

NavDoctor Product Information

Technical information on Digital Yacht's brand new NavDoctor product
"For a Healthy marine network"

October 2020

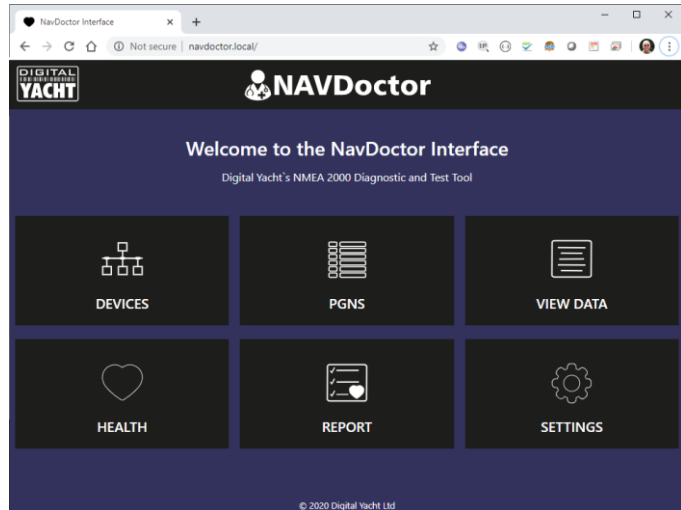
What is NavDoctor ?

- World's first wireless NMEA 2000 Diagnostics Tool
- Easy “plug ‘n’ play” connection to NMEA 2000 network
- No special software required, uses the browser of any mobile device
- Shows devices and data on the NMEA 2000 network
- Health checks the NMEA 2000 network



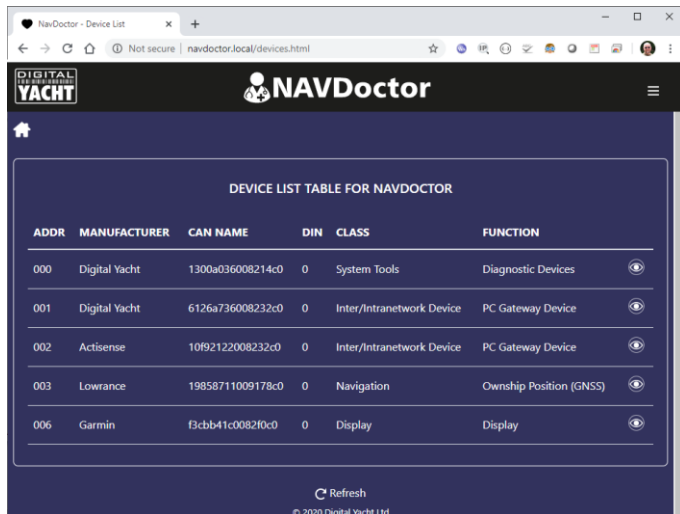
What can NavDoctor do?

1. Display a network Device List
2. Query a Device's Product Info
3. Shows all PGNs being displayed
4. Decodes individual PGNs
5. View and log "RAW" data
6. Conduct a network Health Check
7. Display and print test report



Devices

- Shows the following data:
 - CAN Address
 - Manufacturer (if known)
 - 64 bit NMEA NAME
 - Device Instance
 - Class and Function

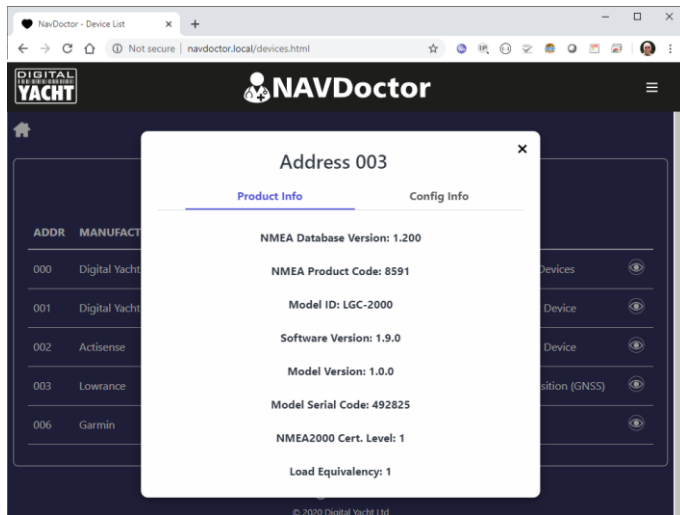


The screenshot shows a web browser window with the URL `navdoctor.local/devices.html`. The page header includes the "DIGITAL YACHT" logo and the "NAVDoctor" title. Below the header is a home icon and a table titled "DEVICE LIST TABLE FOR NAVDOCTOR". The table has six columns: ADDR, MANUFACTURER, CAN NAME, DIN, CLASS, and FUNCTION. There are five rows of data, each with a refresh icon on the right. At the bottom of the page, there is a "Refresh" button and a copyright notice "© 2020 Digital Yacht Ltd".

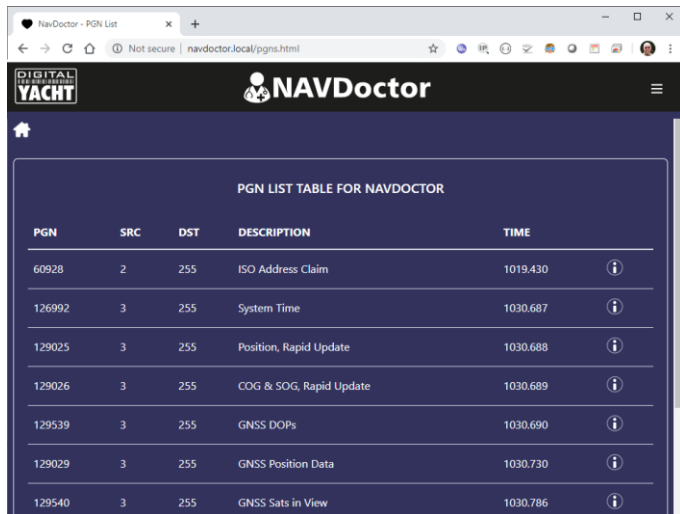
ADDR	MANUFACTURER	CAN NAME	DIN	CLASS	FUNCTION
000	Digital Yacht	1300a036008214c0	0	System Tools	Diagnostic Devices
001	Digital Yacht	6126a736008232c0	0	Inter/Intranetwork Device	PC Gateway Device
002	Actisense	10f92122008232c0	0	Inter/Intranetwork Device	PC Gateway Device
003	Lowrance	19858711009178c0	0	Navigation	Ownship Position (GNSS)
006	Garmin	f3cb41c0082f0c0	0	Display	Display

Device Info








- Click on the “Eye” icon to display the following data:
 - NMEA database version
 - NMEA Product Code
 - Manufacturer model, version and serial number
 - Certification Level
 - LEN number



- All of the received PGNs are displayed with the following data :
 - PGN number
 - Source Address
 - Destination Address
 - Description
 - Time Received in seconds
- Click a column heading to sort
- Click “Info” icon to decode PGN in pop-up window (see next slide)

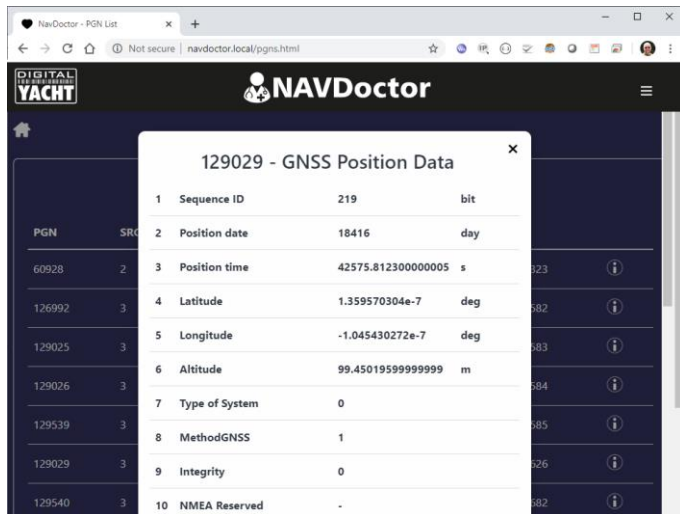


The screenshot shows a web browser window with the URL `navdoctor.local/pgns.html`. The page title is "NavDoctor - PGN List". The interface features a dark blue header with the "DIGITAL YACHT" logo on the left and the "NAVDoctor" logo on the right. Below the header is a home icon and a main content area titled "PGN LIST TABLE FOR NAVDOCTOR". The table contains the following data:

PGN	SRC	DST	DESCRIPTION	TIME	
60928	2	255	ISO Address Claim	1019.430	
126992	3	255	System Time	1030.687	
129025	3	255	Position, Rapid Update	1030.688	
129026	3	255	COG & SOG, Rapid Update	1030.689	
129539	3	255	GNSS DOPs	1030.690	
129029	3	255	GNSS Position Data	1030.730	
129540	3	255	GNSS Sats in View	1030.786	

PGN Decoding

- When the “Info” icon next to the PGN is clicked, a pop-up window appears
- Each of the PGN’s data fields is displayed with the field name, value and units (SI)
- Currently the values are static, but in the final release these will be updated every second

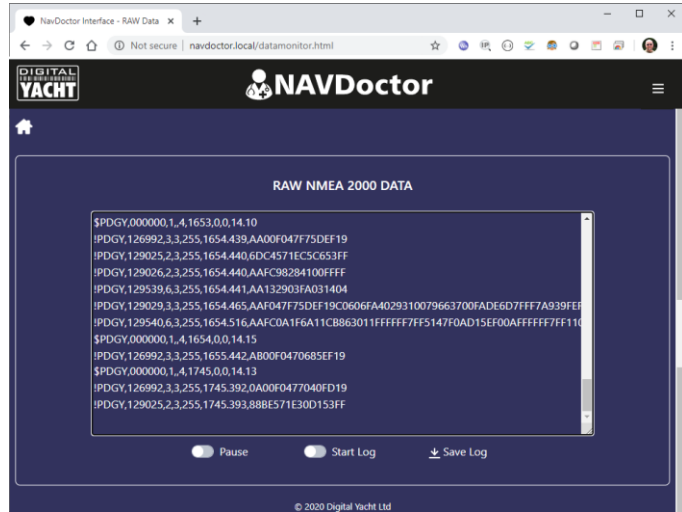


The screenshot shows the NAVDoctor web application interface. The main page displays a table of PGNs with columns for PGN ID and SRC. A pop-up window titled "129029 - GNSS Position Data" is open, showing the following data:

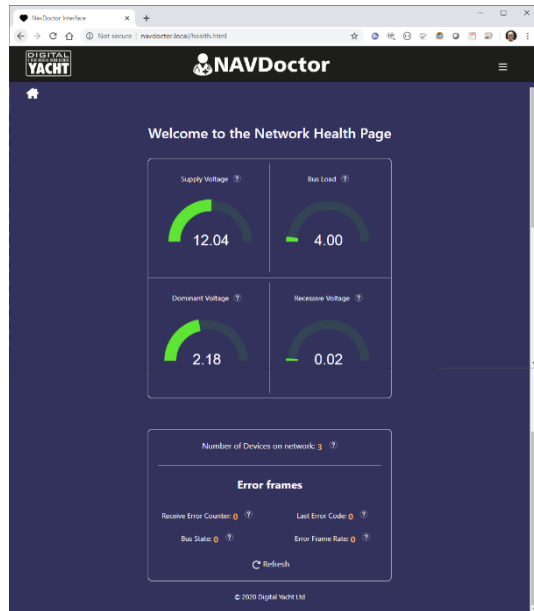
Field	Value	Units
1 Sequence ID	219	bit
2 Position date	18416	day
3 Position time	42575.812300000005	s
4 Latitude	1.359570304e-7	deg
5 Longitude	-1.045430272e-7	deg
6 Altitude	99.45019599999999	m
7 Type of System	0	
8 MethodGNSS	1	
9 Integrity	0	
10 NMEA Reserved	-	

View Data

- All of the received “RAW” N2Net data is displayed in real time
- Pause button to stop scrolling
- Start Log button stores all “RAW” data in a text file
- Stop Log button closes the log file
- Save Log button downloads the Log file to your mobile device



- NavDoctor carries out a series of health checks on the network:
 - NMEA 2000 Supply Voltage
 - Network Load
 - Dominant Differential Voltage
 - Recessive Differential Voltage
 - Number of devices on network
 - Number, type and rate of Error Frames
 - Bus State



Report

- All key network properties and health checks are displayed in a report
- Installer can enter boat name and who carried out the test
- Installer can print/save/email the report for the customer job record

A screenshot of a web browser displaying the "NavDoctor Network Test Report". The browser address bar shows "navdoctor.local/report.html". The page has a dark blue header with the "DIGITAL YACHT" logo and "NAVDoctor" text. The main content area is titled "NavDoctor Network Test Report" and contains a table of devices and a list of network health checks. At the bottom, there are input fields for "Boat Name" and "Tested By", and a "Date / Time" field showing "14:23 05/05/20". A "Refresh" button and a "Print" icon are also visible.

ADDR	MANUFACTURER	CAN NAME	DIN	CLASS	FUNCTION
000	Digital Yacht	1300a036008214c0	0	System Tools	Diagnostic Devices
002	Garmin	15cbactc00820c0	0	Display	Display
043	Digital Yacht	d7d1bc35001c1cc0	0	Communication	AIS

	Number of Devices on the Network	=	3
	Bus Load	=	4
	Bus Supply Voltage	=	12.04
	Bus Dominant Voltage	=	2.19
	Bus Recessive Voltage	=	0.02
	Error Frame	=	0
	Boat Name	<input type="text"/>	
	Tested By	<input type="text"/>	
	Date / Time	14:23	05/05/20

Pages

Settings



- In this page the NavDoctor's access point details can be changed
- Alternatively, NavDoctor can be configured to join another network
- The NavDoctor's serial number, FW versions and free memory are displayed
- A firmware update can be performed

