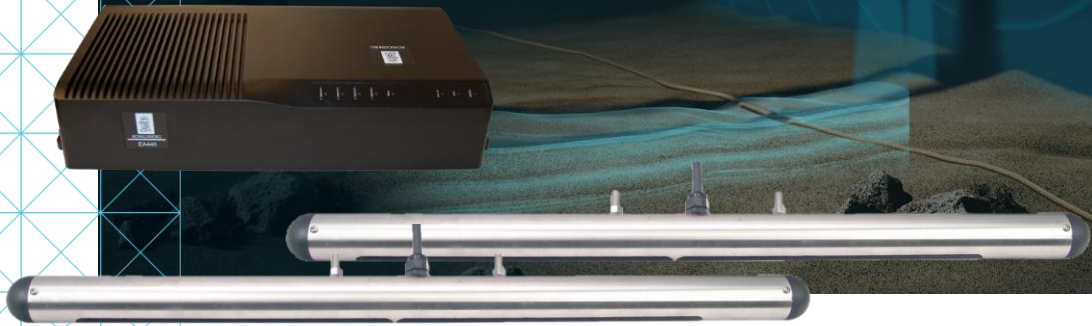


EA440



KONGSBERG



APPLICATION NOTE

EA440 for sidescan sonar survey

EA440

- High performance hydrographic depths from 30 kHz to 500 kHz
- Sidescan sonar application from 100 kHz to 500 kHz
- Sub-bottom profiler application from 10 kHz to 30 kHz
- Available with high power output from 30 kHz to 50 kHz
- Extensive range of transducer interfaces, both Kongsberg transducers and third-party transducers
- Splash proof all-in-one hardware setup available
- CW and FM pulse forms
- True raw data logging
- World class bottom detection
- New map display to track your coverage

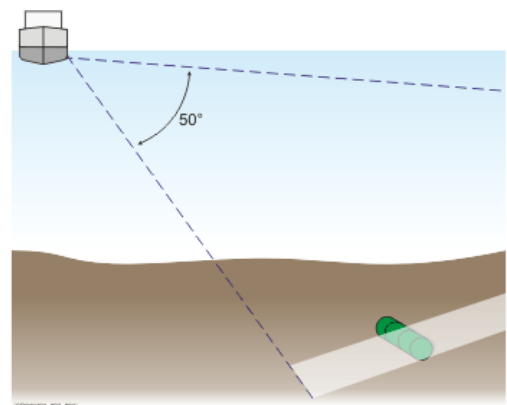
EA440 is a high performance hydrographic wide band single beam echo sounder. The echo sounder is developed for hydrographic use in shallow to medium depth waters. It also supports portable and hull mounted sidescan sonar survey.

EA440 sidescan sonar surveys

Sidescan sonar surveys are used to image objects on the seabed, e.g. wrecks, pipelines and cables, boulders or obstacles that may prevent safe navigation. Sidescan is also used to monitor riverbanks, erosion, landslides and flow induced sediment deposits.

Specially designed transducers for hull or over-the-side mounting are available from Kongsberg Maritime for sidescan operation. The operating frequency is 120, 200 or 500 kHz.

With a beam width of 50 degrees vertically and only 0.5 or 2 degrees horizontally the scanning sector is narrow enough to resolve relatively small objects on the sea floor, but wide enough to allow higher survey speeds than with conventional side looking echo sounders. Bottom elevations and objects are immediately recognized in the EA440 echogram

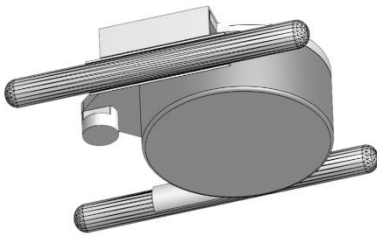




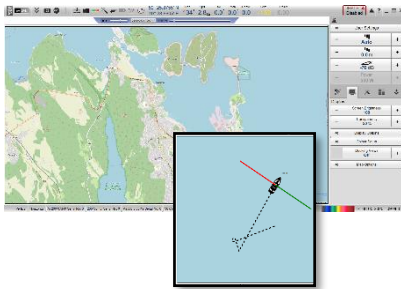
EA440 Wideband transceiver (WBT)



200 kHz or 500 kHz sidescan transducer



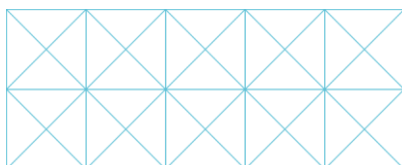
Tailor-made bracket for sidescan, 15 kHz for sub-bottom and 200 kHz depth transducer



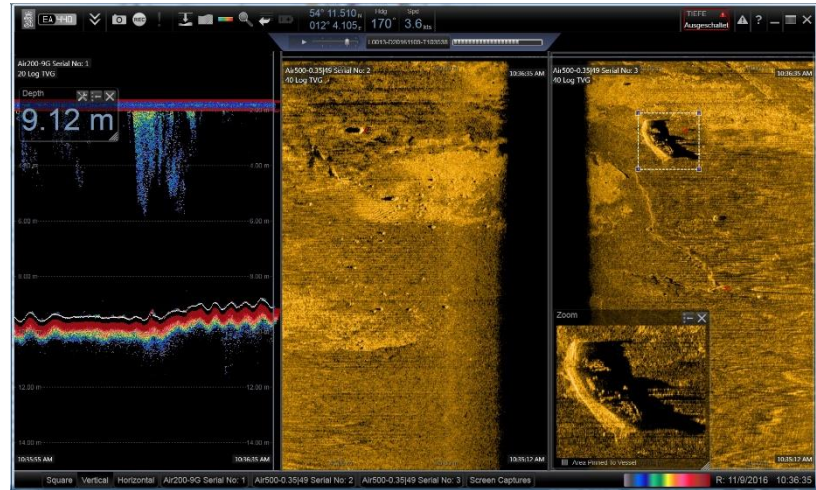
Map display for tracking of vessel and sidescan coverage (for WBT users only)



EA440 splash proof solution



EA440 sidescan sonar images



Several color scales are available for the sidescan view and can be chosen depending on the user's preferences.

EA440 sidescan data is logged in the raw data format. The sidescan data can be read by third party software systems using the EA echogram output format. Sidescan sonar data can also be logged and/or output in the commonly used XTF format.

Objects in the sidescan view can be marked by a mouse click and the position information will be stored. This data can then be exported in real time to external software if connected to a GPS positioning and heading device. With an extra zoom function objects of interest can be scaled up for detailed inspection. The zoom area is freely adjustable, and the window can be positioned as an overlay on any part of the sidescan echogram.

Sonar Mosaic

Sonar Mosaic is a Kongsberg Maritime software tool for real-time or post-processed creation of georeferenced mosaic of the sidescan sonar data. Sonar mosaic will read EA440 sidescan sonar raw data or XTF data and create a georeferenced mosaic of the files. The mosaic can then be saved as geotiff files for further use and visualization of the sidescan data.

EA440 system configuration for sidescan sonar survey

The EA440 sidescan sonar transducers occupy 2 of 4 WBT channels. The EA440 system allows for combined application with depths and/or sub-bottom profiling.

