

WR-G66WSBe Multichannel Sonobuoy Receiver

- Designed for sonobuoy telemetry operation
- Top-performance SDR with direct sampling architecture
- Digital down-conversion
- Excellent sensitivity, selectivity, phase noise and dynamic range
- Frequency range 136 to 173.5 MHz
- Monitoring all 99 sonobuoy channels in real time
- Processing up to 32 channels in parallel
- Up to 32 channels can also be broadcast as RTP streams
- Audio recorder
- USB 3 interface
- Excellent frequency stability (0.2 ppm)
- Selectable low-noise preamplifier
- Self-diagnostics with BIT and thermal management

The WINRADIO WR-G66WSBe is a top-performance, direct-sampling, low-power, software-defined receiver. Designed for sonobuoy telemetry operation, covering the entire sonobuoy frequency range without the need for hardware re-tuning, the first time that all 99 sonobuoy channels can be monitored simultaneously. Thanks to SDR architecture the channels are processed instantly in software.

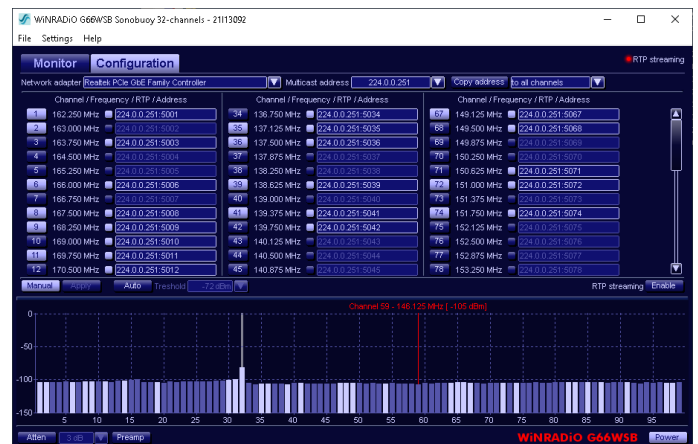
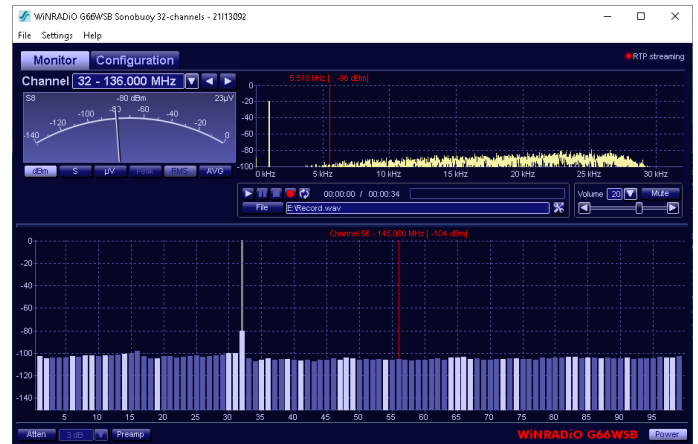
The receiver's hardware offers extremely high dynamic range, high linearity and excellent sensitivity. The input is protected against voltage spikes and excessive power.

The receiver contains a self-diagnostics functionality with BIT (Built In Test) and thermal management to prevent damage if environment conditions change out of operational specs.



The WR-G66WSBe receiver is supplied with Windows based application software. A programmer's API is available upon request, suitable for integration in custom designed sonobuoy systems.

Software



The software shows a graphical representation of the receiver (a virtual control panel), making it possible to observe the status of all 99 sonobuoy channels simultaneously at once. The selected channel can be monitored, and the real-time spectrum of the demodulated signal observed.

The audio parameters can be adjusted for the output sound (volume, audio-gain), played on WINRADIO Digital Bridge™ Virtual Sound Card, and as well recorded to an audio file. The receiver's sensitivity/immunity can be optimized by use of the attenuator and preamplifier.

The software provides an option for distribution of the demodulated audio for up to 32 channels over a computer network using RTP to multiple destinations. The supported RTP audio formats are: linear PCM (16-bit, Mono, 44100 Hz), ITU-T G.711 PCM μ -Law (PCMU), ITU-T G.711 PCM A-Law (PCMA).

Alternative versions

Alternative versions of this receiver exist in different form factor and with different interface types, also offering extended operating temperature and mechanical mounting methods.



Please contact us for more details.

Specifications

Type	Direct-sampling, digitally down-converting software-defined receiver
Frequency range	136 MHz to 173.5 MHz, 99 channels, 375 kHz channel spacing
Demodulation bandwidth	250 kHz
Mode	WFM
Image rejection	>80 dB
P1dB	-7 dBm (Preamp OFF) -17 dBm (Preamp ON)
IP3	21 dBm (Preamp OFF) 7 dBm (Preamp ON)
Max. input processed level	+10 dBm
Input damage level	+34 dBm
Attenuator	0-21 dB, adjustable in 3 dB steps
SFDR	101 dB typ. (Preamp OFF) 97 dB typ. (Preamp ON)
Noise Figure	14 dB typ. (Preamp OFF) 6 dB typ. (Preamp ON)
MDS	-130 dBm typ. @ 150 MHz, 500 Hz BW (Preamp OFF) -138 dBm typ. @ 150 MHz, 500 Hz BW (Preamp ON)

LO Phase noise	-145 dBc/Hz @ 10 kHz
Internal spurious	below -110 dBm
RSSI accuracy	2 dB (for input signal range from noise floor to +7 dBm)
RSSI sensitivity	-140 dBm
ADC	16 bit, 200 MSPS
Tuning accuracy	0.2 ppm @ 25 °C
Tuning stability	0.2 ppm (0 to 50 °C)
Antenna input	50 ohm (SMA connector)
Data Interface	USB 3.0
Data output	Demodulated audio 64 kHz sampling rate 32-bit float mono digitized I&Q signal via API, or RTP stream in the formats: PCM: 44.100 kHz sampling rate, 16-bit, mono PCMU: ITU-T G.711 PCM μ -Law, 8 kHz sampling rate, 8-bit, mono PCMA: ITU-T G.711 PCM A-Law, 8 kHz sampling rate, 8-bit, mono
Self-diagnostics	BIT (Built-In test) of the signal and processing path
Thermal management	temperature monitoring and logging, auto switch off by overheat
Power supply	10 W max (12 V/800 mA)
Operating temperature	0 to 55 °C
Humidity	20 - 90% non-condensing
Dimensions	Length: 166 mm (6.5") Width: 97 mm (3.8") Height: 59 mm (2.3") Weight 811 g (28.6 oz)

Specifications are subject to change without prior notice due to continuous product development.

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