



Marksman & Ranger 2 Release Notes 6.02.03



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6.02.03

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
HPT	4.02.01.01
MRT	1.00.04.05
NSH	2.00.03.107
ESH	1.00.07.00
Lodestar	3.02.01.1019
C6/GyroC6	3.12.07.13
WSM6+	3.05.00.04
RN6	3.05.06.12
WMT	3.12.02.02
PGT6	3.05.09.07
SST6	1.00.04.01
Marker 6	1.00.04.03
DART	3.02.02.11
AVC	2.04.02.06
iWand	1.01.01.05

New Features

Summary

Functional Area	Ref	Description

Bug Fixes

For more details on any of the fixes below please contact Sonardyne customer support

Functional Area	Ref	Description
Tracking	MMR2-34304	HPT3000 AHRS offsets not being applied
CASIUS	MMR2-34303	Export button in CASIUS saving results incorrectly to mini Ranger 2 and GyroUSBL transceivers.



6.02.01 (micro Ranger 2 only)

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
MRT DSP (CPU)	1.00.04.05
ESH	3.00.11.46 (REL1_REVD)
ESH2	1.00.07.00
WSM6+	3.05.00.04
WMT / AvTrak6	3.12.01.06
NANO	3.09.00.04
RT6	1.00.07.02
Marker 6	1.00.04.03
IWAND	1.00.03.13

New Features

Summary

Functional Area	Ref	Description
System Configuration	RM2-31388	Support UDP ZDA input
Remote Control	RM2-33091	Provide remote control of CASIUS data collection.
Remote Control	RM2-33407	Allow CASIUS offset to be applied to the job
Remote Control	RM2-33092	Provide simple manual command over remote control link
Remote Control	RM2-33093	Provide Async subscription to SMS payloads received from beacons.
Remote Control	RM2-33095	Add control of sound speed source
Remote Control	RM2-33099	Allow ASYNC data to be published when Remote Control is not enabled
Remote Control	RM2-33456	CIS SMS publishing of all messages fails on single range no reply
Remote Control	RM2-33094	Provide remote control to set beacons properties
Remote Control	RM2-33096	Remote operator needs to be able to add a sound speed profile
Remote Control	RM2-33438	Add async data subscription to MDFT diagnostic data
Remote Monitor Client	RM2-33104	Add display of secondary vehicles to the "Positions" tab
Transceivers	RM2-33435	Support new MRT version with variable power levels.
Data Analysis Tool	RM2-32799	Add the ability to overlay LSQ and Kalman filter positions
Data Analysis Tool	RM2-32800	Add the ability to view ship frame east/north positions
Data Analysis Tool	RM2-33271	Add range period and user transaction time series displays.
Data Analysis Tool	RM2-33502	Add position quality plot, and a CSV export of data
Tracking	RM2-33701	Resolve discrepancy between raw and filtered tracking
Tracking	RM2-33282	Relax MRT direction protection limit
Tracking	RM2-33996	Add protection against impossibly slow sound speeds



RM2-31388 Support UDP ZDA input

It is now possible to add a ZDA time instrument over UDP. Without a PPS input this only approximately aligns system time to UTC.

RM2-33091 Provide remote control of CASIUS data collection

The remote operator can now control the collection of CASIUS calibration data via the remote-control interface. Refer to Sonardyne customer support for an up to date version of the Remote Control Protocol specification.

The Synchronous Status messages to control CASIUS data collection all have the following form:

```
<RemoteControl ProtocolVersion="1.5">
  <Set>
    <Job>
      <CASIUS Action="START LEG" />
    </Job>
  </Set>
</RemoteControl>
```

The Synchronous Status acknowledgement that the command has been received is then:

```
<RemoteControl ProtocolVersion="1.5">
  <SynchStatus>
    <Job RemoteControlEnabled="true">
      <CASIUS Action="START LEG" />
    </Job>
  </SynchStatus>
  <Errors />
</RemoteControl>
```

Similar commands exist to "**STOP LEG**" when a manoeuvre is complete, and then "**SAVE LEG**" to store it, or start a new leg to over-write an unsaved leg. Commands then exist to "**REQUEST LEGS**", "**SELECT LEGS**" and "**EXPORT**". These commands exactly mimic the operations that can be triggered via the Ranger 2 CASIUS dialog. The export command generates a CASIUS file and sends its location to the remote interface. This file then needs to be collected by the remote user and processed by CASIUS.

RM2-33407 Allow CASIUS offset to be applied to the job

Once the CASIUS calibration files has been extracted, and new alignment corrections estimated they can be sent to the Ranger 2 system with the following command:

```
<RemoteControl ProtocolVersion="1.5">
  <Set>
    <Job>
      <Objects>
        <Object Type="Transceiver" UID="m6xJkTTomyc">
          <Properties TcrvToShipCorrectionPitch="0.1"
            TcrvToShipCorrectionRoll="0.2"
            TcrvToShipCorrectionHeading="0.3" />
        </Object>
      </Objects>
    </Job>
  </Set>
</RemoteControl>
```



The Ranger 2 system will confirm the corrections have been applied with the following message:

```
<RemoteControl ProtocolVersion="1.5">
  <SynchStatus>
    <Job RemoteControlEnabled="true">
      <Objects>
        <Object Type="Transceiver" UID="m6xJkTTomyc" Name="Transceiver 1">
          <Properties TcrvToShipCorrectionPitch="0.1"
            TcrvToShipCorrectionRoll="0.2"
            TcrvToShipCorrectionHeading="0.3" />
        </Object>
      </Objects>
    </Job>
  </SynchStatus>
  <Errors />
</RemoteControl>
```

Note

The updated CASIUS calibration corrections will be immediately applied and may cause beacons that are currently being tracked to change position.

RM2-33092 Provide simple manual command over remote-control link

Using the Remote-Control interface, it is now possible to send manual commands.

For example, to send the command "CS:2402" from the transceiver in the Job with UID="m6xJkTTomyc", sending the following XML command will initiate the command:

```
<RemoteControl ProtocolVersion="1.5">
  <DeviceAction>
    <Job>
      <Objects>
        <Object Type="Transceiver" UID="m6xJkTTomyc">
          <Action ActionType="MANUAL COMMAND" Command="CS:2402" />
        </Object>
      </Objects>
    </Job>
  </DeviceAction>
</RemoteControl>
```

Ranger 2 will then acknowledge the command with the following Synchronous Status reply:

```
<RemoteControl ProtocolVersion="1.5">
  <SynchStatus>
    <Job RemoteControlEnabled="true">
      <Objects>
        <Object Type="Transceiver" UID="m6xJkTTomyc" Name="Transceiver 1">
          <Action ActionType="MANUAL COMMAND" />
        </Object>
      </Objects>
    </Job>
  </SynchStatus>
  <Errors />
</RemoteControl>
```



When the reply is received from beacon 2402 it will be delivered as an Asynchronous status message:

```
<RemoteControl xmlns:xml="http://www.w3.org/XML/1998/namespace" ProtocolVersion="1.5">
  <AsynchStatus>
    <DeviceStatus>
      <Device UID="m6xJkTTomyc=" Name="Transceiver 1" Type="Transceiver" ActionType="MANUAL COMMAND"
        Result="Success" TimeOfValidity="14/11/2019 13:20:18"
        CommandReply=">CS:2402,TAT160,BLK100,RXW4800,TXW100,NPL187,TPL187,LG26,CIS7,AT8,EC1,EU0,ME
          0,RSP0,PPR0,R1542158;JX-9.441086e-05;JY3.739819e-05;RT10;QJ1.453502e-
          16[XC96;96;96;96;96,SNR80;80;80;80;80,DBV-16;-16;-16;-16;-16,IFL25,TTF1703158] "/>
      </DeviceStatus>
    </AsynchStatus>
  </RemoteControl>
```

RM2-33095 Add control of sound speed source.

It is now possible to Get a list of profiles that exist on the system, Set which profile to use or Add a new profile.

The command to Get the list of profiles is:

```
<RemoteControl ProtocolVersion="1.5">
  <Get>
    <Job>
      <Environmental SoundSpeedProfiles="" />
    </Job>
  </Get>
</RemoteControl>
```

The response contains a semi-colon separated list of profile names that currently exist on the system:

```
<RemoteControl ProtocolVersion="1.5">
  <SynchStatus>
    <Job Name="SINGLEJob" Description="" State="Loaded" AcousticTracking="Active" RemoteControlEnabled="true"
      TimeSyncWindowSeconds="5.0" TimeSyncOffsetSeconds="2.5" IsTimeSynchronized="false">
      <Environmental SoundSpeedProfiles="Auto;20200126_0057;DefaultProfile;DemoA;DemoB" />
    </Job>
  </SynchStatus>
  <Errors />
</RemoteControl>
```

The command to Set which profile to use:

```
<RemoteControl ProtocolVersion="1.5">
  <Set>
    <Job>
      <Environmental SoundSpeedProfile="20200126_0057" />
    </Job>
  </Set>
</RemoteControl>
```

The response is then:

```
<RemoteControl ProtocolVersion="1.5">
  <SynchStatus>
    <Job RemoteControlEnabled="true">
      <Environmental SoundSpeedProfile="20200126_0057" />
    </Job>
  </SynchStatus>
  <Errors />
</RemoteControl>
```




RM2-33093 Provide Async subscription to SMS payloads received from beacons.

Users wishing to subscribe to Sonardyne Messaging Service (SMS) messages from their transceiver can now enable a subscription over the remote-control link that will trigger them to be reported as Asynchronous Status messages.

To subscribe to SMS messages from the transceiver in the Job with UID="m6xJkTTomyc=", send the following XML command:

```
<RemoteControl ProtocolVersion="1.5">
  <Set>
    <Job Type="Transceiver" UID="m6xJkTTomyc=" EnableSmsSubscription="True" />
  </Set>
</RemoteControl>
```

Ranger 2 will then acknowledge the command with the following Synchronous Status reply:

```
<RemoteControl ProtocolVersion="1.5">
  <SynchStatus>
    <Job RemoteControlEnabled="true" EnableSmsSubscription="true" />
  </SynchStatus>
  <Errors />
</RemoteControl>
```

When an SMS message is received, it will be delivered as an Asynchronous status message:

```
<RemoteControl xmlns:xml="http://www.w3.org/XML/1998/namespace" ProtocolVersion="1.5">
  <AsynchStatus>
    <DeviceStatus>
      <Device TimeOfValidity="14/11/2019 15:03:21"
        CommandReply=">U001234,SMS:2401,SQ9918,R1318761;JX-1.100578e-04;JY-1.961492e-
        05;RT10;QJ5.053706e-17[XC99;99;99;99,SNR80;80;80;80,80,DBV-10;-10;-10;-10;-
        10,IFL25,TTF2439761] ">
    </DeviceStatus>
  </AsynchStatus>
</RemoteControl>
```

RM2-33099 Allow ASYNC data to be published when Remote-Control is not enabled

In previous versions, Asynchronous data was only published when the Remote-Control device was enabled. While changes to the Ranger 2 system can only be made while the device is enabled, data will now continue to be published.

RM2-33411 Allow external heading to be used in remote-control CASIUS

A fault in previous versions of Ranger 2 resulted in no data being published

RM2-33456 CIS SMS publishing of all messages fails on single range no reply

A fault in previous versions of Ranger 2 resulted in no data being published from a CIS SMS ranging cycle where at least one beacon failed to reply, even if there were valid replies. The SMS reply will now be published.



RM2-33094 Provide remote control to set beacons properties

In previous versions it was not possible to use the remote-control interface to change the configuration of beacons that were already deployed in the water. It is now possible to **GET ALL** and **SET ALL** the status of a deployed beacon, as well as carrying out the usual functions such as checking the **BATTERY** state, requesting **SENSORS** data, acoustic **LINK STATUS**, **RELEASE** as well as being able to **ENABLE** and **DISABLE** the beacon. The general form of the commands is:

```
<RemoteControl ProtocolVersion="1.4">
  <DeviceAction>
    <Job>
      <Objects>
        <Object Type="Beacon" UID="+9sBh/XSLEU=">
          <Action ActionType="GET ALL" />
        </Object>
      </Objects>
    </Job>
  </DeviceAction>
</RemoteControl>
```

Ranger 2 will then acknowledge the command with the following Synchronous Status reply:

```
<RemoteControl ProtocolVersion="1.5">
  <SynchStatus>
    <Job RemoteControlEnabled="true">
      <Objects>
        <Object Type="Beacon" UID="+9sBh/XSLEU=" Name="2404">
          <Action ActionType="GET ALL" />
        </Object>
      </Objects>
    </Job>
  </SynchStatus>
  <Errors />
</RemoteControl>
```

When all the status replies have been collected, the full status will be delivered as an Asynchronous status message:

```
<RemoteControl xmlns:xml="http://www.w3.org/XML/1998/namespace" ProtocolVersion="1.5">
  <AsynchStatus>
    <DeviceStatus>
      <Device UID="+9sBh/XSLEU=" Name="2404" Type="Beacon" ActionType="GET ALL" Result="Success"
        TimeOfValidity="14/11/2019 17:25:45"/>
      <Properties Type="Compatt 6" Transducer="Omni" UID="001238" SerialNumber="22224-014"
        FirmwareVersion="3.12.00.01" ProtocolVersion="2.03" State="NotTracked" Address="2404"
        Interrogate="CIS 1607" Reply="IRS 2404" TAT="320ms" TransceiverPower="Medium"
        TransceiverGain="Auto" TransceiverTelemetrySpeed="200bps" BeaconPower="Low"
        BeaconGain="Medium" BeaconTelemetrySpeed="200bps" PPD="false" ActivityTime="16 hrs"
        Release="Standard" BatteryType="Alkaline" BatteryVoltage="14.6V" BatteryRemaining="75%"
        BatteryTilt="false" BatteryOverride="false" CalibrationState="Mobile" UpdateRate="0sec."
        OperationalStatus="Operational"/>
    </DeviceStatus>
  </AsynchStatus>
</RemoteControl>
```

Refer to Sonardyne customer support for an up to date version of the Remote-Control Protocol specification.



RM2-33096 Remote operator needs to be able to add a sound speed profile

A feature has been added to allow the remote user to “**GET**” the list of available sound speed profiles, “**SET**” an existing profile, or “**ADD**” a new one:

```
<RemoteControl ProtocolVersion="1.5">
  <Get>
    <Job>
      <Environmental SoundSpeedProfiles="" />
    </Job>
  </Get>
</RemoteControl>
```

Ranger 2 will then acknowledge the command with the following Synchronous Status reply:

```
<RemoteControl ProtocolVersion="1.5">
  <SynchStatus>
    <Job Name="Remote Control Test" Description="20191111" State="Loaded" AcousticTracking="Active"
      RemoteControlEnabled="true" TimeSyncWindowSeconds="5.0" TimeSyncOffsetSeconds="2.5"
      IsTimeSynchronized="false">
      <Environmental SoundSpeedProfiles="Auto;USBLCal_21Oct2019;DefaultProfile;DemoA;DemoB" />
    </Job>
  </SynchStatus>
  <Errors />
</RemoteControl>
```

Refer to Sonardyne customer support for an up to date version of the Remote Control Protocol specification.

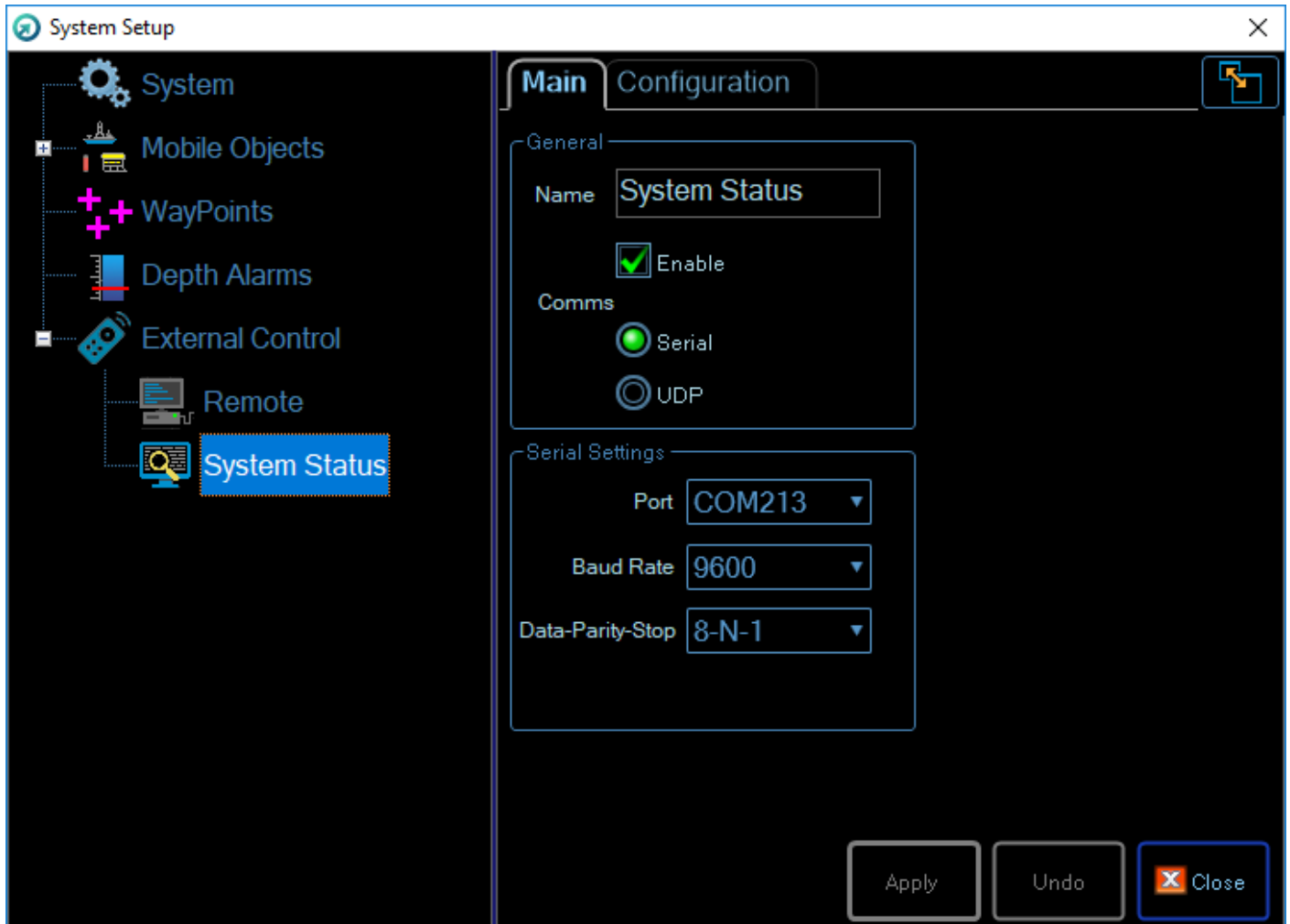
RM2-33438 Add async data subscription to MDFT diagnostic data

Ranger 2 will now automatically publish modem diagnostic data to the Async data stream.



RM2-33104 Add display of secondary vehicles to the “Positions” tab

Ships, subsea vehicle and mobile beacon positions can now be subscribed to via the SystemStatus device.



System Setup

Main Configuration

General

Name: System Status

Enable

Comms

Serial

UDP

Serial Settings

Port: COM213

Baud Rate: 9600

Data-Parity-Stop: 8-N-1

Buttons: Apply, Undo, Close

Remote Monitoring Test Client

Summary Status

TimeStamp	ProtocolVersion	SystemID	JobName	Frame	UpdateRate	TrackingState
30-03-2020 12:45:50	1.0		SINGLEJob	World	5.0 Sec	OK

Position

Name	Latitude	Longitude	Depth	Validity	Category	RangingHistory	Age
ROV 1	51.3315372	-0.8356479	99.7	√	Vehicle	√√√√√√√√√√√√√√√√	0
3001	51.3306405	-0.8356902	99.7	√	Mobile	√√√√√√√√√√√√√√√√	1
Ship 1	51.3308197	-0.8356815	0	√	Vehicle		0

Heading

Name	Heading	HeadingSD	Category	Validity
Ship 1	271.7	0.5	True	√

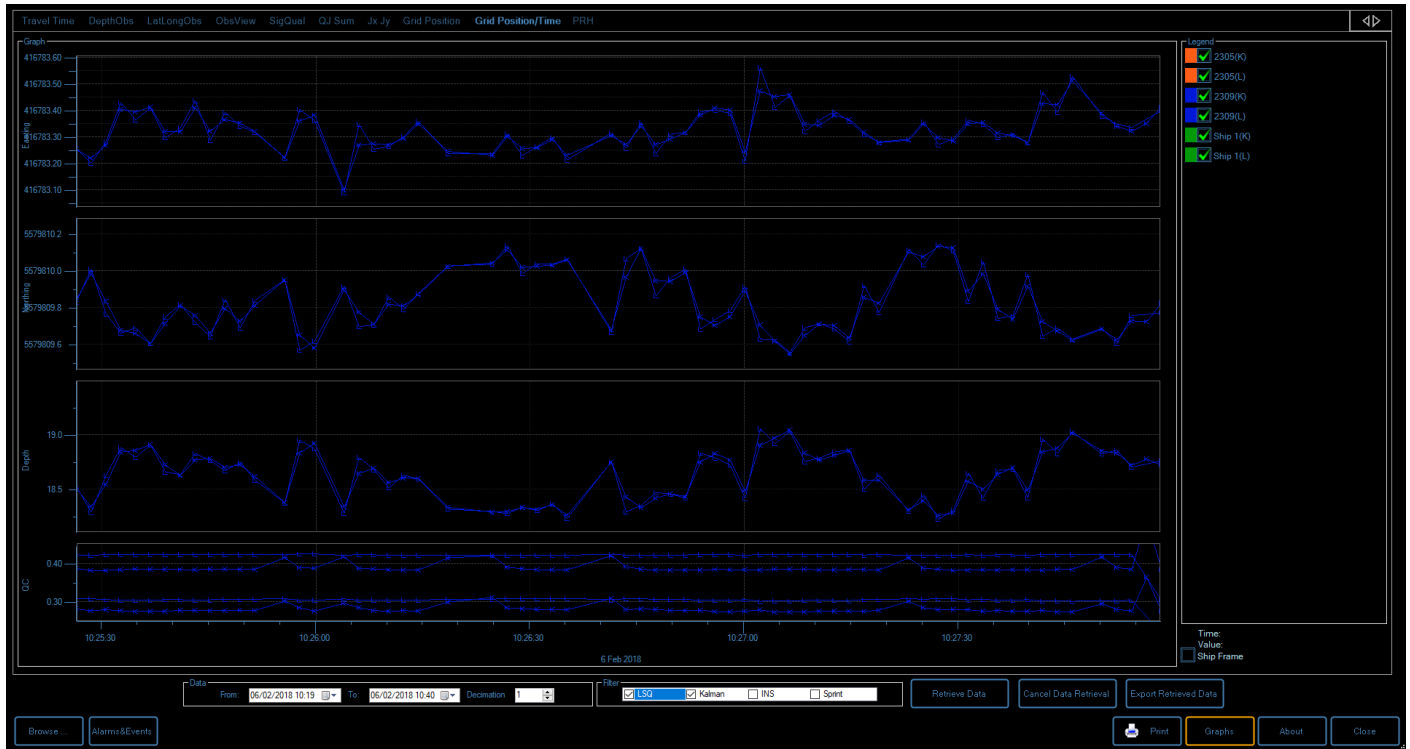


RM2-33435 Support new MRT version with variable power levels.

The latest version of the MRT supports 2 power level. Ranger 2 now reads the number of available power levels from the MRT and offers them on the UI.

RM2-32799 Add the ability to overlay LSQ and Kalman filter positions

Previously the Data Analysis Tool (DAT) allowed the user to view either the Raw (Least Squares) positions, or the Filtered (Kalman) positions. This has now been changed so that the results can be overlaid and compared.

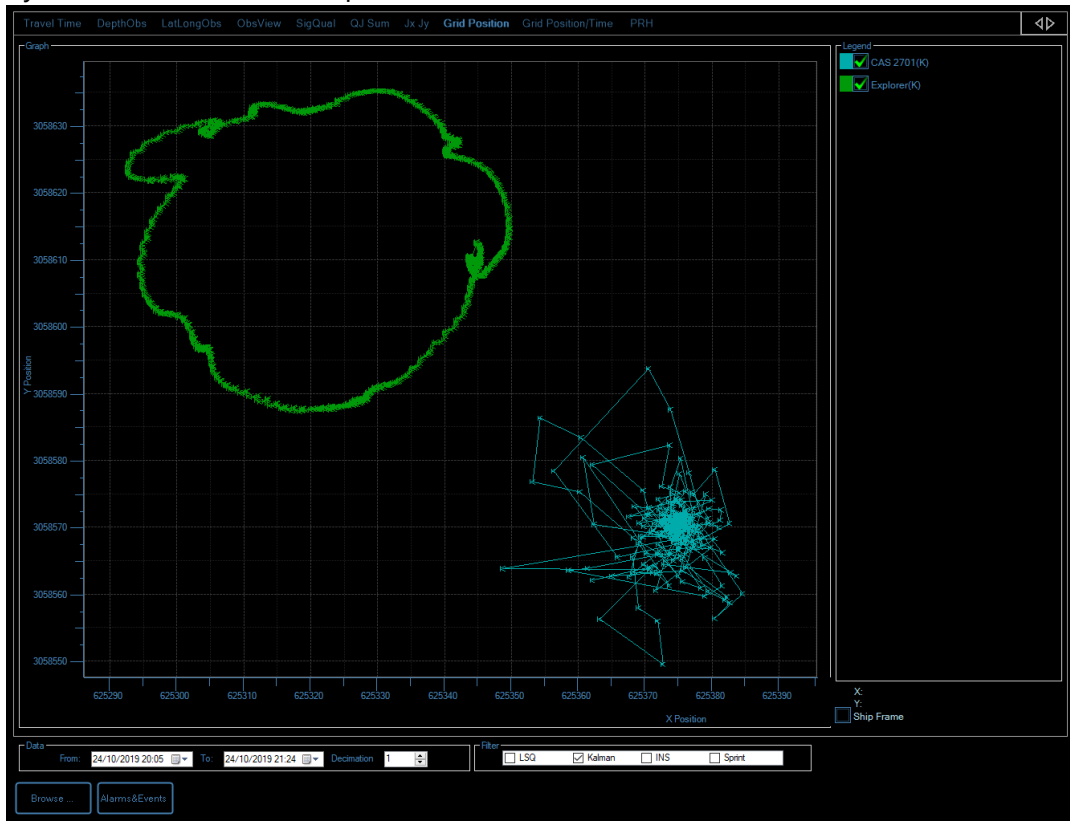


Notice that the 'Filter' box at the bottom, centre of the chart has changed to allow multiple selection.

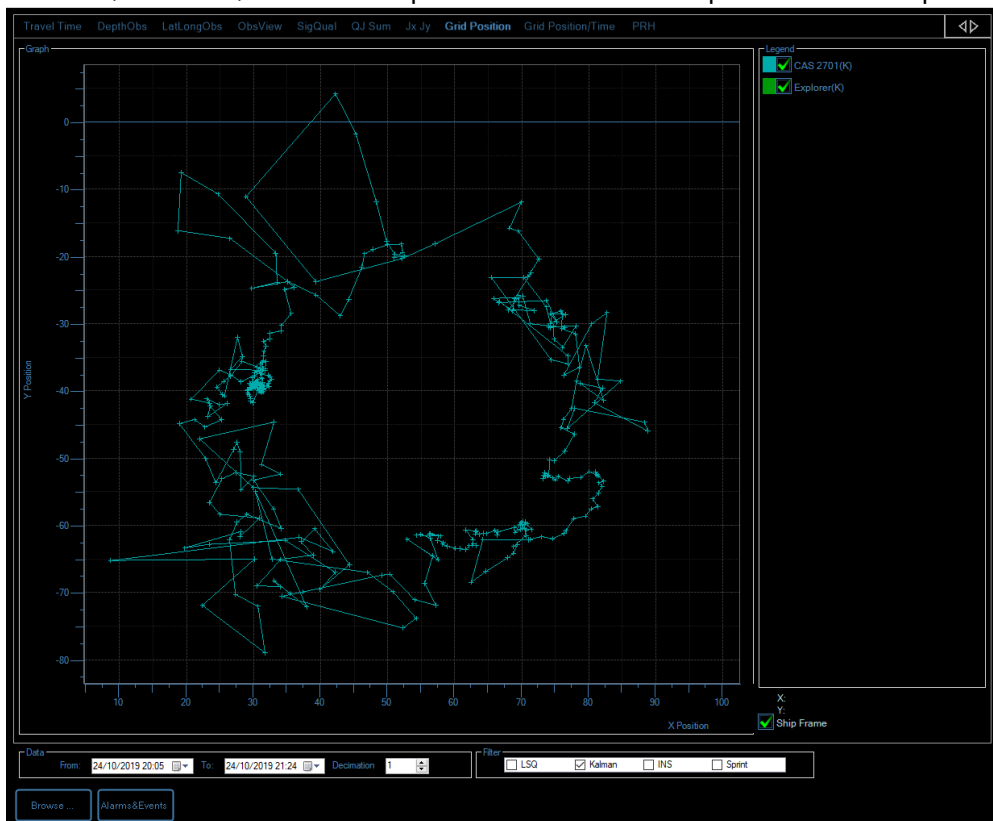


RM2-32800 Add the ability to view ship frame east/north positions

By default the DAT shows positions in UTM co-ordinates:



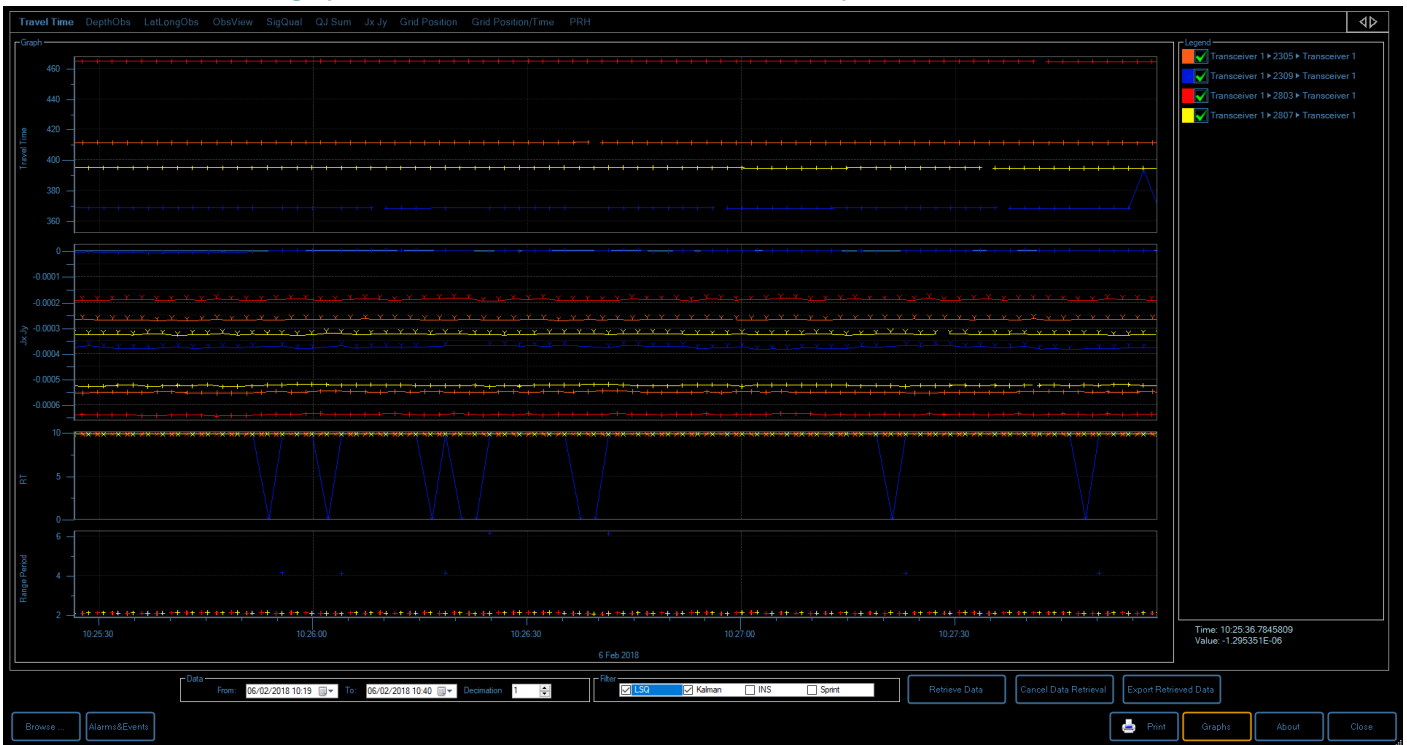
At times, however, it can be helpful to see the beacon position with respect to the ship:



Notice that a 'Ship Frame' tick box has been added on the bottom right corner of the grid position plots.



RM2-33271 Add range period and user transaction time series displays.

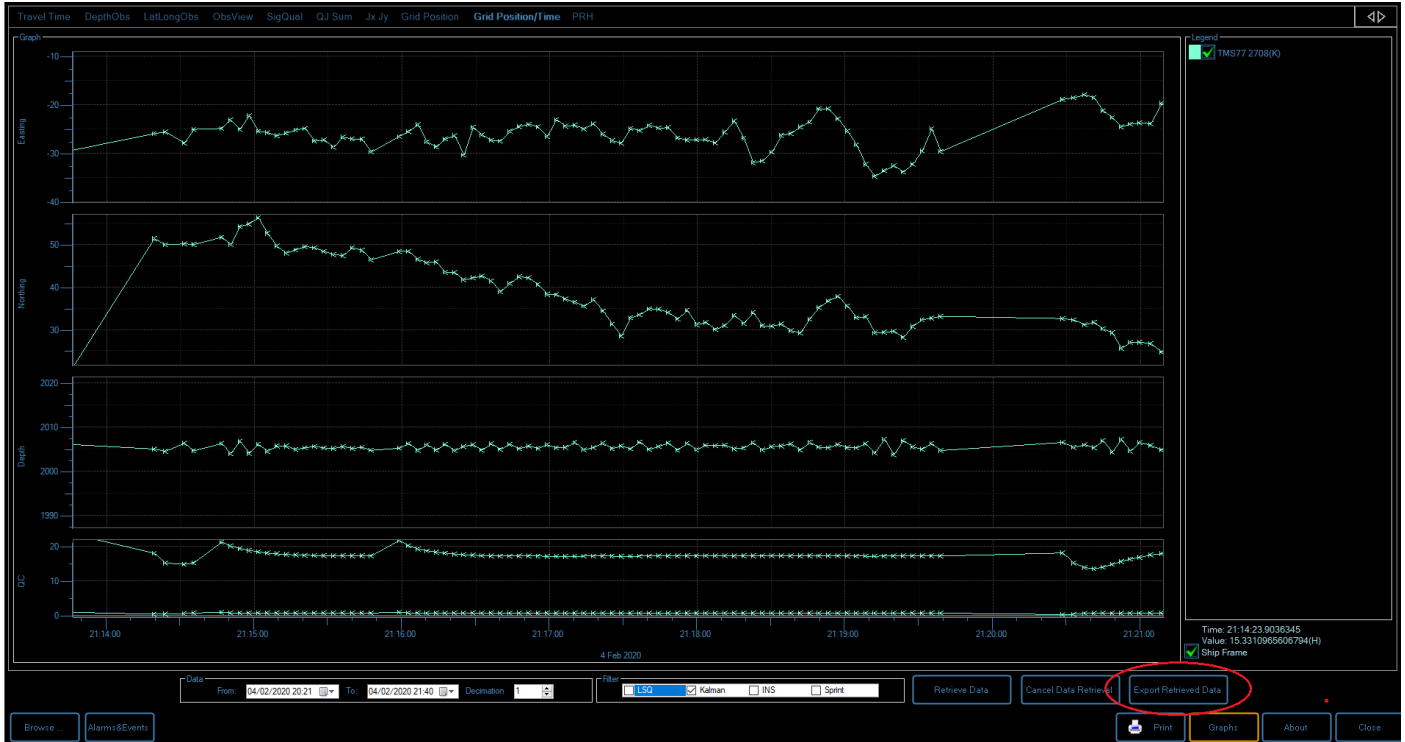


Notice that a new chart of 'Range Period' has been added at the bottom of window. This shows the interval in seconds between range measurements to that beacon.



RM2-33502 Add position quality plot, and a CSV export of data

A new quality (QC) display has been added to the 'Grid Position/Time' plot, which contains the 1DRMS, and the 1 sigma vertical error. In addition, the highlighted 'Export Retrieved Data' button has been added.



The CSV file that is generated contains Acoustic, Grid Positions and AHRS observations:

Timestamp	AcousticObs	Name	TT(ms)	Jx	Jy	RT	Period(s)
2020-02-04 21:22:39.423	AcousticObs	Transceiver 1 > TMS77 2708 > Transceiver 1	3068.294	-1.97E-05	-1.95E-05	10	
2020-02-04 21:22:43.884	AcousticObs	Transceiver 1 > TMS77 2708 > Transceiver 1	3067.437	-2.77E-05	1.71E-05	10	4.461
2020-02-04 21:22:48.329	AcousticObs	Transceiver 1 > TMS77 2708 > Transceiver 1	3067.63	-3.19E-05	-8.56E-06	10	4.444
2020-02-04 21:22:52.194	AcousticObs	Transceiver 1 > TMS77 2708 > Transceiver 1	3067.328	-2.96E-06	-6.04E-06	10	3.866
.
.
.
.
Timestamp	GridObs	Name	East	North	Depth	Horizontal SD	Depth SD
2020-02-04 21:22:39.423	GridObs	TMS77 2708(K)	755515.61	7254303.85	2006.53	15.02	0.71
2020-02-04 21:22:43.884	GridObs	TMS77 2708(K)	755516.31	7254302.46	2004.99	16.32	0.73
2020-02-04 21:22:48.329	GridObs	TMS77 2708(K)	755516.56	7254301.59	2005.57	17.41	0.73
2020-02-04 21:22:52.195	GridObs	TMS77 2708(K)	755516.49	7254300.36	2005.15	17.73	0.69
.
.
.
.
Timestamp	AHRSObs	Name	Heading	Pitch	Roll		
2020-02-04 21:22:39.372	AHRSObs	yPqw4tbvLQw=	47.58	1.78	-0.11		
2020-02-04 21:22:39.372	AHRSObs	yPqw4tbvLQw=	47.58	1.78	-0.11		
2020-02-04 21:22:39.423	AHRSObs	yPqw4tbvLQw=	47.57	1.83	-0.1		
2020-02-04 21:22:39.423	AHRSObs	yPqw4tbvLQw=	47.57	1.83	-0.1		
2020-02-04 21:22:40.027	AHRSObs	yPqw4tbvLQw=	47.38	2.08	0.11		
2020-02-04 21:22:40.817	AHRSObs	yPqw4tbvLQw=	47.18	1.76	0.25		
2020-02-04 21:22:41.027	AHRSObs	yPqw4tbvLQw=	47.16	1.57	0.25		
2020-02-04 21:22:42.027	AHRSObs	yPqw4tbvLQw=	47.24	0.26	-0.04		
2020-02-04 21:22:43.027	AHRSObs	yPqw4tbvLQw=	47.56	-0.97	-0.61		
2020-02-04 21:22:43.884	AHRSObs	yPqw4tbvLQw=	47.84	-1.3	-0.99		
2020-02-04 21:22:43.884	AHRSObs	yPqw4tbvLQw=	47.84	-1.3	-0.99		
2020-02-04 21:22:44.027	AHRSObs	yPqw4tbvLQw=	47.87	-1.26	-1.03		
2020-02-04 21:22:45.027	AHRSObs	yPqw4tbvLQw=	47.98	-0.4	-1.08		
2020-02-04 21:22:45.261	AHRSObs	yPqw4tbvLQw=	47.97	-0.1	-1.05		
2020-02-04 21:22:46.027	AHRSObs	yPqw4tbvLQw=	47.89	0.84	-0.98		
2020-02-04 21:22:47.027	AHRSObs	yPqw4tbvLQw=	47.87	1.43	-1.09		
2020-02-04 21:22:48.027	AHRSObs	yPqw4tbvLQw=	48.05	1.08	-1.33		
2020-02-04 21:22:48.329	AHRSObs	yPqw4tbvLQw=	48.11	0.87	-1.33		
2020-02-04 21:22:48.329	AHRSObs	yPqw4tbvLQw=	48.11	0.87	-1.33		
2020-02-04 21:22:49.027	AHRSObs	yPqw4tbvLQw=	48.2	0.41	-1.08		
2020-02-04 21:22:49.127	AHRSObs	yPqw4tbvLQw=	48.21	0.36	-1.01		
2020-02-04 21:22:50.027	AHRSObs	yPqw4tbvLQw=	48.19	0.16	-0.12		
2020-02-04 21:22:51.027	AHRSObs	yPqw4tbvLQw=	48.08	0.38	0.89		
2020-02-04 21:22:52.027	AHRSObs	yPqw4tbvLQw=	47.99	0.61	1.24		
2020-02-04 21:22:52.194	AHRSObs	yPqw4tbvLQw=	47.99	0.61	1.2		
2020-02-04 21:22:52.194	AHRSObs	yPqw4tbvLQw=	47.99	0.61	1.2		



RM2-33701 Resolve discrepancy between raw and filtered tracking

Improvements have been made to the weight given to MRT direction measurements that improves the behaviour of the Kalman filter so that it now is able to identify and reject failed measurements and outperform the raw position.

RM2-33282 Relax MRT direction protection limit

A default quality metric that controls acceptance, or rejection of measured MRT direction observations has been relaxed to allow tracking in most challenging environments, such as close to a dock.

RM2-33996 Add protection against impossibly slow sound speeds

In order to protect the operator from collecting highly misleading data by running the system with an impossible sound speed a block has been added to prevent short sound speeds. Entering a sound speed less than 1400m/s will now be limited to 1400m/s (or 4593ft/s). There was already a block to prevent sound speeds over 1600m/s. It should be noted, however, that the operator still needs to provide an accurate estimate of sound speed to get reliable tracking.

Bug Fixes

For more details on any of the fixes below please contact Sonardyne customer support

Functional Area	Ref	Description
Transceivers	RM2-33293	Stop any commands being sent a D0 because the HPT can't really do it
Transceivers	RM2-33483	Range gate not tolerant to WB2+ signals during increasing range
Transceivers	RM2-33552	MRT cannot track Black Box pingers - remove option from Micro Ranger 2
Transceivers	RM2-33567	RXW will not go below 2000 – limits telemetry tracking update rate.
UI	RM2-33061	Spelling error in "PASHR_TateBryant" attitude device
UI	RM2-33283	Retrieved time box does not update when receiving a ZDA without a PPS
UI	RM2-33399	UI becomes unresponsive while displaying range and bearing lines.
Remote Control	RM2-33411	Allow external heading to be used in remote control CASIUS
Tracker	RM2-33393	Failed to track using manual heading.
Tracker	RM2-34054	Failure to apply magnetic heading offset
Support	RM2-33400	Fix MRT comms data in CEF.
Data Analysis Tool	RM2-33472	Remove confusing message about database upgrade
Data Analysis Tool	RM2-33547	Could not select new range of files to open that overlap existing selection
Data Analysis Tool	RM2-33604	Remove redundant controls from opening screen.
Security	RM2-34011	Update to the latest version of dongle driver



6.01.02

Note:

In order to use the ESH2 you must be using version (6.01.01) or above.

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
HPT	4.02.00.08
MRT DSP (CPU)	1.0.4.5 (TCVR) & 1.0.1.9 (CPU)
NSH	2.00.03.107
ESH	REL1_REVD
ESH2	1.00.06.xx
Compatt 6 CPU & (DAS)	3.12.05.05 (2.06N)
WSM6+	3.05.00.04
RN6	3.12.04.06
NANO	3.09.00.04
WMT / AvTrak6	3.12.01.06
PGT6	3.05.09.07
Marker 6	1.00.04.03
IWAND	1.00.03.13
Lodestar INS (AHRS)	3.02.00.1019 and 2.08.00.908
DART	3.02.02.11
AVC	2.04.02.06

Bug Fixes

For more details on any of the fixes below please contact Sonardyne customer support

Functional Area	Ref	Description
LUSBL Calibration	RM2-33643	[LUSBL only] Fixed bug with top down calibration while vessel is moving - beacon was moving with vessel



6.01.01

Note

In order to use the ESH2 you must be using this version (6.01.01) or above.

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
HPT	4.02.00.08
MRT DSP (CPU)	1.0.4.5 (TCVR) & 1.0.1.9 (CPU)
NSH	2.00.03.107
ESH	REL1_REVD
ESH2	1.00.06.xx
Compatt 6 CPU & (DAS)	3.12.05.05 (2.06N)
WSM6+	3.05.00.04
RN6	3.12.04.06
NANO	3.09.00.04
WMT / AvTrak6	3.12.01.06
PGT6	3.05.09.07
Marker 6	1.00.04.03
IWAND	1.00.03.13
Lodestar INS (AHRS)	3.02.00.1019 and 2.08.00.908
DART	3.02.02.11
AVC	2.04.02.06



New Features

Summary

Functional Area	Ref	Description
Beacons	RM2-15720	Further advice provided to user on hover over when signal to noise and DB lights are red or orange
Beacons	RM2-26340	Ability to import/export beacon positions between Ranger2 and Fusion2
CASIUS	RM2-12224	Archiving function added to produce ZIP of CASIUS data
CASIUS	RM2-30046	.CAS2 file now contains the version and build of the software used to collect the data
CASIUS	RM2-32837	Add tool tips for max iterations and threshold controls
CASIUS	RM2-28215	CASIUS corrections now stored to, and recovered from GyroUSBL
Data Analysis Tool	RM2-32437	support engineer able to open the Ranger2 data files (MDF) not just the customer export file (CEF).
Data Analysis Tool	RM2-32839	New Lat/Long chart added to display GNSS metrics vs time
Deployment Machine	RM2-30840	Add check sum verification on incoming data
Deployment Machine	RM2-31974	Simplify deployment machine set up by removing the options to change baud rate and bits
Deployment Machine	RM2-31975	Need to see the deployment pole in the mid position on screen
Device Support	RM2-13116	Support Lodestar AHRS as a standalone instrument
Guidance Reports	RM2-27800	Add support for output of NMEA RMB telegram
Guidance Reports	RM2-30394	Add NMEA BWC telegram for user defined waypoint
Positioning	RM2-13116	Add lodestar as a standalone device for attitude and heading compensation
Positioning	RM2-29851	Watch circles on vehicles
Positioning	RM2-31180	Ability to send 4 hexadecimal digits of data to a transponder interrogation signals
Positioning	RM2-31923	Flag output telegram position data as invalid when GNSS is active
Positioning	RM2-32858	Add watch circles to beacons
Remote Control	RM2-29623	Ability to Get/Set beacon and trigger acoustic release
Remote Control	RM2-32677	Ability to change the WB3 payload of an SMS through the remote control interface
Remote Control	RM2-32917	Add ability for the user to view the information from the executable commands in the remote control
Remote Control	RM2-33036	Add flag to override UI lockout when Ranger2/Marksman is being controlled remotely
Telegrams	RM2-10403	Alarm will show for telegrams when currently tracking if the reference frame is not available
Telegrams	RM2-29099	Telegram outputs can now be with respect to reference points
Transceivers	RM2-15720	Further advice provided to user on hover over when signal to noise and DB lights are red or orange

Bug Fixes

For more details on any of the fixes below please contact Sonardyne customer support

Functional Area	Ref	Description
Acoustic Signal Analysis	RM2-32123	Average noise was being calculated incorrectly



Average Fix Tool	RM2-31378	When saving legs the list of collected legs showed too many legs
Average Fix Tool	RM2-31380	Every time you add a new leg the sort order of the collected legs was reversed
Backgrounds	RM2-31460	Crash on attempting to use a corrupt DXF resolved
Backgrounds	RM2-32859	Can now paste file location into backdrop file explorer window
Beacons	RM2-9639	Disabled beacons in an array are now re-enabled when starting tracking
Beacons	RM2-24811	MRAMS now waits for sensors to warm up before receiving values
Beacons	RM2-29760	Fixed intermittent problem changing settings in the beacon table whilst sending SMS to group of beacons
Beacons	RM2-29808	Radio button showed wrong selection of graph compared to what is showing on screen
Beacons	RM2-29817	Removing battery overrides from beacons now works correctly.
Beacons	RM2-29828	When adding more than 30 beacons colours are repeated
Beacons	RM2-30467	Beacon now re-enables in marksman after being disabled on starting tracking
Beacons	RM2-31383	Corrected OBC beacons created with addresses 1-24 TAT error
Beacons	RM2-32237	Tilt flag alarm no longer raised for NANO beacons
Beacons	RM2-32704	Add type numbers for RT6 beacons so they can be identified when discovered.
CASIUS	RM2-25710	User can now paste address into file navigator without needing to navigate manually
CASIUS	RM2-30321	Casius leg with only 1 range no longer stops processing
CASIUS	RM2-31609	Change made to ensure that all charts are exported to the CASIUS PDF report.
CASIUS	RM2-31625	Added protection against CASIUS crashing when exporting from Ranger2 on a low power PC
CASIUS	RM2-31830	Low resource alarm raised incorrectly whilst running a spin test
CASIUS	RM2-31905	Compass pitch/roll from miniRanger 2 transceivers now present in CAS2 files
CASIUS	RM2-32683	Tilted transceiver roll offset now reported correctly in CASIUS6 PDF report
CASIUS	RM2-32751	Fixed a crash when entering a grid position for a transponder CASIUS6
CASIUS	RM2-32872	Fixed exception thrown when exporting data being viewed in a chart in both Ranger2 and CASIUS6
CASIUS	RM2-32915	CASIUS crashes when processing certain CAS2 files
CASIUS	RM2-32949	Intermittent CASIUS crash when processing charts
Data Analysis Tool	RM2-31742	Improved plotting of data because to deal with events that are logged with zero time
Data Analysis Tool	RM2-32499	Fixed Latitude and Longitude labels LatLong plot
Data Analysis Tool	RM2-32500	Fixed problem preventing depth traces being turned off
Data Analysis Tool	RM2-32727	Corrected loading of older SQL databases into the DAT
Environment	RM2-20200	Fixed parsing of certain sound speed formats with additional spaces.
Environment	RM2-30798	Corrected the axes units in Sound Speed Profile reduction.



External Control	RM2-29883	When the robotics pack is enabled and you add a PAN port scheduling is disabled automatically.
GGA	RM2-31571	Don't parse VTG before passing it to the Lodestar.
Installer	RM2-27692	Installer now detects when SQL 2014 Express already installed
Installer	RM2-31919	After installing a new version force logging to start.
Installer	RM2-32443	Memory size options for >2GB now set correctly by installer
Installer	RM2-32992	Installer fails where local IT policy for passwords is highly complex
Installer	RM2-33139	Error on installing SQLSysClrTypes.msi
Job Export	RM2-32852	Can now paste in a location and press enter to navigate to the folder
Manual Command Tool	RM2-32403	Fixed problem sending SMS command where in some circumstances IR is removed.
Remote Control	RM2-32851	Fixed a problem adding SST6 via remote control
Scheduler	RM2-32672	Fixed a problem synchronising acoustics to UTC and using SMS tracking, where the scheduler missed every other window failing to send the data at the update rate needed
Software Licensing	RM2-26377	Improved dongle checking logic so that multiple applications can share the dongle without blocking each other.
Support Tools	RM2-32804	Improved usage counters so that file doesn't become too large on long running systems
Support Tools	RM2-32847	Having generated a CEF file BAK file is now cleaned up afterwards
System configuration	RM2-26274	In Mini-Ranger2 now able to add a reference point to a structure
System configuration	RM2-29884	In mini & Micro ranger2 Firmware version now shown for an ESH
System configuration	RM2-30494	Communication to ESH now works after the IP address of the ESH has been changed
Telegrams	RM2-30752	Validity time for responder ranges now correctly calculated
Telegrams	RM2-32251	UDP telegram no longer removed upon software restart
Tracking	RM2-32368	A fix has been made to prevent the difference between the inertial and acoustic position being lost from the chart.
Tracking	RM2-32429	Fixed problem with range lines that connect a vessel to a beacon with unknown position.
Time Synchronisation	RM2-24788	On some systems when the network card was disabled / re-enabled the time sync alarm was not always raised.
Transceivers	RM2-30089	Wake on LAN commands now correctly sent to transceivers connected via ethernet
Transceivers	RM2-31828	Display of HPT firmware version corrected
Transceivers	RM2-32831	Default to using faster baud rate when updating Transceiver firmware



6.00.00.5886

Note

V6 no longer supports Sonardyne 5G hardware please contact Sonardyne Support for further guidance.

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***
MRT USBL Transceiver (Type 8243)	TCVR V1.0.4.5, CPU V1.00.01.09
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	3.02.00.1019
Lodestar AHRS(Surface)	2.08.00
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.

Summary

Number	Summary
29982	An OBC Beacon added via Remote Control with Address >24 was assigned the wrong Default TurnAroundTime - this has been corrected. (Workaround is to set a specific TAT).
29850	The Telemetry Tracking Spare Bits are no longer cleared down if the Remote Client has set New Values
29819	Telemetry Tracking was reporting Positioning Quality SD of 1 - this has been fixed
29787	Support for the Sonardyne Deep Marker Beacon has been added
29602, 29474	For HPT2000/3000 Transceivers, the CASIUS and Ship-to-Compass corrections could be applied incorrectly in some cases - this has been fixed
29466	The Installer now warns the user if the Main Screen Resolution is less than 1280x1024 Pixels
29459	The PHOCT String Time of Validity is now applied if the System is UTC Synchronised
29167	The RT 6 Release Transponders are now supported



29158	A CASIUS Calibration using a Beacon in PPD Mode is now handled correctly
29148	Checking the GGA String Checksum is Enabled by Default (can be Disabled if needed)
29132	NSH Power to a Lodestar or SPRINT INS is now switched off on Shutdown by Default (can be Disabled if needed)
28838	Support for 5G Legacy Hardware has been removed
28735	The main Reference Frame Selector has been enhanced to allow Scrolling with Long Lists of Waypoints or Beacons
28597	The \$PSXN AHRS Attitude String is now supported
28566	Default USBL Transceiver Settings for PAN and Manual Commands are now centralised in 'Tools->Options->General->Acoustics'
28473	Support for the SST 6 Nodal Architecture Beacon has been added
28367	SV selection has been enhanced with the ability to load an Estimated Profile, or to calculate SV from Temperature and Salinity
28178	Support has been added for the Micro-Ranger 2 product
27847	A Preview feature has been added to the Attitude/Heading Calibration Tool to allow Sensors to be compared more easily
27797	NMEA Alarm Messages have been added for Remote Alarm handling
27646	The NSH now allows Time Setting from ZDA-only Input (no PPS) for Lower Precision Applications
27455	DigiQuartz is now supported as a Vehicle Depth input
27279	\$PASHR Decoding has been relaxed to allow Non-Standard Use of the \pm Sign
27177	Depth Alarms have been added, e.g. to support Diver Tracking
26908	SV, Depth, GGA, SON2 Inputs are now permitted via UDP for Applications where Lower Quality is acceptable
26898	Beacons are now removed from the 418BCD Sequence String when not Tracked
26871	A new System Status Output Report is available for Remote Monitoring Applications
26851	The Sonardyne Deployment Machine Controls can now be added to the System
25595	Enhanced CASIUS 6 Tool introduced – includes better use of SV and Tide Data
25286	Output Telegrams can now output Vessel Referenced x,y,z Positions when no Gyro or GPS is available
18793	Beacon Positions can now be displayed in Range and Bearing format - see Tools/Options
18722	An Average Fix Tool has been added which can also be used as a CASIUS Verification Tool



Contact Information

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