Making Every Voyage Possible™

AIS 100™ User’s Guide
Welcome

Jeppesen's® Nobeltec® AIS 100™ provides you with the security of real-time Automatic Identification System (AIS) data. The AIS 100 is a receive-only, single-channel VHF receiver.

The AIS 100 can be integrated with Nobeltec Navigation Software (Visual Navigation Suite™ or Admiral™, sold separately) on your onboard computer to track onscreen all vessels fitted with Class A AIS transceivers within VHF range.

This User's Guide covers the key installation information for the Nobeltec AIS 100. It is written for an audience assumed to have a mid-level, pre-existing knowledge of PC operation and the principles of marine navigation, as well as previous marine equipment installation experience.

This document should in no way be used to replace actual navigation training and experience.

If you have any questions about the AIS 100, please contact Jeppesen.

NOTE: Jeppesen is not liable for errors contained herein, nor incidental or consequential damages in connection with use of this material.
Product Box Physical Contents

- The Nobeltec AIS 100 Receiver
- RS-232 Data Cable
- Power Supply Cable
- The AIS 100 User’s Guide (*this booklet*)

Safety Warnings

Personnel who maintain electronic equipment must be aware of the following safety precautions:

⚠️ *The AIS 100 is not watertight - keep it dry at all times*

⚠️ Never assume the power to the AIS 100 is off

⚠️ Storage temperature range is 14 to 158°F (-10 to 70°C)

⚠️ Operating temperature range is 32 to 140°F (0 to 60°C)
What is the Nobeltec® AIS 100™?

AIS stands for Automatic Identification System. The AIS 100 listens for AIS target data from other vessels and ports, and converts that data to NMEA format, transmitting it at 38.4 Kbps to your onboard computer.

Some vessels do not carry AIS. It is important at all times to keep a proper lookout. For safe navigation, compare information received from your AIS 100 to all available navigation inputs received that you carry on board.

Nobeltec Navigation Software

Jeppesen manufactures two software programs that are ideal for real-time AIS target tracking and to use for onscreen display of AIS data: Nobeltec’s Visual Navigation Suite™ (VNS), and our most cutting-edge software, Nobeltec Admiral™, sold separately.

Each of these industry-leading navigation programs can provide you with unparalleled awareness of your nautical environment, interfacing our exclusive brand of geographically referenced digital charts and marine navigation aids with other navigation tools, such as a Global Positioning System (GPS), radar, autopilot, depth sounder, multiple monitors, onboard cameras, DSC radio, and more!
Installing the AIS 100 Antenna

The AIS 100 requires its own 50-ohm general purpose marine VHF antenna and cannot be shared with a transceiver antenna. The AIS 100 antenna cable should be at least 3 meters (3m) long and the antenna should be placed at least 2 meters (2m) from the AIS receiver.

**NOTE:** Mount this antenna as high as possible to maximize range, spacing it no less than 1 meter (1m) from a transmitting antenna.
Setting up the AIS 100

1. Connect the AIS 100 power cable to the 12-volt supply - red wire to positive and the red wire with the black stripe to negative.

2. Connect the AIS 100 to a serial port on your computer using the provided RS-232 data cable.

3. If you are NOT going to relay GPS data through the AIS 100, remove the blue fly lead from the AIS 100 data cable.

Relaying GPS Data through the AIS 100

The AIS 100 can receive NMEA information from a GPS receiver, at 4.8 Kbps, and relay RMC data to display with the AIS data at 38.4 Kbps. This section describes how to relay that data through the AIS 100 if your computer has only 1 serial port.

**NOTE:** Jeppesen strongly recommends that 2 serial ports be used to connect the GPS and the AIS 100 to the computer separately. Jeppesen does not provide technical support for, nor recommend using, GPS data relayed through the AIS 100.

1. Connect the GPS power cable to a 12-volt power supply. The GPS and AIS 100 must be connected to the same negative terminal.

2. Connect the GPS NMEA OUT (TX or Transmit) to the blue fly-lead of the RS-232 data cable.
3. Connect the GPS NMEA IN (RX or Data Ground) to the negative terminal on the power supply.

⚠️ TIP: For computers without serial ports, a SeaLevel™ Serial-to-USB adaptor is available from any authorized Nobeltec product distributor.

**Receiving Data Using the AIS 100**

Information transmitted from vessels that have AIS transponders onboard may include:

- Name of Vessel
- Speed (SOG)
- Position
- MMSI Number
- Rate of Turn
- Destination
- Call Sign
- Course (COG)
- Navigational Status
- IMO Number
- Size of Vessel
- ETA
- Type of Vessel
- Heading
- Vessel Dimensions
- Draft
- Status
- Cargo

ℹ️ NOTE: Not all vessels transmit all of the above information.
Most vessels transmit AIS data at different rates:

<table>
<thead>
<tr>
<th>Ship's Dynamic Conditions</th>
<th>Reporting Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship at anchor or moored and not moving faster than 3 knots</td>
<td>3 Minutes</td>
</tr>
<tr>
<td>Ship at anchor or moored and moving faster than 3 knots</td>
<td>10 Seconds</td>
</tr>
<tr>
<td>Ship 0 - 14 knots</td>
<td>10 Seconds</td>
</tr>
<tr>
<td>Ship 0 - 14 knots and changing course</td>
<td>3 1/3 Seconds</td>
</tr>
<tr>
<td>Ship 14 - 23 knots</td>
<td>6 Seconds</td>
</tr>
<tr>
<td>Ship 14 - 23 knots and changing course</td>
<td>2 Seconds</td>
</tr>
<tr>
<td>Ship &gt; 23 knots</td>
<td>2 Seconds</td>
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<tr>
<td>Ship &gt; 23 knots and changing course</td>
<td>2 Seconds</td>
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LEGAL DISCLAIMER

Jeppesen® does not warrant that the Nobeltec® AIS 100 Receiver™ is error-free or that it is compatible with products manufactured by any other company than Jeppesen.

The Nobeltec AIS 100 Receiver works in conjunction with Nobeltec Navigation Software, as well as other digitized chart data and electronic information from the Global Positioning System (GPS), which may contain errors. Jeppesen does not warrant the accuracy of such information, and you are advised that errors in such information may cause the Nobeltec AIS 100 Receiver to malfunction or give incorrect readings.

Jeppesen is not responsible for damages or injuries caused by your use of or inability to use the Nobeltec AIS 100 Receiver correctly; by the interaction of the Nobeltec AIS 100 Receiver with products manufactured by any other agency; or by errors in any data or other information utilized by the Nobeltec AIS 100 Receiver provided by third parties.

⚠️ WARNING: Nautical navigation is an inherently dangerous undertaking and should be engaged in only by persons trained and experienced in navigation. The Nobeltec AIS 100 Receiver is intended for use only by persons trained in navigation and only as a navigational aid, not as the sole method of navigation.

⚠️ PLEASE NOTE: The information in this manual and the specifications included herein are subject to change without notice. Jeppesen shall not be liable for technical or editorial statements, errors or omissions contained herein, nor for incidental or
consequential damages resulting from furnishing, performance or use of this material or any version of any Nobeltec software program.

LIMITED WARRANTY

1. WARRANTY LIMITATION:

Jeppesen warrants the Nobeltec AIS 100 to be free from defects in materials and workmanship for a period of One (1) Year, except in jurisdictions where such limitation is proscribed by law. This warranty applies to the original purchaser and any subsequent owner during the warranty period, commencing from the date of sale of the unit to the initial purchaser.

Jeppesen may choose, at its option, to repair or to replace a defective product or any part of the product Jeppesen finds to be defective due to faulty material(s) or workmanship. Jeppesen will perform all such repairs and / or replacements at no charge or at a pro-rated charge, excluding freight costs incurred in shipping to the factory. Return shipments from Jeppesen to points within the United States are made via ground transportation, freight prepaid. Special shipping charges (overnight, etc.) are the responsibility of the owner.

If Jeppesen repairs or replaces a product, the warranty is not extended. Jeppesen owns all replaced parts and products.

To be covered by this warranty, the Nobeltec AIS 100 Receiver must have been in
normal use. The warranty does not apply to units with defects caused by improper installation, physical damage, abuse, tampering, lightning or other abnormal electrical discharge, or to units with defaced or altered serial numbers, or to units repaired by unauthorized persons or repaired in a manner that violates Jeppesen’s recommended service procedures.

Jeppesen shall not be liable for direct, incidental, special or consequential damages or economic loss, even if caused by the negligence or fault of Jeppesen, except in jurisdictions where such limitation is proscribed by law.

All repairs and replacements made under this warranty must be performed as directed by Jeppesen (see the GETTING SERVICE section of this warranty). Performance of unauthorized warranty work elsewhere is not sanctioned, nor will Jeppesen pay for such repairs. Jeppesen will not be responsible for payment of any charges imposed by a Nobeltec dealer or any other party for services requested by and / or performed for a Nobeltec AIS 100 Receiver owner in connection with this warranty. Such services might include removal of the unit from a vessel, inspection, packaging, handling, reinstallation and the like.

Jeppesen assumes no responsibility for any consequential losses of any nature with respect to any of its products or services sold, rendered or delivered. The foregoing is the only warranty expressed or implied. No other warranty exists.
2. **GETTING SERVICE:**
   a) Obtain a Return Material Authorization Number (RMA) from Nobeltec Customer Service (see Back Cover for contact information).

   Prior to calling for an RMA, ready the following information:
   
   · The product Serial Number
   · Date and place of purchase (you will need proof of purchase for service)
   · Installation and use history

   It is prudent to record the above information at the time of installation and to update your records any time the product is serviced. Note: Jeppesen will not repair any product unaccompanied by an RMA.

   b) Return the product (along with a copy of your proof of purchase and the RMA number issued to you by Customer Service) to the place where it was purchased. If your supplier cannot be contacted or cannot supply service for any reason, contact Jeppesen (see Back Cover for contact information).

3. **RETURNING MATERIAL TO JEPPSESEN:**

   Return your product to Jeppesen *ONLY if you cannot receive service from your original dealer as described in Step 2 – GETTING SERVICE* on this page.
From North America only:

a) Contact Jeppesen to obtain an RMA number (see Step 2a above)

b) Pack the unit securely, in the original box if possible

Include on the package label:

√ The Return Mailing Address where the repaired unit can be sent

√ The RMA number

√ Jeppesen’s address (unless instructed to send elsewhere by a Jeppesen Customer Service employee):

Nobeltec by Jeppesen – ATT: Service
15160 NW Laidlaw Road, Suite 100
Portland, Oregon 97229 USA

c) Include inside the package a Cover Letter including:

√ The RMA number

√ Your contact telephone number

√ A copy of your dated proof of purchase

√ A complete description of the problem, including when it happens, what precedes it, and any steps you have already taken to correct it

d) Ship the unit prepaid:
COD shipments will be refused

*Shipments without an RMA number will be refused*

**NOTE:** Return shipments from Jeppesen (within 3-6 weeks) to points within the United States are made via ground transportation, freight prepaid. *Special shipping charges (overnight, etc.) are the responsibility of the owner.*

4. **DOCUMENTATION LIMITATION:** The information in this document is subject to change without notice and does not represent a commitment on the part of Jeppesen, who shall not be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from furnishing this material; or the performance or use of this product.

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