## L-VIT 1000 – the rugged, ultra-compact high speed camera

**Hi-G-rated for 150+ G, Full HD @ 1000 fps, ready to be used in the most severe environments.**
**A robust high resolution camera for demanding applications in research and development.**

The L-VIT 1000 is particularly suited for all applications where a compact, portable, high resolution and robust camera is essential. The highly light-sensitive sensor covers the most ambitious application. The L-VIT 1000 is designed and certified to withstand G-forces in excess of 150 G /11 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 L-VIT 1000 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** – with 1920 x 1080 Full HD resolution at up to 1000 fps L-VIT 1000 delivers crisp clear images.

• **Ultra compact and all in one** – L-VIT 1000 is an ultra-compact camera ready to shoot in rugged environments.

• **Sensitivity** – very light sensitive sensor.

• **Extensions** – Extensions such as CFast card or HDMI output on camera are available.

## Typical frame rates vs resolution

| 1920 | 1080 | 1000 fps |
|------|------|----------|
| 1920 | 720 | 1500 fps |
| 1920 | 540 | 2000 fps |
| 1920 | 256 | 4000 fps |

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

## Recording time

| Memory Size | 2 GB | 4 GB | 8 GB | 16 GB |
|-------------|------|------|------|-------|
| 1920 x1080 @1000 fps | 0.9 sec | 1.8 sec | 3.6 sec | 7.2 sec |

## Optical/Sensor specifications

| | |
|---|---|
| Image Sensor | CMOS Sensor |
| Pixel Size | 10 micron |
| Light Sensitivity | ISO 8000 (monochrome), ISO 3600 (color) |
| Dynamic Range | Adjustable 8/10 Bit |
| Shutter Type | Global, independent of frame rate |
| Exposure Time | Free adjustable from 2 µsec to 1 / framing rate by software |
| Lens Mount | C-Mount or optional F-Mount |

## Camera and control features

| | |
|---|---|
| Image Memory | 2 GB standard up to 16 GB optional |
| Nonvolatile Memory | Optional CFast card interface. Camera can save image data on flash disk w/o PC attached |
| Power | 10–36 VDC / 25–30 Watts depending on options and extensions |
| I/O Tolerance | TTL level, all I/O are 0–24 V tolerant |
| LED Control | LEDs on back and front indicates camera status |
| Reset | Reset function to reset camera status w/o affecting image memory |
| Power On/Off | Switch on/off, Remote Switch on |
| Battery | Refer to system configuration and optional extensions |
| Trigger Delay | Programmable up to 65 sec |
| Trigger Windowing/ De-bouncing | User programmable trigger window to eliminate false triggering by external devices |
| Trigger Modes, Positions | Pre-post recording, freely adjustable in steps of 1 frame of total camera memory |
| Timing | High precision time base, temperature compensated |
| Multi-Buffer | Split buffer for up to 100 individual buffers |
| Auto-Download | Auto download to PC for 24/7 recording or automatic download to optional CFast card |
| Pre-Program of Camera | L-VIT 1000 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 |
| OSD | 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

| | |
|---|---|
| Imaging Studio | 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 |
| Parameterization | Set all camera parameters for recording by convenient and easy-to-use software interface supports graphical setting of resolution |
| Display | Display multiple cameras simultaneously |
| Editing | Play back, edit and save sequences after recording with few clicks |
| OSD (on screen display) | OSD with camera parameters |
| Overlay | Overlay of recorded image with user adjustable opacity |
| Point & Click | Easy point and click measurement and manual tracking features |
| Export | Export of AOS native file format to avi, mpeg, mpeg4, bmp, tif, png, jpg |
| Image Processing | Manual or automatic color correction and white balance functionality |
| Batch Converter | Convert native files to movie files using off-line batch conversion |

## Data interface

| | |
|---|---|
| Data Interface | Gigabit Ethernet (10/100/1000) with lockable RJ45 connector Option: 18 pin LEMO connector with all signals |
| I/O Interface | Solid 14 pin LEMO connector Option: 18 pin LEMO connector with all signals |
| Synchronization | Sync in / Sync out for phase-locked master-slave operation with other cameras or synchronization to external frequency |
| Armed Out | Armed out indicates camera is in recording mode and ready to receive trigger |
| Trigger In | Trigger input, rising, falling edge, TTL, switch closing/opening |
| Triggered Out | Indicates camera is triggered |
| Set_To_Rec | Used to set the camera from idle mode into recording |
| Remote Switch On | Switch on camera by simple 2 wire connection over a distance of up to 100 m (300 feet) |
| Event Marker | Event marker to record/mark events during image data acquisition |
| Strobe | Strobe out to synchronize external equipment to camera. Pulse width represents shutter time |
| IRIG-B | IRIG-B 122 input |

## 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 | 150 G / 11 msec all axis, spikes up to 200 G according EN 60068-2-27:2009 |
| 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 | L-VIT 1000 | L-VIT 1000 with 10 min battery | L-VIT 1000 with 10 min battery and CFast / HDMI output |
|-----------------|------------|--------------------------------|--------------------------------------------------------|
| Battery time | No backup battery | 10 min | 10 min |
| Size | 75 x 75 x 75 mm | 75 x 75 x 107 mm | 75 x 75 x 124 mm |

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AOS Technologies AG

# L-VIT 2500
## High Speed Camera

Record when it happens!
Never be too late!

**AOS Technologies AG**

**Imaging** for smart decisions…

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**Superior image quality**
1920 x 1080 Full HD resolution at up to 2500 fps L-VIT delivers crisp clear images.

**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.

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## L-VIT 2500 - the rugged, ultra-compact high speed camera

- **Hi-G-rated for up to 200g, Full HD @ 2500 fps, ready to be used in the most severe environments.**

- **A robust high resolution camera for demanding applications in research and development.**

The L-VIT is particularly suited for all applications where a compact, portable, high resolution and robust camera is essential. The highly light-sensitive sensor covers the most ambitious application. The L-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 L-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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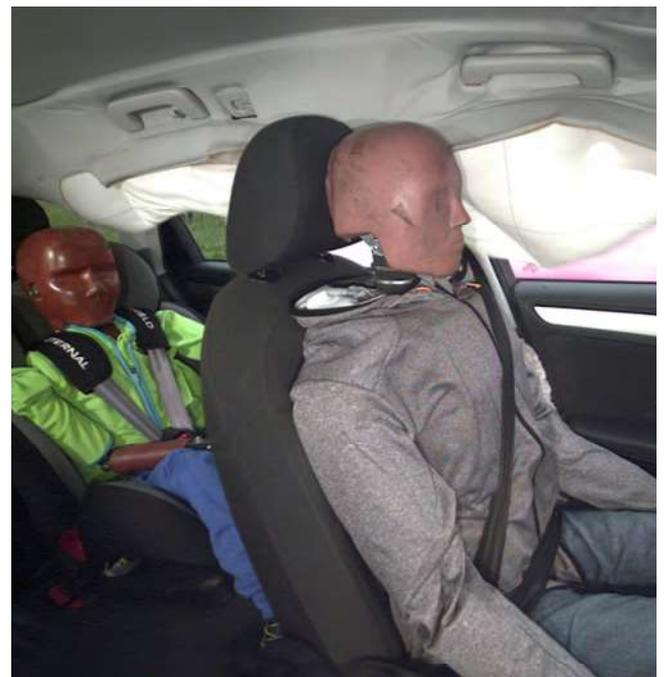
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## Typical frame rates vs resolution

| 1920 | 1080 | 2500 fps |
|---|---|---|
| 1920 | 800 | 3360 fps |
| 1920 | 720 | 3740 fps |
| 1920 | 536 | 5000 fps |
| 1920 | 260 | 10'100 fps |

Maximum speed 195'600 fps, within limitations of sensor

## Recording time

| Memory Size | 4 GB | 8 GB | 16 GB |
|---|---|---|---|
| 1920 x1080 @ 1000 fps | 2 sec | 4 sec | 8 sec |

## Optical/Sensor specifications

| Image Sensor | CMOS sensor |
|---|---|
| Pixel Size | 10 microns |
| Sensor Format | 4/3" 19.20 x 10.80 mm |
| Light Sensitivity | ISO 8000 (monochrome), ISO 6000 (color) without 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<br>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 synchronisation 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 |
| 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<br>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<br>150g / 11msec all axis, spikes up to 200g according EN 60068-2-27:2009 with CFast interface |
| 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 | L-VIT 2500 | L-VIT 2500 with battery | L-VIT 2500 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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