

**INSTALLATION AND MAINTENANCE MANUAL  
FOR SEA TEL MODEL  
COASTAL 14 SATELLITE TV RECEIVE-ONLY ANTENNA**

**Sea Tel, Inc.**  
4030 Nelson Avenue  
Concord, CA 94520  
Tel: (925) 798-7979  
Fax: (925) 798-7986  
Email: [seatel@seatel.com](mailto:seatel@seatel.com)  
Web: [www.seatel.com](http://www.seatel.com)

September 26, 2007



*Look to the Leader. Look to Sea Tel.*

**Sea Tel Europe**  
Unit 1, Orion Industrial Centre  
Wide Lane, Swaythling  
Southampton, UK S0 18 2HJ  
Tel: 44 (0)23 80 671155  
Fax: 44 (0)23 80 671166  
Email: [europe@seatel.com](mailto:europe@seatel.com)  
Web: [www.seatel.com](http://www.seatel.com)

Document. No. 126352  
Revision B



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



Sea Tel is an ISO 9001:2000 registered company. Certificate Number 19.2867 was issued August 12, 2005. Sea Tel was originally registered on November 09, 1998.

## Copyright Notice

**All Rights Reserved. The information contained in this document is proprietary to Sea Tel, Inc.. This document may not be reproduced or distributed in any form without the consent of Sea Tel, Inc. The information in this document is subject to change without notice.**

**Copyright © 2007 Sea Tel, Inc.**

## Revision History

<b>REV</b>	<b>ECO#</b>	<b>Date</b>	<b>Description</b>	<b>By</b>
A	N/A	February 17, 2006	Initial production release.	MDN
B	N/A	September 25, 2007	Modified text and drawings as needed	ECM

# Table of Contents

<b>1. INSTALLATION .....</b>	<b>1-1</b>
1.1. SITE SELECTION AND CABLE ROUTING PATH.....	1-1
1.2. COASTAL 14 SYSTEM INVENTORY .....	1-2
1.3. REQUIRED TOOLS .....	1-2
1.4. PREPARE THE ANTENNA RADOME MOUNTING LOCATION.....	1-2
1.5. PREPARE THE ANTENNA CONTROL PANEL MOUNTING LOCATION .....	1-2
1.6. PREPARE THE SATELLITE RECEIVER AND TELEVISION MOUNTING LOCATIONS.....	1-3
1.7. RUNNING THE CABLES .....	1-3
1.7.1. <i>Antenna Cable</i> .....	1-3
1.7.2. <i>Receiver Cable</i> .....	1-3
1.7.3. <i>DC Power Cable</i> .....	1-3
1.8. INSTALL THE ANTENNA RADOME .....	1-3
1.9. INSTALL THE ANTENNA CONTROL PANEL .....	1-5
1.10. INSTALL THE SATELLITE RECEIVER AND TELEVISION SET.....	1-6
<b>2. SETUP.....</b>	<b>2-1</b>
2.1. SYSTEM CHECKOUT .....	2-1
2.2. INITIAL FACTORY SETUP.....	2-1
2.3. CHANGING THE INITIAL FACTORY SETUP .....	2-1
2.3.1. <i>Adjusting Panel Brightness</i> .....	2-1
2.3.2. <i>Setting Auto Threshold for Proper Tracking</i> .....	2-2
2.3.3. <i>SAT1 - First Satellite Parameters</i> .....	2-2
2.3.4. <i>SAT2 - Second Satellite Parameters</i> .....	2-6
2.3.5. <i>SAT3 - Third Satellite Parameters</i> .....	2-6
2.3.6. <i>SAT4 - Fourth Satellite Parameters</i> .....	2-6
2.3.7. <i>SAT5 - Fifth Satellite Parameters</i> .....	2-6
2.3.8. <i>SAT6 - Sixth Satellite Parameters</i> .....	2-7
2.3.9. <i>FACTORY SETTINGS</i> .....	2-7
2.4. SAVING THE SETUP PARAMETERS .....	2-9
<b>3. MAINTENANCE.....</b>	<b>3-1</b>
3.1. WARRANTY INFORMATION .....	3-1
3.2. WHO TO CONTACT FOR REPAIRS .....	3-1
3.3. PREVENTIVE MAINTENANCE .....	3-2
3.4. FAULT ISOLATION/TROUBLE-SHOOTING .....	3-2
3.5. REPLACING A DEFECTIVE LNB.....	3-3
<b>4. COASTAL 14 TECHNICAL SPECIFICATIONS.....</b>	<b>4-1</b>
4.1. INSTALLED WEIGHT .....	4-1
4.2. RADOME .....	4-1
4.3. ANTENNA .....	4-1
4.4. STABILIZED PEDESTAL .....	4-1
4.5. US CIRCULAR LNB .....	4-2
4.6. PEDESTAL CONTROL UNIT .....	4-2
4.7. POWER REQUIREMENTS .....	4-2

## Table of Contents

4.8. ENVIRONMENTAL .....	4-3
<b>5. COMPUTER INTERFACE .....</b>	<b>5-4</b>
5.1. CONNECTING THE COMPUTER.....	5-4
<b>6. DRAWINGS.....</b>	<b>6-7</b>
6.1. COASTAL 14 DRAWINGS.....	6-7

## 1. Installation

**Installation of your Coastal Series Antenna system must be accomplished by or under the supervision of an authorized Sea Tel dealer for the Sea Tel Limited Warranty to be valid and in force.** Good planning of the installation will provide the best results. Below is some guidance on issues that are important to consider when planning the installation.

Planning is the key to a good installation. Read the installation information below thoroughly before beginning the actual installation. Then review your plan to adjust for any details that may have been overlooked.

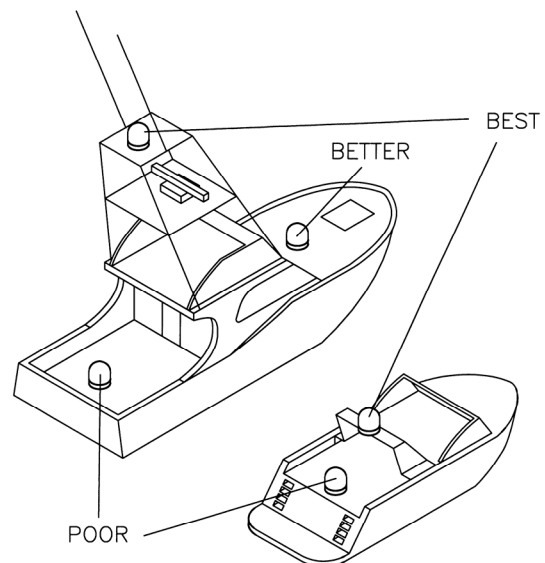
A full scale Installation Template (drawing 126355) has been provided to locate the cutout areas and mounting holes for the antenna radome and for the antenna control panel. The radome template section of the drawing includes the outer perimeter of the radome base so you can insure that the radome will fit in the area chosen.

### 1.1. Site Selection and Cable Routing Path

The best mounting location for the antenna radome assembly is where:

1. The antenna has a clear line-of-sight view to as much of the sky as is practical. Choose a location where masts or other structures do not block the satellite signal from the dish as the boat turns.
2. The antenna is at least 5 feet away from other transmitting antennas (HF, VHF and radar) that may generate signals that may interfere with the Coastal Series antenna. The further away the Coastal antenna is from these other antennas, the less impact their operation will have on it.
3. The antenna radome assembly should be rigidly mounted to the boat. If necessary, reinforce the mounting area to assure that it does not flex due to the boat motion or vibration.

Choosing the best mounting location on smaller boats, where there are fewer possible locations to choose from, is frequently a compromise. The Figure shown to the right is provided to make some location comparisons. The "poor" location is poor because over half of the antenna's viewable sky is blocked by the overhang above it. The "better" location has less blockage, but the upper deck and the mast will cause some blockage when the antenna is at lower elevations. The "best" location has no blockage from raised platforms, mast or the body of the radar.



**Possible Antenna Radome Assembly mounting locations**

The Antenna Control Panel (ACP) should be mounted in a convenient location close to the satellite receiver and not more than 50 feet (total antenna cable path length) from the antenna radome. So that the TV screen can be viewed while the antenna is being operated, it also should be mounted near the satellite receiver and television.

The ACP and the satellite receiver should be mounted near each other which is connected to each other with a supplied 6 foot RF receiver cable. If enclosed in a cabinet or panel, assure that there is adequate airflow to prevent from over-heating and provide forced airflow if needed.

### **1.2. Coastal 14 System Inventory**

Please inventory the contents of the box. It should contain all items listed in the Coastal 14 Packing List Document number 126370 found in the back of this manual.

### **1.3. Required Tools**

The following tools will be required to install the Coastal 14:

1. Masking tape
2. Center punch
3. Hammer
4. Electric Drill
5. 5/16" (8mm) Drill Bit
6. 1" hole saw
7. Small hand or electric saber saw
8. 7/16" Socket Wrench or Nut Driver
9. 7/16" Open-end Wrench
10. 1/8" straight blade screwdriver
11. #2 Phillips Head screwdriver

### **1.4. Prepare the Antenna Radome mounting location**

1. Lay the Installation Template (drawing 126355) on the mounting surface location that you have chosen to mount the radome on.
2. Align the radome "bow" mark on the template to be parallel to the bow of the boat. Adjust the position of the template to center the radome portion of the drawing where you want it. When you are satisfied with the position tape the template in place.
3. Using the center punch and hammer, mark the locations of the four radome mounting holes and the cable passage. Remove the template drawing.
4. Drill the four radome mounting holes using the 5/16" drill bit and the cable passage hole using the 1" hole saw.

### **1.5. Prepare the Antenna Control Panel mounting location**

1. Lay the Installation Template (drawing 126355) on the mounting surface location that you have chosen to mount the Antenna Control Panel in.
2. Adjust the position of the template to center the Antenna Control Panel cutout portion of the drawing where you want it. When you are satisfied with the position tape the template in place.
3. Using the center punch and hammer, mark the locations of the four mounting holes and the four corners of the cutout area. Remove the template drawing.
4. Mark the perimeter of the cutout area. Drill a hole inside the perimeter of the cutout area to enable you to cut the area out with the saw (the 1" hole saw might be used for this).
5. Cut the area out.

**1.6. Prepare the Satellite Receiver and Television mounting locations**

Prepare the mounting locations for the satellite receiver and television set ( or monitor and stereo sound system).

**1.7. Running the Cables**

**1.7.1. Antenna Cable**

Route the "F" connector end of the antenna cable down from the radome mounting location through the boat to the antenna control panel location.

Adjust the cable routing so that about 12 inches (30.5cm) of cable extends beyond the radome mounting surface and about 4 inches (10cm) of cable extending out of the antenna control panel mounting surface.

**1.7.2. Receiver Cable**

Route the receiver cable from the antenna control panel location to the satellite receiver. Leave about 4 inches (10cm) of cable extending out of the antenna control panel mounting surface.

**1.7.3. DC Power Cable**

Route the DC Power Cable from the antenna control panel location to the +12-24 Volt DC Power source. Leave about 4 inches (10cm) of cable extending out of the antenna control panel mounting surface.

**1.8. Install the Antenna Radome**

Refer to the Installation Arrangement drawing.

1. Open the Radome Installation Hardware Kit.



## Installation

## Coastal 14 Ku-Band TVRO

2. Remove the radome top by removing the three screws that thread into the radome base.
3. Set the radome top aside in a safe location until you are ready to close the radome.



4. Cut the shipping tie-wraps to allow free movement of the antenna mechanism.

5. Thread a 1/4-20 bolt through a bonded washer (neoprene side down) and through one of the threaded inserts in the base of the radome. Install the other three bolts & bonded washers in the same way.



6. Tighten all four of the mounting bolts





<ol style="list-style-type: none"> <li>7. Lift the base of the radome up and connect the antenna cable to the base of the antenna.</li> <li>8. While being careful not to pinch or kink the antenna cable, set the radome base mounting bolts into the mounting holes.</li> </ol>	
<ol style="list-style-type: none"> <li>9. From the underside of the mounting surface, install a 1/4" flat washer, a small pattern washer and a nylon lock nut on each of the mounting bolts.</li> <li>10. Tighten all four of the nuts.</li> <li>11. Re-install the radome top.</li> </ol>	

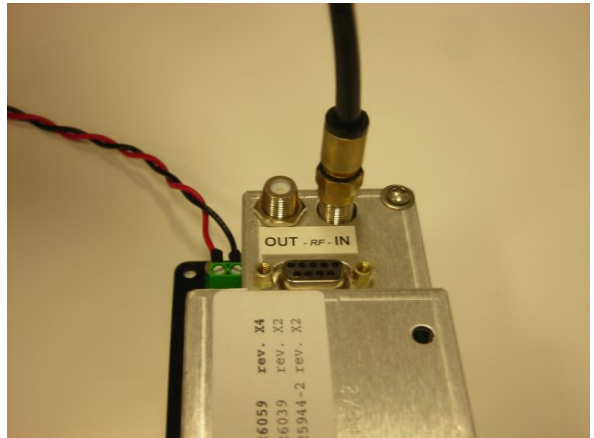
**1.9. Install the Antenna Control Panel**

Refer to the Installation Arrangement drawing.

<ol style="list-style-type: none"> <li>1. Assure that the DC Power Cable is not connected to the DC Supply.</li> <li>2. At the antenna control panel, connect the red wire to the + (plus) terminal on the green screw terminal.</li> </ol>	
<ol style="list-style-type: none"> <li>3. Connect the black wire to the - (minus) terminal on the green screw terminal.</li> </ol>	

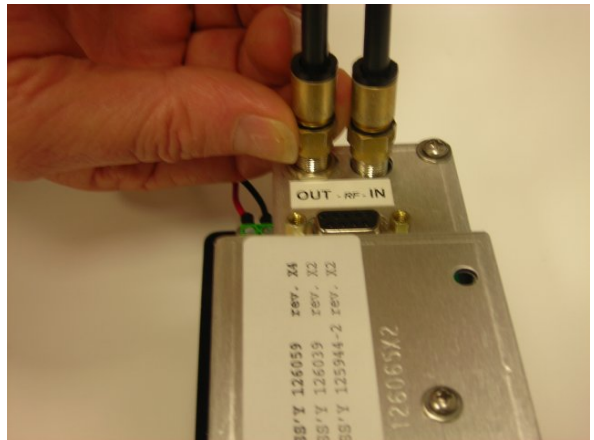
4. Connect the antenna cable to the IN connector of the antenna control panel. This IN connection supplies 30VDC operating voltage and antenna control signals to the antenna and receives satellite signal from the antenna.

**CAUTION:** Connecting the satellite receiver to the IN connector may damage the satellite receiver.



5. Connect the receiver cable to the OUT connector of the antenna control panel.

**CAUTION:** Connecting the satellite receiver to the IN connector may damage the satellite receiver.



6. Install the antenna control panel into the cutout and secure with self tapping screws
7. At the DC Power Supply, connect the red wire to the plus voltage output terminal. Connect the black wire to the minus (or ground) output terminal.

### **1.10. Install the Satellite Receiver and Television Set**

Connect the receiver cable from the antenna control panel's RF "Out" Port to the satellite input connection on the rear of your receiver.

Connect desired configuration of audio/video cables between the satellite receiver and television set (or monitor & stereo equipment).

## 2. Setup

---

### 2.1. System Checkout

1. Press the ON key on the antenna control panel. Both LED's (TRACKING and UNWRAP) should illuminate for 5 seconds verifying the DC power and LED cable connections between the antenna control panel and the antenna pedestal assembly.
2. Turn power ON to the satellite receiver and the TV monitor. The television may now be displaying "searching for satellite signal" verifying proper video connections between the receiver and the monitor.

### 2.2. Initial Factory Setup

Your system comes from the factory preprogrammed for the following satellites:

SAT1	DTV 101 W	DirecTV 101 W
SAT2	DTV 110.1 W	DirecTV 110 W with 110 HD converter ON
SAT3	DTV 119 W	DirecTV 119 W
SAT4	Dsh 110 W	Dish Network 110 W
SAT5	Dsh 119 W	Dish Network 119 W
SAT6	Dsh 148 W	Dish Network 148 W

If you want to change this programming refer to the paragraphs below.

### 2.3. Changing the Initial Factory Setup

If you want to change the order of the initial setup of satellites, remove unused satellites or add/replace with new satellites then refer to the paragraphs below.

Press and hold **SAVE + ▼** for 6 seconds to access SETUP Mode. "Setup Mode" will be displayed on the first line of the display while the panel is in SETUP Mode.

Use the **▼** & **▲** arrow keys to scroll down & up through the Setup parameters listed below.



**NOTE:** You will save individual set-up parameter settings as you modify them in the procedure below (quick presses of the SAVE key). These will only save the settings until POWER is cycled to the antenna.

When you are finished making all of your desired changes, you **MUST press and hold the SAVE key for six seconds, "Settings Saved" will be displayed.** Saving writes all of the parameters, including the ones you have changed, to memory in the PCU so they will be available after POWER has been cycled to the antenna.

#### 2.3.1. Adjusting Panel Brightness

1. Press the NEXT key to SELECT this parameter for adjustment.
2. Once selected, press **▲** & **▼** arrow keys to adjust the backlighting illumination of the display to desired level. Each keypress steps the value 8 counts.
3. Then press the SAVE key to save the adjusted setting.
4. Press the **▼** arrow key to go to the next parameter.

### 2.3.2. Setting Auto Threshold for Proper Tracking

Auto Threshold needs to be set to about  $1/3^{\text{rd}}$  of the difference in AGC between noise floor (OFF satellite) signal level and peak (ON satellite) signal level. The most common value for the Coastal 14 is 60.

1. Press the **NEXT** key to SELECT this parameter for adjustment.
2. Once selected, press ▼ & ▲ arrow keys to increment/decrement the indicated digit to the desired value.
3. Press **NEXT** to move the adjustment cursor to the next character to be edited. Press ▼ & ▲ arrow keys to increment/decrement the indicated character to the desired value.
4. Repeat the previous step until all desired character positions have been edited.
5. Then press the SAVE key once to save this setting.
6. Press the ▼ arrow key to go to the next parameter.

### 2.3.3. SAT1 - First Satellite Parameters

Access all of the SAT1 individual parameters via a sub menu. Choices are:

#### 2.3.3.1. **PRESET**

This choice presets all of the other sub-menu parameters to factory defaults for the satellite you choose to set this SAT to.

1. Press the NEXT key to SELECT this parameter for adjustment.
2. Once selected, press ▼ & ▲ arrow keys to scroll through a list of choices which this SAT can be preset to. This list may change in future software revisions. The current choices are:
 

Empty	Blanks/zeroes all parameters for this satellite, so switching satellites (NEXT) will skip over the satellites you don't want <i>(if you only use ONE satellite, you should preset all of the other SAT selections to be empty/blank).</i>
ExpV82	Bell ExpressVu @ 82W
ExpV91	Bell ExpressVu @ 91W
DTV101	DirecTV @ 101W
DTV110.1	DirecTV @ 110.1W (this turns the 110 converter ON)
DTV119	DirecTV @ 119W
Dsh110	Dish Network @ 110W
Dsh119	Dish Network @ 119W
Dsh148	Dish Network @ 148W
3. When the desired choice is displayed, press the SAVE key to save the parameters for this SAT. This saves the **DEFAULT** Satellite Name, Satellite Longitude, LHCP frequency, RHCP frequency, Baud rate, FEC rate, Network ID and Polarization Trim of this SAT.
4. If you want to edit any of the **default** values that are loaded with preset, press the ▼ arrow key to go to the next sub-menu parameter.
5. If you do not want to edit any other sub-menu parameters, press SAVE again to exit the sub-menu and return to the SAT main menu display. From there you can press the ▼ arrow key to go to next SAT numeric menu choice or to the Factory Settings menu choice.

**2.3.3.2. NAME**

Enter or edit the 6 character **Name** you want to use for this saved satellite.

1. Press the NEXT key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the leftmost character. Press ▼ & ▲ arrow keys to increment/decrement this character.
3. Press the NEXT key to move the cursor to the next character to the right. Press ▼ & ▲ arrow keys to increment/decrement this character.
4. Continue editing characters (6 max) until all desired characters have been set to create the NAME you want to use for this satellite selection. Press the SAVE key to save the NAME parameter for this SAT.
5. If you want to edit any of the other **default** values that are loaded with preset, press the ▼ arrow key to go to the next sub-menu parameter.
6. If you do not want to edit any other sub-menu parameters, press SAVE again to exit the sub-menu and return to the SAT main menu display. From there you can press the ▼ arrow key to go to next SAT numeric menu choice or to the Factory Settings menu choice.

**2.3.3.3. LON**

Enter or edit the **Longitude** position of this satellite. Range of acceptable values are 0-180, East or West (E or W).

1. Press the NEXT key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the East/West hemisphere character. Press ▼ & ▲ arrow keys to set this character to the desired hemisphere (E/W).
3. Press the NEXT key to move the cursor to the number digit to the right. Press ▼ & ▲ arrow keys to increment/decrement this digit.
4. Continue editing until all 3 digits have been set to the Longitude (0-180) position of this satellite selection. Press the SAVE key to save the LON parameter for this SAT.
5. If you want to edit any of the other **default** values that are loaded with preset, press the ▼ arrow key to go to the next sub-menu parameter.
6. If you do not want to edit any other sub-menu parameters, press SAVE again to exit the sub-menu and return to the SAT main menu display. From there you can press the ▼ arrow key to go to next SAT numeric menu choice or to the Factory Settings menu choice.

**2.3.3.4. LHCP freq**

**\*\*\*For the current software installed in this system. This parameter must be set to same value as the RCHP frequency\*\*\***

Enter or edit the Left Hand Circular **Frequency** (in MHz) for the receiver to use to track this satellite. Range of acceptable frequency input is 950-2150 MHz.

1. Press the **NEXT** key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the rightmost digit. Press ▼ & ▲ arrow keys to increment/decrement this digit.
3. Press the **NEXT** key to move the cursor to the digit to the left. Press ▼ & ▲ arrow keys to increment/decrement this digit.

4. Continue editing until all 4 digits have been set to the desired tracking Frequency for this satellite selection. Press the SAVE key to save the FREQ parameter for this SAT.
5. If you want to edit any of the other **default** values that are loaded with preset, press the ▼ arrow key to go to the next sub-menu parameter.
6. If you do not want to edit any other sub-menu parameters, press SAVE again to exit the sub-menu and return to the SAT main menu display. From there you can press the ▼ arrow key to go to next SAT numeric menu choice or to the Factory Settings menu choice.

#### **2.3.3.5. RHCP freq**

Enter or edit the best Right Hand Circular **Frequency** (in MHz) for the receiver to use to track this satellite. Range of acceptable frequency input is 950-2150 MHz.

1. Press the NEXT key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the rightmost digit. Press ▼ & ▲ arrow keys to increment/decrement this digit.
3. Press the NEXT key to move the cursor to the digit to the left. Press ▼ & ▲ arrow keys to increment/decrement this digit.
4. Continue editing until all 4 digits have been set to the desired tracking Frequency for this satellite selection. Press the SAVE key to save the FREQ parameter for this SAT.
5. If you want to edit any of the other **default** values that are loaded with preset, press the ▼ arrow key to go to the next sub-menu parameter.
6. If you do not want to edit any other sub-menu parameters, press SAVE again to exit the sub-menu and return to the SAT main menu display. From there you can press the ▼ arrow key to go to next SAT numeric menu choice or to the Factory Settings menu choice.

#### **2.3.3.6. BAUD**

Enter or edit the best **Baud rate** for the receiver to use for this satellite. Range of acceptable input is 5000-30000 symbols per second.

1. Press the NEXT key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the rightmost digit. Press ▼ & ▲ arrow keys to increment/decrement this digit.
3. Press the NEXT key to move the cursor to the digit to the left. Press ▼ & ▲ arrow keys to increment/decrement this digit.
4. Continue editing until all 5 digits have been set to the desired Baud rate for this satellite selection. Press the SAVE key to save the BAUD parameter for this SAT.
5. If you want to edit any of the other **default** values that are loaded with preset, press the ▼ arrow key to go to the next sub-menu parameter.
6. If you do not want to edit any other sub-menu parameters, press SAVE again to exit the sub-menu and return to the SAT main menu display. From there you can press the ▼ arrow key to go to next SAT numeric menu choice or to the Factory Settings menu choice.

**2.3.3.7. FEC**

Enter or edit the best **Forward Error Correction rate** for the receiver to use for this satellite.

This choice presets all of the other sub-menu parameters to factory defaults for the satellite you choose to set this SAT to.

1. Press the NEXT key to SELECT this parameter for adjustment.
2. Once selected, press ▼ & ▲ arrow keys to scroll through a list of choices which this SAT can be preset to. This list may change in future software revisions. The current choices are:

AUTO                      Automatically scans through all the standard DVB & DSS FEC rates.

1/2

2/3

3/4

5/6

6/7

7/8

AUTO\*                      Automatically scans through all the available forced \* (star'ed) FEC rates. If the satellite does not generate an NID but does have a unique combination of FREQ, BAUD and FEC lock, select the appropriate *FEC\** choice from this list. The system will then generate its own unique forced NID to represent the desired satellite. You will need to enter this pseudo NID in the *NID* setting below.

1/2\*

2/3\*

3/4\*

5/6\*

6/7\*

7/8\*

3. When the desired choice is displayed, press the SAVE key to save the parameters for this SAT. This saves the FEC rate to use for this SAT.
4. If you want to edit any of the **default** values that are loaded with preset, press the ▼ arrow key to go to the next sub-menu parameter.
5. If you do not want to edit any other sub-menu parameters, press SAVE again to exit the sub-menu and return to the SAT main menu display. From there you can press the ▼ arrow key to go to next SAT numeric menu choice or to the Factory Settings menu choice.

**2.3.3.8. NID**

Enter or edit the best **Network ID** 4 digit HEX value for the receiver used to Identify & track this satellite.

1. Press the **NEXT** key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the rightmost digit. Press ▼ & ▲ arrow keys to increment/decrement this digit (only valid HEX values 0-F will be displayed).

3. Press the **NEXT** key to move the cursor to the digit to the left. Press **▼** & **▲** arrow keys to increment/decrement this digit.
4. Continue editing until all 4 digits have been set to the desired NID for this satellite selection. Press the **SAVE** key to save the NID parameter for this SAT.
5. If you want to edit any of the other **default** values that are loaded with preset, press the **▼** arrow key to go to the next sub-menu parameter.
6. If you do not want to edit any other sub-menu parameters, press **SAVE** again to exit the sub-menu and return to the SAT main menu display. From there you can press the **▼** arrow key to go to next SAT numeric menu choice or to the Factory Settings menu choice.

#### **2.3.3.9. POL TRIM**

This parameter is not used in this system. Set to 0000.

#### **2.3.4. SAT2 - Second Satellite Parameters**

Access all of the SAT2 individual parameters via a sub menu. If a second SAVED satellite if not needed, preset SAT2 to empty/blank so NEXT will skip over this selection when you are switching satellites.

All of the SAT2 parameters are set exactly the same way that the SAT1 parameters were set, but would be set to different choices. Refer to the parameter setting information in the SAT1 – First Satellite Parameters paragraphs to set PRESET, NAME, LON, LHCP freq, RHCP freq, BAUD, FEC, NID and POL TRIM for a second satellite you wish to use periodically.

#### **2.3.5. SAT3 - Third Satellite Parameters**

Access all of the SAT3 individual parameters via a sub menu. If a second SAVED satellite if not needed, preset SAT3 to empty/blank so NEXT will skip over this selection when you are switching satellites.

All of the SAT3 parameters are set exactly the same way that the SAT1 parameters were set, but would be set to different choices. Refer to the parameter setting information in the SAT1 – First Satellite Parameters paragraphs to set PRESET, NAME, LON, LHCP freq, RHCP freq, BAUD, FEC, NID and POL TRIM for a third satellite you wish to use periodically.

#### **2.3.6. SAT4 - Fourth Satellite Parameters**

Access all of the SAT4 individual parameters via a sub menu. If a second SAVED satellite if not needed, preset SAT4 to empty/blank so NEXT will skip over this selection when you are switching satellites.

All of the SAT4 parameters are set exactly the same way that the SAT1 parameters were set, but would be set to different choices. Refer to the parameter setting information in the SAT1 – First Satellite Parameters paragraphs to set PRESET, NAME, LON, LHCP freq, RHCP freq, BAUD, FEC, NID and POL TRIM for a fourth satellite you wish to use periodically.

#### **2.3.7. SAT5 - Fifth Satellite Parameters**

Access all of the SAT5 individual parameters via a sub menu. If a second SAVED satellite if not needed, preset SAT5 to empty/blank so NEXT will skip over this selection when you are switching satellites.

All of the SAT5 parameters are set exactly the same way that the SAT1 parameters were set, but would be set to different choices. Refer to the parameter setting information in the SAT1 –



First Satellite Parameters paragraphs to set PRESET, NAME, LON, LHCP freq, RHCP freq, BAUD, FEC, NID and POL TRIM for a fifth satellite you wish to use periodically.

### **2.3.8. SAT6 - Sixth Satellite Parameters**

Access all of the SAT6 individual parameters via a sub menu. If a second SAVED satellite is not needed, preset SAT6 to empty/blank so NEXT will skip over this selection when you are switching satellites.

All of the SAT6 parameters are set exactly the same way that the SAT1 parameters were set, but would be set to different choices. Refer to the parameter setting information in the SAT1 – First Satellite Parameters paragraphs to set PRESET, NAME, LON, LHCP freq, RHCP freq, BAUD, FEC, NID and POL TRIM for a sixth satellite you wish to use periodically.

### **2.3.9. FACTORY SETTINGS**

Accessing the Factory Settings parameters should **ONLY** be done by a qualified technician from an authorized Sea Tel dealer. The Model Serial Number can be found on the blue and silver label below the reflector, on the blue frame of the pedestal. The parameters are:

#### **2.3.9.1. *Serial Number***

This parameter sets Serial Number of the Antenna Pedestal into the PCU memory. The serial number starts with 98 followed by 6 digits that are editable. This parameter allows the Serial Number of the Antenna to be displayed on the Display Antenna Control Panel during the initialization process.



**NOTE: The Serial Number parameter setting is saved in the PCU, therefore, MUST be set whenever the PCU is changed.**

After this parameter has been set correctly, it must be SAVED in the PCU.

1. Press the **NEXT** key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the rightmost digit. Press ▼ & ▲ arrow keys to increment/decrement this digit.
3. Press the **NEXT** key to move the cursor to the digit to the left. Press ▼ & ▲ arrow keys to increment/decrement this digit.
4. Continue editing until all 6 digits have been set to the correct Serial Number of the antenna pedestal that this PCU is mounted on. Press the **SAVE** key to save the Serial Number parameter.
5. Press **SAVE** again to exit the sub-menu and return to the FACTORY SETTINGS main menu display. From there you can press the ▲ arrow key to go UP through the SAT numeric menu choices.

#### **2.3.9.2. *MODEL COASTAL ##***

This parameter sets all of the internal drive, scale factor and limits for the motors, gear ratios and sensors FOR THIS MODEL ANTENNA.



**NOTE: The MODEL parameter setting is saved in the PCU, therefore, MUST be set whenever the PCU is changed.**



**WARNING: Improper setting of this parameter WILL cause the antenna to malfunction.**

1. Press the **NEXT** key to SELECT this sub-menu parameter for adjustment.
2. Once selected, press ▼ & ▲ *arrow* keys to scroll through a list of model number choices. This list may change in future software revisions. The current choices are:
  - 14** 14 inch diameter reflector
  - 18** 18 inch diameter reflector
  - 20** 20 inch diameter reflector
  - 24** 24 inch diameter reflector
  - 30** 30 inch diameter reflector
3. When the correct model value (Coastal 14) is displayed, press the **SAVE** key to save the Model Number parameters. This saves the drive, scale factors and limits for this antenna. *If this parameter is **NOT set correctly**, the antenna WILL malfunction.*

#### **2.3.9.3. LAT (Ships Latitude)**

This parameter is automatically set by the GPS antenna mounted on the Coastal pedestal inside the radome. The GPS input enables the antenna to quickly & accurately target satellites (SAT1 – SAT6) when you press the **NEXT** key on the Antenna Control Panel.

1. Press the **NEXT** key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the leftmost digit. Press ▼ & ▲ *arrow* keys to increment/decrement this digit.
3. Press the **NEXT** key to move the cursor to the next digit to the right. Press ▼ & ▲ *arrow* keys to increment/decrement this digit.
4. Press the **NEXT** key to move the cursor to the next character to the right. Press ▼ & ▲ *arrow* keys to toggle this character between N (North) and S (South).
5. Press the **SAVE** key to save the current ships latitude in the LAT parameter.

#### **2.3.9.4. LON (Ships Longitude)**

This parameter is automatically set by the GPS antenna mounted on the Coastal pedestal inside the radome. The GPS input enables the antenna to quickly & accurately target satellites (SAT1 – SAT6) when you press the **NEXT** key on the Antenna Control Panel.

1. Press the **NEXT** key to SELECT this sub-menu parameter for adjustment.
2. A cursor will appear under the leftmost digit. Press ▼ & ▲ *arrow* keys to increment/decrement this digit.
3. Press the **NEXT** key to move the cursor to the next digit to the right. Press ▼ & ▲ *arrow* keys to increment/decrement this digit.
4. Press the **NEXT** key to move the cursor to the next digit to the right. Press ▼ & ▲ *arrow* keys to increment/decrement this digit.

5. Press the **NEXT** key to move the cursor to the next character to the right. Press **▼** & **▲** arrow keys to toggle this character between E (East) and W (West).
6. Press the **SAVE** key to save the current ships longitude in the LON parameter.

### 2.4. Saving the **SETUP** Parameters

When you have completed setting the desired parameters above, Press and Hold **SAVE** for 6 seconds to save the changes you have made to the settings and exit SETUP Mode. "Settings Saved" will be displayed.

If you do NOT want to save the changes to NVRAM, Press **SAVE + ▲** to exit SETUP Mode without permanently saving any parameter changes.



**NOTE:** You will save individual set-up parameter settings as you modify them in the procedure below (quick presses of the **SAVE** key). These will only save the settings until **POWER** is cycled to the antenna.

When you are finished making all of your desired changes, you **MUST press and hold the SAVE key for six seconds** to write the changes you have made to memory ("Settings Saved" will be displayed) in the PCU, so they will be available after **POWER** has been cycled to the antenna.

**This Page Intentionally Left Blank**

### 3. Maintenance

---

#### 3.1. Warranty Information

Sea Tel Inc. supports its Coastal Series systems with a warranty program unsurpassed in the industry. These systems are backed by a TWO YEAR full warranty on parts and a ONE YEAR warranty on labor.

What's Covered by the Limited Warranty?

The Sea Tel Coastal Series Limited Warranty is applicable for parts and labor coverage to the complete antenna system, including all above-decks equipment (radome, pedestal, antenna, motors, electronics, wiring, etc.) and the antenna control panel. It does not include television sets, DBS/DTH receivers, multi-switches or other distribution equipment, whether or not supplied by Sea Tel. Televisions, DBS/DTH receivers and accessories are covered by the applicable warranties of the respective manufacturers.

Factory refurbished components used to replace systems parts under this warranty are covered by this same warranty as the original equipment for the balance of the original warranty term, or ninety (90) days from the date of replacement, whichever occurs last. Original Installation of the Coastal Series system must be accomplished by or under the supervision of an authorized Sea Tel dealer for the Sea Tel Limited Warranty to be valid and in force.

Please refer to the complete warranty information included with your system.

#### 3.2. Who to contact for repairs

Should technical assistance be required to repair your system, the first contact should be to the agent/dealer you purchased the equipment from. Please record their contact information below for future reference. Repairs to your Coastal Series system must be accomplished by or under the supervision of an authorized Sea Tel dealer for the Sea Tel Limited Warranty to be valid and in force.

Agent/Dealer: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Sea Tel can recommend local dealers that can provide service in your local area that can be contacted for assistance. You can contact us directly at either of the locations below;

Sea Tel, Inc.  
4030 Nelson Avenue  
Concord, CA 94520 USA  
Tel: 925-798-7979  
Fax: 925-798-7986  
Toll Free: 1-888-798-7979  
Email: [seatel@seatel.com](mailto:seatel@seatel.com)  
<http://www.seatel.com>

Sea Tel Europe  
Unit 1 Orion Industrial Centre  
Wide Lane Swaythling  
Southampton, UK S018 2HJ  
Tel: +44 (0)23 80 671155  
Fax: +44 (0)23 80 671166  
e-mail: [europe@seatel.com](mailto:europe@seatel.com)

**3.3. Preventive Maintenance**

As needed - Clean the outside surface of the radome with warm soapy water to remove dust, grime and salt residue.

There is no other preventive maintenance required

**3.4. Fault Isolation/Trouble-shooting**

The following table is provided to help isolate problems in the Coastal Series Antenna system.

<b>Symptom</b>	<b>Possible Fault</b>
Antenna tracking but receiver not providing desired programming	<ol style="list-style-type: none"> <li>1. Incorrect satellite. Press <b>NEXT</b> to search for desired satellite</li> <li>2. Receiver fault. Refer to receiver manual for operation and testing.</li> </ol>
Antenna tracking, receiver only gets some desired channels	<ol style="list-style-type: none"> <li>1. May be in weak area of footprint.</li> <li>2. Receiver may not be generating correct voltage or tone output. Refer to receiver manual for operation and testing.</li> <li>3. Receiver may not be passing voltage or tone output. Contact your dealer/agent.</li> <li>4. LNB assembly failure. Contact your dealer/agent.</li> </ol>
Intermittent freeze-framing of picture	<ol style="list-style-type: none"> <li>1. Check for blockage</li> <li>2. May be in weak area of footprint.</li> <li>3. Receiver may not be generating correct voltage or tone output. Refer to receiver manual for operation and testing.</li> <li>4. Check all coax cables for poor connection</li> <li>5. Possible receiver failure. Contact your dealer/agent.</li> <li>6. Possible antenna failure. Contact your dealer/agent.</li> </ol>
Antenna does not come on when the ON key is pressed	<ol style="list-style-type: none"> <li>1. Check +12 VDC input to antenna control panel.</li> <li>2. Verify that all connections on the rear of the antenna control panel are properly seated.</li> <li>3. Check the 4A fuse in the rear panel of the antenna control panel</li> <li>4. Call dealer/agent for further assistance</li> </ol>
Antenna doesn't track any satellites (constantly searching)	<ol style="list-style-type: none"> <li>1. Assure that the satellite receiver is turned ON</li> <li>2. Check for blockage</li> <li>3. Assure correct starting elevation</li> <li>4. May be out of satellite footprint</li> <li>5. Check all coax cables for poor connection</li> <li>6. Call dealer/agent for further assistance</li> </ol>
Antenna in constant UNWRAP	<ol style="list-style-type: none"> <li>1. Cycle antenna power OFF/ON to reinitialize the antenna.</li> <li>2. Call dealer/agent for further assistance</li> </ol>

Antenna tracks well at the pier, but loses the satellite when underway	1. Call dealer/agent for further assistance
Antenna does not stay on satellite at pier, or underway	1. Check all coax cables for poor connection 2. Call dealer/agent for further assistance

**3.5. Replacing a Defective LNB**

Follow the procedure below to install a replacement LNB.

<ol style="list-style-type: none"> <li>1. Turn antenna power OFF at the antenna control panel.</li> <li>2. Remove radome top.</li> <li>3. You may need to rotate the antenna to gain access the back of the dish.</li> <li>4. Note that the body of the current Circular LNB is vertical (straight down).</li> </ol>	
<ol style="list-style-type: none"> <li>5. Loosen the screws on the existing LNB mounting collar (two screws, 120 degrees apart) and extract the defective LNB from the mounting collar.</li> <li>6. Insert the new LNB (same style) into the mounting collar, assure it is seated all the way into the mounting collar tube, rotate the LNB as needed to align the center of the body of the circular LNB to a vertical position (straight down) and tighten the screws.</li> </ol>	
<ol style="list-style-type: none"> <li>7. Transfer the coax cables from the old LNB to the new LNB, assure that the correct color coax is attached to the correct port on the LNB.</li> <li>8. Re-install the radome top and tighten radome hardware.</li> </ol>	
<ol style="list-style-type: none"> <li>9. Turn antenna power ON at the antenna control panel.</li> <li>10. Verify that the LNB operating properly and resume normal operation.</li> </ol>	

**This Page Intentionally Left Blank**



## 4. Coastal 14 Technical Specifications

---

### 4.1. Installed Weight

Total Weight (dry): 25 lbs. (11.3 kg)

### 4.2. Radome

Diameter 16.5 inch (41.9cm)

Height 18 inch (45.7cm)

Mounting 4 x ¼-20 fasteners

Wind: Withstand relative average winds up to 100 MPH from any direction.

Ingress Protection Rating All Sea Tel radomes have an IP rating of 56

### 4.3. Antenna

Type Spun Aluminum reflector

Size 14.5 inch (36.8cm)

Feed Cassegrain feed with center focus splash plate

Polarization Circular ONLY

Min EIRP 50 dB

LNB US Circular LNB

### 4.4. Stabilized Pedestal

Type Two-axis positioning (Elevation & Azimuth) and Polarization

Stabilization 3 Dimensional Velocity mode Servo

Stab Accuracy 1.5 degrees MAX, 0.7 degrees RMS in presence of specified ship motions.

Level, Train Motors Size 23 DC Step Motors with PWM Microstep drive

Inertial Reference 3 single axis Solid State Silicon Rate Sensors

Gravity Reference Two Axis Fluid Tilt Sensor

Azimuth Reference Closed Loop Tracking on Satellite signal

Stabilization rates

Roll/Pitch > 25 degrees / second

AZ./Turn > 15 degrees / second

Range of Motion

Elevation 15 to 75 degrees

Azimuth Unlimited

Polarization +/- 90 degrees

Maximum Ship Motion

Roll +/- 25 degrees

Pitch +/- 15 degrees

## Coastal 14 Technical Specifications

## Coastal 14 Ku-Band TVRO

Elevation Pointing	
+/- 15 degrees of Roll	35 to 60 degrees
+/- 25 degrees of Roll	40 to 50 degrees

### 4.5. *US Circular LNB*

Sea Tel Part Number:	115075-1
Type:	Single output
LNB Manufacturer:	Wistron Newweb, but may vary
RF Frequencies:	12.2 - 12.7 GHz
IF Frequency:	950 - 1450 MHz
LO Frequency:	11.250 GHz
Noise Figure:	1.1 dB max.
Polarization modes:	LHCP or RHCP circular
Polarization control:	18VDC (LHCP) or 13VDC (RHCP) voltage switched in pedestal

### 4.6. *Pedestal Control Unit*

Size	6 x 8.5 x 2.125 inches (15.24 x 21.6 x 5.4 cm)
Features	Fully integrated controller, sensors, motor drivers, and RF signal Tracking Receiver.
Connectors	
Below Decks Interface	15 pin D-Sub
Elevation/Azimuth Drive Motors	9 pin D-Sub
Polarization Motor	9 pin D-Sub
Elevation Encoder	9 pin D-Sub
RF Signal Input	Type F
RF Signal Output	Type F
HD 110W Converter Enable	Type F
GPS Antenna Input	BNC

**Error! Not a valid filename.**

### 4.7. *Power Requirements*

Voltage	12-24 VDC normal operating range
Current	3.0 Amps nominal @ 13.8 VDC
Transient Protection	
Load Dump	60 volts
Inductive coupling	+/- 200v @ 1 uSec
Reverse Battery	Indefinite
24V Jump Start	1 minute

**4.8. Environmental**

Temperature	-20 to +55 degrees C.
Humidity	Up to 100% @ 40 degrees C.
Rain	Up to 4 inches per hour. Degraded RF performance when the radome surface is wet.
Wind	Up to 100 MPH from any direction.
Corrosion	Parts are corrosion resistant or treated to endure effects of salt air and salt spray.
Ship Motions for specified pointing accuracy	
Roll	+/-20 degrees with 8-12 sec periods
Pitch	+/-10 degrees with 6-12 sec periods
Yaw	+/-8 degrees with 15 to 20 sec periods
Turning rate	Up to 12 deg/sec.

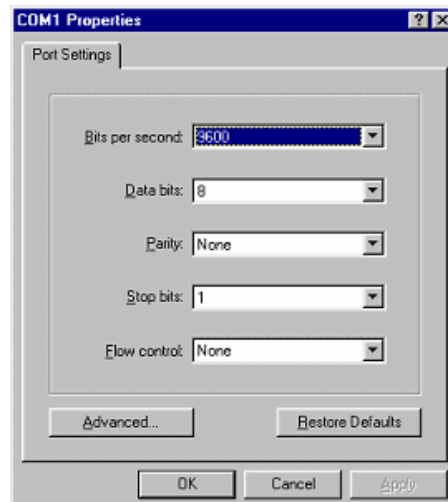
## 5. Computer Interface

A computer can be connected to the antenna control panel to allow you to provide access to ALL the parameter settings of the query the Coastal Series antenna and view the responses it provides. The commands to set the parameters in the Coastal Series PCU are summarized below.

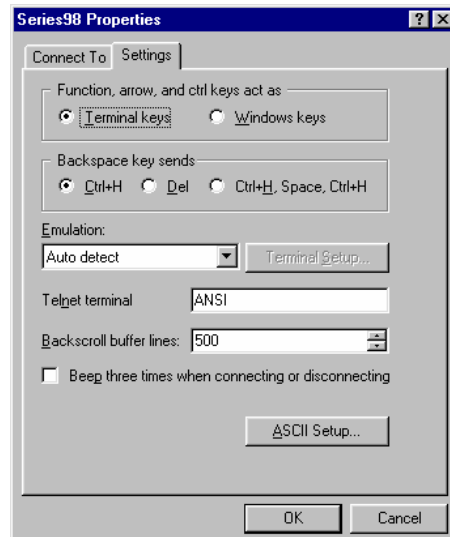
**Changing the parameters for the primary and secondary satellites may be easily done using the computer interface.** You may consult the Lyngsat satellite web site at [www.lyngsat.com](http://www.lyngsat.com) for detailed tuning frequencies and network ID information (Note hold your cursor over the Ku band transponder frequency to show the L-band IF tuning value in the lower left status bar display based on the most popular Local Oscillator frequencies). If you LNB uses a different Local Oscillator frequency, you will have to calculate the IF to tune to ( $RF - LO = IF$ ).

### 5.1. Connecting the computer

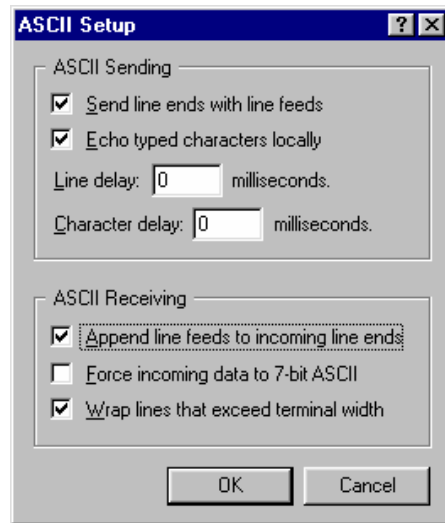
- 1 Connect the computers COM port to the Receiver Interface port on the rear of the Display Antenna Control Panel using a computer "DB-9 Serial Extension Cable" (male-female) available in most computer stores.
- 2 Use Hyper Terminal, or another communication program, to communicate with the Series 98 system. If you have previously set up Hyper Terminal skip to step 7 below.
- 3 COM port settings should be set to 9600 bits per second, 8 data bits, No parity, 1 stop bit.
- 4 Assure that the Flow Control is set to "None".



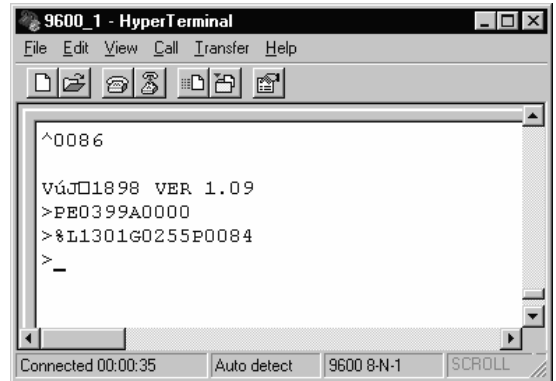
- 5 Open Hyper Terminal and select the settings tab.
- 6 Click on ASCII Setup to configure Hyper Terminal.



- 7 Check "Send line ends with line feeds", "Echo typed characters locally" and "Append line feeds to incoming line ends". Click OK.



- 8 Type **^0086** and hit **ENTER**.
- 9 Refer to the command information below to communicate with the antenna system. *The Display Antenna Control Panel will be locked while you are connected to the computer.*
- 10 When you are finished, close the terminal program and disconnect the computer from the Display Antenna Control Panel.
- 11 At the Display Antenna Control Panel, Turn power **OFF**. Wait 10 seconds and turn power **ON**.



**This Page Intentionally Left Blank**

# Coastal 14 Ku-Band TVRO

## 6. Drawings

---

The following drawings are included with this manual for installation and maintenance reference.

### 6.1. Coastal 14 Drawings


Drawing	Title	
<b>125818_D</b>	<b>System, Coastal 14</b>	<b>6-9</b>
<b>125699-1_C</b>	<b>System Block Diagram</b>	<b>6-11</b>
<b>126340_A1</b>	<b>Antenna Schematic</b>	<b>6-13</b>
<b>125773_E</b>	<b>General Assembly</b>	<b>6-14</b>
<b>125817_A2</b>	<b>Antenna Assembly</b>	<b>6-17</b>
<b>125822_C</b>	<b>Radome Assembly</b>	<b>6-19</b>
<b>126357_A1</b>	<b>Installation Arrangement</b>	<b>6-21</b>
<b>126370_D</b>	<b>Packing List Coastal 14</b>	<b>6-22</b>
126355_A1	Installation Template (provided separately)	

**This page left blank intentionally**



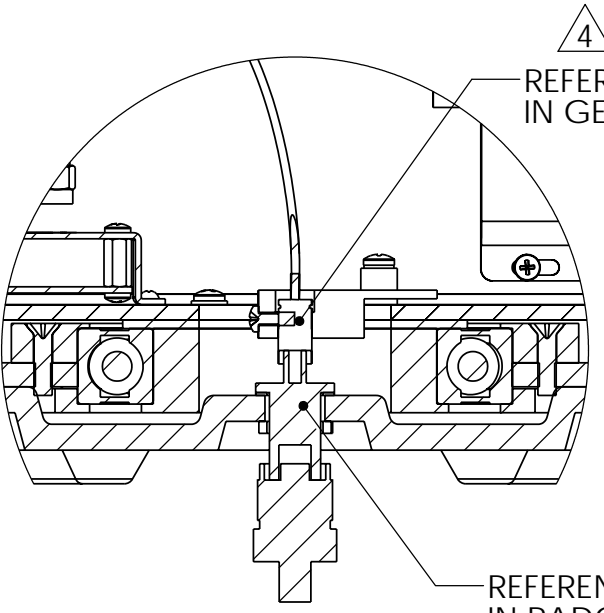
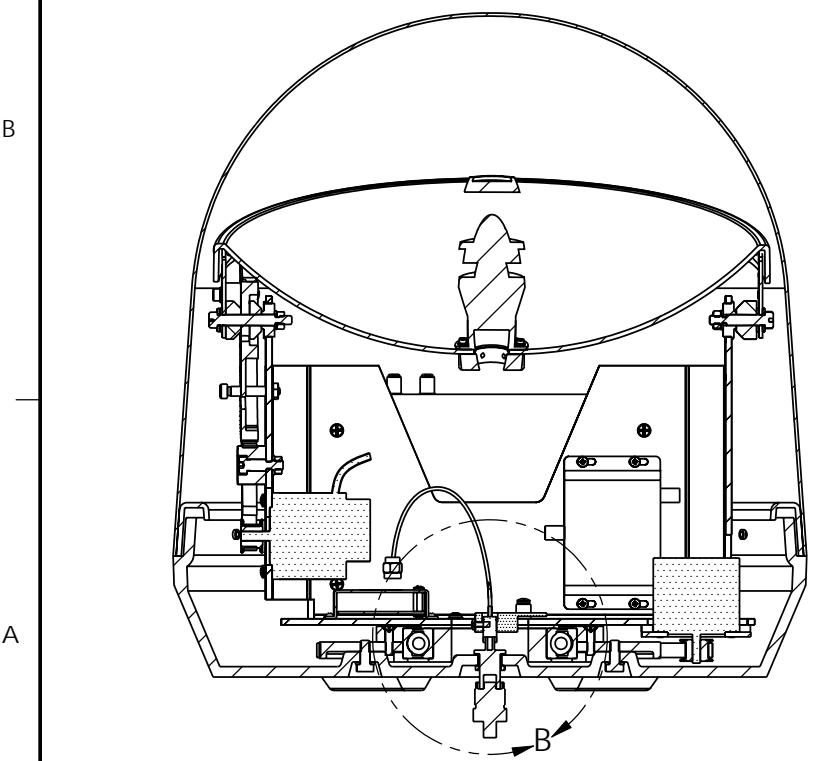
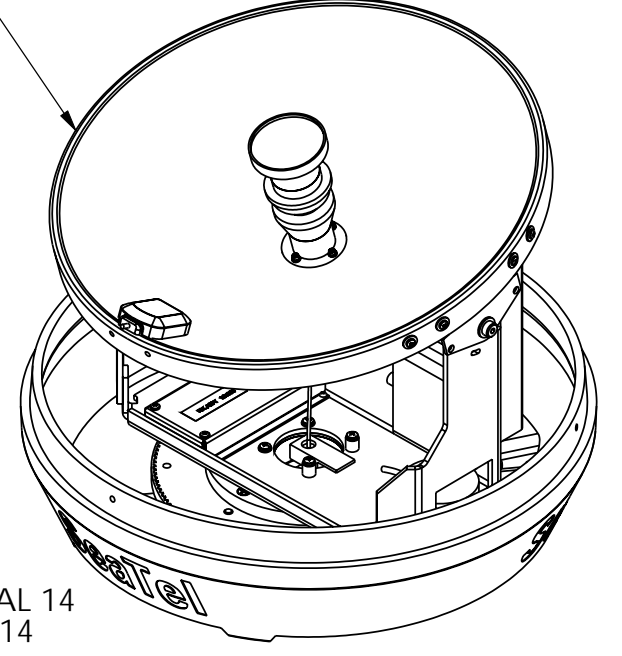
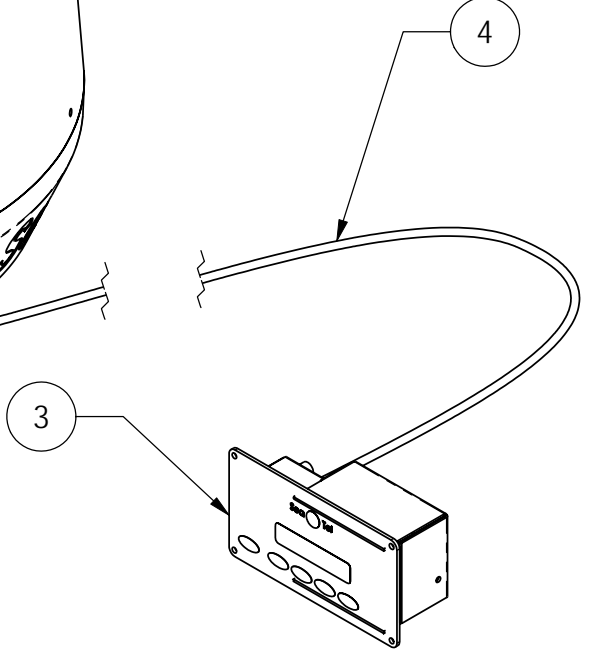
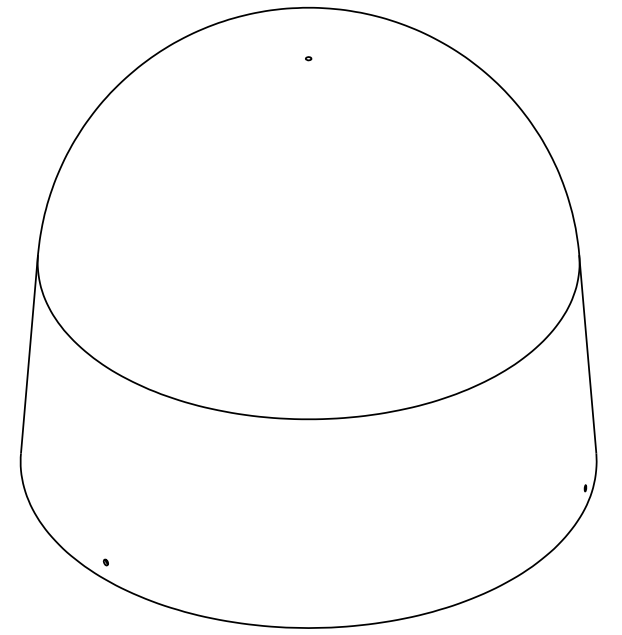
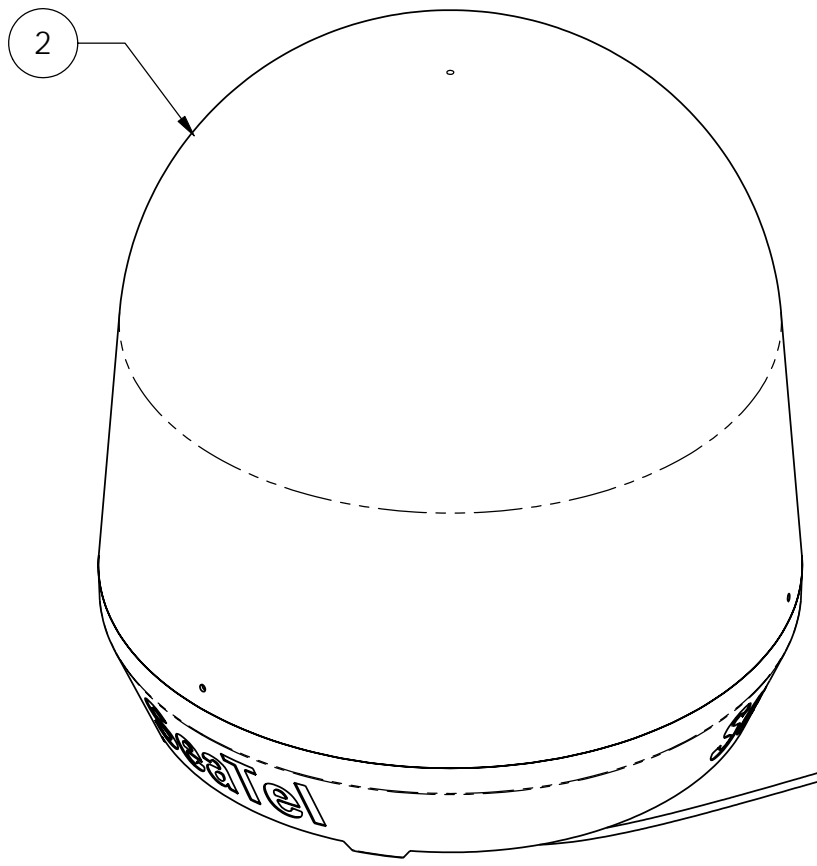
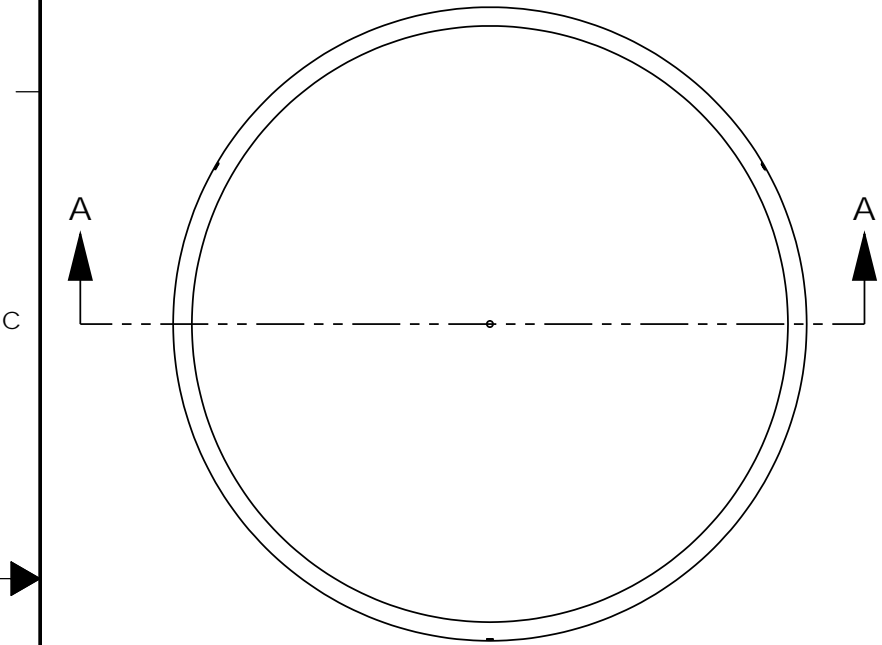
**SINGLE LEVEL MFG BILL OF MATERIAL**

FIND	QTY	PART NO	REV	DESCRIPTION	REFERENCE DESIGNATOR
1	1 EA	125773	E	GENERAL ASS'Y, COASTAL 14	
2	1 EA	125822	C	RADOME ASS'Y, COASTAL 14	
3	1 EA	126059	A	ANTENNA CONTROL PANEL ASS'Y, TACP	
4	1 EA	113480-1	C1	CABLE ASS'Y, RF, RG6, 50 FT.	
5	1 EA	111115-6	B	CABLE ASS'Y, F(M)-F(M), 6 FT.	(NOT SHOWN)
6	1 EA	126305	A	HARNESS ASS'Y, DC POWER, COASTAL 1	(NOT SHOWN)
8	1 EA	126372	A	CUSTOMER DOC PACKET, COASTAL 14	
9	1 EA	110567-11		ADAPTER, N(M)-F(F), STRAIGHT	(NOT SHOWN)
10	1 EA	126370	D	PACKING LIST, COASTAL 14	(NOT SHOWN)
11	1 EA	126594-1	B	GA INSTALL, COASTAL 14	(NOT SHOWN)

				
<b>SYSTEM, COASTAL 14</b>				
PROD FAMILY SERIES 98	EFF. DATE 25-Sep-07	SHT 1 OF 1	DRAWING NUMBER <b>125818</b>	REV <b>D</b>

- NOTES: UNLESS OTHERWISE SPECIFIED**
1. APPLY ADHESIVE PER SEATEL SPEC. 121730.
  2. TORQUE THREADED FASTENERS PER SEATEL SPEC. 122305.
  3. ROUTE ALL HARNESS AND CABLES ASSEMBLIES PER SEATEL SPEC. 121872.
  4. APPLY 1 DALLOP OF ELECTRICAL INSULATION COMPOUND, P/N: 126294 AT THE JOINT BETWEEN CABLE ASS'Y, P/N: 125964-10 AND SMB CONNECTOR, P/N:125763-1 BEFORE INSTALLING CABLE.

REVISION HISTORY				
REV	ECO#	DATE	DESCRIPTION	BY
B	5464	02/14/07	ADDED 126372 CUSTOMER DOCUMENT PACKET TO BOM.	KRB
C	5510	03/26/07	ITEM 4 WAS 126306-1.	KRB
D	5562	4-26-07	ADDED ITEMS 10 & 11; UPDATED VIEWS; ADDED REFERENCE DWGS.	RJW



REFERENCE CABLE ASS'Y 125964-10 IN GENERAL ASS'Y 125773.

REFERENCE P/N: 125763-1 IN RADOME ASS'Y 125822

REFERENCE DRAWINGS:  
 125699 SYSTEM BLOCK DIAGRAM, COASTAL 14  
 126340 SCHEMATIC, ANTENNA, COASTAL 14


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. $X.X = \pm .050$ $X.XX = \pm .020$ $X.XXX = \pm .005$ ANGLES: $\pm 5^\circ$ INTERPRET TOLERANCING PER ASME Y14.5M - 1994		DRAWN BY: KRB		 4030 NELSON AVENUE CONCORD, CA 94520 Tel. 925-798-7979 Fax. 925-798-7986	
MATERIAL: N/A		DRAWN DATE: 02/01/07			
FINISH: N/A		APPROVED BY:		TITLE: SYSTEM, COASTAL 14	
3rd ANGLE PROJECTION		SIZE: B	SCALE: 1:5	DRAWING NUMBER: 125818	REV: D
FIRST USED:				SHEET NUMBER 1 OF 1	

SECTION A-A

DETAIL B  
SCALE 1 : 2

**SINGLE LEVEL MFG BILL OF MATERIAL**

FIND	QTY	PART NO	REV	DESCRIPTION	REFERENCE DESIGNATOR
1	1 EA	125773	E	GENERAL ASS'Y, COASTAL 14	
2	1 EA	125822	C	RADOME ASS'Y, COASTAL 14	
3	1 EA	125824	A1	FEED, 14" ANTENNA, COASTAL 14	
4	1 EA	115075-1	G1	LNB MOD, DUAL, US	
5	1 EA	123092	A	CONVERTER, HDTV 110 WEST	
6	1 EA	121966-2	D	GPS ANTENNA, RETERMINATED, 21.0 L	
7	1 EA	126068-1	A	PCU ENCLOSURE ASS'Y, 2-AXIS, COASTA	
8	1 EA	126083	B	FSK ENCLOSURE ASS'Y, ADE, COASTAL 1	
9	1 EA	125763-1	A	ADAPTER, SMB (M) TO N (F), 75 OHM, BUL	
11	1 EA	126059	A	ANTENNA CONTROL PANEL ASS'Y, TACP	
12	1 EA	117164-10BLK	A4	CABLE ASS'Y, RG-179 COAX, F TO F, 10 IN,	
13	1 EA	117164-14BLK		CABLE ASS'Y, RG-179 COAX, F TO F, 14 IN,	
14	2 EA	117164-12BLK		CABLE ASS'Y, RG-179 COAX, F TO F, 12 IN,	
15	1 EA	126075-1	B	HARNESS ASS'Y, INTERFACE, COASTAL 1	
16	1 EA	125964-10	B	CABLE ASS'Y, RG-179 COAX, F(M) TO SMB	
17	1 EA	113480-1	C1	CABLE ASS'Y, RF, RG6, 50 FT.	
18	1 EA	111115-6	B	CABLE ASS'Y, F(M)-F(M), 6 FT.	
19	1 EA	126305	A	HARNESS ASS'Y, DC POWER, COASTAL 1	
20	2 EA	110026-3		ADAPTER, F, 90 DEG	
21	1 EA	110567-11		ADAPTER, N(M)-F(F), STRAIGHT	
22	1 EA	125245-1	A	HARNESS ASS'Y, ENCODER, COASTAL SE	

				
<b>SYSTEM BLOCK DIAGRAM, COASTAL 14</b>				
PROD FAMILY LIT	EFF. DATE 25-Sep-07	SHT 1 OF 1	DRAWING NUMBER <b>125699-1</b>	REV <b>C</b>

8

7

6

5

4

3

2

1

REVISION HISTORY

REV	ECO#	DATE	DESCRIPTION	BY
A	N/A	2/07/07	RELEASE TO PRODUCTION, WAS X4.	KRB
B	5510	3/23/07	ADDED "N" & "F" DESIGNS. TO ITEM 21 ON DWG; ITEM 17 WS 126306-1; ADDED ITEM 21	RJW
B1	N/A	3/29/07	REMOVED LIMIT SWITCH. ADDED ENCODER.	KRB
C	5557	4-25-07	ADDED ITEM 22 & REF. DWGS; HDTV MODULE CONNECTION UPDATED	MSF

D

D

C

C

B

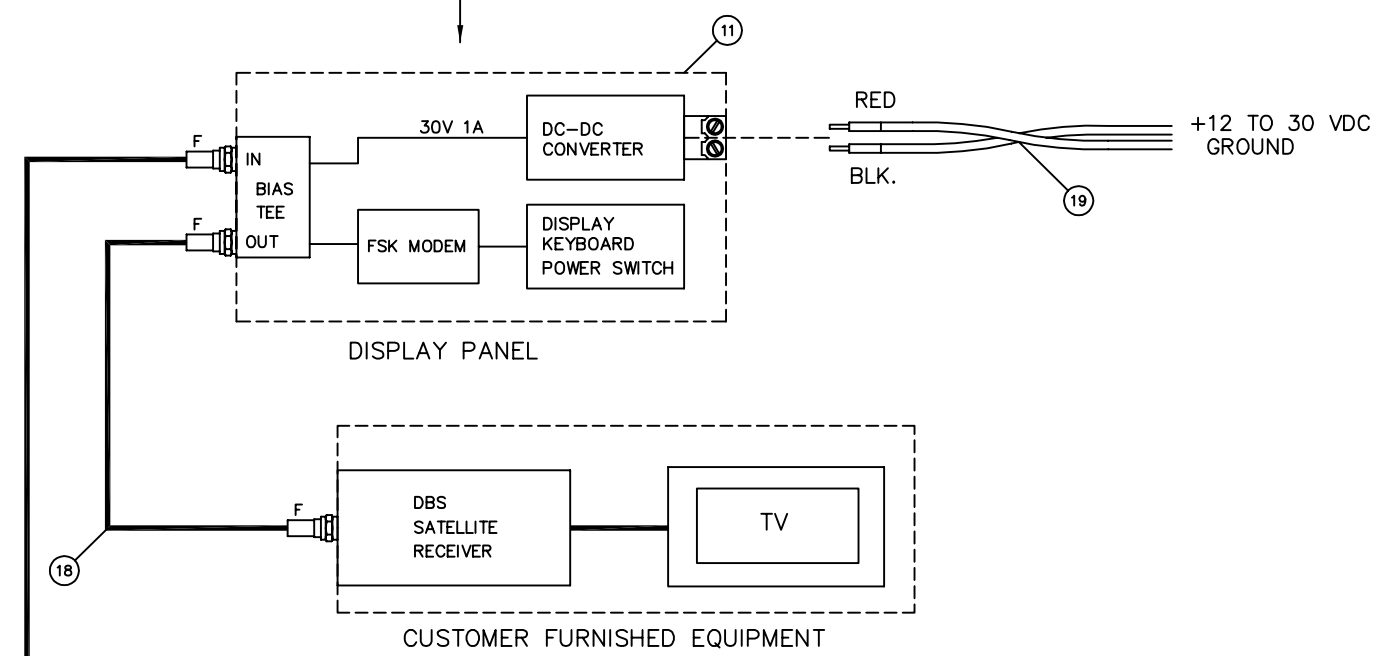
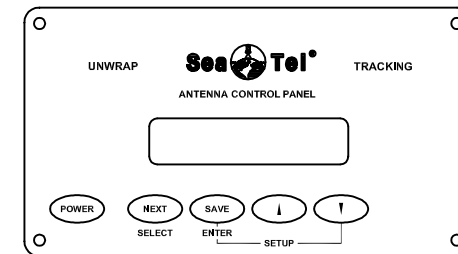
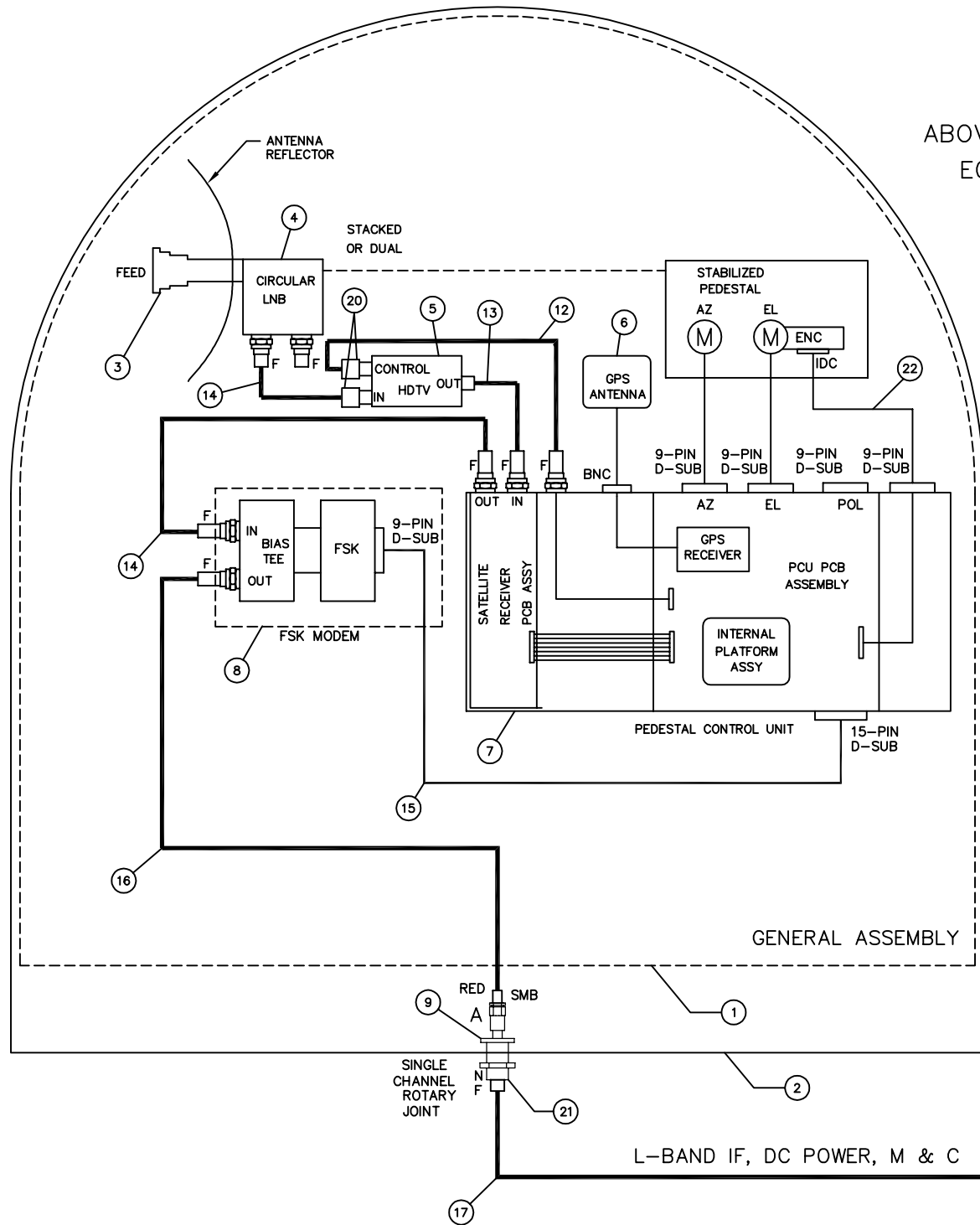
B

A

A

ABOVE DECKS EQUIPMENT

BELOW DECKS EQUIPMENT

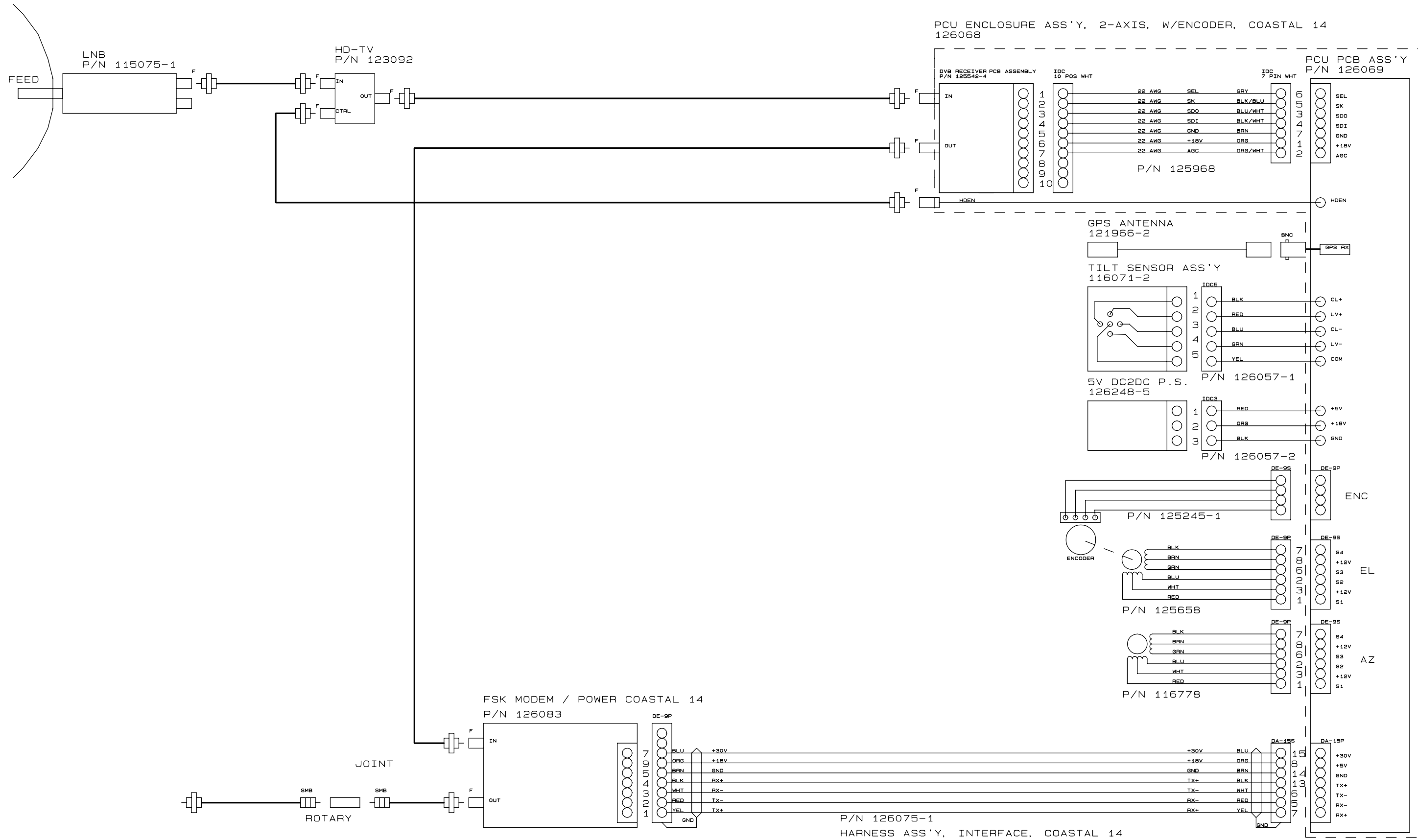


REFERENCE DRAWINGS


- 126340 SCHEMATIC, ANTENNA SYSTEM
- 125818 SYSTEM, COASTAL 14

<p>TOLERANCES UNLESS OTHERWISE SPECIFIED</p> <p>X.X = ±.050  X.XX = ±.020  X.XXX = ±.005  ANGLES: ±.5°</p> <p>INTERPRET TOLERANCING PER ASME Y14.5M - 1994</p>	<p>DRAWN BY: MSF</p>	<p><b>SeaTel</b><sup>®</sup></p> <p>4030 NELSON AVENUE  CONCORD, CA 94520  Tel. 925-798-7979 Fax. 925-798-7986</p>
	<p>DRAWN DATE: 07-27-06</p>	
<p>MATERIAL: N/A</p>	<p>APPROVED BY:</p>	<p>DRAWING NUMBER: 125699</p>
<p>FINISH: N/A</p>	<p>APPROVED DATE:</p>	<p>REV: C</p>
<p>3rd ANGLE PROJECTION</p>	<p>SIZE: B</p> <p>SCALE: NOT TO SCALE</p>	<p>FIRST USED:</p> <p>SHEET NUMBER: 1 OF 1</p>

REV.	ECO#	DATE	DESCRIPTION	BY
A		02-13-07	RELEASE TO PRODUCTION WS REV. X1	MSF
A1	5557	4-24-07	REF. DWGS ADDED	MSF




REFERENCE DRAWINGS:  
125699 SYSTEM BLOCK DIAGRAM  
125818 SYSTEM, COASTAL 14

Sea  Tel, Inc. CONCORD, CA		
SCALE: NONE	APPROVED BY:	DRAWN BY MSF
DATE: 1-30-07		DRAWING SIZE D
SCHEMATIC, ANTENNA, COASTAL 14		
MODEL: COASTAL 14	SHEET 1 OF 1	DRAWING NUMBER 126340
		REV. A1


**SINGLE LEVEL MFG BILL OF MATERIAL**

FIND	QTY	PART NO	REV	DESCRIPTION	REFERENCE DESIGNATOR
1	1 EA	125817	A2	ANTENNA ASS'Y, COASTAL 14	
2	1 EA	125816	C1	PEDESTAL ASS'Y, COASTAL 14	
4	1 EA	126068-1	A	PCU ENCLOSURE ASS'Y, 2-AXIS, COASTA	
5	1 EA	126403-1	B	COVER, PCU ENCLOSURE, COASTAL 14	
6	1 EA	126083	B	FSK ENCLOSURE ASS'Y, ADE, COASTAL 1	
12	1 EA	123092	A	CONVERTER, HDTV 110 WEST	
13	1 EA	121966-2	D	GPS ANTENNA, RETERMINATED, 21.0 L	
14	1 EA	117164-10BLK	A4	CABLE ASS'Y, RG-179 COAX, F TO F, 10 IN,	(NOT SHOWN)
15	1 EA	117164-14BLK		CABLE ASS'Y, RG-179 COAX, F TO F, 14 IN,	(NOT SHOWN)
16	2 EA	117164-12BLK		CABLE ASS'Y, RG-179 COAX, F TO F, 12 IN,	(NOT SHOWN)
17	1 EA	126075-1	B	HARNESS ASS'Y, INTERFACE, COASTAL 1	(NOT SHOWN)
18	1 EA	125964-10	B	CABLE ASS'Y, RG-179 COAX, F(M) TO SMB	(NOT SHOWN)
19	2 EA	110026-3		ADAPTER, F, 90 DEG	(NOT SHOWN)
20	3 EA	126005-1	A	ADAPTOR, DB9, RT ANGLE, M/F	(NOT SHOWN)
21	4 EA	115697		TIE MOUNT	(NOT SHOWN)
22	4 EA	125201-1	A	CABLE CLAMP, NYLON, 3/16 DIA, ADHESIV	(NOT SHOWN)
23	1 EA	117916-2		COVER, CONNECTOR, D-SUB, 9S	(NOT SHOWN)
24	4 EA	108517-2	B	WEIGHT, TRIM 1.0 OZ	
25	1 EA	125245-1	A	HARNESS ASS'Y, ENCODER, COASTAL SE	(NOT SHOWN)
27	1 EA	126399-1	A	BRACKET, PCU MOUNTING, COASTAL 14	
50	10 EA	114587-146		SCREW, RND HD, PHIL, 6-32 X 3/8, S.S	
55	2 EA	114576-191		SCREW, FLAT HD, PHIL, 8-32 x 5/16, S.S.	
56	4 EA	114587-148		SCREW, RND HD, PHIL, 6-32X 1/2, S.S	
57	3 IN	124077-4	A	TAPE, 3M VHB #4952, SYNTHETIC ADHESI	
58	4 EA	114593-101		SCREW, SOCKET HD, 4-40 x 3/16, S.S.	
60	14 EA	114580-007		WASHER, FLAT, #6, S.S.	
61	8 EA	114580-009		WASHER, FLAT, #8, S.S.	
62	2 EA	121228-5552		STANDOFF, HEX, F/F, 8-32 X .25 OD X .375,	
65	2 EA	119801		CABLE TIE, NYLON, 4 IN	

				
<b>GENERAL ASS'Y, COASTAL 14</b>				
PROD FAMILY SERIES 98	EFF. DATE 25-Sep-07	SHT 1 OF 2	DRAWING NUMBER <b>125773</b>	REV <b>E</b>

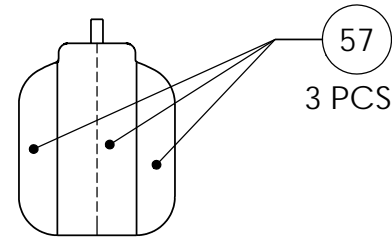
**SINGLE LEVEL MFG BILL OF MATERIAL**

<b>FIND</b>	<b>QTY</b>	<b>PART NO</b>	<b>REV</b>	<b>DESCRIPTION</b>	<b>REFERENCE DESIGNATOR</b>
66	2 EA	114583-009		NUT, HEX, 8-32, S.S.	
67	4 EA	114587-191		SCREW, RND HD, PHIL, 8-32X 5/16, S.S	
69	2 EA	114588-196		SCREW, PAN HD, PHIL, 8-32 x 5/8, S.S.	
70	4 EA	119952-011	A1	WASHER, STAR, INTERNAL TOOTH, #10, S	
71	4 EA	119952-007	A1	WASHER, STAR, INTERNAL TOOTH, #6, S.	

				
<b>GENERAL ASS'Y, COASTAL 14</b>				
PROD FAMILY SERIES 98	EFF. DATE 25-Sep-07	SHT 2 OF 2	DRAWING NUMBER <b>125773</b>	REV <b>E</b>

8 7 6 5 4 3 2 1

REVISION HISTORY				
REV	ECO#	DATE	DESCRIPTION	BY
D	5562	04/26/07	ITEM 59 DELETED; ITEM 12 ROTATED	RJW
D1	5730	07/24/07	ITEM 71 WAS 119952-005.	KRB
E	5820	09-21-07	ADD GPS ANTENNA, ITEM 13 BOTTOM VIEW.	SL



BOTTOM VIEW OF ITEM 13 (NO SCALE)

13  
SEE BOTTOM VIEW

- 2X (69 61 70 70 24 24 61 66)

4X (55)  
(INSERTED FROM FAR SIDE)

2X (62)

5

50 60 4X

2

6

65 2X

4X 58

50 60 4X

56 71 4X

12

27

50 60 2X

4

67 61 4X

- NOTES: UNLESS OTHERWISE SPECIFIED
1. APPLY ADHESIVE PER SEATEL SPEC. 121730.
  2. TORQUE THREADED FASTENERS PER SEATEL SPEC. 122305.
  3. TENSION ALL BELTS PER SEATEL SPEC. 122319.
  4. ROUTE ALL HARNESS AND CABLES ASSEMBLIES PER SEATEL SPEC. 121872.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. X.X = ±.050 X.XX = ±.020 X.XXX = ±.005 ANGLES: ±.5° INTERPRET TOLERANCING PER ASME Y14.5M - 1994	DRAWN BY: KRB		 4030 NELSON AVENUE CONCORD, CA 94520 Tel. 925-798-7979 Fax. 925-798-7986	
	DRAWN DATE: 9/15/06			
MATERIAL: N/A	APPROVED BY:		TITLE: GENERAL ASSEMBLY COASTAL 14	
FINISH: N/A	APPROVED DATE:	SIZE: B	SCALE: 1:3	DRAWING NUMBER: 125773
3rd ANGLE PROJECTION		FIRST USED: COASTAL 14		REV: E
			SHEET NUMBER	1 OF 1

8 7 6 5 4 3 2 1



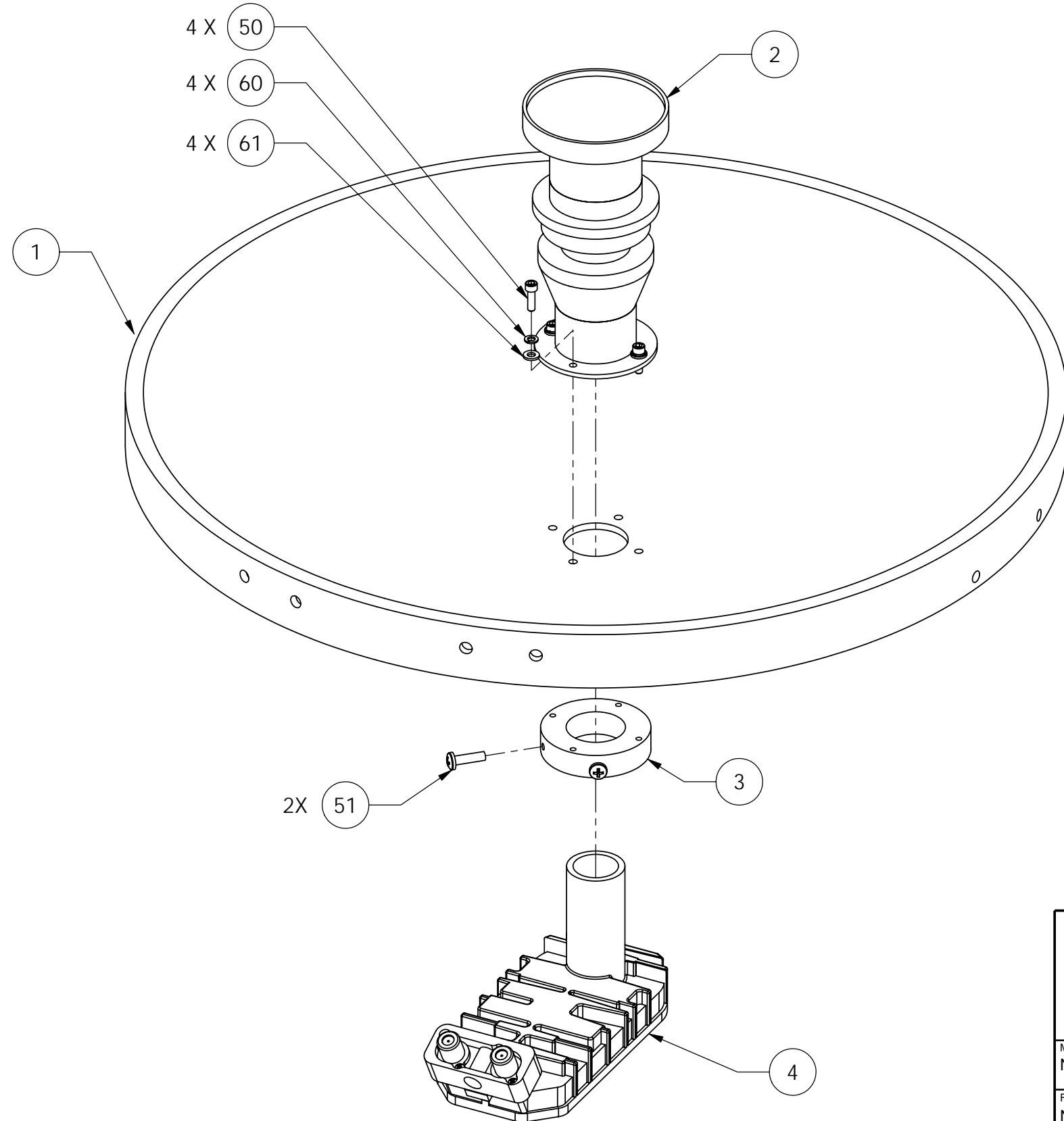
**SINGLE LEVEL MFG BILL OF MATERIAL**


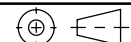
FIND	QTY	PART NO	REV	DESCRIPTION	REFERENCE DESIGNATOR
1	1 EA	125686	B	REFLECTOR, 14.5 INCH MACHINING	
2	1 EA	125824	A1	FEED, 14" ANTENNA, COASTAL 14	
3	1 EA	123745	B	MOUNTING CUFF, LNB	
4	1 EA	115075-1	G1	LNB MOD, DUAL, US	
50	4 EA	114593-104		SCREW, SOCKET HD, 4-40 x 3/8, S.S.	
51	2 EA	114587-148		SCREW, RND HD, PHIL, 6-32X 1/2, S.S	
60	4 EA	114581-005		WASHER, LOCK, #4, S.S.	
61	4 EA	114580-005		WASHER, FLAT, #4, S.S.	

				
<b>ANTENNA ASS'Y, COASTAL 14</b>				
PROD FAMILY COMMON	EFF. DATE 25-Sep-07	SHT 1 OF 1	DRAWING NUMBER <b>125817</b>	REV <b>A2</b>

- NOTES: UNLESS OTHERWISE SPECIFIED
1. APPLY ADHESIVE PER SEATEL SPEC 121730.
  2. TORQUE THREADED FASTENERS PER SEATEL SPEC 122305.

REVISION HISTORY				
REV	ECO#	DATE	DESCRIPTION	BY
A1	N/A	02/05/07	CHANGED ITEM 50, WS. 114587-108.	KRB
A2	N/A	05-11-07	AFTER DISH REMODELED, UPDATED MATES & VIEW	RJW



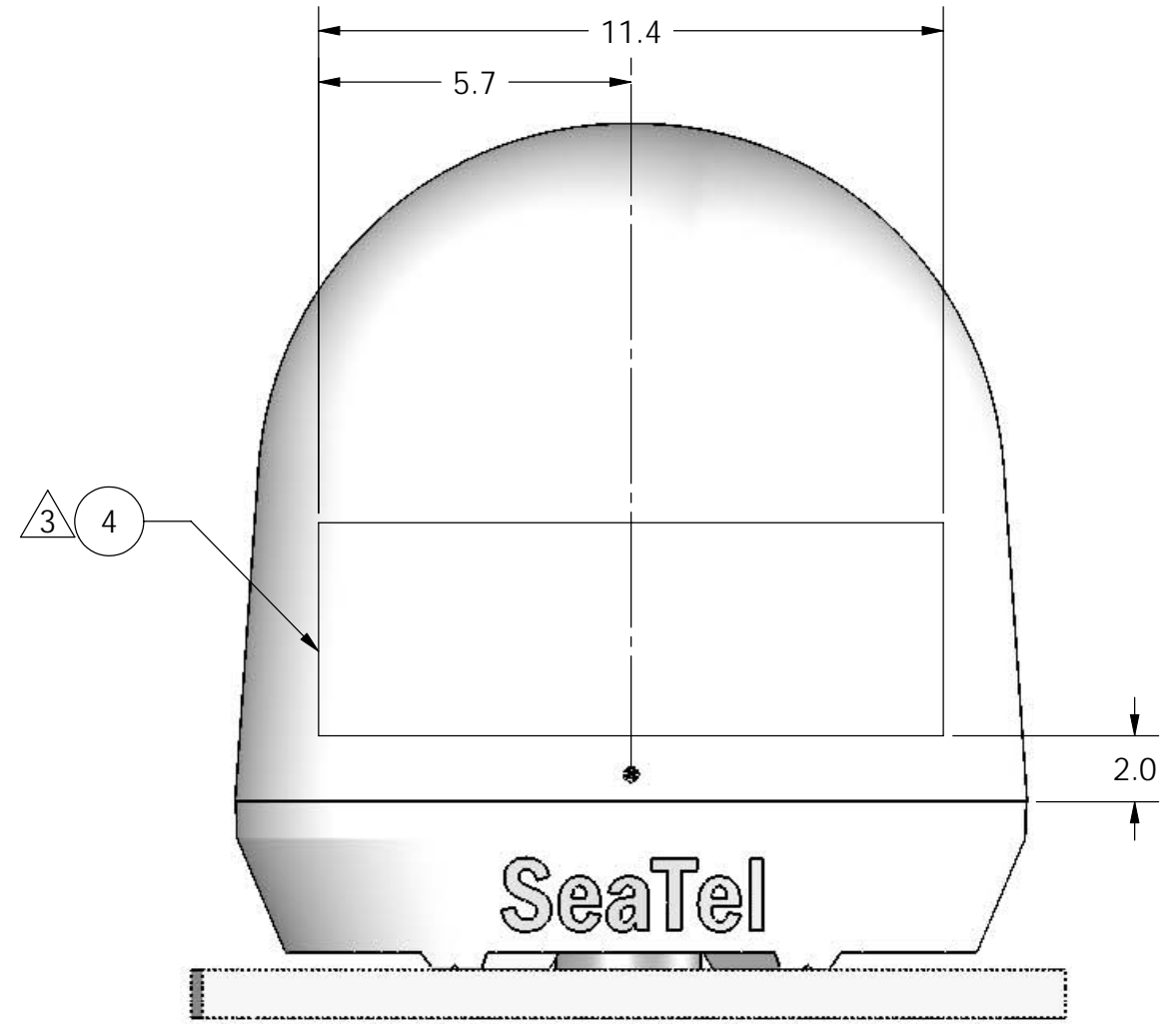
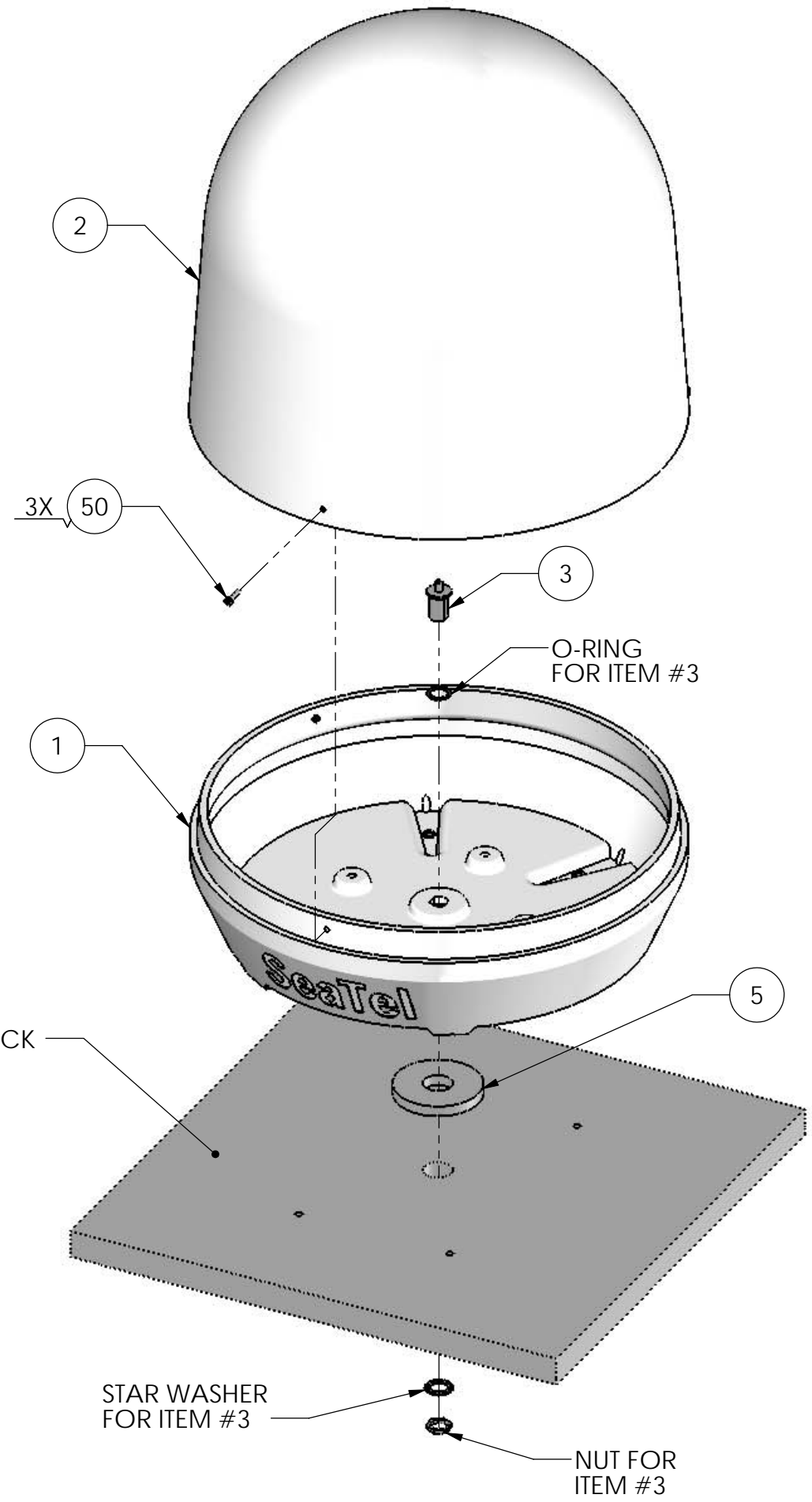
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.		DRAWN BY: KRB		 4030 NELSON AVENUE CONCORD, CA 94520 Tel. 925-798-7979 Fax. 925-798-7986	
X.X = ±.050 X.XX = ±.020 X.XXX = ±.005 ANGLES: ±.5° <small>INTERPRET TOLERANCING PER ASME Y14.5M - 1994</small>		DRAWN DATE: 09/12/06			
MATERIAL: N/A		APPROVED BY:		TITLE: ANTENNA ASSEMBLY COASTAL 14	
FINISH: N/A		APPROVED DATE:		DRAWING NUMBER 125817	
3rd ANGLE PROJECTION 		SIZE B	SCALE: 1:2	FIRST USED: COASTAL 14	REV A2
				SHEET NUMBER	1 OF 1

**SINGLE LEVEL MFG BILL OF MATERIAL**

<b>FIND</b>	<b>QTY</b>	<b>PART NO</b>	<b>REV</b>	<b>DESCRIPTION</b>	<b>REFERENCE DESIGNATOR</b>
1	1 EA	125698-2	D	RADOME BOTTOM FAB, 16 IN, WHITE	
2	1 EA	125697	C	RADOME TOP FAB, 16 IN	
3	1 EA	125763-1	A	ADAPTER, SMB (M) TO N (F), 75 OHM, BUL	
4	1 EA	110481-5	D	DECAL, LOGO, SEA TEL, 11.4 X 4 IN	
5	1 IN	127134-3	A	GASKET, FOAM RUBBER, 3" DIA.	
50	3 EA	114576-197		SCREW, FLAT HD, PHIL, 8-32 x 3/4, S.S.	

				
<b>RADOME ASS'Y, COASTAL 14</b>				
PROD FAMILY COMMON	EFF. DATE 25-Sep-07	SHT 1 OF 1	DRAWING NUMBER <b>125822</b>	REV <b>C</b>

REVISION HISTORY				
REV	ECO#	DATE	DESCRIPTION	BY
A1	N/A	03/21/07	BASE (ITEM 1) WAS -1.	KRB
B	5511	03/26/07	ADDED DECAL TO BOM & DRAWING.	KRB
B1	N/A	03/28/07	ADDED DECAL DIMENSIONS. ADDED NOTE 3. ADDED REFERENCE DRAWINGS. ADDED REFERENCE TO STAR WASHER.	KRB
C	5820	09-21-07	ADD ITEM 5.	SL



REFERENCE DRAWINGS:  
 125818 SYSTEM  
 126355 INSTALLATION TEMPLATE

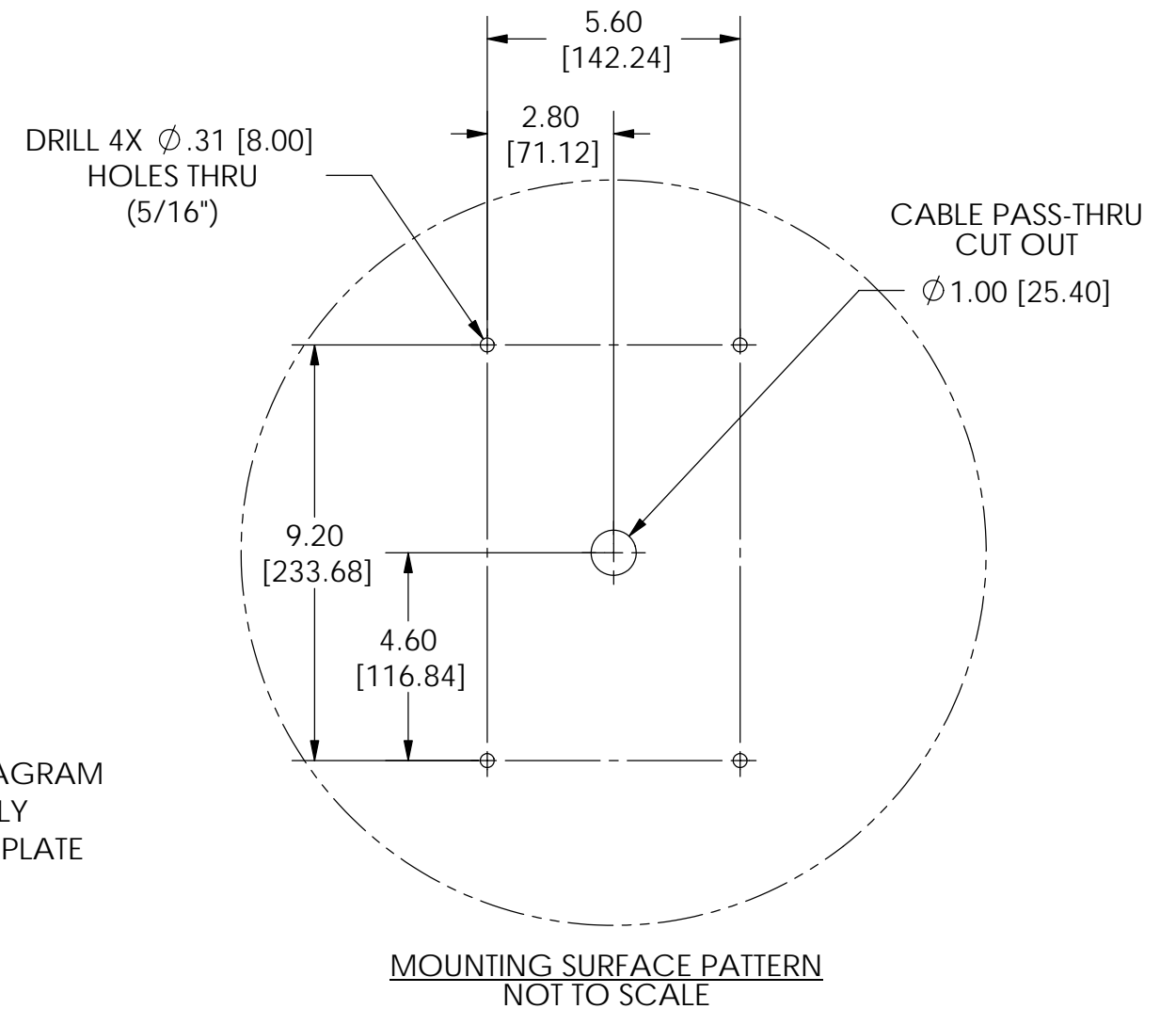
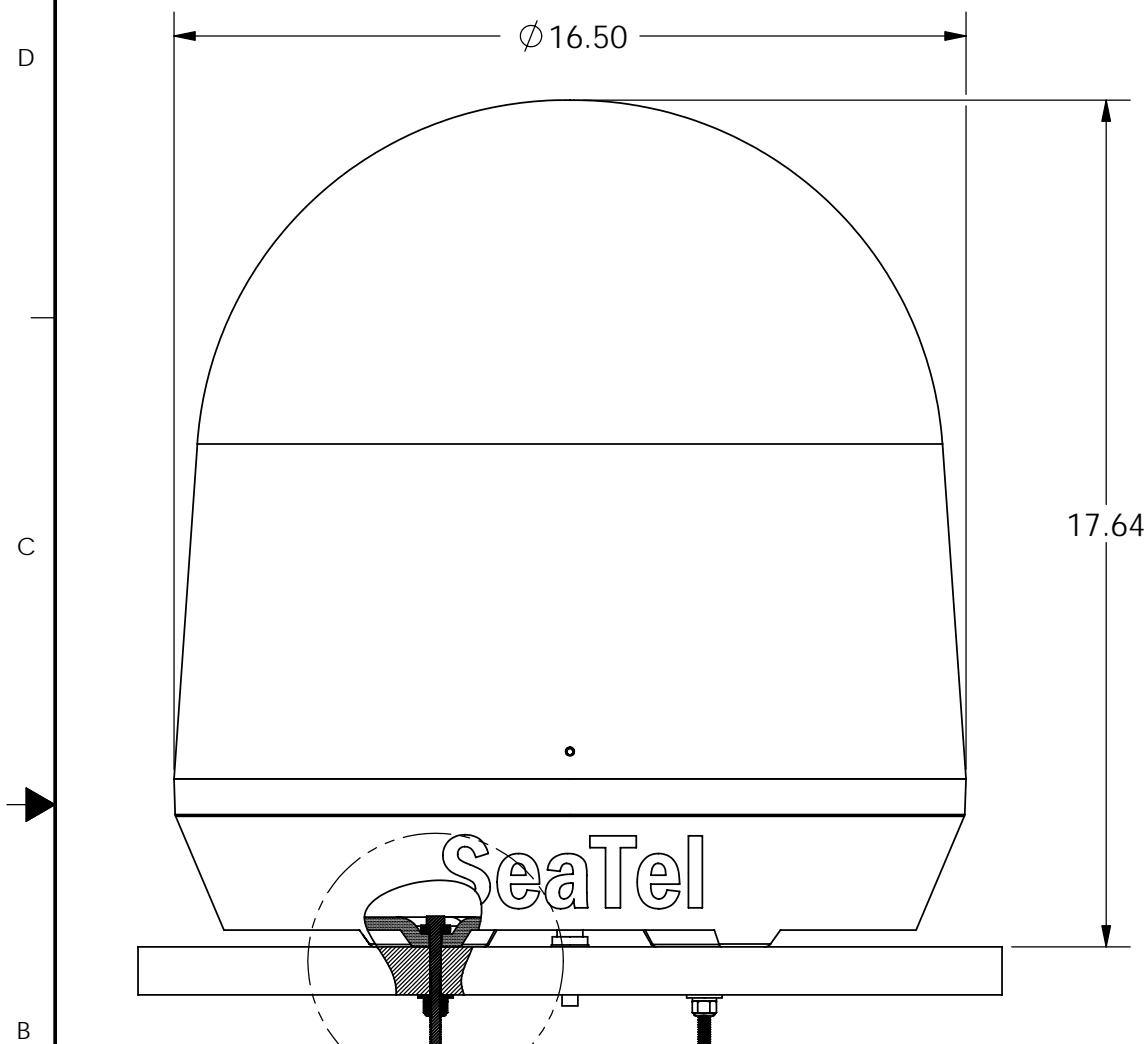
- NOTES: UNLESS OTHERWISE SPECIFIED
1. APPLY ADHESIVE PER SEATEL SPEC. 121730.
  2. TORQUE THREADED FASTENERS PER SEATEL SPEC. 122305.
  3. BEFORE APPLYING DECAL, DETERMINE SHIP'S BOW DIRECTION RELATIVE TO ITEM 1 (BASE). ASSEMBLE ITEM 2 (TOP) TO BASE BY ALIGNING FASTENER HOLES. APPLY DECAL FACING THE DIRECTION OF THE SHIP'S BOW.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. X.X = ±.050 X.XX = ±.020 X.XXX = ±.005 ANGLES: ±.5° INTERPRET TOLERANCING PER ASME Y14.5M - 1994		DRAWN BY: KRB		 4030 NELSON AVENUE CONCORD, CA 94520 Tel. 925-798-7979 Fax. 925-798-7986	
MATERIAL: N/A		DRAWN DATE: 11/10/06			
FINISH: N/A		APPROVED BY:		TITLE: RADOME ASSEMBLY COASTAL 14	
3rd ANGLE PROJECTION		APPROVED DATE:		DRAWING NUMBER 125822	
		SIZE B	SCALE: 1:5	REV C	
		FIRST USED:		SHEET NUMBER 1 OF 1	

NOTES: UNLESS OTHERWISE SPECIFIED

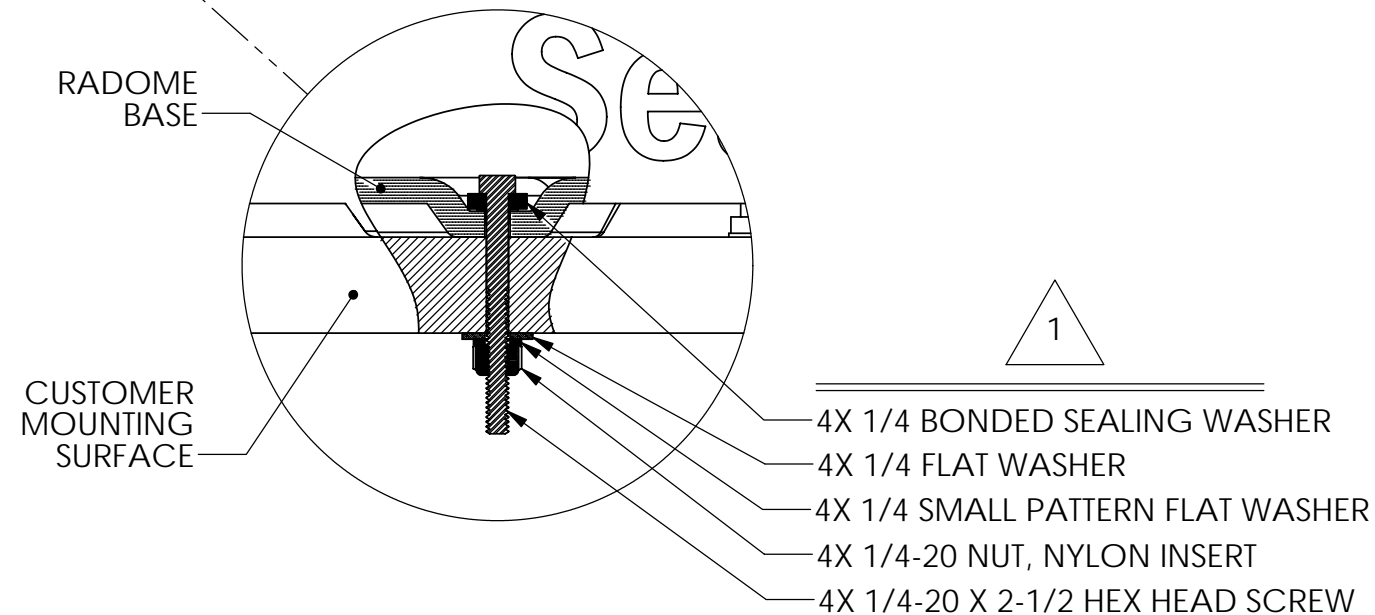
1. HARDWARE SHOWN IS CONTAINED IN RADOME MOUNTING KIT P/N: 126356-1.

REVISION HISTORY				
REV	ECO#	DATE	DESCRIPTION	BY
A1	N/A	02/08/07	CHANGED DESCRIPTION OF REF. DRAWING 126355, WAS RADOME MOUNTING TEMPLATE. CHANGED METRIC REFERENCE OF 1/4-20 CLEARANCE HOLES, WAS M8.	KRB



REFERENCE DRAWINGS








- 125818 SYSTEM
- 125699 SYSTEM BLOCK DIAGRAM
- 125773 GENERAL ASSEMBLY
- 126355 INSTALLATION TEMPLATE





1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.		DRAWN BY: KRB		 4030 NELSON AVENUE CONCORD, CA 94520 Tel. 925-798-7979 Fax. 925-798-7986	
X.X = $\pm$ .050 X.XX = $\pm$ .020 X.XXX = $\pm$ .005 ANGLES: $\pm$ .5° INTERPRET TOLERANCING PER ASME Y14.5M - 1994		DRAWN DATE: 02/01/07			
MATERIAL: N/A		APPROVED BY:		TITLE: INSTALLATION ARRANGEMENT COASTAL 14	
FINISH: N/A		APPROVED DATE:		DRAWING NUMBER 126357	
3rd ANGLE PROJECTION		SIZE B	SCALE: 1:4	REV A1	
FIRST USED:				SHEET NUMBER 1 OF 1	

**Please inventory the contents of the box. It should contain:**

<p><b>Checked By:</b></p>		<p>Coastal 14 Antenna Radome assembly</p>	<p>This is comprised of a 125773 GENERAL ASS'Y, COASTAL 14 inside a 125822 RADOME ASS'Y, COASTAL 14.</p> <p><b>SN:</b> _____</p>
		<p>113480-1 110567-11</p>	<p>Antenna Cable Assembly, RG-6, F(M) TO F(M), 50 FT Adapter, F(F) TO N(M) [Installed on the cable assembly]</p>
		<p>126356-1 Radome Installation Hardware Kit</p>	<p>Contains: 4ea 114622-552 SCREW, HEX HD, 1/4-20 x 2-1/2, S.S. 4ea 123665-317 WASHER, BONDED SEALING, 1/4, .275 IDX 4ea 114580-029 WASHER, FLAT, 1/4, S.S. 4ea 114580-027 WASHER, FLAT, 1/4, SMALL PATTERN, S.S 4ea 119906-029 NUT, NYLON INSERT, 1/4-20</p>
		<p>126059</p>	<p>Antenna Control Panel</p> <p><b>SN:</b> _____</p>
		<p>126305</p>	<p>DC Power Cable assembly</p>
		<p>111115-6</p>	<p>Receiver Cable Assembly, F(M)-F(M), 6 FT.</p>
		<p>126355</p>	<p>Installation Template drawing</p>

		126350	Manuals CD, Coastal 14
		121879	Warranty Packet

Checked By: \_\_\_\_\_ Date: \_\_\_\_\_

Packaged By: \_\_\_\_\_ Date: \_\_\_\_\_