

CORTEX

VHF | AIS | MONITOR

PRODUCT OVERVIEW



VHF

The world's most advanced VHF with multi-station wireless touchscreen handsets.

AIS

Built-in Class B SOTDMA *smartAIS* with no-loss splitter.

MONITOR

Track and control, whether on board or ashore.

VHF Reimagined

Cortex is a revolution in marine technology that will change your VHF experience forever with an intuitive touchscreen and rubber overmoulded housing that is engineered to withstand the rigours of the harsh marine environment.



The power of VHF and AIS combined

Cortex is the world's first VHF with high speed SOTDMA AIS transponder technology, making your boat visible to others. A built-in heading sensor tells other vessels your direction, helping them more accurately predict potential collisions. See critical information about vessels, AIS marks (AtoNs) and man overboard devices on your MFD, mobile or Cortex handset.



Collision Avoidance & One-touch DSC

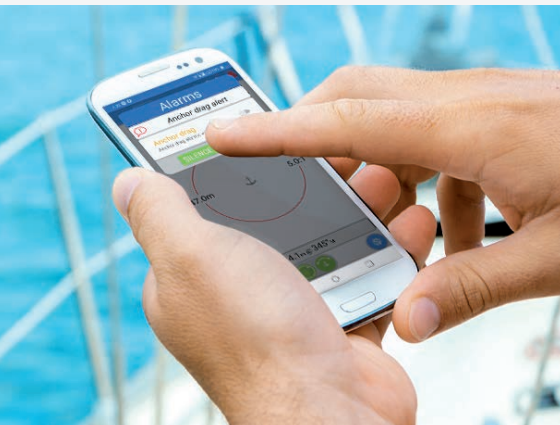
Cortex continuously calculates crossing situations and warns you with voice annunciated alerts. View crossing situations, navigation light sectors and complete trial maneuvers while talking on the VHF radio. Initiate direct calls (DSC) with other vessels by simply tapping the vessel on your handset touchscreen. Initiate VHF calls to friends or quickly hail another vessel when every second counts.



Monitor

Cortex combines built-in sensors, external sensor inputs and NMEA 2000 connectivity with free basic monitoring. Using cloud connectivity, you can view twice-daily updates of power, location, wind, depth, bilge, temperature and more on your smartphone.

The Cortex Monitor Premium subscription unlocks real-time vessel status, instant alerts and device control for boat systems like refrigerators, icemakers, lights or heaters.



Anchor Watch on board and ashore

By combining your position and heading, Cortex will determine if your anchor drags. If your boat moves outside your anchor swing radius the alarm will sound on Cortex handsets, connected speaker and your smartphone. Receive alerts while ashore via the Cortex Monitor App on your smartphone.



CORTEX HUB

M1 & V1



Cortex M1 Hub is a Full Class B SODMA smartAIS with out-of-the-box monitoring. Cortex V1 combines Cortex M1 with Cortex H1 Handset to provide full VHF functionality. Optionally add H1P Portable Handsets for even greater freedom on board.

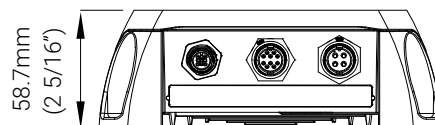
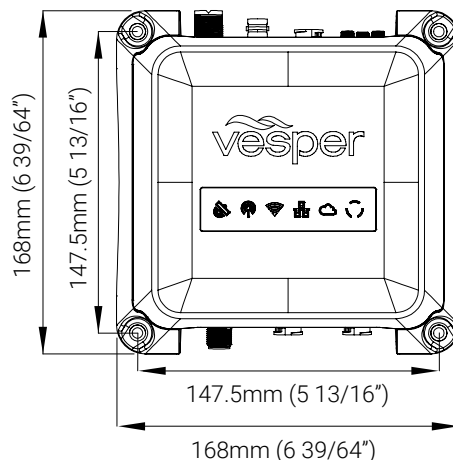
Cortex is the world's first VHF with high speed SOTDMA AIS transponder technology making your boat visible to others. A built-in heading sensor tells other vessels your direction, helping them more accurately predict potential collisions.

Configure and monitor the Cortex system and receive alerts to a connected smartphone on the Cortex Onboard App or receive alerts and control devices on the boat remotely using the Cortex Monitor App.

- Add H1 Tethered & H1P Portable handset for portable VHF capability
- Built-in Class B SOTDMA
- Built-in WiFi and cloud connectivity for monitoring on board and ashore
- Transmit AIS and VHF simultaneously
- Universal compatibility
- Low power consumption
- 10Hz GPS antenna
- Galvanically isolated ports
- Monitor up to 5 external sensors connected directly
- Network to NMEA 2000 to monitor sensors remotely or supported 3rd Party Apps
- Integrated no-loss AIS / VHF splitter
- IPx7 full plastic housing
- GNSS: GPS, GLONASS, Bei Dou, Galileo
- Anti jamming feature

TECHNICAL

- 1 VHF Antenna In
- 2 VHF Antenna Out (no-loss splitter)
- 3 DC Power (12/24V)
- 4 GPS/GNSS, WiFi and Cloud ports
- 5 Mounting holes
- 6 External Speaker output
- 7 General Purpose Input / Output, NMEA 0183
- 8 NMEA 2000 port
- 9 Coloured backlit status indicators for GPS/GNSS, VHF, WiFi, AIS, Cloud and Power



CORTEX ONBOARD

Configure and Monitor your Cortex system from your smartphone anywhere on board. Receive Alerts for collision threats, anchor drags and more. **Android and iOS**

TETHERED & PORTABLE HANDSETS

H1 & H1P

The Cortex Handset is available in H1 Tethered and H1P Portable versions. Connect up to 10 Cortex Handsets to an Hub.

A revolution in marine technology that will change your VHF experience forever. An intuitive touchscreen that is engineered for durability to withstand the rigours of the harsh marine environment. Audio that's as loud as a train but clear as a bell. The future of VHF is here.

- An experience so intuitive
- Secure Handset Mounting and Charging Cradle
- One-touch DSC
- Handsets like no other
- Wireless freedom
- Up to 85dBA audio
- Wide angle, sunlight viewable
- Pinch-to-zoom
- Critical data always in view
- Durability in wet and rough conditions
- Gorilla Glass
- Wet use touchscreen



TECHNICAL

- | | |
|--------------------------------------|--------------------------------|
| 1 DSC distress call button | 9 Microphone |
| 2 Up to 85 dBA high fidelity speaker | 10 VHF screen shortcut key |
| 3 Side volume buttons | 11 Return key |
| 4 Power On button | 12 Menu key |
| 5 DSC Call shortcut | 13 Push to talk key |
| 6 Channel 16 shortcut key | 14 4-inch touch screen |
| 7 MOB waypoint activation | 15 Protective rubber overmould |
| 8 Click-wheel rotary controller | 16 Power cord |

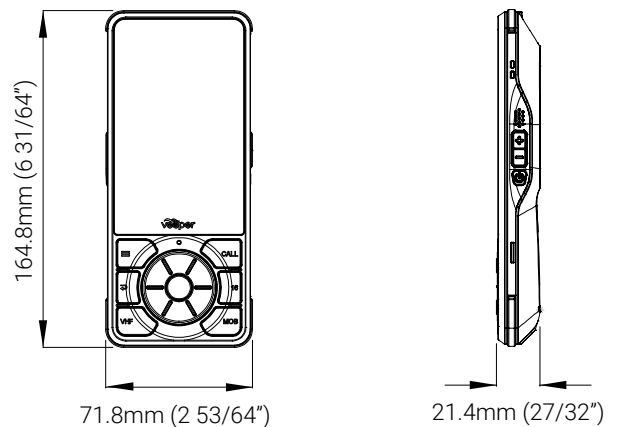
H1



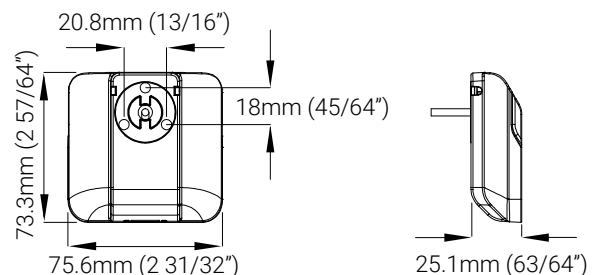
H1P



HANDSET



CRADLE



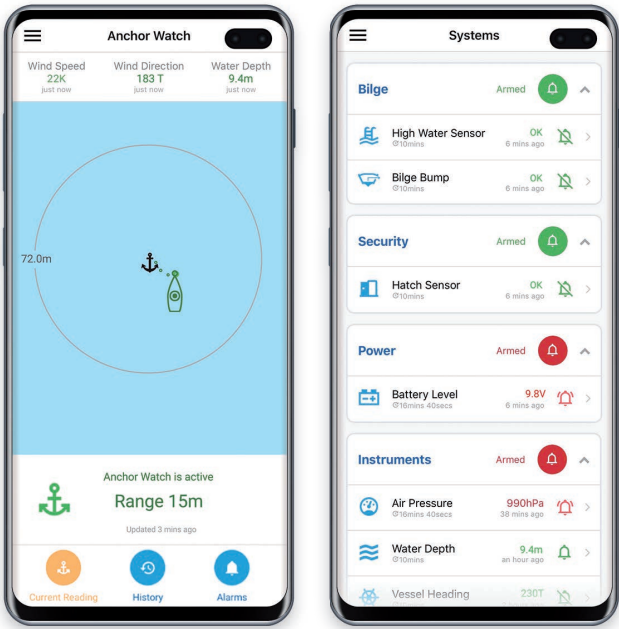
CORTEX MONITORING

CORTEX MONITOR

Cortex Monitor App will be available for download from Google Play or the Apple App Store for free. Use your smartphone to monitor your vessel and receive alerts.

Know your vessel is safe and secure while you are ashore. See boat status, receive alerts and control devices. Cortex sends updates to the cloud and sends status and alerts directly to your mobile via the Monitor App.

- Built into the Cortex Hub
- Free download with easy setup
- Free out-of-the-box monitoring
- Add external sensors and controls
- Real-time monitoring and control via Premium Subscription
- In-App Upgrade to Cortex Monitor Premium Subscription
- Monthly subscription - cancel any time



CORTEX MONITOR PLANS

The Cortex Monitor App will be available for download from Google Play or the App Store. Annual & Monthly Subscription are purchased within the Cortex Monitor App.

FREE	PREMIUM
Free	Monthly \$20 USD or Annual \$120 USD
See twice daily updates on the Cortex Monitor App	See real-time updates on the Cortex Monitor App
No alarms	Instant alarms
No control	On board device control
	Anchor Watch
	Geofence

COVERAGE

USA
Canada
Australasia: Australia, New Zealand
Asia: Afghanistan, Australia, Bangladesh, China, Hong Kong, India, Indonesia, Japan, South Korea, Laos, Malaysia, New Zealand, Pakistan, Singapore, Taiwan
Europe: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, French Guiana, Germany, Gibraltar, Greece, Guadeloupe, Holy See (Vatican City State), Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Martinique, Mayotte, Monaco, Netherland, Norway, Poland, Portugal, Reunion, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom
Rest of world: Contact us to find out when Cortex Monitoring will be available.

SPECIFICATIONS

CORTEX HUB		
GENERAL SPECIFICATIONS		
HUB SIZE		168 x 168 x 58.7mm (6 5/8" x 6 5/8" x 2 5/16")
POWER SUPPLY		9-33V. 12V: 6A max, 500mA nom
WEIGHT		1.7lb (770g)
ENVIRONMENTAL		Waterproof (IPx7)
OPERATING TEMPERATURE		-13°F to +131°F (-25°C to +55°C)
SUPPORTED PROTOCOLS		AIS Class B SO-TDMA, VHF Voice, Class D DSC, ATIS (user configurable, EU region) NOAA Weather (US region)
TRANSMITTER FREQUENCY ERROR		Less than 300Hz
ANT CONNECTOR		SO239
SPLITTER		Max input power 25W, Insertion Loss RX 0dB, TX < 1dB
SPLITTER CONNECTOR		BNC
VHF VOICE		
VHF FREQUENCY RANGE	TX RX	156.025–161.600 MHz 156.050–163.275 MHz
DEDICATED RX CHANNELS		3
POWER OUTPUT		25W, 1W (High, Low)
REGIONS		USA, CAN, INT
SENSITIVITY (12 DB SINAD)		-116 dBm
ADJACENT CHANNEL SELECTIVITY		80 dB
SPURIOUS RESPONSE		70 dB
INTERMODULATION		70 dB
SPURIOUS EMISSIONS		Less than –80 dBc (at 25 W)
MAX AUDIO OUTPUT POWER		10W, < 1% THD
CLASS D DSC		
DEDICATED RX CHANNELS		1
SENSITIVITY (1% BER)		-113 dBm
ADJACENT CHANNEL SELECTIVITY		80 dB
SPURIOUS RESPONSE		70 dB
INTERMODULATION		70 dB
SOTDMA CLASS B AIS		
DEDICATED RX CHANNELS		2
FREQUENCY RANGE		156.025 – 162.025 MHz
POWER OUTPUT		5W, 1W (High, Low)
AIS SENSITIVITY (20% PER)		-112 dBm
ADJACENT CHANNEL SELECTIVITY		80 dB
SPURIOUS RESPONSE		70 dB
INTER-MODULATION		65 dB
AUDIO		
SUPPORTED FUNCTIONS		VHF RX, Alarms
AMPLIFIER		10W Class D, THD < 1%
SPEAKER		4 ohm

GNSS	
SENSITIVITY	-167dBm
CONSTELLATIONS	GPS, GLONASS, Bei Dou, Galileo
CHANNELS	72
DIFFERENTIAL SUPPORT	SBAS, WAAS, EGNOS
NAVIGATION RATE	10Hz
CONNECTOR	SMA
CERTIFICATIONS	IEC 61108
FEATURES	Anti-jamming, Anti-spoofing
NETWORKING	
NMEA 2000 GATEWAY	1 x Isolated Micro-C male port, AIS and GPS PGN output, Gateway Translations to/from NMEA 0183
NMEA 0183	1 x Isolated NMEA 0183 ports, AIS and GPS sentences, Gateway Translations to/from NMEA 2000, 4800 / 38400 baud
WIRELESS	Access Point for up to 10 devices, 2.4GHz, 802.11b/g/n, Integrated Antenna, SMA-RP external antenna port (optional)
WIRELESS SECURITY	WPA2 Personal
CLOUD CONNECTIVITY	LTE-Cat1 with 3G fallback (USA), 3G (Canada, EU, Asia), Integrated SIM, Integrated Antenna, SMA-RP external antenna port (optional)
CONTROL OUTPUTS	2 Outputs, Low side driven (max 200mA)
SENSORS	
HEADING	9-Axial, Internal use only, Accuracy: +/- 1 deg, Updated rate: 10Hz (max)
BAROMETER	Update rate 1Hz max (averaged)
BATTERY VOLTAGE	Measured at power input
EXTERNAL SENSORS INPUTS	5 Inputs, Digital (0-24V), Analog (0-10V)

CORTEX HANDSETS	
GENERAL SPECIFICATIONS	
HANDSET SIZE	164.8x71.8x21.4mm (6 1/2" x 2 13/16" x 7/8")
POWER SUPPLY	12V, 1A max, 200mA nom 12-24V compatible
BATTERY	Lithium Polymer 2 hour full charge, >12 hours nominal operation
WEIGHT	H1 0.63lbs (285g), H1P 0.52lbs (235g)
ENVIRONMENTAL	Waterproof (IPx7)
OPERATING TEMPERATURE	-13°F to +131°F, (-25°C to +55°C)
AUDIO	3W Class D amplifier, THD < 5% @ 85dBA
DISPLAY	
SCREEN	LCD TFT Si, 640 x 800, 24bit Colour
TOUCH	Capacitive, optically bonded, LCD, glove and salt water operable
BACKLIGHT	600 cd/m2, Ambient Light sensor for auto dimming

All stated specifications are subject to change without notice or obligation. Dimensional measurements taken in metric.

CORTEX RANGE



CORTEX M1 AIS	
PRODUCT CODE	CORTEX- M1
UPC	0793591743578
DESCRIPTION	SOTDMA <i>smart</i> AIS transponder with remote vessel monitoring
INCLUDED	M1 Hub, GPS Antenna, Cellular Antenna, Power Cable, NMEA 2000 Drop Cable, NMEA 2000 Tee, Audio Cable, External Sensors Cable, <i>smart</i> AIS Switches, Optional WiFi Antenna, VHF patch cable.
INNER CARTON	330x218x148mm (1' 1" x 8 9/16" x 5 13/16") 1.64 kg (3.61 lb)
OUTER CARTON	QTY 6 455 x 445 x 335mm (1' 5 7/8" x 1' 5 7/8" x 1' 1 3/16") 9.9 kg (21.83 lb)
MRP	\$1299 USD

CORTEX V1 VHF WITH AIS	
PRODUCT CODE	CORTEX-V1
UPC	0797776885848
DESCRIPTION	VHF radio with SOTDMA <i>smart</i> AIS and remote vessel monitoring
INCLUDED	M1 Hub, H1 Tethered Handset, GPS Antenna, Power Cable, NMEA 2000 Drop Cable, NMEA 2000 Tee, Audio Cable, External Sensors Cable, Optional WiFi Antenna.
INNER CARTON	330x218x148mm (1' 1" x 8 9/16" x 5 13/16") 1.98 kg (4.37 lb)
OUTER CARTON	QTY 6 455 x 445 x 335mm (1' 5 7/8" x 1' 5 7/8" x 1' 1 3/16") 12.00 kg (26.45 lb)
MRP	\$1799 USD

CORTEX H1P PORTABLE HANDSET	
PRODUCT CODE	CORTEX-H1P
UPC	0735850824765
DESCRIPTION	Cortex H1P Portable Rechargeable Handset
INCLUDED	H1P Portable Rechargeable Handset, Charging H1P Cradle, Non Powered H1 Cradle
INNER CARTON	213 x 98 x 58 mm (8 3/8" x 3 7/8" x 2 5/16") 0.34 kg (0.75 lb)
OUTER CARTON	QTY 10 185 x 205 x 220mm (7 5/8" x 8 1/16" x 8 11/16") 3.0 kg (6.61 lb)
MRP	\$599 USD

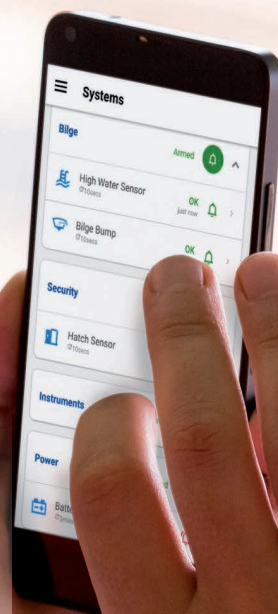
Compatible with Cortex M1 and V1 bundles.

ACCESSORY CODE	DESCRIPTION	CORTEX-M1	CORTEX-V1	CORTEX-H1	CORTEX-H1P
EXSPKR	EXTERNAL SPEAKER				
RAIL-H1P	RAILBLAZ MOUNT				
141005	SMART AIS ALARM & SWITCH KIT	Included			
NMEA-2M	NMEA 2000 DROP CABLE 2M (6' 6 3/4")	Included	Included		
NMEA-T	NMEA 2000 TEE	Included	Included		
CRDL-H1	NON-POWERED H1 CRADLE			Included	Included
CRDL-H1P	CHARGING H1P CRADLE (POWERED)				Included
PTC-VHF	M1 PATCH CABLE (BNC TO PL259 FOR SPLITTER)	Included			
PTC-RF	RF LOW LOSS PATCH CABLE, 10M (32' 9 11/16")	Included	Included		

This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.

CORTEX

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