

Professional DDC-based shortwave receiver

WR-G35DDC

(Excalibur Ultra)

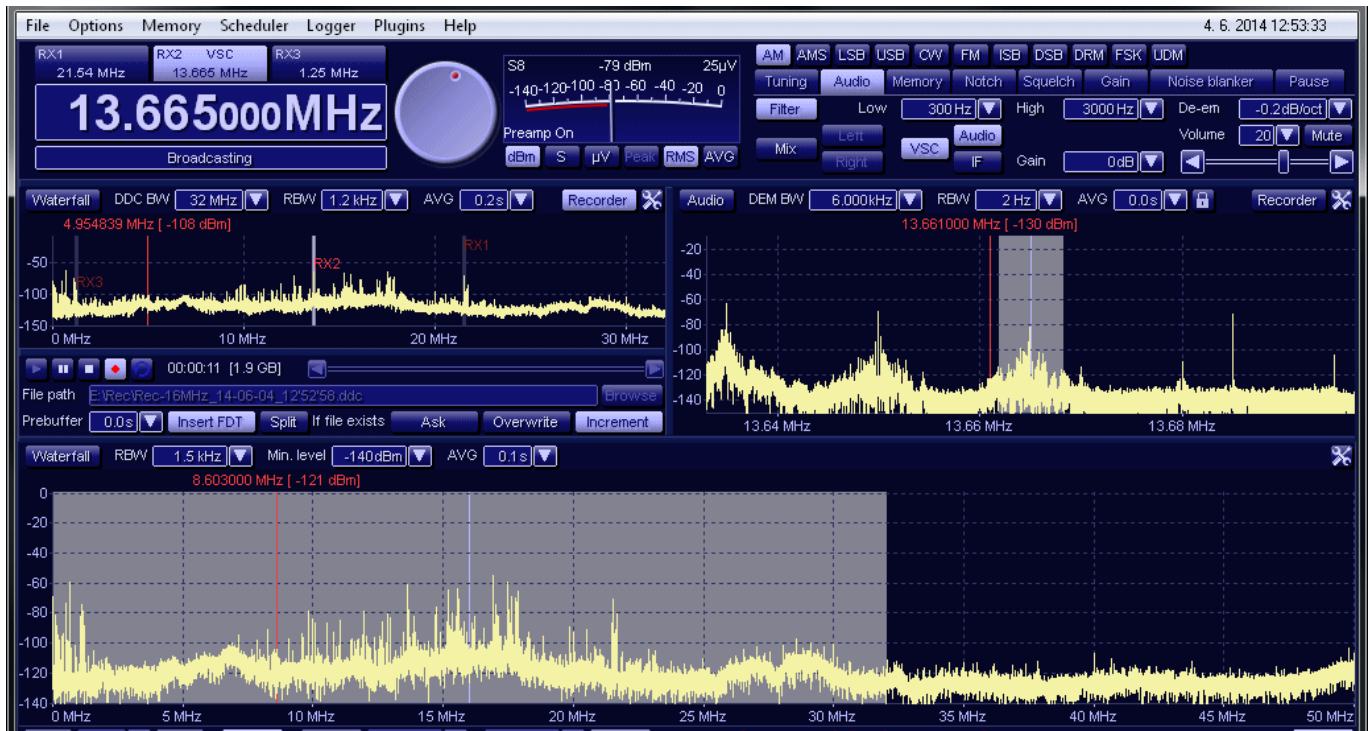


WR-G35DDCi Excalibur Ultra is a high performance, direct-sampling, software-defined ultra-wideband shortwave receiver with a frequency range from 1 kHz to 45 MHz. It includes a real-time 45 MHz-wide spectrum analyzer and 32 MHz-wide instantaneous bandwidth available for recording, demodulation and further digital processing.

Features

- 1 kHz to 45 MHz continuous frequency range
- Direct sampling
- Digital down-conversion
- 16-bit 100 MSPS A/D converter
- 45 MHz-wide, real-time spectrum analyzer
- 32 MHz recording and processing bandwidth
- Ready for phase-coherent system configurations
- Continuously adjustable filter bandwidth down to 1 Hz
- Three parallel demodulator channels
- Waterfall display functions
- Audio spectrum analyzer
- Audio and IF recording and playback
- Recording with pre-buffering
- Very high IP3 (+38 dBm)
- Excellent sensitivity (0.20 μ V SSB, 0.09 μ V CW)
- Excellent dynamic range (108 dB)
- Excellent frequency stability (0.5 ppm)
- User-configurable preselection filters
- Selectable low-noise preamplifier
- Test and measurement functions
- PCI-e interface

Software



The WR-G35DDCi control software provides a highly functional and logical user interface. There are several spectrum analyzer configurations available, including the 45 MHz full span with 1.5 kHz resolution. The scaleable spectrum display can be viewed in either the standard or waterfall mode.

The digital down-converter provides 33 selectable output bandwidths ranging from 20 kHz to 32 MHz. The receiver's selectivity can be adjusted with 1 Hz resolution.

Recording and playback are also provided at the output of the digital down-converter, whereby a 32 MHz wide spectrum chunk, representing the entire HF band, can be recorded for later demodulation and post-processing.

In spite of the receiver's ground-breaking architecture and powerful functionality, the user interface still remains simple and intuitive to use, with a rich on-line help facility. The control software contains all the features generally expected in modern receivers such as noise blanking, memories, scheduler, squelch (level, voice or noise activated), numerous tuning options, and a wide choice of demodulation modes, including user-defined and optional DRM modes. The parameters of all three independent demodulator channels can be set separately, allowing each to be recorded simultaneously and independently. Recording and playback are also provided at the output of the digital down-converter, where an entire 32 MHz spectrum band can be recorded for later demodulation. Pre-buffering prevents signal loss at the start of a transmission. A flexible scheduler function allows unattended recording of each channel at specified dates and times.