Radio Spectrum Processor 1A
14-bit SDR

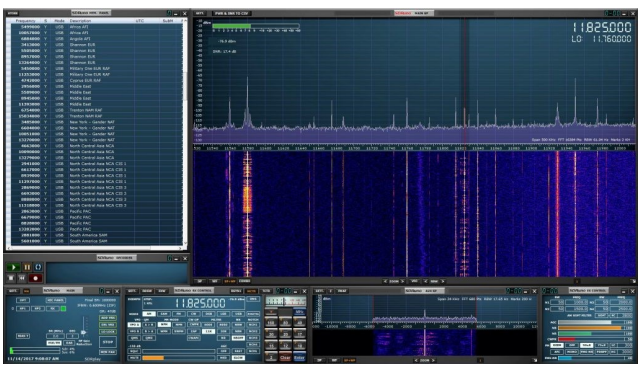
The SDRplay RSP1A is a powerful wideband full featured 14-bit SDR which covers the RF spectrum from 1kHz to 2GHz. All it needs is a computer and an antenna to provide excellent communications receiver functionality. Combined with the power of readily available SDR receiver software (including Windows-based 'SDRuno' supplied free of charge by SDRplay), you can monitor up to 10MHz of spectrum at a time. A documented API allows developers to create new demodulators or applications around the platform.

KEY BENEFITS

- Covers all frequencies from 1kHz through LF, MW, HF, VHF, UHF and L-band to 2GHz, with no gaps
- Excellent dynamic range for challenging reception conditions
- Low levels of spurious responses
- Works with all the popular SDR software (including HDSDR, SDR Console, Cubic SDR and SDRuno)
- ExtIO based plugin available
- Software upgradeable for future standards
- Strong and growing software support network
- API provided to allow demodulator or application development
- Multiplatform driver and API support including Windows, Linux, Mac, Android and Raspberry Pi 2/3
- Up to 16 individual receivers in any 10MHz slice of spectrum using SDRuno
- Calibrated S meter and power measurements with SDRuno
- Ideal for monitoring of ISM/ IoT/ Telemetry bands <2GHz
- Ideal for portable operation

KEY FEATURES

- Continuous coverage from 1kHz to 2GHz
- Up to 10MHz visible bandwidth
- Powers over the USB cable with a simple type B socket
- 14-bit ADC silicon technology (not another 8 bit dongle!)
- 11 high-selectivity, built in front-end preselection filters
- Software selectable AM/FM and DAB broadcast band notch filters
- Software selectable multi-level Low Noise Preamplifier
- Bias -T power supply for powering antenna-mounted LNA
- RF shielding layer inside case
- SDRuno—World Class SDR software for Windows
- Documented API for new apps development
- Single SMA antenna socket covering entire frequency range



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SPECIFICATIONS

General
- Weight 110g
- Size: 98mm x 88mm x 34mm (case only)
- Low Current: 185 mA (excl bias T)

Connectivity
- Single 50Ω RF connector (SMA)
- USB 2.0 (high speed) type B socket

Frequency Range
- Continuous coverage 1kHz – 2GHz

ADC Characteristics
- 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)

Bias T
- Software Selectable 4.7V @ 100mA

Reference
- High Temperature Stability (0.5ppm) TCXO
- In-field trimmable to 0.01ppm.

Maximum recommended input power
- 0dBm continuous, 10dBm for short periods

Typical Noise Figures
- 18dB @ 2MHz
- 15dB @ 12MHz
- 15dB @ 25MHz
- 15dB @ 40MHz
- 3.3dB @ 100MHz
- 3.3dB @ 200MHz
- 7.7dB @ 386MHz
- 3.6dB @ 660MHz
- 5.0dB @ 1500MHz
- 6.3dB @ 1800MHz

IF Modes
- Zero IF, All IF bandwidths
- Low IF, IF bandwidths ≤ 1.536MHz

IF Bandwidths (3dB)
- 200kHz
- 300kHz
- 600kHz
- 1.536MHz
- 5.0MHz
- 6.0MHz
- 7.0MHz
- 8.0MHz

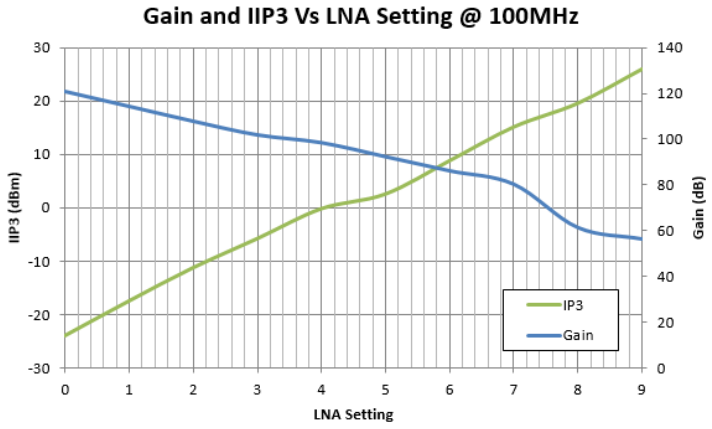
Front End Filtering
Automatically configured front end filtering:

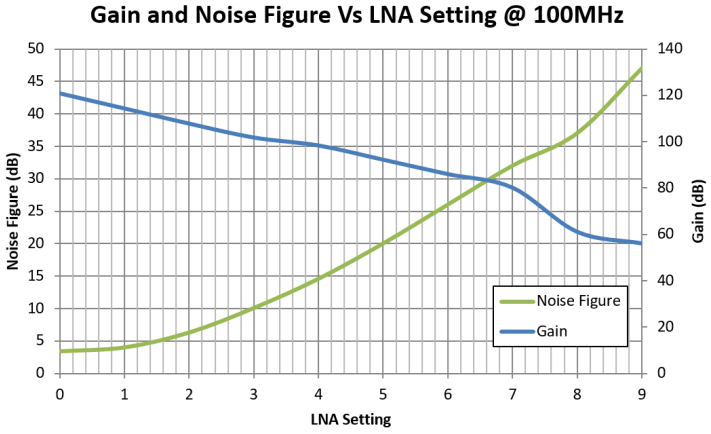
Low Pass
- 2MHz

Band Pass
- 2-12MHz
- 12-30MHz
- 30-60MHz
- 60-120MHz
- 120-250MHz
- 250-300MHz
- 300-380MHz
- 380-420MHz
- 420-1000MHz

High Pass
- 1000MHz

Notch Filters
- FM Filter:
>50dB 85 – 100MHz
- MW Filter:
>30dB 660 – 1550kHz
- DAB Filter:
>30dB 165 – 230MHz





SDRuno FEATURES

- Multiple 'Virtual Receivers' which allow for simultaneous reception and demodulation of different types of signals within the same receiver bandwidth.
- A selectivity filter with an ultimate rejection greater than 140dB.
- A unique distortion-free double stage AGC with fully adjustable parameters.
- Multiple notch filters with BW adjustable down to 1Hz, Notch Lock feature.
- A unique synchronous AM mode with selectable/adjustable sidebands, dedicated PLL input filter, and selectable PLL time constants.
- SNR (stereo noise reduction), featuring a proprietary noise reduction algorithm for stereo broadcast.
- AFC for FM signals.
- Calibration for receiver frequency errors.
- Class leading audio quality
- Calibrated S meter and power measurements
- RDS support with "DX Mode" for low signal environment
- Active Noise cancelling
- CAT and Omnirig control
- SSB/AM and Synchronous AM modes
- WBFM and NFM with AFC