

## Release Notes

<b>Product/software Name:</b>	Marksman, Ranger 2, Mini-Ranger 2
<b>Version</b>	4.06.02.5802

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### 1 General Information

#### 1.1 Contents

- Version History
- Installation Notes
- System hardware and firmware requirements
- Known Problems and Limitations
- Contact Information

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#### Note

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A copy of this Version History is included in the software distribution and should be read before use. Major changes between versions and a current list of known problems / limitations are listed here. The changes below are listed in reference number (PPR number) order.

## 2 Version History

**Marksman LUSBL and Marksman MRAMS V4.06.02.5802 changes**

**Mini-Ranger, Ranger 2 and Ranger 2 Pro V4.06.02.5802 changes**

### Note

**This is the last planned version that fully supports Sonardyne 5G hardware. Please contact Sonardyne Support for guidance.**

Number	Summary
29613	\$PASHR Decoding has been relaxed to allow Non-Standard Use of the $\pm$ Sign
29542	A problem with Attitude Correction on Mini-Ranger2 systems has been corrected

**Marksman LUSBL and Marksman MRAMS V4.06.01.5689 changes**

**Mini-Ranger, Ranger 2 and Ranger 2 Pro V4.06.01.5689 changes**

Number	Summary
28983	The Magnetic Heading Offset was not applied correctly for the HPT3000 internal Compass - this has been corrected
28863	A temporary loss of connection to the HPT3000 could lead to Compass and Tracking failure - this has been fixed
28824	The 196dB Transmit Power Limit on LMF systems has been removed
28297	Remote Control "Get" Command was not returning all Parameters - this has been fixed
28248	The Security Tool was not handling old (V1) Dongles correctly - this has been fixed
28236	Default Beacon Power and Gain Settings for QuickTrack, Remote Control have been centralised in Tools\Options\Acoustics
28223	The Remote Control Interface now allows selection of Tracking Mode, Transceiver Power and Gain, PPD Mode, Sound Speed, Time Sync Window, and a UI Lockout
28025	Telemetry Tracking Common Interrogate Mode added to support Multiple Targets. NOTE: This supersedes the previous SMS Tracking scheme. Client System changes may be required.
28023	The "Mini-Ranger2 Robotics" Product Variant has been introduced
27988	Telemetry Tracking now makes 3 Spare Bytes available to the User in the 2-way SMS Messages
27891	Vessel Position is now updated at GNSS Rate regardless of Acoustic Update Rate
27671	When running on Windows 10, the Software crashed after connecting to the NSH - this has been fixed
26930	Vehicle Shapes now include USV, AUV and Towfish
26875	Depth Aiding has been added to the SPRINT Aiding Telegram
26872	Timestamps on GGA and SSB Output Telegrams were inaccurate during High Speed Vessel Manoeuvres - this has been corrected
26443	Telemetry Tracking is now fully supported on GyroUSBL systems

24494	Remote Control can now Delete any Object
23976	A Tool to Synchronise Beacon Clocks to the Transceiver Clock is now included
22863	Support for the Deep Marker Beacon (DMB) has been added
22693	A tracking problem with SST Beacons on Primary Address 21 has been fixed

### Marksman LUSBL and Marksman MRAMS V4.05.02.5257 changes

#### Mini-Ranger, Ranger 2 and Ranger 2 Pro V4.05.02.5257 changes

Number	Summary
27695	A Resource Management problem seen when repeatedly Adding/Removing Beacons via Remote Control has been fixed
27690	The User can now set the Power and Gain for Beacons added via Remote Control (default is Low/Auto)
26467	A problem which stopped Simulated Output Telegrams unless they were in World Frame has been fixed
26433	The NANO Transponder is now supported with full Acoustic Telemetry to ensure correct setup
25191	A Simulate problem with the SSB Sprint Telegram has been fixed

### Marksman LUSBL and Marksman MRAMS V4.05.00.5196 changes

#### Mini-Ranger, Ranger 2 and Ranger 2 Pro V4.05.00.5196 changes

Number	Summary
26448	The HPT Reset Sequence has been improved
26316	Decoding of GGA string was enhanced to accept PPP solution type in place of differential reference station ID
26224	WSM Beacons have been given access to all available Signals
26117	Output Telegram Position Reports were occasionally formatted incorrectly - this has been fixed
26105	An Exported Job did not contain the Stylesheet Header - this has been fixed
25767	Support for the Javad NMEA-like ASCII AHRS has been added
25724	Manual Atmospheric Pressure Compensation for Depth Measurements is now available
25421	The Mini-Ranger 2 HF Product has been introduced with support for OBC Beacons
25181	A Firmware Download Tool has been added for Ethernet Transceivers
24951	The PAN Port can now operate over a Network using UDP
24840	Tracking has been improved for highly tilted GyroUSBL Transceivers
22864	Support for the Nano Transponder Beacon has been added
22756	The Time of Arrival of a ZDA Telegram relative to the PPS edge is now checked and an Alarm is raised if needed
21902	The Timestamp in a GGA Telegram is now checked and an Alarm is raised if its Latency is too high

**Marksman LUSBL and Marksman MRAMS V4.04.01.5011 changes****Mini-Ranger, Ranger 2 and Ranger 2 Pro V4.04.01.5011 changes**

Number	Summary
24762	In 5G systems with Dual Transceivers, a rare Transceiver Failure could lead to Data Loss from the other Transceiver - this has been fixed
24609	Mini-Ranger 2 now supports the WSM6+, WRT and WMT by default
24608	A problem with using the AHRS Alignment Tool for separate Pitch/Roll and Heading devices without Time Sync has been fixed
24536	Support for a new Mobile Tracking Mode when using SMS Telemetry through the PAN port has been added
24498	Support for the 'Ranger 2 Survey' product has been added
24450	The Noise Plot Waterfall Display Colours have been corrected
24434	Tracking is now Held Off while Releasing a Beacon
24304	Remote Control now supports adding OBC Beacons
24283	Mini-Ranger2 Tools Menu now offers an ESH Firmware Download Tool
24210	Waypoint Watch Circles now support Warning and Alarm Levels (shown in Amber and Red on the Chart)
24063	The Output Telegram Index can optionally be Non-Unique
23990	A Position Difference between 1-way and 2-way Ranging with Depth Aiding has been corrected
23947	Override UI Lock now offers a 30-minute option
23772	A problem with the Manual Depth option on a Surface Vessel has been fixed
23639	Basic Windows 10 Support is included - see Installation Notes
23396	The Beacons Table now shows Compatt Activity Time settings
23393	The SSB Telegram is now optionally available for Subsea Vehicles
23361	SST Reply Signals are now listed as 1-16 instead of 1-9 and A-G
23292	Remote Control 'Add Beacon' can now set the Output Telegram default Frame of Reference, Source and Orientation
22935	The Beacons Table 'Beacon Name' now shows 5 characters for the Prefix
22933	The Beacons Table now provides a Get Sensor Data function
22603	Filezilla FTP Software has been added to the Install DVD
22596	Support for the Compatt 6 Mega Beacon has been added
22590	Support for the PGT6 Beacon has been added
22445	Support for the WRT Beacon has been added
21938	Output Telegrams are now Automatically enabled for new Mobile Beacons
21936	A new Quick Track Tool offers Single-Click Operation of 6G Beacons
21805	Start Tracking for Mobiles when using a Sound Speed Profile, has been improved

21556	PERSONALL was not reporting Beacon Pitch, Roll and Heading correctly
20248	A Tracking problem on systems without an NSH has been fixed
18777	A dedicated Output Telegram has been created for enhanced SPRINT Performance
9575	An NSH Firmware Download Tool has been added

### Marksman LUSBL and Marksman MRAMS V4.03.01.4896 changes

#### Ranger 2 and Ranger 2 Pro V4.03.01.4896 changes

Number	Summary
24599	A problem with the AHRS Alignment Tool when using separate Pitch/Roll, Heading Devices and not Time Synced has been fixed
24528	The ability to set the DP Telegram Fixed Reference flag in Ranger 2 has been restored
24470	Menu items were occasionally greyed out - this has been fixed
24468	The PAN Port was sometimes losing its Transceiver setting on Start-up
24135	The alignment of Time between the HPT Transceiver and UTC has been improved

### Marksman LUSBL and Marksman MRAMS V4.03.00.4816 changes

#### Ranger 2 and Ranger 2 Pro V4.03.00.4816 changes

Number	Summary
23904	Characters such as "/" are no longer accepted in Device Names
23440	Adding a Beacon by Remote Control could occasionally fail - this has been fixed
23403	The HPT Firmware Downloader has had some Speed and Reliability improvements
23342	A Job Name could revert to 'JOB' after a Dongle change - this has been fixed
23309	A 'Waterfall' view of the Noise Plot has been added to show how noise varies over time
22918	The PPS setting for Pulse Before/After has been removed as this is now set automatically
22893	The minimum NSH Firmware Version for this version is now V2.0.0.101
22859	For Time-Synchronised Systems using NSH_Time_Sender/Receiver, the PPS signal is no longer needed, just the ZDA
22691	The Interrogation Signals for some SST Addresses were incorrect - these have been fixed
22604	A new Tool for Import of Waypoints has been added
22350	A problem seen when tracking one ROV from another ROV if GPS is enabled has been fixed
21939	The Ruler Tool within the Navigation Chart now shows Slant Range
21915	The ability to change the Channel of a PGT or HPR Beacon in the Beacon Table has been restored
21789	The Ignore/Retry/Cancel Buttons shown after Failed Operations are now shown Highlighted
21764	Tools/Options now includes a 'Disable Fast Tracking' switch for simple applications not requiring Interleaved Cycles
21492	The Depth reported for an ROV in a 309 Telegram has been corrected

21178	Support for WSM6+ Beacons has been added
21122	A Calibration feature has been added to the ERA Tool
20720	The Mini-Ranger2 Product is now supported
20703	Waypoints can now be entered in Latitude/Longitude
20702	The Array Planning Tool now defaults the Array Centre to the Current Vessel Position
20701	The Array Planning Tool supports Array Coordinates in Latitude/Longitude
20590	Array Calibration is no longer available by default in Ranger 2 and Ranger 2 Pro
20589	Support for the Ranger 2 DP product is introduced
20458	The \$PASHR Time-tagged AHRS Telegram is now supported
20176	The System Auto Start option can now be switched Off/On in Tools/Options Menu
19307	A Disk Clean-up Tool has been added - see Tools/Maintenance
18829	The number of System PAN Ports is no longer restricted to one
18738	Beacon Diagnostics (XC, SNR, SL, dBV) have been added to the Time Series Plot Tool
18392	USBL Diagnostics (Jx, Jy, QjSum) have been added to the Travel Time Plot Tool
15487	The Positions Panel now includes a Cycle-by-Cycle Ranging Status Display
12162	The User can now Hide/Show entries in the User Interface Menus - see Tools/Options/Menu

## 3 Installation Notes

### 3.1 General

1. **Before upgrading,**
  - a. take a note of all devices, ports, offsets, etc for System Setup
  - b. all applications should be closed
  - c. any antivirus software should be temporarily disabled
  - d. any previous versions of the application must be uninstalled from the target computer.
2. Telemetry Tracking payload format and protocol has changed in this version. Client systems will need to be updated. Contact Sonardyne Customer Support for more details.
3. This software should only be installed on a computer running **Windows7** or **Windows 10** (32-bit or 64-bit) (UK English version) with English regional settings. Installation on other versions of Windows is not recommended.
4. A dedicated **Sonardyne Navigation Computer** running Windows 7 is recommended for best performance.
5. For installation on **Windows 10**, .NET Framework 3.5 is required and is not present by default. The guidance note 'Microsoft .NET Framework 3.5 Deployment consideration.rtf' is included on this installation media under Utilities\Windows 10 folder, which details how to install or enable it. (You must be connected to internet or have Windows 10 installation media to enable it).
6. There is no need to uninstall the prerequisite installation **MS SQL Server 2005 Express SP3**, however should this program be removed, then ensure all of its child installations are also removed. These include as named in 'Add or Remove Programs', Microsoft SQL Server 2005/Native Client/Setup Support Files (English)/VSS Writer. Please ensure that existing database files are

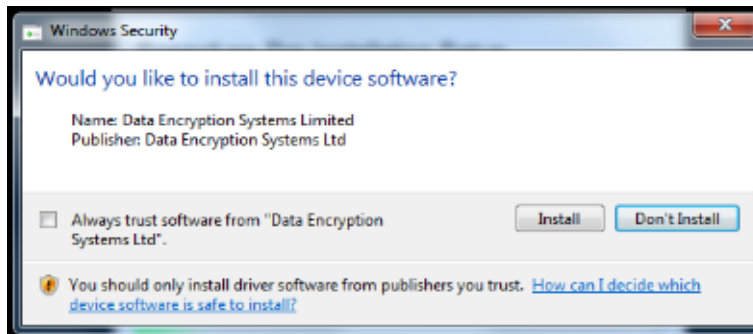
removed from the SQL Server folder structure prior to a re-installation. This will ensure a successful re-installation.

7. If the installer detects **SQL Server** 2005 was previously installed on the machine, it may not handle the installation of a Sonardyne instance correctly. In that case, please contact Sonardyne Support.

8. If the installation fails due to **SQL Server** 'unable to connect' or 'access is denied', please contact Sonardyne Support.

9. Should you need to update your security key, then please use the Sonardyne **Security Tool**, select 'Request Update' and send the resulting security key code, reference code and details of the required update to the Sonardyne Support team using the email address [support@sonardyne.com](mailto:support@sonardyne.com).

10. If the user sees the following **Deskey installer** dialog, please select the checkbox and then click install. This installs Deskey drivers, which are required by our software.



11. On successful startup, it is recommended that a new **System Setup** is created using the Setup information recorded at the top of this note.

12. If during installation the following error is seen: "*Setup.exe - Application Error - The application failed to initialize properly (0xc0000135). Click on Ok to terminate the application*" then please follow the .NET 3.5 guidance note above.

13. If running on Windows XP, this software requires Service Pack3 (SP3) as a minimum. This is not automatically installed by the installer as this may contravene your local IT policy; however both SP2 and SP3 have been included on the DVD under the Utilities folder so they can be installed manually.

14. Please note that there may be significant differences in the User Interface when running on Windows XP, Windows 7 and Windows 10. Please consult the User Manual for guidance.

### 3.2 Installing a Patch Version

- Make sure the user running the installation has admin rights on the pc.
- Install the formally released version from the DVD/ISO image.
- Always run the installer and the patches by right clicking and selecting "Run as an Administrator".
- You might need the DVD in the DVD drive if running subsequent patches.

## 4 Dependencies

### 4.1 Hardware Requirements

Sonardyne Navigation Computer is highly recommended.

The following hardware requirements should be used as a guideline if the software is to be installed on a computer other than the Sonardyne supplied Navigation Computer:

#### Minimum recommended spec:

- i7 2.8GHz processor
- 8/16 GB RAM
- 17" Monitor
- Graphics card 32-bit colour, minimum 1280 x 1024, Direct-X V10 or later
- 320 GB SSD or hard disk
- 4 USB Ports
- Minimum 3 serial ports (if running simulation)

### 4.2 Software Requirements

#### Minimum recommended spec:

- Windows 7 or later (UK English)
- Microsoft Internet Explorer 9 or later

### 4.3 Firmware

The following instrument firmware versions have been tested with this software version. As a minimum, these firmware versions must be installed in each component when used with this version:

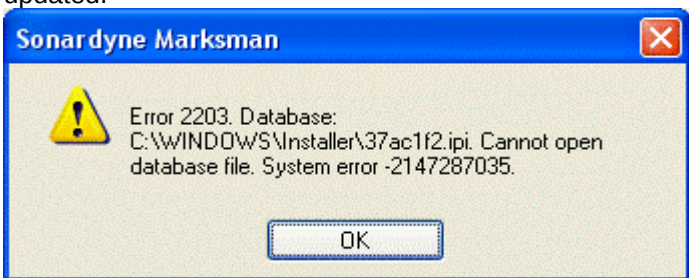
Instrument	Firmware Version
Navigation Sensor Hub (NSH)	2.0.3.107
ESH (System Manager/Webserver)	Rel1_RevD_3*
6G USBL Transceiver (type 8142, type 8212, type 8221)	3.09.03.00***
Compatt 6 CPU	3.05.13.11
Compatt 6 DAS	2.06M
WMT/AvTrak6	3.09.00.14
WSM6+	3.05.00.04
Nano transponder	3.09.00.03
ROVNav 6	3.05.06.12/2.06M
Lodestar INS	3.02.00.1006
Lodestar AHRS(Surface)	2.08.00
5G USBL Transceiver (type 8021 and 8023)	8.08.00.02
Compatt 5	10.12c/3.08A
ROVNav5	8.07.02/2.04D
BOP AVC	2.04.02.06

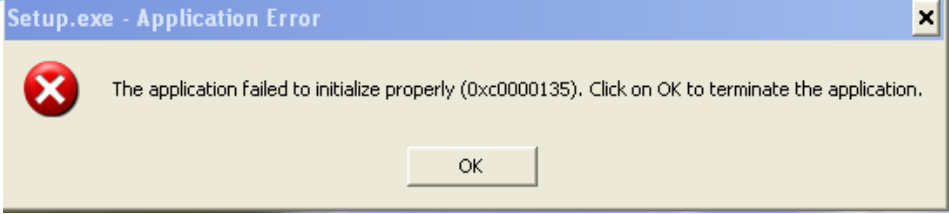

\* Updating the ESH via the SWU deletes all existing log files on the ESH.

\*\*\* HPT's with serial numbers prior to 280000-001 may have old bootloaders which will need upgrading prior to any software / firmware update. See Technical Bulletin TB15-001 for guidance.



## 5 Known Problems

Number	Problem
-	Disabling/Enabling of the PC's network interface card while the Navigation Software application is running can result in loss of time synchronisation to the NSH or ESH. Please shutdown and restart the software to recover from this situation.
-	If the user sees a Windows dialog warning about potentially harmful programs when making a software configuration change, it is recommended to set Windows to 'Never Notify'. See ' <b>Control Panel/User Accounts/Change user account control settings</b> '.
-	When installing a new video display screen or making configuration changes to the screen resolution, this software does not automatically reconfigure itself to suit the new layout. Please shutdown and restart the software to force a refresh.
18338	<p>Occasionally it has been observed that the uninstall fails with an error similar to "Cannot open database file. System error -2147257035". Windows installer may be need to be updated.</p>  <p>Try and disable your antivirus and re-try to uninstall again. Otherwise, please contact Sonardyne Support for assistance.</p>
11303	The Main UI Position Display does not change when NorthUp/BowUp/SternUp is selected on the Chart (when frame of reference = Ship)
11102	This software does not support IPV6 at this time – this must be disabled in Windows
-	<p>RovNav5 support is limited to:</p> <ul style="list-style-type: none"> <li>o "implied responder" only</li> <li>o single transducer on port 1</li> <li>o fixed vehicle update period of 2 seconds</li> <li>o fixed High Power</li> <li>o no LBL tracking within an array</li> </ul>
-	Use of the NSH chassis on a shared network where there are other potential PTP time sources is not recommended at this time
-	This version has not been verified using USBL transceiver tilt adaptors.
18669	Due to a bug in Windows 8, some parts of the User Interface are drawn with white instead of black background.

-	 <p>This happens on machines without .Net Framework 3.5. To install it, please run 'dotnetfx35.exe' found on the DVD under folder structure Installers\UnifiedInstallerR2MM\{074EE22F-2485-4FED-83D1-AAC36C3D9ED0}</p>
-	<p>You cannot type your password in the “Welcome” logon screen in Windows XP. To work around this problem when it occurs, temporarily use the classic logon screen to log on. To do this, follow these steps:</p> <ol style="list-style-type: none"> <li>1. Press CTRL+ALT+DEL two times while the Welcome screen is displayed. For example, press all three keys at the same time, release all three keys, and then press the three keys again.</li> <li>2. Type your account name in the User name box.</li> <li>3. Type your password in the Password box.</li> <li>4. Click OK.</li> </ol>  <p>Source: <a href="http://support2.microsoft.com/kb/917556">http://support2.microsoft.com/kb/917556</a></p>
26083	<p><i>“This application has failed to start because XmlLite.dll was not found. Re-installing the application may fix the problem.”</i></p> <p>If the above message is shown after starting the installer, then install XP SP3. XP SP3 can be found on the installation media in the Utilities folder.</p>

## 6 Contact Information

For further support please contact:

**24/7 Emergency Helpline**

T. +44 (0) 1252 877600

**Email Support**

[support@sonardyne.com](mailto:support@sonardyne.com)

**Website**

[www.sonardyne.com](http://www.sonardyne.com)