

WR-G528e '*CHEETAH*' Miniature Wide-Band Phase-Coherent Tuner

Overview

The WiNRADiO WR-G528e is a miniaturized, versatile, USB-interfaced high-performance receiver front-end with dual application capability.

A single WR-G528e module can be utilized as a compact, single-channel front-end suitable for fast signal intercept, acquisition and monitoring applications. When two identical modules are interconnected to share a common frequency reference (either internal or external), they can form a basis of a dual-channel phase-coherent direction-finding system with excellent phase and amplitude matching characteristics.

The WiNRADiO WR-G528e is designed to be a front-end of choice for demanding Software-Defined Radio (SDR) applications wherever an instantaneous IF bandwidth greater than 20 MHz, small size, low power and low cost are required. It can be deployed in fixed, land mobile, or airborne installations.

Features

- Input frequency range 0.01-3000 MHz
- Single or dual-channel phase-coherent applications
- IF output 70 MHz
- IF bandwidth 22 MHz
- Excellent phase and amplitude matching
- 1 ppm frequency stability or 10 MHz external reference
- Small size and weight
- Low power consumption
- High dynamic range
- Fast tuning speed
- USB 2.0 and RS-232 interface



For frequencies above 30 MHz, the receiver is based on a double-conversion process, where the incoming frequency is down-converted to the output frequency 70 MHz, which is provided as a filtered output ready to be digitized. The IF paths are switchable by an internal relay in order to minimize images and spurious mixing products. Filters are specially selected to ensure flat phase response and a digitally controlled attenuator is employed in the front-end.

For frequencies 0.01 to 30 MHz, the amplified bypass output is available for a direct connection to a DSP back-end.

A dual-channel phase-coherent system based on two identical, interconnected WR-G528e modules features an excellent phase stability and flatness throughout the entire frequency range, with minimum amplitude and phase distortion, as well as minimum amplitude and phase mismatch between the two channels.

Cheetah Specifications

Frequency range	0.01-30MHz (Direct input section) 30MHz to 3000MHz (heterodyne section) internally switchable
Tuning resolution:	5 MHz
Output frequency:	70 MHz
Output Bandwidth:	22 MHz
Gain:	30dB typical
Noise figure:	12dB typical
Internal spuri	< -100dBm equivalent antenna input except for 40MHz reference clock and its harmonics up to 240MHz
IF rejection	>40dB
Image/Spurious rejection:	>40dB
Maximum input level	+10dBm
Attenuation control	0 - 20dB in 1dB steps (30 to 3000MHz path only)
IP3	0dBm @ 1060 MHz with interfering signals at 1040 MHz and 1050 MHz
Input impedance	50 Ohm (SMA Connector)

Output impedance	50 Ohm (SMA Connector)
Amplitude ripple	3dB typical
Phase ripple	3 degrees typical
Phase adjustment range:	60 degrees
Phase adjustment resolution	0.25 degrees
Channel to channel isolation	>80dB
Total phase noise:	-86dBc Hz @ 10kHz offset (40 MHz Internal ref)
Tuning speed	5ms typical
Frequency stability	1 ppm (or ext reference)
External reference option:	10 MHz -5dBm to +15dBm
LO1:	3940MHz to 6910MHz accessible to the user at 0dBm +/- 5dB
LO2:	3840MHz or 3980MHz accessible to the user at + 5dBm dBm via SMA
Operating voltage	12VDC +/- 5%
Power consumption:	6.2W typical
Control Interface	USB 2.0 or RS232C

Dimensions	91mm x 68mm x 47mm
Weight	75g (13.2oz)
IF1 frequency:	3910MHz accessible to the user 0dB gain 30MHz B/W SMA output.

Phase coherent capable:	Inbuilt two way splitters on LO1/LO2 for two channel phase coherent operation.
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HF Direct mode specifications	(Separate SMA Input)
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AM BCB Filter:	Switchable in/out
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20dB RF preamplifier:	Switchable in/out
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Anti aliasing filter:	30MHz LPF
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RF Output:	Shared output SMA with heterodyned path
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All switching in HF direct path performed with relays for lowest distortion

Váš distributor pro ČR a SR:



TR instruments spol. s r.o.
Křižíkova 70
612 00 Brno
Tel.: +420 541 633 670
Fax: +420 541 212 413
Email: tri@trinstruments.cz
Web: www.trinstruments.cz