

RADARPLUS® SM1610-2AN: Industry-proven performance in a frequency-agile receiver.

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



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

PROVEN POWERFUL PERFORMANCE

Building from the proven success of the **SM1610**, the **SM1610-2AN** 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.

- **Maximum Range AIS Reception**
- **Power Consumption $\leq 2.5w$**
- **12-Channel Internal GPS**
- **Shine Micro's ESP Software**
- **Mast-Mounted, Optimal Frequency-Matched LNA Included**
- **Superior Protection Against Co-Located Transmitters and Near Lightning Strikes**
- **Coverage of AIS1 and 28B or AIS2 and 28B VHF Frequencies**
- **Compatible with Shine Micro Tracker and Pinger Products**

FREQUENCY AGILE NARROW BAND 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

- 161.975 - 162.025 MHz in 25 KHz Steps

Frequency Tuning Method

- Compliant with IEC62320-1

AIS Receivers

- **AIS Data Rate:** 9,600 bits/s
- **Sensitivity:** ≤20% PER @ -117 dBm w/ SM1610-2AN 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 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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