

QUICK START GUIDE



iWAND OPERATION



SAFETY & SUPPORT

Before any activity is carried out on the equipment, it is recommended that the included Sonardyne Safety Manual and all warnings and cautions in this and the equipment manual(s) are read and fully understood. It is recommended the operator complies with the Health and Safety Regulations applicable to the vessel and the region before operating this equipment.

Operators and service personnel must be familiar with the normal operating and safety procedures for subsea equipment.

Documentation must be consulted whenever a  or  warning symbol is found on the equipment, in order to determine the nature of the potential hazard and any actions which must be taken.

If any additional equipment is used, any warnings and cautions in the equipment user manual must be read and fully understood and the equipment must only be used as specified by the manufacturer.

The safety of any system incorporating this equipment is the responsibility of the assembler of the system.

WARNINGS

Personal protection. Appropriate protective equipment such as protective footwear, hard hat and gloves must be worn when handling or carrying out any procedures involving Sonardyne and other equipment.

Heavy equipment. Many Sonardyne products and equipment types, such as transponders, transceivers, cable drums etc. require Manual Handling Equipment (MHE) for lifting due to their heavy weight. If MHE is not available, it is the responsibility of the operator to perform a manual handling risk assessment prior to carrying out manual lifting/handling. Refer to the individual equipment documentation for weight specifications.

Make sure the equipment is clean and dry before removing the connection cover and connecting any cables.

PRODUCT SUPPORT

Email: support@sonardyne.com **Telephone:** +44 (0) 1252 872288

24 Hour Emergency Helpline: +44 (0) 1252 877600

The Sonardyne 24 hour helpline is answered during normal UK office hours: 08:00–17:00. Outside these hours, your call is automatically transferred to an operator who will log the details of your emergency and alert the appropriate Sonardyne personnel. Our aim is to ensure that emergency requests are dealt with immediately during office hours and are responded to within 30 minutes at all other times. Alternatively, please contact your nearest Sonardyne Office.

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ABOUT THIS QUICK START GUIDE

This QSG covers the basic Installation, Setup and Operation of the iWAND described in the following steps:

- Technical Description
- Installation & Setup
- Get Configuration
- Connection
- iWAND 6G Configurator
- Set Configuration
- System Report
- Troubleshooting
- Storage

RELATED PUBLICATIONS

For more information on the iWAND refer to the following publications (supplied on CDROM with the iWAND):

- *UM-8315 User Manual for the Type 8315 iWAND*
- *OM-8315 6G Operation Manual for the iWAND 6G Configurator Software*

INTRODUCTION TO iWAND

The Type 8315 iWAND is a handheld multiband test unit for acoustic testing and configuration of Sonardyne 6G equipment. The iWAND utilises Sonardyne 6G Discovery to identify the unit under test with a simple one-touch operation without knowledge of the acoustic address or frequency band. The simple interface and local colour display makes the iWAND ideal for back-deck operations.

Using the companion iWAND 6G Configurator software, the iWAND simplifies configuration so the user does not require special knowledge of the Sonardyne 6G configuration language. When configured, the 6G Configurator can generate a formatted report reflecting all settings configured on a unit prior to deployment. A database is held by the software so a history of all units configured can be maintained for later review.

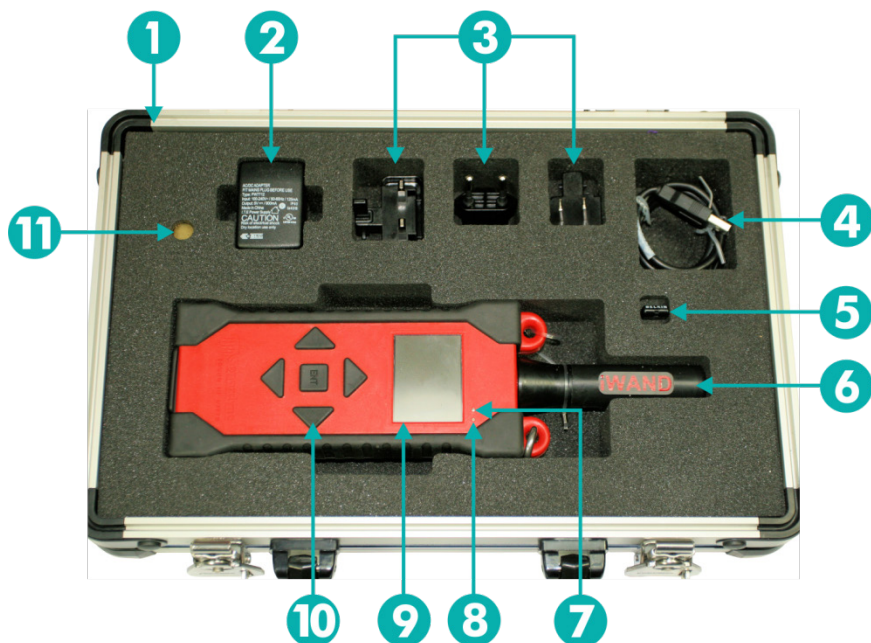
The iWAND supports all 6G acoustic frequency bands (LMF, MF and HMF) and address ranges (Wideband® V1, Wideband® V2 and Wideband® V2 plus).

STEP 2

TECHNICAL DESCRIPTION

iWAND EQUIPMENT

The iWAND and its supplied accessories are described below.



- | | |
|-----------------------|---------------------------|
| 1 Transit Case | 7 Bluetooth Connected LED |
| 2 Power Adaptor | 8 Charging Status LED |
| 3 Universal Adaptors | 9 Main LCD Display |
| 4 USB Lead | 10 5-Button Keypad |
| 5 Bluetooth Dongle | 11 Reset Magnetic Disc |
| 6 Acoustic Transducer | |

1. On receipt of the equipment, open the transit case and visually inspect the equipment for any signs of damage, e.g. cracking, dents or bent electrical pins.
2. Using the power adaptor 2 with the correct universal adaptor 3 and the USB Lead 4, connect the iWAND to a mains power supply and fully charge.

INSTALLING THE SOFTWARE

The iWAND is used in conjunction with the iWAND 6G Configurator software to allow all 6G instruments to be configured and acoustically tested. The iWAND 6G Configurator software must be downloaded from the supplied CDROM on to a PC.

Once downloaded the iWAND can be connected in the following ways:

	Bluetooth (Windows® 7 is recommended)
	Serial
	USB

The USB is also used to recharge the internal battery. The internal GPS receiver provides UTC time tagging of communication to assets and can also be used to synchronise multiple assets to GPS time for logging applications.

CHARGING THE iWAND

Before using the iWAND it must be charged. Connect the iWAND to the supplied mains charger with the USB lead (the iWAND USB port is accessed under the base cover plate). During charging, the charging LED will change from orange (charging) to green (fully charged). To ensure the initial charge gauge is correctly reset, turn on the iWAND with the charging cable connected and wait for the LED to register green.

SETTING THE iWAND TIME

1. Before using the iWAND, the UTC real time must be set.
2. Turn on the iWAND by pressing the **ENT** button.
3. Make sure GPS is enabled by scrolling to **iWAND Setup > Power Saving > GPS Enable**.
4. With the GPS enabled, stand outside and hold the iWAND so it has a clear view of the sky.
5. After a short period of time the iWAND time will appear on the screen.

Note

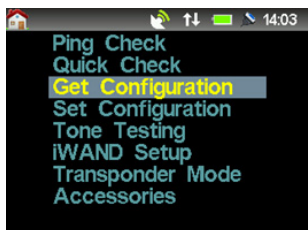


The iWAND time displayed is UTC time, not local time.

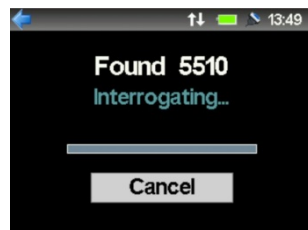
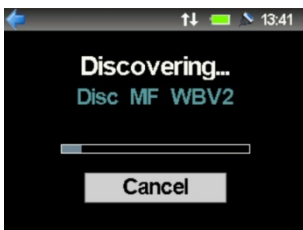
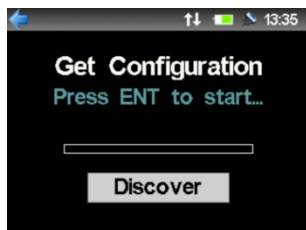
GET CONFIGURATION

The iWAND requires no pre-programming with information. It will automatically discover the instrument address and download the status.

1. On the iWAND main menu select **Get Configuration**.
2. Hold the iWAND acoustic transducer against the transducer of the instrument.



3. Press **ENT** on the iWAND to start the Get Configuration sequence.
4. The Discovering sequence will obtain all the information from the instrument.
5. When the instrument is found, the address will appear and the iWAND will start Interrogating the instrument for its configuration.



6. If a release mechanism is fitted the Get Configuration sequence will ask to run a release test; see *Release Test* in *STEP 5*.

Note



If no release mechanism is fitted, Get Configuration will continue to the next step.

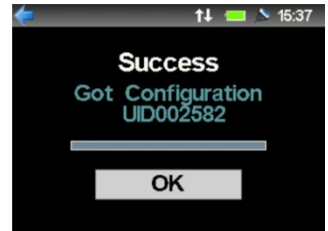
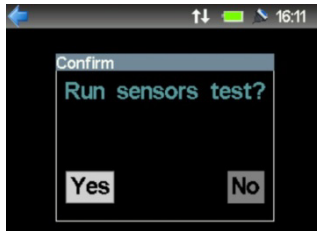
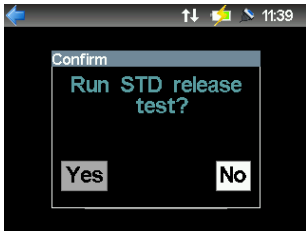
7. If sensors are fitted the Get Configuration sequence will ask to run a sensors test; see *Sensors Test* in *STEP 6*.

Note



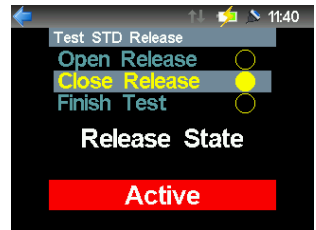
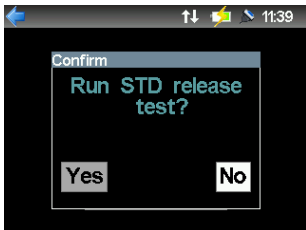
If no sensors are fitted, Get Configuration will continue to the next step.

8. On completion of the Get Configuration sequence, the iWAND will display **Success Got Configuration** and the instrument UID.

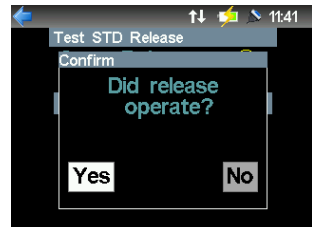
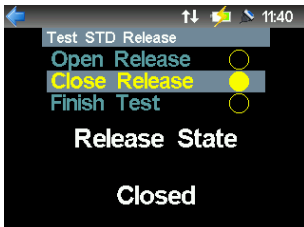


Release Test

1. Select **Yes** to start the release test.
2. The **Test STD Release** screen displays the current state of the release mechanism. In the example below the release mechanism is **Open**.
3. Select the required position for the release mechanism and then press **ENT** (**Active** is displayed while the release mechanism is operating).



4. The new Release State will be displayed.
5. Select **Finish Test** and then press **ENT**.
6. Confirm if the release operated by selecting **Yes** or **No**. This response will be stored with the collected settings and presented to the iWAND 6G Configurator software.

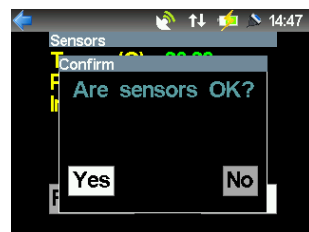
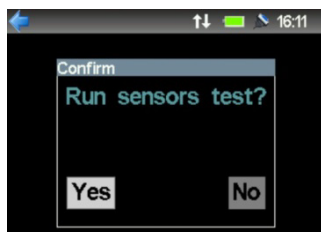


Sensors Test

1. Select **Yes** to start the sensors test.
2. All fitted sensors will be tested and the current measurements of each sensor will be displayed.
3. Select **Refresh** to interrogate the instrument and update the sensor readings

Note

 The sensor value will change colour depending on the status of the measurement. Green: the measurement is valid and less than 10 seconds old; Orange: the measurement is greater than 10 seconds old; Red: the measurement is reported in error (e.g. out of range).



4. When all sensors are displaying valid readings select **Finish** and then press **ENT**.
5. Confirm if the sensors operated as expected by selecting **Yes** or **No** (this response will be stored with the collected settings and presented to the iWAND 6G Configurator software).

CONNECTING THE iWAND TO 6G CONFIGURATOR SOFTWARE

The iWAND can be connected to the iWAND 6G Configurator software by Bluetooth, USB or Serial Port.

Note

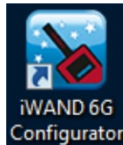
 When connecting using Bluetooth, make sure the supplied Bluetooth dongle is used. Drivers for the dongle are supplied on the Bluetooth CD. Refer to the iWAND user manual UM-8315 for instructions on installing the Bluetooth driver.

Connecting the iWAND using Bluetooth

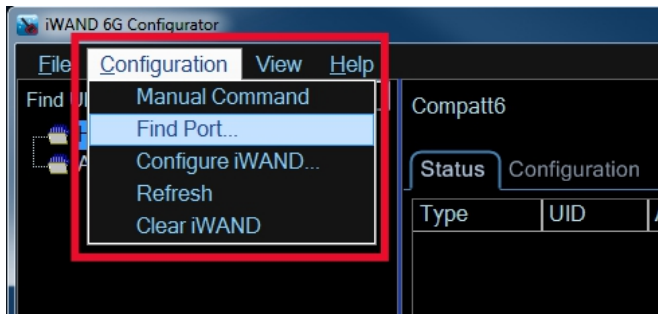
1. To connect to the iWAND using Bluetooth, make sure Bluetooth is enabled on the PC.
2. Make sure Bluetooth on the iWAND is enabled: using the keys from the main menu, scroll to **iWAND Setup > Communications > Bluetooth** and then Press **ENT**.



3. Open **iWAND 6G Configurator** by double-clicking the desktop icon.

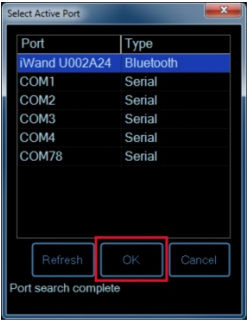


4. On the iWAND 6G Configurator Software toolbar select **Configuration > Find Port**.

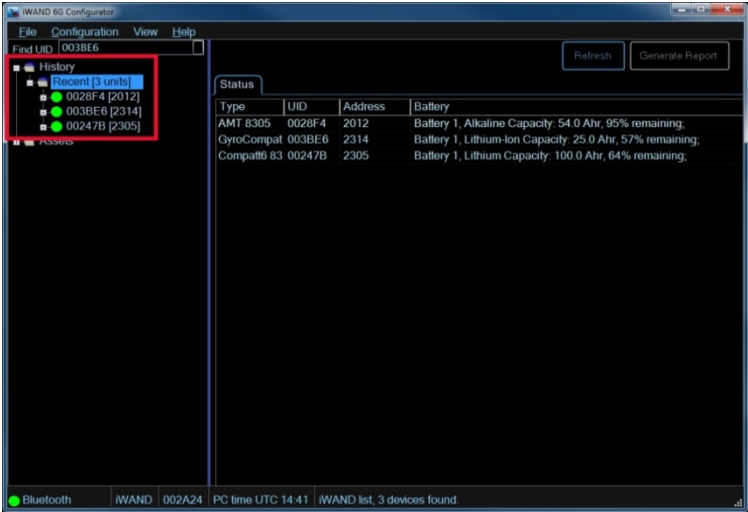


5. In the **Select Active Port** window, the software will seek a Bluetooth connection.
6. When the iWAND Bluetooth has been detected it will appear at the top of the list.

7. Confirm the UID of the iWAND listed is correct and then click **OK** to connect to the iWAND.



8. If a successful connection is made, the **iWAND 6G Configurator** window will open. A green indicator at the bottom of the window will show Bluetooth is connected and all data stored on the iWAND will be displayed.



CONNECTING THE iWAND USING USB/SERIAL

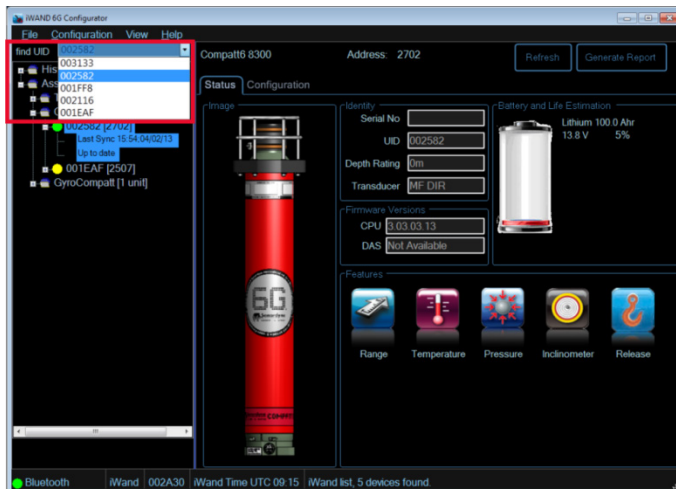
1. To connect the iWAND using a USB/serial port, make sure the iWAND is connected to the PC using the supplied USB/serial cable.
2. To connect to the iWAND 6G Configurator software, follow the same procedure as connecting using Bluetooth, but select the coms port the iWAND is connected to. The **Type** field on the select active port window will show the connection type. Refer to “UM-8315 User Manual for the Type 8315 iWAND” for instructions on installing the USB drivers.

STEP 9

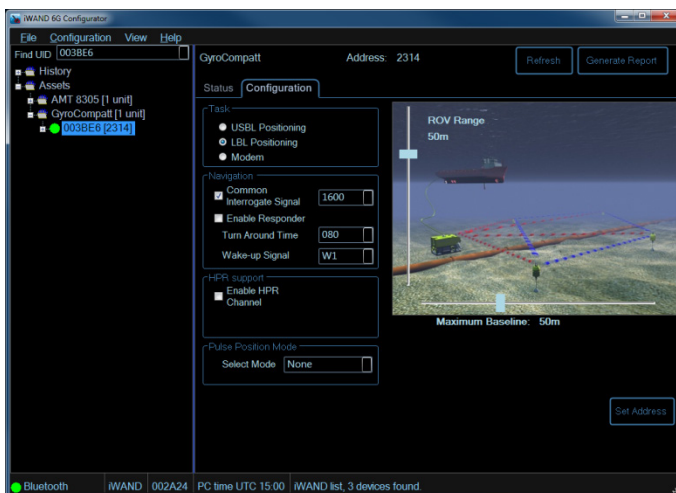
iWAND 6G CONFIGURATOR

USING iWAND 6G CONFIGURATOR SOFTWARE

1. To view an instrument, select it either from the **History** or the **Asset** List.
2. Alternatively, enter the UID of the instrument, if known, in the **find UID** drop-down list.



3. The **Status** tab provides information about the selected instrument.
4. The configuration of an instrument can be changed on the **Configuration** tab.



5. **Power and Gain** settings can be changed (according to operational requirements) using slide bars on the side and bottom of the image.

STEP 10 iWAND 6G CONFIGURATOR

- 6. The instrument **Task** can be changed by selecting a different positioning technique.
- 7. The **Navigation** settings of the instrument can be changed by enabling options and then selecting values from drop-down lists.



- 8. The **Enable HPR Channel** can be enabled on the **HPR Support** section. When enabled, clicking the **Set HPR** opens the **HPR channel** window.



- 9. Select the required HPR channel and then click **OK**.

Note



HPR should only be enabled if integrated with a third party system. To obtain the performance benefits of Sonardyne 6G equipment, HPR should be avoided.

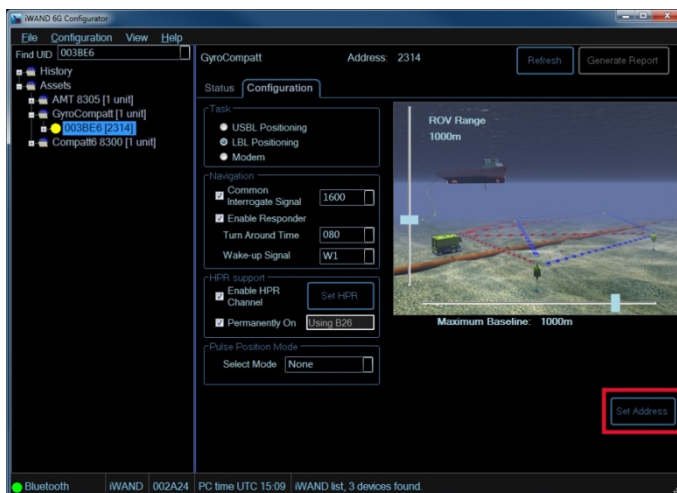
STEP 11 iWAND 6G CONFIGURATOR

- As soon as the **Enable HPR channel** is selected the **Permanently On** option will default to on.
- Select the required **Pulse Position Mode** from the drop-down list.

Note

 The Pulse Position Mode options are only available if the relevant sensors are fitted to the instrument.

- If required, the address of the instrument can be changed by clicking **Set Address**.

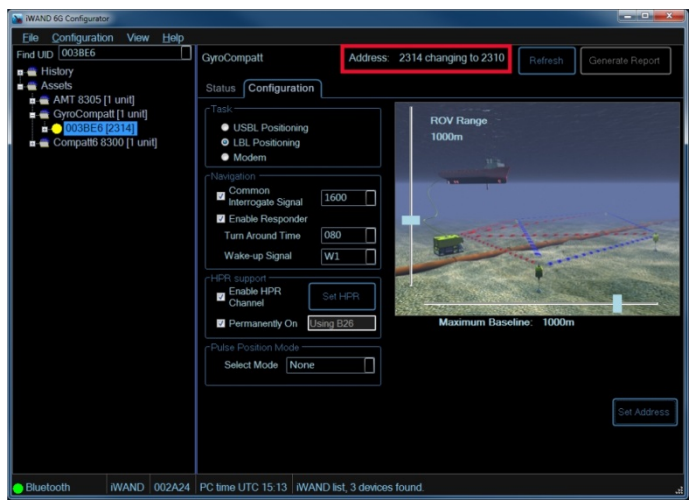


- On the **Address Selector** window choose the new address according to the Wideband being used and then click **OK**.



STEP 12 iWAND 6G CONFIGURATOR

14. Notification of the address change and the new address will appear at the top of the **iWAND 6G Configurator** window.



15. The iWAND 6G Configurator software uses a traffic light system to indicate the status of the equipment as described in the table below.

Colour	Status
Green	Indicates the instrument configuration is fully up to date.
Amber	Indicates that changes have been made to the configuration on the iWAND 6G Configurator software and transferred to the iWAND but not yet transferred to the instrument.
Red	Indicates when configuration changes have been made on the iWAND 6G Configurator software but these have not yet been transferred to the iWAND.

16. Configuration changes made to an instrument in the iWAND 6G Configurator Software must now be transferred to the instrument.

STEP 13

SET CONFIGURATION

Once an instrument has been configured by the iWAND 6G Configurator software, the settings will be automatically downloaded to the iWAND ready for a synchronisation process to be performed.

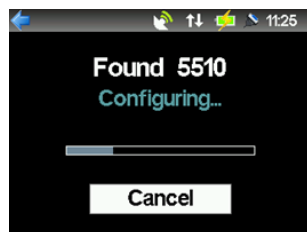
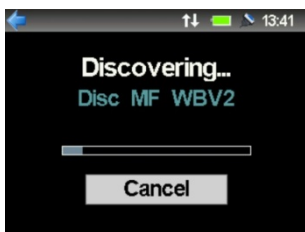
Disconnect the iWAND from the PC and move to the location of the 6G equipment to be configured.

Configurations for multiple instruments can be held by the iWAND at the same time.

1. On the iWAND home screen select **Set configuration** from the main menu.
2. Hold the iWAND acoustic transducer firmly against the transducer of the instrument.



3. Press **ENT** to start the Set Configuration process.
4. The Discovering sequence will begin.
5. When the instrument is found, the address will appear and the iWAND will detect if a new configuration is pending based on the UID and configure the instrument with the appropriate changes.



6. If a release mechanism is fitted, the Set Configuration sequence will ask to run a release test; see *Release Test* in *STEP 5*.

Note



If no release mechanism is fitted, Set Configuration will continue to the next step.

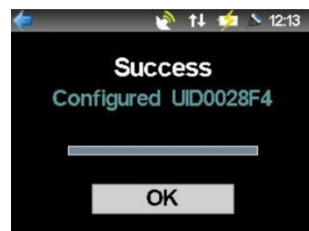
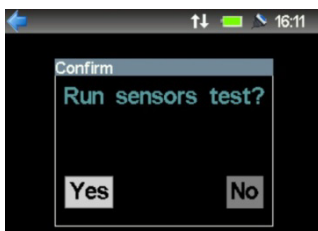
7. If sensors are fitted, the Set Configuration sequence will ask to run a sensors test; see *Sensors Test* in *STEP 6*.

Note



If no sensors are fitted, Set Configuration will continue to the next step.

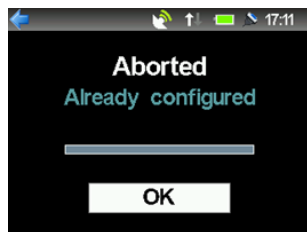
8. On completion of the Set Configuration sequence the iWAND will display **Success Configured** and the instrument UID.



Note



If the Set Configuration process detects that no configuration changes are necessary to the instrument it will abort and display **Aborted** with either **No config data** or **Already configured**.



9. On completion of Set Configuration, connect the iWAND to a PC either by Bluetooth, Serial Port or USB.
10. Check the traffic light next to the instrument is green. This will confirm that the configuration changes have been successfully transferred to the instrument.
11. A system report can be generated if required. The report will provide a complete overview of the configuration of the instrument for reference.

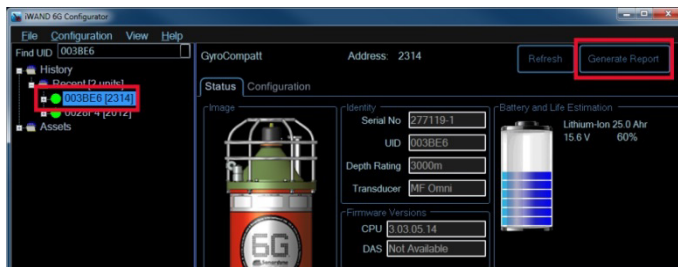
GENERATING A SYSTEM REPORT

To view the full configuration of an instrument, a system report can be generated.

Note

 The Generate Report button is only available when the traffic light next to the instrument UID is green.

1. To generate a report, click **Generate Report** at the top of the iWAND 6G Configurator window.



2. A pdf test report will be generated.




6G Test Report 003BE6

Acquired at 22 April 2013 14:35:31 UTC

Scenario USBL: 50m Range

Hardware Test PASS

Sensor Test User Passed

Release Test Not Applicable

Battery Test 57% PASS

Unit Settings			
Acoustic Address	2314	Serial Number	277119-1
Transducer	MF Omni	Depth Rating	3000m
Firmware Version	V3.03.05.14	DAS Version	2.05T
Functionality Level	105E		

Settings			
Turn Around Time	50ms	Linear Gain	26dB
Navigation Power Level	166dB	Telemetry Power Level	166dB
Blocking	100ms	Common Interrogate Channel	CIS0_Enabled
HPR Channel	HPR26, Disabled	Responder Enabled	Disabled
Pulse Position Mode	None	Activity Time	16 hours
Wake-up Signal	W1		

Battery Status			
Battery 1 type	Lithium-Ion	Battery 1 voltage	15.5volts
Battery 1 current	-946.0mA	Battery 1 capacity	25.0Ah
Battery 1 capacity left	57%	Battery 1 temperature	25.8 °C

Sensors		
Sensor Type	Details	Last Measurement
Temperature	-5 to 40°C Accuracy = 0.10°C	24.58°C Age 0
Pressure(DGZ)	Max 41368kPa Accuracy = 0.013kPa	97.7kPa Age 1
Sound Velocity	1400 to 1600m/s Accuracy = 0.030m/s	9996.00m/s Age 1
Lodestar	Heading Range 0-360 Accuracy 0.04 deg Roll & Pitch Range +/-180 Accuracy 0.01°	+267.21-20.55-69.43° Age 1

iWAND Information		
iWAND UID	002A24	Firmware Version
Time Date (iWAND GPS)	14.35.31,22/04/1	Location
		UNKNOWN

iWAND Operation

Problem	Action
iWAND does not power on When a key is pressed on the keypad	If the iWAND has been turned off for shipping or reset with the reset magnet for more than a few seconds it will require insertion of the USB cable (connected to either the charger or a computer) to restore power. With the cable plugged in, press a button on the keypad to power on. If the iWAND still fails to power on, the battery maybe discharged – leave the iWAND plugged into the supplied charger for approximately four hours and then retry.
iWAND not responsive	If the iWAND becomes unresponsive a soft or hard reset can be performed: Soft Reset 1. Hold down the UP and DOWN arrow keys together on the keypad for approximately five seconds, or 2. If it is serially connected it can be reset by sending a serial BREAK of > 30 ms 3. The iWAND will turn off and then turn on again. Hard Reset 1. Hold the supplied magnetic disc against the lower back of the iWAND case labelled “Reset” for approximately two seconds. 2. The iWAND will turn off. 3. Insert the USB power lead and Press ENT to turn the iWAND on. Note: No previously saved settings or data will be lost when resetting the iWAND.

STEP 17 TROUBLESHOOTING/STORAGE

PC COMMUNICATIONS

Problem	Action
Bluetooth not functional on Windows® XP	Windows XP is currently not supported via a Bluetooth connection with iWAND 6G Configurator.
USB not communicating	Make sure the USB driver has been installed correctly; refer to <i>“UM-8315 User Manual for Type 8315 iWAND”</i>. If the USB communications port is present and the iWAND is failing to talk to the 6G Configurator software, unplug the USB lead from the iWAND and plug it in again. If that fails, power cycle the unit (hold down the ENT button for > 5 seconds). USB can be sensitive to electrical disturbances from close proximity power systems and motor drives. If problems persist consider moving the iWAND and PC to an electrically quieter environment.
Acoustic communications	For successful communications the iWAND transducer should be firmly held against the transducer of the Sonardyne 6G instrument being interrogated. Make sure the criteria outlined in the section <i>“Prerequisites for Operation”</i> have been met for the instrument being interrogated; refer to <i>“UM-8315 User Manual for Type 8315 iWAND”</i>. If problems persist, ensure the frequency band is correct for the instrument being interrogated. If in doubt use the iWAND Setup > Discovery Options > Enable All Bands to make sure the discovery band required has not been disabled. If using the iWAND as a transceiver, make sure the FS response has the correct band configured; use iWAND Setup > Acoustic Band to select the correct frequency band.

STORAGE

The iWAND should be stored in the protective transit case shipped with the product. Make sure the housing is clean and dry before returning to the case.

Avoid leaving the iWAND in a deeply discharged state for extended periods. Turn off the iWAND for storage and shipping: **iWAND Setup > Power Saving > Off for Shipping**.

Make sure the conditions for storage comply with the environmental requirements; refer to *“UM-8315 User Manual for Type 8315 iWAND”*.

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