The RSP2 is a powerful wideband full-featured SDR which covers all frequencies from 1 kHz up to 2 GHz. This enhanced version of the popular RSP1 provides three software selectable antenna inputs, & new stability and clocking features ideally suited to industrial, scientific & educational applications. Combined with the power of SDRUno receiver software this versatile receiver can monitor up to 10 MHz of spectrum at a time. The RSP2 is housed in an RF shielded robust plastic case.

**KEY FEATURES**

<table>
<thead>
<tr>
<th><strong>Continuous coverage from 10 kHz to 2 GHz</strong></th>
<th>RSP1</th>
<th>RSP2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous coverage from 1 kHz to 2 GHz</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Up to 10 MHz visible bandwidth</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Powers over the USB cable with a simple type B socket</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>12-bit ADC silicon technology (not another 8 bit dongle!)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8 built in front-end pre-selection filters</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>10 high-selectivity, built in front-end preselection filters</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Software selectable (On/Off) Low Noise Preamplifier</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Software selectable multi-level Low Noise Preamplifier</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>SDRUno—World Class SDR software</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Open API for new apps development</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Single SMA antenna socket</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2 x SMA Software Selectable Antenna Inputs</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1 x High Impedance Input for long wire antennas</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Software selectable MW /FM notch filters</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Highly stable 0.5PPM TCXO trimmable to 0.01PPM</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>24MHz Reference clock input / output connections</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4.7V Bias-T (Port B only)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Robust and strong plastic case</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>RF shielding layer inside case</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**APPLICATIONS**

- Amateur
- Industrial
- Educational/Scientific
- General Coverage RX
- Surveillance
- Spectrum Analyser
- Panadapter
- EMI/EMC Monitoring
- RF Power Measurement
- Trunked Radio
- ADS-B
- Radio Astronomy
- SSTV, HFFAX and Packet Radio
- Remote broadcast monitoring
- Passive Radar
- Digital Voice
- Multi-standard broadcast RX
- Weather Satellite
- Satellite Comms
- RF surveying
- Ionosonde
- Antenna Design
- IoT projects
- Smart Tuning projects

**KEY BENEFITS**

- Low power consumption, Ideal for portable operation
- Covers all frequencies from experimental LF through to L-Band
- Supports simultaneous HF and VHF antenna combinations
- Includes world class SDRUno SDR software
- Support for other popular SDR packages (including HDSDR, SDR Console, Cubic SDR and GNU Radio will follow)
- Ability to synchronise multiple RSPs
- Software upgradeable for future standards
- Strong and growing software support network
- API provided for demodulator or application development
- Multiplatform support including Linux, Mac, Android and Raspberry Pi 2/3 will follow
- Up to 16 individual receive channels in any 10MHz slice of spectrum using SDRUno
- Calibrated S meter and power measurements with SDRUno

November 2016 RSP2 V3
Radio Spectrum Processor 2

SPECIFICATIONS

SDRuno FEATURES

- Multiple virtual receiver support
- Class leading audio quality
- Calibrated S meter and power measurements
- RDS support with “DX Mode” for low signal environment
- Active Noise cancelling
- RF Notch Filtering
- CAT and Omnirig control
- SSB/AM and Synchronous AM modes
- WBFM and NFM with AFC

General
- RSP2 Weight: 112g
- RSP2 Size: 98mm x 86mm x 32mm
- Low current: 170mA typical (excl Bias T)

Connectivity
- USB
  - USB 2.0 (high speed) type B socket

Port A Characteristics
- 1.5 MHz – 2 GHz operation
- 40 dB RF gain control
- 50 Ω input impedance
- SMA Female connector

Port B Characteristics
- 1.5 MHz – 2 GHz operation
- 40 dB RF gain control
- 50 Ω input impedance
- SMA Female connector
- Selectable 4.7V DC out (see Bias T)

High Z port Characteristics
- 1 kHz – 30 MHz operation
- 18 dB RF gain control
- 1kΩ input impedance (balanced)
- Pluggable screw connector (CTB9208/3 plug supplied)

Reference clock I/O
- MCX Female connector

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

IF Bandwidths
- 200kHz, 300kHz, 600kHz, 1.536MHz
- 5.0 MHz, 6.0 MHz, 7.0 MHz, 8.0 MHz

Bias T
- Software selectable 4.7V @ 100mA output voltage on Port B.

Reference
- High Stability 0.5PPM TCXO
- In-field trimmable to 0.01ppm.
- 24MHz Reference in/out connections

ADC Characteristics
- Sample frequency up to 10.66MSPS
- 12 bit native ADC
- 10.4 ENOB
- 60dB SNR
- 67dB SFDR

NF (max RF gain)
- 8dB @ 3MHz
- 2.0dB @ 10MHz
- 1.6dB @ 20MHz
- 1.5dB @ 40MHz
- 1.5dB @ 100MHz
- 1.9dB @ 200MHz
- 5.0dB @ 360MHz
- 2.5dB @ 600MHz
- 3.5dB @ 1300MHz
- 4.0dB @ 1800MHz

IIP3 (min LNA gain)
- +15dBm @ 3MHz

Front End Filtering (Ports A and B)
- Low Pass
  - 12MHz
- Band Pass
  - 12 – 30MHz
  - 30 – 60MHz
  - 60 – 120MHz
  - 120 – 250MHz
  - 250 – 300MHz
  - 300 – 380MHz
  - 380 – 420MHz
  - 420 – 1000MHz
- High Pass
  - 1000MHz

Notch Filters
- FM Filter
  - >60dB 80 – 100MHz
- MWF Filter
  - >30dB 680 – 1550 kHz

Front End Filtering (High Z port)
- Low Pass
  - 30MHz

www.SDRplay.com

November 2016 RSP2 V3