on non-commercial hub only
<b>Layer 2</b>	Understand Gilat's implementation of Layer 2 feature.  Practice the configuration of this feature.	1	The hands-on is performed on non-commercial hub only
<b>Mobility</b>	Understand the Mobility mechanism and its implementation in the system.  Practice the configuration of this feature.	2	The hands-on is performed on non-commercial hub only

Training Module	Description	Duration (Days)	Notes
<b>IP Features</b>	Learn about the implementation of enhanced IP features, such as DHCP, NAT, Dual IPSec, Static and Dynamic Routing, Multicast in SkyEdge II-c system.  Practice the configuration of these features.	1/2	The hands-on is performed on non-commercial hub only
<b>Multiple VLANs</b>	Learn about the implementation of the multiple VLANs in SkyEdge II-c system.  Practice the configuration of this feature.	1/2	The hands-on is performed on non-commercial hub only
<b>NBI Operation</b>	Learn about the operation of TotalNMS NBI for access of OSS/BSS.	1	
<b>NMS and NSC Troubleshooting</b>	Become familiar with NMS and NSC cluster configuration, perform basic monitoring and troubleshooting.	1	The hands-on is performed on non-commercial hub only
<b>RF Measurements</b>	Become familiar with SkyEdge II-c RF measurements procedure and perform the RF measurement according to it.	½ - 1	The hands-on is a subject to the availability of the RF measuring equipment.
<b>Cloud QoS</b>	Become familiar with Network QoS enforcement mechanism Vs. MG/NS traditional one. Learn about Custom Areas and new QoS capabilities	½ - 1	Hands-On includes configuration practice, but not installation of CQM

# 7 Skyedge II-c Customized Webinar

**Course Name:** SkyEdge II-c Customized Webinar

**Course Code:** PSTRwSEIIc01

**Location:** Online

Course Overview:

You can request that Gilat Customer Education Services to develop customized SkyEdge II-c webinar to meet your requirements.

To help define, develop and deliver webinars, please contact any of the following:

- Your local PM
- Our general Gilat Customer Educational Services contact, [ces@gilat.com](mailto:ces@gilat.com)
- Gilat Customer Training Manager, [Shay Kraim](#)

## 8 Skyedge IV Basic Hub Operations Course

**Course Name:** SkyEdgeIV Basic Hub Operations Course

**Course Code:** **PSTRSEIVC01** (Private at Customer), **PSTRSEIVG01** (Private at GILAT)

**Prerequisites:** Previous satcom/networking/RF experience

**Duration:** Five (5) days

**Enrollment:** Twelve (12), maximum

**Locations:**

- Gilat Customer Educational Centers:
- Petach Tikvah, Israel
- Customer site (non-commercial hub only)

**Course Overview:**

The Gilat SkyEdge IV Basic Hub Operations course is aimed at Tier-1 and Tier-2 Hub operators who will be operating and maintaining the SkyEdge IV Hub and remote VSATs. This course introduces the theoretical, operational, and practical aspects of the SkyEdge IV system. It includes hands-on workshops and exercises, enabling participants to practice basic configuration of the Gilat system/equipment and to perform basic troubleshooting.

**Note:** Participants should enroll in a scheduled course just prior to Hub installation.

**Course Objectives:**

Upon completing the course, participants will be able to:

- Describe system components and associated functions
- Describe system Data Flow
- Identify Hub components
- Install, configure, and troubleshoot a VSAT
- Describe TotalNMS architecture and the functions
- Add/Delete/Modify Managed Groups and VSATs
- Create/copy/modify component configurations
- Go over SEIV Mobility contours and beams
- Describe and perform basic configurations of common features<sup>3</sup>:
  - NMS Basic Usage
  - MG & VSAT creation
  - SLA Profiles
  - Classification Profiles
  - Users management
  - Monitoring

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<sup>3</sup> According to features implemented at customer's network.

# 9 Skyedge IV Advanced Operations & Troubleshoot

**Course Name:** SkyEdgeIV Advanced Hub Operations and Troubleshooting

**Course Code:** **PSTRSEIVC02** (Private at Customer), **PSTRSEIVG02** (Private at GILAT)

**Prerequisites:** Previous satcom/networking/RF experience , SEIV Basic Operations

**Duration:** Five (5) days

**Enrollment:** Twelve (12), maximum

**Locations:**

- Gilat Customer Educational Centers:
- Petach Tikvah, Israel
- Customer site (non-commercial hub only)

**Course Overview:**

The Gilat SkyEdge IV Advanced Hub Operations course is aimed at Tier-1 and Tier-2 Hub operators who will be operating and maintaining the SkyEdge IV Hub and remote VSATs. This course introduces the theoretical, operational, and practical aspects of the SkyEdge IV system. It includes hands-on workshops and exercises, enabling participants to practice advanced configuration of the Gilat system/equipment and to perform basic troubleshooting.

**Course Objectives:**

Upon completing the course, participants will be able to:

- Describe and understand SEIV Networking
- Describe system components and topologies
- Get to know SEIV VLANs
- Perform Basic Troubleshooting
- Understand system architecture and redundancies
- Get familiarized with system pods (Kubernetes)
- Be able to re-start NMS micro-services
- Create/copy/modify component configurations
- Collect Basic Logs
- Perform basic RF Troubleshooting
- Learn how to capture and sniff SEIV network traffic

# 10 Skyedge IV Sizing Course

**Course Name:** SkyEdgeIV Sizing Course

**Course Code:** **PSTRSEIVC04** (Private at Customer), **PSTRSEIVG04** (Private at GILAT)

**Prerequisites:**

- Participants must first complete the SkyEdge IV Basic Hub Operations course
- At least one year's experience working with VSAT systems
- Basic knowledge of Microsoft Excel
- Some background in math and algebra

**Duration:** Three (3) days

**Enrollment:** Ten (12), maximum

**Locations:**

- Gilat Customer Educational Centers:
  - Bangkok, Thailand
  - Petach Tikva, Israel
- Customer site

**Course Overview:**

This course teaches how to perform the necessary calculations for system sizing.

The training progresses from simple to more complex sizing scenarios, using practical cases. It also provides the tools to understand different aspects of the SkyEdgeIV system and its current capabilities. Participants gain the skills to handle sizing tools and related items, such as frequency planning. In addition, the course explains the need to reformulate link budgeting to ensure optimization.

**Course Objectives:**

Upon completing this course, participants will be able to:

- Calculate Forward bandwidth and all other characteristics, given specific requirements
- Make knowledgeable decisions about RTN mechanism, bandwidth, frequencies & schemes
- Describe the Link Budget considerations and its relation to Sizing
- Learn how to plan and size SEIV system equipment
- Evaluate system for scenarios involving single/multiple applications (Traffic Mixing)
- Understand consequences of modifying system parameters
- Gain proficiency with sizing tools and spreadsheets
- Understand how to utilize QoS capabilities for more efficient system performance

# 11 GLT/MLT Installation and Operations Course

**Course Name:** GLT/MLT Installation and Operations Course

**Course Code:** PSTRCOTM07, PSTRCOTM08

**Prerequisites:** NET 101, or previous networking experience

**Duration:** Two (2) days

**Enrollment:** Twelve (12), maximum

**Locations:**

- Gilat Customer Education Center, (Petach Tikva, Israel)
- Customer site

**Course Overview:**

The GLT Installation and Operations Course is aimed at any technical personnel who want to know how to operate and perform basic troubleshooting for the GLT/MLT. Participants will learn the theoretical and operational aspects of GLT/MLT technology.

The course includes hands-on workshops and exercises, enabling participants to practice GLT/MLT equipment installation, configuration, and operation.

**Course Objectives:**

Upon completing the course, participants will successfully:

- Describe the principles of GLT/MLT modem operation
- Describe GLT/MLT modem connections
- Understand GLT/MLT modem electrical requirements
- Perform GLT/MLT modem installation
- Connect and configure the GLT/MLT modem
- Perform basic troubleshooting for the GLT/MLT modem
- Learn how to manage and control the GLT/MLT modem via SNMP



# 12 MCPC Hub Operations Course

**Course Name:** MCPC Hub Operations Course

**Course Code:** PSTRCOTM09, PSTRCOTM10

**Prerequisites:** NET 101, or previous networking experience

**Duration:** Three (3) day

**Enrollment:** Twelve (12), maximum

**Locations:**

- Gilat Customer Education Center, (Petach Tikva, Israel)
- Customer site

**Course Overview:**

The MCPC Hub Operations Course is aimed at any technical personnel who want to know how to operate and perform basic troubleshooting for the MCPC Hub. Participants will learn the theoretical and operational aspects of MCPC technology.

The course includes hands-on workshops and exercises, enabling participants to practice the MCPC Hub equipment installation, configuration, and operation.

**Course Objectives:**

Upon completing the course, participants will successfully:

- Describe system components and associated functions
  - Describe the principles of GLT/MLT modem operation
  - Describe GLT/MLT modem connections
- Describe system principles of operation
- Identify Hub components
- Install, configure and troubleshoot a terminal
- Configure and troubleshoot hub components
- Describe NMS architecture and GUI functions
- Backup and restore NMS database parameters
- Perform NC switchover
- Describe and perform basic configurations of:
  - QoS
  - IP Features