



KONGSBERG

Kongsberg Discovery Open Discussion

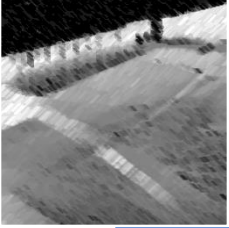
Colleen Peters, Product Manager, Mapping Software
RVTEC 2025



2025

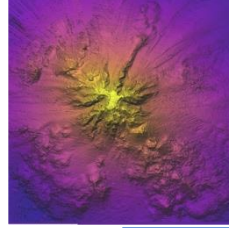
Updates

Product Responsibilities



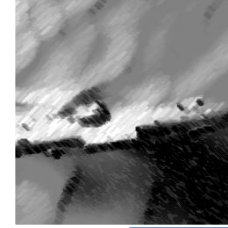
R&D

- Software that lives on hardware to operate the hardware
- KMALL format
- KD Binary format



Mapping Software

- Sensor Control software with a UI
- Utility software with a UI
- 3rd party integrations
- Services



Blue Insight

- Anything that happens with the data after it is logged and/or transferred

Kongsberg Discovery Resources

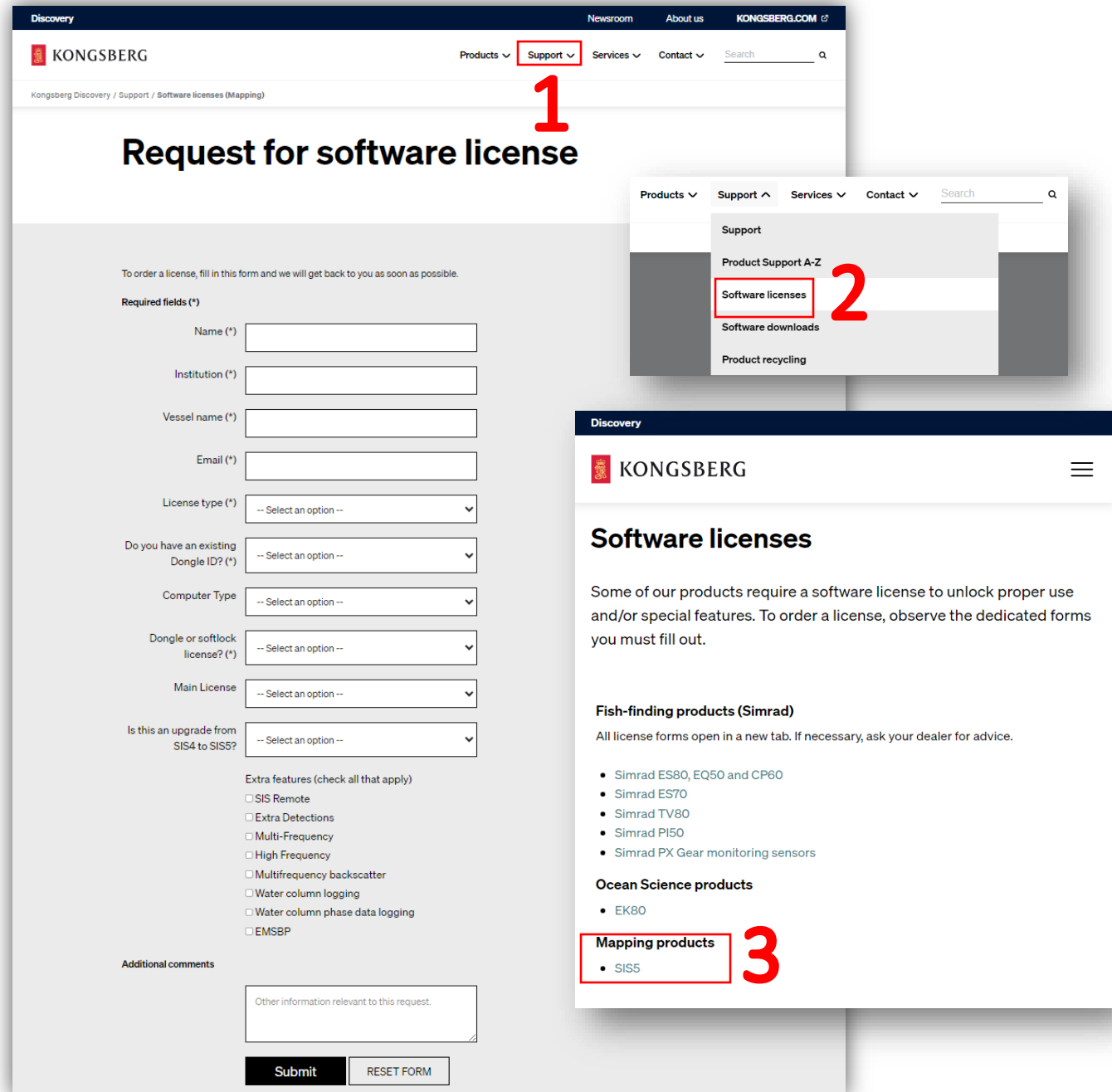
- [Request for software license - Kongsberg Discovery](#)
- [Software downloads - Kongsberg Discovery](#)
- [Product Documents - Kongsberg Discovery](#)
- [Technical Notes - EM Multibeam echo sounders](#)
- [Hydrographic support - Kongsberg Discovery](#)
- [Sign up for mapping news updates - Kongsberg Discovery](#)

Help and Support

License Request Form

[Request for software license - Kongsberg Discovery](#)

- To get upgrades, additional features and demos.
 - Demo – needs approval from someone at KD
 - Permanent—need a purchase order
- Sends an email to Customer Support with **all** the information they need to generate the licenses more efficiently.



The image shows a sequence of three screenshots from the Kongsberg Discovery website, illustrating the process to request a software license. Red numbers 1, 2, and 3 are overlaid on the screenshots to indicate the steps.

Step 1: The first screenshot shows the 'Request for software license' form. The 'Support' menu item in the top navigation bar is highlighted with a red box and the number 1. The form includes the following fields:

- Name (*)
- Institution (*)
- Vessel name (*)
- Email (*)
- License type (*)
- Do you have an existing Dongle ID? (*)
- Computer Type
- Dongle or softlock license? (*)
- Main License
- Is this an upgrade from SIS4 to SIS5?
- Extra features (check all that apply):
 - ☐ SIS Remote
 - ☐ Extra Detections
 - ☐ Multi-Frequency
 - ☐ High Frequency
 - ☐ Multifrequency backscatter
 - ☐ Water column logging
 - ☐ Water column phase data logging
 - ☐ EMSBP
- Additional comments


Step 2: The second screenshot shows the 'Software licenses' page. The 'Software licenses' menu item in the top navigation bar is highlighted with a red box and the number 2. The page content includes:

- Software licenses**
- Some of our products require a software license to unlock proper use and/or special features. To order a license, observe the dedicated forms you must fill out.
- Fish-finding products (Simrad)**
 - All license forms open in a new tab. If necessary, ask your dealer for advice.
 - Simrad ES80, EQ50 and CP60
 - Simrad ES70
 - Simrad TV80
 - Simrad PI50
 - Simrad PX Gear monitoring sensors
- Ocean Science products**
 - EK80
- Mapping products** (highlighted with a red box and the number 3)
 - SIS5

Step 3: The third screenshot shows the 'Software licenses' page with the 'Mapping products' section highlighted by a red box and the number 3. The 'SIS5' product is listed under this section.

Kongsberg Discovery (documentation) Website

Software Downloads page

Seafloor Information System (SIS)

SIS5 Software Downloads

Current Software Versions


Each ZIP download includes software for the Seafloor Information System (SIS), the K-Controller and the relevant Processing Unit. For details, refer to the [release notes](#) for each application.

| Product | Processing Unit | SIS | K-Ctrl | Actions |
|-----------|-----------------|--------|--------|---|
| EM2042 | 1.1.0 | 5.14.3 | 3.3.0 | Download Release Note Website Documents |
| EM2040 | 2.1.0 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |
| EM2040C | 2.1.0 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |
| EM2040P | 3.1.0 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |
| EM712 | 2.1.1 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |
| EM304 | 2.1.1 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |
| EM124 | 2.1.1 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |
| EM712NEL* | 12.1.1 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |
| EM304NEL* | 12.1.1 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |
| EM124NEL* | 12.1.0 | 5.14.2 | 2.7.8 | Download Release Note Website Documents |

(*) These products do not require an export license.

SIS4 downloads [here](#).

- No login to download software, **CURRENT** version of SIS5 and last version of SIS4. <https://www.kongsbergdiscovery.net/sis/sw.htm>.
- Release notes are available for the current version <https://www.kongsbergdiscovery.net/sis/swrn.htm>
- Email support.umap@kd.kongsberg.com for other versions.

Seafloor Information System (SIS)

Software Release Notes

Read about the SIS file formats here: [File formats](#).

Current software versions

Each software bundle contains three applications with different software versions.

| Driver | Release notes (PDF) |
|-----------|--|
| EM2042 | Processing Unit v1.1.0 SIS5 v5.14.3 K-Controller v3.3.0 |
| EM2040 | Processing Unit v2.1.0 SIS5 v5.14.2 K-Controller v2.7.8 |
| EM2040C | Processing Unit v2.1.0 SIS5 v5.14.2 K-Controller v2.7.8 |
| EM2040PM | Processing Unit v3.1.0 SIS5 v5.14.2 K-Controller v2.7.8 |
| EM712 | Processing Unit v2.1.1 SIS5 v5.14.2 K-Controller v2.7.8 |
| EM304 | Processing Unit v2.1.1 SIS5 v5.14.2 K-Controller v2.7.8 |
| EM124 | Processing Unit v2.1.1 SIS5 v5.14.2 K-Controller v2.7.8 |
| EM304NEL* | Processing Unit v12.1.1 SIS5 v5.14.2 K-Controller v2.7.8 |
| EM124NEL* | Processing Unit v12.1.1 SIS5 v5.14.2 K-Controller v2.7.8 |


All software: see the [Software downloads](#) page.

(*) These products do not require an export license.

New document

PU Upgrade Instructions

- Technical Notes: <https://www.kongsbergdiscovery.net/em/technotes.htm>
 - PU upgrade instructions <https://kongsbergdiscovery.net/em/0088129/>



EM Multibeam echo sounders

Pages

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Technical notes

| Document | Language | Version | Download/Open |
|--|----------|---------|---------------|
| Settings and "best practices" for SIS5 | English | Rev.A | Open |
| Updating the EM Processing Unit | English | Rev.A | Open |



KONGSBERG

Updating the EM Processing Unit

- [About the Processing Unit](#)
- [About the software](#)
- [Prerequisites](#)
- [Procedure](#)

About the Processing Unit

The EM Processing Units are provided for processing the signals to and from the Transmitter and Receiver Units (EM712, EM304, EM124) or directly from the transducers (EM204X family). The EM Processing Units are industrial computers using both COTS (commercial off-the-shelf) components and custom-made components. The units are designed and tested for rugged use. The Processing Unit performs the receiver beamforming, bottom detection, and motion and sound speed corrections. It contains all interfaces for time-critical external sensors such as vessel attitude (roll, pitch, heading and heave), vessel position and external clock. More than one sensor of each type may be connected simultaneously, with one in use and all of them logged. The Processing Unit is also interfaced to the Operator Station using a high-speed Ethernet line.

NOTE: The Processing Unit is a stand-alone item that does not require attention during normal operation. All user interaction takes place on the Operator Station.

Top of page

About the software

The software provided for the Seafloor Information System (SIS) is distributed as a bundle containing three products:

1. The *SIS5 (Seafloor Information System)* software
2. The *K-Controller* software
3. The *EM multibeam echo sounder system* software (for the Processing Unit)

The updates provided for each product can be found in the corresponding release notes. We recommended that the versions provided in the bundle are used together to avoid system issues.

NOTE: To upgrade from SIS4 to SIS5, the EM system software must be updated on the Processing Unit.

- [Open](#) Software release notes
- [Open](#) Software downloads
- [Open](#) Subscribe to be notified when we update our EM multibeam systems and the sub-bottom profilers.

Top of page

Prerequisites

We assume that you are well familiar with the Windows operating system.

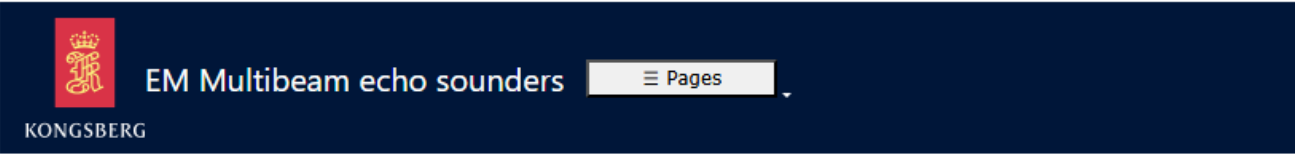
This procedure is valid for both Windows 10 and 11.

Top of page

New document


Settings and “Best Practices” for SIS5

- Technical Notes: <https://www.kongsbergdiscovery.net/em/technotes.htm>
- Settings and “best practices” for SIS5: <https://kongsbergdiscovery.net/em/0139430/>
- What settings require a restart vs. what settings do *not* require a restart
 - In-depth review on Friday!



Technical notes

| Document | Language | Version | Download/Open |
|--|----------|---------|----------------------|
| Settings and "best practices" for SIS5 | English | Rev.A | Open |
| Updating the EM Processing Unit | English | Rev.A | Open |



KONGSBERG

Settings and "best practices" for SIS5

- Purpose
- Overview
- Settings that require a restart
- Settings that do not require a restart

Purpose

This document describes the recommended procedure for configuring the settings for *Seafloor Information System (SIS) 5* software and the *EM* multibeam echo sounder system. You can access these settings through the SIS software and you can save them to the local disk. For more details about specific settings, refer to the SIS Reference Manual.

- [SIS Reference Manual](#)

[Top of page](#)

Overview

After updating the SIS 5 software, follow the recommended steps below before creating a new survey. You can define the remaining settings while SIS is running.

1. Verify all parameter settings in **Tools > Parameter Setup**.
2. Configure data management in **File > Edit Storage Locations**.
3. Enable and configure external sensors in **Tools > External Sensors**.
4. Configure data outputs in **Tools > Data Distribution Configuration**.
5. Set the Grid settings in **Tools > Grid Settings**.
6. Create a new survey.
7. Restart SIS.

[Top of page](#)


Settings that require a restart


Once you have configured all these settings, you are ready to restart SIS. You may also want to restart any third-party programs that receive data from SIS.

- Parameter Setup
- Edit Storage Locations
- External Sensors
- Data Distribution Configuration
- Grid Settings
- New Survey

Improvements

[Transducer Impedance Measurement Service - Kongsberg Discovery](#)





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Transducer Impedance Measurement Service

Contact Sales
kd_sales@kd.kongsberg.com
+47 33 03 41 00

Transducer Health Assessment

For EM712, EM304 MKI, EM304 MKII and EM124.

The Built-In System Test (BIST), included with every EM system, provides several automatic tests to check the operation of the echo sounder system. The available tests determine the software versions, communication status, noise characteristics and TX/RX functionality which can indicate issues with the *topside* electronics. To gain insight into the health of the *transducers*, however, we must measure at the transducer level.

This service can be performed during regular annual maintenance visits or upon request if there is a problem with the system. This test does not require any specialized equipment and is done through the K-Controller software. Data can be collected by a Kongsberg Discovery (KD) Field Service Engineer or by the customer with remote guidance from Customer Support.

After the data is gathered, KD Customer Support will review and analyze it, providing a report detailing their findings. This report will indicate whether any system components need close monitoring or replacement. Maintaining a history of these analyses allows for easier identification of potential issues and can assist in planning future upgrades proactively and reducing downtime.

Proactive life cycle management

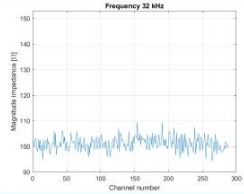
- Detect a problem before it impacts your mission
- Identify issues after unplanned physical damage occurs such as mishandling, maintenance or grounding events
- Plan for upgrades or replacements

KD accepts 10% of the TX array to be defective before proper action should be taken, i.e. 86 elements in a full 1-degree array of 864 elements.

kongsberg.com/discovery

Key Benefits

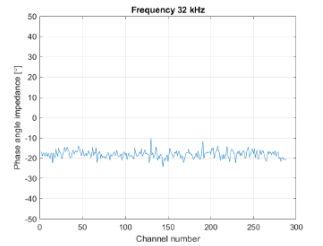
- Creates a record of system health throughout the life of your hardware
- Indicates **element-level** degradation
- Supplements data quality analysis
- Available by request
- Data collection can be done by the customer
- **No service trip required**



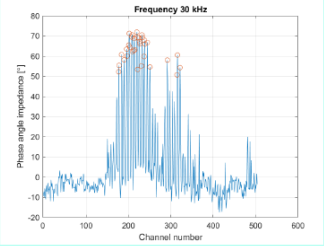
Top image: Saldrone/NOAA OECI/CCOM.
Above: Example of healthy test results.

110-0135149/A

Normal results

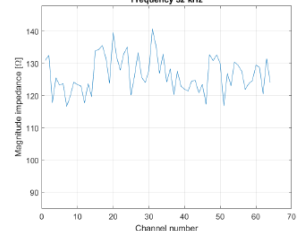


Poor results

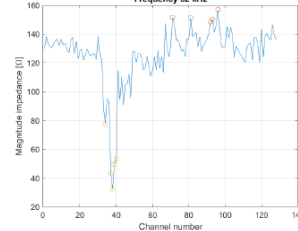


Magnitude of the phase specification is between -40 and 0. The markers (circles) show channels outside production specification.

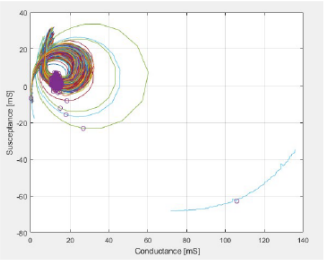
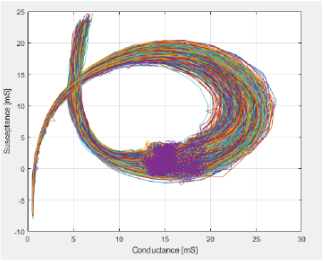
Frequency 32 kHz



Frequency 32 kHz



Magnitude of the impedance specification is between 100 and 150. The markers (circles) show channels outside production specification.



Bad channels increase sidelobes, which increase the risk of noise in the data. Each stave showing the same level of sensitivity indicates a healthy RX array. Stray staves indicate degradation of the elements.

Note: Recommended minimum water depth is 100 m, with the vessel not moving. It is not suitable to do this test alongside in the harbor since potential external noise may affect the results.

kongsberg.com/discovery

110-0135149/A

Export Restrictions moving from transmitter card to TXU for EM124, EM304 and EM712

Soon easier to ship replacement transmitter cards

How we manage export restrictions has evolved over time

- A tricky balance between compliance and practicality

The current system has been a pain for customers needing rapid service

- Special paperwork needed to supply individual transmitter cards

Export restrictions will be moved to the TXU

- Control will be maintained, updated guidance will be provided

Easier and quicker to provide customer support

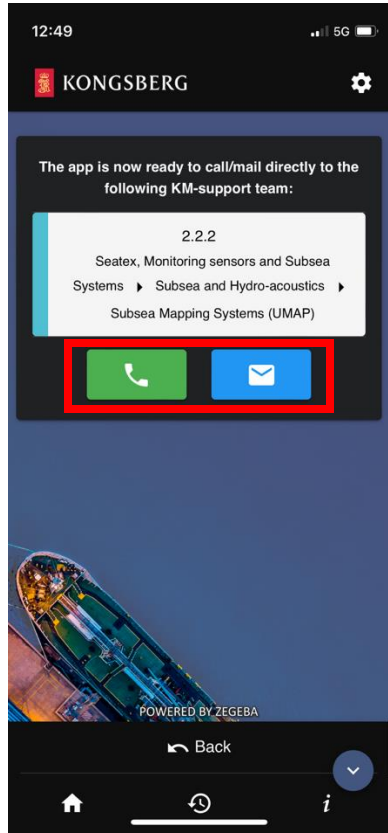
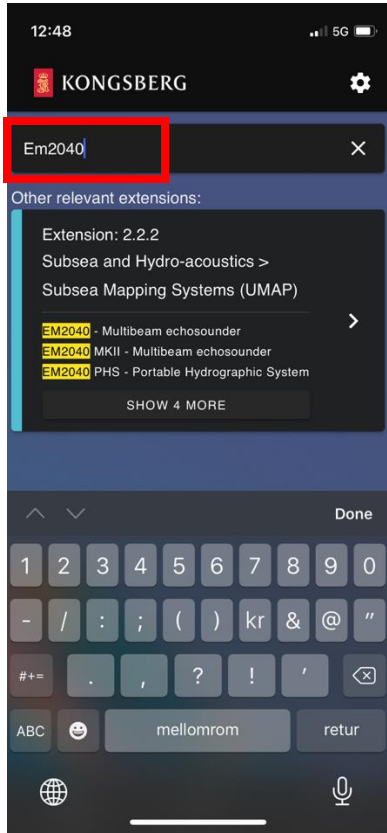
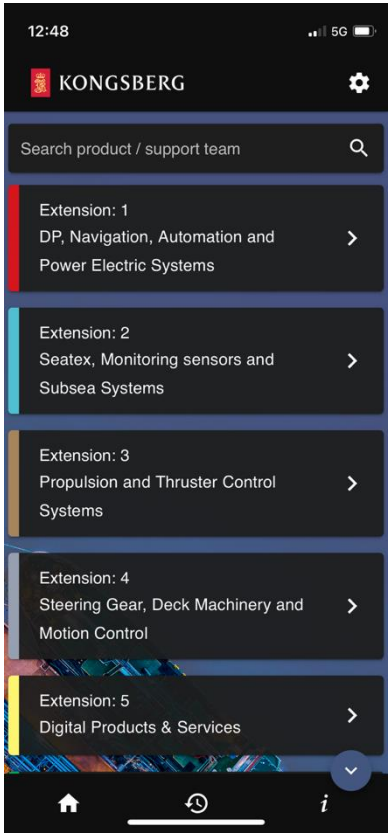
- Faster and license-free delivery of transmitter cards

Effective January 1st, 2026

- Earlier, if possible, we will let you know



KM-Support App

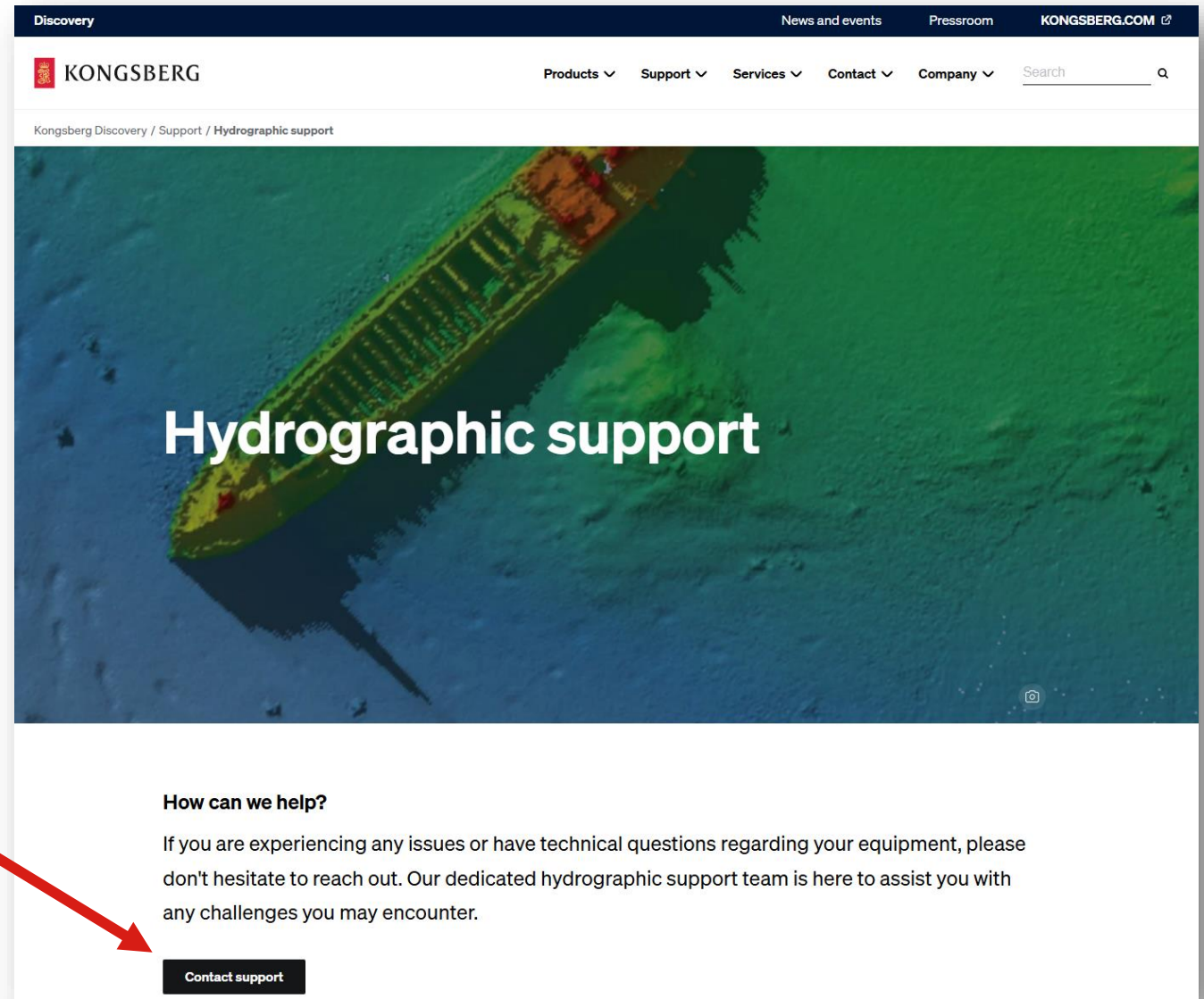
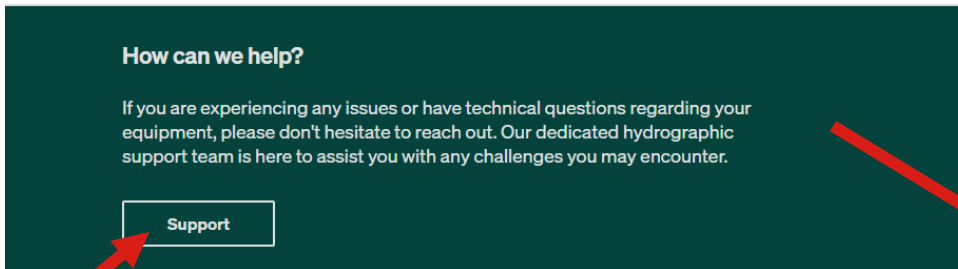


Help and Support

Customer Support Form

[Contact hydrographic support - Kongsberg Discovery](#)

- Use this form directly or as a template for your email to customer support.
- This form is for mapping products.



Help and Support

Customer Support Form

[Contact hydrographic support - Kongsberg Discovery](#)

- Select the office you want to contact

Hydrographic support

Please select your nearest support region.

Norway

Choose option

Norway

Canada

USA

Mexico

Brazil

Germany

Netherlands

Spain

Singapore

Full name*

Company name

E-mail address*

Platform name or ID (IMO number)*

System model*

-- Select an option --

Help and Support

Customer Support Form

[Contact hydrographic support - Kongsberg Discovery](#)

- Add uploads such as BIST, log files, screenshots, etc.

Hydrographic support

How can we help?

PU serial number*

(See label on the PU or in the BIST)

Upload file(s)

No file chosen

Max file size (total): 5MB (Files larger than 5MB will not be received)

For files larger than 5MB, use a file transfer service or cloud storage and paste the file download link below:

Paste url to file transfer service/file download here

I understand and I accept that the data provided when sending this form will be stored as described in the [Privacy Statement](#). (*)

☐ Yes *

Submit

[Reset form](#)

Help and Support

Customer Support Form

[Contact hydrographic support - Kongsberg Discovery](#)

- Include a link for a larger file transfer (e.g., raw data) Dropbox, google drive, sendgb, wetransfer, etc.

Hydrographic support

How can we help?

PU serial number*

(See label on the PU or in the BIST)

Upload file(s)

No file chosen

Max file size (total): 5MB (Files larger than 5MB will not be received)

For files larger than 5MB, use a file transfer service or cloud storage and paste the file download link below:

Paste url to file transfer service/file download here

I understand and I accept that the data provided when sending this form will be stored as described in the [Privacy Statement](#). (*)

☐ Yes *

[Reset form](#)

Help and Support

Global Assistance

- USA: support.lynnwood@kd.kongsberg.com
- Mexico: support.mexico@kd.kongsberg.com
- Canada: support.halifax.umap@kd.kongsberg.com
- Norway: support.umap@kd.kongsberg.com
- Spain: support.spain@kd.kongsberg.com
- The Netherlands: discovery.nl@kd.kongsberg.com
- Germany: support.germany@kd.kongsberg.com
- Brazil: km.support.rio@km.kongsberg.com
- Singapore: km.support.singapore@km.kongsberg.com



Sign up for Mapping News Updates



Stay updated!

Subscribe to be notified when we update our EM Multibeam, sub-bottom profilers and K-Sync.

If you would like to be informed when a software update is available, please sign up to the mailing list:

☐ Yes, I will like to receive information *

Contact name

Company name *

Please add your e-mail: *

By checking off, you confirm that you will receive information about software upgrades on the selected products.
Please slide the bar to the right to confirm.

Locked : form can't be submitted

SUBMIT

A new software update for Kongsberg Discovery seabed mapping systems has been made available

The following system software has been updated:

| System | New version | Short release description |
|--|-------------|---|
| | | <p>There are separate release notes for the EM, K-Controller and SIS5 software.</p> <p>There is a new document for updating the EM processing unit.</p> |
| EM2042 | 1.3.0 | Bundled with SIS 5.15.0 and K-Controller 3.3.1 - See release notes for detailed description. EM2042 600kHz support has been improved, firmware upgrade for the RX fixes an issue with rapid power cycling and updated instructions to upgrade the system firmware are included with the installation documentation. |
| If you want to upgrade from Single to Dual RX, you need to send the System Report to support.umap@kd.kongsberg.com for verification. | | |
| The System Report is on the BIST page in the K-Controller installation parameters menu. Run the test, save to file, and send the file to customer support. | | |
| SIS 5 | 5.15.0 | See release note for updated bug fixes and improvements. New features: QuickGrid, faster water column display, sound velocity plots. |
| K-Controller | 3.3.1 | See release note for updated bug fixes and improvements. New features: automatic telnet logging, installation password and custom runtime page. |

Review

Minutes from RVTEC 2024

- **General dissatisfaction with performance of HWS, old and new models, particularly related to realtime gridding issues**
 - Release of SIS 5.15 with QuickGrid
 - HWS with Windows 11 release this winter
- **Olex has not yet adopted KMALL format – affecting a few UNOLS ships and NOAA FSV's**
 - Colleen contacted Olex and provided them with all necessary information and promise of support
 - Has not been prioritized by Olex – recommend pressure from customers
- **Virtual machine support**
 - Working with Kongsberg Common Hardware to develop a VM release
 - Windows 11 works better
 - Connect to PU with a laptop to do hardware updates
- **Communication of security issues regarding software or hardware**
 - Our systems are designed to operate in isolation. If connected to external resources, this is the responsibility of the user.
 - This would be issued as a technical notice from customer support
 - Currently working on CRA requirement compliance (December 2027) to receive certification (IEC 62443/SL1 – Protection against causal or coincidental violation) for all our products
 - If you do something that you did not mean to, e.g., making incorrect connections, it will not hurt you... you have to manually reconfigure the system
- **2040 backscatter calibration**
 - New tool in K-Controller aiming for winter 2026 – EM2042 first

2025

Open Discussion



KONGSBERG

Thank you!

colleen.peters@kd.kongsberg.com