



AIS

AUTOMATIC
IDENTIFICATION
SYSTEM

AISSI20

ANTENNA SPLITTER

Zero loss active VHF antenna splitter



AISTI20

AIS TRANSCIVER (Class B)

AIS transmitter/receiver with internal GPS antenna



AISRI20

AIS DUAL CHANNEL RECEIVER



What is AIS?

One of the most important safety features and fastest growth areas in marine Navigation is AIS - Automatic Identification System. This collision avoidance technology is particularly valuable to boaters who regularly travel or fish in busy waterways or near major shipping routes. Having an operating AIS transponder onboard will turn your boat into a visible radio beacon indicating your speed, course and identity to other AIS equipped vessels or base stations.

An AIS receiver will allow you to track other AIS traffic in the area and identify 'Aids to Navigation' (AtoN) even when not visible by sight. You'll no longer be inhibited by limitations like 'in line-of-sight' radar. Unlike radar, AIS allows you to 'see' other AIS equipped craft behind obstructions like islands and land masses or hidden behind another vessel, and is equally effective in fog or darkness. AIS information is displayed on dedicated AIS screens or AIS compatible Chartplotters

AIS Transceivers

AIS transceivers sometimes referred to as transponders automatically receives both static and dynamic data from other AIS equipped vessels, base stations and AtoN. At the same time your own vessels name, course, speed and much more is broadcast to all boats and base stations within range. All vessels over 300 gross tonnes and smaller passenger ships are required to have a Class A AIS transceiver fitted under Solas and GMDSS regulations.

AIS Receivers

AIS receivers collect the transmissions from AIS transceivers, base stations and aids to navigation displaying them on compatible chartplotters or dedicated displays. An AIS receiver does not transmit information about your vessel and is used to provide you with situational awareness of other traffic and hazards in the area.

AIS Base Stations

AIS Base stations which are situated along the coast line and harbours are used to monitor traffic and enable ship to shore and shore to ship information.

Aids to Navigation (AtoN)

Aids to Navigation are transceivers mounted to buoys or other shipping hazards which continually transmit details of their ID and GPS location to AIS receivers. Dynamic data like weather, water temperature and current are also available from some AtoN.

AIST120

AIS TRANSCEIVER (Class B)

AIS transmitter/receiver with internal GPS antenna



The AIST120 can be considered as a vessel's electronic beacon. By regularly broadcasting critical static and dynamic information to all similarly equipped vessels within range, the AIST120 provides boat owners with a vital navigation tool, particularly when operating at night or under poor visibility conditions.

Transmitted data includes vessel name, length, registration, plus speed over the ground (SOG), course over the ground (COG), as well as location coordinates which are automatically calculated and updated by the AIST120's integrated 50 channel GPS receiver.

The AIST120 through its ultra sensitive dual channel Rmax™ technology will receive and decode transmitted AIS data from other vessels, AtoN and base stations within VHF range; this information can be displayed on a compatible chart plotter, radar or PC charting system.

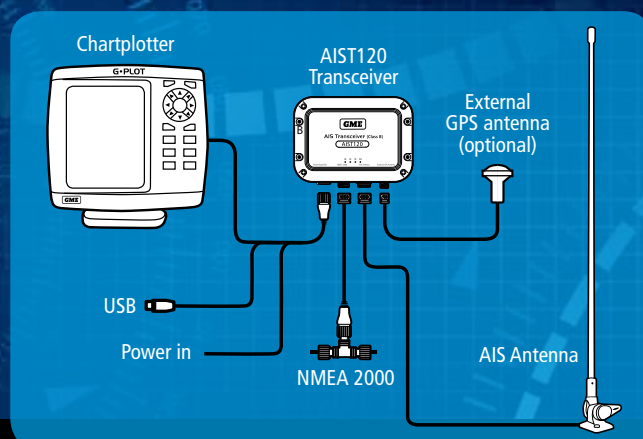
Received AIS information positively identifies any commercial vessel within range, it also provides its radio call sign, heading, closest point of approach (CPA) and time to CPA. Using this information leisure craft can make a VHF radio call to the vessel in question to verify its intended course and avoid collision.

Through the application of cutting edge TDMA technology the AIST120 is compatible and inter-operable with both Class A and B AIS systems through the VHF radio data link.

An internal GPS antenna makes for easy installation; however the AIST120 has provision for an external GPS antenna input for installations requiring the use of an optional external GPS antenna. (GPS450).

The GME AIST120 has dual NMEA0183 and NMEA2000 interfaces for simplistic connection to stand alone chart plotters or integration into more sophisticated on-board communication networks.

Typical AIS transceiver installation



AISR120

AIS RECEIVER

Dual channel receiver



For boaters requiring an AIS message receiver only, GME offers the dual channel AISR120; incorporating two ultra sensitive receivers coupled to a sophisticated processor with RMax™ technology. Ideally suited for installation on leisure boats where collision avoidance is the primary concern. The AISR120 can be interfaced to a PC, notebook, or GME chartplotter for greater situational awareness.

The AISR120 will receive static and dynamic information from both AIS class A and B equipped vessels, aids to navigation and base stations that are within VHF range.

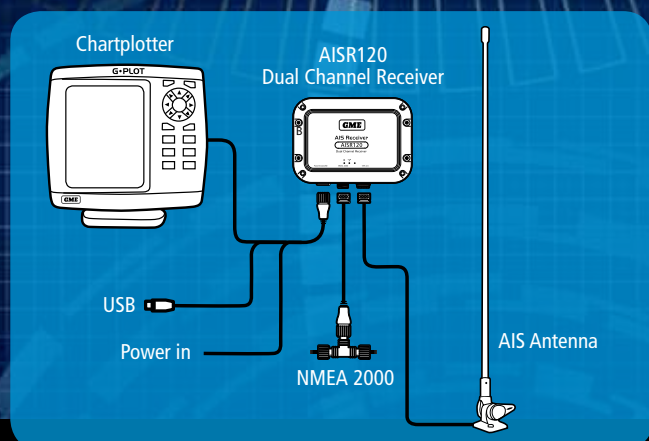


The AISR120 can use either a dedicated AIS antenna, or share the vessel's existing VHF antenna via the AISS120 VHF antenna splitter.

AIS target

Typical chartplotter screen showing AIS targets.

Typical AIS receiver installation



AISS120

ANTENNA SPLITTER

Zero loss active VHF antenna splitter



VHF radios and AIS devices operate within the same frequency band and as such can use the same VHF antenna. The AISS120 Active Antenna Splitter permits a standard marine VHF antenna to serve both the AIS device and VHF radio without any degradation of signal.

Using advanced signal processing the AISS120 is the perfect solution for AIS installations on boats where additional antenna mounting space is not available. Clear Call Routing provides a key safety feature, ensuring VHF radio emergency priority and full operational performance should splitter power fail.

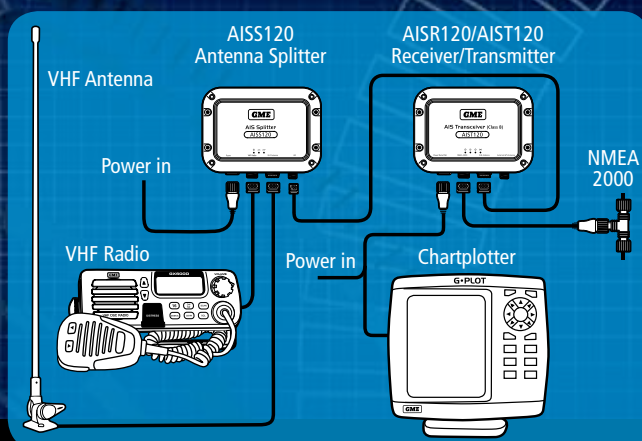
The AISS120 is supplied with all the necessary cables to connect to a VHF radio and either the AISR120 or AIST120.

PRO-AIS Software

Initially the AIS transceiver requires programming with your vessel's key details, name, MMSI number, length etc. To facilitate this procedure every GME AIS120T is shipped with an easy to use programming kit; just connect the AIS120T to a compatible PC and follow the step by step on screen instructions. Once this process is complete, no further set up is necessary, simply leave the transceiver running when at sea, secure in the comfort that you are now readily identifiable and visible to all other AIS users.

Pro-AIS also includes a real time diagnostic and monitoring application, that will display all AIS targets, including name, heading and distance if connected to an on board PC.

Typical AIS antenna splitter installation





AIS SPECIFICATIONS

	AIST120 TRANSCIVER	AISR120 RECEIVER	AIS120 ANTENNA SPLITTER	
Dimensions (mm) L x W x H	140 x 100 x 42	140 x 100 x 42	Dimensions (mm) L x W x H	140 x 100 x 42
Weight	250 grams	250 grams	Weight	250 grams
Power	DC (9.6 V - 31.2 V)	DC (9.6 V - 31.2 V) or USB powered	Power	DC (9.6 V - 31.2 V)
Current	Average 170 mA @ 12 V DC	< 200 mA at 12 V DC	Current	< 1150 mA at 12 V DC
GPS Receiver (internal)	50 Channel	–	VHF AIS Frequency Range	156 MHz to 163 MHz
Electrical Interfaces	NMEA 0183 output Baud Rate 38,400 NMEA 0183 input Baud Rate 4800 NMEA 2000, USB.	NMEA 0183 output Baud Rate 38,400 NMEA 0183 input Baud Rate 4800 NMEA 2000, USB..	Environmental	*Water resistant to IPX7, Operating temperature: -10 to +55 deg C.
Connectors	VHF Antenna Connector (SO-239), External GPS antenna connector (TNC), USB type A plug, NMEA 2000 standard connector, 12 way power input/NMEA 0183/ external switch.	VHF Antenna Connector (SO-239), USB type A plug, NMEA 2000 standard connector, 12 way power input/NMEA 0183.	Insertion Loss AIS & VHF Receive Paths	0 dB
VHF Transceiver	Transmitter x 1, Receiver x 2 (One receiver time shared between AIS and DSC), Frequency: 156.025 to 162.025 MHz in 25 kHz steps.	–	Insertion Loss AIS & VHF Transmit Paths	< 1 dB
Output Power	2 watts (33 dBm ± 1.5 dB)		Max Input Power, AIS Port	12.5 W
Dual Channel Receiver	Fixed freq reception @ 161.975 and 162.025 MHz.	Fixed freq reception @ 161.975 and 162.025 MHz.	Max input Power, VHF Port	25 W
Channel Bandwidth	25 kHz	25 kHz	Min Input Power VHF Port	100 mW
Channel Step	25 kHz	–	AIS, VHF & Antenna Port Impedance	50 Ohms
Modulation Modes	25 kHz GMSK (AIS,TX,RX), 25 kHz AFSK (DSC, RX only).	–	FM Port Impedance	75 Ohms Switching time,
Bit Rate	9600 b/s ± 50 ppm (GMSK), 1200 b/s ± 30 ppm (FSK).	–	Receive to AIS Transmit	<10 us
RX Sensitivity	Less than -107 dBm at 20% PER (Packet Error Rate), Co-Channel 10 dB, Adjacent channel 70 dB, IMD 65 dB, Blocking 84 dB.	Better than -112 dBm @ 20% PER	Switching Time, Receive to VHF Transmit	<10 us
Environmental	*Water resistant to IPX7, Operating temperature: -25 to +55 deg C, Tested to IEC 60945 'Protected' category.	*Water resistant to IPX7, Operating temperature: -25 to +55 deg C.	Warranty	1 year
Indicators	Power, TX Timeout, error, silent mode status.	Power, AIS receive.		
Warranty	1 year	1 year		

*Refer to: www2.gme.net.au/IPRatings.
Specifications are subject to change without notice or obligation.

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OPTIONAL ACCESSORIES



G142C
Chartplotter



G142CFD
Chartplotter/
Fishfinder



GPS450
External GPS
for AIST120



ABLO12
Double swivel
rectangular



ABLO13
Single swivel
rectangular



ABLO14
Double swivel
round



ABLO15
Single swivel
round



AD408
Connector
for GPS450

AW364V - 1.2m
AW366V - 1.8m
AW368V - 2.4m

VHF antenna
whips

AW364A
Dedicated AIS
antenna whip



A division of **Standard Communications Pty Ltd.**
www.gme.net.au

HEAD OFFICE: Locked Bag 2086 North Ryde, NSW 1670, Australia. **T:** +61 (0)2 9844 6666 **F:** +61 (0)2 9844 6600

BRISBANE: (07) 3278 6444 **MELBOURNE:** (03) 9558 9999 **PERTH:** (08) 9455 5744 **ADELAIDE:** (08) 8234 2633 **AUCKLAND:** (09) 274 0955 **SYDNEY:** (02) 9879 8888