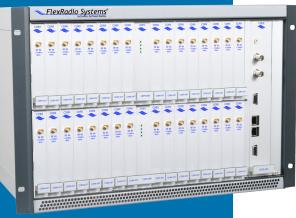


CDRX-3200 HF/IF Channelizing Digitizer





PRODUCT FEATURES

- Up to 32 channels fully phase synchronous receive capability
- 100kHz-100MHz RF channel input—can be used for direct RF or IF input
- Greater than 100dB of Two Tone 3rd order dynamic range at 100Hz spacing
- Gigabit Ethernet I/Q data output with automatic routing to multiple clients
- Phase Noise < –140dBc/Hz @ 10kHz</p>
- Streaming I/Q data conforms to VITA-49 standard
- Extremely low power—less than 150W fully populated
- Remote control and diagnostics via Ethernet
- Built In Test Equipment (BITE) self-test
- Maximum deployment flexibility at minimal cost
- Commercial off-the-shelf (COTS) equipment

OVERVIEW

The CDRX-3200 channelizing digitizer provides up to thirty-two synchronous, 200 kHz bandwidth receiver channels that deliver >100 dB two-tone, third order dynamic range while dissipating less than 150W. The CDRX-3200 is ideal for applications such as signal intelligence and exploitation, geolocation, and real-time signal analysis. Each of the thirty-two channels may be tuned independently or synchronously over an input range of 100 kHz to 100 MHz and streamed as I/Q data over Gigabit Ethernet using the VITA-49 communications standard. The CDRX-3200 utilizes a patent pending

quadrature sampling detector (FLEX-CMQSD[™]) technology that allows ultra high dynamic range with low power dissipation.

The CDRX-3200 is delivered in a 7U height system chassis that allows modular, plug-in configuration of 1 to 32 receiver channels. All modules connect to a passive backplane for ease of upgrade and maintenance. Built in test equipment (BITE) is included providing self test and calibration functions. The chassis provides electromagnetic The CDRX-3200 provides up to 32 synchronous receivers that deliver >100dB IMD DR3 (100 Hz tone spacing, 500 Hz detection bandwidth) for less than 150W of power dissipation.

double shielding for maximum RF performance. The system may be powered from either AC line voltages or optional 12V DC input.

FlexRadio Systems, founded in 2003, is a leader in Software Defined Radio (SDR) technology. The company has thousands of SDR transceiver systems deployed worldwide that utilize similar technology to that incorporated in the CDRX-3200. FlexRadio is recognized worldwide for its high-performance, PowerSDR™ software.

www.flexradio.com

CDRX-3200

DESCRIPTION	MIN	TYP	MAX	<u>UNITS</u>	Notes
Two Tone 3rd Order Dynamic Range	100	105		dB	100Hz tone spacing, 500Hz Detection Bandwidth, Pre-amp OFF
Intercept Point IP3 (Pre-amp OFF)	+30	+36		dB	100Hz tone spacing
Intercept Point IP3 (Pre-amp ON)	+14	+16		dB	100Hz tone spacing
Intercept Point IP2	+60			dBm	
Noise Figure (Pre-amp OFF)			20	dB	
Noise Figure (Pre-amp ON)			10	dB	
Image Rejection	80	100		dB	Single tone, any tone spacing (Requires Wide Band Image Rejection Software)
Non-blocking Spurious Free Dynamic Range	120	125		dB	2kHz spacing
Phase Noise (Reciprocal Mixing)		-140		dBc/Hz	10kHz offset @ 14MHz

Receiver Specifications

Channels **Frequency Range**

Conversion

Bandwidths

DDS Clock

ADC Sampling Rate

ADC Resolution

Data I/O Format

100kHz to 100 MHz in 250mHz steps (Undersampling above 71 MHz) Direct conversion quadrature baseband sampling (Flex-CMQSD[™] technology) 6 kHz, 15 kHz, 200 kHz 200 ksps 24 bit

1 to 32

Integrated GPS Engine

GPS Receiver Type

GPS Antenna Gain

GPS Antenna Voltage **GPS** Antenna Connector (GPS Antenna Not Included)

Electrical

Input Voltage Range

Input Frequency Range Input Power Requirement Input Fuse Rating Input Connector Optional Low Voltage DC Input

Mechanical

RF Shielded Enclosure Height Width

Depth

Environmental

Operating Temp Range Optimal Performance Temp Range Operating Humidity

12-Channel GPS L1, 1575.42MHz, C/A 1.023MHz Timing-Optimized Receiver Active Antenna, 18dB to 36dB gain 3V / 5V Selectable **BNC Female**

85 - 265 VAC single phase or 120 - 370 VDC 47 - 63 Hz 150W Max 3A IEC 60320 - C14 Panel Mount 12VDC ± 5%

Rack Mountable 12" (7U Nominal Height) 17.75" (Nominal 19" Rack Mounting) 17.75" (Including front panel SMA connectors)

0 °C to +40 °C +10 °C to +30 °C

5% to 95%

F Fixed base operation GPS M Mobile operation GPS **CDRX** Channel Count

(Example: CDRX-3216-F)

© Copyright 2012 FlexRadio Systems. All Rights Reserved. CDRX-3200 is a trademark of FlexRadio Systems. VITA and the VITA logo are trademarks of VITA. Specifications are subject to change without notice. Export of the commodities described herein is strictly prohibited without a valid export license issued by the U.S. Department of State, Directorate of Defense Trade Controls, prescribed in the International Traffic in Arms Regulations (ITAR), Title 22, Code of Federal Regulation, Parts 120-130. Rev 006 4/1/2014

www.flexradio.com



FlexRadio Systems, 4616 W. Howard Lane, Suite 1-150, Austin, Texas 78728 +1-512-535-4713, Fax 512-233-5143

1 GHz Receiver Data Output 32-bits per channel streaming I/Q in VITA-49 format over UDP/IP

Ethernet

13.5Mb/s

1ns

1000Base-T (Gigabit)

Selectable by channel

VITA-49 style TCP/IP

Update over Ethernet

10 10 Slot Chassis 32 32 Slot Chassis

RJ45 Female

RJ45 Female

Data Output Transport

Bandwidth per channel Streaming data target Time Stamp Resolution **Control Interface Firmware Updates** Streaming Data I/O Connector **Control Connector**

Ordering Information

CDRX - aa bb - c