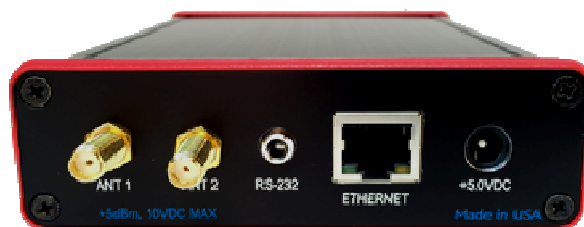# RF Space Cloud-IQ

The Cloud-IQ is a Software Defined Radio (SDR) receiver with ethernet connection for the frequency range from 9 kHz to 56 MHz. The US-based manufacturer RFspace is well known for his excellent SDR receivers, the Cloud-IQ is the result of experiences collected with prvious products.
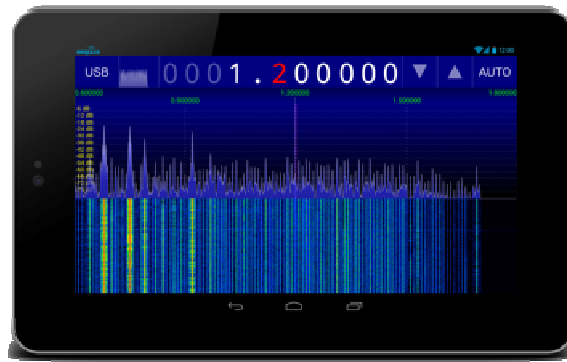
The Cloud-IQ offers two different operating modes:

- In the 'local' mode the Cloud-IQ is connected to the local network or directly to a computer and works with full speed and maximal detail resolution. This offers an excellent dynamic range and wide bandwidth, even in spectrum analyser mode.
- In the 'cloud' mode, the receiver is operated remotely over a slower internet conenction with reduced bandwidth and reduced level of detail but full dynamic range and sensitivity. This mode allows to take benefit of quiet remote locations or places with better radio conditions. The demodulation and data reduction is done by the Cloud-IQ itself, no remote computer is required, the Cloud-IQ offers it's own internet server capabilities.
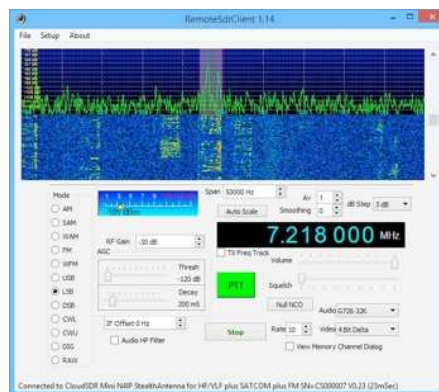

The Cloud-IQ uses a state of the art, very fast 14 bit A/D converter with 122 MS/s. This offers direct sampling capabilities of shortwave including 6m up to 56 MHz. A special spectrum analyser mdoe offers a view of the entire HF range at a glance. The processing of the IQ data is done by a powerful Xylinx FPGA chip, control and IO handling is done by an Arm Cortex M4F chip. Data transmission to the computer is done over 100 MBit/s ethernet, directly to a stand-alone computer or over a network. This offers very high data rates and trouble free installation without driver issues.

The large dynamic range of the receiver enables you to monitor even the faintest signals even within the crowded and noisy HF bands. The excellent reception capabilities are supported by a temperature controlled crystal oscillator (TCXO) with low phase noise. In total the sensitivity could be increased by 15dB in comparision to legacy products. The 3rd order intermod product achieves an very good level of 90dBc. Two software selectable antenna inputs allow automatic switching depending on frequency.

Besides the excellent receiver two other features make the Cloud-IQ stand out from the SDR crowd. An adjustable internal trigger signal can be used to sample reception based on repetitive signals. This is essential for precise signal analysis and classification of cyclic signals like radar or codar. Another feature is the serial interface port. This interface offers a connection to various CAT interfaces of receivers and scanners, enabling the Cloud-IQ to work as a tracking receiver (IF output on external device required). With the CAT connection the control of the receiver (selection of frequency, mode) can be done via the Cloud-IQ 'SpectraVue' software.

A wide selection of software is available for the Cloud-IQ. Included in shipment is 'SpectraVue' for Windows and 'SDRanywhere' for Android portable devices (tablets, smartphones). Other programs which do support the Cloud-IQ SDR receiver are 'SDR-Radio' (Windows), 'SDR#' (Windows), 'GNU-Radio' (Linux), 'GQRX' (Linux) and more. A software developer program is supported (requires NDA). Power supply is done with 5V, so a USB supply can be used when going portable. Dimensions 101 x 122 x 30mm, weight c. 700g.

Package incl.: CloudIQ SDR Receiver, USB power cable, Ethernet cable, 5V power supply, SpectraVue Software on CD, SDRanywhere Software on CD

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