

iq Product Datasheet

Sonar iq®

Dual Frequency Bathymetric Survey System



Sonar iQ Dual Frequency SBES System (Hull Mounted)



Introduction to Sonar iQ

Starting a hydrographic survey has never been this easy with Sonar iQ. Our complete system allows you to effortlessly map the seabed anywhere. The package includes:

- Dual Frequency Echosounder
- Dual Antenna RTK GNSS
- Windows Tablet PC with 4G
- Hydrographic Software

Applications

- Hydrographic Surveys
- Aquaculture

No additional power supply is needed. The Echosounder easily interfaces over Bluetooth with the Tablet PC. The simple USB cable connects to the RTK Receiver, which is powered by the Tablet. If additional power is required, simply plug a power supply into the Tablet, and you are all set.

With Sonar iQ, hydrographic surveying is simplified, efficient, and ready to go wherever you need it.



Technical Specifications

Transducer Frequency	30/200 kHz Transducer
•Beam Spread	26° / 5° Conical (-3dB)
•Depth Range	1.0 m ~ 200 m (30kHz), 0.5 m ~ 200 m (200 kHz)
•Accuracy	+/-0.001m (RMS)
•Sound Velocity Range	1400 to 1600 m/sec
•Ultrasonic Ping Rate	100 Hz (adjustable or auto mode)
•Power Supply	10 ~ 75 VDC, 2W max, Internally isolated
•Power supply	USB Powered, 2W max
•Data Format (8 formats)	Profile 10bit/12bit resolution ASCII Text , Profile 12bit resolution Binary , Profile 8bit resolution Binary (12bit compressed to 8bit) , Altitude NMEA0183 / Altitude Simple
•Operating Temperature	-10°C +50°C Centigrade
•Overall Dimensions	Ø74 mm x L90 mm (without connector)
•Weight	0.3 Kg

iQ Radio.eu



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viqtor®



Dual Antenna RTK Receiver

For superior positioning and navigation performance, the ViQtor is equipped with a dual-antenna GNSS engine that can both track GPS, BDS, GLONASS, Galileo & QZSS. Embedded with multi-frequency anti-jamming technology, the ViQtor offers high quality GNSS data even in urban blocks and tree shade.

Except for the web UI accessed via Ethernet/WiFi for professional users. For vertical industry users requiring GNSS navigation data, iQ Radio provides an android app connected via Bluetooth, offering a user-friendly & clean interface.

The iQcloud ViQtor shows high flexibility in data transmission. Users can easily get RTK fixed solution via 4G (NTRIP) or by an external Satel UHF Radiomodule according to the local conditions, and then output the navigation data to their vehicle systems via RS232 serial port, 4G or USB.

iQ GNSS -ViQtor provides multi-band GNSS to in a compact form factor. It is a multi-band GNSS module with multi-band RTK technology for centimeter-level accuracy.

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Technical Specifications:

Satellites Tracking:		Connectors	
GPS	L1 C/A, L1C, L2P, L2C, L5	Interface	1 off 10-pin connector, including 1 RS232, 1 PPS output, 1 USB and power supply
GLONASS	L1, L2		1 off RJ45 for Ethernet
Galileo	E1, E5a, E5b		1 off TNC connector for GNSS antenna
BDS	B1I, B2I, B3I, B1C, B2a, B2b1		1 off TNC connector for UHF antenna
QZSS	L1, L2, L5		1 off SMA connector for 4G antenna
			1 off SIM card slot
Performance:		User Interface:	
Cold start	<30s	LED Indicators	4 LEDs indicating battery, satellite tracking, RTK status and network
RTK Initialization Time	<5s(typical)	WebUI	Accessible via Wi-Fi, Ethernet
RTK initialization reliability	>99.9%		Support configuration, status checking, data transfer, data storage and system upgrade
Re-acquisition	<1s	Power Switch	Power switch on 10-pin cable
Accuracy:		Electrical:	
Standalone	1.5m Horizontally	Power consumption	3.5W
	2.5m Vertically	Input voltage	9 – 28VDC
DGPS	0.4m Horizontally	Battery (optional)	6600 mAh, support up to 13 hours working time.
	0.8m Vertically	MTBF	> 20000 hours
RTK	8mm+1ppm Horizontally		
	15mm+1ppm Vertically		
Heading	0.2°/1m baseline		
	0.1°/2m baseline		
Velocity Accuracy	0.03m/s		
Time Accuracy	20ns		
Data Format:		Physical:	
Data output format	NMEA-0183	Size	110 mm × 110 mm × 110 mm
	Binary format *.xyz	Weight	965 g
Data update rate	Max. 50Hz selectable	Storage	8 GB (expandable to 32GB)storage
Correction data format	RTCM v3.3/3.2/3.1/3.0		Support loop recording
Network protocol	TCP, MQTT2, Ntrip	Housing material	Magnesium-aluminum alloy
Communication:		Environmental:	
4G modem (all territories)	FDD-LTE B1/B3/B5/B7/B8	Working temperature	-40 °C to + 75 °C
	TDD-LTE B38/B39/B40/B41	Storage temperature	-55 °C to + 85 °C
	TDSCDMA B34/B39	Humidity	95% non-condensing
	WCDMA B1/B2/B5/B8	IP Rating	IP67
	GSM B2/B3/B5/B8	Drop	Designed to survive a 1m drop onto concrete
	CDMA1x/CDMA2000 BC0/BC1		
Bluetooth	BT4.0		
WiFi	802.11 a/b/g/n/ac		
FTP	Support FTP download		
NAT-DDNS	Support		

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Features:

Processor:

Powered by an Intel Core i5-10210U processor, offering strong performance for multitasking and productivity.

Memory:

Comes with 8GB DDR4 RAM, allowing for smooth operation and handling of multiple applications at once.

Storage:

Offers a 256GB SSD for storage, providing ample space for documents, media, and applications.

Display:

Features a 10.1-inch IPS touchscreen display with a resolution of 1920 x 1200 pixels, delivering sharp and vibrant visuals.

Operating System:

Runs on Windows 10, providing a familiar and user-friendly interface for most users.

Connectivity:

Supports various connectivity options such as Wi-Fi 802.11ac, Bluetooth 4.2, and optional 4G LTE, ensuring you stay connected wherever you are.

Ports:

Includes USB Type-A, USB Type-C, DB9 RS-232, HDMI, and a headphone jack, offering versatility for connecting peripherals.

Battery Life:

Boasts a long battery life, ensuring you can work or enjoy entertainment without frequent recharging.

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Benefits:

Portability:

With its compact size and lightweight design, the IQ Tablet is highly portable, making it convenient for on-the-go use.

Productivity:

The combination of a powerful processor and ample memory allows for efficient multitasking, ideal for work or school tasks.

Versatility:

Whether you need it for work, entertainment, or creativity, the tablet's features cater to a wide range of needs.

Touchscreen:

The touchscreen display enhances usability, allowing for intuitive interactions with applications and content.

Windows 10:

Running Windows 10 means compatibility with a vast array of software and applications, ensuring you can use your preferred tools.

Connectivity Options:

Stay connected with fast Wi-Fi, Bluetooth for peripherals, and optional 4G LTE for on-the-go internet access.

Storage:

The 256GB SSD provides fast storage and quick access to your files and applications.

Quality Display:

The high-resolution display ensures crisp visuals for media consumption, gaming, or work-related tasks.

Expandability:

With USB ports and HDMI, you can easily connect external devices such as monitors, keyboards, or mice for a desktop-like experience.

These features and benefits combine to make the IQ Tablet a versatile and capable device for various tasks, whether you're working, studying, or enjoying multimedia content.



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Tech Spec

Product Form	10.1 inch Rugged Tablet
Material	-
Dimension	280.4*187*26.6 mm
Weight	1014g
Product Color	Black (black bottom shell, black front shell)
CPU	Intel JASPER LAKE N5100 processor, 4-core, 4-thread, embedded 4 MB SmartCache, TDP 6W, Maximum dominant frequency 2.8GHz
GPU	Intel® HD Graphics Gen 11 LP
Memory	RAM 8GB DDR SSD 128GB
Operating System	Windows 11 Pro
Display	Type: IPS Size: 10.1 inch 16:10 Resolution: 1200*1920 Brightness: 400cd/m ²
Touch Pannel	10 points capacitive screen, G+G, hardness above 7H, scratch resistant
Camera	Front 5.0MP Rear 8.0MP
Buttons	Power *1 Volume Adjustment Key (+) *1 Volume Adjustment Key (-) *1 F Key *1 (Barcode Scanning), When there is no scanning function, it can be customized P Key *1 (HOME Key), When there is no scanning function, it can be customized
Speaker	8Ω/1W Waterproof BOX Speaker *1
Microphone	Sensitivity: -42db, Output Impedance 2.2kΩ
Senssors	G_sensor
RTC	Built in RTC clock button battery
TPM	Built in TPM SLB9670VQ2.0 FW7.85
Battery (Tablet)	Removable Li-polyment Battery 5000mAh/7.4V 6 hours (50% volume sounds, 200 nits brightness, 1080P HD video display by default)



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WIFI	WIFI 802.11(a/b/g/n/ac) Dual frequency 2.4G+5.8G WIFI Intel 9461
Bluetooth	BT5.0 (BLE) class1 Transmitted distance : 10m
2G/3G/4G	MeiG 750 LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 China (Unicom, mobile support is poor, only B8 supports without TDD band) Europe, Middle East, Africa, Taiwan, Japan
GPS	Support GPS, Glonass

I/O Interface	USB3.0 *1, Type C *1 (USB3.0/HDMI/Charging) ϕ3.5mm Standard earjack *1 HDMI 1.4a Type C *1 SIM card *1 TF card *1, Max: 512GB DC 19V 3.42A ϕ4.0mm jack *1 12PIN Pogo Pin *1 DB9 serial port *1 (RS232) TTL level RJ45 network port *1 (10/100/1000M adaptive)
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Reserved Interface	USB *1, Restructuring Serial port *1, Restructuring
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Adapter	AC100V ~ 240V 50Hz/60Hz Output DC 19V 3.42A
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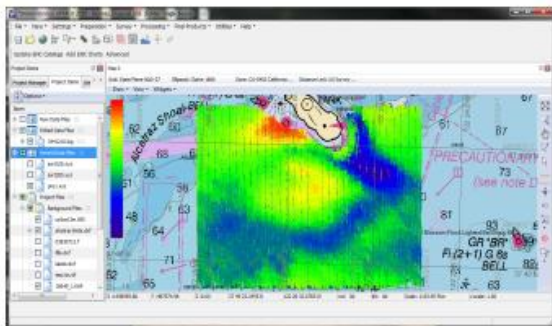
Rugged Features	MIL-STD-810G: 1.22m drop Working temperature: -20 °C to 60 °C Storage temperature: -30 °C to 70 °C Electrostatic discharge: ± 8kV contact discharge, ± 15kV air discharge Humidity: 95% Non-Condensing
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Certification	IP65 CE NB FCC CCC MIL-STD-810G Battery: UN3803, MSDS, Aviation report, Marine report, IEC62133
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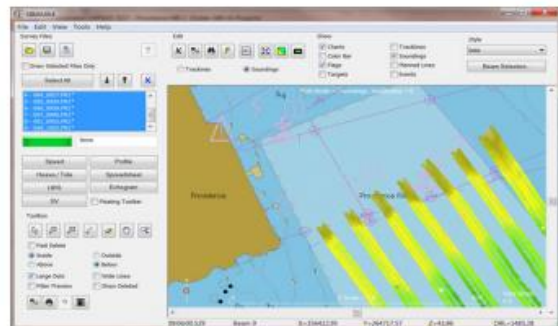
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Singlebeam software specifications:

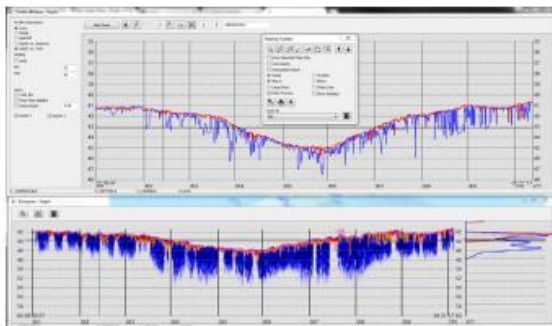
- Survey Planning Shell, Web Map Server, Line Creation, Autonomous Mission Planning Geodesy Support for UTM, State Plan, Multiple Grids, WGS84, and Other Ellipsoids
- Position Support GPS (NMEA-0183), RTK Support (NMEA, POS MV, SBG, VectorNav)
- Motion Support TSS1 Message
- Echosounders Supported Atlas, CEEDUCER PRO/CEESCOPE, EchoLogger, ELAC MKII HydroStar, HydroBall, Innerspace, Kaijo, Knudsen, Kongsberg, Marimatech, NaviSound, Navitron, Ocean Data Bathy, SonarLite, SonarMite, Teledyne Odom, and any NMEA compatible sonar.
- Data Processing Engine Single Beam Editor (64 bit) with DXF Contour and XYZ Sort
Option Export Files XYZ, HS2x, EDT, DXF, DWG, DGN, KMZ, SHP Final Products Sort, Export to XYZ, Plotting, DXF



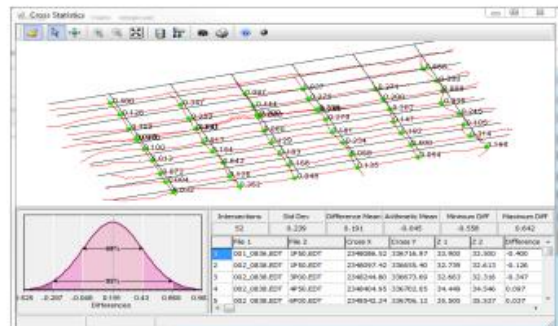
Colored sounding on ENC background chart.



Single beam data editing, sorting, and DXF Contours.



Single beam bathymetric profile and echogram.



Cross-statistics module for performance test.