



## C-VIT – the rugged, ultra-compact high speed camera

**Hi-G-rated for 150+ G, ready to be used in the most severe environments. A robust high resolution camera for demanding applications in research and development.**

The C-VIT is particularly suited for all applications where a compact, portable, high resolution and robust camera is essential. The highly light-sensitive sensor and on-the-fly image processing in the camera covers the most ambitious application. The C-VIT is designed and certified to withstand G-forces in excess of 150 G/10 msec (all axes) and spikes of up to 200 G. Offering a wide range of signals for external control or feedback on camera status during tests, the C-VIT is a genuine all-in-one camera. To round it all up, the comprehensive Imaging Studio software allows easy piloting from PC, laptop or tablet PC.

### Unique features and benefits

- **Superior image quality** – C-VIT built-in on-the-fly image processing provides crisp clear images.
- **Ultra compact and all in one** – C-VIT is an ultra-compact camera ready to shoot in rugged environments.
- **WLAN** – C-VIT is available with WLAN connectivity.
- **Extensions** – Extensions such as CFast Flash Disk, microSD, or HDMI output on camera are available.

# C-VIT – Key Specifications

## Typical frame rates vs resolution

	2048	1920	1280	1024	900	800	640	512	256
2048	570	610	840	990	1140	1220	1450	1770	2650
1080	1080	1160	1590	1890	2150	2320	2740	3340	4990
1024	1140	1220	1670	1990	2270	2440	2880	3520	5250
900	1290	1390	1910	2260	2580	2780	3280	4000	5970
800	1450	1570	2140	2540	2900	3120	3680	4490	6690
720	1620	1740	2380	2820	3220	3470	4090	4990	7420
700	1660	1790	2440	2900	3310	3560	4200	5120	7620
600	1940	2090	2850	3380	3860	4150	4900	5970	8870
480	2420	2610	3560	4220	4810	5180	6100	7420	11010
512	2270	2440	3330	3950	4500	4850	5710	6950	10320
320	3620	3890	5300	6280	7150	7690	9050	11000	16210
256	4500	4850	6600	7800	8890	9550	11230	13610	20000

Table shows typical resolution vs. fps, Resolution is freely adjustable within limitations of camera/sensor

## Recording time (modulated)

<b>Memory Size</b>	1.3 GB	2.6 GB	5.2 GB	10.4 GB
<b>1920 x1080 @1000 fps</b>	1 sec	2 sec	4 sec	8 sec

## Optical/Sensor specifications

<b>Image Sensor</b>	CMOS Sensor
<b>Pixel Size</b>	6.3 micron
<b>Light Sensitivity</b>	ISO 2100 (monochrome), ISO 1400 (color)
<b>Dynamic Range</b>	8 Bit
<b>HDR Mode</b>	High Dynamic Range Mode (HDR) up to 10 Bit, user adjustable by slider in control software
<b>Pixel Correction</b>	Built-in pixel correction and in-camera processing for highest image accuracy
<b>Shutter Type</b>	Global, independent of frame rate
<b>Exposure Time</b>	Free adjustable from 2 µsec to 1 / framing rate by software
<b>Lens Mount</b>	C-Mount or optional F-Mount

## Camera and control features

<b>Image Memory</b>	Standard: 1.3 GB, optional 2.6 / 5.2 / 10.4 GB
<b>Nonvolatile Memory</b>	Optional CFast flash card interface and micro SD disk slot. Camera can save image data on flash disk w/o PC attached, ideal when using WiFi for piloting camera
<b>Power</b>	10–36 VDC / 17–20 Watts depending on options and extensions
<b>I/O Tolerance</b>	TTL level, all I/O are 0–24 V tolerant
<b>LED Control</b>	LEDs on back and front indicates camera status
<b>Reset</b>	Reset function to reset camera status w/o affecting image memory
<b>Power On/Off</b>	Switch on/off, Remote Switch on
<b>Battery 180° Version</b>	Re-chargeable NiMH battery inside for up to 30 min autonomous operation of camera, depending on options installed
<b>Trigger Delay</b>	Programmable up to 65 sec
<b>Trigger Windowing/De-bouncing</b>	User programmable trigger window to eliminate false triggering by external devices
<b>Trigger Modes, Positions</b>	Pre-post recording, freely adjustable in steps of 1% of total camera memory
<b>Timing</b>	High precision time base, temperature compensated
<b>Multi-Buffer</b>	Split buffer for up to 32 individual sub-buffers
<b>Auto-Download</b>	Auto download to PC for 24/7 recording or automatic download to optional flash card until flash card full
<b>Pre-Program of Camera</b>	C-VIT may be pre-programmed with a specific set of commands. Ideal when camera can no longer be accessed before test and switch on is possible only by remote switch on
<b>OSD</b>	Information on camera, recording features, time stamp, and event marker may be added in image data. Position of OSD is set by user

## Imaging studio features

<b>Imaging Studio</b>	Software suite to parameterize and control camera, handle data download and conversion of native files into most common single images and movie formats. Runs on Win 7/10, 32/64 Bit
<b>Parameterization</b>	Set all camera parameters for recording by convenient and easy-to-use software interface supports graphical setting of resolution
<b>Display</b>	Display multiple cameras simultaneously
<b>Editing</b>	Play back, edit and save sequences after recording with few clicks
<b>OSD (on screen display)</b>	OSD with camera parameters
<b>Overlay</b>	Overlay of recorded image with user adjustable opacity
<b>Point &amp; click</b>	Easy point and click measurement and manual tracking features
<b>Export</b>	Export of AOS native file format to avi, mpeg, mpeg4, bmp, tif, png, jpg
<b>Image Processing</b>	Manual or automatic color correction and white balance functionality
<b>Batch Converter</b>	Convert native files to movie files using off-line batch conversion

## Data interface

<b>Data Interface</b>	Gigabit Ethernet (10/100/1000) with lockable RJ45 connector Optional: Ethernet on 8 pin LEMO connector
<b>WiFi</b>	Optional: Wireless interface to setup and pilot camera 2,4 Ghz / 5 Ghz, 802.11a/g/n
<b>I/O Interface</b>	Solid 14 pin LEMO connector
<b>Synchronization</b>	Sync in / Sync out for phase-locked master-slave operation with other cameras or synchronization to external frequency
<b>Armed Out</b>	Armed out indicates camera is in recording mode and ready to receive trigger
<b>Trigger In</b>	Trigger input, rising, falling edge, TTL, switch closing/opening
<b>Triggered Out</b>	Indicates camera is triggered
<b>Set_To_Rec</b>	Used to set the camera from idle mode into recording
<b>Remote Switch On</b>	Switch on camera by simple 2 wire connection over a distance of up to 100 m (300 feet)
<b>Event Marker</b>	Event marker to record/mark events during image data acquisition
<b>Strobe</b>	Strobe out to synchronize external equipment to camera. Pulse width represents shutter time
<b>HDMI</b>	HDMI interface for live view on camera

## Physical specifications

<b>Size &amp; Weight</b>	width: 67 mm / height: 71 mm / length: 84 mm / 750 gr width: 2.63" / height: 2.79" / length: 3.30" / 1.5 lb
<b>Operating Temperature</b>	-10 ... +45 °C / +14 ... +113 °F
<b>Storage Temperature</b>	-40 ... +70 °C / -40 ... +158 °F
<b>Shock Resistance</b>	150 G / 10 msec all axis, spikes up to 200 G
<b>I/O Connector</b>	LEMO type ref. FGG.2B.314.CLAD72Z (cable type)
<b>CE</b>	In compliance with relevant standards
<b>Mounting</b>	¼" UNC thread, bottom / M6 mounting threads on 4 sides

## Optional extensions (change of camera size)

<b>IRIG-B</b>	IRIG-B 122 input	size unchanged
<b>Non-volatile storage devices</b>	CFast flash card interface Micro SD card slot	width / height / length: 67 mm / 71 mm / 100 mm 2.63" / 2.79" / 3.93"
<b>WiFi Interface</b>	Wireless interface to setup and piloting of camera	width / height / length: 67 mm / 71 mm / 100 mm 2.63" / 2.79" / 3.93"
<b>HDMI</b>	HDMI interface on camera	width / height / length: 67 mm / 71 mm / 100 mm 2.63" / 2.79" / 3.93"
<b>Extended Temperature Range</b>	Inquire	Size unchanged regardless of extensions Installed

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