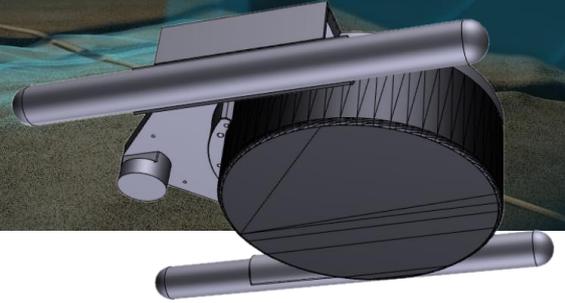


# EA440



KONGSBERG



## APPLICATION NOTE

### 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

## Sidescan, sub-bottom and depths; All-in-one solution

The Kongsberg Maritime EA440 singlebeam echo sounder gives the user an all-in-one system for simultaneous hydrographic depths, sidescan sonar and sub-bottom survey using a single topside transceiver unit and a standard PC. This is only one of many all-in-one configurations suitable for hydrographic applications in shallow waters.

### The choice of transducers and licenses is the key

EA440 provides high-precisions depth measurements from very shallow waters down to approximately 3000 water depths. Range and accuracy depend on selection of transducers.

Sidescan sonar surveys are used to image objects on the seabed, e.g. wrecks, pipes 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 EA440 sidescan operation. The operating frequency is 200 kHz or 500 kHz.

Low frequency sound signals will penetrate the seabed and provide reflections from layers below the seabed. For EA440 this is exploited for providing the users with a low-cost and easy to install sub-bottom profiler. A 15 kHz transducer is normally used. Operations of the low-frequency transducer is for EA440 limited to max 300m water depths.



The 200-3G 200 kHz depth transducer



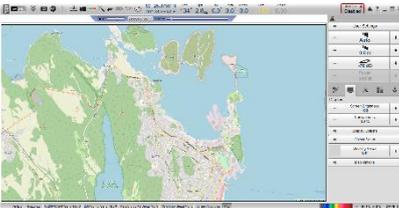
The 500 kHz sidescan sonar transducers



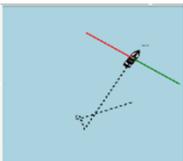
The 15-17 15 kHz transducer for sub-bottom functionality



EA440 Wideband transceiver (WBT)



EA440 map view with vessel tracking and sidescan coverage



## Example configuration for standard WBT with four channels

Channel 1 Depth 200 kHz TD 200-3G	Channel 2 Sub-bottom 15 kHz TD 15-17 kHz	Channel 3 Sidescan port side 500 kHz SSS	Channel 4 Sidescan starboard side 500 kHz SSS
KM order no: 459669 Beam width 3 deg Weight with 15m cable: 5,5 kg Diameter: 176 mm	KM order no: KSV-223313 Beam width: 17 deg Weight with 15 m cable: 28 kg Diameter: 368 mm	KM order no: 368281 Beam width: 0,35 x 60 deg Weight with 15 m cable: 3,4 kg Length: 610 mm	



## Ease of use

The EA440 software will configure, operate, log and monitor your complete survey. The map view will provide vessel track and sidescan coverage.

For small or open boat operation, the EA440 splash proof setup may be a preferred solution. Using the splash proof solution, you can connect the transducer at the back side of the box and connect the computer via the LAN port, also at the back side of the suitcase. Position and heading are connected to the serial port of the computer. The complete solution is powered by 12 VAC.

For ease of transducer installation, a tailor-made bracket for the abovementioned combination of transducers is available.



Sidescan, sub-bottom and depth transducers setup on tailor-made bracket

