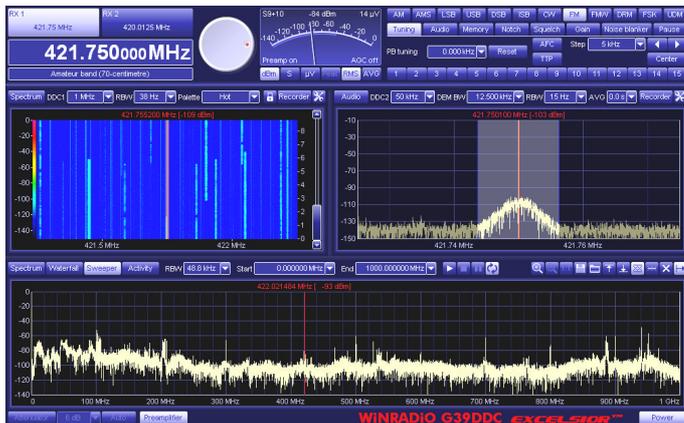


WR-G39DDC EXCELSIOR

High-performance HF/VHF/UHF/SHF Software-Defined Receiver

- Frequency range 9 kHz to 3500 MHz
(except cellular bands where required by law)
- Ultra-fast search speed 1 GHz/s
- Two independent receiver channels
- Real-time spectrum analyzer up to 16 MHz wide
- 4 MHz recording and processing bandwidth
- Unlimited width swept spectrum analyzer
- Audio spectrum analyzer
- Audio and DDC recorder
- High sensitivity
- Excellent dynamic range
- Numerous signal analysis tools
- Numerous types of search and scanning modes
- Numerous precise measuring tools
- PCI-e bus or USB interface

The WinRADIO WR-G39DDC 'EXCELSIOR' is a high-performance HF/VHF/UHF/SHF software-defined receiver with a frequency range from 9 kHz to 3500 MHz, with two independent channels of 4 MHz wide instantaneous bandwidth available for recording and further digital processing, plus a 16 MHz wide real-time spectrum analyzer.



The receiver offers an unparalleled flexibility given its SDR architecture, respectable dynamic range, high sensitivity, scanning speed and accuracy of performance, making it capable of filling not only the role of a monitoring receiver but also that of a fast search receiver and measuring receiver, with many operational and instrumentation features not usually found on receivers of any price category.



The receiver has a robust front-end, which features an up-converter for excellent suppression of mirror images, eliminating a need for complex pre-selector filters which introduce distortion and reduce the noise figure.

The WR-G39DDCi is a PCI-e compatible plug-in card to be fitted inside an IBM-compatible PC.

The WR-G39DDCe is the external receiver version which connects to an IBM-compatible PC via the USB port.

Several receivers can be controlled by a single PC to form a multi-channel receiver system.

This is the first time a receiver of such advanced specification and unique combination of features is being offered to the general marketplace.

The receiver is intended for government, military, security, surveillance, broadcast monitoring, industrial and demanding consumer applications.

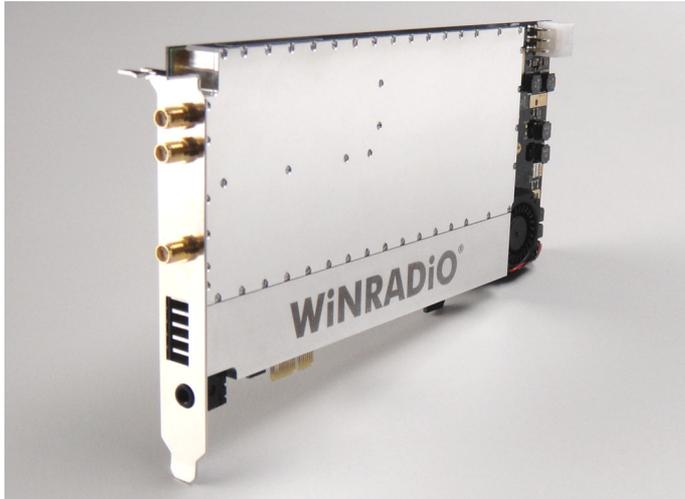
The WR-G39DDC receiver series represents an excellent general-purpose mobile and stationary solution for HF/VHF/UHF/SHF monitoring and surveillance.

WinRADIO®
COMMUNICATIONS

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Hardware

The WiNRADiO G39DDC series breaks new ground with its state-of-the-art components. The receiver is very well shielded against interference, making it possible to operate in a noisy computer environment.



The external USB receiver is supplied with a low-noise AC/DC power adapter, whereas the internal PCI-e version can be powered from the PC's power supply.

Software

The WR-G39DDC software contains numerous advanced features such as several types of searching and scanning, five types of squelch, many tuning options, virtually unlimited memories and a rich on-line help facility.

There are two concurrent DDC channels with 24 selectable output bandwidths ranging from 20 kHz to 4 MHz. Each can be used as an independent "virtual receiver". There is also a simultaneous 16 MHz wide real-time spectrum analyzer.

There are numerous demodulation modes, continuously variable demodulator bandwidth from 1 Hz to 320 kHz (in 1 Hz increments), waterfall spectrum analyzers, scanning, searching, logging and task scheduling facilities, as well as an audio real-time spectrum analyzer, test and measurement functions, noise blankers and notch filters.

There is also an integrated recorder, making it possible to instantly record and playback the received signal both at the IF and audio levels, for both channels. Recording offers also pre-buffering feature in order not to lose any transmission.

The receiver is entirely software-defined, which means that additional demodulations or decoding modes can be easily added by a mere software change.

Specifications

Receiver type	Dual DDC software-defined receiver with up-converter superheterodyne front end			
Frequency range	9 kHz to 3500 MHz			
Tuning resolution	1 Hz			
Mode	AM, AMS, CW, LSB, USB, ISB, DSB, FMN, FMW (stereo), FSK, UDM (user-defineable mode), DRM (optional)			
Image Rejection	85 dB (< 50 MHz) 65 dB (50 - 500 MHz) 85 dB (> 500 MHz)			
IP3 (preamp off)	+6 dBm typ. (< 50 MHz) @ 5 kHz spacing +2 dBm typ. (> 50 MHz) @ 10 kHz spacing			
Noise figure	14 dB typ. (< 50 MHz) 14 dB typ. (> 50 MHz) preamp off 5 dB typ. (> 50 MHz) preamp on			
MDS	-130 dBm / 500 Hz typ. (< 50 MHz) -130 dBm / 500 Hz typ. (> 50 MHz) preamp off -139 dBm / 500 Hz typ. (> 50 MHz) preamp on			
Internal spuri	Below -95 dBm, typ. less than -115 dBm of equiv. antenna input			
RSSI accuracy	2 dB			
RSSI sensitivity	-140 dBm			
Processing and recording bandwidth	20 kHz - 4 MHz (selectable in 24 steps)			
Demodulator processing bandwidth	20 kHz - 320 kHz (selectable in 13 steps)			
Demodulation bandwidth (selectivity)	1 Hz - 320 kHz (continuously variable in 1 Hz steps within current demodulator processing bandwidth)			
Spectrum analyzer	16 MHz wide real-time spectrum, 1.5 kHz resolution bandwidth			
ADC	16 bit, 100 MSPS			
Search speed	Up to 1 GHz/s			
Scanning speed	Up to 80,000 ch/s (12.5 kHz channel separation)			
Sensitivity	Mode	< 50 MHz	> 50 MHz (preamp off)	> 50 MHz (preamp on)
AM: 30% mod., 10 dB S+N/N	AM	-105 dBm (1.3 µV)	-105 dBm (1.3 µV)	-113 dBm (0.5 µV)
SSB, CW: 10 dB S+N/N	SSB	-118 dBm (0.3 µV)	-118 dBm (0.3 µV)	-125 dBm (0.13 µV)
FM: 3 kHz dev., 12 dB SINAD	CW	-125 dBm (0.13 µV)	-125 dBm (0.13 µV)	-132 dBm (0.06 µV)
FMW: 75 kHz dev., 12 dB SINAD	FM	-114 dBm (0.45 µV)	-115 dBm (0.4 µV)	-122 dBm (0.2 µV)
	FMW	not specified	-108 dBm (0.9 µV)	-115 dBm (0.4 µV)
Intermediate frequencies	IF1: 3910 MHz (BW=30 MHz) IF2: 70 MHz (BW=16 MHz)			
Tuning accuracy	0.5 ppm @ 25 °C			
Tuning stability	0.5 ppm (0 to 50 °C)			
Antenna input	50 Ω (SMA connector)			
Interface	PCI Express or USB 2.0 High speed			
Power supply	12 W max. if powered by PCI-e bus (G39DDCi) 12 V DC @ 1.5 A max (G39DDCe)			
Operating temp.	0 °C to 50 °C			

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

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