SHINE MICRO

RADARPLUS® SL161R

LOW COST   HIGH SENSITIVITY   AIS RECEIVER

The **RadarPlus SL161R** dual AIS Receiver provides:

- High-sensitivity AIS data reception
- Affordable low price
- Hears Class A & B vessel reports
- Sends the information to be mapped on a PC or chart-plotter
- Very low power consumption

The **RadarPlus SL161R** is an easy to install, stand alone marine receiver that monitors the channels assigned to the **Automatic Identification System**, or **AIS.**
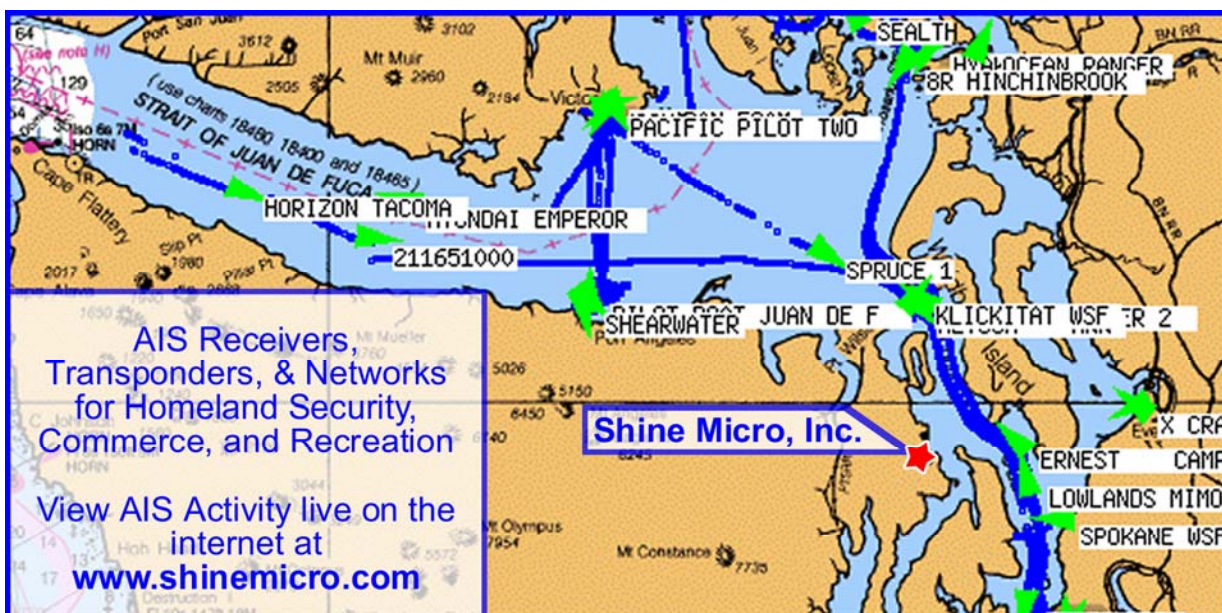**AIS** reports:

- VESSEL'S NAME – UP TO **20** CHARACTERS
- SIZE – DIMENSIONS AND DRAUGHT OF THE SHIP
- POSITION – PROVIDED BY DIFFERENTIAL **GPS**
- COURSE – RELATIVE TO TRUE NORTH TO **1/10TH** DEGREE
- CARGO – TABLE OF POSSIBILITIES AVAILABLE
- AND MORE

With the addition of the embedded 12 channel GPS receiver and the optional **Enhanced Signal Analysis** software, supplemental diagnostic functions become available such as:

- SLOT NUMBERING
- PACKET TIME OF ARRIVAL
- PARTIAL PACKET RECEPTION
- VDL LOADING
- RECEIVED SIGNAL STRENGTH INDICATION
- AMBIENT NOISE MEASUREMENT

The **SL161R** includes dual AIS receivers in a rugged water resistant aluminum enclosure. When attached to a VHF antenna optimized at 162Mhz, the **RadarPlus** serial data output will drive most popular marine charting software packages available today. The output provides the location of all AIS transponders within receiving range. Other interface options, such as USB, Ethernet, and RS-422 are available to increase the overall flexibility of the **SL161R**.

Information gathered by the **RadarPlus** is more detailed than radar and provides the everyday boater with the same information afforded to commercial vessels. Now you can see what's coming on your PC or chart-plotter long before it is in your line of sight.

RadarPlus® SL161R Low Cost, High Sensitivity **AIS Receiver**

System Specifications

- **Designation:** Universal Automatic Identification System (AIS) Receiver
- **Serial RS232 interface:** female DB9 connector, see below for additional serial interface details
- **Power Supply:** 9 to 20 V nominal
- **Power Consumption:** Less than 5 watts
- **Temperature Range:** -15 to +55 degrees C.
- **Compass Safe Distance:** 1 meter

Navigation Specifications

- **12 channel internal Global Positioning System (GPS) *OPTIONAL***
- **GPS antenna interface:**
  SMA connector w/ LNA power

Dimensions and Weights

- **Width:** 3.15 in.
- **Length:** 6.89 in.
- **Height:** 2.25 in'
- **Weight:** ≤2 lb.

Frequencies and Channel Bandwidth

- **RX AIS1:** 161.975 MHz at 25 kHz
- **RX AIS2:** 162.025 MHz at 25 kHz

AIS Receivers

- **AIS Data Rate:** 9,600 bits/s
- **Sensitivity:** ≤20% PER @ –107 dBm
- **Adjacent Channel Rejection:** 70dB at 25 kHz
- **Blocking:** 80 dB
- **Intermodulation:** 65 dB
- **Large Signal PER:** 0.1% or better
- **Image Rejection:** ≥ 70 dB for 20% PER
- **Spurious Rejection:** ≥ 70 dB for 20% PER
- **Antenna Interface:** female Type N connector

Enhanced Signal Analysis Package

Enhanced sensitivity with analysis features including:
- Received Signal Strength Indication
- Slot Numbering
- VDL Loading
- Ambient Noise Measurement
- Packet Time of Arrival
- Partial Packet Reception

Serial Interface Details:

The serial interface of the RadarPlus is a subset of IEC specification 61993-2, using a 38.4 kbps connection to a host computer. The received AIS messages are output using the VDM sentence, and GPS location data is output using the NMEA 0183 sentences.

To request full serial interface specifications, please e-mail info@shinemicro.com or call
Shine Micro at (360) 437-2503.

Software Tested

The **RadarPlus** allows AIS enabled software to chart ship positions and descriptions in real-time. The following packages have been tested and are fully operational with the **SM162B:**
- Rose Point - **Coastal Explorer**
- ICAN - **Regulus**
- Transas - **NaviSailor**
- Xanatos - **Titan**
- Nobeltec - **Admiral**
- EuroNav – **seaPro**
- Chyna Sea **– MapTech**

Simple Marine Installation

1. Mount the SL161R according to the provided mounting diagram.
2. Connect the power cable to a 12 volt power source.
3. Connect a VHF antenna to the Type N connector on the SL161R.
4. Optionally connect the serial interface cable to a PC or other AIS display device.

WARRANTY INFORMATION

SHINE, MICRO, INC.

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