

NASNet®

NASNet® MS Mk II (MINI STATION)

As an integral element of the NASNet® Mk II family of products, NASNet® MS Mk II (Mini Station) is designed for use during ongoing field activities. NASNet® MS Mk II can be deployed as a stand alone unit, with a profile that allows compatibility with pre-existing transponder stands. An option with acoustic release, NASNet® MS-AR Mk II is also available which can also be deployed as a stand alone unit, with a buoyancy collar that allows recovery to the surface via acoustic command.

FEATURES AND BENEFITS OF NASNet® MS Mk II

- Fully compatible with traditional transponder buckets / stands
- Eliminates the frequency management issues associated with traditional acoustics
- True multi-user and therefore a SIMOPS enabler
- Wide area network – more coverage with fewer assets
- Commercially, logistically and operationally efficient
- Suitable for short-term deployment
- Fast update rate - typical position update 1Hz



NASNet® MS Mk II unit

The electronic and signalling components in the NASNet® MS Mk II are exactly the same as those in the standard NASNet® Stations Mk II, so the technology and operational gains remain in terms of the true multi-user capability and long ranges - greater than 5,000 m baselines.

NASNet® MS Mk II can be considered as an option for short term projects where the short term nature of the work does not justify installing the larger NASNet® Stations Mk II. Consequently, NASNet® MS Mk II can undertake any work that might previously have required traditional long baseline (LBL) equipment to achieve the necessary coverage and still maintain a high positioning tolerance. NASNet® MS Mk II provides a flexible and transportable solution for deployment on a global basis.

OPERATING PRINCIPLE

NASNet® Mk II is an integrated position reference, navigation and communications solution for all survey, drilling and construction operations. At the heart of the system is the advanced Nautronix Acoustic Digital Spread Spectrum (ADS²) signalling technology. The system is based on parallel defence applications incorporating similar Nautronix technologies that are used to precisely navigate and transmit data, over very long ranges, to and from naval vessels, with very high integrity. Since 2006 the system has been utilised on a number of Oil & Gas projects.

The NASNet® Mk II system is very similar in concept to GPS in that it permits an unlimited number of users both on and below the surface, to obtain precise navigational data. NASNet® Mk II is capable of providing coverage, not only at the surface, but all the way through the water column to the sea floor.

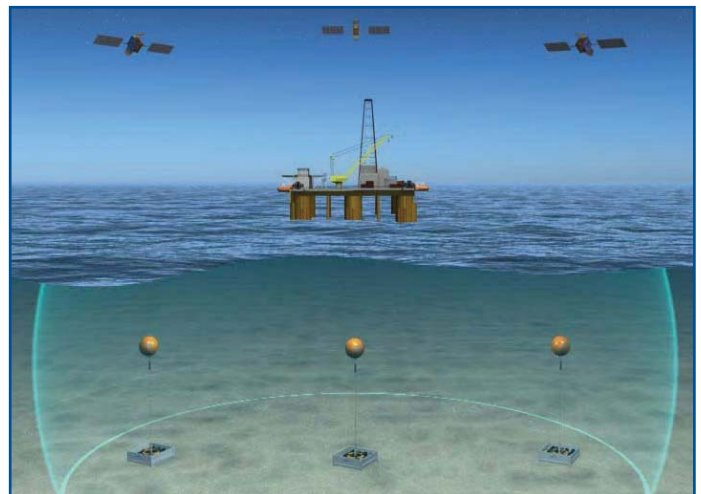


Illustration of the NASNet® Mk II principle

Frequency	10 kHz with 3 KHz spread
Signalling	Acoustic Digital Spread Spectrum (ADS ²)
Subsea Transmitter Beamwidth	Omni Directional
Surface Receiver Beamwidth	Omni Directional
Depth Rating	3,000 msw (9,800 ft)
Power Output	Programmable 175 - 196 dBμPa
Update Rate	Programmable (from 1 second)
Battery type	Alkaline or Lithium
Operational Battery Life	Operational at 180 dBμPa with a 6 second ping rate
Alkaline cells	324 days continuous operation at 180 dBμPa based on 2.71 x 10 ⁶ pings
Lithium cells	570 days continuous operation at 180 dBμPa based on 8.2 x 10 ⁶ pings
Standby Battery Life (Alkaline)	Self discharge 1,200 days Listening mode 1,080 days
Housing	6061-T6 Aluminum Alloy
Size	Diameter: Stab and sheath sizes are available to suit 200 mm and 230 mm buckets. Other bucket sizes can be accommodated as required. Length : 1.2 m (sheath) / 1.5 m (stab) MS-AR Diameter of floatation collar: 0.7 m Overall length: 1.3 m Minimum diameter of beacons
Weight (in air / in water)	MS-AR 66 kg / 26 kg MS



NASNet® MS Mk II prior to deployment



NASNet® MS Mk II being deployed

**Global Leaders in Through Water Communication and Positioning Technology
for the Offshore Industry**

All information contained herein is subject to change and does not form the basis of any contractual obligations

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