

# ACR Nauticast™ AIS

Universal Automatic Identification System

For SOLAS vessels



COBHAM

The Science of Survival

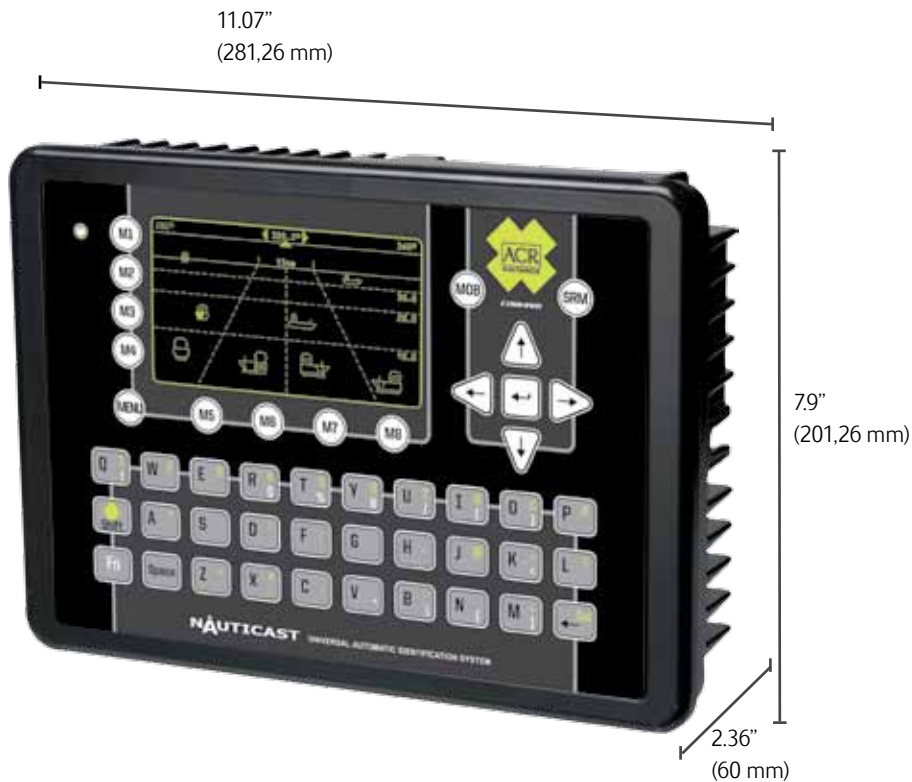


Using the VHF maritime band, the Nauticast™ Universal Automatic Identification System (UAIS) is an exciting development in the safety of navigation. AIS facilitates the exchange of navigational data between passing vessels and shore based monitoring stations. Knowing other on-coming vessel names, course, speed and current navigational status contributes to increasing safety at sea and collision avoidance in low visibility conditions.

Designed for SOLAS vessels engaged in international voyages, the Nauticast™ UAIS meets stringent new port security requirements. The Nauticast™ transponder fully exceeds all specifications for SOLAS AIS as outlined by IMO and the USCG including the ITU-R M.1371-3 regulations.

The Nauticast™ brings simplicity to navigation with its 3-in-1 graphical display allowing you to adjust ranges to visually see ships positions

in a quick and easy to understand format. You can use your AIS data to call oncoming vessels in your same path or use the fully integrated Alphanumeric QWERTY keyboard to quickly type and send messages to prevent an accident before they happen.



### Small in Size and Easy To Install

The ACR Nauticast is smaller than most approved SOLAS units and can easily be flush mounted into the dash or mounted on a gimbal bracket on or above your bridge station.

The Nauticast was designed with ease of installation in mind and inventive technology at its best! Our two sockets suffice to connect power, sensors and antennas and initial Transponder operation is up and running within minutes.

### Mounting Options

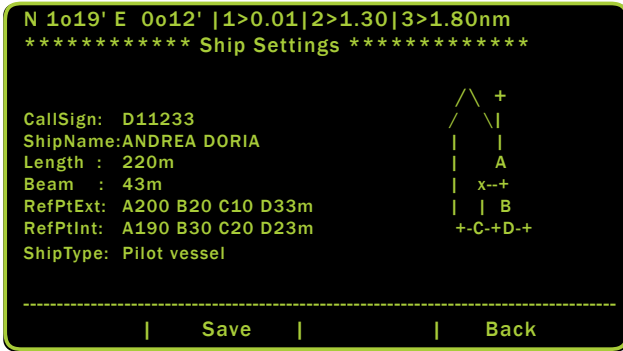
Flush Mount



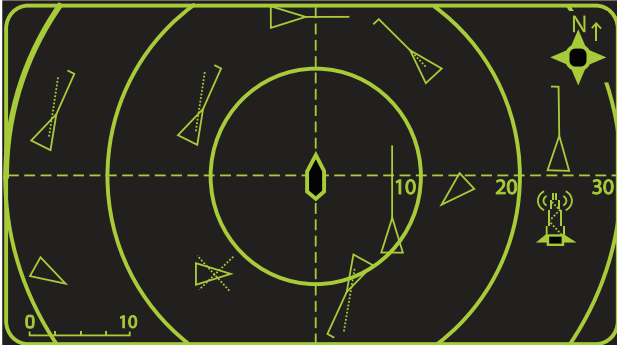
Gimbal Mount



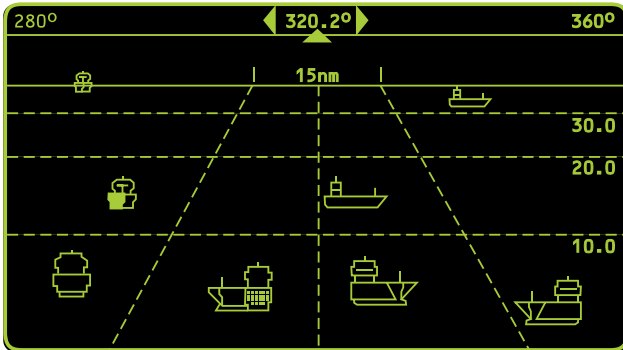
### Alphanumeric View



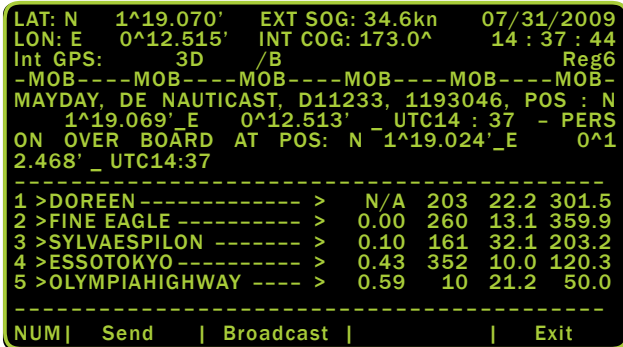
### Radar View



### Fairway View



### Man Overboard



## Nauticast™ Advanced Features

### 3-in-1 Graphical Display

The Nauticast™ includes the innovative 3-in-1 Graphical display with 3 different views at a fingertip: Alphanumeric, Radar View and Fairway view. With different zoom-levels, this representation of the surrounding traffic scenario can be selected directly using cursor keys.

### Man Overboard Emergency Button

Man Overboard button automatically saves the precise coordinates of the incident and generates an immediate distress message to all AIS equipped vessels in the area.

### Software Sensor Interfacing

The Nauticast™ software enables you to automatically check, read out/trace and evaluate the data received from your sensor interfaces. All sensor inputs are configurable and have built in test programs for evaluating and troubleshooting your connections.

### Fully Approved

The Nauticast™ has been re-certified to meet all SOLAS and IMO regulation including the new ITU –R M1371-3 requirements.

### Enhanced GPS Sensitivity and Reporting

With our new upgraded 16 Channel GPS Module, the Nauticast™ is more sensitive and accurate than ever before. The RAIM (Receiver Autonomous Integrity Monitor) receiver verifies the Nauticast™ unit's GPS data for increased accuracy reporting.

### Engineered Smart, Built Strong

The cast aluminum housing is rugged and protects your AIS for years of life on the water. The Nauticast™ is rated to IP-65.

# ACR Nauticast™ AIS

Universal Automatic Identification System



## PHYSICAL

Product Number	2607
Model Number	
Size	10.07 x 7.92 x 2.36" 281.26 x 201.26 x 60 mm
Weight	5.5lbs.; 2490 g
Operating Temperature	5°F to 131°F (-15 to 55°C)

## POWER SUPPLY

Supply Voltage (Galvanic isolated)	24 V DC (-10% + 30%)
Input Current	min. 7A (24V)

## INTERFACES

Data Ports	3 input, 4 I/O, 1 output
IEC 61162-1/2	(RS422/NMEA 0183)
ITU-R M.823-2	(RS422 /RTCM SC104)
Bitrate	
CH1 Sensor Input; (e.g.: GPS)	4800bps/38400bps
CH2 Sensor Input; (e.g.: GYRO)	4800bps/38400bps
CH4 ECDIS Port (In-/Output) AIS targets, AIS messages	in/out 38400 bps
CH5 Pilot Port (In-/Output) AIS targets, AIS messages	in/out 38400 bps
CH8 Long Range Port (In-/Output)	in/out 38400 bps
CH9 DGPS Correction (In-/Output) (RTCM SC104)	in/out 9600 bps
Alarm Circuit CH10	Dry relay contact (see BIIT-Alarm System)

## BUILT IN GPS

Receiver Architecture	16 channel diff.
Tracking Capability	16 satellites sim.
Accuracy	2.5 m CEP
DGPS Accuracy	2.0 m CEP
GPS Antenna Connector	TNC

## GPS SOLUTIONS

Beacon Interoperability  
EGNOS Interoperability  
WAAS Interoperability  
OMNISTAR  
Interoperability  
LongWave  
Interoperability  
VHF Interoperability  
(DGPS over Msg. 17)

## BIIT- Alarm System

Relay Breaking Capacity	30V DC	8A
	250V AC	8A

## OPTIONAL INTERFACES

Number of Data Ports RS232	Up to 5
Bitrate	Up to 115000 bps
Simplex/Duplex	Duplex
Number of Data Ports IEC 61162-3 CAN RS485	1
Bitrate	Up to 1 Mbps

## KEYBOARD

Integrated	Alphanumeric
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## SPECIFIED STANDARDS

IMO MSC. 74(69) Annex 3	
ITU-R M. 1371-3 (Class A)	
IEC 61993-2 (2002)	
IEC 61162-1 (2000)	NMEA 0183-3
IEC 61162-2 (1998)	NMEA 0183-3
IEC 61162-3	NMEA 2000
ITU-R M. 823-2	
IEC 61108-1 (1996)	
IEC 60 945 (1996)	
ITU - R M. 825-3	
ITU - R M. 1084-3	

## VHF

Frequency Range	156 MHz - 162 MHz
Channel Spacing	12.5 or 25KHz
RF Channels	3 Receiv. /1 Transm.
AIS Receivers	2
DSC Receivers	1
Frequency Error	+/- 2.5 ppm

## VHF TRANSMITTER

Output Power	1 Watt to 12.5 Watt (Adjustable)
Receive to Transmit Switching Time	< 1 ms
Transmit Release Time	< 1 ms
Automatic Shutdown	1 sec
Channel Switching Time	< 25 ms
Attack Time	< 1 ms

## VHF RECEIVER

Max. Usable Sensitivity	<-110 dBm
Co-channel Rejection	> -8dB (25 kHz); > - 12 dBm (12.5kHz)
Adjacent Channel Selectivity	>70 dB (25 kHz); > 60dB (12.5 kHz)
Inter-modulation Rejection	> 65 dB
Spurious Response Rejection	> 70 dB
Blocking	> 84 dB

## VHF MODEM

Bitrate GMSK	9600 bps
RF Baud Rate (DSC)	1200 bps
Modulation	GMSK/FSK

## SOFTWARE

Nauticast™	2.0.S105.xxx Installed, implemented configuration software
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## HARDWARE

Nauticast Version 1.0.x

## DISPLAY

Integrated	Text: 40 x 16 char Graphical: 240 x 128 dots Adjustable brightness and contrast
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# ACR Accessories

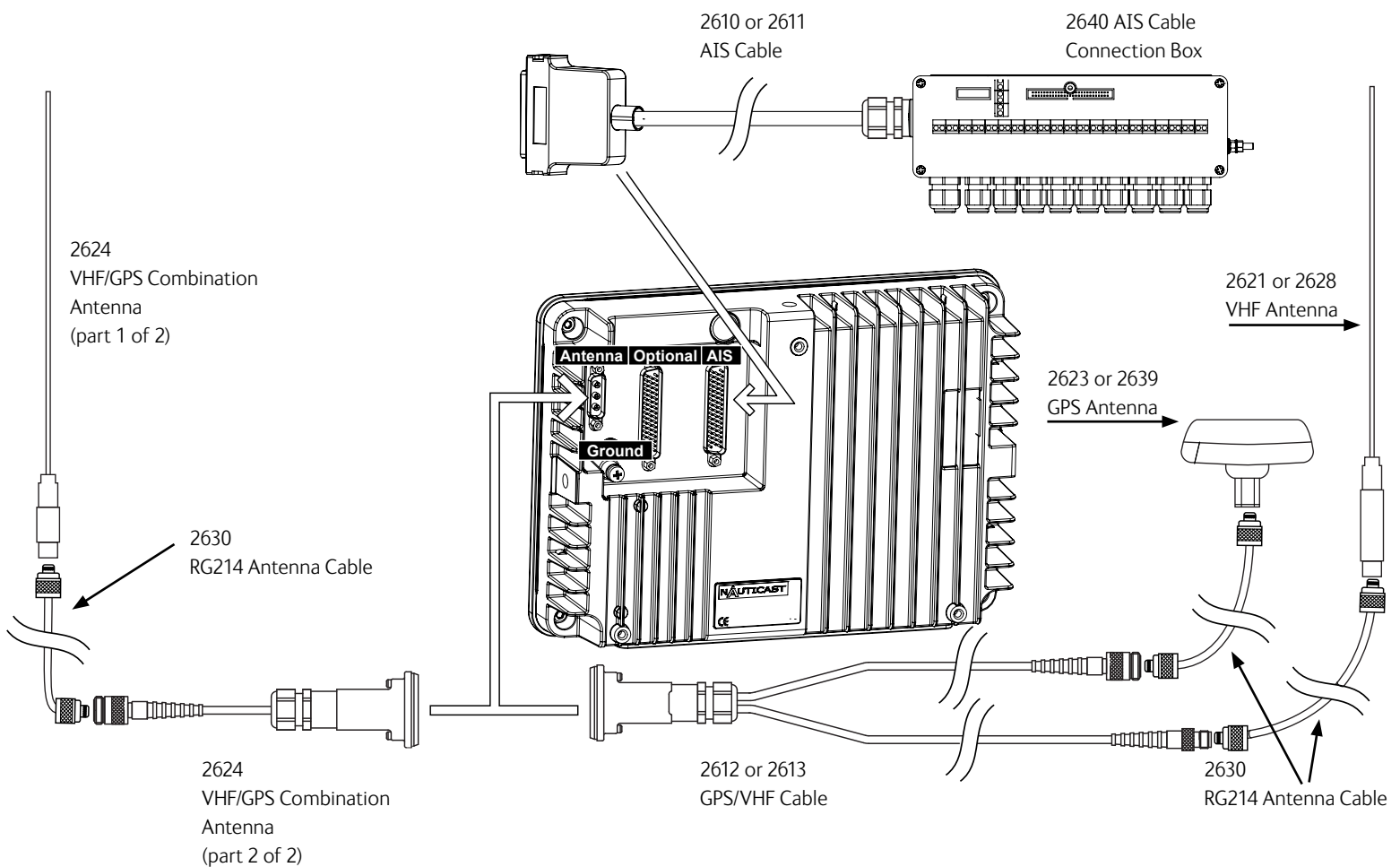
Nauticast™ AIS, Nauticast™ Inland AIS

Nauticast™<sub>2</sub> AIS

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SOLAS REQUIREMENTS		Option A	Option B
Power, Data, and Sensors	Power & Data Cable	2610 or 2611	2610 or 2611
	Connection Box	2640 Optional. Highly recommended	2640 Optional. Highly recommended
GPS/VHF	GPS/VHF Cable	2612 or 2613	-
	GPS Antenna	2628 or 2621	-
	VHF Antenna	2622 or 2639	-
	GPS/VHF Combined Antenna	-	2624
	GPS/VHF RF Antenna Cable Extension	2630	2630



**Option B**

**Option A**

AIS SOLAS Cable		
2610	AIS Interface Cable (Power & Data) between Transponder, Connection Box and Pilot Plug, 3 meters (9.8 ft) Halogen Free, IP67	
2611	AIS Interface Cable (Power & Data) between Transponder, Connection Box and Pilot Plug, 10 meters (32.8 ft) Halogen Free, IP67	
2640	Optional AIS Cable Connection Box Required for Advanced Installation with ECDIS, etc.	
GPS/VHF Cable instead of 2610 and 2611 Nauticast™		
2617	AIS Interface Cable (Power & Data) between Transponder and PC 1.5 meters (2 sensor only)	
2614	AIS Interface Cable (Power & Data) between Transponder and ECS, 1.5 meters (4.9 ft)	
GPS/VHF Cable instead of 2610 and 2611 Nauticast™		
2612	GPS/VHF Interface Cable, 1 meter (3.3 ft) Includes 1 each Female N and TNC connectors installed and 1 each Male N and TNC connectors for RG214 cable (specify length) Not Required with P/N 2624 VHF/GPS Combi Antenna.	
2613	GPS/VHF Interface Cable, 10 meters (32.8 ft) Includes 1 each Male PL & TNC connector installed. (Not Required with P/N 2624 VHF/GPS Combi Antenna.)	
VHF Antenna		
2628	VH-3200 VHF Stainless Steel Whip Antenna 91.4 cm (36 in) Includes Mounting Kit & Plug PL Male for RG214	
2621	Comrod AV 7 VHF Fiberglass Antenna 1.22 m (4 ft) Includes Aluminum mount (Vert or Horiz., stanchion, or bulkhead) When used with P/N 2612, 1 P/N 2632 PL Male Connector & P/N 2630 cable (specify length) are required.	

GPS Antenna		
2622	ProCom GPS4 Quadrifilar Helix Antenna 5 Volt. When used with P/N 2612 interface, one P/N 2633 TNC Connector & P/N 2630 cable (Specify length) are required. Mount P/N 2623 is required.	
2623	ProCom FLG Deck Mounting Kit Metal Horiz. surface (for P/N 2622)	
2639	AIS GPS Antenna w/5 m coax (Class A only)	
GPS/VHF Combination Antenna Solution (in lieu of individual VHF and GPS antenna solutions)		
2624	Comrod AC17 Combi Antenna (combined GPS/VHF) includes Aluminum mount (Vert or Horiz., Stanchion or bulkhead) & 1m interface cable.	
VHF & GPS Accessories		
2626	Pipe Mount for GPS Antenna Marine II (metal). For marine antennas with 1"x14 thread	
2627	Deck Mounting for GPS Antenna. Marine II (plastic) - Glomex. 1" x 14 thread.	
2821	Deck Mounting for GPS Antenna Marine II (metal) . 1"x14 thread. Fits Common marine VHF and GPS antennas	
Optional VHF/GPS Antenna Cable extensions and Plugs (select or supply own cable)		
2630	GPS/VHF RF Antenna Cable extension cable RG214 (No Plugs) Sold per meter	
2631	N Male RG214 Crimp	
2632	PL Male RG214 Crimp	
2633	TNC Male RG214 Crimp	

Special AIS Features		
2619	Stealth Switch NAU-B580. Available only for Nauticast™ AIS	
2635	Blue Sign Cable 1.5 m (Rated IP67), plus ECDIS RS232 Available only for Nauticast™ Inland AIS	
2644	Blue Sign Cable 1.5 m, plus ECDIS RS232. No IP rating. Available only for Nauticast™ Inland AIS	
AIS Flash Cable		
2616	Flash Cable 1.5 meters and software CD SUBJECT TO ACR APPROVAL PRIOR TO SALE	
Replacement Pilot Plug		
2638	Pilot Plug	
Optional GYRO Converter. (For GYROs without NMEA 0183 Output)		
2641	Gyro Converter	
Optional 12vt to 24vt DC to DC Converter ( Required for 12vt power systems)		
2642	12v to 24v DC to DC Power Converter.	
Optional Mounting Bracket Assemblies for Nauticast™ AIS		
2650	Mounting Bracket Gimbal Style (Includes 4 screws and 2 Mounting Knobs)	
2651	Retro Fit Frame Drop In Mount (Includes 3 screws, nuts, clips to hold display to bracket)	

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