

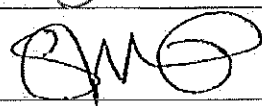


Procedure, Field Replacement, Pol Aux Relay PCB, 6003A/6004

Approval:

Approving Authority	Signature	Date
Doc Control:	Ron Chaffee / Signature on file. 	10-26
Assistant Service Manager, Global	John VanderJagt / Signature on file. 	10-26
Author:	Stuart Broadfield / Signature on file. 	10-26-11

Revision History

Rev.	ECO	Description of Change	Date
A	8791	Initial release	08-05-2011
B	9041	Clerical revisions	10-18-2011

Page 1 of 1	Sea Tel <small>COBHAM</small>	Document No 135291 Rev B
-------------	---	-----------------------------

Copyright © Sea Tel, Inc 2011 - The information contained in this document is proprietary to Sea Tel, Inc.. This document may not be reproduced or distributed in any form without prior written consent of Sea Tel, Inc.

Procedure, Field Replacement, Pol Aux Relay PCB, 6003A/6004

1. Brief Summary:

Troubleshooting document for diagnosing a fault with and replacing the Pol Aux relay PCB on the 6003A/6004 antenna.

2. Checklist:

- Test Motor Drive
- Verify Harness

3. Theory of Operation:

The Pol Aux relay board can be configured for various types of feed assemblies. IC socket U₅ determines the pol scale of the feed assembly.

The DAC calculates the polang position based on the vessels GPS location and satellite targeted. The DAC then sends the command to the PCU, which in turn triggers the pol aux relay to drive the motor in the desired direction. The pol aux relay supplies 24VDC on both polarities of the motor, one polarity is grounded depending on the direction of drive required. When the pol motor drives the feed assembly is rotated by the main sprocket which in turn rotates the sprocket on the pol pot, therefore the output from the pot to the PCU changes and will be displayed on the DAC. Once the correct angle is reached the POL motor drive will stop.

4. Troubleshooting:

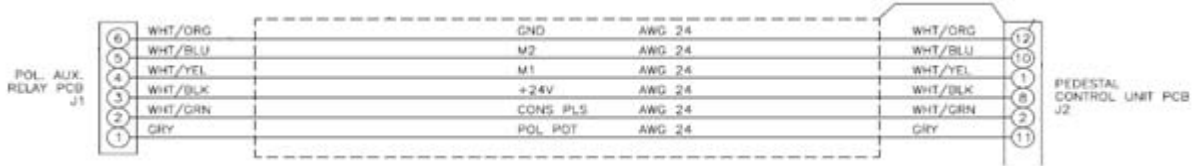
If POL drive is being issued on the DAC but the motor isn't moving, measure the voltage on the Motors IDC connector. If you are unable to measure 24VDC on either polarity then likely the harness or POL aux relay itself is at fault. If you are able to measure 24VDC then check for grounding of either polarity when driving the POL up or down. If you verify that the 24VDC is present on both polarities and that the grounding is taking place when driving the POL then likely the fault is with the POL motor itself.

Page 1 of 3	Sea Tel <i>COBHAM</i>	Document No 135291 Rev B
-------------	---------------------------------	-----------------------------

Procedure, Field Replacement, Pol Aux Relay PCB, 6003A/6004

5. Verify the Harness:

Next check continuity on the harness pins to verify it's not damaged. If the harness is good then the pol aux relay isn't outputting the voltage to drive the motor and needs replacing.



As long as the Pol range is within the software's electronic limits the DAC will issue the POL drive command to the PCU, based on the antenna targeting, a change in the vessels GPS position or operator inputs. The PCU motherboard will then trigger the switch of the required relay, thus grounding the 24VDC on one polarity causing motor drive. The motor will then drive the feed until the correct output from the pot has been received, at which point the feed will be in the correct reception position (providing the system is functioning and calibrated correctly). Therefore there is also the possibility for a pol drive fault to be caused by the PCU motherboard.

If pol drive is being issued on the DAC but the motor isn't moving measure the voltage on the Motors IDC connector. If no voltage is issued whilst drive is being applied the 24VDC isn't being issued from the Pol Aux relay. (If the voltage is present but the motor isn't driving the motor is defective).

Procedure, Field Replacement, Pol Aux Relay PCB, 6003A/6004




6. Replacing the 6003A/6004 Pol Aux Relay PCB:

6.1. Tools.

- #1 Phillips Screwdriver
- Long nose Pliers
- Loctite 242

6.2. Procedure.

Procedure for replacing the Pol Aux Relay Assembly, Sea Tel kit part number: 135340 (Pol aux relay PCB part number: 118017-2).

<p>*CAUTION: Power down the pedestal before following this procedure.</p> <p>1. Disconnect the two IDC connectors from the Pol Aux Relay PCB on the back of the azimuth post.</p>	
<p>2. Now use a #1 Phillips screwdriver to remove the two mounting screws, take care not to drop the spacers which are behind the PCB when the screws are removed. Save the hardware for future use.</p> <p>3. Remove the defective Pol Aux relay PCB.</p>	
<p>4. Install the replacement PCB; it's advisable to hold the mounting spacer in place with a pair of long nose pliers.</p>	
<p>5. Apply Loctite 242 to both the screws and tighten them using a #1 Phillips screwdriver.</p>	