

The Black Box for Boats



DESIGNED, BUILT + ENGINEERED IN NORTH AMERICA.

BARNACLE SYSTEMS INC.

We engineer and build products that protect vessels, operators and coastlines.

Barnacle Systems is an award-winning manufacturer of boat security and monitoring products. Serving the Navy, Special Forces, Police, Fire, Coast Guard and more, our products secure vessels, protect operators, and optimize maintenance for small ships and high-speed boats.

Prior to founding Barnacle, Brandon Wright, P.Eng, developed remote monitoring and surveillance equipment for the **CIA, US Air Force,** and **Homeland Security.**



NMEA'S BEST NEW PRODUCT
OF 2024: BRNKL BLUE





BRNKL BLACK

Human impact monitoring,
predictive maintenance,
and synchronized mission
playback — all in one place.

DATA LOGGING

VIDEO RECORDING

MISSION ANALYSIS + PLAYBACK

 NO CLOUD REQUIRED

Features



Secure data capture. Collect, time-synchronize, and encrypt data from multiple sources, including video feeds, engine systems, power systems, environmental sensors, and biometric sensors.



Recognize events. Built-in alerting engine continuously monitors incoming sensor data to automatically trigger events and capture event video clips.



No cloud required. Offline-first architecture ensures all data is stored locally on the device. Easily export data via USB drive or through the built-in web interface for review and safekeeping.

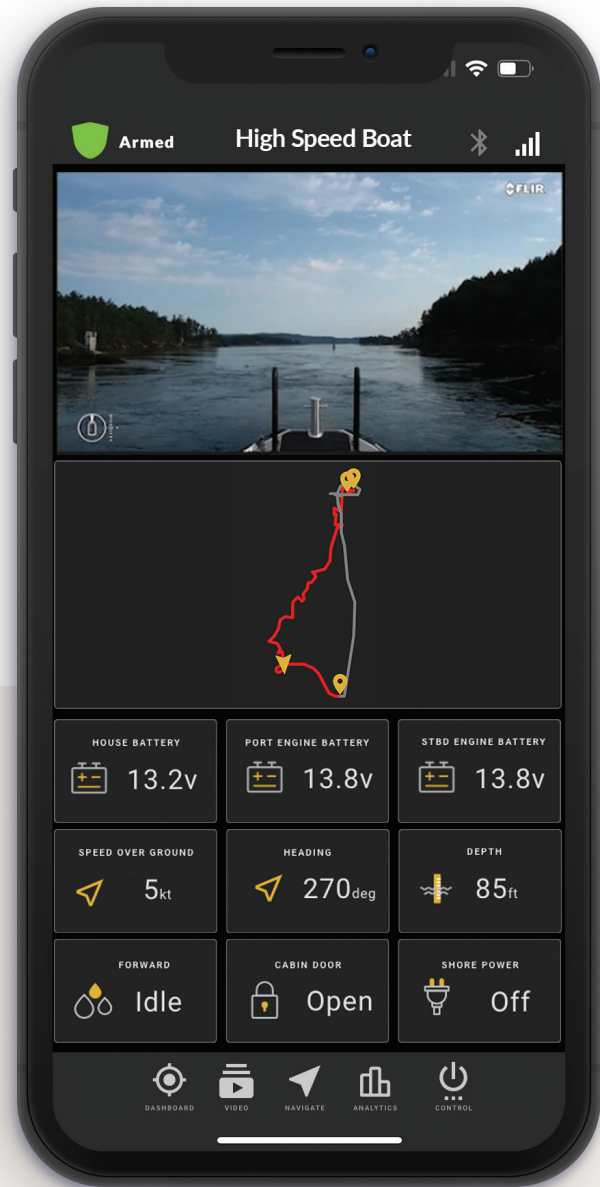


Works with existing systems. Compatible with camera networks including FLIR, Raymarine, Axis and Garmin. Seamlessly connects to NMEA2000.



ALL IN ONE PLACE

- ▶ Monitor vessel + human factors
- ▶ Track all vessel systems + data
- ▶ Condition-based maintenance alerts
- ▶ View + record live video
- ▶ Track vessel position (optional)
- ▶ Fully synchronized playback
- ▶ Automated trip reports
- ▶ Access data offline or online



USE CASES

► Condition-Based Maintenance Alerts

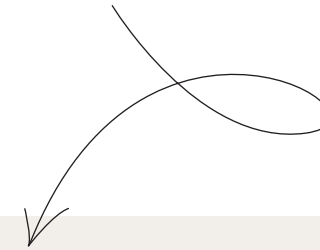
Connect to a wide range of onboard networks, protocols and devices, identifying potential issues and auto-populating fleet maintenance software before critical failures.

► Vessel + Human Impact Exposure

Built-in sensors track vessel hull impacts, while external biometric sensors compile whole body impacts automatically generating streamlined reports after every trip to track both vessel and crew impact exposure.

► Trip Recording + Synchronized Replay

Replay every aspect of a mission to be ready for the next one. See the relationship of engines, power systems, and other onboard sensor activity. Integrate data with audio and video feeds to relive every aspect of a trip. Automatically generate and send PDF trip reports.



YOU'RE IN CONTROL.

Data stays on the boat unless configured to transmit through a private network, cloud platform or your own communications equipment, tactical network, or services like Starlink.

CASE STUDY: SPECIAL FORCES

BRNKL Black was utilized to fuse vessel and biometric data for a Special Operations Forces organization, aiming to understand the physical impacts on military personnel **aboard high-speed boats**. This study combined physiological data from wearable wireless biometric sensors, tracking sudden body and head accelerations, with measurements from vessel-mounted accelerometers at various points on the boat.

The integration of these data sets in real time with the BRNKL Black provided crucial insights into the physical effects of different operational maneuvers, enhancing our understanding of crew safety and vessel performance.



2h

AVERAGE
INSTALL TIME
ON A NEW OR
REFIT BOAT

BRNKL Black Specs

GENERAL

Physical Dimensions: 9.5" x 8.25" x 2.5" /
245 mm x 212 mm x 57 mm (W x L x H)
Weight: 3.3 lbs / 1.5 kg
Temperature: -20°C to +75°C
Power Consumption: 500mA average; 2A max @ 12VDC
Antenna ports: GPS & WiFi
Mounting: Flange
Internal Battery: 3000mAh
Status Indicators: Power, Communications, Data

CONNECTIONS

Power Input: 10.5-60VDC
Analog/Digital Selectable Inputs: 7 wired (0-60VDC)
Outputs: 2 wired (1.5A max)
Ethernet Port: 1 wired
NMEA 2000 Port: 1 wired
CAN Bus Port: 1 wired
WiFi: Wireless
Serial Port: 1 wired (RS232)
Antenna Ports: 2 SMA ports (GPS and WiFi)

SENSORS

GPS Receiver: GPS/QZSS, Galileo, GLONASS,
BeiDou (4 Concurrent GNSS)
Accelerometer: +/-16g; 16384 LSB/g
Gyroscope: +/-125 deg/sec; 262.4 LSB/deg/sec

STORAGE

Internal: 4TB
Cloud: Optional

BRNKL INTERFACE

Mobile Devices: iOS app or browser; Android app
or browser
Other Devices: Browser
Browser Compatibility: Chrome, Safari, Firefox, Edge
Local Connection: WiFi

CAMERA INTEGRATION*

**Cameras sold separately*
Supported Protocols: RTSP
Application Interface: ONVIF Profile S, ONVIF Profile T
Recommended Brands: FLIR, Raymarine,
Garmin, Axis, Current Scientific

Contact us for a full list of compatible cameras.

INCLUDED ACCESSORIES

Installation Guide, power cable, I/O cable

BOOK A DEMO

We'll walk you though the BRNKL Black interface, features, integrations, and how it can support your organization's unique needs.

SALES@BRNKL.IO
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US PARTNER + DISTRIBUTOR

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1327 BEACH DRIVE

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