All-in-one, plug-and-play networked receiver

Product Description	The nRSP-ST is a truly "plug and play" integrated, networked general coverage receiver which combines a receiver, a host computer and a whole lot more all in one box. Apply power and connect to the internet and the nRSP-ST can be accessible from anywhere. The receiver comprises a full-featured 14-bit software defined radio. It offers up to 10MHz of spectrum visibility anywhere between 1kHz and 2GHz. The nRSP-ST is ideal as a stand-alone device with remote connections made accessible via its Ethernet or WiFi interfaces. The unit supports a choice of three data transport modes to suit the available network bandwidth of LAN or WAN connectivity. It is ideal for use in a low noise location or where connections to large outdoor antennas are feasible. Large IQ files can readily be stored on a local storage device. SDRplay provides free companion SDRconnect™ client SDR software for Windows, MacOS and Linux platforms, and the nRSP-ST provides a built-in web-server for remote access from any web browsing capable device, including Android/iOS tablets and phones.
Features	• A truly "plug and play" remote access 14-bit general coverage SDR radio receiver • Covers all frequencies from 1kHz through VLF, LF, MW, HF, VHF, UHF and L-band to 2GHz • Use locally via the USB interface, or connect to the internet (ethernet or Wi-Fi) and the nRSP-ST can be accessed from anywhere with a choice of connectivity modes • Receive, monitor and record up to 10MHz of spectrum at a time. • Software selectable choice of 3 antenna ports • External clock input for synchronisation purposes, or connection to GPS reference clock for extra frequency accuracy • Choice of 3 SDRconnect™ data connectivity mode options to ensure optimised remote access • Supports multiple client connections with a simultaneous mixture of connection modes • Choice of 2 remote access options – use SDRconnect™ remote client, or the built-in web-server for access from any web browsing capable device, including Android/iOS tablets and phones • The ability to record IQ and audio files to a NAS (network attached storage) device if available

General		
	Product Name	nRSP-ST
	Product Dimensions	200mm x 105mm x 40mm
	Weight	800g
	Frequency Coverage	1kHz to 2GHz Continuous coverage
	Ambient Temperature	25°C
	Useable Temperature Range	-10°C to +60°C
	Environmental	Indoor Use

Power		
	Typical Current Consumption	
	USB Connection	490mA
	Ethernet Connection	600mA
	WiFi Connection	500mA
	Power Supply Requirements	
	Input Voltage Range	90V AC to 264V AC
	Input Frequency Range	47Hz to 63Hz
	Output Voltage Rating	+5.1V DC
	Output Current Max	3A Max
	Output Power Max	15.3W
	Supplied Power Supply	Multicomp MP001636
	Power Supply Connector	USB C

Note: PoE (Power over Ethernet) is not provided. An external device would be needed (e.g. a low noise, "Type C Port PoE Splitter Gigabit 5V/2.4A, PoE to USB-C 5V/2.4A Output, 1000Mbps Gigabit Ethernet Compliant")

Antenna Connections		
	Antenna A Frequency Coverage	1kHz to 2GHz Continuous coverage
	Antenna A Impedance/ Connector	50Ω SMA
	Antenna B Frequency Coverage	1kHz to 2GHz Continuous coverage
	Antenna B Impedance/ Connector	50Ω SMA
	Antenna B Bias-T specification	4.7V, 100mA maximum current
	Antenna C Frequency Coverage	1kHz to 200MHz Continuous coverage
	Antenna C Impedance/ Connector	50Ω BNC
	Unselected port isolation	40dB

Receiver		
Maximum Input Power continuous	0dBm	
Maximum Input Power burst	+10dBm	
Noise Figure	19dB @ 300kHz	18dB @ 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	
Band Filtering	500kHz (low pass)	2MHz (low pass)	
	2-12MHz	2-30MHz	30-60MHz
	60-120MHz	120-250MHz	250-300MHz
	300-380MHz	380-420MHz	420-1000MHz
	1GHz (high pass)		
Notch Filters	Selectable MW, FM and DAB Notch Filters	
ADC Characteristics	14-bit native ADC (2 – 6.048 MSPS)	
	12-bit (6.048 - 8.064 MSPS)	
	10-bit (8.064 - 9.216 MSPS)	
	8-bit (> 9.216 MSPS)	

Receiver Reference	
Receiver Reference Frequency	24MHz
Reference Stability	0.5ppm -30°C to +85°C
External Reference Connector	MCX
External Reference Frequency	24MHz Sine/Square
External Reference Level	1V Pk-Pk Min, 3.3V Pk-Pk Max
External Reference features	Auto-detect will switch to the external reference on power up if clock source present

Compute Engine	
Processor	64bit Quad Core SoC 1.5GHz
Memory	2GB LPDDR4-3200 SDRAM
	8GB eMMC Storage
Modular Compliance	https://pip.raspberrypi.com/categories/635-compliance

Connectivity	
Direct connection	USB 2.0 compliant USB interface
Ethernet connection	Gigabit Ethernet IEEE 1588-2008 compliant
	Detection and correction of swapped ports
	MDI crossover, pair skew + pair polarity correction
WiFi	2.4GHz and 5.0GHz IEEE 802.11b/g/n/ac wireless
Connectivity compliance	Modular compliance certified
	https://pip.raspberrypi.com/categories/635-compliance

Connectivity Modes	
USB	High Bandwidth 10MHz connection
Ethernet and Wi-Fi	**Full IQ Mode**
	Remote access for high bandwidth networks.
	Full functionality as in USB Mode
	IQ Lite Mode
	Remote access for lower bandwidth networks
	For applications requiring <192kHz demodulated signal, while still giving up to 10MHz spectrum visibility
	Compact (Audio + spectrum) Mode
	Remote access for low bandwidth networks enables full demodulation of AM/FM/CW/SSB audio, while still giving up to 10MHz spectrum visibility

Connections

WiFi   POWER   ETHERNET   DIRECT   FLASH   REF IN   ANT A   ANT B   ANT C   GRND