

M-VIT 4000

High Speed Camera



Imaging for smart decisions...

Record when it happens!
Never be too late!



Speedy image quality

1280 x 800 pixel
at up to 4000 fps M-VIT
delivers crisp clear
images with speed.



Non volatile 64GB flash memory

Imminent backup of
recording data to flash
memory.
Never lose image data.



Built-in g-shock sensor

Built in g-sensor for direct
in camera triggering.
Levels adjustable
by software.



Extensions

Extensions such as
CFast Flash Disk or
HDMI output on camera
are available.

M-VIT 4000 – the rugged, ultra compact high speed camera

- **High-G-rated for up to 200g and taking 4000 fps, ready to be used in the most severe environments.**
- **A robust high resolution camera for demanding applications in research and development.**

M-VIT is particularly suited for all applications where a compact, portable, high resolution and robust camera with extra speed is essential. The highly light-sensitive sensor covers the most ambitious application. The M-VIT is designed and certified to withstand G-forces in excess of 150g/10ms all axes and spikes of up to 200g without CFast option. Offering a wide range of signals for external control or feedback on camera status during tests, the M-VIT is a genuine all-in-one-camera.

Built-in non volatile 64GB flash memory automatically saves a copy of each live recording for data redundancy, this is crucial for critical tests that cannot be repeated. To round it all up, the comprehensive Imaging Studio software allows easy piloting from PC, laptop or tablet PC.



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M-VIT 4000 | Key Specifications

Typical frame rates vs resolution

1280	864	3716 fps
1280	800	4010 fps
1280	720	4451 fps
1280	512	6222 fps
1280	256	12'207 fps

Maximum speed 220'000 fps, within limitations of sensor

Recording time

Memory Size	4 GB	8 GB	16 GB
1280 x 800 @ 1000 fps	4 sec	8 sec	16 sec

Optical/Sensor specifications

Image Sensor	CMOS sensor
Pixel Size	14 microns
Sensor Format	4/3" 17.92 x 12.09 mm
Light Sensitivity	ISO 10'000 (monochrome), ISO 6000 (color) with no gain
Gain	3 gain settings available, adjustable by software
Dynamic Range	Mono 10 Bit / Color 30 Bit
Shutter Type	Global, independent of frame rate
Exposure Time	Free adjustable from 1 µsec to 1 / framing rate by software
Lens Mount	C-Mount or optional EF/ F-Mount

Software and camera operation

Live Video	Live video out via Ethernet or when installed HDMI
Buffer Type	Circular buffer, parametrized by software
Number of Buffers	Up to 100 buffers, individually configurable by software
Trigger Modes	Pre-post recording, adjustable in steps of 1 frame, rising falling edge, delayed trigger, trigger debouncing Shock trigger (high g trigger)
Auto Exposure	Auto exposure for automatic brightness control
Auto Download	Auto download to PC or CFast card (CFast card optional)
Flash Backup	Automatic store of video data after trigger to flash memory.
Export Formats	Export in all popular movie and single image formats supported
Control SW	AOS Imaging Studio v4 for parametrization, recording, editing and exporting/converting of recordings included

Data interface

Data	Gigabit Ethernet RJ45 lockable
I/O	Solid 14 pin LEMO connector, compatible with all AOS camera series
I/O Tolerance	TTL compatible I/O, up to 24 V tolerant
Trigger In	Input for start stop recording, falling edge, switch closure
Armed Out	Armed out to indicate camera status ready for recording
Triggered Out	Indicates that trigger is received and camera finishes recording
Remote On	For remote switch on of camera
Sync In/Out	Sync in/out on camera
Strobe	Strobe out for synchronization of LED illumination
IRIG-B	IRIG-B 122 input for frame synchronization and time stamping
Power Requirements	10...36 V / 30 Watts
Analog inputs	Two analog inputs for recording status signals synchronized to recording

Options and add-on

Camera Memory	4 GB, 8 GB or 16 GB
Battery	Rechargeable battery for up to 12 mins operation lasting long enough to dump 16GB data to flash memory when power is not available
Video Out	HDMI video out on camera
Non-volatile Memory	Removable CFast interface with auto download functionality
ChillBox	For longer offboard use without passive cooling via metal surface use the camera mounted in the ChillBox (part of scope of supply)
C-F-Mount Adapter	For F-Mount lenses, with dial for F-stop
C-EF-Mount Adapter	For EF-Mount lenses, remote control of Focus and aperture
Single Connector Interface	Single push-pull interface according German «Arbeitskreis»

Physical specifications

Size & Weight	width: 75 mm / height: 75 mm / length: 75 mm / 910 gr width: 2.95" / height: 2.95" / length: 2.95" / 1.4 lb
Operating Temperature	-10 ... + 45 °C / +14 ... +113 °F
Storage Temperature	-40 ... +70 °C / -40 ... +158 °F
Shock Resistance	200g / 11msec all axis for configuration without CFast interface 150g / 11msec all axis, spikes up to 200g with CFast interface according EN60068-2-27:2009
I/O Connector	LEMO type ref. FGG.2B.314.CLAD72Z (cable type)
CE	In compliance with relevant standards
Mounting	¼" UNC thread, bottom / M6 mounting threads on 4 sides

System configuration and optional extensions

Model/Extension	M-VIT 400	M-VIT 4000 with battery	M-VIT 4000 with CFast/HDMI output
Battery Time	No backup battery	12 min	12 min
Size	75 x 75 x 75 mm	75 x 75 x 107 mm	75 x 75 x 124 mm



Please check technical camera manual for detailed information

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Specifications are subject to change without prior notice – v01.2022