

Application of echosounder and Laser Scan system for surveys of hydroelectric plans and rivers





METHOD DESCRIPRIONS

- Echosounder Single beam (detects the depth of a point under the boat)
- Echosounder dual beam (detects the depth under the boat on a strip)
- StructureScan (allows to view the sea bed and maping position of structures, pipe, etc)

Possible integration with:

• Terrestral laser scanner (for an integrated 3D model of the seabed and the surrounding terrain) Orthophotos (integration bathymetric data and aerial orthophotos with drone)



TOOL DESCRIPTION

Echosounder single and multibeam 2022 R2 sonic sensor motion and gyro and DGPS connection

Technical Specifications			
Feature	Sonic 2024	Sonic 2022	Sonic 2020
Frequency	200 to 400kHz Over 20 frequency selections User selectable in real-time	200 to 400kHz Over 20 hequency selections User selectable in real-time	200 to 400kHz Over 20 frequency selections User selectable in real-time
Bandwidth	60 kHz, all frequency selections	60 kHz, all frequency selections	60 kHz, all frequency selections
Beamwidth	0.3" x 0.6" at 700kHz (optional) 0.5"x1" at 400kHz 1"x 2" at 200kHz	0.6" x 0.6" at 700kHz (optional) 1"x 1" at 400kHz 2"x 2" at 200kHz	2° x 2° at 400kHz 4° x 4° at 200kHz
Swath Sector	10° to 160° All frequency selections User selectable in real-time	10" to 160" All frequency selections User selectable in real-time	10" to 130" All frequency selections User selectable in real-time
Sounding Depth*	400m+	400m+	75m+
Ping Rate	60 Hz	60 Hz	60 Hz
Range Resolution	1.25cm	1.25cm	1.25cm
Pulse Length	15µsec-1000µsec	15µsec-1000µsec	15µsec-1000µsec
Number of Beams	256	256	256
Near-field Focusing	Yes, all beams, over entire sweth	Yes, all beams, over entire smath	Yes, all beams, over entire swatt
Equiangular or Equidistant beams	Yes	Yes	Yes
Roll Stabilization	Yes	Yes	Yes
Rotate Sector	Yes	Yes	Yes
Automated Operation	Yes	Yes	Yes
Depth Rating	100m, 3000m optional	100m, 3000m optional	500m, 3000m optional
Operating Temp.	-10°C to 50°C	-10°C to 50°C	-10°C to 50°C
Storage Temp.	-20°C to 55°C	-20°C to 55°C	-20°C to 55°C
Mains	90-260 VAC, 45-65Hz	90-260 VAC; 45-65Hz	90-260 VAC, 45-65Hz
Power Consumption	50W	36W	20W
Uplink/Downlink	10/100/1000Base-TEthernet	10/100/1000Base-T Ethernet	10/100/1000Base-TEthernet
Deck Cable Length	15m, optional 25m, 50m	15m, optional 25m, 50m	15m, optional 25m, 50m
Receiver Dim (LWD)	480 x 109 x 190mm	276 x 109 x 190mm	155 x 140 x 150mm
Receiver Mass	12 kg	7 kg	4 kg
Projector Dim (LWD)	273 x 108 x 85mm	273 x 108 x 86mm	NA
Projector Mass	3.3 kg	3.3	NIA
SIM (LWD)	280 x 170 x 60mm	280 x 170 x 60mm	280 x 170 x 60mm
SIM Mass	2.4 kg	2.4 kg	2.4 kg





SERVICES

- 3D models of the bottom of rivers, sea, lakes
- Mapping storage volumes of sediment and / or excavations
- Integration with laser-scanner surveys

• Planimetric and elevation surveyes of the seabed and obstacles, structures on the seabed

Data processing



3D models of the bottom of rivers, sea, lakes





Volumes of sediment and/or excavations mapping





Integration with laser-scanner for surveys outer parts





Integration with laser-scanner for surveys outer parts





Planimetric and elevation surveys of the seabed and obstacles, structures on the seabed



MANUFATTI



TUBAZIONI DI FONDO



VEGETAZIONE / ALBERI



FORME DI FONDO / ROCCIA



Mapping storage volumes of sediment and/or excavations





PHOTOS





