



RSPdx

Multi-antenna port 14-bit SDR

The SDRplay RSPdx is a wideband full-featured 14-bit SDR which covers the entire RF spectrum from 1kHz to 2GHz. Combined with the power of readily available SDR receiver software (including 'SDRuno' for Windows and Multi-Platform 'SDRconnect' supplied by SDRplay) you can monitor up to 10MHz spectrum at a time. The RSPdx provides three software selectable antenna inputs, and an external clock input. All it needs is a computer and an antenna to provide excellent communications receiver functionality. A documented API allows developers to create new demodulators or applications around the platform.



KEY BENEFITS & FEATURES

- Covers all frequencies from 1kHz through VLF, LF, MW, HF, VHF, UHF and L-band to 2GHz, with no gaps
- Receive, monitor and record up to 10MHz of spectrum at a time
- Performance below 2MHz substantially enhanced – improved dynamic range and selectivity
- Software selectable choice of 3 antenna ports
- Enhanced ability to cope with extremely strong signals
- External clock input for synchronisation purposes, or connection to GPS reference clock for extra frequency accuracy
- Excellent dynamic range for challenging reception conditions
- Free use of windows-based SDRuno software which provides an ever-increasing feature-set
- Strong and growing software support network
- Calibrated S meter/ RF power and SNR measurement with SDRuno (including datalogging to .CSV file capability)
- Documented API provided to allow demodulator or application development on multiple platforms

APPLICATIONS

Amateur

- Shortwave radio listening
- Broadcast DXing (AM/FM/TV)
- Panadaptor
- Aircraft (ADS-B and ATC)
- Slow Scan TV
- Multi-amateur band monitoring
- WSPR & digital modes
- Weather fax (HF and satellite)
- Satellite monitoring
- Geostationary environmental satellites
- Trunked radio
- Utility and emergency service monitoring
- Fast and effective antenna comparison

Industrial

- Spectrum Analyser
- Surveillance
- Wireless microphone monitoring
- RF surveying
- IoT receiver chain
- Signal logging
- RFI/EMC detection
- Broadcast integrity monitoring
- Spectrum monitoring
- Power measurement

Educational/Scientific

- Teaching
- Receiver design
- Radio astronomy
- Passive radar
- Ionosonde
- Spectrum analyser
- Receiver for IoT sensor projects
- Antenna research

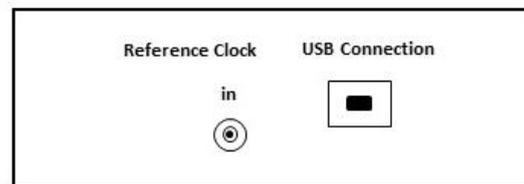
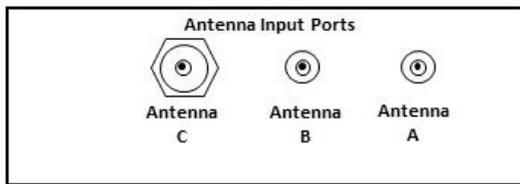
NEW SDRconnect™ SDR software for Windows, MacOS and Linux/Raspberry Pi

- All new intuitive graphical interface launched in 2023
- Highly integrated native support for the SDRplay family on Windows, MacOS, and Linux/Raspberry Pi 4/5
- Multiple 'virtual receivers' for simultaneous reception and demodulation of different types of signals within the same receiver bandwidth
- Multiple notch filters with BW adjustable to 1Hz
- Synchronous AM mode with selectable/adjustable sidebands.
- Calibrated RF Power Meter with > 100dB of usable range
- Calibrated S-Meter supporting IARU S-Meter Standard
- Integrated server allows remote cross-platform access via high speed LAN and regular internet WAN connectivity
- "Audio" (Compact) mode allows limited bandwidth WAN connections with spectrum visibility up to 10MHz plus multimode audio access (AM/Wideband FM/SSB/CW etc)
- Rolling release model allows for future feature enhancements
- Modular approach for future 3rd party development

SDRuno™ for Windows FEATURES

- High Dynamic Range mode (“HDR”) for RSPdx use below 2MHz
- Highly integrated native Windows support for the SDRplay family
- Multiple ‘virtual receivers’ for simultaneous reception and demodulation of different types of signals within the same receiver bandwidth
- An integrated frequency scanner (for frequency ranges and stored memory panel lists)
- A selectivity filter with an ultimate rejection greater than 140dB.
- A unique distortion-free double stage AGC with fully adjustable parameters
- AFC for FM signals
- Multiple notch filters with BW adjustable to 1Hz + Notch Lock feature
- A unique synchronous AM mode with selectable/adjustable sidebands, dedicated PLL input filter, & selectable PLL time constants
- SNR (stereo noise reduction), featuring a proprietary noise reduction algorithm for stereo broadcast
- Powerful wideband noise filter for addressing common sources of RFI (e.g. power supplies, internet over DSL etc.)
- Calibration for receiver frequency errors
- RDS support optimised for low signal environment
- Active Noise cancelling
- CAT and Omnirig control
- Calibrated RF Power Meter with > 100dB of usable range
- Calibrated S-Meter supporting IARU S-Meter Standard
- The ability to save power (dBm) and SNR (dB)
- measurements over time, to a CSV file for future analysis
- IQ output accessible for 3rd party applications

CONNECTIONS



SPECIFICATIONS

<p>General</p> <ul style="list-style-type: none"> • Weight 315g • Size: 113mm x 94mm x 35mm • Low current consumption: <ul style="list-style-type: none"> • 190mA @ >60MHz (excl Bias T) • 120mA @ <60MHz (excl Bias T) <p>Connectivity</p> <ul style="list-style-type: none"> • USB 2.0 (high speed) type B socket <p>Frequency Range</p> <ul style="list-style-type: none"> • Continuous coverage 1kHz – 2GHz <p>Antenna A Port Characteristics</p> <ul style="list-style-type: none"> • 1kHz – 2GHz operation • 50Ω input impedance • SMA female connector <p>Antenna B Port Characteristics</p> <ul style="list-style-type: none"> • 1kHz – 2GHz operation • 50Ω input impedance • SMA female connector • Selectable 4.7V DC out (see Bias T) <p>Antenna C Port Characteristics</p> <ul style="list-style-type: none"> • 1kHz – 200MHz operation • 50Ω input impedance • BNC female connector <p>Reference Clock Input</p> <ul style="list-style-type: none"> • MCX female connector <p>Bias T (Antenna B Port only)</p> <ul style="list-style-type: none"> • Software selectable 4.7V @ 100mA 	<p>IF Modes</p> <ul style="list-style-type: none"> • Zero IF, All IF bandwidths • Low IF, IF bandwidths ≤ 1.536MHz <p>IF Bandwidths (3dB)</p> <ul style="list-style-type: none"> • 200kHz • 300kHz • 600kHz • 1.536MHz • 5.0MHz • 6.0MHz • 7.0MHz • 8.0MHz <p>ADC Characteristics</p> <ul style="list-style-type: none"> • Sample frequency 2 – 10.66MSPS • 14-bit native ADC (2 – 6.048MSPS) • 12-bit (6.048- 8.064 MSPS) • 10-bit (8.064- 9.216MSPS) • 8-bit (> 9.216 MSPS) <p>Maximum recommended input power</p> <ul style="list-style-type: none"> • 0dBm continuous • 10dBm for short periods <p>Reference</p> <ul style="list-style-type: none"> • High temp stability 0.5PPM TCXO • In-field trimmable to 0.01ppm. <p>External Reference Clock</p> <ul style="list-style-type: none"> • Plug in the external clock before power-up. Auto-detect will switch to the external reference. • Frequency 24MHz sine/square wave • 1V Pk-Pk Min • 3.3V Pk-Pk Max 	<p>Typical Noise Figures</p> <ul style="list-style-type: none"> • 33dB @ 300kHz • 20dB @ 2MHz • 17dB @ 12MHz • 15dB @ 25MHz • 15dB @ 40MHz • 2.6dB @ 100MHz • 2.1dB @ 200MHz • 6.0dB @ 340MHz • 3.1dB @ 660MHz • 4.4dB @ 1500MHz • 5.0dB @ 1800MHz <p>Notch Filters</p> <ul style="list-style-type: none"> • FM Notch Filter: <ul style="list-style-type: none"> >30dB 77 – 115MHz >50dB 85 – 107MHz >4dB 144 – 148MHz • MW Notch Filter: <ul style="list-style-type: none"> >15dB 400 – 1650kHz >30dB 500 – 1530kHz >40dB 540 – 1490kHz • DAB Notch Filter: <ul style="list-style-type: none"> >20dB 155 – 235MHz >30dB 160 – 230MHz <p>Note: The notch filters above are software selectable and remove specific broadcast bands.</p>	<p>Front End Filtering</p> <p>Low Pass</p> <ul style="list-style-type: none"> • 500kHz • 2MHz <p>Band Pass</p> <ul style="list-style-type: none"> • 2-12MHz • 12-30MHz • 30-60MHz • 60-120MHz • 120-250MHz • 250-300MHz • 300-380MHz • 380-420MHz • 420-1000MHz <p>High Pass</p> <ul style="list-style-type: none"> • 1000MHz
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