

SIMRAD

New
for 2012

Broadband 4G™ Radar



Reinventing Radar

SIMRAD-YACHTING.COM



Reinventing Radar

Simrad Yachting has pioneered a new standard of dome radar, first with the award-winning BR24, and more recently with the Broadband 3G™ Radar. The latest innovation from Simrad Yachting breaks even our high standards. Simrad Yachting now offers two Broadband Radar choices; the outstanding Broadband 3G™ Radar and the brand-new, truly exceptional Simrad Broadband 4G™ Radar.

Utilising FMCW technology and advanced digital signal processing technology, our revolutionary Broadband Radar offer benefits that no other radar in the world can lay claim to. With warm-up times and main bang relegated to ancient wrecks, novices and professionals alike will be overwhelmed by the new heightened sense of situational awareness that Broadband Radar offer.

Sharpen Your View

Forget everything you thought you knew about radar, the Broadband 4G™ Radar reinvents the standard, transforming the way you'll navigate for good. Beam Sharpening, Target Separation Control, Dual Range Radar and High Revolution Speed. No other radar comes close. Now you can monitor a buoy 200 feet away and keep track of coastal projections at 32nm, all from one single dome at the same time, for the ultimate in navigational safety.



View razor-sharp, easy to interpret radar images.

Broadband 4G™ Radar

High-res, near and far...

► **NEW Beam Sharpening.** Broadband 4G™ Radar is the only dome radar in the world to employ beam sharpening, which allows you to control the level of target separation, so you can see the sharpest images possible when you need them most.

► **NEW More Range**

50% more true range than Broadband 3G™ Radar. Now you can see crystal clear targets up to 32nm away and inside strong storm cells more than 17nm away.

► **NEW Dual Range**

Capable of displaying Dual Range radar combination when combined with an NSE or NSO system. Monitor targets from 200 feet to 32nm from a single dome.

► **NEW High Speed Mode**

Select 48 RPM for almost instant updating at less than 1nm.

► **MARPA Target Tracking**

Track up to 10 targets as standard or up to 20 in Dual Range mode with independent control.

► **Quick Installation**

No reason to open the dome, no tune or zero mile adjustment, and no radar-licensed technician required.

► **Dual Guard Zones**

Protect yourself from more angles.

► **Extremely Low Emissions**

Safer than any other radar currently on the market and emitting less radiation than a mobile phone allowing it to be mounted anywhere.

► **True Motion Display**

Easily distinguish moving targets from land with NSS, NSE and NSO.

► **InstantOn™**

Solid-state technology produces an immediate, accurate on-screen image unlike normal warm-up times associated with magnetron pulse radars.

► **Low Power Consumption**

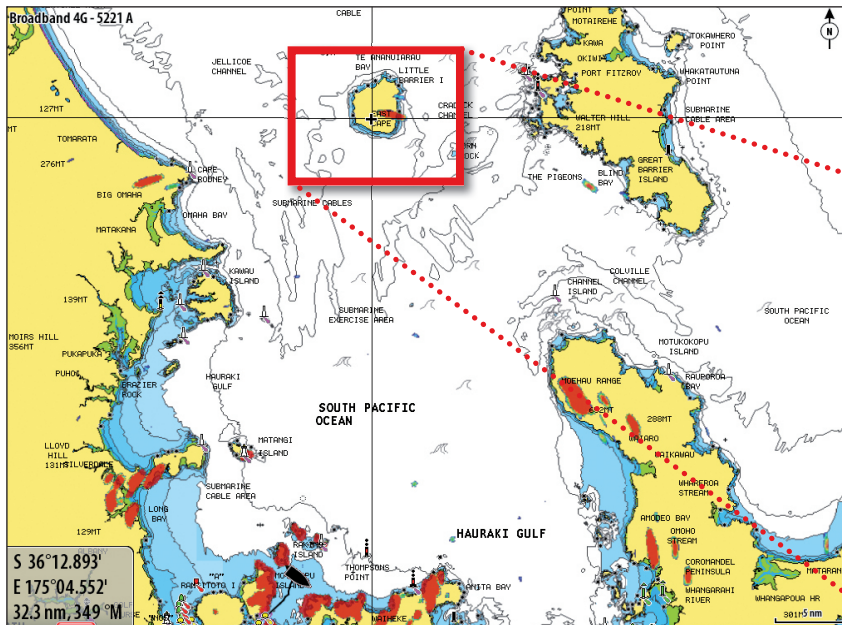
Ideal for boats of any size, sail, cruise or fish.

► **Automatic Clarity**

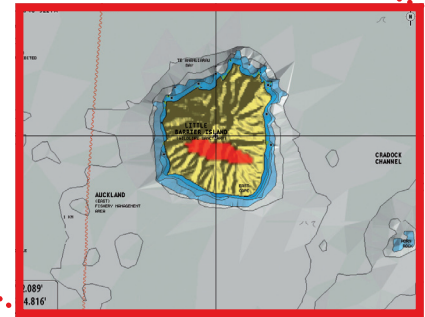
Proven auto harbour and offshore modes including directional clutter rejection.



► How far? Superior Range

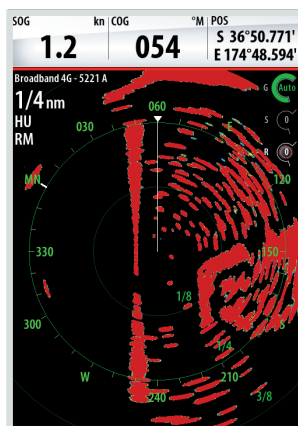


4G™ sees targets at up to 32nm with ease, making it the ideal radar for recreational craft of any size.

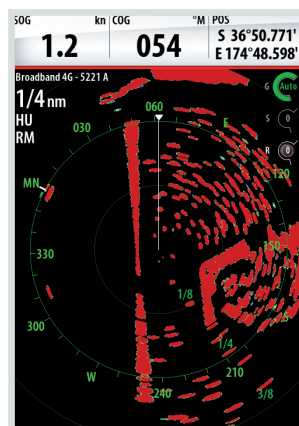


► How clear? Beam Sharpening

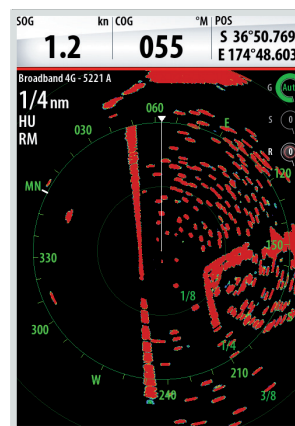
Broadband 4G™ Radar is the only radar in the world to incorporate Beam Sharpening, which provides unrivalled target separation in every situation giving you the confidence to navigate in any state of visibility.



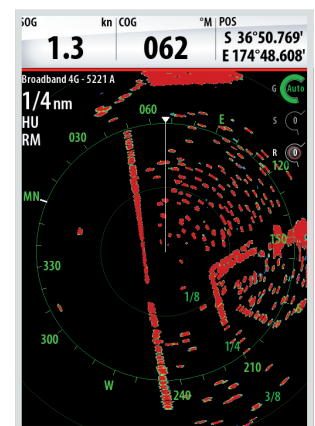
Target separation
off (~5.2°)



Target separation
low (~4.4°)



Target separation
medium (~3.5°)



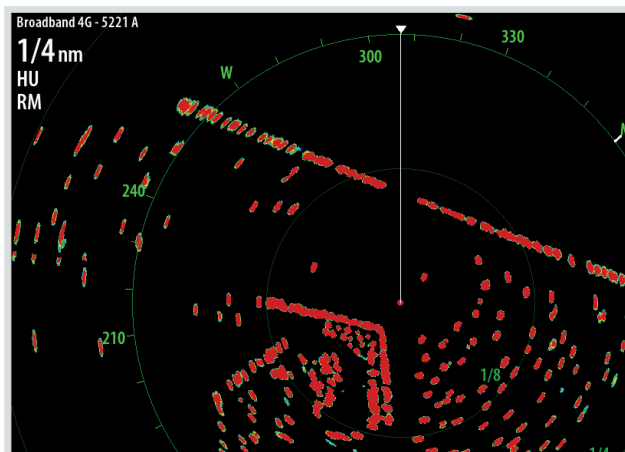
Target separation
high (~2.6°)

► Proven performance: High Resolution

Harbour/Marina

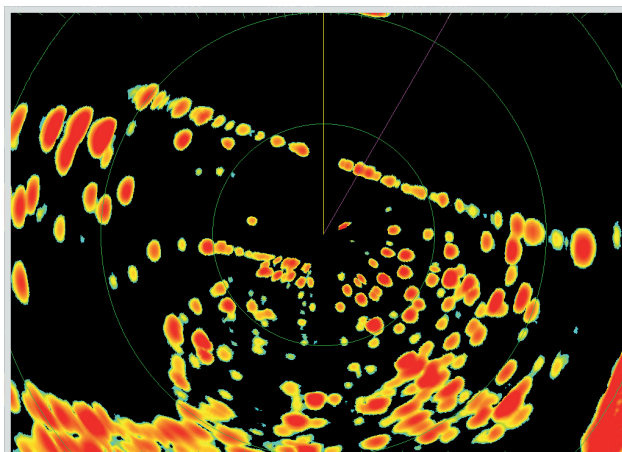
With twice the azimuth resolution of any other 18" radome on the market, moored boats and docks are separated clearly.

▼ 4G



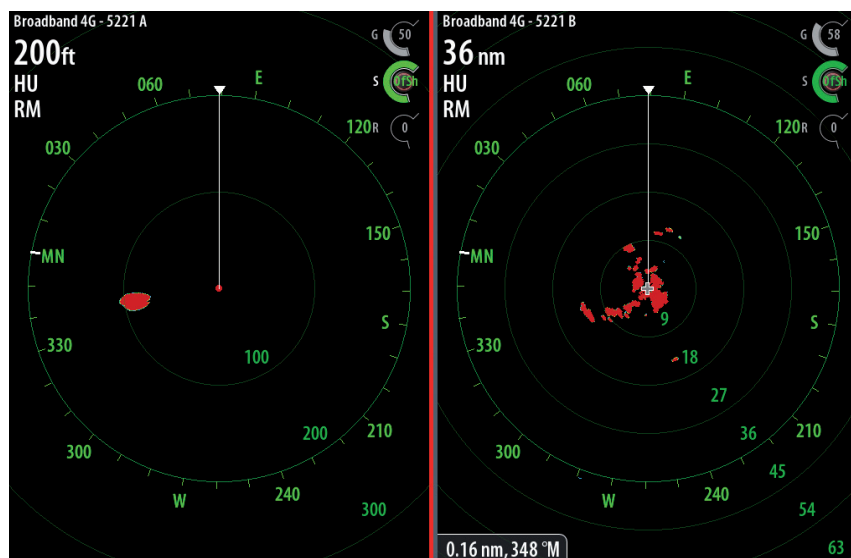
Superior short-range target discrimination clearly shows docks, boats and moored vessels.

▼ 4kW Pulse Radar



Inferior separation of boats, docks and moored vessels could make navigation hazardous with a pulse radar.

► Unprecedented performance: Dual Range



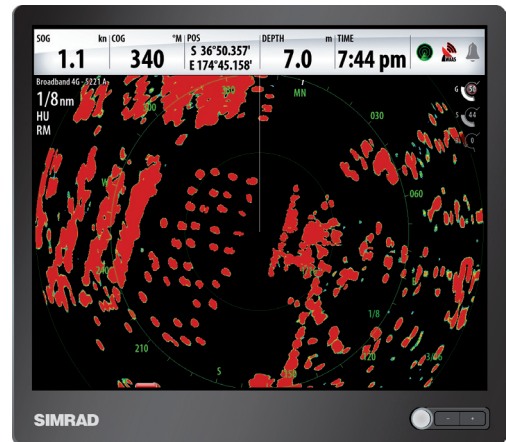
Simultaneous Dual Range* operation allows a working range of 200 feet to 36nm, all from the same dome. No other dome radar in the world can do this.

One radar, one display, two independent ranges.

*Works with NSE and NSO navigation systems only.

► Compatible displays: Broadband 4G™ Radar

NSO Offshore ► With sleek and stylish 15, 17 & 19-inch LED backlit displays the NSO Offshore line - for vessels with larger helm displays - is versatile and easy to expand. Based on the Simrad NSE platform, the NSO delivers 'best in class' charting, sounder, and radar performance as well as unique control and integration options.



NSE Expert ► Easy-to-use, bright visible displays with uncluttered presentation. The Simrad NSE 8 and 12-inch multifunctional displays provide professional level performance with sophisticated charting, radar and echo sounder integration. With powerful networking and vessel integration capabilities, NSE provides comfort and control at sea.

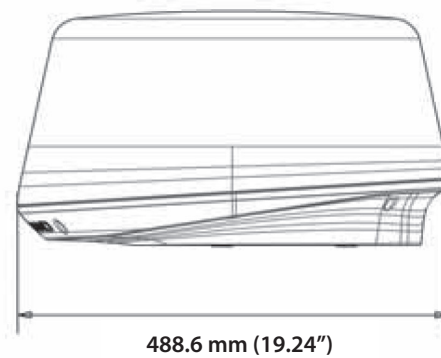
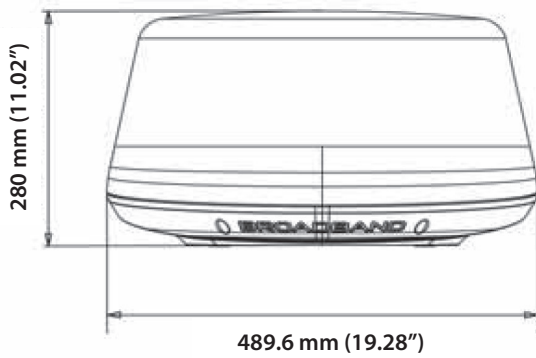


NSS Sport ► With its Touch Sensible™ technology, the all-new Simrad NSS Sport is extremely simple to operate. The bright and stylish 6.4, 8 or 12.1-inch displays make them the perfect partner for every recreational boater. And with full networking capabilities, they offer effortless performance and integration.



*Limited Broadband 4G™ Radar functionality with Simrad NSS.

► Technical Specifications: Broadband 4G™ Radar



Broadband 4G™ Radar Specifications

General	
Compliance	FCC/IC/R&TTE FCC ID: RAY3G4G IC ID: 4697A-3G4G Human Exposure General Public Safety Limit - touch dome anywhere
Environmental	IEC60945: 2002 Operating Temperature: -25° to +55°C Relative humidity: +35°C, 95% RH Waterproof: IPX6
Relative wind velocity	51 m/sec (Max:100 Knots)
Power consumption	Operating: 20W (Typ.) @ 13.8VDC (21W in dual range mode) Standby: 2.9W (Typ.) @ 13.8VDC ~ 150ma
DC input (at end of radar cable)	9V to 31.2Vdc (12/24 Volt systems). Reverse polarity protection Minimum start-up voltage 10.8Vdc
Transmitter Source (pre-heating time)	No magnetron - Instant On™
Outside dimensions	Height 280mm (11.02") x Diameter 488mm (19.28")
Weight (no cable)	7.4 kg (16.3 lbs.)
Radar and Antenna Parameters	
Radar Ranges	50m (200ft) to 66km (36nm) with 18 range settings (nm/sm/km) - single and dual range mode (independant)
Rotation	24/36/48rpm +/- 10%; Mode and MFD model dependant
Transmitter frequency	X-band - 9.3 to 9.4Ghz
Transmitter source (warm-up time)	No Magnetron - all solid state. Instant On™

Radar and Antenna Parameters contd.	
Plane of polarization	Horizontal Polarization
Transmitter peak power output (at antenna port)	165mW (nominal - at antenna port)
Main Bang Dead Zone & Tuning	None (not a pulse radar)
Sea and Rain Clutter	3-5 times less than a pulse radar
Sweep Repetition Frequency	200 - 540Hz (mode dependant)
Sweep Time	1.3ms +/- 10%
Sweep Bandwidth	75MHz max
Horizontal Beam width (Tx and Rx antenna)	5.2° +/- 10% (-3dB width)
Effective Horizontal Beam width with target separation control	Adjustable between 2.6° and 5.2°
Vertical Beam width (Tx and Rx antenna)	25° +/- 20% (-3dB width)
Side lobe level (Tx and Rx antenna)	Below -18dB (within ±10°); Below -24dB (outside ±10°)
Noise figure	Less than 6dB
Coms/Cabling/Mounting	
Com Protocol	High Speed Ethernet (100 Base-T)
Heading	NMEA2000/Simnet (with RI-10 interface box)
Inter Connecting cable length	20m (65.6')
Maximum Inter Connecting cable length	30m (98.4') - available as an option
Bolts (4)	M8x30 - 304 stainless steel
Footprint	W233.0mm (9.17") (port to starboard) x L141.5mm (5.57")



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