NOTUS

ECHO | **NOTUS SYSTEM**

ECHO

The Notus ECHO is a wireless shellfish detection system. Its design is based on more than 25 years of experience in working with Commercial Fishermen and responding to their needs. Notus has worked closely with customers to offer solutions that provide reliable, real time data and convenience of use. ECHO is the only shellfish detection system on the market. Our unique technology allows Fishermen to hear the shellfish as they go through the grate (or grid). The Notus ECHO provides optimal performance, for superior results.

Activ-Omni Intelligence

The Notus Difference

Notus sensors boast an active, **two-way communication system,** not offered by other net monitoring systems.

Instead of relying on traditional one-way pingers, Notus systems 'talk' to each other via proven two-way protocols. Using this reliable technology, Notus is the only system to allow the Captain to control battery life and data rate.

Variable data rates:
5, 10, 20 and 60 second intervals allow for control over the battery life.

Notus is the only system to offer **true, omnidirectional pattern beams** in all of our net monitoring sensors. This provides a reliable and robust data link.

With Notus Activ-Omni Intelligence, achieve optimal performance, for superior results.

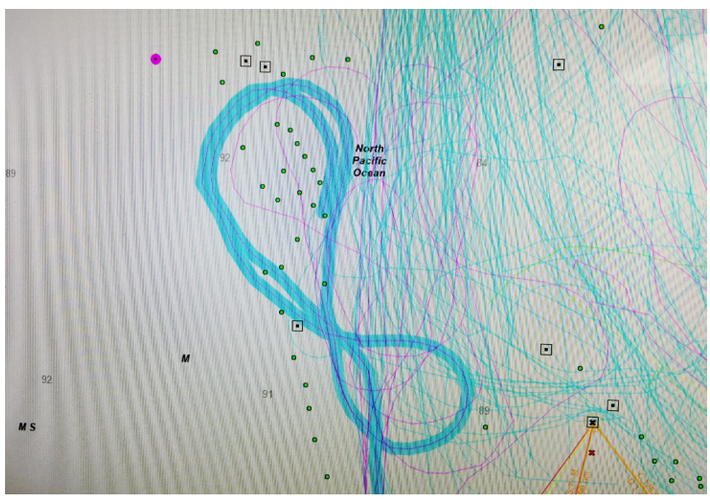
ECHO

Shellfish Detection

Using advanced acoustic analysis techniques, the Notus ECHO detects shellfish entering the cod-end.

The Notus ECHO offers many benefits:

- Over a three to four-hour tow, shellfish is usually only caught for 15-45 mins.
- See exactly where the shellfish volume is and go back over the same area.
- Eliminates ‘water tows’ – when bringing the trawl back and the only catch is water.

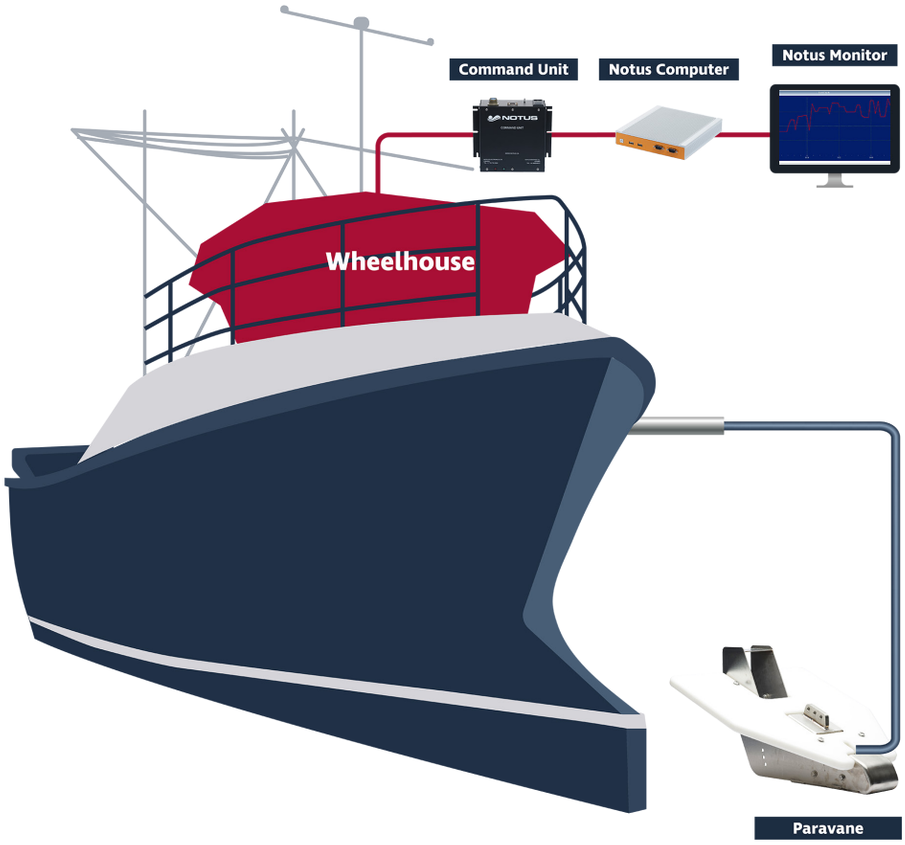


The Notus ECHO system helps Captains determine the ‘Sweet Spot’ in a tow, allowing them to repeat tows over the areas where shellfish are located.

A system consists of shipboard equipment (command unit, computer and hydrophone) that communicate wirelessly to the ECHO sensor located directly on the trawl. A dynamic graphic of the tow is presented that provides images to display the shellfish below the trawl. The system uses a weather tight charger that charges while the sensor is on the grid.

ECHO can be incorporated into an existing Notus Trawlmaster Net Monitoring System or set up entirely as a stand-alone system.

SYSTEM SET UP & COMPONENTS



Command Unit

Capabilities: 1000 Code Capability
Frequency: 24 kHz
Serial Output to PC
Power: 120/240 VAC

Charger

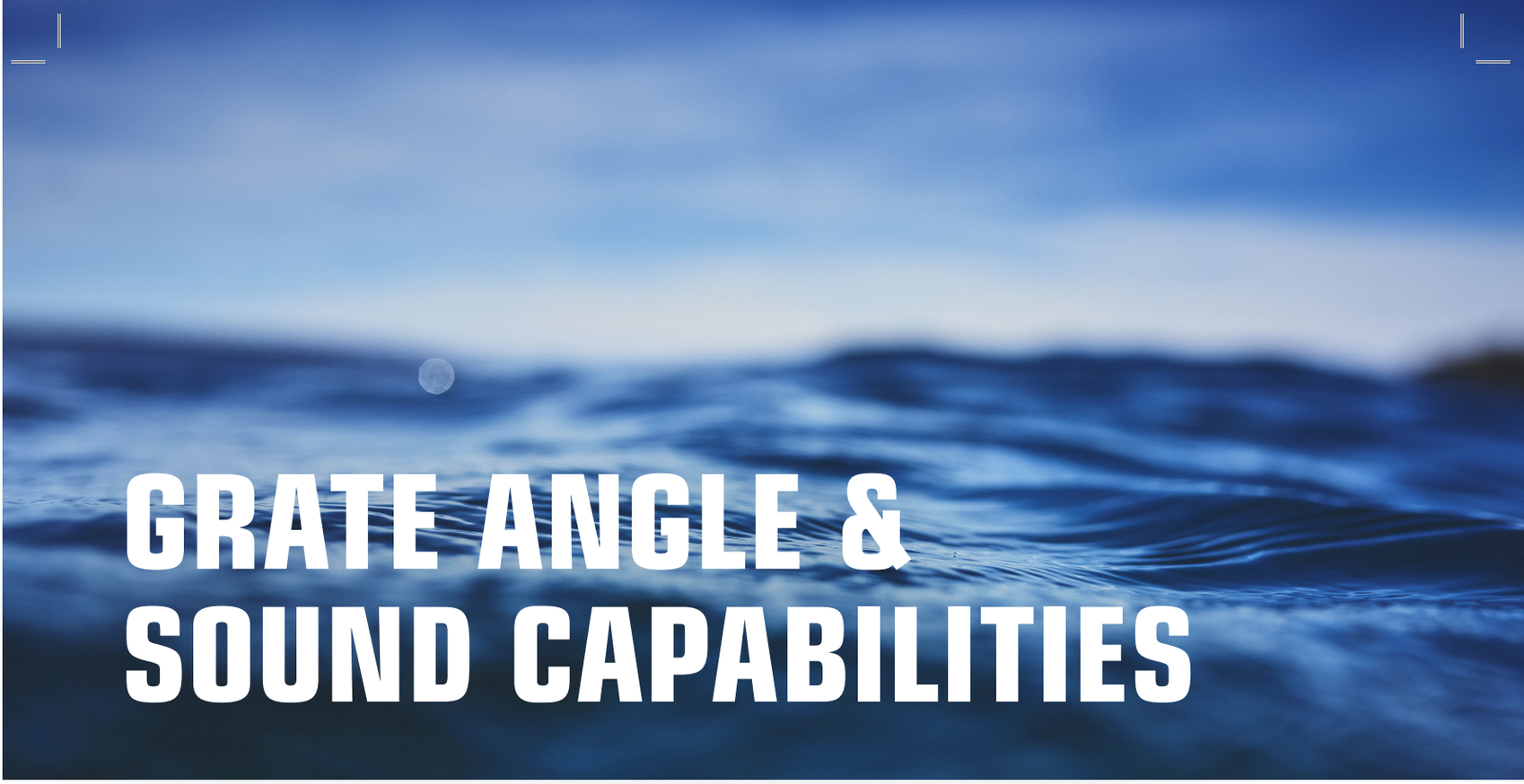
Power: 120/240 VAC
Charge Time: 90 minutes

Trawl Hydrophone

Beam Pattern: 70° Vertical,
60° Horizontal
Output: 192 db Tx
Range: 2500+ m

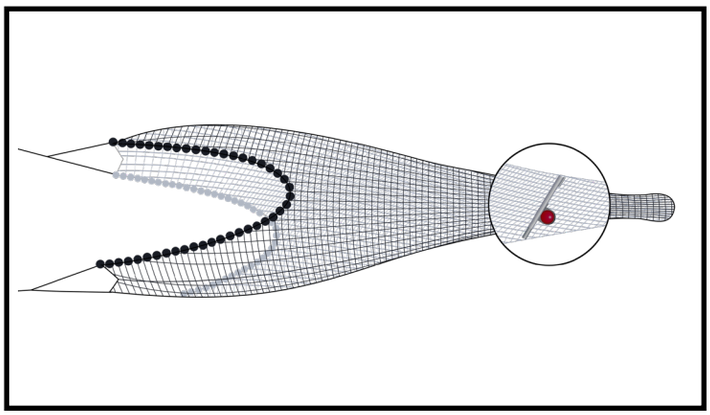
Sensors
(General specifications)

Distance Range: Up to 2500+ m
Grid Angle Accuracy: +/- 0.5 °
Grid Angle Resolution: +/-0.1°
Weight: 2.0 kg in water



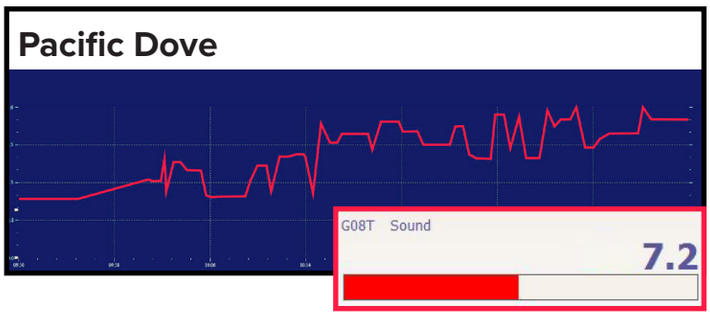
GRATE ANGLE & SOUND CAPABILITIES

Grate Angle and Sound are standard capabilities inside the ECHO sensor.



Grid sensors indicate angle of the sorting grid.

- A necessity on any grid.
- If the grid is not at the right angle, nothing goes to the cod-end.
- Indicates if the grid is blocked.
- Estimate catch volume by monitoring downward trend of grid angle.
- Instantly see if the grid is incorrectly rigged.

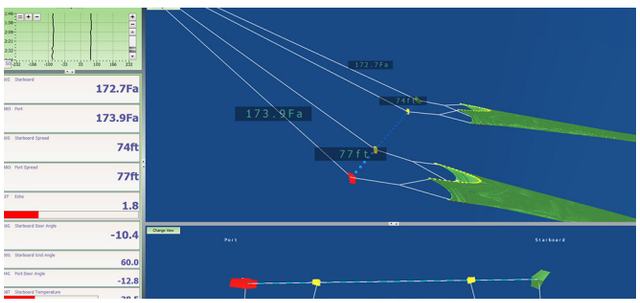


Sound

- Easily see when you are catching 500 lbs/hour or 6,000 lbs/hour.
- Find the ‘sweet spot’ on the tow and target that area
- See which way shellfish are moving.
- For example, detect if shellfish are moving East-West.
- Create an ECHO fleet. Work with other vessels to map out exactly where shellfish are on the grounds. to map out exactly where shrimp are on the grounds.

TEMPERATURE & DEPTH CAPABILITIES

Temperature and depth capabilities are optional upgrades for the ECHO sensor, to optimize each tow.



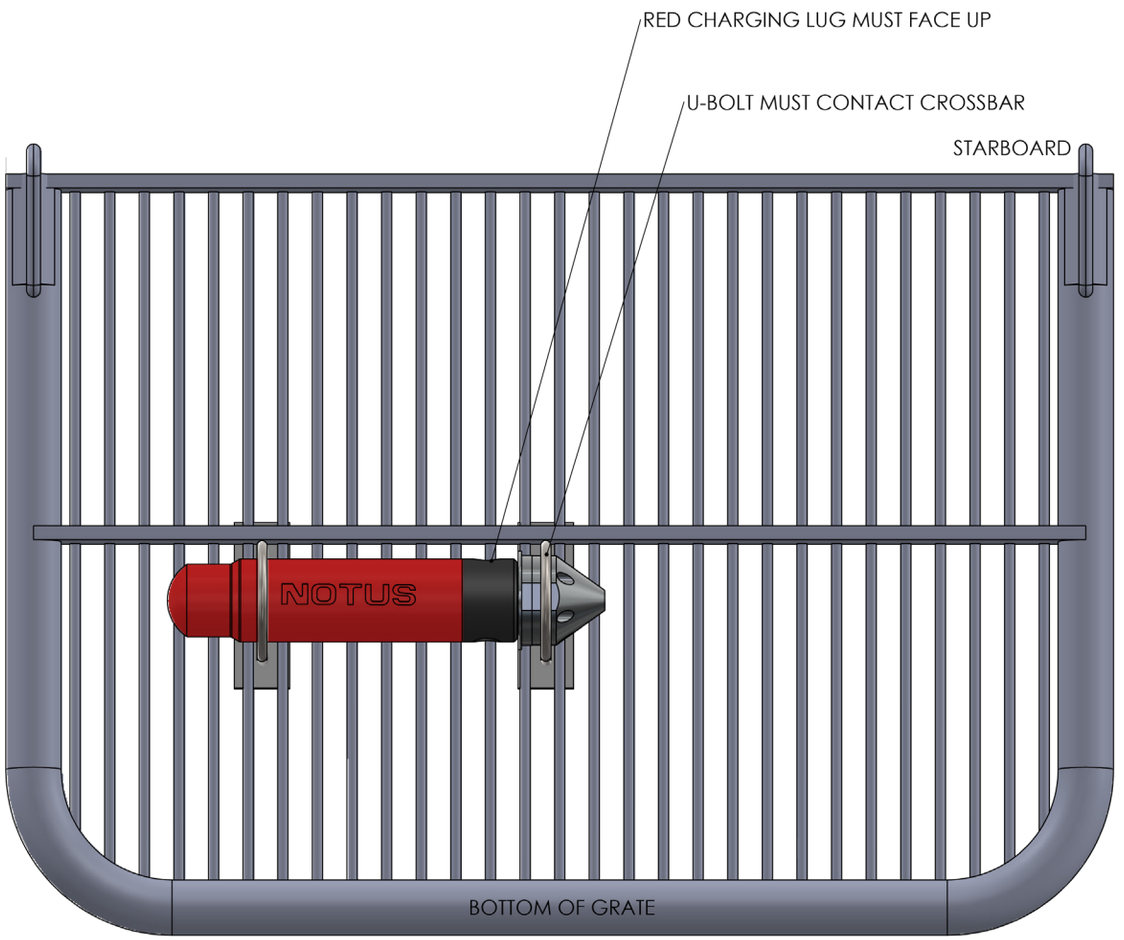
Temperature sensors indicate temperature of the water.

- Colder water can be an indicator of larger shellfish

Depth sensors indicate the distance from the surface to the doors/trawl.

- Easily see if the trawl is coming off the bottom

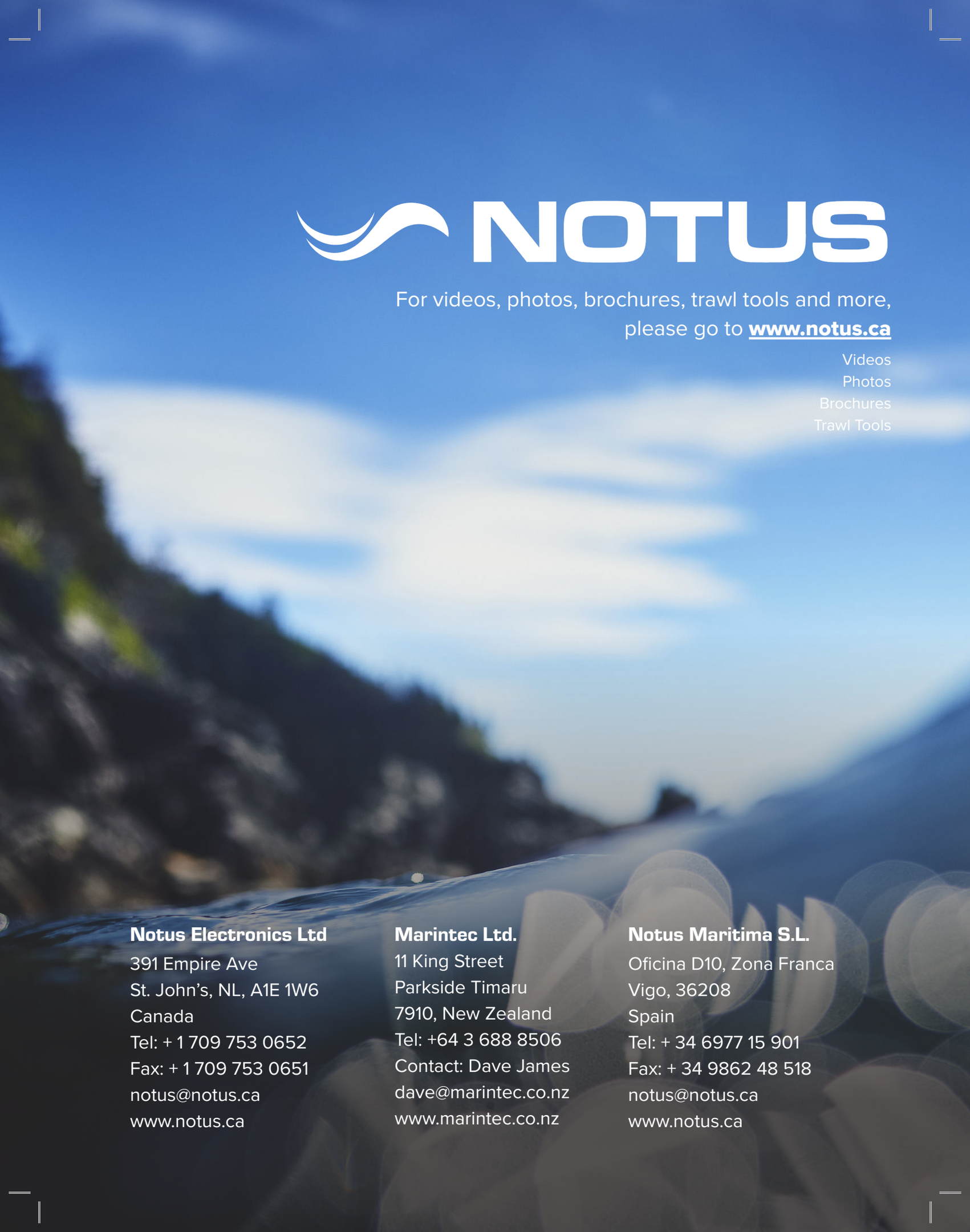
ECHO SPECIFICATIONS



BACK OF GRATE

Sensors

Range	Up to 2000 m
Grid Angle Accuracy	+/- 0.5 °
Angle Resolution	+/-0.1°
Weight	2.0 kg in water
Charging	On Grid



NOTUS

For videos, photos, brochures, trawl tools and more,
please go to **www.notus.ca**

Videos
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