



## Zeus Sailing Navigation System



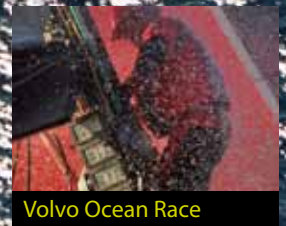
# B&G. Passionate about sailing



Gypsy Moth



Nautor's Swan



Volvo Ocean Race

Rick Deppe – PUMA Ocean Racing-Volvo Ocean Race

The choice of the performance sailor for over 50 years, B&G leads the way in sailing electronics, delivering nothing but the highest standard of products and support.

The best sailors in the world choose B&G because they value the performance, durability and outstanding support. B&G provides them with the tools to enable them to be the best in whatever they do.

The constant challenge to develop new technological solutions has provided our people with a wealth of experience and knowledge, enabling B&G to harness technical developments and provide proven solutions for every sailor's need.

This technology has been made available and tailored to the needs of cruisers and club racers alike, in an easy to use and understandable format.

When you speak to anyone in the B&G team you are speaking to people who are passionate about sailing. Our sales, customer support and R&D teams are regularly on the water and understand the needs of the sailor, not only from professional racers but also from sailors who simply want to go sailing with the utmost confidence in their instrument, navigation and autopilot systems.

***"We chose B&G because they have the right product and the best support."***

**Russell Coutts**

## Expanding possibilities



With the introduction of the Zeus Sail navigation systems B&G bring their sailing expertise to a wider group of sailors.

### The Zeus system consists of:

- Two sizes of Multi-function display – providing sail navigation, weather and instrument data all integrated into a single unit
- The Zeus GPS Antenna supplies highly accurate position, speed and course data to the Zeus system five times a second, for smooth display update and high confidence in your position
- Broadband Radar™ allows the navigator to assess the relative position of hazards, distances off land and the presence of nearby shipping and fellow sailors. The cruising sailor will find it ideal for picking their way into small anchorages at night or in limited visibility, the racing sailor can monitor their speed relative to a competitor by utilising either the range/distance tools or the MARPA target tracking function.

*"The dedicated sailing features available in B&G's new Zeus Navigation System, is just what cruising sailors have been waiting for."*

Paul Heys, Key Yachting, Boat Importer

# Sailboat Navigation

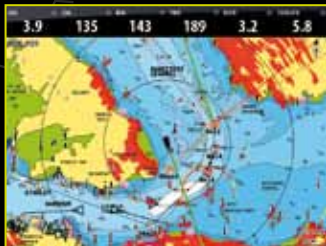


## Direct Access keys

- One-touch access to Chart, Radar and Navigation information
- Add custom pages to suit your navigation requirements
- First touch of each key recalls the last viewed page for quick, easy operation



## CHART



Zeus provides key sail navigation data overlaid onto premium embedded cartography

- Instant chart zoom with Rotary controller
- Incredibly clear chart display, easy to switch between boat and cursor position
- Easy navigation including goto cursor and goto waypoint along with straightforward route builder
- AIS and MARPA target overlay
- Radar overlay
- Dedicated Sail Navigation overlay
- Weather overlay
- Additional card slot for optional charts, including Navionics Platinum+ with 3D Turboview and high-resolution aerial photography

## INSTRUMENTS



The Zeus navigator is able to assess the prevailing conditions and trends by full integration of the available instrument data. Direct integration with B&G H3000 instruments gives the most accurate data available to assess the conditions and enables configuration of instrument functions including Polar Tables\* and True Wind Corrections

Zeus supports B&G H-Link, NMEA0183 or NMEA2000 compatible instruments

- TimePlot shows user selected data history over time, ideal for assessing barometric pressure, depth or wind speed trends
- WindPlot provides a True Wind Speed and Direction plot, allowing the sailor to make decisions on route choice – whether to tack, or stand on - for fast and safe passage making
- Instrument panels display your choice of navigation or instrument data in a selection of formats
- Polar tables entered for your design of boat to enable you to sail to the boats optimum performance.



### Rotary controller:

- Straightforward menu control, with push-to-enter function
- Intuitive use for zooming, radar gain and more



### Alphanumeric keypad

- Quick and accurate entry of position or name information for waypoints, routes and tracks



### USB

- Front USB port protected by IP67 cover
- File management via USB stick, allows quick update of GRIB weather forecasts and log file offload

## WEATHER



The ability to view up to date forecast data gives the Zeus user a clear advantage in understanding the likely conditions that they may face.

- Wind Speed and Direction
- Barometric pressure with pressure centre indicators
- Manual time step control – forward or back – to select any available forecast time
- Animation option shows how weather systems are likely to develop and allows the sailor to take appropriate steps to prepare, or route around
- Cursor Info feature allows quick assessment of the forecast at a particular location and time
- GRIB weather files can be easily uploaded via the USB port

## SAIL NAVIGATION



The most important sailing data is overlaid onto the Zeus chart screen, enabling an assessment of the realistic route to be sailed, rather than a simple straight-line waypoint to waypoint route which is rarely followed by sailors!

- Water and Ground vectors show the effect of tide and leeway on your course
- Mark and Boat Layline positions are displayed with the user's choice of setting, ideal for assessing whether you are able to clear a headland or obstacle on your next tack.
  - Manual Wind Angle input
  - Actual True Wind Angle from instruments
  - Polar Target Wind angle from H3000 instruments\*
  - Option to correct layline positions for measured tidal flow
- Historic min/max layline positions allow the navigator to make a safe decision to tack for a headland based on recent wind direction changes
- Time and Distance to layline information is provided for each tack, allowing easy preparation for manoeuvres

## RADAR



Zeus delivers outstanding radar functionality

- Marpa targets acquired and displayed alongside AIS targets, giving awareness of all traffic in your area
- True Motion and trails ensure the user can easily determine whether the target is moving or stationary
- Range Markers, Bearing Lines and Guard Zones allow the user to track relative positions and ensure safe navigation
- Excellent target discrimination shows the difference between one large vessel or two smaller ones in close proximity
- Incredible close range performance allows you to pick out individual mooring buoys in the dark or in low visibility

\* Polar option requires Hercules Performance or Hercules Motion CPU software level.

## Expanding your options



### Broadband Radar™

Broadband Radar™ provides amazing target resolution. Docks, channel markers, moored vessels and other critical targets are displayed with clarity and separation, even at close quarters. Broadband Radar™ also eliminates the “main bang” of a pulse radar – the obscured “dead zone” immediately around the vessel – which interferes with close target detection.

- Crystal clear image of your immediate surroundings
- Excellent target discrimination for high confidence in identification of targets
- Automatic tuning removes the requirement to be a radar expert to obtain great performance
- InstantOn™ allows the operator to be checking for dangers within seconds rather than minutes – no warm up time
- The lowest power consumption of any X-band marine radar, ideal for sailboats

Zeus is compatible with both Broadband Radar™ and a wider range of radar scanners from 2 kW HD radomes up to 25 kW open arrays.

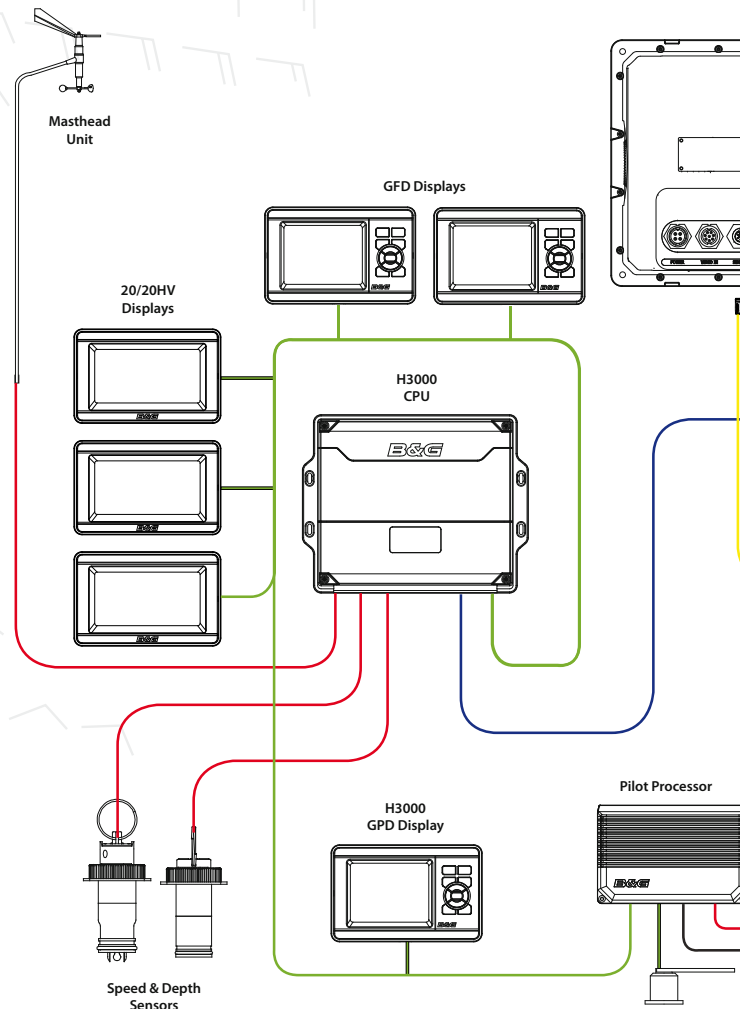


### Zeus GPS Antenna

Confidence in your position is one of the critical requirements of a sailing navigation system. The Zeus ZG50 GPS Antenna provides high accuracy position, course and speed five times every second ensuring maximum confidence in the displayed position.

The ZG50 is connected by SimNet to the Zeus displays, ensuring that all units use the same GPS position data no matter where they are located in the yacht.

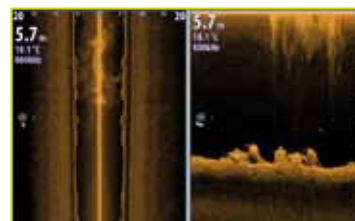
Compact design allows deck or pushpit mounting locations to be selected.



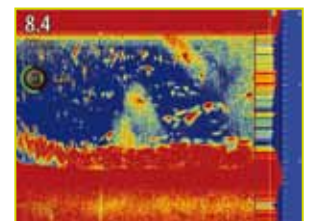
Typical system, integrating Zeus navigation, Broadband Radar™ and B&G H3000 instrument system

### Broadband Sounder and StructureScan™

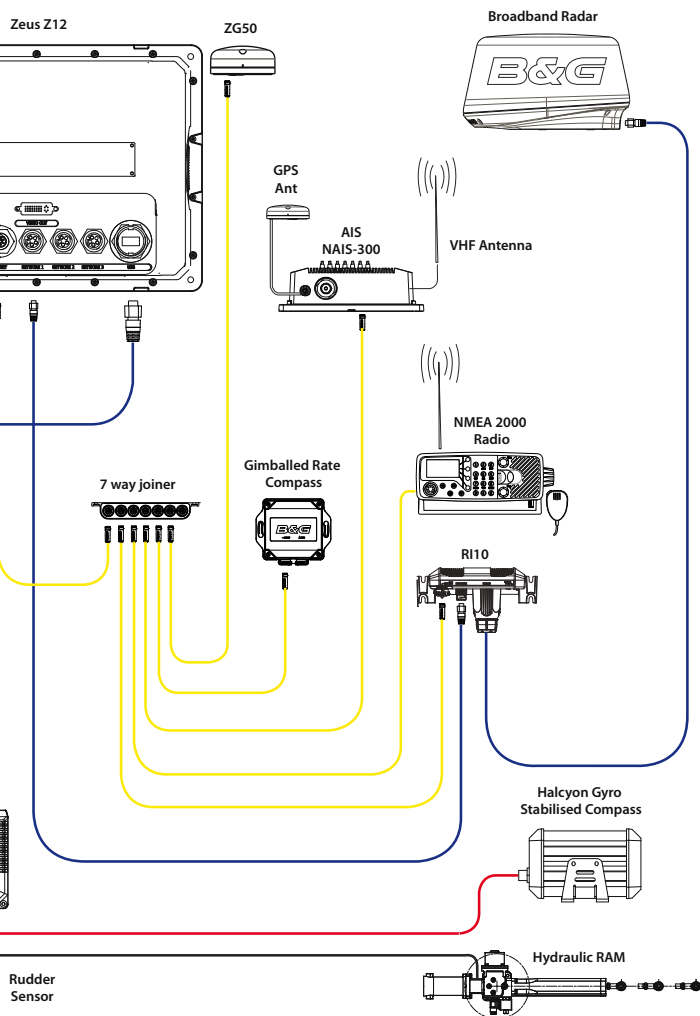
Zeus is compatible with a range of echo sounders, including the ground-breaking StructureScan™ and Broadband Sounder technologies.



StructureScan™



Broadband Sounder



## AIS (Automatic Identification System)

Zeus integrates with the NAIS-300 Class B AIS transceiver. Class B AIS transceivers both receive other vessels positions and transmit your position – allowing you to see and be seen.

The NAIS-300 connects directly to Zeus via SimNet, providing the Zeus navigator with display of all AIS equipped vessels within VHF range. Vessel data such as MMSI Number, Vessel Name, Call Sign and Type is available, along with dynamic data including Position, Course, Distance and more. Either from ship-to-ship, or ship-to-shore traffic stations.



## Entertainment

Zeus integrates with SonicHub™ multimedia systems, providing multi-zone audio from sources including mp3 USB and iPod devices along with an integrated FM/AM tuner\*

SonicHub consolidates multiple input/output sources into one system, all controlled from any Zeus display on your boat. Multi-zone allows the navigator to listen to the weather forecast on the radio at the chart table, while guests relax on deck with music.

Zeus is also compatible with the LWX-1 Sirius Satellite Radio/weather module (available in USA only).

\*FM/AM antenna required



StructureScan™ takes sonar imaging of the sea-bed to the next level. Using high-frequency DownScan Imaging™ along with SideScan. StructureScan provides the ability to see incredible detail of what is below the keel and around the yacht – invaluable when creeping into shallow coves or seeking ideal anchorages. Rocks, cables and lobster pots can often be picked out in areas which may otherwise seem like perfect anchorages.

# Specifications

<b>Display</b>	<b>Z8</b>
Display Resolution	800 x 600 (H x W)
Display Type	8 inch Colour TFT LCD
<b>Networking</b>	
Interfaces	SimNet, Ethernet, B&G H-Link
NMEA 0183 Interface	Input: GLL, GGA, RMC, RMB, GSA, GSV, APB, BWC, DBT, DPT, MTW, VLW, VHW, HDG
NMEA Output	GGA, GLL, GSA, GSV, VTG, ZDA, AAM, APB, BOD, BWC, BWR, RMC, RMB, XTE, DBT, DPT, MTW, VLW, VHW, HDG, MWV, TLL, TTM
<b>Technical</b>	
Housing	Die-cast Aluminum Rear housing & Front panel. Plastic front bezel
Waterproof Standard	IPx7
Width	285 mm \ 11.2 in.
Height	212 mm \ 8.3 in
Depth	122.7 mm \ 4.8 in
<b>Power</b>	
Power Supply	12.0 VDC-24.0 VDC (9.0 - 32.0 VDC Min-Max)
Power Consumption	21.6 W or 1.8A @ 12.0 VDC or 21.6 W or 0.9A @ 24 VDC
NMEA 2000* Load	1 network load (50mA)
Equivalency Number	
<b>Other</b>	
Languages	English (UK), English (US), German, French, Spanish, Italian, Portuguese, Croatian, Finnish, Icelandic, Dutch, Norwegian, Polish, Swedish, Slovenian, Russian, Ukrainian, Bulgarian
Operating Temperature	-15 °C to +55 °C (+5 °F to +131 °F)

<b>Radar</b>	<b>BR24</b>
Antenna Beam Width	5.2°/+/-10% (-3dB width) °
Antenna Beam Width	30°/+/-20% (-3dB width) °
Antenna Rotation Speed	24 rpm +/- 10% RPMs
Radar Noise	6 dB
Radar Warm Up Time	0 min
Radar Wind Resistance	51 m/sec (Max: 100 Knots)
<b>Communications</b>	
Transmitter Frequency	X-band - 9.3 to 9.4 Ghz
Transmitter Power Output	100 mW nominal
Data I/O Protocol	High Speed Ethernet
<b>Technical</b>	
Mounting	Bolts: 4 x 30 x M8 - 304 stainless steel
Height	280 mm \ 11 in
Diameter	488 mm \ 19.2 in
Weight	7.4 kg \ 16.31 lbs
Humidity	+35°C, 95% RH
<b>Power</b>	
Power Supply	9 V to 31.2 Vdc (12/24 Volt systems) Reverse polarity protection VDC
Power Consumption	17 W (Typ.) @ 13.8 Vdc
Power Consumption Standby	1.6 W (Typ.) @ 13.8 Vdc – only 110 mA
<b>Other</b>	
Interconnection Cable	20 m standard with RJ45 thin custom (Max 30 m)
Interface Heading	SimNet or NMEA 0183 with cable kit into display
Operating Temperature	-25° to +55°C

<b>Display</b>	<b>Z12</b>
Display Resolution	1024 x 768 (H x W)
Display Type	12.1 inch Colour TFT LCD
<b>Networking</b>	
Interfaces	SimNet, Ethernet, B&G H-Link
NMEA 0183 Interface	Input: GLL, GGA, RMC, RMB, GSA, GSV, APB, BWC, DBT, DPT, MTW, VLW, VHW, HDG
NMEA Output	GGA, GLL, GSA, GSV, VTG, ZDA, AAM, APB, BOD, BWC, BWR, RMC, RMB, XTE, DBT, DPT, MTW, VLW, VHW, HDG, MWV, TLL, TTM
<b>Technical</b>	
Housing	Die-cast Aluminum Rear housing & Front panel. Plastic front bezel
Waterproof Standard	IPx7
Width	356 mm \ 14 in
Height	273 mm \ 10.7 in
Depth	122.7 mm \ 4.8 in
<b>Power</b>	
Power Supply	12.0 VDC-24.0 VDC (9.0 - 32.0 VDC Min-Max)
Power Consumption	33.6 W or 2.8A @ 12.0 VDC or 33.6 W or 1.4 A @ 24 VDC
NMEA 2000* Load	1 network load (50mA)
Equivalency Number	
<b>Other</b>	
Languages	English (UK), English (US), German, French, Spanish, Italian, Portuguese, Croatian, Finnish, Icelandic, Dutch, Norwegian, Polish, Swedish, Slovenian, Russian, Ukrainian, Bulgarian
Operating Temperature	-15 °C to +55 °C (+5 °F to +131 °F)

<b>Antenna</b>	<b>ZG50</b>
GPS Antenna Type	SimNet NMEA2000
GPS Receiver Channels	16 channels
GPS Position Accuracy	3 m \ 10 ft
GPS: Tracking Capability	12 Satellites tracking, Tracking velocity < 1000 knots
DGPS: Receiver Type	SIRF III Chip
DGPS: Start-Up Time	Cold start <35s approx. Warm start <1s approx
DGPS: Frequency Range	1575.42 MHz
<b>Networking</b>	
NMEA Output	System time, position, rapid update, GNSS DOPs, GNSS position data, GNSS sats in view (messages required by NMEA 2000 protocol)
Connectors	Micro-C male connector
<b>Technical</b>	
Casing	UV stable plastic
Mounting	Pole or surface mount
Waterproof Standard	IPx7 (fully watertight)
Height	32 mm \ 1.3 in
Diameter	75 mm \ 3 in
Dimensions	Height w/mounting base: 110 mm
Weight	0.08 kg \ 0.18 lbs
Humidity	95% at 60°deg;C (140°F) IEC 60945
<b>Power</b>	
Power Supply	12 V via network cable VDC
Power Consumption	20 - 40 mA at 12 V
NMEA 2000* Load	1 network load (50 mA)
Equivalency Number	
<b>Other</b>	
Cable	Micro-C to SimNet cable 4 m (13 ft)
Operating Temperature	-20°C to +70°C (-4°F to 158°F)

