AIS AUTOMATIC IDENTIFICATION SYSTEM

AIS SI20
ANTENNA SPLITTER
Zero loss active VHF antenna splitter

AIS TI20
AIS TRANSCEIVER (Class B)
AIS transmitter/receiver with internal GPS antenna

AIS RI20
AIS DUAL CHANNEL RECEIVER
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-site’ 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 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.
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 AIST120 or AISR120.

**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.

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.

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

**Typical AIS receiver installation**

**Typical AIS antenna splitter installation**
## AIS SPECIFICATIONS

### AIST120 TRANSCEIVER

**Dimensions (mm)**
- L x W x H: 140 x 100 x 42

**Weight**: 250 grams

**Power**: DC (9.6 V - 31.2 V) or USB powered

**Current**: Average 170 mA @ 12 V DC

**GPS Receiver (internal)**: 50 Channel

**Electrical Interfaces**
- NMEA 0183 output Baud Rate 38,400 NMEA 0183 input Baud Rate 4800 NMEA 2000, USB.
- VHF Antenna Connector (SO-239), USB type A plug, NMEA 2000 standard connector, 12 way power input/NMEA 0183/external switch.

**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.
- Output Power: 2 watts (33 dBM ± 1.5 dB)
- Dual Channel Receiver: Fixed freq reception @ 161.975 and 162.025 MHz.
- Channel Bandwidth: 25 kHz
- Channel Step: 25 kHz
- Modulation Modes: 25 kHz GMSK (AIS,TX,RX), 25 kHz AFSK (DSC, RX only).
- Bit Rate: 9600 b/s ± 50 ppm (GMSK), 1200 b/s ± 30 ppm (FSK).
- 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.
- Environmental: *Water resistant to IPX7, Operating temperature: -25 to +55 deg C.*

**Indicators**
- Power, TX Timeout, error, silent mode status.

**Warranty**: 1 year

### AISR120 RECEIVER

**Dimensions (mm)**
- L x W x H: 140 x 100 x 42

**Weight**: 250 grams

**Power**: DC (9.6 V - 31.2 V)

**Current**: < 200 mA at 12 V DC

**GPS Receiver (internal)**: 50 Channel

**Electrical Interfaces**
- NMEA 0183 output Baud Rate 38,400 NMEA 0183 input Baud Rate 4800 NMEA 2000, USB.

**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.
- Output Power: 2 watts (33 dBM ± 1.5 dB)
- Dual Channel Receiver: Fixed freq reception @ 161.975 and 162.025 MHz.
- Channel Bandwidth: 25 kHz
- Channel Step: 25 kHz
- Modulation Modes: 25 kHz GMSK (AIS,TX,RX), 25 kHz AFSK (DSC, RX only).
- Bit Rate: 9600 b/s ± 50 ppm (GMSK), 1200 b/s ± 30 ppm (FSK).
- RX Sensitivity: Better than -112 dBm @ 20% PER

**Environmental**
- *Water resistant to IPX7, Operating temperature: -25 to +55 deg C.*

**Indicators**
- Power, AIS receive.

**Warranty**: 1 year

### AISS120 ANTENNA SPLITTER

**Dimensions (mm)**
- L x W x H: 140 x 100 x 42

**Weight**: 250 grams

**Power**: DC (9.6 V - 31.2 V)

**Current**: < 150 mA at 12 V DC

**VHF AIS Frequency Range**: 156 MHz to 163 MHz

**Environmental**
- *Water resistant to IPX7, Operating temperature: -10 to +55 deg C.*

**Insertion Loss AIS & VHF Receive Paths**: 0 dB

**Insertion Loss AIS & VHF Transmit Paths**: < 1 dB

**Max Input Power, AIS Port**: 12.5 W

**Max Input Power, VHF Port**: 25 W

**Min Input Power VHF Port**: 100 mW

**AIS, VHF & Antenna Port Impedance**: 50 Ohms

**FM Port Impedance**: 75 Ohms Switching time,
- Receive to AIS Transmit: <10 us
- Switching Time, Receive to VHF Transmit: <10 us

**Warranty**: 1 year

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### OPTIONAL ACCESSORIES

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G142C</td>
<td>Chartplotter</td>
</tr>
<tr>
<td>G142CFD</td>
<td>Chartplotter/ Fishfinder</td>
</tr>
<tr>
<td>GPS450</td>
<td>External GPS for AIST120</td>
</tr>
<tr>
<td>ABL012</td>
<td>Double swivel rectangular</td>
</tr>
<tr>
<td>ABL013</td>
<td>Single swivel rectangular</td>
</tr>
<tr>
<td>ABL014</td>
<td>Double swivel round</td>
</tr>
<tr>
<td>ABL015</td>
<td>Single swivel round</td>
</tr>
<tr>
<td>AW364A</td>
<td>Dedicated AIS antenna whip</td>
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</tbody>
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**AD408 Connector for GPS450**

**AW364V**
- 1.2m
- 1.8m
- 2.4m

**AW366V**
- 1.2m
- 1.8m

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