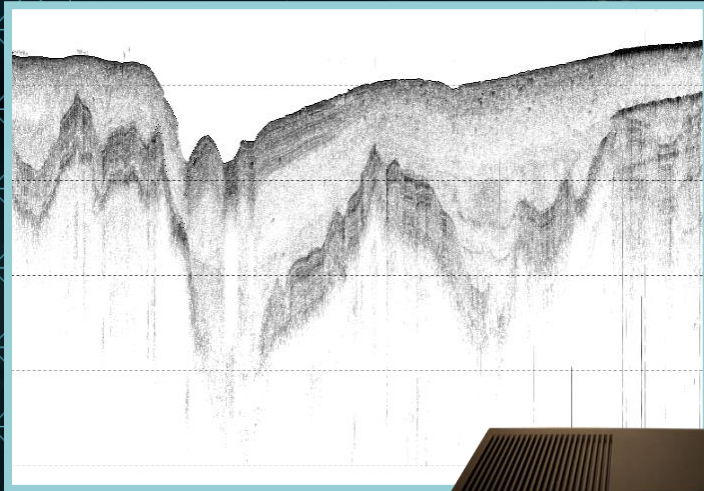




KONGSBERG

EA440



APPLICATION NOTE

EA440 for sub-bottom profiling

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
- Maximum range for low frequency transducers (<30 kHz) is 300 m
- 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
- 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 sub-bottom profiling functionality for shallow waters.

EA440 for sub-bottom profiling

Sub-bottom profiling is used to image the sediment layers below the sea bottom.

Using the EA440 for sub-bottom profiling is an inexpensive and portable solution well suited for imaging the top layers, e.g., for port or river surveys.

The 15 kHz 15-17 transducer provides a wide frequency band, allowing for both short CW pulses for highest resolution, as well as chirped signals for deeper waters.

EA440 sub-bottom functionality includes logging to the standard exchange format SEG Y, a file format that is read by most sub-bottom profiling software systems for further enhancement and interpretation and digitization of the images.

The EA440 software also provides its own image enhancement by bottom gain functionality.

Note that the use of low frequency transducers, i.e., transducers with frequency below 30 kHz, is limited by the EA440 software to maximum 300 m range. For full ocean depth range of the low frequency transducers EA640 is the system to use.

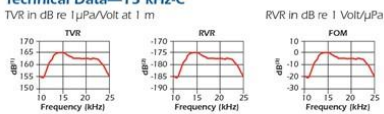


EA440 for sub-bottom configuration. The EA440 sub-bottom functionality occupies 1 of 4 WBT standard channels, and the system allows for combined application with depths and/or sidescan sonar

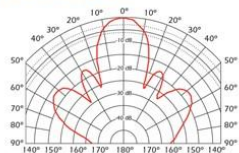


The 15-17 15 kHz transducer used for sub-bottom profiler application
 KM order no: KSV-223313
 Beam width: 17 deg
 Weight with 15 m cable: 28 kg
 Diameter: 368 mm

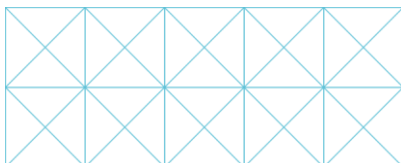
Technical Data—15 kHz-C



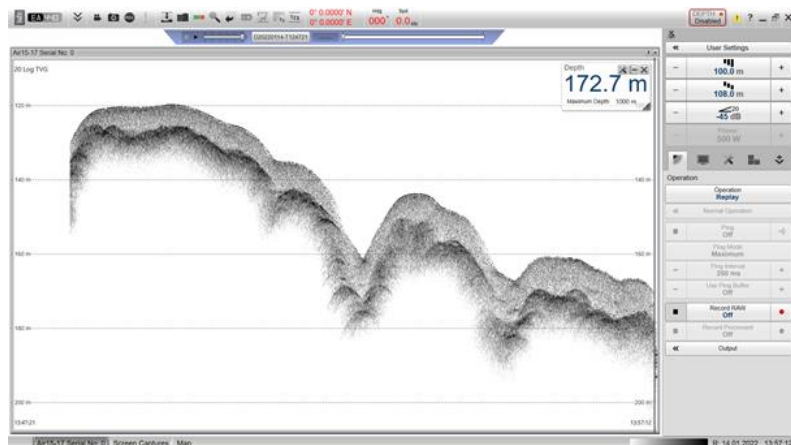
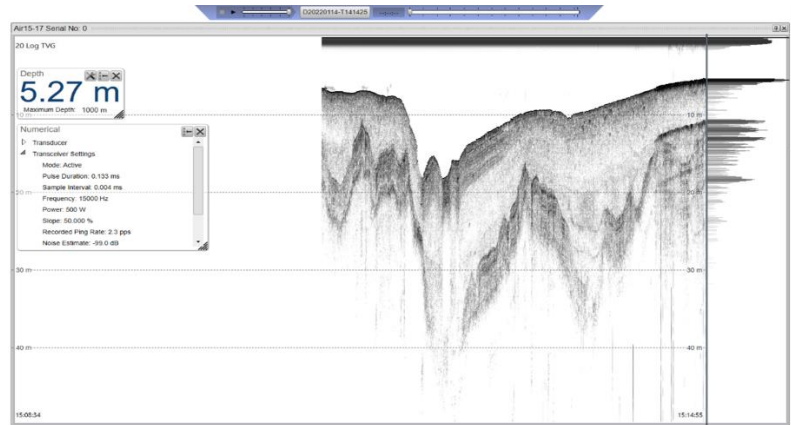
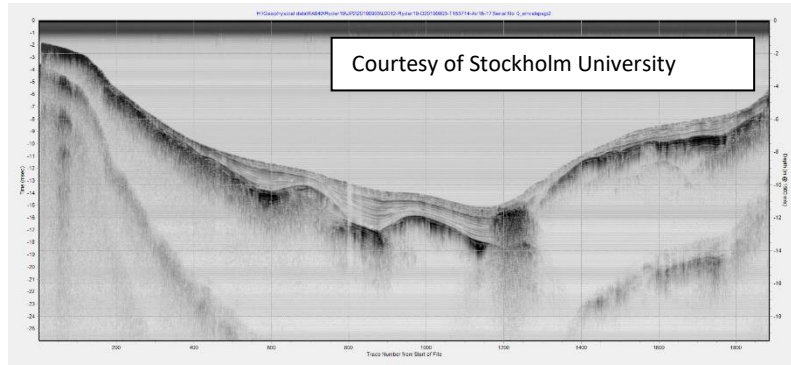
Directivity Pattern—15 kHz-C



Acoustical data for the 15-17 transducer



EA sub-bottom data examples



The EA440 software

- The EA440 software is an intuitive and user-friendly software. You can set up the display to suit your special needs. You can choose different presentations on the screen for echograms, map view, digital depth and other features. Save user settings for different operations and you can use these at your ease.
- EA440 offers internal storage of all raw sample data. This includes all external input sensor data for replay purposes.
- EA440 has many options for outputting data to port, or to save data in different file formats, such as the SEG Y file format.
- The replay functionality provided by the EA440 software can be used for processing purposes, e.g., to enhance the sediment imaging.