

HWS



KONGSBERG



KEY FACTS

- Only 1U high
- 19'' rack mount
- Only 3.6 kilos
- VESA mounts behind display and under-the-desk
- Supports four displays
- SSD or NVMe data disks
- IntelCore I7-8700T
- 16 GB RAM, upgradable
- 115/230 VAC
- Max 170W, 65W typical
- Windows® 10
- Maritime certification

THE SMALL AND POWERFUL HWS:

Hydrographic Work Station

The small and powerful HWS has been optimized for interface access and the ability to work with high data rates and graphics rendering of real time data from EM® multibeam echosounders. The acquisition software Seafloor Information System, SIS, can create Digital Terrain Models (DTMs) from all soundings on-the-fly, and display a full point cloud or DTM in 2D and 3D.

The HWS also serves as operator station for other KM products: SBP 27/29, TOPAS and EA440/640.

The HWS is a maritime certified computer system where all components have been tested together and verified to the standards IEC60945 and E10.

The new generation HWS is smaller and faster than ever before. HWS can be used with all EM® systems, SBP 27/29, TOPAS and EA440/640.

Maritime certifications IEC60945 and E10.



Installing VESA-box behind the display



Installing VESA-box under the desk

Hydrographic Work Station installation

Four standard installation options are available for the HWS:

1 VESA-mount behind the display

In this configuration the HWS has two internal NVMe-disks (500GB and 1TB), two network interfaces and four display interfaces. The HWS is put into a VESA-frame which is installed between the display and the foot.

2 VESA-mount under the desk

Same as above except the VESA-box can now be fastened under the desk (minimum 19mm thick) with screws.

3 19" rack mount fixed shelf

Same as above except the HWS is now installed in a 19" shelf. It is still easy to remove only the HWS from the shelf and put it back in again. This model can be delivered with five network interfaces (optional).

4 19" rack mount sliding drawer

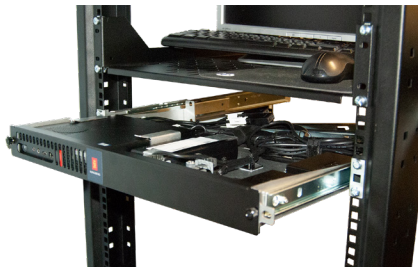
This installation offers two 1TB SSD external disks, five network connections and one RS-232 cable in a shelf that is fastened both in the front and the back of the rack. The depth of the rack must be between 520mm and 742mm. The shelf slides in and out of the rack providing easy access to all components. The external SSD disks can be replaced with empty disks allowing the data to be shipped ashore on the original disks.



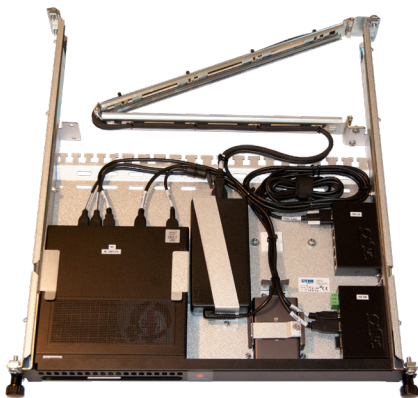
Rack model fixed shelf fastened in front only



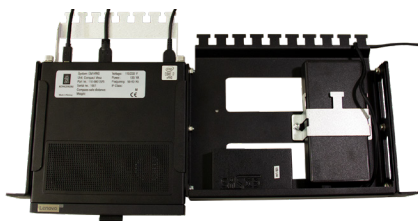
Rack model fastened in front and back, sliding drawer



Sliding drawer installation



Sliding drawer installation



Fixed shelf installation



The HWS is easily removed by pressing down the lip in front, then gently pull the HWS out and detach the cables.

HWS highlights

- IntelCore I7-8700T, the eighth generation Intel® I7 CPU
- 16 GB RAM, upgradable
- 1x512GB system disk and realtime processing, 1x1TB NVMe raw data storage, both internal
- Maritime certifications IEC60945 and E10
- Windows® 10
- Easy to remove the HWS
- 2 network interfaces, optional 5 in the rack mounted version
- USB-C and USB-A in front, high speed data transfer connections
- 4 DisplayPort connections
- Max 170 W, 65 W typical
- Can use both 115 VAC and 230 VAC
- 1U 19" rack-mount available, the complete unit weighs only 6.6 kilos (sliding drawer) or 3.6 kilos (fixed shelf).
- VESA-installation behind-the-display or under-the-desk
- Sliding drawer installation:
 - Easy access to all components on the shelf
 - Fastened in front and back (520 mm to 742 mm rack depth)
 - 1x512GB internal system disk
 - 2x1TB external SSD drives, replaceable
 - 1xRS-232 cable connection

MOVING THE DATA FROM THE HWS

USB-C	The HWS has an USB-C in front capable of copying data to an external disk at a speed up to 400MB/sec. This usually means that an eight-hour survey with EM 2040-data can be moved in about 5 minutes. An optional SSD for this purpose can be delivered with all models.
Network	The extra network connection can be used to copy the data from the HWS to another storage in the network.
Full unit	The HWS itself can be removed from the VESA-mounts or the rack shelves and brought ashore where the data can be offloaded.
Replace external disks	In the sliding drawer installation the external disks can be replaced and brought ashore.

HWS ADD-ONS:

- External power, easy to use the HWS brought ashore if the powersupply can be left on the boat.
- External SSD for data transfer ship-to-shore recommended.
- 19'' fixed rackmount can be delivered with 5 network interfaces (standard is 2).
- RAM can be added upon request.

Hydrographic Work Station

The HWS is also the preferred unit for SBP 27/29, TOPAS and EA440/640.

SBP 27/29 and TOPAS are Kongsberg sub-bottom profiler systems. SBP 29 works integrated with current generation deep water multibeam echo sounders EM 124 and EM 304, proving high source level, narrow beams, high resolution and multibeam sub-bottom functionality.

TOPAS is the Kongsberg series of parametric sub-bottom profiler systems. TOPAS is delivered in configurations for deep waters (PS18, PS40) and shallow waters (PS120). The parametric principle creates sub-bottom signals using small transducer arrays, as well as narrow beams ensuring crisp sediment imaging.

EA440 and EA640 are single beam hydrographic echo sounders tailored for hydrographic applications from very shallow to full ocean depth. The EA systems provide versatile applications using simultaneously up to four transducers in the frequency range from 10 kHz to 500 kHz. The typical applications include reliable depth measurements, sub-bottom profiling and sidescan sonar.

SBP 27/29, TOPAS and EA440/640 operates with software packages that runs reliable on the HWS. In cases where additional serial lines are required, e.g. for external sensor input from positions and attitude, an additional RS-232 junction box can be installed on the same fixed shelf as the HWS.



EA and SBP model