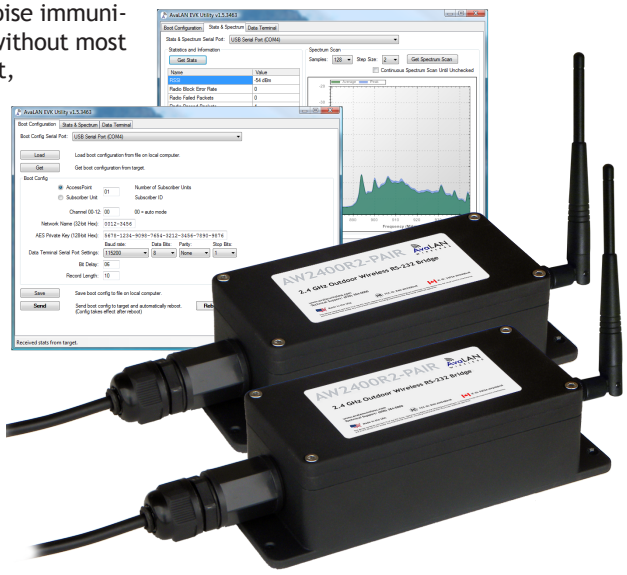
AW2400R2-PAIR **Product Brief**

2.4 GHz Outdoor Wireless RS-232 Bridge

This product allows you to connect RS-232 devices wirelessly in situations where direct wired connections are too costly or have insufficient range, security or noise immunity. It provides direct plug-and-play replacement of an RS-232 cable, but without most of the limitations. Most cables used for RS-232 are limited to about 50 feet, with expensive low capacitance cable extending the range to perhaps 1000 feet. This wireless link can travel up to 30 miles line-of-sight and with excellent ability to penetrate walls and vegetation.



The 2.4 GHz band is the most globally accepted unlicensed portion of the RF spectrum. AvaLAN's unique solution offers 29 non-overlapping channels and maximum legal power to provide five times the range of Wi-Fi through walls or line-of-sight.

The radios automatically select the lowest interference RF channel, encrypt the data and seamlessly transmit it, looking just like a direct RS-232 cable to the rest of the system. Each radio in the pair is packaged in a rugged, weatherproof outdoor enclosure that is equally at home up in the factory ceiling or atop a power pole. They are pre-configured as a matched pair with common baud rate and encryption keys.

This technology is also available in an OEM module for integration into your own system. See the AvaLAN AW2400R2-EVAL Evaluation Kit and the AW2400R2-10 Module 10-Pak.

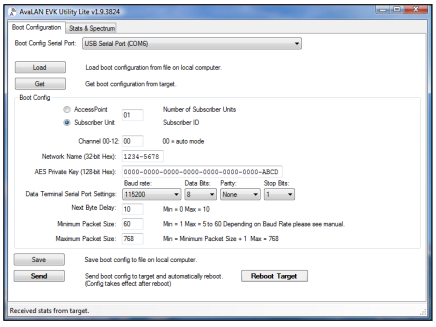
AvaLAN's products offer the ideal combination of price, range, data rate, security, interference avoidance, quality-of-service, and a simple plug and play set up with minimal user programming required.

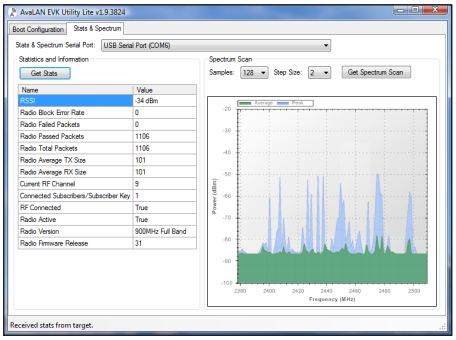
Features

- Outdoor IP 66 cast aluminum enclosure for industrially hardened applications
- 29 non-overlapping channels providing unique flexibility to avoid or penetrate interference
- Five times greater range than Wi-Fi, through walls or line-of-sight
- Up to 30 mile range to connect to difficult locations
- 4 Watts EIRP, Maximum legal radiated power for long range penetration
- One Watt power consumption is ready for solar applications
- -40º to +75ºC for extreme temperature operation
- USB management interface to enable quick setup time
- Graphical spectrum analyzer to evaluate RF environment
- Power and Data over CAT5 for easy single-cable installation
- 115,200 Baud for high speed serial applications
- 30 ft CAT5 cables included, high grade burial and UV stabilized

Screen Captures:

USB Configuration Utility





Application Example

Remote data logging
from RS-232 sensors

Technical specifications

Characteristic	Specification/Description
Serial Baud Rate	9600, 19200, 38400, 57600, 76800, 115200
RS-232 Signal Characteristics	See data sheet for Maxim 3221 chip (www.maxim-ic.com)
RF transmission rate	1.536 Mbps
RF Output Power	+21 dBm (4 Watts EIRP with 15 dBi antenna)
Receiver Sensitivity	-97 dBm at 10^{-4} Bit Error Rate
Range	Up to 30 miles line-of-sight with 19 dBi antennas
RF channels/bandwidth	29 non-overlapping with 2.0833 MHz spacing and 1.75 MHz bandwidth, automatic selection or manual via USB
Adjacent band rejection	SAW receiver filter attenuates cellular and pager interference
Error correction	Sub-block error detection and retransmission
Encryption	128-bit AES, meets FIPS 197 Standard
Evk Utility Management Tools	Serial port configuration, encryption keys, tuning parameters, QoS statistics, spectrum analyzer
Status LEDs	power, RF activity, serial data activity, channel, link quality
Connectors	RF: RPTNC Female; RS-232 and power: RJ-45 weatherproof with cable sealing gland; 30' cable with screw terminals included as well.
Power consumption	Transmit: 0.54 Watts, Receive: 0.45 Watts
Voltage	5-45 VDC
Power regulation	Switching regulator
Transmit current draw	140 ma at 12 VDC
Operating Temperature Range	-40 ºC to +75 ºC
Enclosure	Die cast aluminum, powder-coated, gasket-sealed connectors and cover. Meets IP66 for water and dust resistance.
Size	6 by 8 by 20 cm, 0.8 Kg, connectors included Mounting holes on bottom flange, 52 by 190 mm by 4 mm dia.

Ordering Information

AW2400R2-PAIR

2.4 GHz Outdoor Wireless RS-232 Bridge

Contents:

- (2) Outdoor wireless RS-232 radios
- (2) AW2-2400 Omnidirectional Antennas
- (2) RJ-45 to Screw Terminal 30 foot cables
- (2) DB-9 Female to Screw Terminal breakout adapters
- 2) 20" USB to Mini-USB Adapter Cables
- 2) 120VAC to 12 VDC Wall Hanger Power Supplies

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