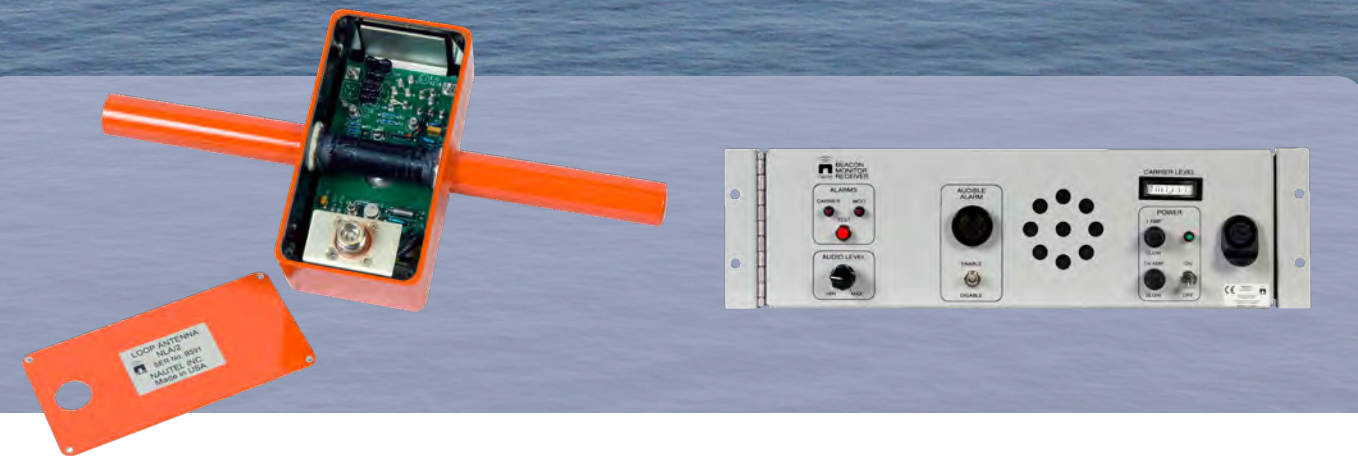


Optional NRB4 Beacon Monitor Receiver and NLA/2 Active Loop Antenna



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NRB4 Beacon Monitor Receiver and NLA/2 Active Loop Antenna

Nautel's NRB4 Beacon Monitor Receiver is a precision receiver for the off-air monitoring of the transmitted NDB signal. It is compliant with applicable FAA and ICAO requirements for the monitoring of low frequency NDBs.

Nautel's NLA/2 Active Ferrite Loop Antenna is used in conjunction with the NRB4. A versatile mounting bracket makes it easy to install on flat surfaces or on a 2.5 inch diameter, vertical pipe. Tuning is accomplished with easily adjustable links.

Highlights include:

- Highly stable DDS carrier frequency reference.
- Stable IF crystal filter.
- Local and remote carrier level, modulation level/loss and keying loss alarm indications.
- Optional audible alarm.
- Internal speaker.
- Calibrated carrier level reference meter.
- NLA/2 is easily field tuned using adjustable links.



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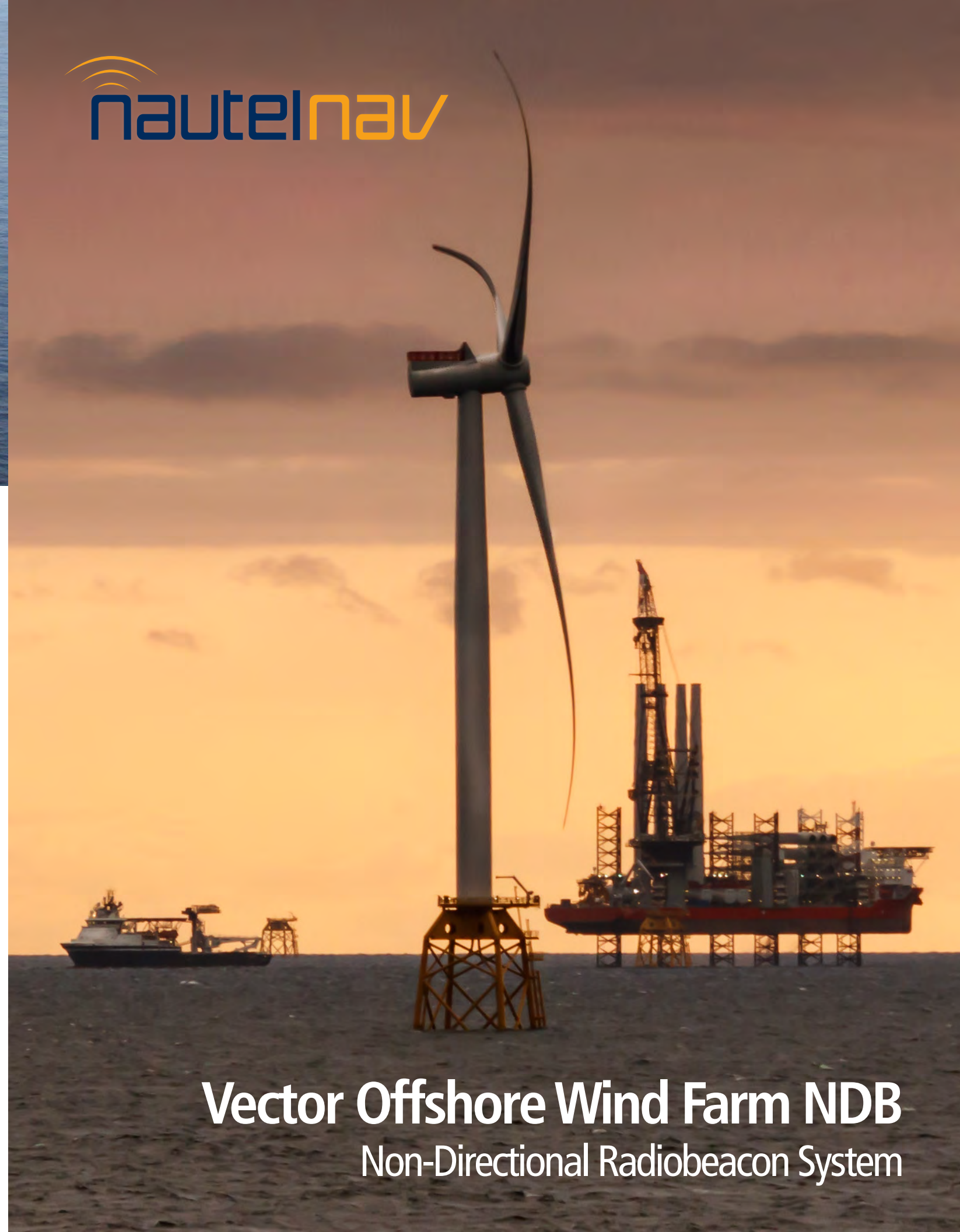
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Vector Offshore Wind Farm NDB
Non-Directional Radiobeacon System



NDB System Configuration



The ECMP3 is an extended control and monitoring panel intended to provide basic control and monitoring for a single VR125 NDB system.

The ECMP3 may be interfaced directly to the VR125 NDB transmitter via the optional Site Interface board. Up to three external ECMP3s and one internal ECMP3 may be connected to the optional VR-Link remote control and monitoring unit via RS-485 serial communication. Highlights include:

- Simple remote control/monitoring of Vector NDB system.
- 7 LED indicators.
- Vector transmitter timer enable control.
- Audible alarm, with acknowledge.
- Test feature.
- Brightness and volume control.
- Spare user configurable control/monitoring.
- RS-485 interface to optional VR-Link remote control and monitoring unit.

The Nautel Vector Series VR125 is a field proven, highly reliable, state of the art, solid-state non-directional radio beacon (NDB) transmitter. Highlights include:

- 125 watts, field adjustable continuous carrier power.
- Sophisticated graphic user interface (GUI) for easy maintenance and troubleshooting.
- Available in single or dual (main/standby with automatic changeover) configurations.
- Synthesized exciter uses advanced DDS technology to produce highly stable RF drive at the desired operating frequency.
- Extensive automatic fault monitoring, with 256 event log, for faster troubleshooting.
- Extensive remote command/control and monitoring for fewer site visits.
- Remote control and monitoring of the ATU to limit worker exposure to strong RF fields, in keeping with Safety Code 6 / IEEE C95.1-1999.
- Compliant with the specifications and recommendations of ICAO Annex 10, Vol. 1, Part 1, Section 3.4.
- CE certified.
- High overall efficiency (70% or better) results in low power consumption and reduced operating costs.

The ATU500SR is an automatic antenna tuning unit designed to match the impedance of the CL-HD antenna to the 50 ohm output impedance of the VR125 NDB transmitter.

- Automatic antenna capacitance tuning using dual astatically wound loading coils.
- Standard adjustable series resistor optimizes the tradeoff between antenna efficiency and bandwidth.
- Remote control and monitoring of the ATU to limit worker exposure to strong RF fields, in keeping with Safety Code 6 / IEEE C95.1-1999.
- Compliant with the specifications and recommendations of ICAO Annex 10, Vol. 1, Part 1, Section 3.4.
- Cabinet enclosure designed to meet IP66 standard.
- Powered by 24 Vdc, supplied from VR125.

Nautel's CL-HD Helideck Antenna is a self-supporting "long wire" antenna which is intended for use around the world on wind farm platforms*. The CL-HD Helideck Antenna is intended primarily for use with low and medium powered aeronautical non-directional radio beacons (NDBs) operating in the LF and MF bands. The CL-HD is designed for installation around the perimeter of the helicopter landing pad below the deck level, for operation in the frequency band of 190-1800 kHz, and compliance to CAP437. Highlights include:

- Omni-directional.
- Ease of maintenance.
- Designed for harsh offshore environment.
- Whip Antenna Alternative.

*and on associated support vessels with helipads.