

Online interactive course GVF 562E

SeaTel Marine VSAT Operators' Course

Why should VSAT operators be trained?

SeaTel Marine VSAT terminals offer global broadband coverage to vessels at sea. For maximum service availability, crew operators should be trained to perform critical operational tasks after the installation technician has departed.

What will you learn in the course?

In this course, you will learn fundamental aspects of how to monitor, operate, and perform at-sea maintenance of a SeaTel '09 series marine VSAT terminal.

Topics covered include hardware components of the SeaTel 09 series VSAT terminal, principles of operation of the terminal, startup and shutdown procedures, DAC front panel operation, satellite modem operation, operator-level troubleshooting, and preventive maintenance.

Who should take this course?

This course is ideal for all radio operators, IT technicians, or other crew members who are responsible for operating a SeaTel '09 series VSAT terminal while underway.

Major components

The heart of the Below Decks Equipment is the Antenna Control Unit (ACU).

In this diagram, model DAC-2202 is shown. Sometimes a SeaTel ACU is referred to simply as a "DAC."

ADE (Above Decks Eqt)

BDE (Below Decks Eqt)

Ship's navigation equipment

Ship's communications equipment

AC power

IFL coax cables

Interface panels

ACU

Satellite modem

AC power

Learning page explaining the major components of the SeaTel system

Shut down and power up

If you then turn on the power to the ADE, the ACU should report that the "REMOTE INITIALIZING", and the antenna will go through a series of motions as it tests itself.

When it is ready, the Initializing light will turn off and the display will show the software revision of the processor in the ADE.

CAUTION
Keep yourself clear of the antenna whenever it could be moving. There is a potential for injury due to impact or pinching.

Gyro compass

Coaxial cables

TMS

BMP

RX

TX

Sat modem

SEA TEL INC. - REMOTE INITIALIZING

Learning page guiding the learner through terminal shut down and power up

The acquisition process

When the ADE has finished initializing, or when you press the RESET button on the ACU, the system starts in Target mode. The beam moves to the calculated az/el coordinates.

AZ 189.0 EL 028.9
REL 140.0 AGC 1903

On the ACU, the **Target** LED will be on.

The modem should indicate it does **not** have receive lock. (This example shows an iDirect modem; other modems will have different indicators.)

Beam starting point

Initial calculation of the satellite's position

Actual satellite position

Learning page with animated explanation of the satellite acquisition process



Global VSAT Forum
The association of the global satellite industry.

www.gvf.org



SatProf, Inc.
Animated, interactive technically-accurate online training for satellite professionals.

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GVF 562E Course Specifications

Summary: Necessary knowledge and skills for technicians responsible for operating and monitoring a SeaTel 09 series VSAT terminal at sea. Animation and simulator-based interactivity are used throughout the course to explain critical skills and concepts.

Certification: Students who successfully complete this course and its prerequisites are awarded the *GVF Marine Satcom Operator SeaTel Specialist* certification.

Prerequisites: GVF561 Fundamentals for Marine VSAT Operators.

Duration: Contains over 75 animated & interactive pages, requiring 5-15 hours study. Includes review quizzes and final test.

Reference materials included: Students may download and keep the exclusive SatProf SeaTel '09 series troubleshooting flowchart for operators.

Delivery: Animated & interactive HTML/Flash, self-paced, on-line format. Requires Internet access while studying the course material. High speed access is preferred but is NOT required. Student's computer must be capable of running the Adobe Flash player, version 10 or later.

Learning Objectives:

Know the components of the terminal. Know how the antenna stabilizes by moving on its axes. Understand terminal operation including targeting, searching, tracking, and DishScan. Be able to interpret front panel displays and LED's for normal operation or faults. Know how to systematically check the complete system for healthy operation. Be able to determine if an outage is transient due to rain fade or blockage, or due to an equipment failure. Know how to re-synchronize the system with the ship's compass if necessary after a power outage. Be able to verify that the system re-acquires the satellite after a power outage. Understand how automatic beam switching operates, if equipped. Be able to manually change to a different satellite, if authorized. Be able to perform prescribed periodic inspections and preventive maintenance. Make minor repairs. Perform basic troubleshooting. Understand when it is necessary to call for a service technician.

Contents:

1. Learning system orientation. *How to use the learning system, find reference materials, and get help.*
2. Course introduction. *About SeaTel. What you will be learning in the course.*
3. How it works. *Typical above-decks and below-decks installations. Overview of the system hardware components including radome, pedestal, and antenna control unit. The axes of motion of the antenna. Polarization control. Stabilization and the importance of balance. Targeting, searching, and DishScan tracking.*
4. Normal operation. *Reading the ACU and modem front panel LED's. Checking for healthy operation. What happens when it rains. Pre-defined blockage zones. How to power off and back on. Observing the normal signal acquisition process.*
5. Switching satellites. *Automatic beam switching. Switching satellites manually. How to enter parameters using the front panel.*
6. Preventive maintenance. *Bi-annual check list. Cleaning. Inspecting the radome, cables, drive, and other components. How to tighten loose hardware.*
7. Problem solving. *Determining if an outage is temporary or due to equipment failure. Displaying error codes. Steps you can take without a field service technician on site. Resetting and re-targeting. Using the troubleshooting flow chart. Getting detailed information from common satellite modems.*
8. Final test. *Comprehensive exam covering all lessons.*



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For further information, fees, schedules,
and to register for this and all GVF
courses, visit the GVF Training Portal at
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