

EMPOWERING YOUR FLEET TO NAVIGATE EFFICIENTLY AND SAFELY SINCE 1945

NON PORTABLE PILOTING UNIT Compliant with Panama Canal Authority requirements

### NaviMotion



## NaviMotion

PCA adivsory to Shipping No. A-32-2022 requires all vessels with 109+ ft beam having a non-portable piloting unit installed.

Starting: October 1st 2023

NaviMotion – CAIM's solution for you.

	Parame Canal Australity Vice Presidence Vice Commission
CANAL DE PA	Harrison to support the start
October 5, 2	1022
то	All Stripping Agents, Owners, and Operators
SUMECT:	New Postforing System Requirement for Transiting Neopenamus Vessels Beginning October 2023
Canàl will be (ITK) for sub	obsr 1, 2023, all vestels with a beam of 100 feet of more training the Panama required to have a these (some portable) ploting, and with flexi Time, formatics metric vasces, or his measure is sequented to improve the Alforniy of the eliminating the delays associated with the installation of portable ploting with
n proper con ortimunicati emiuning a st be Panama l wallable thro	It be manowhile to procure, install, configure, and maintain the fined plasting unit, difficult, The unit hale to installed and powered to provide the required to with the plastic's tablet and the SalePhale's adhyper via wireless restruction. Also and long-range connection in all conting positions during the Hannit through Casal. The specification's and installation public for the Man plastic must all continue the following the triggs/regular contribution control provides and the plant the following the triggs/regular contribution control provides and plants.
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## NaviMotion

Navimotion is composed by two units. The main piloting processor and the UPS unit with "lead crystal" batteries allowing an easy trasport and granting 10 hours of power supply in case of black out.

### In the box:

**Ix Fixed piloting Unit Ix UPS 2x GNSS Antenna** 1 x UHF Antenna 1 x VHF Antenna 2x Wi-Fi Antenna All cables included

The product is approved by the Panama Canal Authority and equipped with the latest technology in motion measurement and GNSS System.

As required a label will be provided to the vessel that will provide ID, SSID & password / QR code validated by the Panama Canal Authority







# NaviDock

NaviMotion is fully compatible with the Panama Pilot's Tablet (WLAN).

CAIM can optionally supply NGMAT, the tablet supporting the crew in precise operations outside Panama.



NGMAT is in addition, an emergency aid allowing the vessel to reach the nearest port in case of an ECDIS failure.

With the software NaviDock reading all sensors provided by Navimotion and official ENC displayed provides the most precise position available allowing the master to carry out every maneuver with high quality data. NGMAT is a rugged tablet with high-brightness and water resistance IP65.

## NaviMotion

### **Technical Specifications**

GNSS Antenna	Dual Antenna GNSS Receiver
requencies: GPS/QZSS-L1/L2/L5, QZSS-L6, GLONASS-G1/G2/G3, Galileo-E1/E5a/E5b/E6, BeiDou-B1/B2/B2a/B3, NavIC-L5	Tracked Systems: GPS / QZSS, Galileo, GLONASS, BeiDou
Gain: ≥ 37 dB	Frequencies: L1C/A, L2C, L1OF, L2OF, E1B/C, E5b, B1I, B2
loise Figure: ≤1.8 dB typ. @ 25°C	Interference Mitigation: Spoofing and Jamming detectior
	Position Accuracy: RTK: 0.01m +/- 1ppm, SBAS: 1m
perating Temperature: -45°C to 85°C	Heading Accuracy@10m Antenna Separation: 0.02 degrees
hock & Drop: MIL-STD-810G - Test method 516.6 - IP Rating: (housing) IP69K	Speed Accuracy: 0.01m /see
-	Rate of Turn Accuracy: 0.1º/mir
UHF Antenna	UHF DGNSS Corrections
/SWR @ 454.325MHz: < 1.5	Frequency: 454.325 MHz (configurable
Gain 2dbi	Radio frequency (RF) Protocol: Trimtalk 450S (configurable
ightning protection	DGNSS Corrections Protocol: RTCMv3
ightning protection Network DGNSS Corrections	DGNSS Corrections Protocol: RTCMv3
	AIS VHF Antenna
Network DGNSS Corrections	

AIS Receiver	Cables for VHF, UHF and GNSS Antennas
Dual Frequency: 161.975 & 162.025MHz	Operating Temperature: -40°C to 80°C
Receiver Sensitivity: <-110dBm @ 20% packet error rate	Total loss signal cables: Max. 17dB
Inertial Motion Unit (IMU)	WiFi
Gyro Bias Instability: 0.8°/h	Access Point: IEEE 802.11 b/g/n with double band
Gyro Angular Random Walk: 0.08°/√h	Number of clients: 2 4
Accelerometer Bias Instability: 0.02 m/s/√h	Security: WPA2
Accelerometer Random Walk: 6µg	Signal strength: > -70dBm at all conning positions
6 Degree OF Freedom	
Data Output	Data Protocol Compatible with Trelleborg SafePilot
NMEA output: GGA, VTG, HDT, ROT, GSA, GSV, ZDA, VDM	Certification ID output: PTMSX message every 10 seconds
UDP Port: 17608	Jamming and Spoofing status output: PTMSG message every 5 seconds
Dimensions	Power
Pilot Unit: 250w/90h/230d mm - weight 2kg	Supply: 90 - 240 VAC
UPS Battery Backup: 265w/125h/320d mm - weight 8kg	Battery Backup: ≥ 10 hours of operation with sealed SiO2 batteries, not restricted to IATA DGR



# NaviMotion caim

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