

# NautoScan<sup>®</sup> NX

Anschütz Network Radar Transceivers



# NautoScan® NX

In the past decades Raytheon Anschutz radars have proven to be among the most sensitive navigation radars. Developed and manufactured with all the experience in navigation and radar technology, the new generation of NautoScan NX network radar transceivers adds significant benefits for shipyards, integrators, shipowners and operators.

The NautoScan NX network radar transceivers distribute the radar raw video via Ethernet to an unlimited number of radar workstations on the bridge (depending on network setup).

Pedestal and electronics have been carefully re-designed using state-of-the-art and maintenance-free technology to contribute to trouble-free installation, fast and easy servicing and finally optimized cost of ownership.

## BENEFITS AT A GLANCE

- Redundant Gigabit LAN video distribution
- Raw radar video processing for high flexibility and optimized performance
- Cost reduction: State-of-the-art technology, no coaxial cable, less cabling effort, no interswitch
- Newly constructed and optimized components for a future-proof design with built-in reliability
- Built-in test and fault indicator
- Improved accessibility for simplified servicing
- Entire system is designed for easier installation

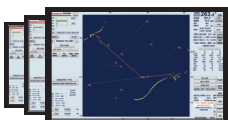


## MODULAR PRODUCT RANGE

The NautoScan NX radar consists of few standard components – pedestal, antenna, LAN –only. This results in significant cost reduction: complex and expensive coax cables as well as interswitch boxes or additional auxiliary hardware are no longer needed.



Radar Software  
(optional ECDIS and Conning)



Hardware  
(SMC and NautoPlex)



Console and Display



Radar Operator Panel





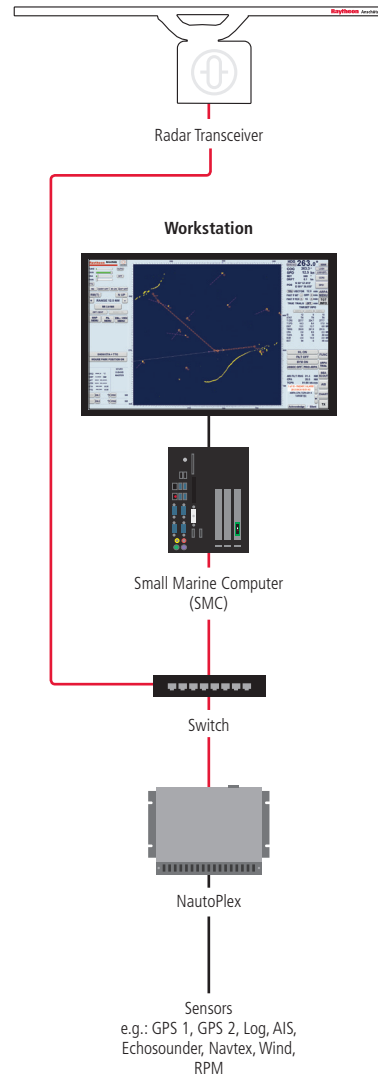
## LEAN SYSTEM ARCHITECTURE

In a single radar system the new transceivers distribute the raw radar video via LAN to the Small Marine Computer (SMC), which is the standard for all workstations. At the same time, the NautoPlex collects data from all serial attached sensors and distributes the data to the SMC.

In radar systems with two or more workstations, a second NautoPlex, a second switch and a respective number of SMCs is added to the system.



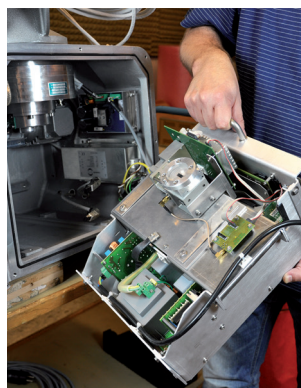
**For details about the radar systems and the radar software,** please refer to the Synopsis NX Workstation brochure.



## BETTER PERFORMANCE, MORE FLEXIBILITY

The new transceivers distribute the raw radar video through a Gigabit LAN to the bridge workstations – not only to avoid analogue technology losses and better performance in video display. Additionally, the distribution of radar signals via LAN allows for larger distances with simple extension using standard LAN infrastructure components.

One of the major benefits of digital raw data distribution is to provide maximum flexibility for system design, interswitching and functional upgrades. Furthermore, any transceiver can be controlled from any workstation, while maintaining operational integrity with a master/slave concept.



## MAXIMUM UPTIME AND OPTIMIZED COST OF OWNERSHIP

The new pedestal and transceivers are built on state-of-the-art technology. Newly developed electronic and mechanical components with reduced complexity provide reliable and future-proof operation with a significantly increased MTBF.

Magnetron lifetime is optimized through a new “sleep mode” which can be activated when the radar is in standby. Additionally, all transceivers integrate a continuous performance monitoring function. This function automatically measures transceiver performance and provides early maintenance warnings. Extended built-in tests, fault indicators, as well as a new removable tray for the complete electronics help speed up service and exchanging of parts. Customers benefit from overall increased uptime and optimized lifecycle cost.

## TECHNICAL DATA

	X-band		S-band
<b>RF power</b>	25 kW	25 kW	30 kW
<b>Frequency</b>	X-Band	X-Band	S-Band
<b>Scanner size</b>	6 ft	8 ft	12 ft
<b>Horizontal beam width</b>	1.25 deg	0.95 deg	1.9 deg
<b>Vertical beam width</b>	25.3 deg	24.4 deg	26 deg
<b>Gain (dB)</b>	30 dB	31 dB	28 dB
<b>Polarization</b>	horizontal	horizontal	horizontal
<b>Rotation rate (RPM)</b>	24/48	24/48	24
<b>Wind load operational</b>	100 kts	100 kts	100 kts
<b>Wind load survive</b>	150 kts	150 kts	150 kts
<b>Voltage requirements</b>	115/230 VAC	115/230 VAC	115/230 VAC
	50/60 Hz, 1ph	50/60 Hz, 1ph	50/60 Hz, 1ph
<b>Power requirements</b>	400 VA	400 VA	700 VA
<b>Weight</b>	75kg	78kg	148kg

### Data connections

- Gigabit Ethernet LAN Cat-6<sub>A</sub>
- Second LAN Port for redundancy

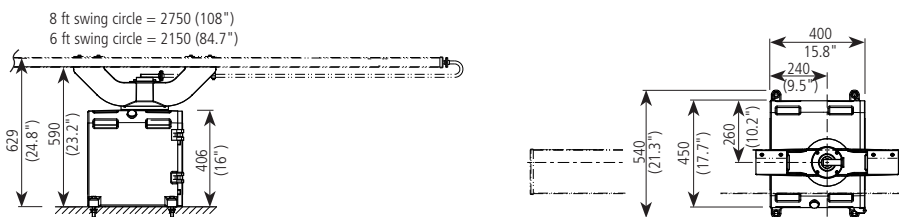
### Radar Controller Board

- 12 Bit (14 intern) Resolution / 55 MHz Sampling Rate
- 2<sup>^</sup>16 Samples internal (Filtering)
- Range Cell of 3m
- 4096 Beams per Rotation
- PRF from 1Hz to 4 kHz
- Puls Length adjustable in 20ns steps

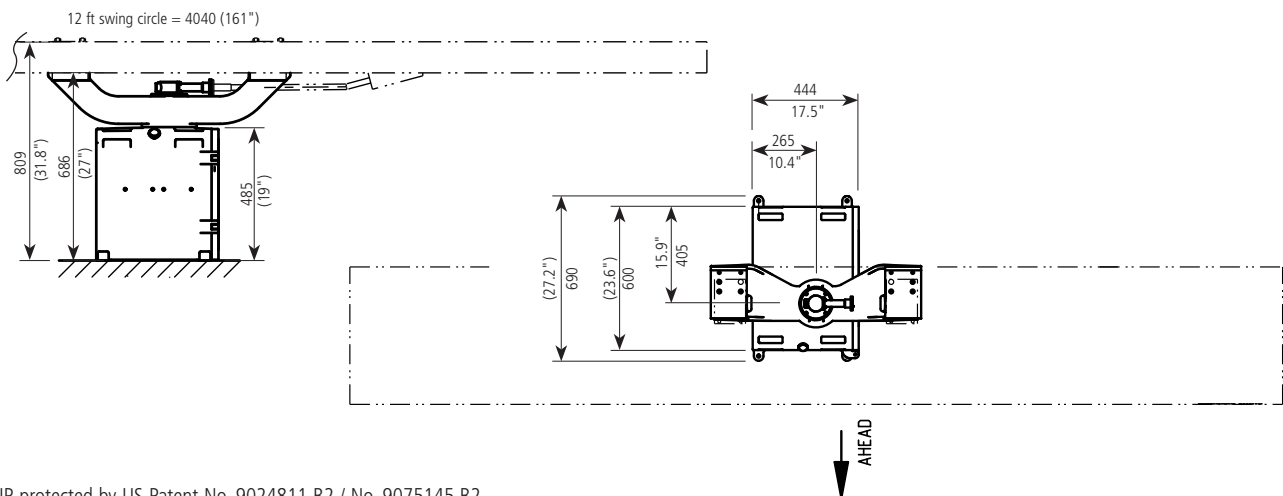
### BITE System

- Supply Voltage, Temperatures, Antenna Speed, Magnetron Current, etc
- Detection Performance on request

### X-Band 6 ft / 8 ft antenna unit and transceiver



### S-Band 12 ft antenna unit and transceiver



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 RAN 801.41 e / L&S 0317

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