
Simrad EK80



Software Release Note 2.0.0

Introduction

This document describes the changes introduced with the new software version.

- **Product:** EK80
- **Software version:** 2.0.0
- **Upgrade from version:** 1.12.4

This software controls all functionality in the Simrad EK80. This includes transmission and reception, interfaces with external peripherals and sensors, and all user interface.

Software versions for the transceivers are included with this EK80 release:

- **Wide Band Transceiver (WBT) Software version:** 2.52
- **WBT Tube Software version:** 1.01
- **WBT Mini Software version:** 1.01

Technical changes

- This software version requires Windows 10.
- This is a 64-bit installation.

Do I need to upgrade?

This software update introduces new functionality. It also addresses software bugs that have been reported by our users, or detected during our own product testing.

We recommend that all users update their software.

What's new?

Acoustic Doppler Current Profiler (ADCP)

The EK80 ADCP functionality is based on the innovative EC150-3C.

With the EC150-3C the EK80 now provides an ever more complete overview of the ocean and coastal ecosystems.

- Water current velocities for selected depth layers are presented using vectors using a compass style presentation. There are multiple ways to enhance and refine the display of these velocities.
- ADCP processed data is presented in graphical views. Changes in current velocity magnitude and direction in the depth layer are visible using colour and colour intensity. Visual markings of the seafloor, depth range adjustments, colour span and similar functionality can be used to enhance the presentation. You can also use the quality measurement filters for **Error Velocity** and **Percent Good** to enhance the displays.
- ADCP processed data is provided in different output file formats for the convenience of external sensors and post processing systems. Sample data is provided in raw file format and processed data on the ADCP NetCDF4 file format.
- A dedicated interface for University of Hawaii Data Acquisition System (UHDAS) is included.
- Built-in support for ADCP calibration is provided.
- ADCP views are also available on the EK80 client.

Note

An NTP application and monitor program must be installed to ensure correct time synchronisation for EC150–3C and EK80. Installation procedures for NTP applications are provided in the EK80 Reference Manual.

The ADCP functionality requires KM Binary datagram from the Motion Reference Unit (MRU).

Mission Planner

Mission Planner enables you to define a set of ping sequences. These ping sequences are referred to as *missions*. This functionality has been requested by several user-groups.

For example the use of mission plans allows for alternating transmissions between Continuous Wave (CW), Frequency Modulated (FM), as well as active and passive transmissions. It also allows you to transmit pings in groups, where interfering frequencies are alternated while other frequencies are part off all pings. This opens up for a lot of new sequencing functionality.

Note

The current Mission Planner must be regarded as a beta version. We encourage you to test this functionality for experimental work.

Presentation modes

Presentation Mode is a new feature for customizing the user interface. You can now create your own presentation modes (combination of views). Each mode is selected using dedicated tabs on the bottom bar.

Select **Docking View** in the **Display** menu to activate/turn on this functionality. Select **Presentation Mode** to create your own tab and use **Add Window** to populate the presentation.

The **Views** and **Presentation Mode** features are also available for the EK80 Client.

New datagrams

- Support for NMEA DDC (Display Dimming Control) datagram has been implemented.
- Support for NMEA MTW (Mean Temperature of Water) datagram has been implemented. This ensures water temperature information can be received from a temperature sensor.
- Support for the new proprietary KM Binary datagram has been implemented. This is a datagram for heave, pitch and roll information from compatible motion reference units (MRU). The datagram has a very high resolution on timing and sensor parameters.

ADCP hardware requires the use of this datagram.

Improvements

The following specific changes have been made.

- Transducer multiplexing is enhanced. You can now multiplex any transducers, independent of frequency, as long as you have the same transducer configuration input on each side of the multiplexer. This means you can for instance multiplex between two three-sector transducers in combination with two single-beam transducers.
- Global ping numbers have been introduced. The ping numbering for all views is now synchronized and each ping is assigned a unique ping number. This makes it easier to reference the pings from different views.
- The Biomass line has been changed from showing single ping biomass to showing the integrated biomass for the pings within a selected calculation interval.
- An alarm for transducer error has been added. Each transducer is continuously tested during normal operation. The alarm is triggered if the test shows an impedance outside specifications.
- Support for bot-files is included. The file format bot is now generated and supported by the EK80 software. The bot-files provide bottom detection values for each channel.

- A new option for transducer installation is introduced. A split-beam transducer with four sectors can now be installed as a single beam transducer. This is done by wiring the transducer for single beam operation, and check the **Connected as single-beam transducer** check-box when the transducer is added in the **Transducer Installation** page.
- The use of a sound velocity profile has been added.

Select **Environment** in the **Setup** menu. This dialog box provides a separate **Profile** page for sound speed profile . Use this page to specify the profile file. **Transducer Face** there is a **Profile** option.

- On the **Water Column** page, under **Sound Speed**, select **Profile**.
- On the **Transducer Face** page, under **Select transducer sound speed source**, select **Profile**.

The selected profile is included in the raw file format.

- With this release we introduce *Auto* range as a new option for the depth displayed in echograms. By selecting **Auto**, the EK80 automatically adjusts the range according to the current depth.
- For towed bodies, depth information has been added to the raw-file output.
- This version include some changes to the parameter interface.

For further details about this, contact our support department:
simrad.support@simrad.com

Bug fixes

- In the **Normal Operation** dialog box, the *High Resolution* filter type has been renamed to *Short*. This is to emphasize the short impulse response for the filter.
- Some users reported crash when passing the date line. This is fixed.

- Fixed a bug related to program-crash when having more than 3000 pings on the display in combination with redrawing of event marker and tick marks.
- The frequency axis in the **BITE** noise view has been corrected.
- The transducer sector numbering in the **BITE** dialog box has been corrected.
- When inspecting the sphere characteristics you no longer risk to remove calibration sphere inhibit bands. These are frequency bands for a calibration sphere which you have removed from the calibration process.
- A small error in the time-date formatting has been fixed. Now all formatting is taken from your Windows® preferences.

Support for new transducers

The following transducers are now supported:

- EC150-3C

Known issues

Language

This information is valid if you prefer to use the EK80 with another menu language than English.

This version support English language only. Multilingual support will be included in future releases.

End-user documentation

The end user documentation for the Simrad EK80 Wide band scientific echo sounder has been updated with this release.

Reference manual for release 2.0.0 is included on the EK80 software media (USB flash drive). Raw file format descriptions can be found in the *Interface manual*, a new manual part of the

end-user documentation. End user documentation can also be downloaded from the product website <https://www.simrad.com/ek80>

Note

This EK80 release is available in English only. Other languages will be available in future releases.

The EK80 *Reference Manual* is included with the EK80 software as context sensitive on-line help.

Software licenses

The EK80 needs one or more software licenses to work. Each software license code "unlocks" one transceiver for operational use with a set of predefined properties.

You do not need to obtain any new license string(s) when you update from a previous version of a licensed EK80.

In order to obtain a software license you must contact a Simrad dealer or distributor. You can also use the request form on <https://www.simrad.com/support>, or contact our support department directly.

Tip

Once you receive your software license string(s), do not lose them. We suggest that you copy the information into a text file (for example Notepad), and add relevant information. Place the text file on the Processor Unit desktop, and make sure that backup copies are made.

Software installation

When a new EK80 software version is released, it must be installed on your Processor Unit.

A dedicated wizard is used to install the EK80 software. You need administrative privileges on your Processor Unit to do the software

installation. Installation of additional operating system components may be required. These are installed automatically. Observe the information offered in the wizard.

If you have a preliminary ("Beta") software version installed, it must be removed before you can update. Use the operating system functionality to remove the old software version.

Note

This release of the EK80 does not allow for updates of EC150-3C software or firmware.

Software versions for the transceivers are included with this EK80 release:

- **Wide Band Transceiver (WBT) Software version:** 2.52
- **WBT Tube Software version:** 1.01
- **WBT Mini Software version:** 1.01

Make sure that correct transceiver software is installed on your transceivers. Select the Transceiver information field in the **Installation dialog**. Select the transceivers one by one and check that the correct Software version is listed in the Transceiver Information field. Update the transceiver software where required.

For more information, refer to the context-sensitive on-line help.

Note

Before you update the transceiver software, make sure that you only have one computer running the EK80 software in your network. This computer must be connected to all the relevant transceivers. Cycle the power on the transceivers before you download the transceiver software.

Reinstall all transceivers which have not already been reinstalled during transceiver software update.

We recommend to perform new system calibrations. Refer to the *Reference manual* for calibration.

Registered dealers and distributors can download the new software version from the "Simrad Dealer Club". To access the "Simrad Dealer Club", visit our website.

- <https://www.simrad.com/sdc>

Related topics

[End-user documentation, page 3](#)

Read this before you upgrade from 1.8.3

If you need to update from software version 1.8.3, special considerations must be made.

Before you upgrade

- 1 Write down the current transducer installation parameters.
- 2 Write down the current transceiver installation parameters.

This is because these parameters are deleted by the upgrade. Due to new installation parameter formats, all transducers and transceivers must be reinstalled. We apologize for the inconvenience.

After the upgrade

- 1 Calibrate all your transducers one more time.
- 2 Reinstall sensors that are using the VTG datagram.
- 3 Remove transducers that you have installed with port/starboard orientation, and add again with vertical or horizontal orientation.

Reporting issues

Any issues related to the user interface or the performance of the Simrad EK80 can be reported to us.

Please use e-mail address.

- simrad.support@simrad.com

Include the phrase "EK80 issue" in the title of the e-mail.

Minimum computer requirements

Unless specifically ordered from Kongsberg Maritime, the EK80 is not provided with a computer. This item must be purchased locally.

If you purchase a computer locally, make sure that the chosen model meets the functional and technical requirements.

It is important to make sure that the chosen computer model is relatively new with sufficient processing power, a high performance graphic adapter, and a high speed network adapter. The computer must be able to facilitate the various interface requirements made by the EK80, and you may need to add extra Ethernet and serial adapters.

Note

The computer design and construction must allow for maritime use, easy access to connectors, parts and cables, and a safe installation.

A laptop computer may be used as long as it meets the functional and technical requirements.

The minimum technical requirements are:

- **Processor:** Intel I7 (or better)
An equivalent type from another manufacturer can also be used.
- **Memory:** minimum capacity 4 GB
- **Hard disk**

If you wish to record large amounts of EK80 data, make sure that you have enough space on your hard disk. Unless your Processor Unit is equipped with a very large disk, we recommend that you save the data to an external storage device.

- **Graphic adapter**

- Minimum resolution (pixels): 1280 x 1024
- Recommended resolution (pixels): 1920 x 1200

The graphic adapter must support DirectX9.0c, and must be compatible with Direct3d and OpenGL. A large number of commercial graphic adapters are available, and we have not tested all of them. Even adapters that meet the minimum specifications may fail with the EK80 software. We welcome any feedback with comments or experiences with graphic adapters.

- **Serial interfaces**

The number of serial lines depends on the interface requirements.

If you have connected a USB-to-serial adapter to the Processor Unit, do not remove it while the EK80 is running. Do not move the adapter to a different USB socket on the Processor Unit.

- **Operating system**

We recommend you to install all Microsoft's latest Windows 10 updates, before installing EK80.

The EK80 software has been designed for Windows 10. Operating systems older than Windows 10 are not supported.

- **Ethernet adapter**

- Type: Intel 82571 (or better)
- Minimum bandwidth: 1 Gb/s

To communicate with the Wide Band Transceiver (WBT), a high quality Ethernet adapter is required. Two adapters are required if the Processor Unit shall also be connected to a local area network (LAN).

The Ethernet adapter communicating with the Wide Band Transceiver (WBT) must offer a **Receive Buffers** function. This parameter must be set to its maximum value if more than one Wide Band Transceiver (WBT) is used.