Sonardyne
SOUND IN DEPTH

OM-8315

Operation Manual for the iWAND 6G Configurator Software

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Head Office
Sonardyne International Limited
Blackbushe Business Park
Yateley, Hampshire
GU46 6GD United Kingdom

T. +44 (0) 1252 872288
F. +44 (0) 1252 876100
E. support@sonardyne.com
W. www.sonardyne.com

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If you require NON-EMERGENCY product support, please contact your nearest Sonardyne office. Alternatively, contact the Sonardyne Head Office:

Blackbushe Business Park

Yateley

Hampshire

GU46 6GD

England

Telephone: +44 (0) 1252 872288

Fax: +44 (0) 1252 876100

Email: support@sonardyne.com

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CONTENTS

Contacting the Sonardyne Support Team ..... **iii**
Contents ..... **iv**
Figures ..... **v**
Tables ..... **vii**
Amendment History ..... **viii**
Section 1 – Introduction **1**
1. Introduction 1
1.1 Related Publications 1
Section 2 – Safety **2**
2. Introduction 2
Section 3 – Technical Description **3**
3. Introduction 3
3.1 Description 3
3.2 iWAND 6G Configurator Instrument Status 3
3.2.1 Image 4
3.2.2 Identity 4
3.2.3 Firmware Version 5
3.2.4 Battery and Life Estimation 5
3.2.5 Features 6
3.3 Instrument Configuration 7
3.4 Instrument Traffic Light Indication 8
Section 4 – Installation **9**
4. Pre-Installation Requirements 9
4.1 Installation Process 9
Section 5 – Connecting to the iWAND **13**
5. Connecting the iWAND to the iWAND 6G Configurator Software 13
5.1 Connecting the iWAND using Bluetooth 13
5.2 Connecting the iWAND using a Serial Port or USB Connection 17
5.3 Adjusting Screen Brightness 19
Section 6 – Operation **20**
6. Introduction 20
6.1 Configuring the iWAND using the iWAND 6G Configurator Software 20
6.2 Instrument Listing 21
6.2.1 History Listings 21
6.2.2 Asset Listings 21
6.3 Operating the iWAND 6G Configurator Software 22
6.3.1 Finding Equipment 22
6.3.2 Removing an Instrument from the Listing 23
6.4 Changing Instrument Configuration 24
6.4.1 Changing the Instrument Task 24
6.4.2 Changing the Navigation Settings 25
6.4.3 Changing the HPR Support 27
6.4.4 Selecting the Pulse Position Mode 29
6.5 Changing the Instrument Address 29
6.6 Updating the Instrument Traffic Light Indicator 30
6.7 Clearing Configuration Changes 31
6.8 Refreshing the 6G Configurator listing 31

6.9 Test Report 32
6.10 Exit the 6G Configurator Software 35
6.11 About the 6G Configurator Software 35

Section 7 – Advanced User Options 37
7. Manual Commands 37
7.1 Operating Manual Commands 37

Section 8 – Fault Finding 39
8. Fault Finding 39
8.1 No Communication between the iWAND and the 6G Configurator Software 39

Glossary of Terms 41

FIGURES

Figure 3-1 – Status Tab 3
Figure 3-2 – Image 4
Figure 3-3 – Identity of the Instrument 4
Figure 3-4 – Firmware Versions 5
Figure 3-5 – Battery and Life Estimation 5
Figure 3-6 – Battery Information 6
Figure 3-7 – Features 6
Figure 3-8 – Sound Velocity Values 7
Figure 3-9 – Configuration Tab 7
Figure 3-10 – Traffic Light Indication 8
Figure 4-1 – Select setup.exe 9
Figure 4-2 – Sonardyne iWAND 6G Configurator – InstallShield Wizard 9
Figure 4-3 – Welcome screen for Sonardyne iWAND 6G Configurator Installation Wizard 10
Figure 4-4 – License Agreement Window 10
Figure 4-5 – File Location 11
Figure 4-6 – Ready to Install iWAND 6G Configurator Software 11
Figure 4-7 – Installation Progress of iWAND 6G Configurator 12
Figure 4-8 – Installation Complete 12
Figure 5-1 – iWAND 6G Configurator Software icon 13
Figure 5-2 – iWAND 6G Configurator software Blank Home Screen 13
Figure 5-3 – Find Port 14
Figure 5-4 – Seeking Bluetooth Connection 14
Figure 5-5 – iWAND Bluetooth Port Detected 15
Figure 5-6 – Bluetooth Device Trying to Connect 15
Figure 5-7 – Bluetooth Connection Timed Out 15
Figure 5-8 – Bluetooth Connection Failed Retry Connecting 16
Figure 5-9 – Add a Device 16

Figure 5-10 – iWAND Connected to the iWAND 6G Configurator software 16
Figure 5-11 – Find Port 17
Figure 5-12 – Seeking USB Identifiers 17
Figure 5-13 – Select Serial or USB Port 18
Figure 5-14 – Serial Port Connection 18
Figure 5-15 – Adjust Brightness 19
Figure 6-1 – Configure the iWAND 20
Figure 6-2 – iWAND Configuration Parameters 20
Figure 6-3 – History List 21
Figure 6-4 – Asset List 21
Figure 6-5 – Instrument Type in Asset List 22
Figure 6-6 – Find UID Drop Down Selection 22
Figure 6-7 – Instrument Synchronisation Notification 23
Figure 6-8 – Removing Equipment from the Listings 23
Figure 6-9 – Select Configuration Tab 24
Figure 6-10 – Select Instrument Task Requirements 25
Figure 6-11 – Enable the CIS 25
Figure 6-12 – Turn Around Time 26
Figure 6-13 – Wake-up Signal 26
Figure 6-14 – BOP Controller Warning 26
Figure 6-15 – Enable HPR Channel 27
Figure 6-16 –HPR Channels 27
Figure 6-17 – Permanently On. 28
Figure 6-18 – Notification of Sleep after 16 hours of Inactivity 28
Figure 6-19 – Pulse Position Mode Selection 29
Figure 6-20 – Set Address 29
Figure 6-21 – Address Selector Window 30
Figure 6-22 – Address Set Notification 30
Figure 6-23 – Clear Changes 31
Figure 6-24 – Refresh 6G Configurator 32
Figure 6-25 – Generate Test Report 32
Figure 6-26 – Test Report 34
Figure 6-27 – Exit 6G Configurator Software 35
Figure 6-28 – About the 6G Configurator Software 35
Figure 6-29 – 6G Configurator Information 36
Figure 7-1 – Activate Manual Command 37
Figure 7-2 – Sending a Manual Command 37

Figure 7-3 – Disconnect Manual Commands 38
Figure 8-1 – Connection Failed between iWAND and 6G Configurator Software 39
Figure 8-2 – Show Comms View 39
Figure 8-3 – View Comms screen 40

TABLES

Table 1-1 – Related Publications 1

AMENDMENT HISTORY

All amendments and additions will be issued with a new copy of this sheet, recording the history of amendments.

Issue	Revision	Date	Comments	Section	Page
A	0	24/04/13	Initial Issue	All	All

SECTION 1 – INTRODUCTION

1. Introduction

This Operation Manual describes the safe installation and operation of the iWAND 6G Configurator Software. The information and procedures within this manual are based on Sonardyne's experience and knowledge.

To make sure the safety of the installer and operator is maintained it is important that all Warnings, Cautions and Safety Section in this manual, and the Warnings, Cautions and Safety Section of any additional manuals are read and understood.

1.1 Related Publications

To make sure the system is operated safely, a Safety Manual is supplied with this Operation Manual. It is important the Safety Manual is read and understood before proceeding with any activity on the equipment.

The related publications are:

Table 1-1 – Related Publications

Publication	Title
Safety Manual	Safety Manual

SECTION 2 – SAFETY

2. Introduction

Before any activity is carried out on this system, it is recommended all Warnings and Cautions in hardware manual are read and understood.

It is recommended the operator complies with the Health and Safety Regulations applicable to the vessel and the region before operating any equipment.

Operators and service personnel must be familiar with the normal operating and safety procedures for Subsea Equipment.

Documentation must be consulted whenever a ⚠ 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 the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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

SECTION 3 – TECHNICAL DESCRIPTION

3. Introduction

This manual is intended to provide users with guidance on the installation and operation of Sonardyne's iWAND 6G Configurator Software for use with the 8315 iWAND.

3.1 Description

The iWAND 6G Configurator Software allows monitoring and configuration of Sonardyne's 6G products, without the need to directly connect the instrument to a PC.

By placing the acoustic transducer of the iWAND next to the transducer of the instrument, the iWAND can either gather or transmit settings to and from the instrument. The iWAND 6G Configurator Software can then be used to view, verify or modify the instrument configuration.

3.2 iWAND 6G Configurator Instrument Status

The iWAND 6G Configurator status page provides a clear and concise overview of the 6G instrument. The status page is separated into specific areas:

- Image of the 6G instrument
- Identity
- Firmware version
- Battery and Life Estimation
- Features

Figure 3-1 – Status Tab

3.2.1 Image

Refer to **Figure 3-2**. The image is a visual representation of the instrument.

Figure 3-2 – Image

3.2.2 Identity

Refer to **Figure 3-3**. The identity includes the serial number of the instrument; the Unique Identifier (UID) (which should match the number listed in the asset or history list); the Depth Rating; and the type of transducer fitted.

Figure 3-3 – Identity of the Instrument

3.2.3 Firmware Version

Refer to **Figure 3-4**. Depending on the type of instrument the Firmware Versions installed in the instrument will be listed. Refer to the Sonardyne website (www.sonardyne.com) for a list of the latest firmware versions, or contact the Sonardyne Support Team for the latest updates.

Figure 3-4 – Firmware Versions

3.2.4 Battery and Life Estimation

Refer to **Figure 3-5**. The Battery and Life Estimation provides a visual incremental measurement of battery life. As battery power decreases the visual counter changes colour to red to indicate low power. Displayed next to the battery life display is the type of battery fitted, the power and percentage of usage remaining.

Figure 3-5 – Battery and Life Estimation

Refer to **Figure 3-6**. Hovering the cursor over the battery image will reveal more battery information including instantaneous currents and battery temperature.

Figure 3-6 – Battery Information

3.2.5 Features

Refer to **Figure 3-7**. The Features area displays icons to represent all sensors and other components added to the instrument.

Figure 3-7 – Features

Refer to **Figure 3-8**. By hovering the cursor over a particular icon more information about the feature is revealed, such as the accuracy of the instrument and its range of values.

Figure 3-8 – Sound Velocity Values

3.3 Instrument Configuration

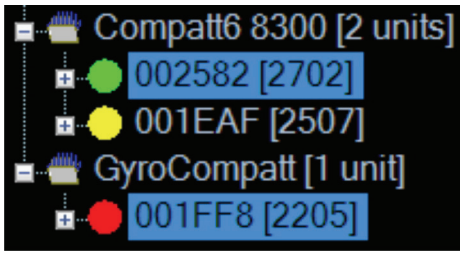
Refer to **Figure 3-9**. The configuration tab details the full operational setup of the instrument and allows changes to that setup.

Figure 3-9 – Configuration Tab

3.4 Instrument Traffic Light Indication

Next to each instrument listed is a coloured disc, or traffic light. These discs are coloured either Green, Amber or Red to indicate the different stages of configuration – refer to **Figure 3-10**.

Figure 3-10 – Traffic Light Indication



- **Green** – The green indicator is displayed to confirm the instrument is up to date and synchronized with the configuration displayed in the iWAND 6G Configurator software.
- **Amber** – the amber indicator is displayed when configuration changes have been made to an instrument on the iWAND 6G Configurator software and these changes have been transferred to the iWAND, but not yet transferred to the instrument.
- **Red** – The red indicator is displayed when configuration changes have been made to an instrument on the iWAND 6G Configurator software but these have not yet been transferred to the iWAND. The red indicator should only be visible for a brief moment before the information is then transferred to the iWAND if connected to the PC. If the iWAND is not connected the indicator will stay red until the iWAND is next connected and refreshed.

SECTION 4 – INSTALLATION

4. Pre-Installation Requirements

The iWAND 6G Configurator software will be supplied on a CD along with the iWAND. To enable successful installation and operation of the iWAND 6G Configurator software the following system requirements will be needed:

- Recommended requirements: Windows 7
- Minimum Operating requirements: Windows XP SP3 or later, 32 or 64 bit
- Recommended RAM requirements: 4+GB
- Minimum RAM requirements: 2GB

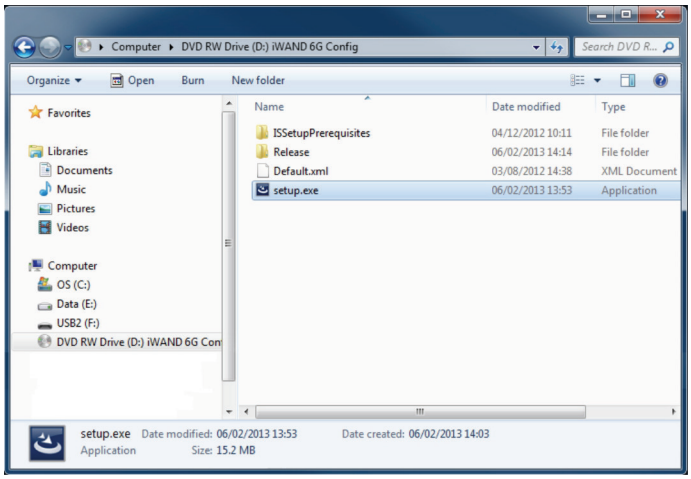
4.1 Installation Process

For successful installation of the iWAND 6G configurator software proceed as follows:

1. Insert the iWAND 6G Configurator software CD into the PC.

2. Refer to **Figure 4-1**. Locate the software in the CD drive and double click setup.exe to start the installation.

Figure 4-1 – Select setup.exe

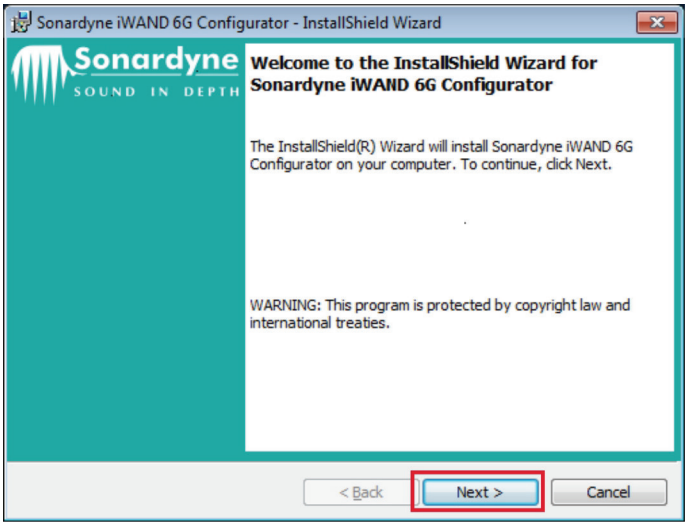


3. Refer to **Figure 4-2**. A Sonardyne **iWAND 6G Configurator – InstallShield Wizard** notification screen will appear with a progress bar indicating the files are being extracted from the CD.

Figure 4-2 – Sonardyne iWAND 6G Configurator – InstallShield Wizard

4. Refer to **Figure 4-3**. When all the files have been extracted from the CD, the install wizard will notify that it wishes to install the Sonardyne iWAND 6G Configurator software.

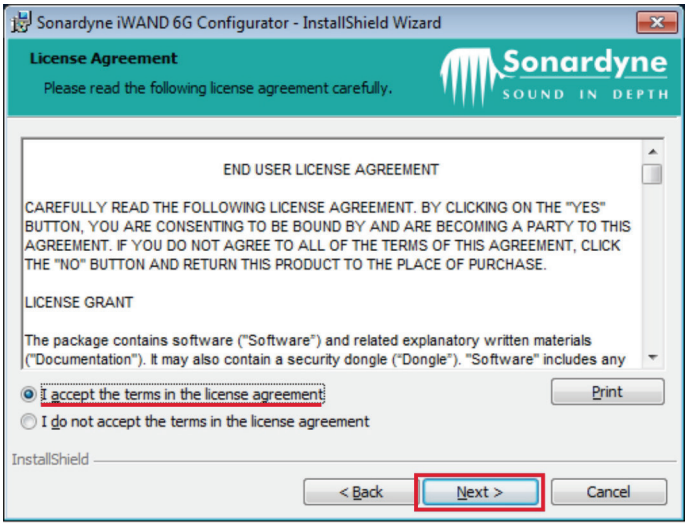
Figure 4-3 – Welcome screen for Sonardyne iWAND 6G Configurator Installation Wizard



5. Click **Next** to continue with the installation process.

6. Refer to **Figure 4-4**. A **License Agreement** window will appear.

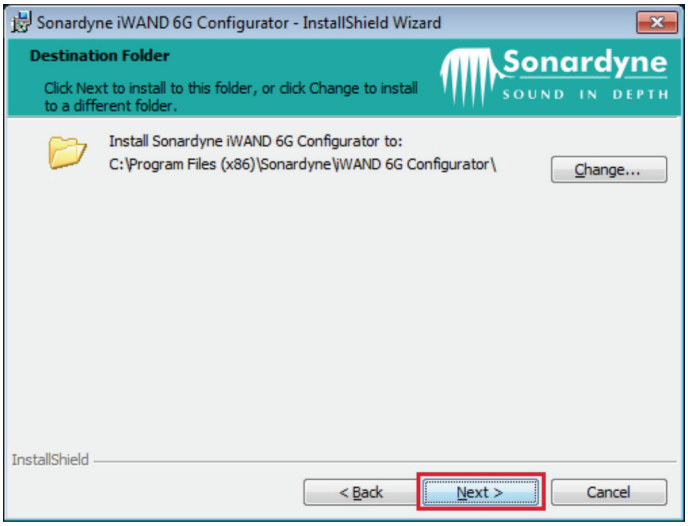
Figure 4-4 – License Agreement Window



7. Select "**I accept the terms in the license agreement**", then click **Next**.

8. Refer to **Figure 4-5**. The Wizard will identify the location for the iWAND 6G Configurator file. If the suggested location is incorrect select **Change** to enter a different location.

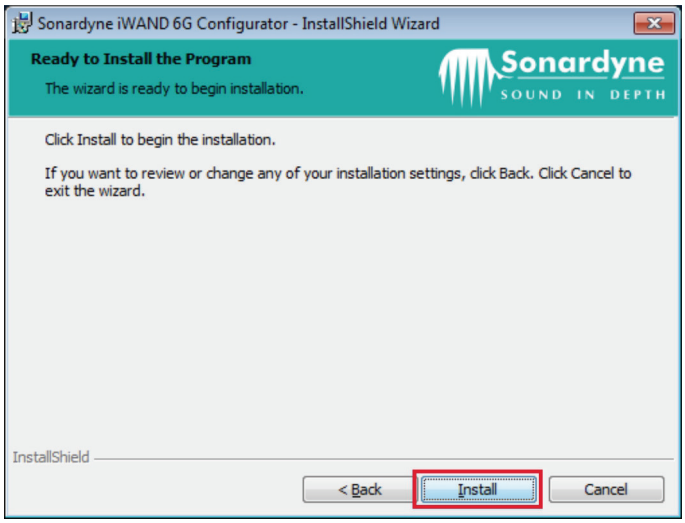
Figure 4-5 – File Location



9. Click **Next** to accept the suggested file location.

10. Refer to **Figure 4-6**. A **Ready to Install the Program** window will appear to confirm the iWAND 6G Configurator software is to be installed.

Figure 4-6 – Ready to Install iWAND 6G Configurator Software



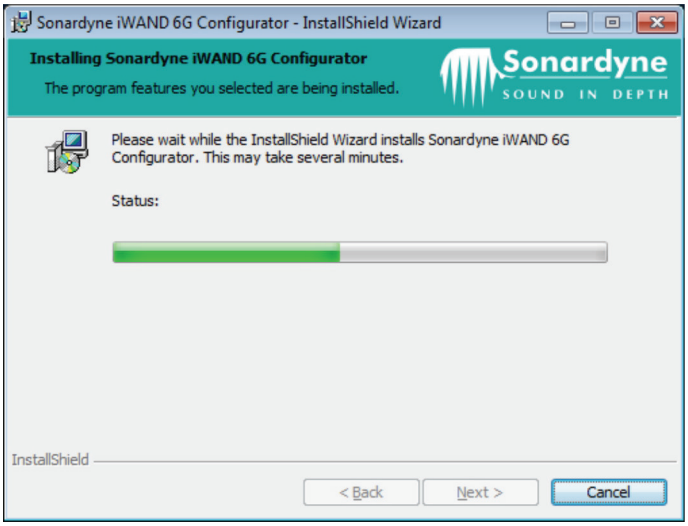
11. To continue with the installation process click **Install**.

NOTE

If any changes to the installation are to be made click Back. If the software is not to be installed click Cancel.

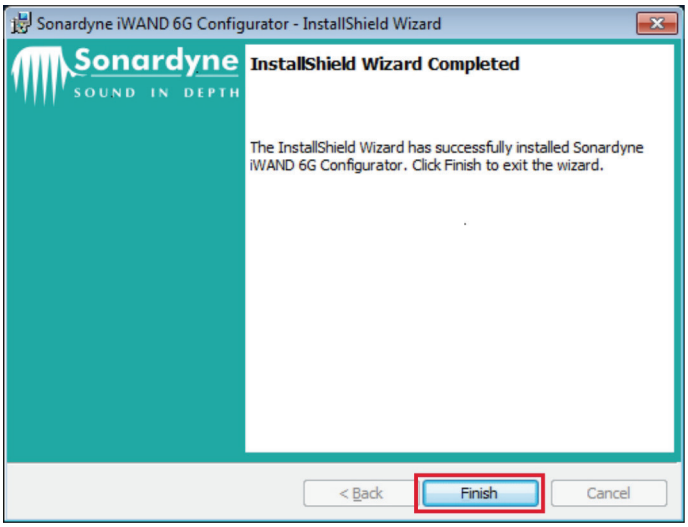
12. Refer to **Figure 4-7**. The installation of the iWAND 6G Configurator software will begin and a progress bar will indicate the speed of the installation.

Figure 4-7 – Installation Progress of iWAND 6G Configurator



13. Refer to **Figure 4-8**. A window will appear notifying the installation has completed.

Figure 4-8 – Installation Complete



14. Click **Finish** to accept completion of the installation and to close the installation wizard.

SECTION 5 – CONNECTING TO THE iWAND

5. Connecting the iWAND to the iWAND 6G Configurator Software

Connecting the iWAND to a PC installed with the iWAND 6G Configurator software can be achieved by several methods:

- Bluetooth (available with Windows 7 only)
- USB connection
- Serial Port connection

5.1 Connecting the iWAND using Bluetooth

When connecting the iWAND to a PC using Bluetooth make sure the Bluetooth on the iWAND is on (refer to the iWAND manual UM-8315 for instructions for switching the Bluetooth on).

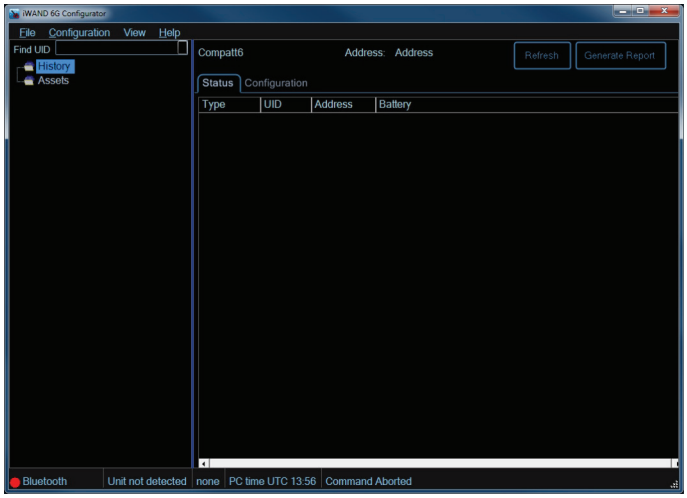
Supplied in the transit case with the iWAND is a Belkin Bluetooth dongle. Make sure this is connected to a PC USB connection using Bluetooth even if the PC has Bluetooth installed and enabled.

1. Refer to **Figure 5-1**. Start the iWAND 6G Configurator software by double clicking on the desktop icon.

Figure 5-1 – iWAND 6G Configurator Software icon

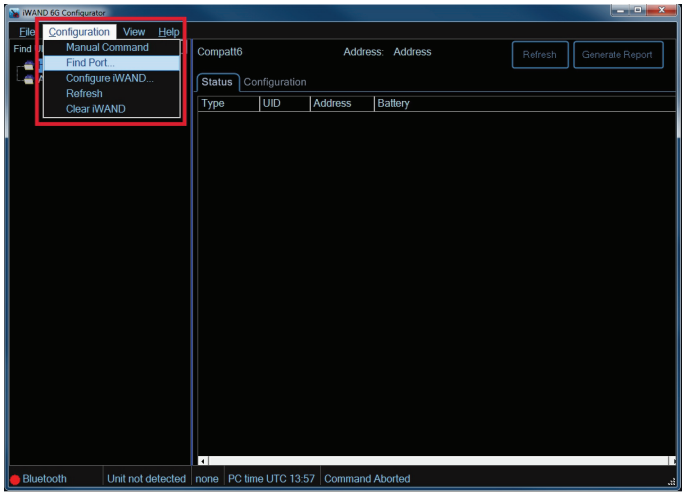
2. Refer to **Figure 5-2**. The iWAND 6G Configurator software blank home screen will appear.

Figure 5-2 – iWAND 6G Configurator software Blank Home Screen



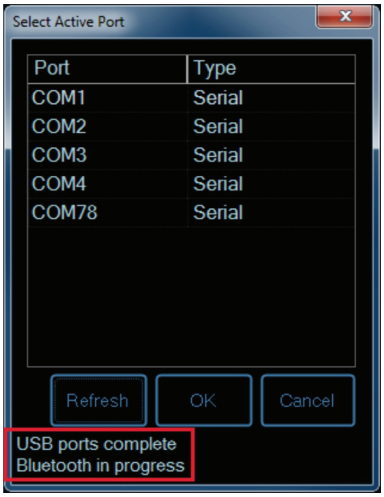
3. Refer to **Figure 5-3**. Select **Configuration**, then **Find Port**.

Figure 5-3 – Find Port



4. Refer to **Figure 5-4**. The **Select Active Port** window will appear. If both the Bluetooth on the PC and the Bluetooth on the iWAND are enabled the software will seek a Bluetooth connection.

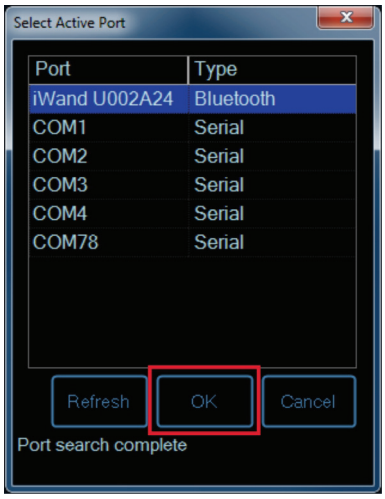
Figure 5-4 – Seeking Bluetooth Connection



5. Refer to **Figure 5-5**. When the iWAND Bluetooth has been detected it will appear at the top of the list of ports.

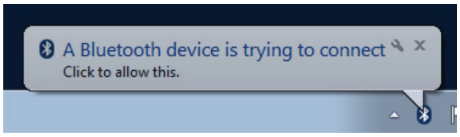
6. Confirm the serial number listed is correct. Click **OK** to connect to the iWAND.

Figure 5-5 – iWAND Bluetooth Port Detected



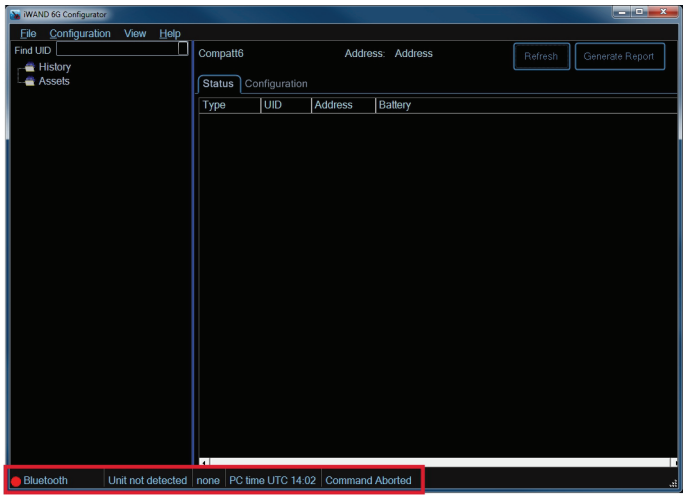
7. Refer to **Figure 5-6**. At the bottom of the screen a Bluetooth icon and notification of connection attempts will appear.

Figure 5-6 – Bluetooth Device Trying to Connect



8. Refer to **Figure 5-7**. If the PC and iWAND Bluetooth connection fails a red dot will appear next to the Bluetooth port.

Figure 5-7 – Bluetooth Connection Timed Out



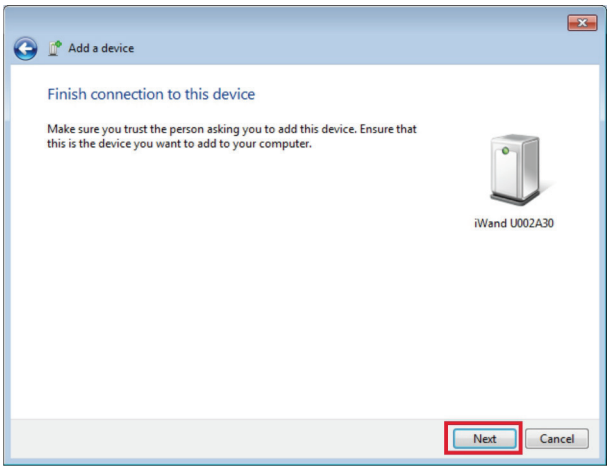
9. Refer to **Figure 5-8**. An information window will also appear stating the device is unreachable and asking if a retry is required.

Figure 5-8 – Bluetooth Connection Failed Retry Connecting

10. Click **OK** to retry to connect. The PC and iWAND will now retry to connect.

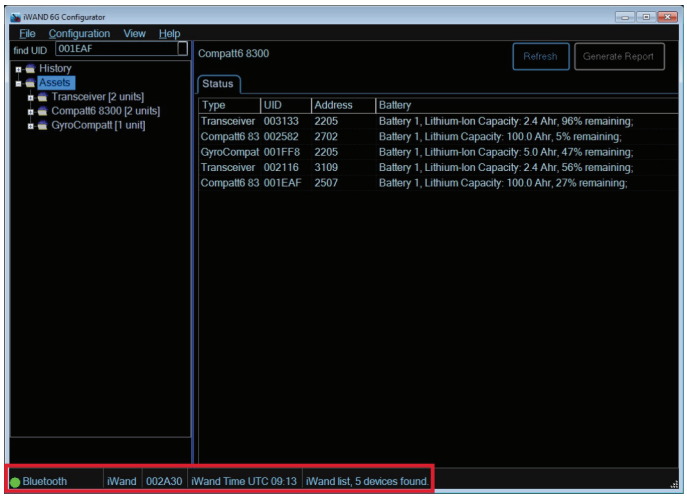
11. Refer to **Figure 5-9**. To confirm the PC and iWAND are to be connected by Bluetooth an **Add a Device** window will appear. Check the iWAND serial number is correct then click **Next**.

Figure 5-9 – Add a Device



12. Refer to **Figure 5-10**. The iWAND 6G Configurator home page will now appear. A green indicator will show the Bluetooth is connected and any data stored in the iWAND will be displayed.

Figure 5-10 – iWAND Connected to the iWAND 6G Configurator software

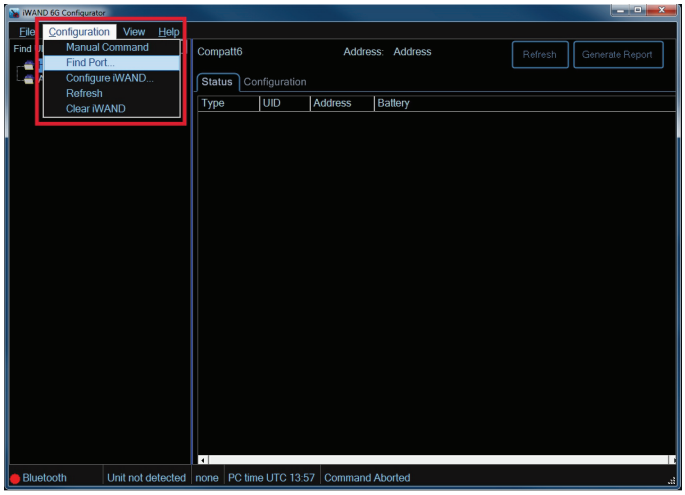


5.2 Connecting the iWAND using a Serial Port or USB Connection

When connecting to the iWAND using a USB connection, make sure the iWAND is connected to the PC using the supplied USB cable. If connecting using the serial RS232 connection make sure a serial cross-over cable is used (this is not supplied with the iWAND).

1. Refer to **Figure 5-11**. Select **Configuration**, then **Find Port**.

Figure 5-11 – Find Port

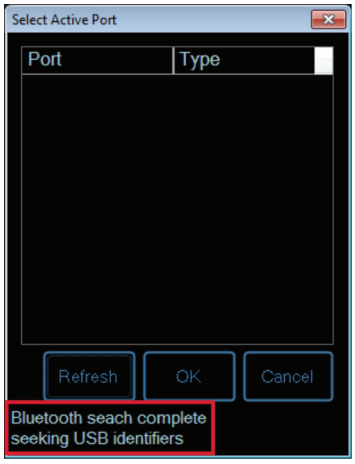


2. Refer to **Figure 5-12**. The **Select Active Port** window will appear. It will state that a Bluetooth search has been complete and that it is seeking USB identifiers.

NOTE

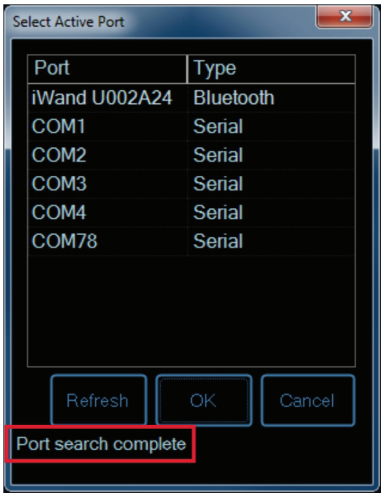
The Select Active Port will search for a Bluetooth connection first, if it does not find one it will then search for a USB connection.

Figure 5-12 – Seeking USB Identifiers



3. Refer to **Figure 5-13**. When the Select Active Port has finished searching for all the Ports the window will list all possible USB or Serial connection ports and state the port search is complete.

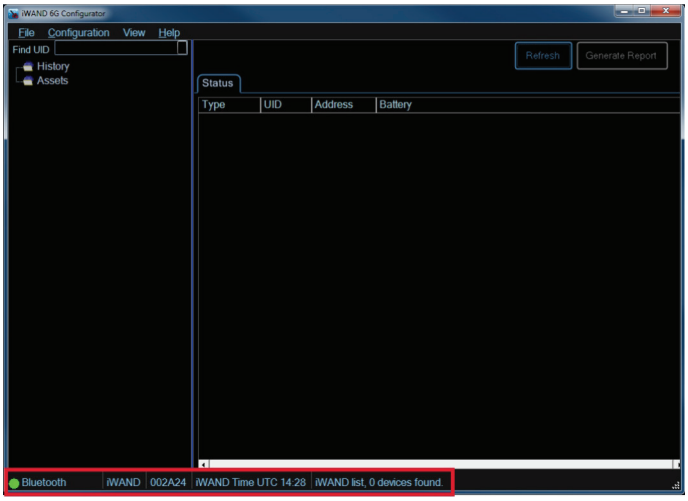
Figure 5-13 – Select Serial or USB Port



4. Select the correct port the PC is connected to, then click **OK**.

5. Refer to **Figure 5-14**. The iWAND 6G Configurator software home page will now appear. The Serial or USB port will appear at the bottom left of the screen with a green indicator to show the connection is complete. Any data stored in the iWAND will now be displayed.

Figure 5-14 – Serial Port Connection

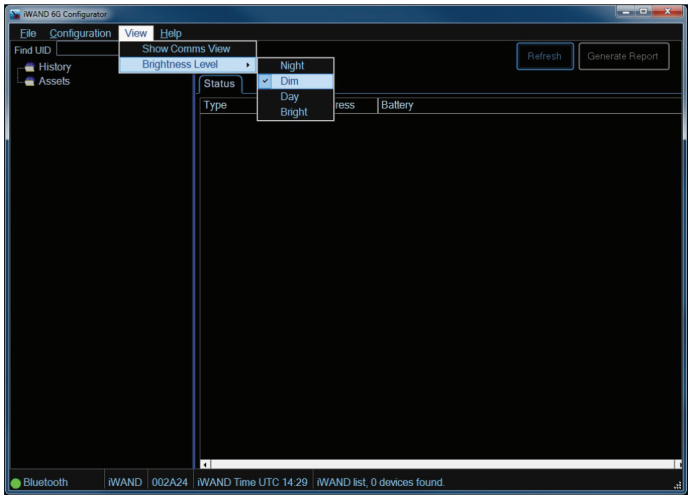


5.3 Adjusting Screen Brightness

Depending on the environment and working conditions it is possible to alter the brightness of the screen to improve visibility.

1. Refer to **Figure 5-15**. From the toolbar select **View**, **Brightness Level** then one of the options: **Night**, **Dim**, **Day**, **Bright**.

Figure 5-15 – Adjust Brightness



SECTION 6 – OPERATION

6. Introduction

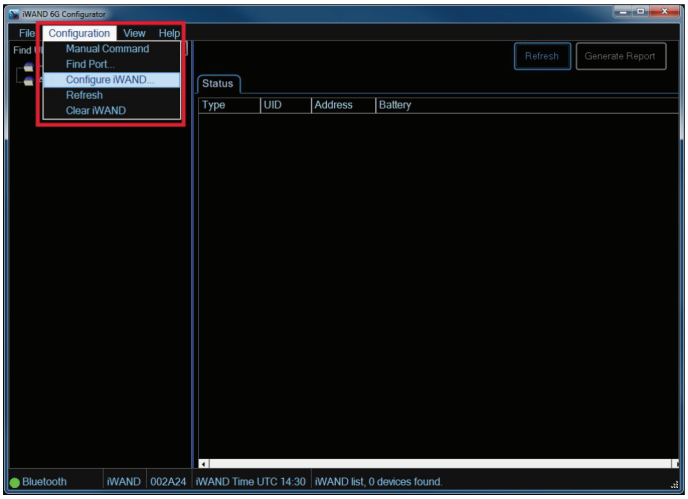
The iWAND has been designed to be simple and easy to operate in any environment. For full instructions on operation of the iWAND refer to the iWAND manual – UM-8315.

6.1 Configuring the iWAND using the iWAND 6G Configurator Software

The iWAND time must be set to allow Get Configuration and Set Configuration operations to function. If the GPS has been turned off or GPS is not available (so the iWAND time is not set) the iWAND time can be set from the PC internal clock from the Configure iWAND screen. The time configured on the iWAND will be UTC time which will not necessarily match the local time indicated on the PC depending on the time-zone.

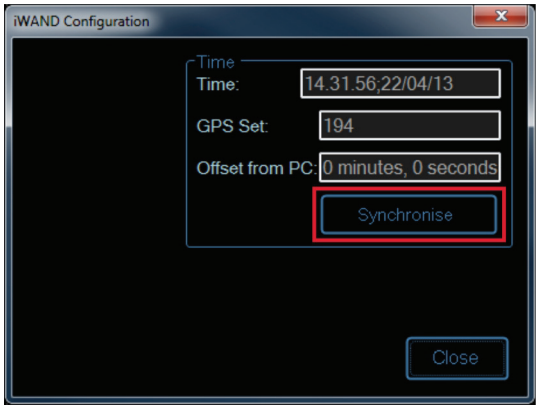
1. Refer to **Figure 6-1**. To check the iWAND configuration, from the toolbar select **Configuration** then **Configure iWAND**.

Figure 6-1 – Configure the iWAND



2. Refer to **Figure 6-2**. In the iWAND configuration parameters window check the **Time**, **GPS Set** and **Offset from PC** are all correct.

Figure 6-2 – iWAND Configuration Parameters



3. To set the iWAND clock with the PC clock time, click **Synchronise**. Click **Close** to close the iWAND Configuration window.

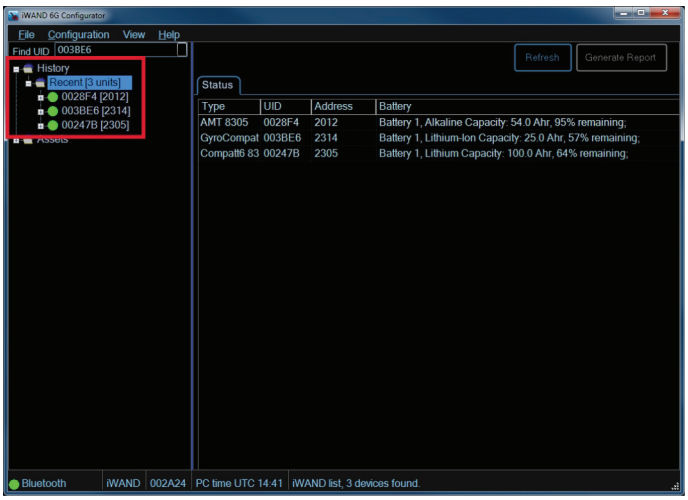
6.2 Instrument Listing

When the iWAND is connected to the iWAND 6G Configurator software all items stored in the iWAND will be listed and categorised according to **History** or **Asset**. Selection of an instrument will reveal the last time and date the iWAND interrogated that instrument.

6.2.1 History Listings

Refer to **Figure 6-3**. The history is a list of all instruments stored in the iWAND in chronological order starting with the most recent.

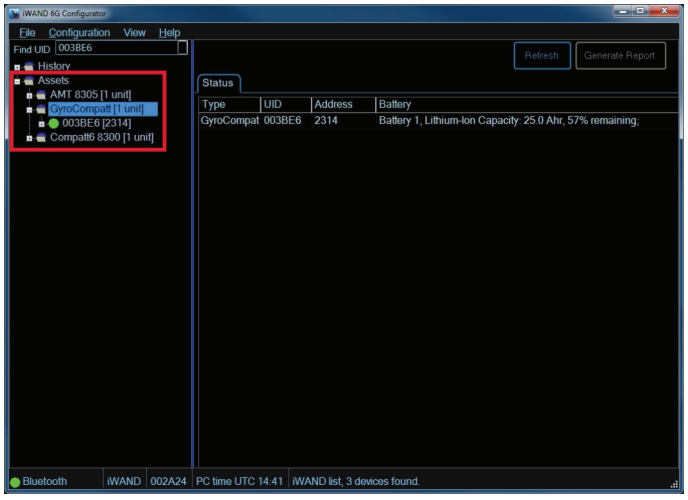
Figure 6-3 – History List



6.2.2 Asset Listings

Refer to **Figure 6-4**. The asset is a list of all instruments stored on the iWAND in type groups.

Figure 6-4 – Asset List



6.3 Operating the iWAND 6G Configurator Software

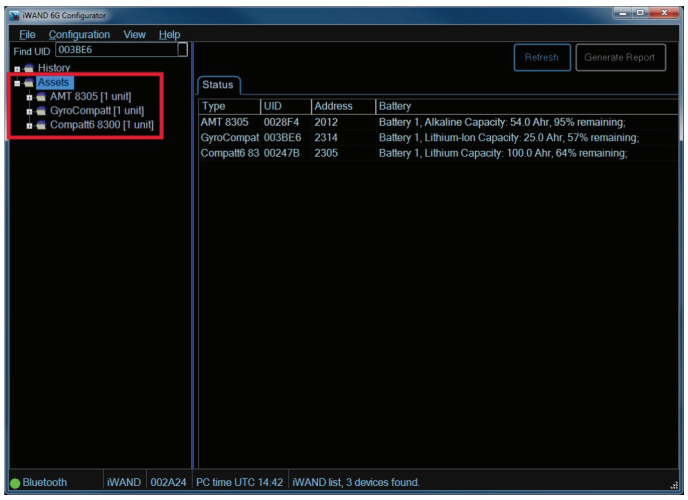
When all information stored in the iWAND has been transferred to the iWAND 6G Configurator Software it is possible to view and reconfigure settings of instruments for use in different scenarios and operational requirements.

6.3.1 Finding Equipment

To find and review any piece of equipment:

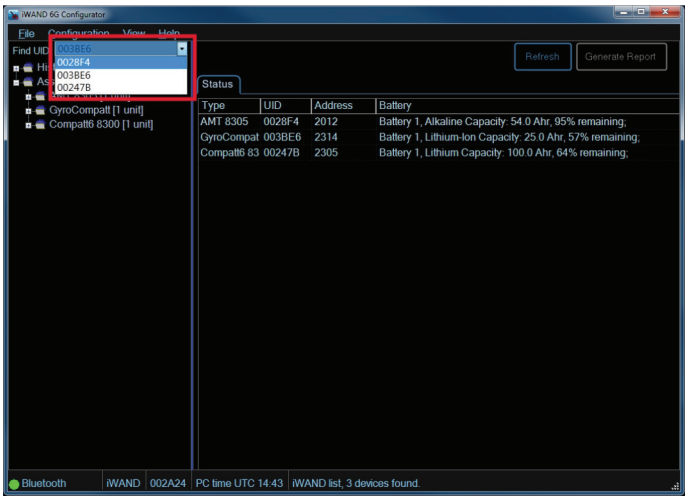
1. Refer to **Figure 6-5**. Open and extend with the History or Asset list. Select the required instrument from the list.

Figure 6-5 – Instrument Type in Asset List



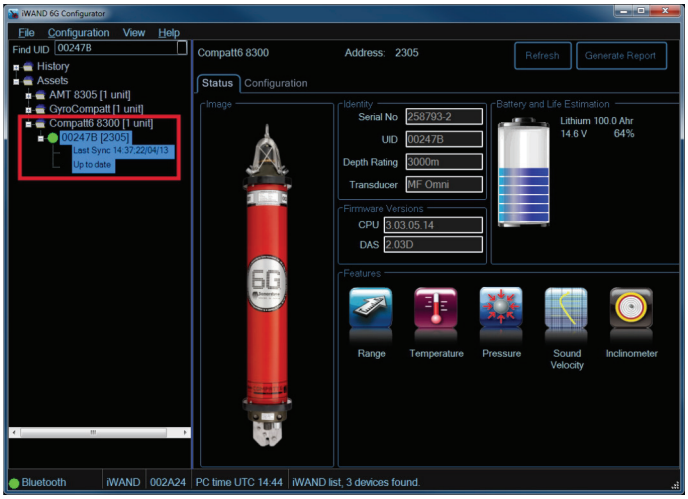
2. Refer to **Figure 6-6**. Alternatively if the instrument UID is known select the required instrument from the **Find UID** drop down list.

Figure 6-6 – Find UID Drop Down Selection



3. Refer to **Figure 6-7**. Selecting the instrument from the Asset List will display notification of when the instrument was last synchronised and if it is up to date.

Figure 6-7 – Instrument Synchronisation Notification



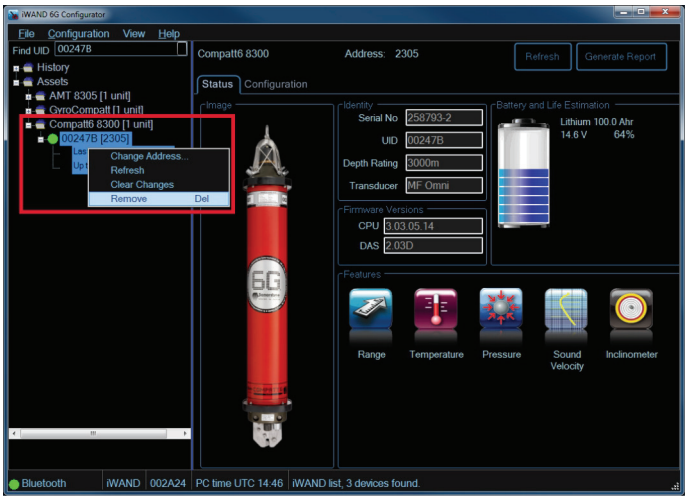
4. Once the instrument has been selected the status tab will appear on the right of the screen showing an image of the instrument type (if one is available); the identity of the instrument including Serial Number, UID, Depth Rating, and the Transducer type; Firmware Versions; Features (including types of sensors fitted and if a release mechanism is fitted); Battery and Life Estimation.

6.3.2 Removing an Instrument from the Listing

It may be necessary or desirable to remove instrument from the listings.

1. Refer to **Figure 6-8**. Right click on the instrument to be removed. In the window select **Remove**.

Figure 6-8 – Removing Equipment from the Listings



2. The instrument is now removed from the listings.

NOTE

This only removes the instrument from the software, if the user reconnects, or retrieves data from the iWAND, the information regarding this beacon will reappear.

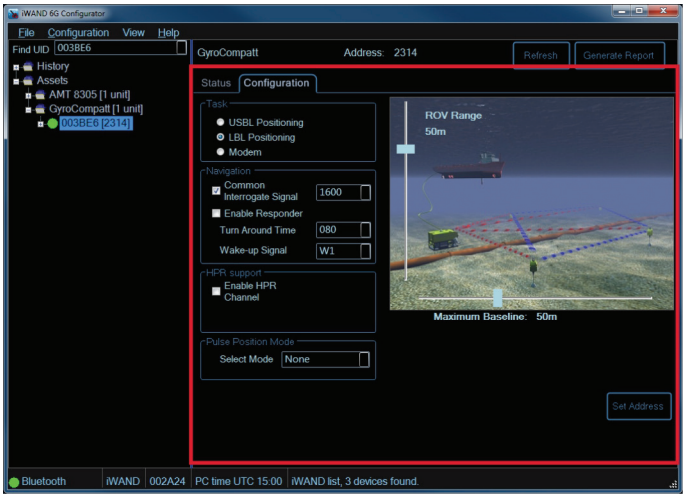
6.4 Changing Instrument Configuration

It is possible to change the configuration of a 6G instrument on the iWAND 6G Configurator software. These changes are then transferred to the instrument by the iWAND.

To change the configuration of an instrument:

1. Refer to **Figure 6-9**. Select the instrument to be amended from the asset list. Select the **Configuration** tab.

Figure 6-9 – Select Configuration Tab



6.4.1 Changing the Instrument Task

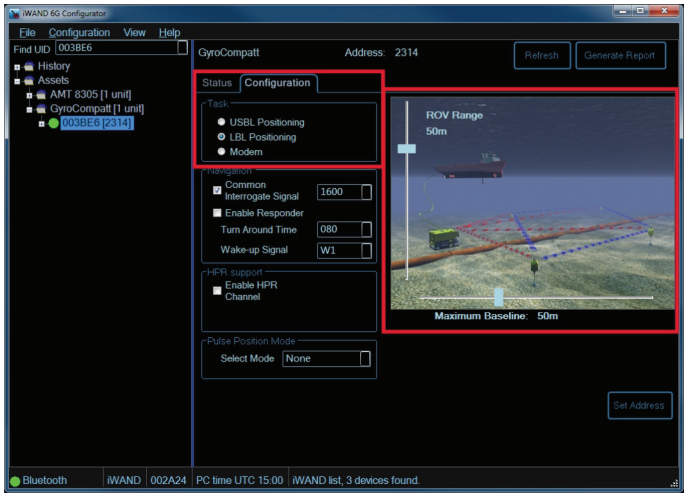
Depending on the operational requirements of the instrument, it is possible to change the task.

1. Select the required operational task from the list:

   - USBL Positioning
   - LBL Positioning
   - Modem

2. Refer to **Figure 6-10**. Using the slide bars in the image, to select the appropriate range values for the operational requirements. The software will then assign appropriate power and gain levels to the device.

Figure 6-10 – Select Instrument Task Requirements



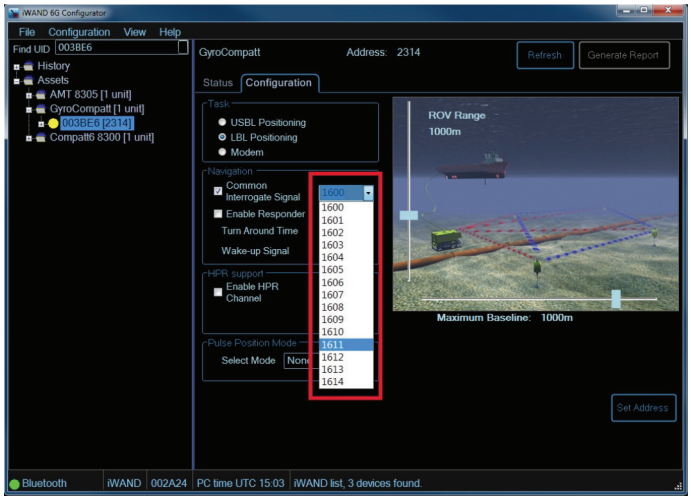
6.4.2 Changing the Navigation Settings

The Navigation settings of the instrument can be changed according to the requirements of the instrument.

1. Refer to **Figure 6-11**. If required, select the **CIS** (**Common Interrogate Signal**) to enable it.

2. From the drop down menu, select the required signal.

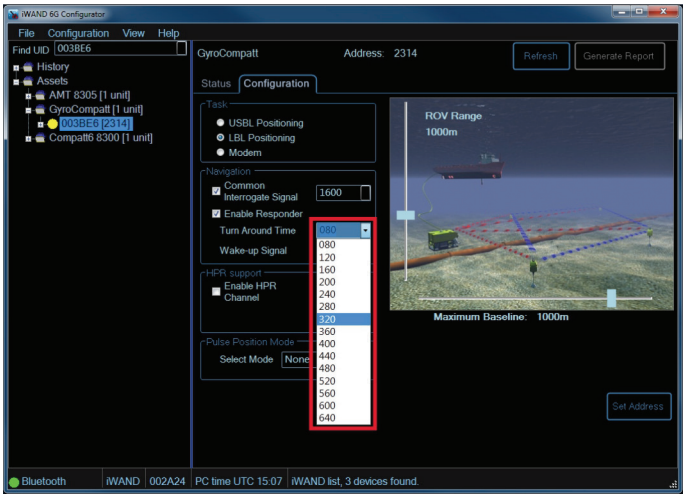
Figure 6-11 – Enable the CIS



3. If required select the **Enable Responder**.

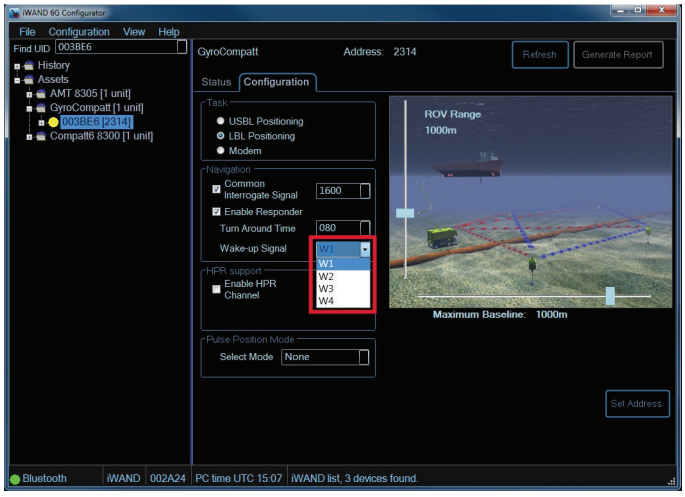
4. Refer to **Figure 6-12**. Select the **Turn Around Time** from the drop down menu.

Figure 6-12 – Turn Around Time



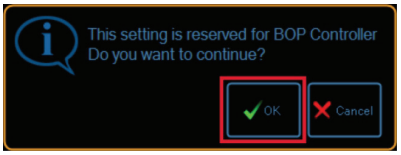
5. Refer to **Figure 6-13**. Select the **Wake-up Signal** of **W1** to **W4** from the drop down menu.

Figure 6-13 – Wake-up Signal



6. Refer to **Figure 6-14**. The Wake-up Signals W3 and W4 are reserved for the BOP Controller. If these are selected a notification window will appear.

Figure 6-14 – BOP Controller Warning

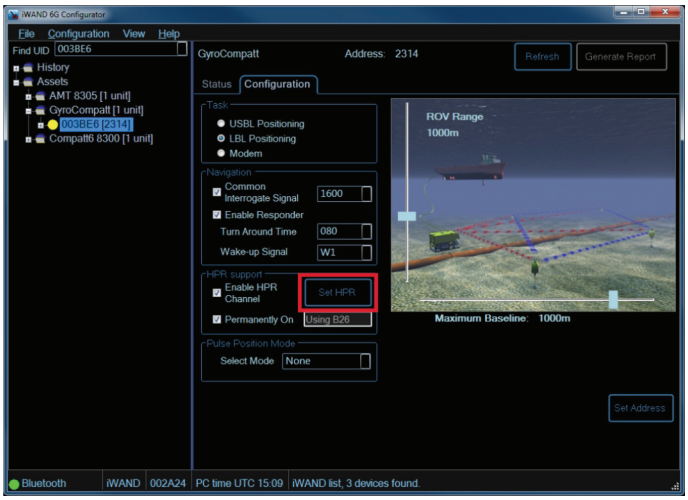


7. If **W3** or **W4** are required click **OK**, if they are not required click **Cancel** and select a different Wake-up signal.

6.4.3 Changing the HPR Support

1. Refer to **Figure 6-15**. If the HPR Channel is required, select **Enable HPR Channel**. The **Set HPR** button will appear.

Figure 6-15 – Enable HPR Channel



2. Refer to **Figure 6-16**. Selection of the Set HPR button will reveal the **HPR Channel** window.

Figure 6-16 –HPR Channels

3. Select the required **HPR channel**, then click **OK**.

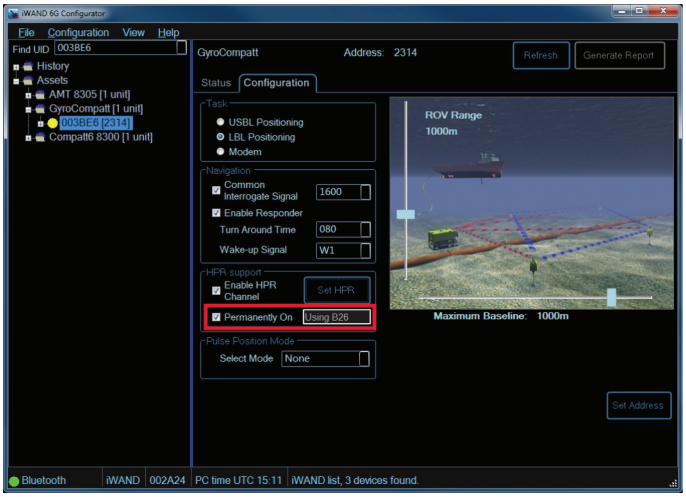
NOTES

Only HPR400 channels are supported.

The HPR should only be enabled if integrated with a third party system. For optimum performance of Sonardyne 6G instruments, HPR should be avoided.

4. Refer to **Figure 6-17**. Once the **Enable HPR** channel has been selected, the **Permanently On** option will default to **On**.

Figure 6-17 – Permanently On.

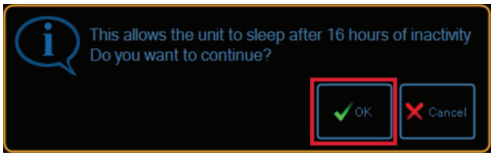


NOTE

The Permanently On option is defaulted to On to assist in communication with third party equipment.

5. Refer to **Figure 6-18**. If the **Permanently On** option is deselected the instrument will sleep after 16 hours of inactivity. A warning window will appear to notify of this operation.

Figure 6-18 – Notification of Sleep after 16 hours of Inactivity



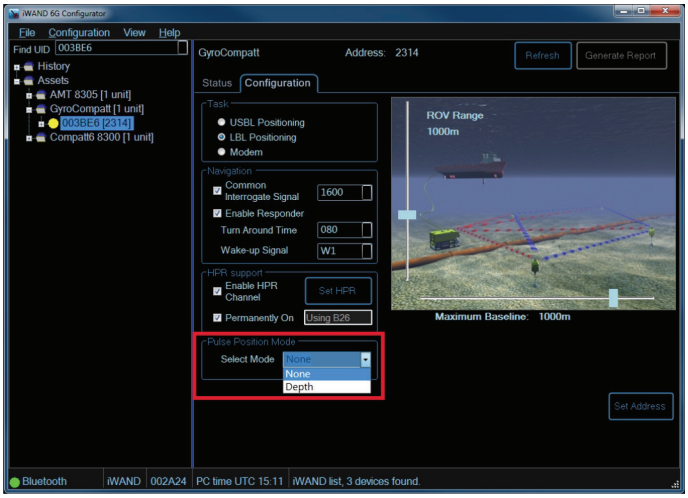
6. Click **OK** to confirm receipt of the notification, or click **Cancel** to return and enable the **Permanently On** option.

6.4.4 Selecting the Pulse Position Mode

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

1. Refer to **Figure 6-19**. From the drop down menu, select the required sensor mode.

Figure 6-19 – Pulse Position Mode Selection



6.5 Changing the Instrument Address

It is possible, if necessary, to change the address of an instrument by selecting the **Set Address** button – refer to **Figure 6-20**.

Figure 6-20 – Set Address

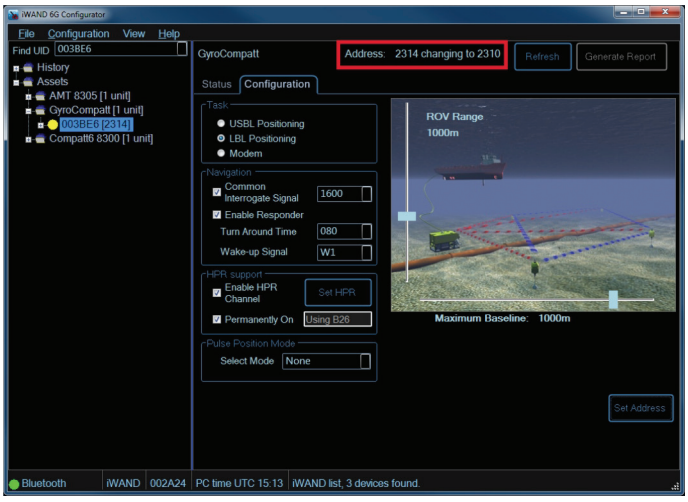
1. Refer to **Figure 6-21**. Click the **Set Address** button. The **Address Selector** window will appear.

Figure 6-21 – Address Selector Window

2. Choose the new address according to the Wideband being used. Once selected click **OK**.

3. Notification of the address change and the new address will now appear at the top of the screen –refer to **Figure 6-22**.

Figure 6-22 – Address Set Notification



6.6 Updating the Instrument Traffic Light Indicator

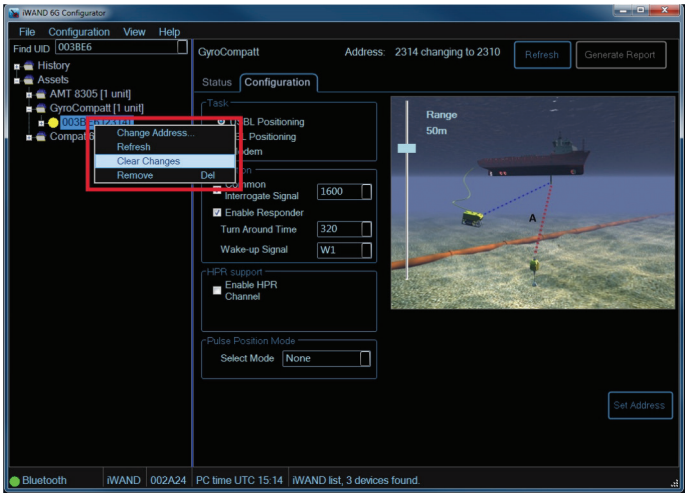
Following any change made to the instrument configuration, the traffic light indicator will briefly turn red to indicate a change has been made to the 6G Configurator software but has not been transferred to the iWAND. After a short time the traffic light indicator will change to amber. This will indicate the changes made on the 6G Configurator software have been transferred to the iWAND but not to the instrument.

6.7 Clearing Configuration Changes

Any changes made to the configuration of an instrument may be removed and the instrument returned it to its original configuration status. To clear the changes proceed as follows:

1. Refer to **Figure 6-23**. Right click on the instrument in the history or asset listing and from the menu select **Clear Changes**.

Figure 6-23 – Clear Changes



2. The instrument will now return to the previous configuration setting before the changes were made. The traffic light indicator next to the instrument should now be showing green.

6.8 Refreshing the 6G Configurator listing

It may be necessary to disconnect the iWAND from the 6G Configurator software to allow it to gather more information from instruments. To refresh the 6G Configurator proceed as follows:

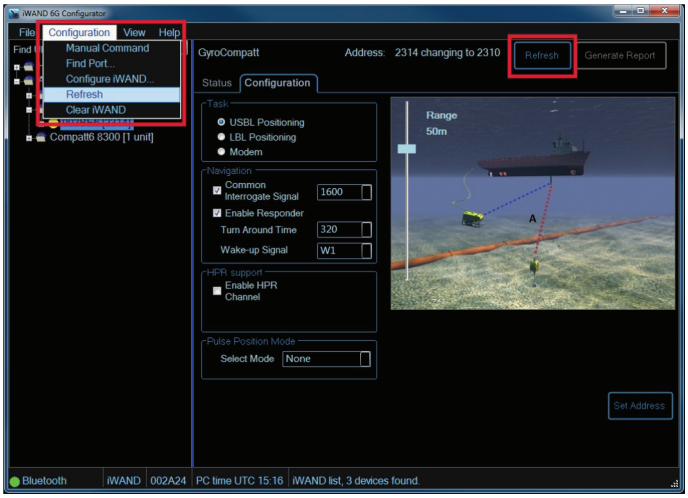
1. If the iWAND is connected to the 6G Configurator using a serial or USB connection, disconnect the iWAND. If the iWAND is connected by Bluetooth no action is needed.

2. Use the iWAND to gather information from the instruments – refer to the iWAND manual UM-8315 for instructions.

3. Once the information has been collected reconnect the iWAND to the PC if using a serial or USB connection.

4. On the 6G Configurator software, from the toolbar select **Configuration** > **Refresh,** or press the **Refresh** button. The iWAND will now refresh its connection with the 6G Configurator software and update the instrument listing with any new information.

Figure 6-24 – Refresh 6G Configurator



6.9 Test Report

It is possible to produce a test report of any of the 6G instruments contained in the iWAND and displayed on the 6G Configurator software.

NOTE

The 6G Configurator software will only produce a test report if a green traffic light indicator is next to the instrument.

To produce a test report proceed as follows:

1. On the 6G Configurator software, select an instrument from either the History or the Asset list.

2. Refer to **Figure 6-25**. Make sure the traffic light next to the instrument is indicating green.

Figure 6-25 – Generate Test Report

3. Press the **Generate Report** button to create a two paged pdf report providing all information about the instrument.

4. The first page of the report provides information specific to the instrument such as acoustic address, serial numbers and firmware versions etc.. It also lists any settings, battery status and sensor details – if fitted; and information of the iWAND that gathered the information.

5. If the instrument has been successfully configured or tested a large green tick will appear in the top left hand corner of the first page. If the instrument has failed any tests then a large red cross would indicate the instrument requires investigation.

Figure 6-26 – Test Report

Sonardyne
SOUND IN DEPTH

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	80ms	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(DQZ)	Max 41368kPa Accuracy = 0.010kPa	97.7kPa Age 1
Sound Velocity	1400 to 1600m/s Accuracy = 0.030m/s	9996.000m/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	1.00.00.06
Time Date (iWAND GPS)	14.35.31;22/04/1	Location	UNKNOWN

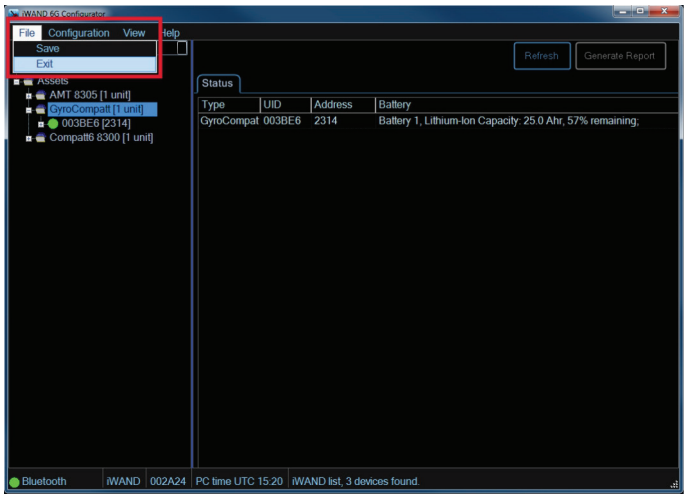
22 April 2013 15:17:14 1 of 2 6G Test Report for 003BE6

6.10 Exit the 6G Configurator Software

When all activities have finished with the 6G Configurator software, and it is no longer required, to exit from the software proceed as follows:

1. Refer to **Figure 6-27**. From the toolbar select **File** > **Exit**.

Figure 6-27 – Exit 6G Configurator Software

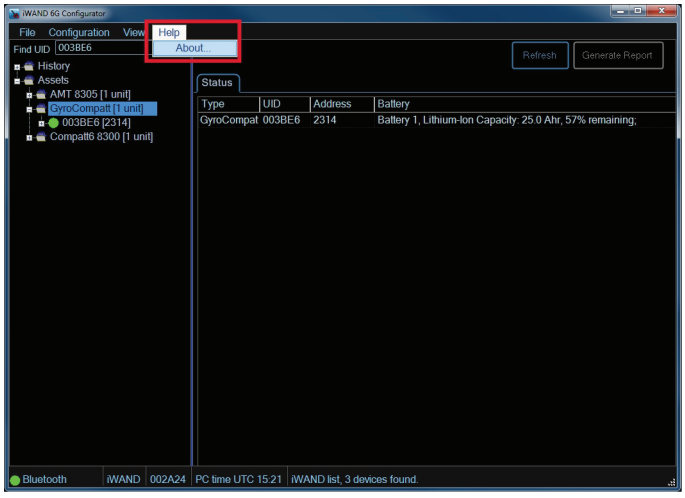


6.11 About the 6G Configurator Software

Information about the 6G Configurator software can be found as follows:

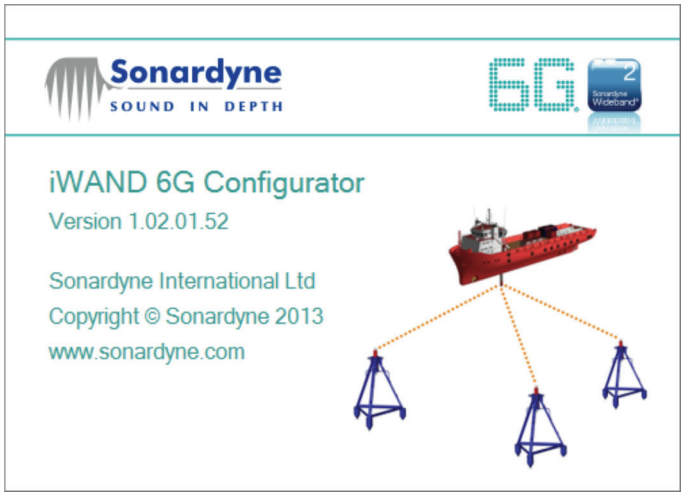
1. Refer to **Figure 6-28**. From the toolbar select **Help** > **About**.

Figure 6-28 – About the 6G Configurator Software



2. An information screen will appear detailing all information about the version and date of the 6G Configurator Software.

Figure 6-29 – 6G Configurator Information



SECTION 7 – ADVANCED USER OPTIONS

7. Manual Commands

The following manual commands guidelines must only be used by Sonardyne Qualified Engineers, or under instruction from the Sonardyne Support Team.

CAUTION

Using these instructions without the correct training or instruction could cause the iWAND to malfunction or cause damage to an instrument.

Activating manual commands uses the iWAND outside its normal operational capabilities.

7.1 Operating Manual Commands

When using the iWAND in manual commands the acoustic transducer of the iWAND must maintain contact with the transducer of the instrument to enable communication.

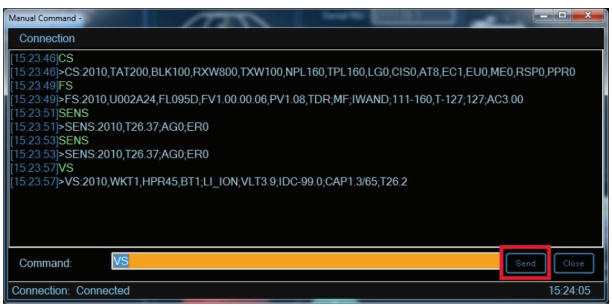
To activate manual commands proceed as follows:

1. Select **Configuration** > **Manual Commands** from the main toolbar in the 6G Configurator software.

Figure 7-1 – Activate Manual Command

2. The manual commands screen will appear. Typing a command in the command bar then pressing **Send** will send a command to the instrument.

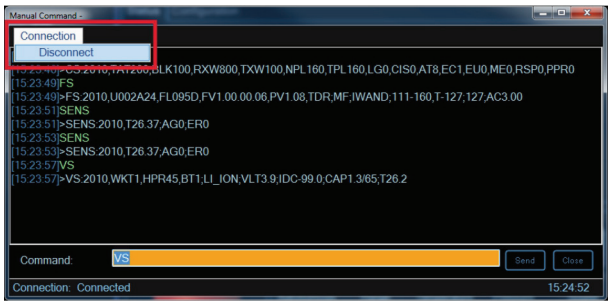
Figure 7-2 – Sending a Manual Command



3. The command message and receipt will appear in the main screen.

4. It is possible to disconnect from a port using the manual commands. To disconnect from the port select **Connection** > **Disconnect**.

Figure 7-3 – Disconnect Manual Commands



5. To exit Manual Commands click the ‘X’ at the top right of the screen.

SECTION 8 – FAULT FINDING

8. Fault Finding

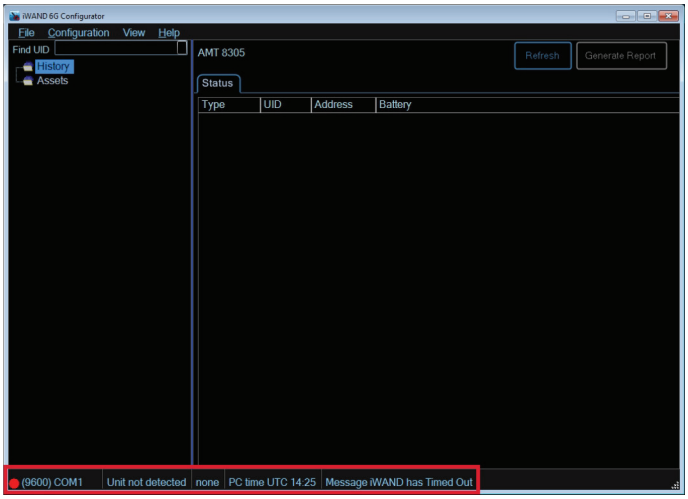
If difficulties are encountered when using the iWAND it may be necessary to carry out fault finding. The following are possible faults and the actions to be taken.

8.1 No Communication between the iWAND and the 6G Configurator Software

If no communication is found between the iWAND and the 6G Configurator software proceed as follows:

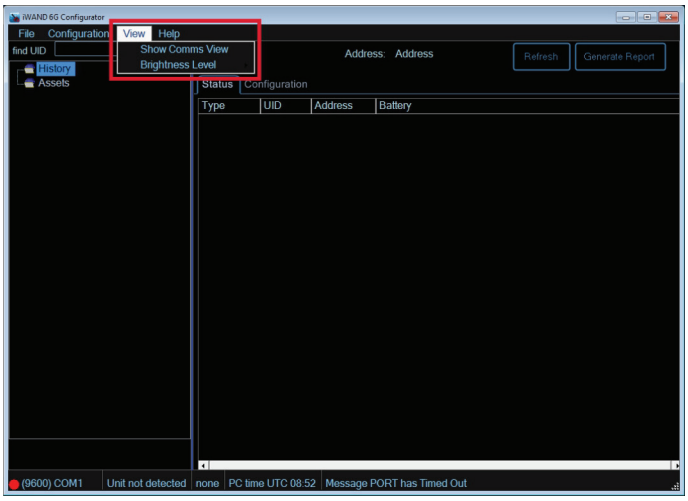
1. The iWAND is not connected to the 6G Configurator software if a red dot is displayed at the bottom left hand corner of the screen.

Figure 8-1 – Connection Failed between iWAND and 6G Configurator Software



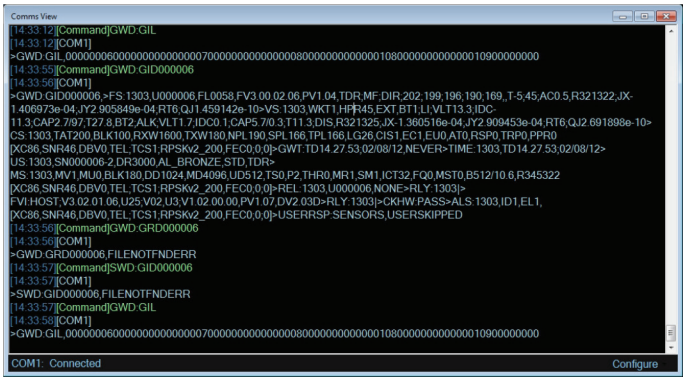
2. In the 6G Configurator software toolbar select **View** > **Show Comms View**.

Figure 8-2 – Show Comms View



3. The Comms View window will appear and show all communications between the iWAND and the 6G Configurator software.

Figure 8-3 – View Comms screen



4. If no communication is found between the iWAND and the software, check all connections if using the serial or USB connection method. If an attempt is made to connect using the iWAND and PC Bluetooth, make sure the iWAND Bluetooth is switched on (refer to the iWAND manual – UM-8315), and make sure the iWAND Belkon Bluetooth dongle is installed in the PC.

5. Reboot the iWAND by switching the iWAND off, then back on again.

6. If no solution is found for the failed connection contact Sonardyne Support Team.

GLOSSARY OF TERMS

Term	Definition
Acoustic Responder	An instrument that emits an acoustic signal in response to an electrical signal carried to it by cable.
Acoustic Signal	Information carried by sound pressure waves through water. The Sonardyne acoustic signal has a finite length.
Acoustic Transceiver	An instrument that emits and receives acoustic signals, and extracts information from them. Transceivers can measure the time it takes a signal to travel from its transducer to a transponder and return. Some can encode and send data in a message and extract digital data from a message (Acoustic Telemetry). Used on a surface vessel or to mark a point on the seabed, or fixed to a mobile for tracking or positioning.
Acoustic Transducer	A device that converts electrical signals into acoustic signals and vice versa.
Acoustic Transponder	An instrument that emits an acoustic signal when it detects an interrogating acoustic signal.
Acoustic Transponder (Intelligent Transponder)	A type of transponder that is managed by a micro-controller. Examples include the COMPATT (COMPuting And Telemetry Transponder) and the WMT (Wideband Mini Transponder). Depending on supported functionality it can: Decode acoustic telemetered commands from a transceiver and can send telemetered data to the transceiver. It can measure the distance between itself and other transponders and then telemeter the data to a transceiver. It can be capable of measuring its depth and the temperature of the water. It can be used to measure a variety of underwater parameters and telemeter these back to the surface. It can be used, as an intelligent angle-measuring device, in a Riser Angle Monitoring System. It can be fitted with a release mechanism so it can return, on command, back to the surface e.g. if battery power is low.
CIS	Common Interrogation Signal. Multiple transponders can be set to reply to a single common interrogation signal - this can increase the efficiency of tracking operations as it reduces the number of acoustic interrogations in the water. When transponders are set to respond to a common interrogate signal they will respond on their Individual Reply Signal.
COMPATT	COMPuting and Telemetry Transponder (see Acoustic Intelligent Transponder)
CPU	Central Processing Unit
DAS	A micro-controlled data acquisition and logging sub-assembly located within a transponder.

Term	Definition
Delay between commands	Provides a delay between adjacent commands.
Firmware	The firmware installed on the transponder. Firmware upgrades can be installed via WSM Terminal. The Tx firmware refers to the transmission signal synthesiser.
Global Positioning System (GPS)	A multi-user, 24-hour, worldwide radio navigation system using the NAVSTAR constellation of satellites. GPS receivers are capable of tracking and decoding data from the satellites and using it to compute the position and velocity of a vehicle.
HPR	Hydroacoustic Position Reference. System comprising both a transmitter (transducer) and a receiver (transponder). A signal (pulse) is sent from the transducer, and is aimed towards the seabed transponder. This pulse activates the transponder, which responds immediately to the vessel transducer. The transducer, with corresponding electronics, calculates an accurate position of the transponder relative to the vessel.
Long Base Line Positioning System (LBL)	A system where two or more transponders are on the seabed. The positions of the transponders are established by a calibration process in a seabed frame. The distances from a transducer to each transponder are measured using a transceiver. The position of the transducer can be computed in the seabed frame. The name comes from the “baselines” joining each transponder.
LUSBL	Long and Ultra Short Base-Line. A hybrid of an LBL and USBL system. It utilises USBL equipment in an LBL configuration.
Serial Communications Wait	The maximum time allowed for the Transponder to reply to an RS232 command.
SSM	Super Sub-Mini Transponder (WSM predecessor)
UID	Unique Identification number. It is the unique identification of the instrument and is electronically coded into the instrument firmware.
Ultra Short Base Line Positioning System (USBL\)	A system similar to an SBL system except the system uses three or more elements in a single transducer array. The measurements it makes are the differences in “time-phase” of the signals from each element. The co-ordinate frame is fixed to the transducer array which must be oriented in the vessel frame to be equivalent to the SBL.

Global Headquarters, UK
Blackbushe Business Park
Yateley
Hampshire
GU46 6GD, UK
T. +44 (0) 1252 872288
F. +44 (0) 1252 876100
sales@sonardyne.com

Houston, USA
8280 Willow Place Drive North
Suite 130
Houston, Texas
77070 USA
T. +1 281 890 2120
F. +1 281 890 7047
usa.sales@sonardyne.com

Rio das Ostras, Brasil
Av. Zen lotes 05 e 06
Quadra D
Zen, Rio das Ostras – RJ
CEP 28.890-000, Brasil
T. +55 22 2123 4950
F. +55 22 2123 4951
brasil.sales@sonardyne.com

Aberdeen, UK
Units 12–14,
The Technology Centre
Claymore Drive
Bridge of Don, Aberdeen
AB23 8GD UK
T. +44 (0) 1224 707875
F. +44 (0) 1224 707876
sales@sonardyne.com

Singapore, Asia
34 Loyang Crescent
Block B
Singapore
508993
T.+65 6542 1911
F. +65 6542 6937
asia.sales@sonardyne.com

24/7 Emergency Helpline
T. +44 (0) 01252 877600

Email Support
support@sonardyne.com

Website
www.sonardyne.com