

X-EMA high-speed camera

- Compact and rugged (100 G and harsh vibration)
- Gigabit Ethernet data interface
- No dedicated camera controller necessary
- Image-while-recording
- Built-in battery
- Stand-alone operation
- Flash card memory (optional)
- Certified according to MIL standards (certification pending)



Image shows X-EMA with optional CF+ extension

Similar to the new AOS X-VIT, the X-EMA offers similar features and functions, but is designed and built for the most demanding environmental conditions.

Key features

- Gigabit Ethernet data interface (other data interfaces available on request).
- Image-while-recording: Live image visible while camera is in record mode.
- Shockproof up to 100 G/15 msec.
- Built-in rechargeable battery with a capacity of 6 hours in standby mode (preview, playback) or 1 hour in record mode.
- Optional Compact Flash card memory (up to 8GB).
- 4 status input / output lines for integration of external status signals.
- Burst mode for multiple-session recording.
- Selectable dynamic level for best image quality.
- Auto-save function for automatic image data download after recording. Recording can be restarted after completion of download.
- AOS Imaging Studio PC application featuring on-screen display and time stamping (also IRIG-B), motion analysis and other practical functions.
- Ideal for extended environmental specs (vibration, temperature etc.)

Applications

The X-EMA is particularly suitable for all applications where a rugged, shockproof camera is essential:

- Airborne applications
- Range and ballistic tests
- Harsh industrial environments where cameras are exposed to vibration, impacts, dust, moisture and other challenging conditions
- Automotive crash tests (full-size or sled)

Advantages

- Ultra-compact, fits tight spaces (aircraft, MIL vehicles)
- No bulky hub or controller necessary
- Stand-alone operation and built-in battery for maximum data security
- 1.3 Mpixel resolution for superior image quality
- User-selectable gain control
- Rugged, all-metal aluminum housing
- IRIG-B time stamping (optional)



Software

All X-EMA cameras come complete with AOS Imaging Studio. This PC application is also compatible with previous AOS cameras.

Although very easy to use, AOS Imaging Studio offers the powerful features necessary for the most demanding applications.

X-EMA cameras are also supported by camera control network software such as FALCON Xtra and others.

Motion analysis functions (manual) for point-and-click measuring.

On-screen display allows text (or your logo) to be added to each frame of the image sequence.

Time stamp function (optional) marks every frame with a time stamp. IRIG-B time stamping available on request.

Extensions

Optional CF+ slot allows use of extensions such as Compact Flash memory or wireless connectivity modules.

X-EMA specifications

Sensor	1280 x 1024 pixels, color or monochrome.
Pixel size	12µm
Frame rate	500 fps at full resolution, up to 32,000 fps at reduced resolution.
Shutter time	4µsec – 1/fps, global shutter.
Dynamic range	30-bit color or 10-bit monochrome.
Gain control	User selectable for best image quality according to illumination and required sequence length: 10-bit: high image contrast / high sensitivity / shorter sequence. 8-bit: normal image contrast / lo / mid / hi sensitivity / medium sequence. 5-bit: low image contrast / lo / mid / hi sensitivity / longer sequence.
Input / output	14-pin connector, heavy-duty type, lockable.
Inputs	12V DC, set-to-rec, trigger, synch in, remote on.
Outputs	Synch out, strobe out, armed.
In/output status lines	4 status lines, in- or output, TTL, user configurable.
Data interface	Gigabit Ethernet with click-type cable lock for data cable security.
Image memory	1.3 GB / 2.6 GB / 5.2 GB DRAM providing sequence lengths of 2, 4 or 8 sec. at full resolution, 500 fps and 8-bit dynamic level. Sequence length can be extended by reducing resolution and/or frame rate.
Temperature range	Operation: -30...+55°C, Storage: -30...+80°C
Housing	Rugged design featuring machined and anodized aluminum housing.
Shock resistance	Shockproof up to 100 G / 15 msec / 3 axes
Size / weight	71 x 71 x 121 mm / 980 g
Lens mount	C-mount. Adjustable back focus setting. Lens adapters (Nikon, others) available on request.
Camera mounts	Standard 3/8" thread with 1/4" insert. Additional M6 threads for secure mounting in Hi-G applications.
Approvals / Certification	In compliance with relevant standards.

Specifications are subject to changes without prior notice – v1205

Project engineering

- Design of turnkey systems
- Design of fully customized cameras
- Customized data interfaces (i.e. wireless or fibre-optic)
- Special protective housings (i.e. underwater, explosion-proof)

Accessories

- Trigger devices (incl. radio-controlled devices)
- CF+ extension slot
- Fiber-optic data interfaces
- Optical systems, lenses

Services

- Customizing (camera equipment and software)
- Warranty extensions
- Maintenance contracts
- Financing, leasing



AOS Technologies AG
Taefernstrasse 20
CH-5405 Baden-Daettwil
Switzerland
Phone +41 56 483 34 88
Fax +41 56 483 34 89
www.aostechnologies.com
Info@aostechnologies.com



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