



Verification Procedure & Results Document No.: 3167-10102 rev. A

Test Case ID: 002, Ver-CG-56	Test Case Name: Communications and Dry Tests	Test Plan Document No.: 3167-10000	Test Plan Rev.: 2-00	Test Date:
Test Director (Print Name)	Signature	Design Engineer	Approval Signature John S. Dingess (in lieu of electronic signature)<TWR>	Date 9/29/2011
Test Conductor (Print Name)	Signature	System Engineer	Approval Signature Ed Dever(in lieu of electronic signature)	Date 9/30/2011
Witnessed by (Print name)	Signature	QA/QC Engineer	Approval Signature <i>George Dussault</i> (In lieu of electronic signature)	Date 10/03/2011

Test Class	<input checked="" type="checkbox"/> Performance	<input checked="" type="checkbox"/> Behavioral	<input type="checkbox"/> Reliability	<input type="checkbox"/> Endurance / Longevity	<input type="checkbox"/> Survivability	<input type="checkbox"/> Safety
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Test Description

This test uses TWR FAT documentation to provide verification of operability of bench power and communications devices on the glider.

Requirements Addressed

L4-CG-GD-RQ-169, L4-CG-GD-RQ-106, L4-CG-GD-RQ-140, L4-CG-GD-RQ-172, L4-CG-GD-RQ-173, L4-CG-GD-RQ-123, L4-CG-GD-RQ-192, L4-CG-GD-RQ-193

<p>Test Setup</p> <p>The glider has passed all inspection steps. A computer capable of communicating with the glider via Freewave and Iridium (modem or RUDICS) must be available. All specialty tools required to open and close the glider must be present. A pump capable of generating 7 inHg vacuum and appropriate fittings must be available. The TWR 'G2 Glider Functional Checkout procedure' (TWR document 4095-FCP) will be followed to test glider communication with the Dockserver and verify mechanical operation of servos and motors. The glider will be fitted with the 200m buoyancy engine, and the 1000m buoyancy engine will be available.</p> <p>Note: The activities listed below were performed by TWR as part of factory acceptance. For this test case, documentation of the actions listed below will be reviewed by OOI personnel to confirm the results of the activities.</p>	<p>Test Artifacts</p> <p>This document Referenced mission files Engineering data files referenced in steps 2.4, 2.5, 2.6 Documentation of</p>
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Test Procedure			Test Results			
Step No.	Instructions	Expected Results (Accept Criteria)	Requirement ID	Test Data	Pass/Fail	Notes
2.1	Position glider in Webb Research garage without view of the sky. Connect to external power supply (installed on outside wall of garage). Turn power supply on and observe that glider powers on and connects to the Dockserver.	glider will power up from supply	L4-CG-GD-RQ-169			Glider is in "on_bench" simulation mode. All log files previously deleted via "dellog all" command.
2.2	Enter <control-C>, then "callback 30", then "put c_gps_on 3". Relocate glider to outside with view of the sky. Note time. Observe that glider GPS obtains fix within 5 minutes. Enter "put c_gps_on 1".	Glider GPS will obtain fix within 5 minutes	L4-CG-GD-RQ-106			"A" appears in validation field.
2.3	Upload mission files to to-glider directory on Dockserver. Transfer files to glider via "dockzr *.*" command on glider terminal. Verify receipt of files on glider. Run mission. Remove power from Freewave. Wait for mission to complete, and for glider to connect to Dockserver via Iridium.	Simulated flight will follow commands sent via Freewave	L4-CG-GD-RQ-172			Mission files: test02a.mi, goto_110.ma, yo10.ma, sample10.ma, surfac01.ma, surfac02.ma, surfac03.ma, surfac04.ma, surfac05.ma, surfac06.ma
2.4	See above	Simulation sensor protocols will follow commands sent via Freewave	L4-CG-GD-RQ-173			Contained in sample10.ma

Test Procedure				Test Results		
Step No.	Instructions	Expected Results (Accept Criteria)	Requirement ID	Test Data	Pass/Fail	Notes
2.5	View data from mission.	Glider will report internal vacuum. Transfer of data from a simulated mission will be used to verify recording of pressure.	L4-CG-GD-RQ-192			
2.6	View data from mission.	Glider will report leak status. Transfer of data from a simulated mission will be used to verify recording of leaks.	L4-CG-GD-RQ-193			
2.7	From Iridium tab on Glider Terminal, enter "send *.*" Note time. Wait for completion of file transfer and note time again. Calculate file transfer rate from elapsed time and file sizes.	File transfer rate will exceed 1200bps	L4-CG-GD-RQ-140			
2.8	Same as above, but measure total time from initiation of Iridium call to disconnect time.	Transfer rate of set files will exceed 30Bps including setup and teardown of the link.	L4-CG-GD-RQ-123			
2.9	After completion of file transfer, enter "exit" and wait for message to remove power from the glider. Disconnect external power supply, and install red "Stop" plug in power cable.					
2.10	Remove 200m Forward Section and replace with 1000m Forward Section.					Procedure in process
2.11	Edit autoexec.mi for 1000m Forward Section.					
2.12	Repeat steps 1-9 for 1000m Forward Section					New mission files test02b.mi, etc. for deep forward section.