GaGe By VITREK

Ultra-Portable RF Signal Recorders

Real-Time Spectrum Analyzer Recording & Playback Systems

Ultra-Portable Spectrum Analysis Covering RF Frequencies up to 27 GHz with Real-Time Signal Recording Capabilities!

ABOUT US

Since 1987, GaGe is a worldwide industry leader in high-speed data acquisition solutions featuring a portfolio of the highest performance Digitizers, PC oscilloscope software, powerful SDKs for custom application development, and turnkey integrated PC-based measurement systems.

GaGe is a product brand of Vitrek, a USA fully accredited ISO 9001:2015 quality certified and ISO 17025 calibration certified company.

VITREK MADE IN USA

APPLICATIONS

Wideband Signal Spectrum Analysis
Wideband Stimulus / Response Test
Satellite Communications Test
Radar Design and Test
Electronic Warfare (EW) Test
Signals Intelligence (SIGINT)
Spectrum Monitoring
Ultrasound Imaging
Non-Destructive Testing (NDT)
Mass Spectroscopy
Time of Flight (ToF)
Light Detection and Ranging (LiDAR)
Life Sciences
Particle Physics

FEATURES

- 9 kHz to 8 GHz or 27 GHz RF Frequency Coverage
- Option 1 for 3 x Selectable IF Bandwidths – 100 / 40 / 10 MHz
- Option 2 for 3 x Selectable IF Bandwidths – 160 / 80 / 10 MHz
- Real-Time Signal Recording with External Digitizer via Thunderbolt 3
- Windows Spectrum Analyzer with Real-Time Signal Recording & Monitoring
- Integrated Operational Control of Both Downconverter Receiver & Digitizer
- Analysis Displays Include: Time Domain, Frequency Spectrum, Power Spectrum, Constellation, Spectrogram, Persistence, and Histogram
- Actively Monitor Displayed Snapshots During Real-Time Live Recordings
- Flexible Signal Recording Output Filename Management Parameters
- File Span Recording Splits Long Recordings into Multiple Size-Specified Files
- Signal Recording Duration by File Size, Elapsed Time, or Both
- Easy Import of Recording Files into 3rd Party Apps with Raw Binary Data
- Ability to Save and Load Specified Setup Configuration Settings
- Playback Monitoring Viewing of Entire Signal Recordings to Active Displays
- Programming-Free GUI Operation; No Programming Skills Required

Ultra-Portable RF Signal Recorders

Real-Time Spectrum Analyzer Recording & Playback Systems

Overview

Today's high-band signal standards are using higher frequencies and wider bandwidths than ever before for applications such as next generation 5G wireless services, satellite communications, electronic warfare, and more.

These real-time spectrum analyzer solutions feature ultra-portable configurations for real-time, long-term recording of RF signals. Wideband signals up to 27 GHz with up to 160 MHz bandwidth cover a wide range of radio spectrum bands for a variety of applications that can be captured for real-time analysis or signal recordings.

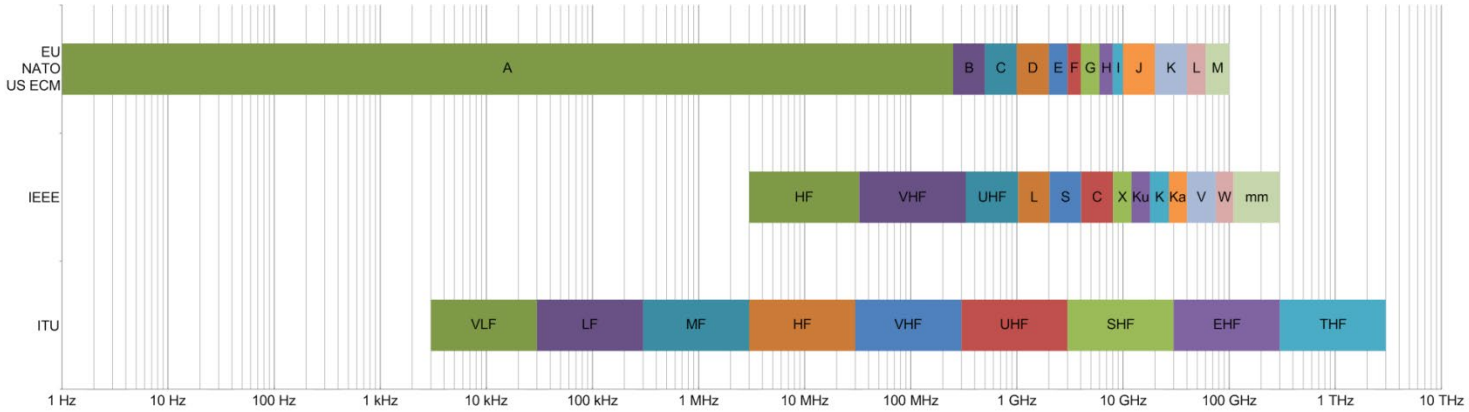
The system-based package configuration employs an ultra-portable measurement controller, an Ethernet connected RF downconverter, and an external Thunderbolt hosted 16-bit digitizer that together weigh approximately 10.8 kg / 24 lb.

Windows based spectrum analyzer application allows for integrated operational control of both the downconverter receiver and the digitizer for signal capture, analysis, recordings with no programming required.

Controller + Downconverter + Thunderbolt Digitizer

- System Receiver Control via Gigabit Ethernet
- External Thunderbolt 16-Bit Digitizer for Capture
- Real-Time Signals up to 160 MHz Bandwidth
- Gap-Free Continuous Recordings up to 160 MHz BW
- Total Ultra-Portable System Solution Weight of ~24 lb.

Radio Band Designation Standards & RF Downconverter Coverage

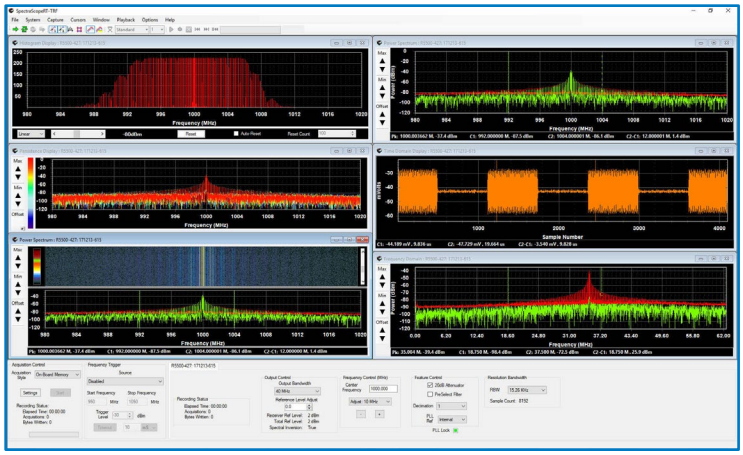


Downconverter Radio Band Standards Coverage	 **DCA08G** **9 kHz to 8 GHz**	 **DCA27G** **9 kHz to 27 GHz**
EU, NATO, US ECM:	A (from 9 kHz), B, C, D, E, F, G, H	A (from 9 kHz), B, C, D, E, F, G, H, I, J, K (up to 27 GHz)
IEEE:	HF, VHF, UHF, L, S, C	HF, VHF, UHF, L, S, C, X, Ku, K
ITU:	ELF (from 9 kHz), SLF, ULF, VLF, LF, MF, HF, VHF, UHF, SHF (up to 8 GHz)	ELF (from 9 kHz), SLF, ULF, VLF, LF, MF, HF, VHF, UHF, SHF (up to 27 GHz)

Ultra-Portable RF Signal Recorders

Real-Time Spectrum Analyzer Recording & Playback Systems

SpectraScopeRT Overview



SpectraScopeRT is a Windows based spectrum analyzer application that requires no programming and allows for integrated operational control of both the downconverter receiver and the digitizer for signal capture, analysis, recordings. Any tuner, downconverter, or receiver with an IF output or a virtual receiver is supported.

SpectraScopeRT provides the ability to save established settings to a configuration file that can be opened and applied, thus saving time from manually re-applying settings for repetitive configurations.

Analysis displays include Time Domain, Frequency Spectrum, Power Spectrum, Constellation, Spectrogram, Persistence, and Histogram. Multiple display type windows can be opened and shown simultaneously with auto tile and cascade options or manually sized and placed as desired.

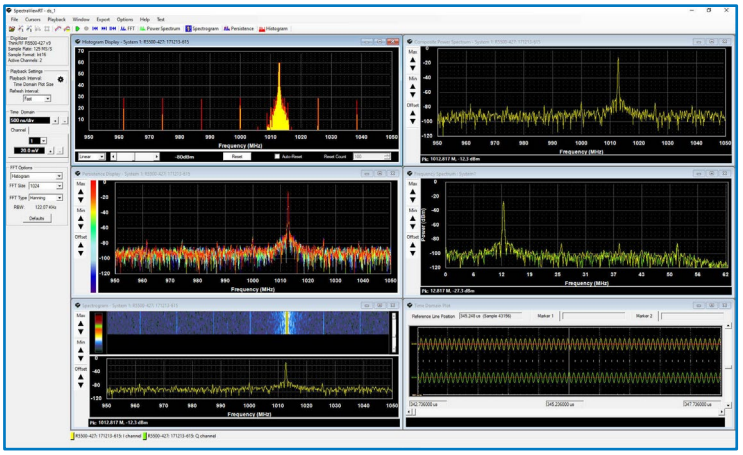
Display windows include support for scope cursors to navigate through the display and obtain measurements. Cursor Track Mode can be enabled to lock the position of the two placed cursors. When locked, the spacing between cursors remains constant as they are moved through the display of data.

The primary advantage of SpectraScopeRT is the ability to conduct real-time streaming signal recordings to drive storage with provided monitoring capability to ensure the recording process is operating with expected signal data and without errors.

The non-proprietary file format of the raw binary data file allows for other 3rd party software applications to import and utilize the data easily, with associated separate XML-based header files that contain the context information on the data file.

Multiple systems running the SpectraScopeRT Server option can be accessed and operated as remote nodes with a single user interface over an Ethernet network with the Remote Client option. This is beneficial in cases where multiple systems, that may be dispersed in different locations, need to have acquisition and/or recording operations controlled without physical attendance at each system. A script editor can also be used in conjunction with script execute actions to design an automation sequence for targeted operations.

SpectraViewRT Overview



SpectraViewRT is a Windows based application that allows an operator to open/view and conduct playback of previous signal recordings to the display monitor for analysis.

Viewing file details will display the details of the opened signal recording present in the header file associated with the recording data file for review. It includes basic information about the recording, applied digitizer model information, applied receiver model information, and settings utilized for the recording with total elapsed time duration of the recording file.

The various display types for Time Domain, Frequency Domain, Spectrogram, Persistence, and Histogram can all be effectively utilized for playback operations.

Playback operations utilize familiar navigation toolbar buttons for starting playback, stopping playback, stepping backwards and forwards, and moving back to start, and for playback looping when the time domain data will loop from the end of the file back to the beginning when the end of file is reached.

SpectraViewRT provides an Export Split File feature to facilitate taking a large signal recording file and splitting it into smaller sized files for ease of manipulation and management. This feature is especially useful for transferring smaller data file sizes that contain only the data of particular interest for review, rather than the entire original large signal recording file size.

The main recording file can be split into smaller files based on file size, recording duration, samples, or number of split files. Each segmented/split file contains a binary recording file as well as a corresponding header file that defines the content of the split file.

Ultra-Portable RF Signal Recorders

Real-Time Spectrum Analyzer Recording & Playback Systems

RF Downconverter: A-27-Series DCA08G / DCA27G

These RF Downconverter models feature breakthrough input frequency and bandwidth coverage for their size. Its width and length are less than a sheet of paper, weighing only 2.7 kg / 6 lbs. and consuming only 19 to 25 W of power.

Two RF frequency ranges from 9 kHz to 8 GHz or 27 GHz are available with two optional bandwidth configurations that each supply three software selectable bandwidth modes: Zero IF (ZIF), Super-Heterodyne (SH), or Super-Heterodyne Narrow (SHN):

Bandwidth Mode	Option 1 Bandwidth	Option 2 Bandwidth
ZIF (Zero IF)	100 MHz @ 0 Hz IF	160 MHz @ 0 Hz IF
SH (Super-Heterodyne)	40 MHz @ 35 MHz IF	80 MHz @ 55 MHz IF
SHN (Super-Heterodyne Narrow)	10 MHz @ 35 MHz IF	10 MHz @ 35 MHz IF

The ZIF, SH and SHN modes support a tuning resolution of 10 Hz. Digital frequency shifting is then used to enhance the tuning resolution to the nearest 1 Hz (±0.23 Hz) with an embedded Numerically Controlled Oscillator (NCO).

The Downconverter's front-end processing blocks utilize up to 21 pre-select filters to mitigate input-related spurs and image responses and a pre-amplifier feature for the higher 27 GHz model:

Downconverter Model	Pre-Select Filter Bank	Pre-Amplifier Feature
DCA08G (9 kHz to 8 GHz RF Input)	9-Channel Switchable	No
DCA27G (9 kHz to 27 GHz RF Input)	21-Channel Switchable	Yes

User configurable sophisticated capture control combined with fast deep caching enables fast signal searches, sweeps, triggering and captures of only the signals of interest.

For wide bandwidth applications, the IF analog outputs can be externally digitized utilizing the Downconverter's I and Q outputs.

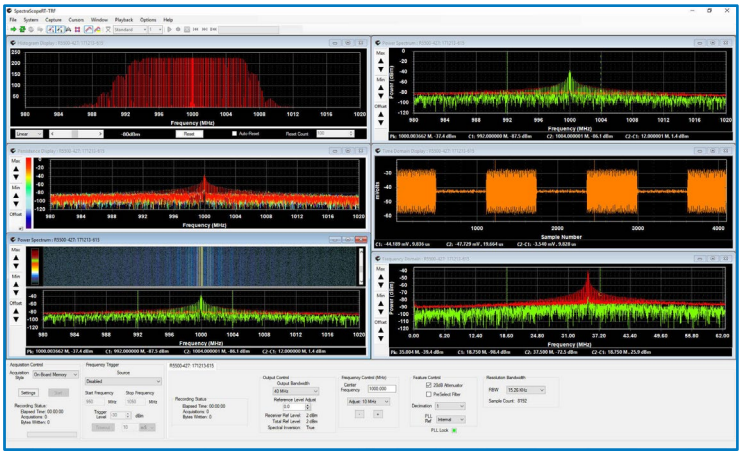
External Thunderbolt 3 Digitizers

For such wideband use cases, an external high-speed Digitizer is supplied within a Thunderbolt 3 PCIe expansion box that is connected to the controller host Thunderbolt port supporting the PCIe interface.

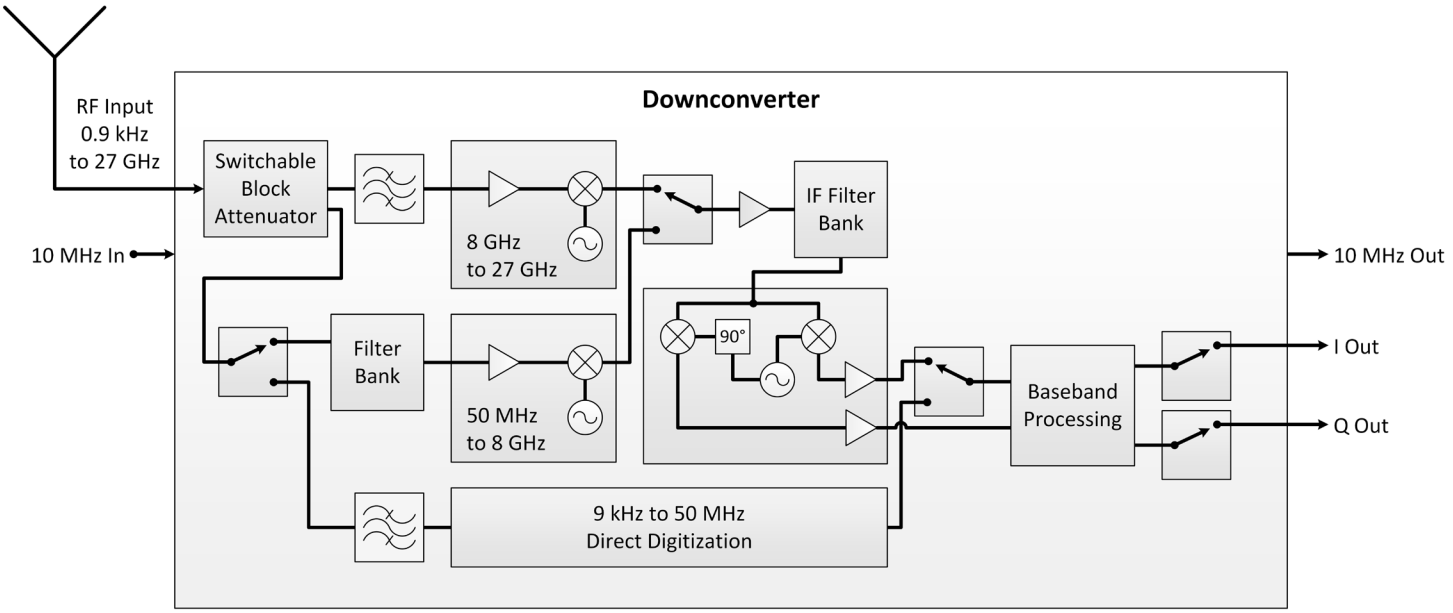
External multi-channel Digitizers with 16-bit A/D sampling rates up to 500 MS/s are available for use with the DCA08G or DCA27G Downconverter models. The large onboard FIFO memory of the external Digitizers allows for real-time streaming of I and Q baseband signals via PCI Express (PCIe) over the Thunderbolt 3 interface to the controller's memory for post processing, display, and storage.

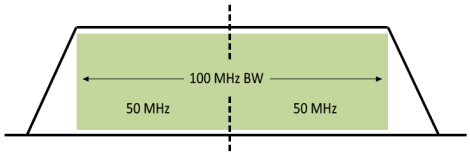
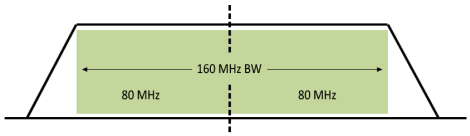
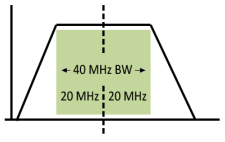
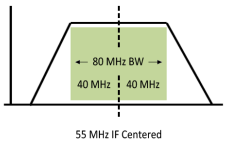
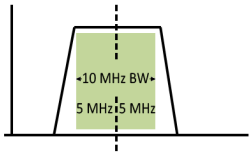
The 4-channel RazorMax Express models can support two downconverter receivers in baseband Zero IF mode (using both I & Q outputs) or four downconverter receivers in Super-Heterodyne or Super-Heterodyne Narrow mode (using I output only). 10 MHz reference inputs and outputs on both the digitizers and downconverter receivers provide a single frequency reference for synchronized system performance.

The spectrum analyzer software, SpectraScopeRT, requires no programming and allows for integrated operational control of both the downconverter receiver and the digitizer for signal capture, analysis, recordings.



Block Diagram and Bandwidth Mode Figures for A-27-Series: DCA08G / DCA27G

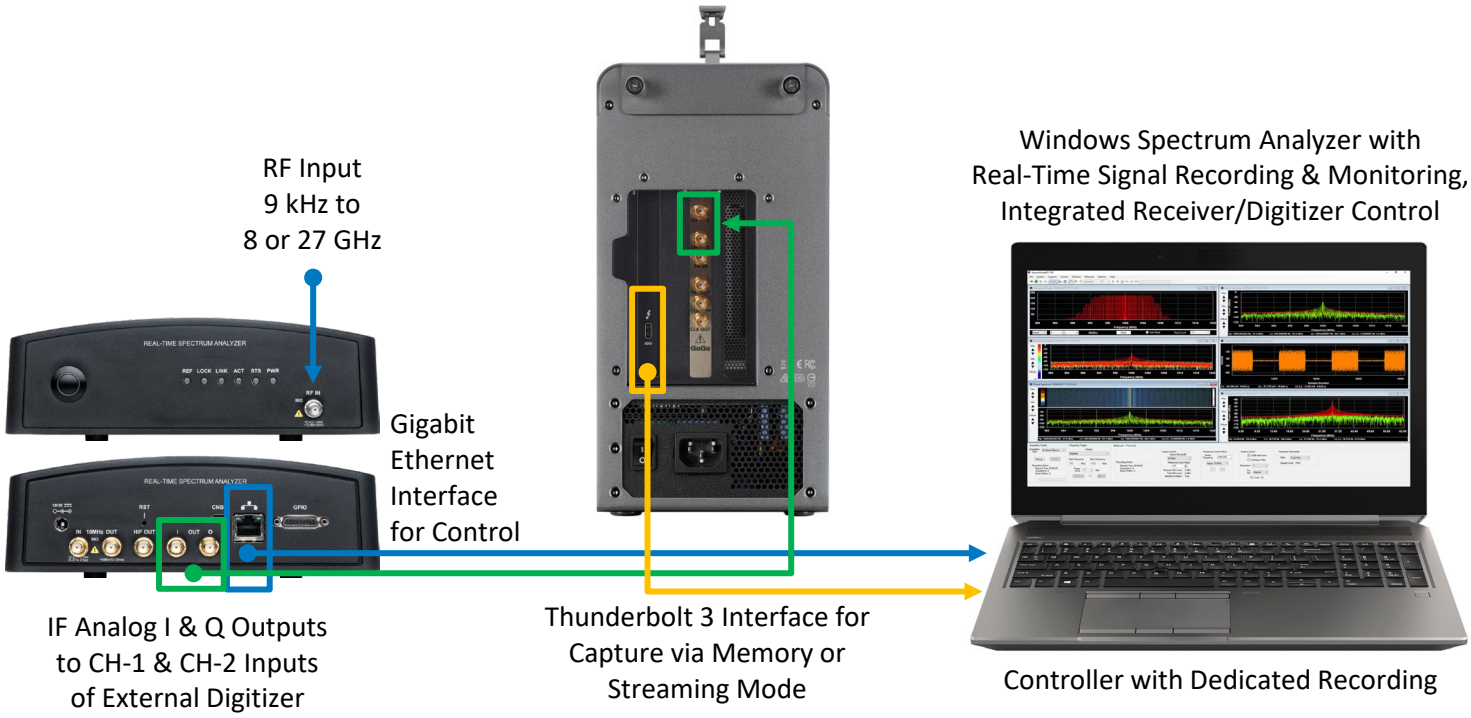


Downconverter Bandwidth Modes			
Bandwidth Mode	Bandwidth Mode Description	Model Option Bandwidth	Bandwidth Figure
ZIF (Zero IF)	In the widest bandwidth mode of operation, the downconverter is configured as a direct conversion receiver. In this mode the analog signal is present on both the I and Q outputs and each output is band-limited to 80 MHz. The final IF signal is centered at DC (0 Hz) and available on both the I and Q outputs. To process this signal, a dual-channel digitizer with a sampling rate of at least 200 MS/s to capture 100 MHz bandwidth or 250 MS/s to capture 160 MHz bandwidth is required. Direct conversion receivers typically have artifacts such as DC and IQ offsets. While DC offset correction is to a large extent managed within the hardware, IQ offsets must be corrected in software. API sample code is provided to accomplish this for custom developed software. SpectraScopeRT includes these software corrections without any required programming.	Option 1: 100 MHz @ 0 Hz IF	
		Option 2: 160 MHz @ 0 Hz IF	
SH (Super-Heterodyne)	When the receiver is in super-heterodyne mode, the analog output is present on the I output only and the final IF signal is centered at either 35 MHz or 55 MHz. To process this signal, a single-channel digitizer with a sampling rate of at least 200 MS/s to capture 40 MHz bandwidth or 250 MS/s to capture 80 MHz bandwidth is required.	Option 1: 40 MHz @ 35 MHz IF	
		Option 2: 80 MHz @ 55 MHz IF	
SHN (Super-Heterodyne Narrow)	When the receiver is in the narrower super-heterodyne mode, the analog output is present on the I output only and the final IF signal is centered at 35 MHz. The narrower bandwidth filter offers better rejection of adjacent signals and provides the best spurious performance of all available modes. To process this signal, a single-channel digitizer with a sampling rate of at least 100 MS/s to capture 10 MHz bandwidth is required.	Option 1 & 2: 10 MHz @ 35 MHz IF	

Ultra-Portable RF Signal Recorders

Real-Time Spectrum Analyzer Recording & Playback Systems

Overview for Wide Bandwidth Applications



Downconverter with External Digitizer ADC Operational Rates and Modes									
Operating Receiver Bandwidth Mode	Operating Receiver Bandwidth **(MHz)**	Operating Receiver Center IF **(MHz)**	Operating Receiver IF Analog Outputs	Operating Digitizer Analog Inputs	Operating Digitizer Sample Resolution	Operating Digitizer ADC Rate **(MS/s)**	Operating Transfer Modes Supported	Operating Transfer Data Rate **(MB/s)**	Streaming Mode Continuous Samples Recording Maximum Duration Time*
SHN: Option 1 & Option 2	10	35	I Only	CH-1	16-Bit	100	Memory or Streaming	200	1 TB: 1 h, 23 m, 20 s 2 TB: 2 h, 46 m, 40 s 4 TB: 5 h, 33 m, 20 s 6 TB: 8 h, 20 m, 00 s
SH: Option 1	40	35	I Only	CH-1	16-Bit	200	Memory or Streaming	400	1 TB: 0 h, 41 m, 40 s 2 TB: 1 h, 23 m, 20 s 4 TB: 2 h, 46 m, 40 s 6 TB: 4 h, 10 m, 00 s
SH: Option 2	80	55	I Only	CH-1	16-Bit	250	Memory or Streaming	500	1 TB: 0 h, 33 m, 20 s 2 TB: 1 h, 06 m, 40 s 4 TB: 2 h, 13 m, 20 s 6 TB: 3 h, 20 m, 00 s
ZIF: Option 1	100	0	I & Q	CH-1 & CH-2	16-Bit	200	Memory or Streaming	800	1 TB: 0 h, 20 m, 50 s 2 TB: 0 h, 41 m, 40 s 4 TB: 1 h, 23 m, 20 s 6 TB: 2 h, 05 m, 00 s
ZIF: Option 2	160	0	I & Q	CH-1 & CH-2	16-Bit	250	Memory or Streaming	1,000	1 TB: 0 h, 16 m, 40 s 2 TB: 0 h, 33 m, 20 s 4 TB: 1 h, 06 m, 40 s 6 TB: 1 h, 40 m, 00 s

GaGe By VITREK

Ultra-Portable RF Signal Recorders

Real-Time Spectrum Analyzer Recording & Playback Systems

DCA08G / DCA27G Downconverter Specifications

Tuning and Bandwidth

Input Frequency Range	Model DCA08G: 9 kHz to 8 GHz Model DCA27G: 9 kHz to 27 GHz
Tuning Resolution with Analog IF Outputs	10 Hz
Option 1 Instantaneous Bandwidth Modes (Software selectable)	ZIF: 100 MHz @ 0 Hz IF SH: 40 MHz @ 35 MHz IF SHN: 10 MHz @ 35 MHz IF
Option 2 Instantaneous Bandwidth Modes (Software selectable)	ZIF: 160 MHz @ 0 Hz IF SH: 80 MHz @ 55 MHz IF SHN: 10 MHz @ 35 MHz IF

Spurious Free Dynamic Range (SFDR)

@ 160 / 100 MHz Bandwidth	60 dBc (typical)
@ 80 / 40 / 10 MHz Bandwidth	70 dBc (typical)

Frequency Reference

Internal/External	10 MHz
Internal 10 MHz Oscillator Stability	±1 ppm

Amplitude

Accuracy from 50 MHz to 27 GHz, at 25 °C ± 5 °C	±2.00 dB (typical)
Measurement Range	DANL to max. safe input level
Attenuator Range	0 to 30 dB in 10 dB steps (at input) 0 to 30 dB in 10 dB steps (IF attenuation)
Max. Safe RF Input Level	+10 dBm, Max DC: 10 V

Third Order Intercept (TOI) at Max Gain

At 1 GHz	+12 dBm (typical)

Pre-Selection Filter Bank

8 GHz Model – DCA08G	9-Channel Switched
27 GHz Model – DCA27G	21-Channel Switched

Panel Connectors

RF Input	SMA Female, 50 Ω
10 MHz Reference In & Out	SMA Female, 50 Ω
Analog I and Q Out	SMA Female, 50 Ω
HIF Out	SMA Female, 50 Ω
10/100/1000 Ethernet	RJ-45
USB 2.0 Console	Type B Mini
GPIO	25-pin Male D-Subminiature
Coaxial Power	Type A: 5.5 mm OD, 2.5 mm ID

RF PLL Phase Noise at 1 GHz (using internal 10 MHz reference)

Frequency Offset	1 kHz	10 kHz	100 kHz	1 MHz
RF PLL Phase Noise Typical	-93 dBc/Hz	-98 dBc/Hz	-106 dBc/Hz	-120 dBc/Hz

Displayed Average Noise Level (DANL) at 25 °C ± 5 °C

Frequency	8 GHz (typical)	27 GHz (typical)
100 MHz	-157 dBm/Hz	-160 dBm/Hz
500 MHz	-155 dBm/Hz	-159 dBm/Hz
1 GHz	-156 dBm/Hz	-159 dBm/Hz
2 GHz	-154 dBm/Hz	-153 dBm/Hz
3 GHz	-152 dBm/Hz	-157 dBm/Hz
4 GHz	-151 dBm/Hz	-162 dBm/Hz
5 GHz	-150 dBm/Hz	-158 dBm/Hz
6 GHz	-149 dBm/Hz	-157 dBm/Hz
7 GHz	-150 dBm/Hz	-155 dBm/Hz
8 GHz	-144 dBm/Hz	-161 dBm/Hz
9 GHz	N/A	-161 dBm/Hz
10 GHz	N/A	-161 dBm/Hz
11 GHz	N/A	-160 dBm/Hz
12 GHz	N/A	-157 dBm/Hz
13 GHz	N/A	-157 dBm/Hz
14 GHz	N/A	-154 dBm/Hz
15 GHz	N/A	-157 dBm/Hz
16 GHz	N/A	-157 dBm/Hz
17 GHz	N/A	-156 dBm/Hz
18 GHz	N/A	-156 dBm/Hz
19 GHz	N/A	-149 dBm/Hz
20 GHz	N/A	-154 dBm/Hz
21 GHz	N/A	-153 dBm/Hz
22 GHz	N/A	-152 dBm/Hz
23 GHz	N/A	-153 dBm/Hz
24 GHz	N/A	-155 dBm/Hz
25 GHz	N/A	-153 dBm/Hz
26 GHz	N/A	-150 dBm/Hz
27 GHz	N/A	-148 dBm/Hz

Physical

Power Supply	Input AC 120V-240V / Output +12V
Power Consumption	19 W (8 GHz) / 25 W (27 GHz)
Operating Temperature Range	0°C to +50°C / 32° to 122° F
Storage Temperature Range	-40°C to +85°C / -40° to 185° F
Enclosure Dimensions	257.3 (L) x 193.7 (W) x 60 (H) mm 10.13 (L) x 7.63 (W) x 2.36 (H) inches
Weight	Model DCA08G: 2.54 kg / 5.6 lb. Model DCA27G: 2.72 kg / 6 lb.

Ultra-Portable RF Signal Recorders

Real-Time Spectrum Analyzer Recording & Playback Systems

Measurement Controller Base Specifications

Processor	Intel 12th Gen (Alder Lake) Core i7-12800HX Total 16-Cores/24-Threads, 25 MB L3 Cache, Performance: 8-Cores/16-Threads @ 2.0 GHz to 4.8 GHz Efficiency: 8-Cores/8-Threads @ 1.5 GHz to 3.4 GHz
Memory	Default: 16 GB Total: 2 x 8 GB DDR5 4800 MHz Option: 32 GB Total: 2 x 16 GB DDR5 4800 MHz Option: 64 GB Total: 2 x 32 GB DDR5 4800 MHz Option: 128 GB Total: 4 x 32 GB DDR5 4800 MHz
Operating System	Microsoft Windows 11 Professional 64-Bit
OS Drive	Default: 1 TB SSD, M.2 NVMe PCIe Gen4 x4 Interface (Fully Accessible via Removable Service Panel)
Recording Drive Volume	Default: 1 TB Total: 1 x 1 TB SSD, M.2 NVMe PCIe Gen4 x4 Option: 2 TB Total: 1 x 2 TB SSD, M.2 NVMe PCIe Gen4 x4 Option: 4 TB Total: 2 x 2 TB SSD, M.2 NVMe PCIe Gen4 x4 Option: 6 TB Total: 3 x 2 TB SSD, M.2 NVMe PCIe Gen4 x4 (Fully Accessible via Removable Service Panel)
Graphics	Integrated Intel UHD + Discrete NVIDIA RTX A1000
Display	16” Diagonal WUXGA WLED+LBL UWVA Anti-Glare for IR Webcam, 1920 x 1200, 400 Nits
Webcam	Integrated Infrared (IR) 5 MP, Dual Array Microphone
Keyboard	Full Size Numeric, Backlit, Spill-Resistant
Trackpad	3-Button Pad with Multi-Touch Gestures & Taps
HD Audio	Dual Stereo Speakers, Dual Array Digital Microphone
LAN	Intel I219-V Gigabit Ethernet
Wi-Fi	Intel Dual Band Wi-Fi 6E AX211 (2x2)
Bluetooth	Intel Bluetooth 5.2
Left Side Ports	Power Connector, 2 x Thunderbolt 4 Type-C (with Pass-Through Support of DisplayPort 1.4, USB 4, PCIe Gen3 x4), Mini DisplayPort 1.4 with Discrete, 1.2 with Integrated, HDMI 2.1 with Discrete, 2.0b with Integrated, SD 7.0 Media Card Reader
Right-Side Ports	Security Cable Slot, RJ-45 Gigabit Ethernet, 2 x USB 3.2 Gen1 (5 Gbps) Type-A (one charging), Stereo Microphone-In / Headphone-Out Combo Jack, Smart Card Reader
Power	230 Watt Slim PFC Smart AC Adapter
Battery	Long Life 95Whr Fast Charge 8 Cell Battery
Dimensions	Width: 363 mm / 14.29 in. Depth: 250.6 mm / 9.86 in. Height: 28.65 mm / 1.12 in.
Weight (Approx.)	2.44 kg / 5.40 lb.

Additional options and configurations are available.

External Thunderbolt 3 Digitizer Base Specifications

THUNDERBOLT™

Connecting Interface	1 x Thunderbolt 3 (USB Type C) Port
Connecting Cable	1 x Thunderbolt 3 USB-C Cable, 0.5m Length, Included
Data Transfer	PCIe Mode up to 4 GB/s Max.
PCIe Slot	1 x PCIe Gen3 x4 (x16 mechanical), Supports Full-Height Full Length (12.6 in / 320 mm) Single or Double Width PCIe Cards
Integrated Digitizer	1 x GaGe RazorPlus Express CSE50216: 16-Bit, 2-CH, 500 MS/s per CH Max., 300 MHz BW, 4 GS (8 GB) Onboard Memory, PCIe Gen3 x8, Connectors: • Channel 1 Input (CH1) : SMA • Channel 2 Input (CH2) : SMA • Trigger In (TI) : SMA • Trigger Out (TO) : SMA • Clock In (CI) : SMA • Clock Out (CO) : SMA
Cooling	1 x Internal Bottom Exhaust 120 mm High CFM Case Fan 1 x Internal Bottom Intake Power Supply Fan Side Mesh Panel for Cooling Air Intake/Exhaust
Power	1 x 650W Internal Power Supply Unit, Provides up to 75W to PCIe Slot, Available Two 8-Pin (6+2-Pin) PCIe Power Connectors Provides up to 585W PCIe Card Power, Input: AC 100-240V, 50Hz-60Hz Output: DC +12V/54A Ratings: CB, TUV, UL, EMC, FCC, CE, CCC, BSMI Appr.
Dimensions	Width: 135 mm / 5.31 in. Height: 357 mm / 14.06 in. Depth: 266 mm / 10.47 in.
Weight	Approximately: 5.44 kg / 12 lb.

Additional options and configurations are available.

Ultra-Portable RF Signal Recorders

Real-Time Spectrum Analyzer Recording & Playback Systems

GaGe Sales

Phone : (815) 838-0005
Email : sales-gage@vitrek.com

To find your local sales representative or distributor visit:

https://vitrek.com/sales-network

GaGe is a product brand of Vitrek, a USA fully accredited ISO 9001:2015 quality certified and ISO 17025 calibration certified company.

Corporate Headquarters

Vitrek, LLC
12169 Kirkham Rd.
Poway, CA 92064
USA

Office Locations

900 N. State St.
Lockport, IL 60441
USA

325 Washington Ave Extension
Albany, NY 12205
USA

1 Provost, Suite 200
Lachine, QC, H8S 4H2
Canada

Warranty

Standard two years parts and labor.

Unless otherwise specified, all dynamic performance specifications have been qualified on engineering samples. All specifications are subject to change without notice.

Datasheet Revision 3 – 05/19/2023

ORDERING INFORMATION

Order Part # Key:	#1	–	#2	#3	–	#4	#5	#6	#7	#8	–	#9
Order Part # Example:	UDA	–	27	2	–	A	A	A	D	A	–	A
Order Part # Example Description:	Ultra-Portable Downconverter A-Series System, 27 GHz RF Downconverter & Selectable BW Modes of 160 / 80 / 10 MHz, Laptop with i7-12800HX CPU, 16 GB RAM, 1 TB OS, 6 TB Recording, A1000 GPU, Thunderbolt Digitizer with 16-bit, 2-CH, 500 MS/s per CH Max.											

Select for #1	Base System Series
UDA	Ultra-Portable Downconverter A-Series System

Select for #2	Downconverter RF Input Frequency Coverage
08	DCA08G Model: 9 kHz to 8 GHz | with 9-CH Pre-Select Filter Bank, No Pre-Amplifier
27	DCA27G Model: 9 kHz to 27 GHz | with 21-CH Pre-Select Filter Bank & Pre-Amplifier

Select for #3	Downconverter Bandwidth Modes Configuration
1	Option 1: 100 MHz @ 0 Hz IF, 40 MHz @ 35 MHz IF, 10 MHz @ 35 MHz IF
2	Option 2: 160 MHz @ 0 Hz IF, 80 MHz @ 55 MHz IF, 10 MHz @ 35 MHz IF

Select for #4	Controller System Processor Configuration
A	Intel 12th Gen (Alder Lake) Core i7-12800HX, Total 16-Cores/24-Threads, 25 MB L3 Cache, Performance: 8-Cores/16-Threads @ 2.0 GHz to 4.8 GHz Efficiency: 8-Cores/8-Threads @ 1.5 GHz to 3.4 GHz

Select for #5	Controller System Memory Configuration
A	16 GB Total: 2 x 8 GB DDR5 4800 MHz
B	32 GB Total: 2 x 16 GB DDR5 4800 MHz
C	64 GB Total: 2 x 32 GB DDR5 4800 MHz
D	128 GB Total: 4 x 32 GB DDR5 4800 MHz

Select for #6	Controller System OS Drive Configuration
A	1 TB SSD, M.2 NVMe PCIe Gen4 x4 Interface

Select for #7	Controller System Recording Drive Configuration
A	1 TB Total: 1 x 1 TB SSD, M.2 NVMe PCIe Gen4 x4
B	2 TB Total: 1 x 2 TB SSD, M.2 NVMe PCIe Gen4 x4
C	4 TB Total: 2 x 2 TB SSD, M.2 NVMe PCIe Gen4 x4
D	6 TB Total: 3 x 2 TB SSD, M.2 NVMe PCIe Gen4 x4

Select for #8	Controller System Discrete Graphics Configuration
A	NVIDIA RTX A1000

Select for #9	External Thunderbolt PCIe Digitizer Configuration
A	GaGe RazorPlus Express CSE50216 | 16-Bit, 2-CH, 500 MS/s per CH Max.