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Sea Tel Marine Stabilized Antenna systems are manufactured in the United States of America.

Sea Tel is an ISO 9001:2008 registered company. Certificate Number 13690 originally issued March 14, 2011 and was renewed/reissued on March 10, 2014.

Cobham SATCOM declares that the Sea Tel VSAT Maritime Satellite Earth Stations are in compliance with The Radio Equipment Directive 2014/53/EU. The full text of this Self Declaration of Conformity for this equipment is contained in this manual.

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Revision History

<table>
<thead>
<tr>
<th>REV</th>
<th>DCO#</th>
<th>Date</th>
<th>Description</th>
<th>By</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>00024566</td>
<td>January 22, 2018</td>
<td>99-160356-A supersedes 138209. Update text and add cyber security caution</td>
<td>MDN</td>
</tr>
</tbody>
</table>
# Table of Contents

## 1. INTRODUCTION

1.1. AUDIENCE ............................................................................................................................. 1-1

1.2. PREREQUISITES .................................................................................................................... 1-1

   1.2.1. Browsers .......................................................................................................................... 1-1

   1.2.2. Monitors ........................................................................................................................ 1-1

   1.2.3. Computer Parameters .................................................................................................... 1-1

   1.2.4. SSL certificate ................................................................................................................ 1-2

   1.2.5. Signal Bar ...................................................................................................................... 1-2

1.3. USING THIS MANUAL ........................................................................................................... 1-2

1.1. CYBER SECURITY CAUTION ............................................................................................... 1-2

## 2. QUICK START

2.1. TURN POWER ON .................................................................................................................. 2-1

2.2. SATELLITE SIGNAL FOUND AND NETWORK LOCK ACHIEVED ........................................ 2-1

2.3. SATELLITE SIGNAL NOT FOUND ....................................................................................... 2-2

2.4. TARGET A DIFFERENT SATELLITE .................................................................................... 2-2

2.5. NORMAL FRONT PANEL LED STATES ............................................................................... 2-3

## 3. LOGIN TO MXP .................................................................................................................... 3-1

## 4. COMMON INFORMATION ON ALL MXP SYSTEM PAGES .................................................... 4-1

4.1. BANNER ............................................................................................................................... 4-1

   4.1.1. On the left side of the banner: ...................................................................................... 4-1

   4.1.2. Compass Rose Graphic, Ship Heading, and Antenna Direction .................................... 4-1

   4.1.3. Status Indicators in the Banner .................................................................................... 4-2

   4.1.4. Signal Level .................................................................................................................. 4-2

4.2. LEFT SIDE BAR .................................................................................................................... 4-3

4.3. TASK BAR ............................................................................................................................. 4-3

## 5. MXP SYSTEM PAGES ............................................................................................................ 5-1

5.1. SATELLITE SEARCH > AUTO (SATELLITE SIGNAL AUTOMATIC SEARCH PAGE) ........... 5-1

5.2. CONFIGURATION > SATELLITE (SATELLITE CONFIGURATION PAGE) ......................... 5-2

   5.2.1. Select a Satellite ............................................................................................................. 5-2

   5.2.2. Remove a Satellite ........................................................................................................ 5-3

   5.2.3. Add a Satellite .............................................................................................................. 5-3

   5.2.4. Edit a Satellite .............................................................................................................. 5-4

5.3. CONFIGURATION > INTERFACES (SHIP POSITION SETTINGS PAGE) ....................... 5-7

5.4. STATUS > GRAPHS (MONITORING GRAPH PAGE) .......................................................... 5-8

   5.4.1. Display Choices ............................................................................................................ 5-9

   5.4.2. Parameter Names and Graphical Scales ....................................................................... 5-9

   5.4.3. Actions ......................................................................................................................... 5-9

5.5. STATUS > SYSTEM (SYSTEM STATUS PAGE) ................................................................. 5-10

   5.5.1. System section .............................................................................................................. 5-10

   5.5.2. Satellite section .......................................................................................................... 5-10

   5.5.3. Front Panel LED section ............................................................................................ 5-10

   5.5.4. Ship section ............................................................................................................... 5-11

   5.5.5. Antenna section ......................................................................................................... 5-11

   5.5.6. Tools > Position Antenna .......................................................................................... 5-11
# MXP User Manual

## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5.7. Satellite Section</td>
<td>5-12</td>
</tr>
<tr>
<td>5.5.8. Advanced Operations Section</td>
<td>5-14</td>
</tr>
<tr>
<td>5.6. LOGS &gt; Activity (View Activity Log Page)</td>
<td>5-15</td>
</tr>
<tr>
<td>5.7. LOGS &gt; Data Export (System Log and Criteria for Graphic Data Export Pages)</td>
<td>5-17</td>
</tr>
<tr>
<td>5.7.1. System Log page (Button)</td>
<td>5-17</td>
</tr>
<tr>
<td>5.7.2. Graphic Data (Button)</td>
<td>5-19</td>
</tr>
<tr>
<td>5.8. Others &gt; Help (Help / FAQ Page)</td>
<td>5-20</td>
</tr>
<tr>
<td>5.8.1. Help Page (Button)</td>
<td>5-20</td>
</tr>
<tr>
<td>5.8.2. FAQ Page (Button)</td>
<td>5-21</td>
</tr>
<tr>
<td>5.9. Recycle Power</td>
<td>5-21</td>
</tr>
<tr>
<td>5.9.1. Others &gt; Change Password</td>
<td>5-22</td>
</tr>
<tr>
<td>5.9.2. Cyber Security Caution</td>
<td>5-22</td>
</tr>
<tr>
<td>6. Troubleshooting for Users</td>
<td>6-1</td>
</tr>
<tr>
<td>6.1. Check That the MXP Powers Up</td>
<td>6-1</td>
</tr>
<tr>
<td>6.2. Check That the Other Equipment Powers Up</td>
<td>6-1</td>
</tr>
<tr>
<td>6.3. Check the Front Panel LED States</td>
<td>6-1</td>
</tr>
<tr>
<td>6.4. Check for Blockage</td>
<td>6-2</td>
</tr>
<tr>
<td>6.5. Check for Errors</td>
<td>6-3</td>
</tr>
<tr>
<td>7. Glossary of Terms</td>
<td>7-1</td>
</tr>
<tr>
<td>8. Technical Contacts</td>
<td>8-1</td>
</tr>
</tbody>
</table>

EAR Controlled - ECCN EAR99
1. Introduction

The Media Xchange Point (MXP) is the primary interface for configuration, operation, monitoring, management, and maintenance of the antenna system. You can do the following with the MXP interface:

- Configure system parameters
- Backup configurations
- Operate the Sea Tel antenna
- Add and remove satellites
- Edit satellite parameters
- Target, Search and Track a satellite
- Diagnose communication problems
- View system status reports

1.1. Audience

This manual is intended for Users, rather than Administrators or Dealers.

1.2. Prerequisites

This section contains some information about system requirements. For help with Windows requirements or usage, contact your IT Systems Administrator or Dealer.

1.2.1. Browsers

- MXP supports Internet Explorer (version 8.0.6 or above), Firefox (version 5.0 or above), Chrome (version 13.0 or above) and Safari (version 5.1 and above).
- When you click the SAVE button, an animated image may not spin on browsers other than Firefox. It does not mean that MXP Web stopped working; it still works properly. Wait until the “Saving” message goes away.
- Do not use the IE “Compatibility view”, because it does not fully support MXP, and it might cause problems with images, background color, or graphs.

1.2.2. Monitors

The lowest supported monitor resolution is 1024 x 768. For optimal viewing, use a resolution of 1280x1024. If your monitor has a maximum vertical resolution of 768, then press F11 to enter full screen mode. Press F11 again to return to normal mode.

1.2.3. Computer Parameters

If you have any problems or questions about your computer, or any of the items in the following list, contact your IT support person, or your Dealer.

- Turn on popups and enable JavaScript.
- To access MXP using https, contact your Dealer.
- MXP makes heavy use of your computer resources. Therefore, if possible, close other applications that are running on your computer, and only keep one browser and one session open.
- Log out and exit your browser after you finish the session.
- It is good practice to reboot your computer daily.
1.2.4. **SSL certificate**

If you have any problems or questions about an SSL certificate, contact your Dealer.

1.2.5. **Signal Bar**

- If you see 15px and 25px instead of the **Signal Bar** in the banner, then press F5 to refresh the page, and it should appear normal. This happens because the downloading of required files is not complete.
- If pressing F5 does not resolve the problem, then logout, and close the browser. Then restart the browser, log in, and the banner should display correctly.

1.3. **Using this Manual**

The order of the chapters reflects the order in which a typical user would use this manual and in the necessary sequence.

<table>
<thead>
<tr>
<th>New users</th>
<th>Read the <strong>Introduction</strong> chapter.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Read the <strong>Quick Start</strong> chapter.</td>
</tr>
<tr>
<td></td>
<td>Read the <strong>Login</strong> chapter.</td>
</tr>
<tr>
<td></td>
<td>Read the <strong>Help</strong> and <strong>FAQ</strong> pages in the <strong>Help</strong> chapter.</td>
</tr>
<tr>
<td></td>
<td>Read the <strong>Common Information on all MXP System Pages</strong> chapter.</td>
</tr>
<tr>
<td></td>
<td>As needed, read the rest of the chapters.</td>
</tr>
</tbody>
</table>

| Experienced users | Read the **Common Information on all MXP System Pages** chapter, and all of the following chapters. |

| Users who are troubleshooting | Read the **User Troubleshooting** chapter. |
|                              | Read the **Logs** sections. |
|                              | Read the **Technical Contacts** chapter. |

1.1. **Cyber Security Caution**

Sea Tel Antenna systems are not intended to be connected directly to the Internet. They must be connected behind a dedicated network security device such as a firewall. In addition, we highly recommended that you change default passwords. This is an extremely important consideration that must be taken into account as part of commissioning procedures as attackers with malicious intent (after easily obtaining default passwords and identify internet-connected systems) can be rendered a system inoperable.

For clarification purposes, the factory default Passwords/Configurations are only intended for initial production testing/verification purposes and it is an assumed responsibility of the installing partner to change and record the login credentials and is shared only with persons whom are directly responsible for operation/maintenance of the system. Instructions on how to change passwords may be located within the system manual.
2. Quick Start

If your system was set up correctly, and if your ship has not moved since the system was set up or used last, then the system should:

- Automatically power up from a cold start;
- Acquire the last satellite that you used;
- Achieve receiver network lock;
- Start tracking.
- Then the system is fully operational

*Perform the steps in the rest of this chapter to go from a cold start to an operational system.*

2.1. Turn Power ON

To apply power to the antenna system:

1. If all of the Above Deck Equipment (ADE) and Below Decks Equipment (BDE) are connected to a Universal Power Supply (UPS), then turn the UPS ON first (or verify that it is ON).
2. Turn on the MXP and the antenna pedestal by toggling the power switch on the front panel of the MXP to the ON position. The MXP provides power to the ADE.
3. Turn on all BDE (modems, distribution, and other service specific equipment).
4. The antenna system powers up, goes through its initialization process, and automatically targets the last satellite that was acquired.

2.2. Satellite Signal Found and Network Lock Achieved

If the satellite signal is found and network lock is achieved, then

1. Tracking takes over and automatically adjusts the antenna position for the highest received signal level from the satellite.
2. When the signal is above threshold, and the tracking receiver achieves network lock, the antenna continues to track the satellite.

Then the system continues to operate automatically and indefinitely until one of the following conditions occur:

- AC power to the system is interrupted;
- The satellite signal is blocked.
- The ship sails into an area with insufficient satellite signal strength or level.
2.3. **Satellite Signal not Found**

If the system cannot find the satellite from a cold start, then log into the MXP and follow the steps below:

1. The Tracking LED, on the front panel of the MXP, flashes for a short period of time (Search Delay) followed by the Search LED coming ON.
2. The antenna automatically begins a search pattern, attempting to relocate the desired satellite. The bar graph on the upper right displays red bars, while the signal value is less than the threshold value (indicated by the red bar in the bar graph).
3. If a signal greater than Threshold is not found during the scan, then the bar graph stays red, and the antenna is at the end of the search pattern.
4. Then antenna automatically retargets back to the satellite location, where it will pause for a short period of time (Search Delay).
5. If signal is still not found, the antenna begins the search pattern again, attempting to locate the satellite.
6. The antenna repeats steps 1 to 4, until either the satellite is found, or you stop the search.
7. Log into the MXP.
8. Go to the Configuration > Interfaces (Ship Position Setting page).
9. Check the Latitude, Longitude, and Heading values.
10. If the Latitude and Longitude values are not correct, then enter the correct Latitude and Longitude of the ship in the appropriate fields.
11. If the Heading value is not correct, then enter the correct value in the Heading field.
13. Verify that the correct satellite is selected.
14. If the selected satellite is not the desired satellite, then click the dropdown list and select the desired satellite.
15. Click Save.

If the desired satellite is still not found:

1. Check for Blockage. (Blockage is the most common cause of not being able to acquire the desired satellite.) (See the Check for Blockage section in the Troubleshooting chapter for details.)
2. Check the cable connections to assure that a cable is not disconnected.
3. Check the satellite modem power, connections and settings.
4. Read the Troubleshooting chapter for other possible causes and directions.

If you cannot identify or resolve the problem, then contact your Dealer.

2.4. **Target a Different Satellite**

If your system is managed remotely (e.g., OpenAMIP, ROAM, and so forth), then you may not be able to target, or use another satellite for your broadband services without changing the satellite modem settings. If your system is managed remotely, then check with your airtime provider.

To target a different satellite, perform the following steps:

1. Log into the MXP.
2. To target a different satellite go to the Satellite Search > Auto (Satellite Signal Automatic Search page) and select the desired satellite from the dropdown list.
3. When you make that selection, the following temporary message appears: “Acquiring Satellite Signal...Please Wait”
4. Shortly after that, the following temporary message appears: “Satellite Signal Found.” and then “Lock: ON”
2.5. **Normal Front Panel LED States**

There are six LEDs on the front panel, as shown in the following figure. Each LED can have several different colors, depending on their state. The Front Panel LEDs have the following priority, from highest to lowest, namely, Solid Red, Flashing Red, Solid Yellow, Flashing Yellow, Solid Green, and Flashing Green.

The normal operating states of the front panel LEDs are:

- **ERROR** — OFF indicates that no errors have occurred.
- **INITIALIZING** — OFF indicates that the system has finished initialization.
- **POWER** — ON (Solid Green) indicates that the MXP boot sequence is complete, and the system power is ON.
- **TARGET** — OFF after the antenna has finished targeting.
- **SEARCH** — OFF indicates that antenna is not searching.
- **TRACKING** — ON (Solid Green) indicates that the MXP has identified and is actively tracking the desired satellite to optimize the signal level (AGC).

If the LEDs on the front panel are not in the normal operating state, then consult the Troubleshooting chapter (especially the Front Panel LED States section) and, if necessary, contact your Dealer for assistance.
3. Login to MXP

Log in to the MXP from the computer, and the Login page appears. If your Dealer did not set up the computer, then refer to the Installation Manual for setup instructions.

Enter the default Username (User) and Password (seatel1), or the Username and Password given to you by your Dealer. Both the Username and Password are case sensitive.
4. Common Information on all MXP System Pages

4.1. Banner
The same banner appears at the top of every page. It contains much of the information that you might want to know about the system.

4.1.1. On the left side of the banner:
- To link to the Sea Tel web site, click the Sea Tel logo in the upper-left corner of the banner.
- Log Id displays the User Name that you used to log in.
- The Ship Name is displayed next.
- To log out of the system, click LOGOUT.

4.1.1. Compass Rose Graphic, Ship Heading, and Antenna Direction
The Ship, represented by the white “pointer”, and the Compass Rose graphic, with numerical compass points, are displayed in middle left of the banner. The image of the ship is a white “pointer” needle. It rotates to follow the heading of the ship. The heading of the ship comes either from a gyrocompass, or it is entered on the Ship Position section of the Configuration > Interfaces > (Ship Position Setting page).

The antenna represented by the red line indicates the position of the antenna. The antenna position is relative to both the bow of the ship and the true azimuth pointing-angle.

4.1.2. Pointing Information
The Pointing Information is displayed in the middle right of the banner. It displays values for:
- Sat Lon – is the longitudinal position of the currently selected satellite.
- Heading – is the heading of the ship.
- Azimuth — is the true azimuth pointing angle of the antenna.
- Elevation — is the elevation pointing-angle of the antenna.
- Relative — is the azimuth pointing angle of the antenna, relative to the bow of the ship.
4.1.3. **Status Indicators in the Banner**

On the right side of the banner are four status indicators that provide a top-level view of the state and health of the system. Below the status indicators is a Signal Strength indicator.

The top status indicator (Status) indicates the tracking status, and can have one of five colors:
- Tracking Off (Off)
- Tracking or Searching (Green)
- Tracking (The Automatic Gain Control [AGC] is below threshold) (Orange)
- Tracking (In blockage or approaching blockage) (Orange Flashing)
- Disconnected (No communication between the MXP and the ICU) (Red)

The second status indicator indicates the blockage status, and can have one of three colors:
- Normal (Green)
- Approaching Blockage (REL is within 10 degrees of a blockage zone) (Orange Flashing)
- Blocked (REL is in a blockage zone) (Red Flashing)

The third status indicator (Lock) indicates the status of the modem, and can have one of two colors:
- Locked (Modem has RX lock) (Green)
- Unlocked (Modem does not have RX Lock) (Red)

The bottom status indicator (Errors) indicates the errors status, and can have one of two colors:
- Errors found (red)
- No errors found (green)

If Errors are found (The Errors LED is red.), then click View to see the errors in the system. See the Troubleshooting chapter for a list of errors that can be displayed, along with other information about them. If you cannot resolve the errors, contact your Dealer for help.

4.1.4. **Signal Level**

The Signal level bar graph is shown below the LEDs. It is a visual representation of the relative signal strength (AGC). The signal level is displayed, both as a digital value of AGC, and as a relative bar graph. The AGC has a range of 0 to 4095. The bar graph displays a segment of the AGC range from -300 to +300 around the orange bar. The orange bar represents the current Threshold value. Its digital value is displayed just above the graphic.

When the signal level is greater than the Threshold value, then the segments of the bar graph are green. When the signal level is less than the Threshold value, then the segments of the bar graph are red. The more green bars, the stronger the signal strength.

- If the signal strength (AGC) is 300 counts less than threshold, all bars are gray. A single gray bar represents the minimum value.
- If the signal strength (AGC) is less than the threshold, then red bars appear.
- If the signal strength (AGC) is greater than the threshold, then green bars appear.
- If the signal strength (AGC) is 300 counts greater than the threshold, then all bars are green.
4.2. **Left Side Bar**

Tracking ON/OFF buttons are on the top of the sidebar. Tracking can be turned ON, or OFF, by clicking on the button.

Each of the main menu sections are shown in bold, each with their respective subsection selections below them. The choices are listed here and are described in detail in this manual.

<table>
<thead>
<tr>
<th>Main or Top Level Headings (Black sections)</th>
<th>Subheadings (Purple subsections)</th>
<th>Page Titles (Names of the pages for each subsection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track On OFF (radio buttons)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Satellite Search</td>
<td>Auto</td>
<td>Satellite Signal Automatic Search</td>
</tr>
<tr>
<td>Configuration</td>
<td>Satellite</td>
<td>Satellite Configuration</td>
</tr>
<tr>
<td></td>
<td>Interfaces</td>
<td>Ship Position Setting</td>
</tr>
<tr>
<td>Status</td>
<td>Graphs</td>
<td>Monitoring Graph</td>
</tr>
<tr>
<td></td>
<td>System</td>
<td>System Status</td>
</tr>
<tr>
<td>Tools</td>
<td>Position Antenna</td>
<td>Position Antenna</td>
</tr>
<tr>
<td>Logs</td>
<td>Activity</td>
<td>View Activity Log</td>
</tr>
<tr>
<td></td>
<td>Data Export</td>
<td>System log</td>
</tr>
<tr>
<td>Others</td>
<td>Change Password</td>
<td>Change User's Password</td>
</tr>
<tr>
<td></td>
<td>Help</td>
<td>Help</td>
</tr>
</tbody>
</table>

4.3. **Task Bar**

The task bar is at the bottom of each page.

The MXP Software Version and Build Number are on the left. The Copyright is in the middle. Ignore the four icons on the right. Do not click the icons.
5. MXP System Pages

5.1. Satellite Search > Auto (Satellite Signal Automatic Search page)
You can select and track any of up to 40 favorite satellites from the Satellite Signal Automatic Search page.

The Ship Position section displays the Latitude, Longitude, and Heading of the ship. You cannot change any of these values from this page. However, you can edit them in the Ship Position section of the Configuration > Interfaces (Ship Position Settings page).

You can add or delete a satellite, and edit the parameters of a selected satellite, in the Configuration > Satellite (Satellite Configuration page).

The Satellite Selection section has a dropdown list that contains up to 40 “favorite” satellites. The graphic on the right is an example of the dropdown list. When you select a satellite, either the message "Acquiring satellite signal may take up to 60 seconds..........Please wait", or the message "Acquiring satellite signal may take up to 300 seconds..........Please wait" is displayed. When the satellite signal is acquired, the message “Satellite target loaded.” is displayed.

NOTE: If the power to the system is recycled, then after power is restored, the system retargets the last satellite that was selected.
5.2. **Configuration > Satellite (Satellite Configuration page)**

You can select, edit, add, remove a satellite, or edit satellite parameters starting from the Satellite Configuration page. There can be up to 40 “favorite” satellites. The following figure shows the page when it is first opened.

The top section of the Satellite Configuration page displays the Available Satellites dropdown list. It also displays an Add Satellite button.

5.2.1. **Select a Satellite**

The top section of the Satellite Signal Automatic Search page has a Satellite Selection dropdown list that contains up to 40 “favorite” satellites. The graphic on the right is an example of the dropdown list.

1. Select a satellite from the dropdown list that contains up to 40 “favorite” satellites. As soon as you select a satellite, the antenna immediately targets and acquires the satellite that you selected. An Edit Satellite section appears. It contains the parameters for the satellite that you selected. Either the message “Acquiring satellite signal may take up to 60 seconds........Please wait”, or the message “Acquiring satellite signal may take up to 300 seconds........Please wait” is displayed. When the satellite signal is acquired, the message “Satellite target loaded.” is displayed.
Then the bottom section (Edit Satellite) of the Satellite Configuration page is displayed. It contains the parameters for the satellite that you selected.

**NOTE:** If the power to the system is recycled, then when power is restored, the system **retargets** the last satellite that was selected.

### 5.2.2. Remove a Satellite

To remove a satellite, perform the following steps.

1. Go to the Configuration > Satellite (Satellite Configuration page).
2. From the Select Satellite dropdown list, select the satellite that you want to delete.
3. Click **Remove**. The satellite is removed from the Select Satellite dropdown list. The parameters and everything else about the satellite are removed from the system.

### 5.2.3. Add a Satellite

The following figure shows the Satellite Configuration page after you click **Add Satellite**. Notice the bottom Add Satellite section that appears.

To add a satellite, perform the following steps.

1. Go to the Configuration > Satellite (Satellite Configuration page).
2. Click **Add Satellite**. The Add Satellite section appears. It contains some parameter values for the current satellite. (See the Edit Satellite section).
3. Enter or change the parameter values for the new satellite.
4. When you finish entering the parameters, click **Save**. The newly added satellite immediately appears in the list of favorite satellites.

The system immediately locates, acquires, and tracks the new satellite.
5.2.4. **Edit a Satellite**

To edit the parameters of a satellite, perform the following steps.

![Satellite Configuration](image)

From the **Select Satellite** dropdown list of favorite satellites, select the satellite that you want to edit. (If the dropdown list does not contain the satellite that you want to edit, then click **Add a Satellite**.)

As soon as you select a satellite, the **Edit Satellite** section opens. You can edit any of the satellite parameters. Enter or change the values of the parameters for the new satellite.

- **Satellite Name**
  Enter the name that you want to use for the new satellite.

- **Longitude**
  Enter the longitude position of new satellite.

- **E/W**
  Use the dropdown list to select the East or West longitude position of the satellite.

- **Frequency**
  Enter the IF frequency of the signal that you want the tracking receiver to use to track this satellite:
  If not provided, calculate the IF frequency (RF frequency from the satellite minus the Local Oscillator frequency). **EXAMPLE:** RF frequency of 11.5255 GHz (11525.5 MHz) and a Local Oscillator frequency of 10.0000 GHz (10000.0 MHz) you would calculate an IF frequency of 1525.5 MHz (11525.5 MHz minus 10000.0 MHz = 1525.5 MHz).
  Enter the frequency in MHz (in the example above you would enter 1525.5)

- **Skew**
  Enter a known skew for the new satellite. If the satellite is not skewed, then enter zero. The skew must be entered in degrees and tenths of degrees.

- **Search Pattern**
  To choose the search pattern that you want the antenna to perform when searching for a satellite, select the search pattern from the dropdown list.
Please note that the DEFAULT search pattern is the Spiral search.

- Inclined Orbit Search Pattern

Some older satellites are in an inclined geosynchronous orbit, to save some of the fuel that would be used to keep them exactly positioned over the Equator. The satellite remains in a geosynchronous orbit, but is not geostationary. From a fixed observation point on Earth, the satellite appears to trace out a figure-eight with its lobes oriented northward and southward, once every twenty-four hours. The north-south excursions of the satellite may be too far from the center point to use the default Spiral (Box) Search Pattern to find the satellite throughout a 24-hour period. Therefore, an Inclined Orbit Search Pattern often is used for these satellites.

When a search begins, the antenna goes to a calculated position that is half of SWEEP INCR degrees above, and perpendicular to, the satellite arc (along the same angle as polarization for the satellite). This position is the Start of the search pattern in the graphic to the right. Then the antenna drives down along the polarization angle by SWEEP INCR degrees, step one SEARCH INCREMENT to the right (parallel to the satellite arc), search up along the polarization angle SWEEP INCR degrees, step two SEARCH INCREMENTS to the left, search down, expanding out in the search pattern until the Search Limit is reached. Then the LMXP retargets the antenna to the calculated Azimuth and Elevation point. If the desired signal is found and network lock is achieved at this position, or anywhere within the search pattern, the LMXP terminates the search and goes into Tracking mode. If the desired signal is not found, then the LMXP waits for the SEARCH DELAY, then targets the antenna to the start point shown in the figure to the right and begin the search pattern again. This cycle repeats until the desired satellite signal is found or the user intervenes.

- Sky Search Pattern

A Sky Search pattern is a hemispheric pattern. Its behavior is different, depending on whether or not you have a gyrocompass input.

No Gyro — If you do not have a gyrocompass, then set the gyro type to No Gyro. In this mode, the antenna is driven to the calculated elevation angle and then drives azimuth clockwise by 450 degrees, steps the elevation up and drives the azimuth counter clockwise by 450 degrees. It continues to alternately step the elevation up and down and drives azimuth alternately clockwise and counter clockwise by 450 degrees. Because of this large search area, acquiring the satellite takes longer than it would have, if you had a valid heading input. If the end of the search pattern is reached, the LMXP moves the antenna back to the start point shown in the graphic below.

With Gyro — If you have a gyrocompass, then select the appropriate Gyro Type for your gyrocompass. In this mode, the antenna is driven to the calculated elevation angle and then drives azimuth clockwise by 360 degrees, and then steps the elevation up and drives the azimuth counter clockwise by 360 degrees. The antenna continues to alternately step the elevation up and down, and drive the azimuth alternately clockwise and counter clockwise by 360 degrees. Even though this is a large search area, acquiring the satellite takes less time than it would have without a gyrocompass, because you have valid heading input. If the end of the search pattern is reached, the LMXP moves the antenna back to the start point shown in the graphic below. If the signal is found, and network lock is achieved, at any position within the search pattern, then the LMXP terminates the search and goes into Tracking mode.
If the signal is not found within the search pattern, then the LMXP waits SEARCH DELAY seconds and then repeats the search pattern. This cycle repeats until the desired satellite signal is found or the user intervenes.

- Spiral (Box) Search Pattern (Default)
  The default search pattern in the LMXP is a spiral pattern.
  When a search begins, the antenna searches up in azimuth by one search increment, searches up in elevation by one search increment, searches down in azimuth by two search increments, search down in elevation by two Search increments., until the Search Limit is reached. When the search limit is reached, the LMXP moves the antenna to the calculated Azimuth and Elevation position of the desired satellite (start point).
  If the signal is found, and network lock is achieved, at any position within the search pattern, then the LMXP terminates the search and goes into Tracking mode.
  If the signal is not found within the search pattern, then the LMXP waits SEARCH DELAY seconds and then repeats the search pattern. This cycle repeats until the desired satellite signal is found or the user intervenes.

- Tx Polarity
  Select Horizontal (HORIZ), Vertical (VERT), Left Hand Circular (LHCP) or Right Hand Circular (RHCP) polarity from the dropdown list.

- Band
  Select the Band from the dropdown list, for example, 1 (LO: 10.000 GHz).

- Reflector
  Select which reflector you want to use, by clicking either the primary or secondary “radio” button. If you have any questions about which reflector to use, refer to your Installation Manual, or contact your Dealer for help.

- Rx
  Select either XPol (Cross Polarity) or CoPol (Co-polarity). This selects which LNB output will be routed from the antenna to the below decks equipment.

To save the new satellite to the list of favorite satellites, click Save. You can save up to 40 favorite satellites.
5.3. **Configuration > Interfaces (Ship Position Settings page)**

This is the Ship Position Setting page. It provides read-only information about the current position of the ship (Latitude, Longitude, and Heading).

- Do not change the values in the **Gyro** and **Ship Position** sections unless you are sure that you know what you are doing.
- If you must change the **Latitude** and **Longitude** values, do so in the **Ship Position** section.
- If you must change the **Gyro** values, do so in the **Gyro** section of this page. Usually the **Gyro** values displayed here are read directly from the gyro compass. Stationary rigs will typically select Fixed. If there is NO gyro compass onboard the ship, select No Gyro.

**NOTE:** if your selected Gyro Compass input is NMEA, or 1:1 Synchro, you will not be able to enter a Heading value. For all other selections, you will have to enter a starting heading value every time you turn **MXP** power ON.

![Sea Tel Cobham Interface](image)

**Ship Position Setting**

<table>
<thead>
<tr>
<th>Current Position</th>
<th>Longitude: 122.043800 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude: 38.006496 N</td>
<td>Heading: 0.0</td>
</tr>
</tbody>
</table>

**Gyro**

- Type: Fixed
- Heading: 0.0 deg

**Ship Position**

- Latitude: 38.006496 N
- Longitude: 122.043800 W
5.4. **Status > Graphs (Monitoring Graph page)**

Usually, you can ignore this page. However, if you contact your Dealer about a problem, the Dealer might ask you to send this information to them, to help them resolve the problem.

The **Monitoring Graph** page behaves like a strip chart recorder, with time plotted on the horizontal axis. The **Monitoring Graph** page monitors and displays the values of some parameters either as a "real time" plot, or as an historical data plot. You can just view the graph, or you can export it. You can choose which parameters you want to display or export. There is one exception; it displays **DishScanXY** as an X-Y graph.

The following figure is an example of one of the strip chart recorder graphs:
5.4.1. **Display Choices**

You can choose what and how to display graphical data.

- **Data Type:** (Live Data or Historic Data)
  - For *Live Data*, the graph is updated continually, with new data added on the left and older data being removed on the right.
  - For *Historic Data*, only the most recent log is graphed. Some information about the most recent log is on the first line of the View Activity Log page. To find all of the data in the most recent log, export the latest link on the System log page.
- **Graphic Mode** (7 choices)
  - ADMC (Position) – LV, AZ, REL, Signal
  - Heading (Position) – Heading, AZ, REL, Signal
  - DispIVC (Loop Error) – CL, LV, AZ
  - DispV (Ref) – CL, LV, AZ
  - DispW (Rate) – CL, LV, AZ
  - DispTC (Drive) – CL, LV, AZ
  - DishScanXY – LV, AZ
- **Zoom Level** (1, 2, 3, 4)
  - *Zoom Level 1* displays the most data and the lowest resolution. *Zoom Levels 2, 3, and 4* display successively less data and higher resolutions. The zoom values do not affect the horizontal or vertical units per division, because you see less of the data at higher zoom levels, and only the most recent data is graphed.

5.4.2. **Parameter Names and Graphical Scales**

The parameter names are based on the chosen Graphic Mode. The horizontal and vertical units are determined by the data and whether or not the data is centered.

- The name of the parameter that is being plotted is in the top left corner of each graph. It is followed by the number of units per division (vertical scale).
- The number of time units per division (horizontal scale) is called *Pacing*, and it is displayed at the bottom left of the page. It is the same for all graphs on the page.

5.4.3. **Actions**

You can perform the following actions on the graphical data:

- To export the graphical data as a CSV file, which you can open in a spreadsheet, click Export. Then you can either further analyze the data, or graph it in other types of graphs.
- To center the data on the Base (line), click Center. The Base is the value set when the signal of the selected parameter is at a maximum. The value if the Base follows the word Base on the right center of the graph.
5.5. **Status > System (System Status page)**

The **System Status** page displays read only system information, including the Tracking receiver State, Satellite Configuration, Geo Location and, if present, the Error reporting information. Only the **Error** item has a link to another page with more information.

If the **Error** is anything other than **NONE** on the **System Status** page, then click **ERRORS** (red) to view the error details, and perhaps resolve it.

5.5.1. **System section**

This section is a read only display of the system states. However, for the **Error status**, you can click **ERRORS** (in red), and the **Check for Errors** page appears.

5.5.2. **Satellite section**

This section is a read only display of the current target satellite parameters. However, for **Name**, you can click **[Enter Description]**, and enter or change the name of the satellite.

5.5.3. **Front Panel LED section**

This section is a mirror image of the status LEDs located on the front plate of the **MXP**.
5.5.4. **Ship section**
This section is a read only display of the current geographic (Geo) location provided by the integrated GPS.

5.5.5. **Antenna section**
This section is a read only display of the systems Cross Level and Polarization angles (degrees).

5.5.6. **Tools > Position Antenna**
The Position Antenna page enables you to edit the current target satellite parameters, as well as having manual control of the angular positions and operational states of the system. Usually, you will not have to perform any of the Advanced Operations on this page. Before you change any values or click any buttons in the Advanced Operations section, contact your Dealer for help.
Satellite Section

In this section, you can enter the satellite information required by the antenna, so that it can acquire the chosen satellite.

You can edit any of the satellite parameters. Enter or change the values of the parameters for the new satellite.

- **Longitude**
  Enter the longitude position of the new satellite.

- **E/W**
  Use the dropdown list to select the East or West longitude position of the satellite.

- **Frequency**
Enter the IF frequency of the signal that you want the tracking receiver to use to track this satellite:

  If not provided, calculate the IF frequency (RF frequency from the satellite minus the Local Oscillator frequency). **EXAMPLE**: RF frequency of 11.5255 GHz (11525.5 MHz) and a Local Oscillator frequency of 10.0000 GHz (10000.0 MHz) you would calculate an IF frequency of 1525.5 MHz (11525.5 MHz minus 10000.0 MHz = 1525.5 MHz).

  Enter the frequency in MHz. (in the example above you would enter 1525.5)

- **Skew**
Enter a known skew for the new satellite. If the satellite is not skewed, then enter zero. The skew must be entered in degrees and tenths of degrees.

- **Search Pattern**
  To choose the search pattern that you want the antenna to perform when searching for a satellite, select the search pattern from the dropdown list.

  Please note that the **DEFAULT** search pattern is the **Spiral** search.

- **Inclined Orbit Search Pattern**
  Some older satellites are in an inclined geosynchronous orbit, to save some of the fuel that would be used to keep them exactly positioned over the Equator. The satellite remains in a geosynchronous orbit, but is not geostationary. From a fixed observation point on Earth, the satellite appears to trace out a figure-eight with its lobes oriented northward and southward, once every twenty-four hours. The north-south excursions of the satellite may be too far from the center point to use the default Spiral (Box) Search Pattern to find the satellite throughout a 24-hour period. Therefore, an Inclined Orbit Search Pattern often is used for these satellites.

  When a search begins, the antenna goes to a calculated position that is half of SWEEP INCR degrees above, and perpendicular to, the satellite arc (along the same angle as polarization for the satellite). This position is the Start of the search pattern in the graphic to the right. Then the antenna drives down along the polarization angle by SWEEP INCR degrees, step one SEARCH INCREMENT to the right (parallel to the satellite arc), search up along the polarization angle SWEEP INCR degrees, step two SEARCH INCREMENTS to the left, search down, expanding out in the search pattern until the Search Limit is reached. Then the **LMXP** retargets the antenna to the calculated Azimuth and Elevation point.

  If the desired signal **is found** and network lock is achieved at this position, or anywhere within the search pattern, the **LMXP** terminates the search and goes into Tracking mode. If the desired signal **is not found**, then the **LMXP** waits for the SEARCH DELAY, then targets the antenna to the start point shown in the figure to
the right and begin the search pattern again. This cycle repeats until the desired satellite signal is found or the user intervenes.

- Sky Search Pattern
  A Sky Search pattern is a hemispheric pattern. Its behavior is different, depending on whether or not you have a gyrocompass input.

  **No Gyro** — If you do not have a gyrocompass, then set the gyro type to **No Gyro**. In this mode, the antenna is driven to the calculated elevation angle and then drives azimuth clockwise by 450 degrees, steps the elevation up and drives the azimuth counterclockwise by 450 degrees. It continues to alternately step the elevation up and down and drives azimuth alternately clockwise and counter clockwise by 450 degrees. Because of this large search area, acquiring the satellite takes longer than it would have, if you had a valid heading input. If the end of the search pattern is reached, the LMXP moves the antenna back to the start point shown in the graphic below.

  **With Gyro** — If you have a gyrocompass, then select the appropriate **Gyro Type** for your gyrocompass. In this mode, the antenna is driven to the calculated elevation angle and then drives azimuth clockwise by 360 degrees, and then steps the elevation up and drives the azimuth counterclockwise by 360 degrees. The antenna continues to alternately step the elevation up and down, and drive the azimuth alternately clockwise and counter clockwise by 360 degrees. Even though this is a large search area, acquiring the satellite takes less time than it would have without a gyrocompass, because you have valid heading input. If the end of the search pattern is reached, the LMXP moves the antenna back to the start point shown in the graphic below. If the signal is found, and network lock is achieved, at any position within the search pattern, then the LMXP terminates the search and goes into Tracking mode.

If the signal is not found within the search pattern, then the LMXP waits SEARCH DELAY seconds and then repeats the search pattern. This cycle repeats until the desired satellite signal is found or the user intervenes.

- Spiral (Box) Search Pattern (Default)
  The default search pattern in the LMXP is a spiral pattern.

  When a search begins, the antenna searches up in azimuth by one search increment, searches up in elevation by one search increment, searches down in azimuth by two search increments, search down in elevation by two Search increments., until the Search Limit is reached. When the search limit is reached, the LMXP moves the antenna to the calculated Azimuth and Elevation position of the desired satellite (start point).

  If the signal is found, and network lock is achieved, at any position within the search pattern, then the LMXP terminates the search and goes into Tracking mode.

  If the signal is not found within the search pattern, then the LMXP waits SEARCH DELAY seconds and then repeats the search pattern. This cycle repeats until the desired satellite signal is found or the user intervenes.
• Tx Polarity
Select Horizontal (HORIZ), Vertical (VERT), Left Hand Circular (LHCP) or Right Hand Circular (RHCP) polarity from the dropdown list.

• Band
Select the Band from the dropdown list, for example, 1 (LO: 10.000 GHz).

• Reflector
Select which reflector you want to use, by clicking either the primary or secondary “radio” button. If you have any questions about which reflector to use, refer to your Installation Manual, or contact your Dealer for help.

• Rx
Select either XPol (Cross Polarity) or CoPol (Co-polarity). This selects which LNB output will be routed from the antenna to the below decks equipment.

• Threshold Auto Mode
This is the first of three Threshold parameters. You can view or set the threshold Auto Mode parameter. For normal operations, it should always be set to ON.

• Threshold Auto Offset
This is the second of three Threshold parameters. You can view or set the Auto Offset. Usually, it is not changed from the factory default value. However, if you want to optimize it, then:

1. Record the peak “ON Satellite” AGC value that is displayed in the Signal bar graph of the banner.
2. Turn Tracking OFF and use the UP arrow in the Position graphic below to move the antenna OFF satellite.
3. Read the “OFF Satellite” AGC value.
4. Subtract the OFF Satellite AGC from the peak ON Satellite AGC. The result is the difference in signal level between ON and OFF satellite.
5. Divide the difference value in half and enter that value in the Auto Offset field.
6. Use the DOWN arrow to return to ON satellite and turn Tracking back ON.

• Threshold
This is the third of three Threshold parameters. Do not change this value, unless you are absolutely certain that what you are doing will not endanger the system performance. If you do change the threshold manually, then the system cannot automatically adjust the threshold value as atmospheric changes occur.

To save the new satellite to the list of favorite satellites, click Save. You can save up to 40 favorite satellites.

5.5.8. Advanced Operations Section
Usually, you will not have to perform any of the Advanced Operations on this page. Before you change any values or click any buttons in the Advanced Operations section, contact your Dealer for help.

• Antenna Name
View the Antenna Name, for example Port Antenna.

• Model
View the Model number of the system.

• Other Parameters in the Advanced Operations Section
View the rest of the parameters in the Advanced Operations section. Do not change any of these parameters unless you are absolutely sure what you are doing. You can easily damage the system if you enter the wrong parameter value. At the very least, you may cause the system to malfunction.
If you changed the values any of the parameters in the section, and you want to save them, then parameters, click **Save**.

5.6. **Logs > Activity (View Activity Log page)**

Usually, you can ignore the **View Activity Log** page. However, if you contact your Dealer about a problem, the Dealer might ask you to send log information to them, to help them resolve the problem.

The **View Activity Log** page allows you to view, filter, sort, and export all reported system activity reported either on the current day, or for the last seven days of operation.

The **View Activity Log** is a read only table of reported messages. You can sort them by clicking on one of the column headers (**Time**, **Type**, **Status**, **Brief Summary**, or **Source**).

Right-click **Export** (icon) to list options for exporting the desired data set to a Computer, LAN location, or USB Drive.
To view the data, execute the following steps:

1. From the left-hand bar, select Logs > Activity. The View Activity Log page appears.
2. If "no data" appears, then reboot the system. Then, click Activity and the View Activity Log should appear.
3. For Date Range, you have two choices: Today or Up to last 7 days.
4. For Filter, you have five choices: All, Error, Warning, Info, and Test.
5. Click the disc icon to export the information.

To export the data as a comma-delimited or text file, execute the following steps:

1. From the left-hand bar, select Logs > Activity. The View Activity Log page appears.
2. If "no data" appears, then reboot the system. Then, click Activity and the View Activity Log should appear.
3. For Date Range, choose Up to last 7 days.
4. For Filter, choose All.
5. Click the disc icon to send the information. A dialog box appears, and you can Open, Save, or Save as the file.
6. Finally, you can send a copy of the file anywhere.
5.7. **Logs > Data Export (System Log and Criteria for Graphic Data Export pages)**

Usually, you can ignore this log page. However, if you contact your Dealer about a problem, the Dealer might ask you to send this log information to them, to help them resolve the problem.

5.7.1. **System Log page (Button)**

The System Log page allows you to view and export all reported System Activity Logs for the last 1 to 30 days of operation. This page always appears when you select Logs > Data Export. You can click either of the two buttons at the top left under the banner to switch between the System Log page and the Graphic Data (Criteria for Graphic Data Export) page. Both pages have these buttons, so that you can switch back and forth between the pages.

5.7.1.1. **To Export a Range of System (Activity) Logs**

You can export a *range* of System (Activity) Logs by selecting a date and time range using the From and To fields. It is better to use the dropdown calendar on the right side of the fields to select the date/time values. The time stamp format for these file range entries is *Month-Day-Year Hour:Minute:Second*, for example, 05-14-2015 16:29:29. As soon as you finish selecting a date/time range, an Export icon appears.

To export a range of System (Activity) Logs:

1. Select the date/time range of the files that you want to export by entering the From and To date/time values into the From and To fields. As soon as you finish entering values into these fields, a Data Export button appears.
2. Click the Data Export icon. A large amount of data is downloaded, which might take minutes to hours to complete. The data is automatically sent to the Downloads folder in your computer.

3. You can open the file using any application that supports CSV files, such as Microsoft Excel. You also send the file elsewhere, for example, as an email attachment.

5.7.1.2. To Export a Single System (Activity) Log

You can export any one of the single System Activity Logs hyperlinked files located below the From and To fields. The time stamp format for these files is Year/Month/Date/Time, for example, 2015/04/28/1811, for example, 201504281811.

To export a single System (Activity) Log:

1. Select a single file that you want to export by selecting it from the list of files below the From and To files. As soon as you finish entering values into these fields, a Data Export button appears.

2. Right-click the file.

3. Click Save target as ..., The Save As window appears.

4. The default file name (getLogFile) is in the File name field. Unless you intend to save the file to an empty folder, you should change the file name. Otherwise, you may overwrite an existing file with the same name.

5. Enter a file extension (either .csv or .txt).

6. Select the folder to which you want to save the file.

7. Click Save.

8. A large amount of data is downloaded to the folder that you selected. This might take minutes to hours to complete.

9. Then you can open the file using any application that supports CVS or TXT files and analyze the data. You also can send the file to your Dealer, or send it elsewhere.
5.7.2. **Graphic Data (Button)**

The **Criteria for Graphic Data Export** page allows you to enter **From** and **To** dates and select graphic data that you want to export from the last 1 to 30 days of operation.

When you select **Logs > Data Export**, the **System Log** page appears. Click the **Graphic Data** button at the top left under the banner. The **Criteria for Graphic Data Export** page appears.

You can click either of the two buttons at the top left under the banner to switch between the **System Log** page and the **Graphic Data (Criteria for Graphic Data Export)** page. Both pages have these buttons, so that you can switch back and forth between the pages.

Enter the **From** and **To** fields by clicking the dropdown calendar and selecting the dates. The dates that you enter should include at least a few days before and after the dates when a problem occurred. Select all criteria unless your Dealer asks you to select only some of them.

Click the **Select All** check box, unless your Dealer asks you to check only some of the check boxes.
5.8. **Others > Help (Help / FAQ page)**
This page has two selection buttons at the top of the page. Select one of them to display, either Help, or FAQ.

5.8.1. **Help Page (Button)**
This page contains a summary of the MXP system.
5.8.2. FAQ Page (Button)

This page contains a list of Frequently Asked Questions about the MXP system.

5.9. Recycle Power

Logout and exit the web browser before recycling power. Most commonly, this is required when the vessel switches from power generated on the vessel to power generated on shore.

- If you recycle the power to the system, and you have an operating gyrocompass, then the antenna retargets the last satellite that was selected.
- If you recycle power, then you must enter the starting Heading of the ship in the Gyro section of Configuration > Interfaces (Ship Position Setting) page.
- If you lose the gyrocompass signal, or if you do not have a gyrocompass, then you must enter the starting value in the heading field of the ship and in the Gyro and Ship Position sections of Configuration > Interfaces (Ship Position Setting) page.
5.9.1. **Others > Change Password**
Many people change their password periodically for security purposes. If you want to change the User password:

1. Click in the "Old Password" field and type in the old password,
2. Click in the "New Password" field and type in the new password,
3. Click in the "Confirm Your Password" field and re-enter the new password
4. Click Save.

5.9.2. **Cyber Security Caution**
Sea Tel Antenna systems are not intended to be connected directly to the Internet. They must be connected behind a dedicated network security device such as a firewall. In addition, we highly recommended that you change default passwords. This is an extremely important consideration that must be taken into account as part of commissioning procedures as attackers with malicious intent (after easily obtaining default passwords and identify internet-connected systems) can be rendered a system inoperable.

For clarification purposes, the factory default Passwords/Configurations are only intended for initial production testing/verification purposes and it is an assumed responsibility of the installing partner to change and record the login credentials and is shared only with persons whom are directly responsible for operation/maintenance of the system. Instructions on how to change passwords may be located within the system manual.
6. Troubleshooting for Users

Use the information in this chapter to assist you with simple troubleshooting of your Sea Tel VSAT System (antenna and control unit only).

Contact your Dealer for further troubleshooting or assistance in resolving problems relating to Error messages or other problems that you cannot resolve.

6.1. Check That the MXP Powers Up

When the MXP is powers up, the LEDs on the front panel light up to indicate progress. The MXP also supplies power to the antenna and pedestal. (Refer to the Quick Start chapter for detailed instructions about starting up.

6.2. Check that the other Equipment Powers Up

Apply power to all of the other below decks equipment.

Allow 3-4 minutes for the antenna to initialize and search for the satellite.

After acquiring the satellite, it may take several minutes for the receivers to lock and start providing your television services.

6.3. Check the Front Panel LED States

There are six LEDs on the front panel, as shown in the following figure. Each LED can have several different colors, depending on their state. The Front Panel LEDs have the following priority, from highest to lowest, namely, Solid Red, Flashing Red, Solid Yellow, Flashing Yellow, Solid Green, and Flashing Green.

The name, states, and meaning of each front panel LED are in the following table.

<table>
<thead>
<tr>
<th>Name</th>
<th>LED States</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERROR</td>
<td>Off</td>
<td>No errors have occurred.</td>
</tr>
<tr>
<td></td>
<td>Flashing RED</td>
<td>One, or more, discrete system errors have occurred.</td>
</tr>
<tr>
<td></td>
<td>Solid RED</td>
<td>One, or more, discrete system errors have occurred.</td>
</tr>
<tr>
<td></td>
<td>Flashing AMBER</td>
<td>One, or more, discrete system errors have occurred.</td>
</tr>
<tr>
<td>INITIALIZING</td>
<td>Solid AMBER</td>
<td>One, or more, discrete system errors have occurred.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>The Initialization state is not active. The antenna has completed initializing and is ready for normal operation.</td>
</tr>
<tr>
<td></td>
<td>Solid GREEN</td>
<td>System initialization (start-up) is in progress.</td>
</tr>
<tr>
<td></td>
<td>Flashing AMBER</td>
<td>A software update is in progress, or the system (ADE-BDE) is synchronizing or in-service / out-of-service testing is in progress.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>There is no power to the system. Either the Power switch is OFF, or the power is interrupted by a fault in the power supply to the Power switch.</td>
</tr>
</tbody>
</table>
### 6.4 Check for Blockage

The satellite signal can be blocked by the superstructure of the ship, cranes, buildings, trees, or other obstructions, which are between the satellite (out in space directly above the equator) and the **Sea Tel** antenna on the ship. These obstacles between the satellite and the antenna block the signal, preventing it from reaching the antenna.

Assuming that you verify that the latitude, longitude, and heading values in the **MXP** are correct:

- Retarget the satellite and turn Tracking OFF before the antenna begins a search.
- Check the heading of the ship so you know where the bow of the ship is pointed, and where North is.
- Check the true azimuth pointing-angle of the antenna to the desired satellite.
- Check the relative position of the antenna, or look inside the radome, see where the antenna is pointing.
- Check the elevation angle of the antenna, or look inside the radome to determine the elevation of the antenna.
- Stand behind the radome facing the back of the reflector.
- Look past the radome, to see where the antenna points (in azimuth and in elevation).
- Does the antenna point towards the equator? (If you are in the northern hemisphere, the satellite is generally south of you. If you are in the southern hemisphere, the satellite is generally north of you.
- Is any structure of the ship in the path of the antenna? If so, the antenna probably is blocked. If not, you may have a different failure that is preventing the antenna from receiving the signal from the satellite.
- Is any structure around the ship in the path of the antenna (i.e., building, tower, crane, or mountain)? If so, the antenna is probably blocked. If not, there probably is a failure that is preventing the antenna from receiving the satellite signal.

If the antenna is blocked, then you cannot receive the satellite signal until the ship moves, or at least turns. You may be able to target a different unblocked satellite, if you have arranged for services from that satellite.
If the antenna appears to be pointing towards the satellite, the sky is clear, and there are no obstructions, then contact your Dealer for assistance.

### 6.5. Check for Errors

Check for errors. If the Errors status indicator in the banner at the top of a page is red, then one or more errors have occurred and been detected by the system. Click View on the right of the LED to display the errors. If you call for support, then the support person will want to know exactly what error messages are/were displayed.

**NOTE:** The Front Panel LEDs indicate the error priority, from highest to lowest: Solid Red, Flashing Red, Solid Yellow, Flashing Yellow, Solid Green, and Flashing Green.

**NOTE:** An unlatched error can automatically clear itself, if the system corrects the condition that caused the error. However, only a user can clear a latched error.

The following table lists all of the possible displayed error codes. (It is possible that other errors might occur, but they are not displayed, and are not in this list.).

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Type</th>
<th>Front Panel LED</th>
<th>Latched or Unlatched</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Type</td>
<td>State</td>
</tr>
<tr>
<td>1001</td>
<td>Stability Limit</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1002</td>
<td>Az Reference Error (Encoder Read)</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1003</td>
<td>AGC Below Noise Threshold</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1004</td>
<td>Software Update Did not Load Properly</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1005</td>
<td>Comm Error w/ Motor Driver</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1006</td>
<td>Motor Driver Fault Detected</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1007</td>
<td>DishScan Disabled</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1008</td>
<td>AZ Reference Error (Home Flag Read)</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1009</td>
<td>Tilt Sensor Error</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1010</td>
<td>Rate Sensor Error</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1011</td>
<td>Over Speed Error</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1012</td>
<td>POST Failure</td>
<td>Debug</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1013</td>
<td>OS Errors</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1014</td>
<td>Flash Failure</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1015</td>
<td>MXP/ICU Link Error</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1016</td>
<td>Az Servo Limit</td>
<td>Error</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1017</td>
<td>LV Servo Limit</td>
<td>Error</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1018</td>
<td>CL Servo Limit</td>
<td>Error</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1019</td>
<td>No GPS String</td>
<td>Error</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1020</td>
<td>No Profile Set in PCU</td>
<td>Error</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1021</td>
<td>NMEA HDD Heading Not Received for 10 Seconds</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1022</td>
<td>NMEA HDG Heading Not Received for 10 Seconds</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1023</td>
<td>NMEA HDM Heading Not Received for 10 Seconds</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1024</td>
<td>NMEA HDT Heading Not Received for 10 Seconds</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1025</td>
<td>GPS String Invalid</td>
<td>Warning</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1026</td>
<td>Antenna Not Balanced</td>
<td>Warning</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1027</td>
<td>Satellite Out of Range</td>
<td>Info</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1028</td>
<td>Temp In Radome Above/Below Operating Specs</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1029</td>
<td>Antenna about to enter a Programmed Block Zone</td>
<td>Notice</td>
<td>Error</td>
<td>Flashing</td>
</tr>
</tbody>
</table>
## MXP User Manual

### Troubleshooting for Users

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Type</th>
<th>Front Panel LED</th>
<th>Latched or Unlatched</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Type</td>
<td>State</td>
</tr>
<tr>
<td>1030</td>
<td>Antenna Within a Programmed Block Zone</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1031</td>
<td>AGC Below Threshold</td>
<td>Info</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1032</td>
<td>Latest Parameters Not Saved</td>
<td>Notice</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1033</td>
<td>Software Update In Progress</td>
<td>Info</td>
<td>Initializing</td>
<td>Flashing</td>
</tr>
<tr>
<td>1034</td>
<td>Block Zone Test/Simulation</td>
<td>Info</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1035</td>
<td>MXP-ICU Sync Timeout</td>
<td>Info</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1036</td>
<td>Parameter Sync Error</td>
<td>Warning</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1037</td>
<td>Time Sync Error</td>
<td>Warning</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1038</td>
<td>System Serial Number Mismatch</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1039</td>
<td>System Serial Number Invalid</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1040</td>
<td>INI Integrity Error</td>
<td>Warning</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1041</td>
<td>NMEA HDD Received with Bad Checksum</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1042</td>
<td>NMEA HDG Received with Bad Checksum</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1043</td>
<td>NMEA HDM Received with Bad Checksum</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1044</td>
<td>NMEA HDT Received with Bad Checksum</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1045</td>
<td>Step by Step Gyro Took Invalid Step Size</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1046</td>
<td>Step by Step Gyro Not Connected Correctly</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1047</td>
<td>Step by Step Gyro Requires Initial Heading</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1048</td>
<td>36:1 Synchro Gyro Requires Initial Heading</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1049</td>
<td>90:1 Synchro Gyro Requires Initial Heading</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1050</td>
<td>360:1 Synchro Gyro Requires Initial Heading</td>
<td>Notice</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1051</td>
<td>1:1 Synchro Gyro Is Not Properly Connected</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1052</td>
<td>36:1 Synchro Gyro Is Not Properly Connected</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1053</td>
<td>90:1 Synchro Gyro Is Not Properly Connected</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1054</td>
<td>360:1 Synchro Gyro Is Not Properly Connected</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1055</td>
<td>Polang skew entry results in target out of range</td>
<td>Error</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1056</td>
<td>Motor failed to reach Target</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1057</td>
<td>Motion Platform Failed Initialization, Retrying</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1058</td>
<td>No Home Flag Detected During Pol Initialization</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1059</td>
<td>Multiple Home Flags Detected During Pol Init</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1060</td>
<td>Detected Pol Home Flag Sensor Anomaly</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1061</td>
<td>Pol Home Flag Measured Too Wide</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1062</td>
<td>Pol Home Flag Found In Wrong Location</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1063</td>
<td>CM current out of range</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1064</td>
<td>CM Voltage out of range</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1065</td>
<td>BUC current out of range</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1066</td>
<td>BUC Voltage out of range</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1067</td>
<td>Profile changed. Please save and reboot</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1068</td>
<td>No Pol Home Flag Detected, Using End Stop Home</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1069</td>
<td>Pol Home Flag In Wrong Location, Using End Stop Home</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1070</td>
<td>Pol Home Flag Failed, Using End Stop Home</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1071</td>
<td>Pol Motor Failed</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1072</td>
<td>Pol Has Been Driven Outside Of Hardware Limit</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1073</td>
<td>Pol Failed To Initialize With Encoder</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1074</td>
<td>Running Out Of Service Test</td>
<td>Error</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1075</td>
<td>Open AMIP Error</td>
<td>Warning</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
<td>Type</td>
<td>Front Panel LED</td>
<td>Latched or Unlatched</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------</td>
<td>------------</td>
<td>-----------------</td>
<td>----------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Type</td>
<td>State</td>
</tr>
<tr>
<td>1086</td>
<td>Pol Angle Targeting</td>
<td>Warning</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1087</td>
<td>Sub Reflector is not properly located</td>
<td>Error</td>
<td>Error</td>
<td>Flashing</td>
</tr>
<tr>
<td>1088</td>
<td>Pol Polarization Error</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1089</td>
<td>Minor Alarm</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1090</td>
<td>Major Alarm</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1091</td>
<td>LNB Communication Error</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1092</td>
<td>LNB Configuration Error</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1093</td>
<td>Receiver Freq Configuration Error</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1094</td>
<td>Motors Exceeded Power Limit</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1095</td>
<td>Invalid System Profile</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1096</td>
<td>Receiver Rx Input Configuration Error</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
<tr>
<td>1097</td>
<td>Receiver Not Initialized</td>
<td>Error</td>
<td>Error</td>
<td>Solid</td>
</tr>
</tbody>
</table>
ACU (Antenna Control Unit) – The ACU is the below-decks electronic equipment that controls the antenna.
ADE (Above Decks Equipment) – The ADE includes the Sea Tel antenna, and its fiberglass radome, because they are on a higher deck or mast location outside the ship. Your ADE may include a Base frame, Legs, Braces, and may even have a marine air conditioner.
AGC (Automatic Gain Control) – A digital representation of the actual signal level being received from the satellite.
Antenna – This is entire assembly including the dish (reflector), antenna support structure (but not the pedestal), enclosure (radome), mechanical drive mechanism, etc. The antenna includes an integrated preamplifier, waveguides, and other electronic components that are directly connected to the antenna assembly.
AZ (Azimuth) – Clockwise /Counter Clockwise Rotation of the Antenna
BDE (Below Decks Equipment) – The MXP, satellite modem, satellite receivers, signal processing and distribution equipment that is associated with this type of system.
BLOCK (Blockage) – The signal from a satellite can be blocked by the superstructure of the ship, cranes, buildings, trees, or other obstructions, which are between the satellite (out in space directly above the equator) and the Sea Tel antenna. These obstacles block the signal, preventing it from reaching the antenna.
bps (Bits Per Second) – The speed at which a data signal carries information. It is commonly expressed in thousands of bits per second (kbps).
CFE (Customer Furnished Equipment) – Modem, Router, cables, uninterruptable power supply (UPS), etc.
CL (CROSS-LEVEL) – Tilt (left-right) of the antenna.
DBS (Direct Broadcast Services) – One of the satellite services in the USA.
Dish (Part of the antenna) — It is a parabolic reflector, which is a curved surface with the cross-sectional shape of a parabola, used to direct radio and microwaves. The most common form is shaped like a dish. Often it is used synonymously with Reflector.
DTH – (Direct To Home) – Satellite services in Europe.
DVB (Digital Video Broadcast) – A standard format for digital video broadcast services.
EL (ELEVATION) – The pointing-angle of the satellite antenna dish/reflector, between the horizon (0 degrees EL) and the zenith (directly overhead at 90 degrees EL).
ERROR – Name of an LED on the front panel. OFF indicates that no errors have occurred.
Favorite Satellite – Any satellite that is in the Select Satellite dropdown list of satellites. The list is in the Satellite Selection section of the Configuration > Satellite > Satellite Configuration page.
GPS (Global Positioning System) – A device that uses satellites to provide accurate Latitude and Longitude position of the ship.
GUI (Graphical User Interface) — Refers to the Graphical User Interface of the MXP ACU.
Gyrocompass – A device on the ship that provides the true heading of the ship, relative to true North. It is a non-magnetic compass, based on a fast-spinning disc and the rotation of the Earth. Gyrocompasses are used for navigation on ships, because they find true north as determined by the rotation of the Earth, which is more useful than magnetic north. They are not affected by ferromagnetic materials, such as a steel hull, which changes the magnetic field.
Horiz (Horizontal) – Horizontal linear polarity satellite signal.
ICU (Integrated Control Unit) – The remote controller mounted on the antenna pedestal. It is in constant communication with the ACU. They jointly control all the movements of the antenna.
INIT (Initializing) – Name of an LED on the front panel. OFF indicates that the system has finished initialization.
LED (Light Emitting Diode) – LEDs in various colors are used to indicate the status of parts of the system.
LHCP (Left Hand Circular Polarity) – Left-hand rotating circular polarity satellite signal.
LNB (Low Noise Block Down-Converter) — is the device mounted on a satellite antenna, which allows it to receive the satellite signal and convert it for use with the satellite modem or receivers.

MXP (Media Xchange Point™) – This is the Antenna Control Unit for the Sea Tel system. It uses HTML-based internal web pages that form the GUI that enables a user to access and operate the system.

Polang (Polarization Angle)

POWER – Name of an LED on the front panel. ON (Solid Green) indicates that the MXP boot sequence is complete, and the system power is ON (normal).

Radome – A structural, weatherproof enclosure that protects a microwave antenna.

Reflector (Part of the antenna) — It is a parabolic reflector, which is a curved surface with the cross-sectional shape of a parabola, used to direct radio and microwaves (radar). The most common form is shaped like a dish. Often it is used synonymously with Dish.

Relative AZ — This is the azimuth-pointing angle of the antenna relative to the bow of the ship. It is 000.0 (360.0) when the antenna is inline with the bow, 090.0 when the antenna is directly to starboard, 180.0 when directly aft and 270.0 when directly to port.

RHCP (Right Hand Circular Polarity) – Right hand rotating circular polarity satellite signal.

RMA (Return Material Authorization) – An RMA number must be obtained prior to returning a part for repair or replacement.

SCPC (Single Channel Per Carrier)

SEARCH (Searching) – OFF indicates that antenna is not searching.

STABILIZATION – Decoupling of the ships motion from the stabilized portion of the antenna, so that the antenna stays accurately pointed in 3-dimentional free space.

TARGET – Name of an LED on the front panel. OFF indicates that the antenna has finished targeting a satellite.

TRACK (Tracking) – ON (Solid Green) indicates that the MXP has identified and is actively tracking the desired satellite to optimize the signal level (AGC).

VSAT (Very Small Aperture Terminal) It refers to an antenna that is used to send and receive signals to or from a satellite for broadband services.

Vert (Vertical) – Vertical linear polarity.
8. Technical Contacts

Your first technical contact always should be your Dealer, from whom you originally purchased the system. This is usually the fastest way to have your problem resolved. If your Dealer cannot resolve the problem, then they will contact Sea Tel directly and work together to resolve the problem.

For your reference, please write in the following information:

Dealer Name: ______________________________________________________________________

Dealer Address _____________________________________________________________________

Dealer Phone ______________________________________________________________________

Dealer Fax _________________________________________________________________________

Dealer Email Address ______________________________________________________________

If, for some reason, you cannot contact your Dealer, then you can contact Sea Tel Service:

Sea Tel Inc., a Cobham SATCOM company
4030 Nelson Ave.
Concord, CA 94520
USA

Email to GCS service: sea.vsat.support@satcomgcs.com
Telephone: +1 (925) 798-2399