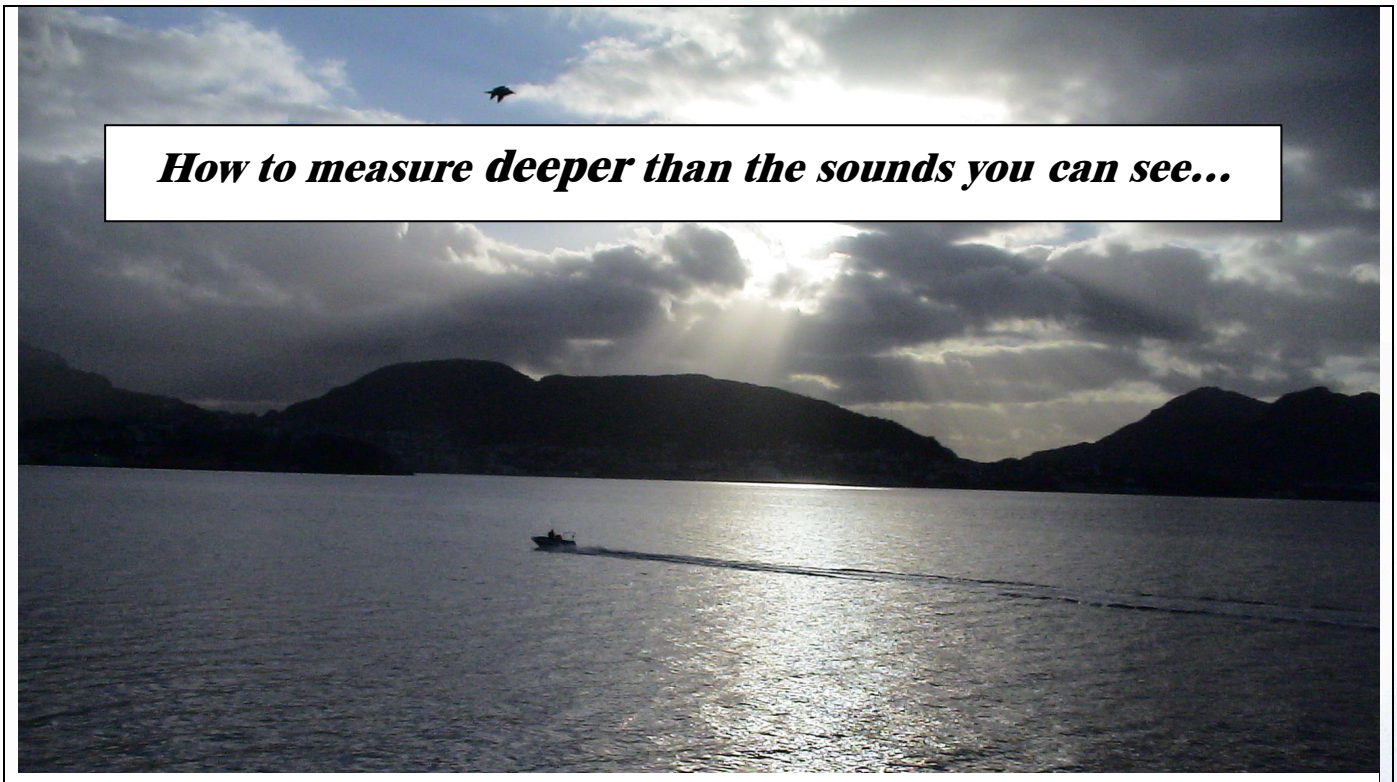
NAXYS Ethernet Hydrophone 02345

NAXYS™ Technology www.bjorge.no



..it can be done by the **Naxys Ethernet Hydrophone**
down to 3000m depth.

Applications:

ROV/DREDGER/TRENCHER monitoring
Sub sea valves, pumps, sub sea condit. monit.
Marine research, for stand alone systems
Environm. concerns due to marine activity
Cavitations measurement
Tsunami early warning systems
Safety in sea traffic, permanent ports and
Coastal monitoring in real time.

Feature:

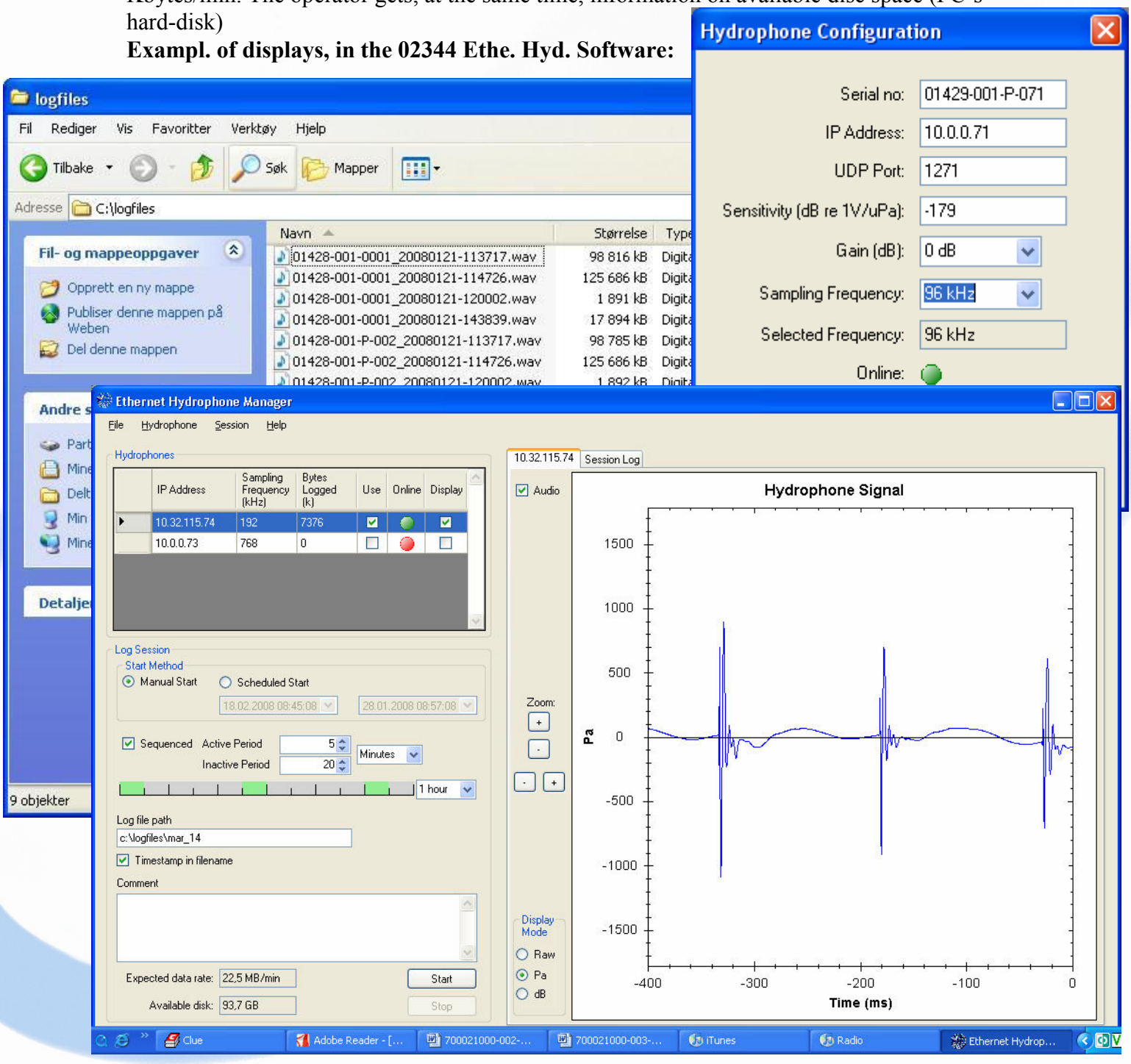
Momentary data or armed operation for specific periods, by the Naxys Hyd.software.
Ethernet interfaced, through Cat5 cable
Frequency range : 5 Hz -300 KHz
Data storage in wav files, for proc. of data
Separate Analogue signal output
Selectable gain and sampling rate.
Housing, con. and cable qualify. for 3000m

The Naxys Ethernet hydrophone is manufactured in the frequency range of 5 Hz to 300 KHz, with selectable sampling rate in steps from 6 KHz and up to 768 KHz and selectable gain in steps; 0-10-20-40 dB. These end user configurations and all other operational controls are

Bjørge AS, Hegrenesveien 42, 5042 Bergen, Norway
Phone: +47 55364880, Telefax: +47 55364881, e-mail: naxys-sales@bjorge.no

done from the Naxys Ethernet software 02344. After signal recording and storage on PC's hard-disk, these files can be processed further with programs like Mat lab, MathCAD, Cool EDIT or Lab VIEW (please see specifications in page 4). The hydrophone(s) can be operated in ***manual mode*** by operator as straight on-off, ***armed*** for a specific monitoring period, as ***scheduled time frame***, or in ***sequences***. Stored files will automatically be named by ***Serial no*** **and** ***Time of start recording***, and the session file will also contain info about –***Gain***, -***Sampling frequency***, -***IP address*** **and** - ***Time of stop recording*** and is updated for every new data file being logged with common reference. Operator can adjust the scales' resolutions, amplitude and time, when displaying real time data, by the zooming buttons and tick off for audio signal on PC loudspeaker. The signal level can be displayed in either Pa, dB or Raw data(digitalized voltage). Depending on number of hydrophones in the system and the sampling frequency, the software calculates the expected data rate and displays it as Kbytes/min. The operator gets, at the same time, information on available disc space (PC's hard-disk)

Exampl. of displays, in the 02344 Ethe. Hyd. Software:



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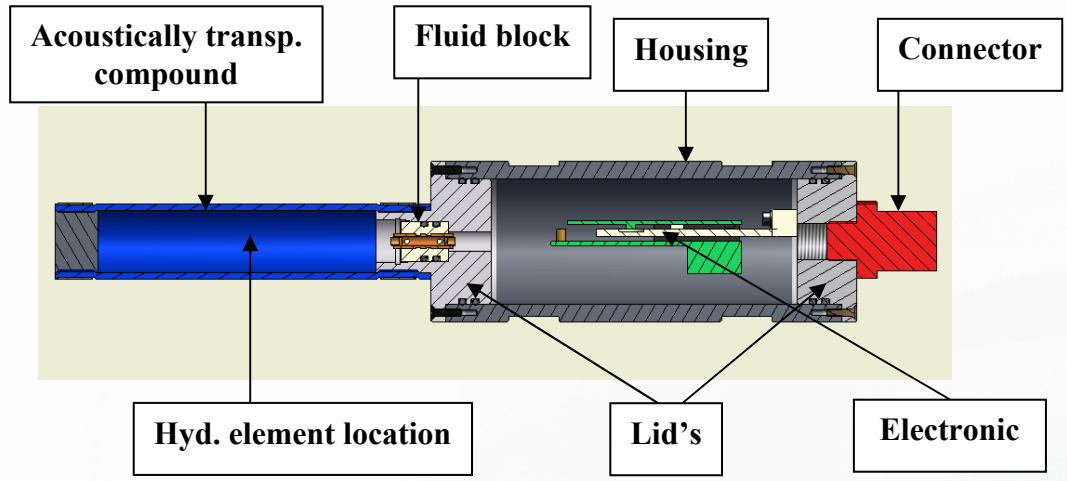
Main components in the NAXYS Ethernet Hydrophone 02345

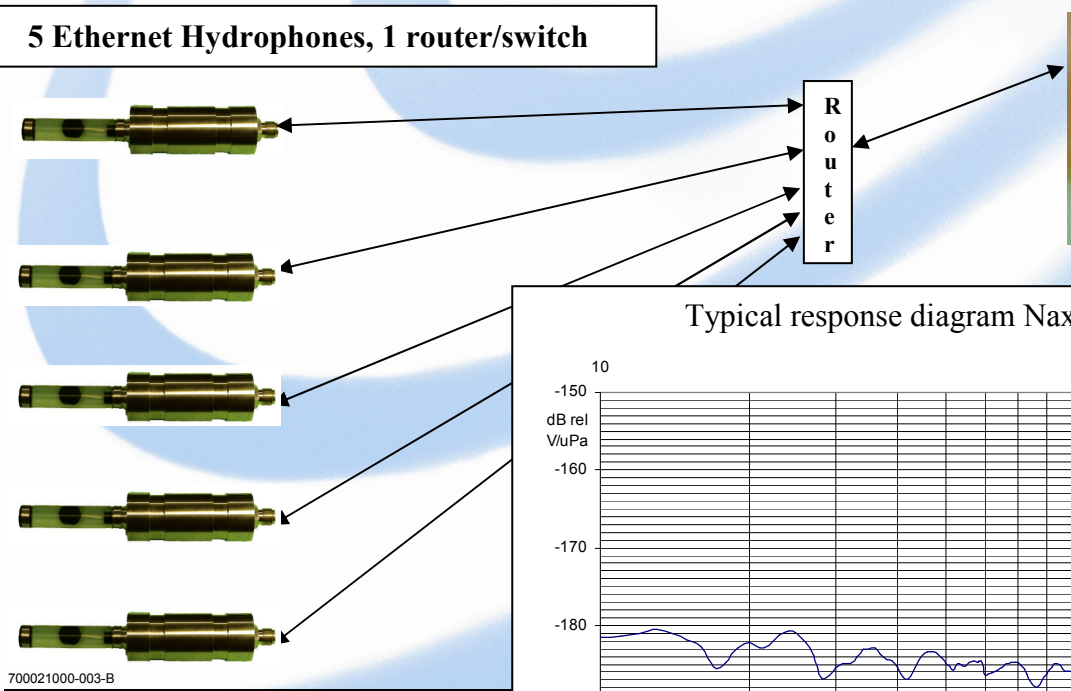


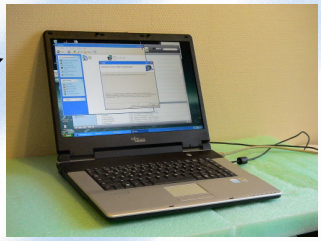
Length 357mm Diameter 64mm Weight 2,6Kg

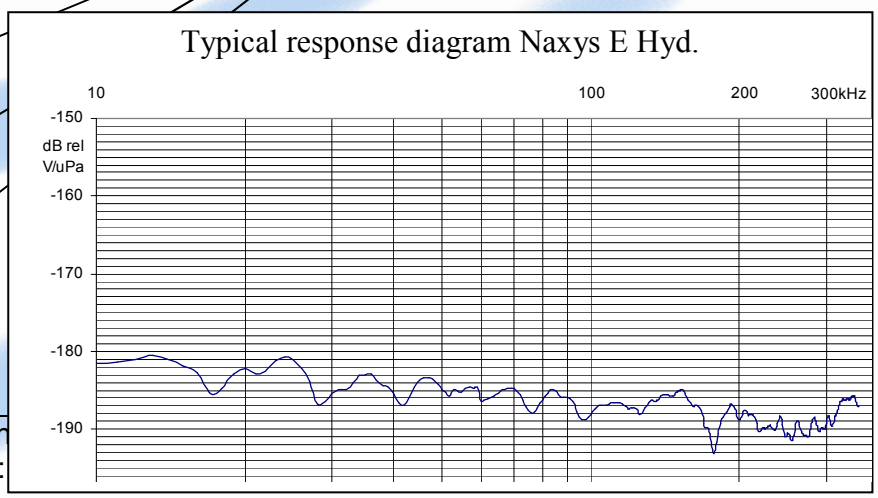
An array can be configured in the field with up to 5 Hydrophones in a signal collecting system, still with a common sampling frequency of 768 KHz. Each Cat5 Hydrophone cable has a max length of 100m, from the hydrophone to Router/Switch or directly to PC. Delivery of Hydrophones always includes a Manual and an individual calibration sheet with information like *Serial no*, *IP address no*. and *UDP receiver no*. The hyd. element is encapsulated in an acoustically transparent compound, providing omni directional characteristics. The electronics has a 16 bit resolution. The signal is also presented in analogue values, on separate pins in the connector, that makes it suitable for real time operations when no storage of data is demanded (see spec list last page). This signal is buffered, and an analogue signal lead will not affect the amplitude of the digitalized signal to Ethernet port.

PC with Ethernet port

5 Ethernet Hydrophones, 1 router/switch







Bjørge AS, Hegren
Phone: +47 55364880, Telefax:

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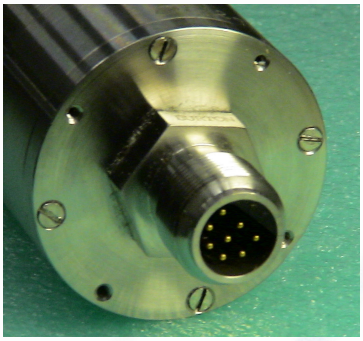
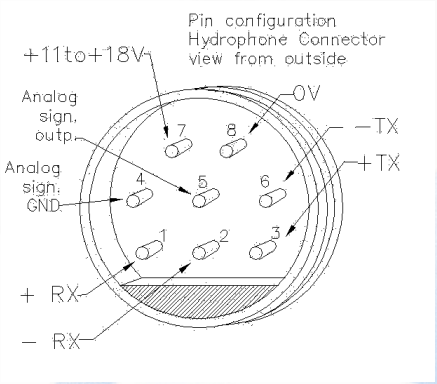
Construction and general information:

The Naxys Ethernet Hydrophone has been developed with reference to many deep sea installations that has involved Naxys-Bjørge. This has unveiled a need of a heavy-duty designed Hydrophone, with a wide range of applications. Our demands for this hydrophone have also been user friendly software that simplify configuration, self explains the operational modus and display, and to store all displayed data on the hard disc at the same time.

The Hydrophone element, the housing, connector and cable are all specified and pressure tested to 3000m depth rate. The 8 pin chassis connector is attached at the rear end of the housing leading power, TX/RX signals and analogue signal. Housing is made of stainless steel. Standard length of incorporated underwater Cat5 cable is 10m. Hydrophone and cable are delivered as standard in a field friendly container (see picture to the right)





Parameters	Value	Units/ Comments
Hydrophone sensitivity	-179	dB rel V/ µPa
Element sensitivity	-211	dB rel V/ µPa
Frequency range	5Hz – 300 KHz	Hz
Operational max. depth	3000	m(both Hydroph. and cable)
Current drain	230	mA
Directivity pattern	Omni directional	Ref to axis
Digital resolution	16	Bit
Sensitivity accuracy, typical	+/- 3	dB
Digital Interface	Ethernet 100BASE-Tx	
Analogue output	0 to +/- 2.5 (max)	V
Analogue output sensitivity	-205 + variable gain	dB rel V/ µPa
Temperature range	-2 to +45 / -25 to +85	deg C (operational/storage)
Dimensions	357 / 64	mm (length / diameter)
Weight, in air	2,6	Kg
Cable	2 pair signal,1 pair power	AWG 26/AWG 18 (Cat5)
Connector type	5507 1508	Burton
Gain levels	0-10-20-40	dB
Sampling frequency	6-12-24-48-96-192-384-768	KHz

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