## Harbor/Sea Acceptance Test Results

### 4. Interference

<table>
<thead>
<tr>
<th>Device Type and Manufacturer</th>
<th>Operating Frequency</th>
<th>Yes/No</th>
<th>Filename suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADCP only -- No Sonars or Equipment Running</td>
<td>38 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishfinder Sounder</td>
<td></td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>Port Sounder</td>
<td>50 kHz</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>Stern</td>
<td>28/200 kHz</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>SyQuest</td>
<td>3.5 kHz</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

Interference Table
Harbor/Sea Acceptance Test Results

The above tests confirm the ADCP is operating according to factory specifications and ready for **WATER PROFILE RANGE TESTING**.

RD Instruments Field Service Engineer Signature  
Date: 8/26/2015

Customer Representative Signature  
Date: 8/26/2015

Customer Representative Printed Name: **Daniel H. Lopa Salinas**

☐ TEST WAIVED  RDI – initials ____  Customer Representative initials ____
## Harbor/Sea Acceptance Test Results

### 5. Profiling Range

<table>
<thead>
<tr>
<th>Platform Speed</th>
<th>Last Valid Bin Number</th>
<th>Range to Last Bin</th>
<th>Average RSSI Value at Last Bin</th>
<th>Date and Time of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drifting</td>
<td>36</td>
<td>879</td>
<td>9.5</td>
<td>25/08/2015/9:16 PM</td>
</tr>
<tr>
<td>Drifting</td>
<td>40</td>
<td>975</td>
<td>8.5</td>
<td>25/08/15/9:08 PM GMT</td>
</tr>
<tr>
<td>3knots</td>
<td>36</td>
<td>879</td>
<td>9.5</td>
<td>11 - 9:22 PM</td>
</tr>
<tr>
<td>6knots</td>
<td>40</td>
<td>975</td>
<td>16.5</td>
<td>11 - 9:35 PM</td>
</tr>
<tr>
<td>Max</td>
<td>40</td>
<td>975</td>
<td>16.75</td>
<td>11 - 9:48 PM</td>
</tr>
</tbody>
</table>

The above tests confirm the ADCP is operating according to factory specifications and ready for **BOTTOM TRACKING TESTING**.

![Signature]

RD Instruments Field Service Engineer Signature

Date: 8/26/2015

![Signature]

Customer Representative Signature

Date: 8/26/2015

[Signature]

Customer Representative Printed Name

- TEST WAIVED
- RDI – initials
- Customer Representative initials
6. Bottom Track Range

Before testing the Bottom Track capabilities the Water Profiling Range Test must be performed. Through the results of this test, determine the platform speed in which the range to the last valid bin obtained the specified nominal range of the OS ADCP frequency being used.

Record the velocity here 8 Knots.

If it is not possible to reach the specified nominal range, determine the speed at which it allowed the best range possible. Calculate the percentage of the nominal range that was obtained by the system.

Record the velocity here 8 Knots.

Record the percentage of range obtained here 100%.

(Actual range/specified range)*100

Viewing the bottom track velocity data record the maximum and minimum bottom track depths.

<table>
<thead>
<tr>
<th>Beam Number</th>
<th>Minimum Depth (meters)</th>
<th>Maximum Depth (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam 1</td>
<td>30</td>
<td>1721</td>
</tr>
<tr>
<td>Beam 2</td>
<td>31</td>
<td>1710</td>
</tr>
<tr>
<td>Beam 3</td>
<td>30</td>
<td>1713</td>
</tr>
<tr>
<td>Beam 4</td>
<td>32</td>
<td>1688</td>
</tr>
</tbody>
</table>

The above tests confirm the ADCP is operating according to factory specifications and ready for RINGING TESTING.

[Signature]
8/26/2015

RD Instruments Field Service Engineer Signature

[Signature]
8/25/2015

Customer Representative Signature

[Signature]

Customer Representative Printed Name

☐ TEST WAIVED RDI – initials Customer Representative initials
Harbor/Sea Acceptance Test Results

7. Ringing

| Total Blanking Period Required* | 16 M |

*The total blanking period is typical blanking period plus the increased blanking period required.

The above value should be used to change both the WF and NF (for the OS ADCP only) commands in all configuration files for the ADCP.

The above tests confirm the ADCP is operating according to factory specifications and ready for **TRANSDUCER ALIGNMENT TESTING**.

<table>
<thead>
<tr>
<th>RD Instruments Field Service Engineer Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8/26/2015</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer Representative Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8/25/2015</td>
</tr>
</tbody>
</table>

Customer Representative Printed Name

- [ ] TEST WAIVED  
  RDI – initials ____  Customer Representative initials ____
Harbor/Sea Acceptance Test Results

8. Transducer Alignment

| Misalignment Angle Required | 43.2° Degrees |

Record the results of the verification of the Transducer Alignment with Bottom Track Reference:

| Alignment Verification | PASS Pass/Fail |

Record the results of this portion of the Transducer Alignment with Navigation Reference:

| Navigation Verification | PASS Pass/Fail |

[Signature]
26/08/2015
RD Instruments Field Service Engineer Signature

[Signature]
28/08/2015
Customer Representative Signature

Customer Representative Printed Name

☐ TEST WAIVED    RDI – initials ____    Customer Representative initials ____
## Harbor/Sea Acceptance Test Results

### 9. Sea Acceptance Summary

<table>
<thead>
<tr>
<th>TEST</th>
<th>RESULT: Interference Found Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interference</td>
<td>YES</td>
</tr>
</tbody>
</table>

This test only states whether interference is present. If interference is found then the equipment causing the interference must not be operated with the ADCP or user must synchronize the ADCP and the other device so that interference is avoided. Interference does not result in a failure of this Sea Acceptance Test. This test is for operational information only.

<table>
<thead>
<tr>
<th>TEST</th>
<th>RESULT: Range Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Profile Range</td>
<td>PASS</td>
</tr>
</tbody>
</table>

This test determines which speed the ADCP will provide the highest profiling range, and the maximum profiling range itself. Ship speed, backscatter in the water column, ship motion, and other environmental factors will affect the range of the system. The ADCP is considered to be passing this test if it either meets the profiling range specification and/or the range is reasonable given the existing conditions.

<table>
<thead>
<tr>
<th>TEST</th>
<th>RESULT: Range Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom Track Range</td>
<td>PASS</td>
</tr>
</tbody>
</table>

This test determines the minimum and maximum bottom track range. Ship speed, backscatter in the water column, ship motion, and other environmental factors will affect the range of the system. The ADCP is considered to be passing this test if it either meets the maximum bottom track range specification and/or the range is reasonable given the existing conditions.

<table>
<thead>
<tr>
<th>TEST</th>
<th>RESULT: Blanking Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ringing</td>
<td>16 m</td>
</tr>
</tbody>
</table>

This test determines the minimum blanking required. The results of this test do not determine a pass/fail condition but only the minimum setup requirements for proper operation.
<table>
<thead>
<tr>
<th>TEST</th>
<th>RESULT: Transducer Alignment Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transducer Alignment</td>
<td>43.2°</td>
</tr>
</tbody>
</table>

This test determines the transducer alignment angle required. The results of this test do not determine a pass/fail condition but only the setup requirements for proper operation.

The above tests confirm the ADCP is ready for deployment.

RD Instruments Field Service Engineer Signature: [Signature]
Date: 8/26/2015

Customer Representative Signature: [Signature]
Date: 8/26/2015

Customer Representative Printed Name: DAVINEL H. LOYA SALINAS
Harbor/Sea Acceptance Test Results

10. Addendum

The addendum portion of this document is for the purposes of outlining any outstanding testing, configuration, or operational conditions that may exist with the manufactured supplied product.

Customer Representative Addendum

All Tests performed.

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RD Instruments Field Service Engineer Signature  8/26/2015

Customer Representative Signature  8/28/2015

Customer Representative Printed Name

Daniel A. Lopez Salinas
GPS on board does not provide GGA output, recommend obtaining GPS with this output for optimum performance.

Also, system power does not include UPS. Recommend obtaining UPS for filtering and power backup.

_8/26/2015_

RD Instruments Field Service Engineer Signature

_8/26/2015_

Customer Representative Signature

DAVID H. LOYA SALINAS
Customer Representative Printed Name