

**RUGGED HIGH SENSITIVITY LONG RANGE AIS RECEIVER****RADARPLUS SM1610-2:**

an enhanced AIS receiver with industry-leading sensitivity in a rugged weather-resistant chassis.

The **SM1610-2** is designed to meet all of the receiving requirements of AIS Base Stations per ITU-R M.1371-3.

The **RadarPlus SM1610-2** serial data output will drive most popular marine charting software packages and ECDIS available today. The output provides the location of all AIS transponders within receiving range.

- **High-sensitivity, maximum range AIS reception**
- **Power consumption of less than 2.5 watts**
- **12-channel internal GPS standard**
- **Shine Micro's proprietary ESP software standard**
- **Mast-mounted, optimal frequency -matched LNA included**
- **Superior protection against co-located transmitters and near lightning strikes**
- **Optional Networking Capability**

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**PROVEN POWERFUL PERFORMANCE.**

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- **Building from the proven success of the SM1610, the SM1610-2 is one of the most powerful AIS tools on the market, with demonstrated long range performance.**
- **System performance and installation flexibility** are optimized through an external **Low Noise Amplifier (LNA)** whose frequency is optimally-matched to the receiver and designed to be mast mounted at the antenna.

**RUGGED HIGH SENSITIVITY LONG RANGE AIS RECEIVER****System Specifications**

- **Designation:** AIS RX base station per ITU R M.1371-3
- **Serial interface:** RS232 (standard); Ethernet and IEC 61162 are optional
- **Power Supply:** 12 to 30 V and 120V AC
- **Power Consumption:** < 2.5 watts
- **Temperature Range:** -15 to +55 degrees C.
- **Compass Safe Distance:** 1 meter

**Navigation Specifications**

- **12 channel internal Global Positioning System (GPS)**
- **GPS antenna interface:** female SMA connector

**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 @ 25 KHz Bandwidth
- **RX AIS2:** 162.025 MHz @ 25 KHz Bandwidth

**Frequency Tuning Method**

- Compliant with IEC62320-1

**AIS Receivers**

- **AIS Data Rate:** 9,600 bits/s
- **Sensitivity:** ≤20% PER @ -119 dBm w/ SM1610-2 LNA
- **Co-channel Rejection:** -10 dB
- **Adjacent Channel Selectivity:** 70 dB
- **Blocking:** 84 dB
- **Intermodulation:** 74 dB
- **Large Signal PER:** 1% or better
- **Image Rejection:** 70 dB
- **Spurious Rejection:** 70 dB
- **Antenna Interface:** female Type N connector w/ LNA power

**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

**Serial Interface Details:**

The serial interface of the RadarPlus conforms to ITU R M.1371-3 and NMEA 0183 V3.0 with additional proprietary sentences. 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](mailto:info@shinemicro.com) or call Shine Micro at (360) 437-2503.

**LNA Specification**

- **Enclosure:** Weather Resistant
- **Connector:** female Type N
- **Frequency:** 162 MHz
- **Noise Figure:** < 2 dB
- **Gain:** >12 dB
- **Power Supply:** Coax Bias, 3.3 VDC from Receiver
- Multi-Stage input protection

**WARRANTY INFORMATION**

Shine Micro warrants its products to be free from defects for one full year from the date of purchase. Shine Micro will, at its sole discretion, repair or replace any components that fail in normal use. Labor and material costs for such repairs or replacement will be free of charge. This warranty does not cover failures due to abuse, misuse, accidents, or unauthorized alterations or repair.

**SHINE MICRO, INC.**

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