
Simrad EK80



Software Release Note 21.15.1

Introduction

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

- **Product:** EK80
- **Software version:** 21.15.1
- **Upgrade from version:** 21.15 or 2.0.1

This software controls all functionality in the EK80 system. 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:** 2.54
- **WBT Tube Software version:** 1.01
- **WBT Mini Software version:** 1.01

Software version for ADCP transceiver/transducer in this release:

- **EC150 Software version:** 2.45

EC150 fixed time-tagging with auxiliary remote synchronization. Please contact support for upgrading from versions prior to 2.43.

Technical changes

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

Do I need to upgrade?

This release does not offer any new functionality to your EK80 system. However, the release may still be useful to you, as a known software bug has been corrected.

We recommend that all users update their software.

What's new?

This is a bugfix release. In the **Configuration Datagram** the field **ApplicationName** was left empty in software version 21.15. In this new version the **ApplicationName** field says **EK80**. This field is used by **Echoview 12**.

This release note applies to both software version 21.15 as well as 21.15.1.

What is new for ADCP?

- **Added filtering of ADCP data**

The quality measurement filters for ADCP data have been improved. The samples to be used for current speed calculations are now derived based on backscatter values of the samples. There is a range of backscatter values for samples which can be selected for water current calculations. The filter settings are also added to the NetCDF4 file.

- **The content of ADCP-netCDF4 files is now configurable**

The content of ADCP netCDF4 files has been made configurable. This way you can limit the parameters to those of importance to you.

New features in the user interface

- **Mission has become Advanced Sequencing**

The term "mission" has been replaced by "advanced sequencing" as this is a more accurate description of the ping sequences created. This affects dialog boxes and buttons which will change names from **Mission** to **Advanced Sequencing** and **Select Mission** to **Select Advanced Sequencing**. The functionality remains the same.

- **External Sensor information pane**

The **External Sensor** information pane is new and you open it by selecting the recording button (has a 1-2-3 marking) on the top bar. The **External Sensor** information pane presents data from different kind of sensors connected to the EK80 system. This includes information not only from the navigation sensors, but also from sensors such as motion and temperature. The sensor values will be configurable and displayed in views which are resizeable to improve visibility from a distance.

- **Recording information pane**

The **Recording** information pane is new and you open it by selecting the recording button

on the top bar. The *Recording* information pane shows an overview of the recording in progress. This includes a recording indicator, file name and maximum file size as well as a live updates on file size and recording rate, amongst other. The information pane is resizeable to improve visibility from a distance.

- **Reset Layout and Rearrange Views added to Docking Views functionality**

The rearrange views function will set the size of all vertical views to their default positions and sizes.

The reset layout function will remove any new presentation modes and views, and return the display views to the default screen layout.

- **BITE has become Diagnostics**

The **BITE** dialog box has been renamed **Diagnostics**. All functions remain the same, except for improvements, it is only the name of the dialog box which is changed.

Other new implementations included

- **New water temperature measurement for certain transducers**

Some of the transducers now include a sensor for registering water temperature. When available, the sensor can be selected in the **Sensor Configuration** dialog box.

- **Multiplexing two transducers**

EK80 may multiplex input from two transducers. Transducers of any geometry can now be multiplexed as long as valid licenses are provided.

- **Transmit pulse with Power/Angle data**

When recording WBT CW as Power/Angle, complex samples are now recorded during transmission to allow for monitoring of the transducer impedance. This is stored as RAW4 datagram in addition to the Power/Angle information.

- **New option for monitoring the time synchronization when using EC150**

In the **Diagnostics** dialog box you can now monitor the difference between the clocks in the PC and the Navigation unit (Sensor), and between the PC and the EC150 (transceiver). Synchronisation of these clocks is important for the best possible ADCP accuracy.

- **Calibration transceiver channel check**

The backscatter level on all split-beam sectors are compared to detect any malfunctioning transceiver channels.

- **Reset distance counter**

A reset button is available for the distance sensor input and enables the operator to manually reset the distance counter.

- **Sample format for EC150 in ADCP mode is scaled to match the format of the WBTs.**

Previously sample format for EC150 when in echo sounder mode was handled differently from sample data from WBTs and other echo sounders.

The sample format used in **Sample binary datagram** for EC150 and WBTs is now the same. The EC150-3C sample format is now scaled to match the format of the WBTs.

- **Maximum deviation of time settings**

Maximum deviation between PC clock and the time setting in the ZDA datagram can now be defined by the operator. In the Installation dialog box on the Sensor Configuration page you will find a setting for this. If the deviation exceeds this setting, the system clock will be adjusted according to the ZDA datagram time setting.

Note _____

Do not use ZDA time settings if the system time is synchronized from an NTP server. Synchronization with an NTP server is used with EC150.

- **Edit transducer parameters manually**

This is a new feature which enables the operator to specify parameters for both CW (Continuous Wave) and FM (frequency Modulated) transmissions. Editing of transducers is done in the **Installation** dialog box on the **Transducer Installation** page. This page now contains a new button, **Modify Transducer Parameters**. In the dialog box which opens, **Transducer Parameters Form Control** the operator can specify parameters for both CW (Continuous Wave) and FM (frequency Modulated) transmissions.

REST API and Swagger interface

REST API has been introduced in the EK80. A REST API allows a client to request information from a server using HTTP commands similar to requesting data from a web site. This is a powerful interface for remote control of the EK80. For EK80 the API is used for setting and receiving data and for subscribing to data. The API is documented using Swagger.

The REST API and Swagger interface is described in the EK80 Interface manual.

Improvements

The following specific changes have been made.

- **Sensor values status**

Sensor values, visible in the top bar, have a colour code to indicate the status of each sensor value.

- Blue: Sensor value was received as normal.
- Red: Sensor value has been lost.
- Yellow: Sensor value was entered manually

- **Advanced Sequencing and operational mode**

The **Advanced Sequencing** option was previously only available when in *Normal* operational mode. Now **Advanced Sequencing** is also available for configuration when in *Inactive* mode. This enables you to define sequences also when EK80 is offline.

- **Target Strength calibration presentation**

This improvement applies to the **Calibration Wizard** page #4 and the field **Target Position**. The field now shows all the echoes imported into the calibration program, also echoes outside the 3 dB bandwidth marking.

- **Ensuring all calibration results are valid**

A new feature has been implemented when storing calibration results for EK80. EK80 now evaluates and notifies the operator if the results are inconsistent. This way the use of illegal calibration results is avoided.

- **Start calibration using default transducer parameters**

This is a new feature to improve calibration. If your previous calibration went wrong you can use the default values and hence not be affected with the faulty transducer parameters.

- **Compatibility between ADCP data and UHDAS**

ADCP data output now compatible with UHDAS (University of Hawaii Data Acquisition System).

- **ADCP data displayed on EK80 Clients**

Previously the ADCP Views were not displayed in an EK80 Client. This has been improved and you can now see all the ADCP Views using an EK80 Client configuration.

- **Select time-stamps for your ADCP data**

You can now select to process ADCP data based on epoch clock or PC clock. (Epoch is synonymous to the clock in the EC150 transceiver.) If the system is properly synchronized, selecting epoch time-stamps will provide the maximum measurement accuracy.

- **Requested Ping Interval**

The **Ping Time Monitor** page in **Diagnostics** dialog box has been improved to give better information regarding what is restricting the ping rate. The page now displays both the **Requested Ping Interval** value and the **Actual Ping Interval** together with the **Range** selected and any active layer.

Bug fixes

- KM Binary decoding has been improved. The datagram now accepts +/-180° or 0-360° for heading.

End-user documentation

The reference manual for this release is included on the EK80 software media (USB flash drive) and as context sensitive on-line help. Available language for this release is English.

kongsberg.com/ek80

The EK80 Interface manual is updated with this release. It includes descriptions of the software interface and file formats. End user documentation can also be downloaded from the product website

Remote control and data subscriptions changes

The introduction of advanced sequencing functionality requires the channel names to be extended. This is in order to distinguish between channels used for ADCP and channels used for echo sounders.

The parameter:

```
local/TransceiverMgr/Channels
```

provides a list of the names of available channels in the system, channel names. These channel names are still in use and sorted under:

```
local/TransceiverMgr and local/Sound-StorageManager
```

To identify parameters sorted under `local/ProcessingMgr` and `local/WindowManager/ModeControl` you need to append “_ES” to the channel names. This is also the case when identifying channels for data subscriptions.

Note _____
The parameter control and subscription API does not support the operating mode Mission.

Software licenses

The EK80 system 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 system.

In order to obtain a software license you must contact one of our dealers or distributors. You can also use the request form on our website, 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 computer desktop, and make sure that backup copies are made.

Software installation

When a new software version is released for the EK80 system it must be installed on your computer.

A dedicated wizard is used to install the software. You need administrative privileges on your computer 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.

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 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.

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.

- www.kongsberg.com/sdc

Related topics

[End-user documentation, page 4](#)

Minimum computer requirements

Unless specifically ordered from Kongsberg Maritime, the EK80 system is not provided with a computer. A suitable computer 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 that the chosen computer model is relatively new with sufficient processing power, a high performance graphics adapter, and a high speed Ethernet adapter. The computer must be able to facilitate the various interface requirements made by the EK80 system, and you may need to add extra Ethernet and/or serial adapters.

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The computer design and construction must allow for maritime use. Easy access to connectors, parts and cables must be provided. Make sure that the installation method allows for the physical vibration, movements and forces normally experienced on a vessel.

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

The minimum technical requirements are:

- **Microprocessor:** Intel I7 (or better)

An equivalent microprocessor type from another manufacturer can also be used.

- **Memory:** minimum 4 GB

- **Hard disk**

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

- **Graphics 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 adapters**

The number of serial lines depends on your interface requirements.

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

- **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 transceiver, a high quality Ethernet adapter is required. If you wish to connect the computer to the ship's network, you need two Ethernet adapters.

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

Contact support

If there are any questions or issues related to the EK80 product, upgrade, user interface, performance etc, please don't hesitate to contact our support team.

Please use e-mail address.

- km.support.science@km.kongsberg.com

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