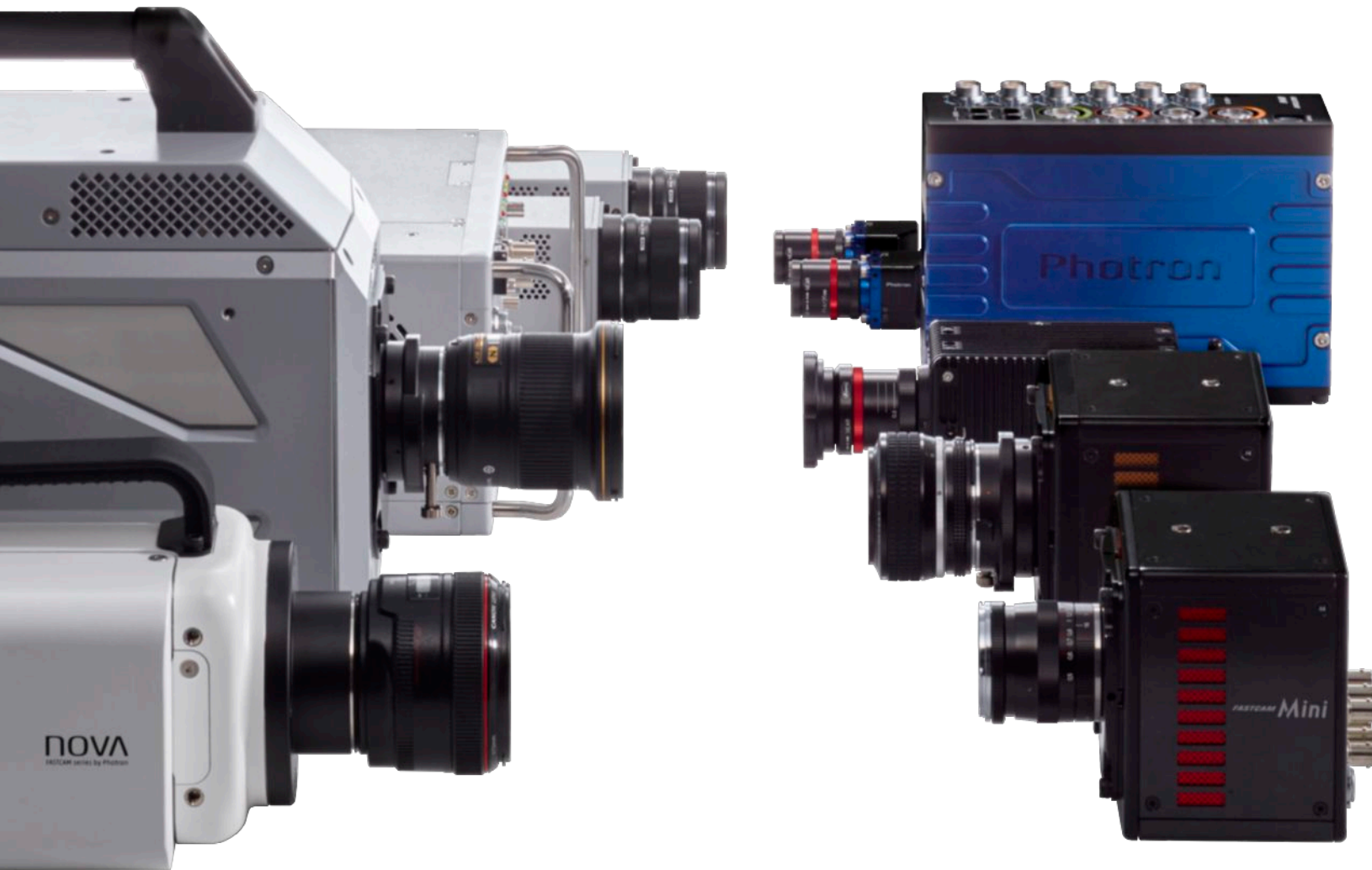


# Photron

FASTCAM PRODUCT SUMMARY



## ***FASTCAM* SERIES**

HIGH-SPEED IMAGING FOR SLOW MOTION ANALYSIS



| DESCRIPTION  | FASTCAM<br>SA-Z                                 | FASTCAM NOVA<br>S6 / S9 /S12 / S16           | FASTCAM NOVA<br>R2                | MINI AX<br>50/100/200         | MINI UX<br>50/100   | MINI WX<br>50/100       | FASTCAM<br>MINI CX                 | FASTCAM<br>MH-6  | FASTCAM<br>MULTI        |
|--|---|--|-----------------------------------|-------------------------------|---------------------|-------------------------|------------------------------------|--|-------------------------|
| Speed at full image resolution   | 20,000  | 6.4K / 9K / 12.8K / 16K                      | 1,440                             | 2K / 4K / 6.4K                | 2,000 / 4,000       | 750 / 1,080             | 750 / 1,000                        | 750 / 1,000  | 4,800                   |
| Maximum image resolution (pixels)  | 1024 x 1024                                     | 1024 x 1024                                  | 2048 x 2048                       | 1024 x 1024                   | 1280 x 1024         | 2048 x 2048             | 1920 x 1400<br>1920 x 1080         | 1920 x 1400<br>1920 x 1080   | 1280 x 1024             |
| Maximum speed at reduced image resolution (fps)  | 2,100,000                                       | 800,000<br>900,000<br>1,000,000<br>1,100,000 | 100,000                           | 170,000<br>540,000<br>900,000 | 160,000<br>800,000  | 67,500<br>80,000        | 10,000                             | 9,586<br>12,427  | 750,000                 |
| Sensitivity (excluding IR response)<br>Mono (Color)  | 50,000<br>(20,000)                              | 64,000<br>(16,000)                           | 6,400<br>(2,000)                  | 40,000<br>(16,000)            | 10,000<br>(5,000)   | 6,400<br>(2,000)        | 10,000<br>(5,000)                  | 12,500<br>(5,000)  | 10,000<br>(5,000)       |
| Minimum shutter speed (μs)   | 1   | 1  | 1                                 | 1                             | 3.9                 | 2.7                     | 4                                  | 4  | 3.9                     |
| Free optional sub-microsecond shutter<br>□Subject to export control                          | 159ns   | 0.2μs  | 2.7μs                             | 260ns (AX200)                 | x                   | x                       | x                                  | x  | x                       |
| Memory capacity (Gigabytes)  | 32GB - 128GB                                    | 8GB - 64GB                                   | 8GB - 64GB                        | 8GB - 32GB                    | 8GB - 32GB          | 8GB - 32GB              | 8GB                                | 4GB / channel (6 heads) to<br>28GB / channel (single head) shared memory                             | 8GB - 32GB              |
| Base memory capacity (frames)  | 5,453   | 5,437  | 1,338                             | 5,457                         | 4,365               | 1,361                   | 3,860 (Full HD)                    | 1 camera head: 12,600<br>2 camera heads: 5,400<br>3-4 camera heads: 2,700<br>5-6 camera heads: 1,800 | 4,363                   |
| Recording duration (seconds) @ max<br>fps and full image resolution (with<br>minimum memory) | 0.27  | 0.85 / 0.61 / 0.43 / 0.34                    | 0.93                              | 2.73 / 1.36 / 0.85            | 1.09 / 0.54         | 1.81 / 1.26             | 3.86 (Full HD)                     | 1.8 (FHD 6 heads) to<br>12.6 (FHD single head)   | 0.91                    |
| Non-volatile storage   | 2x SD or 1TB external<br>FAST Drive             | 1TB or 4TB external<br>FAST Drive            | 1TB or 4TB external<br>FAST Drive | x                             | x                   | x                       | Removable CFast Card               | 512GB non-removable SSD  | 2TB external FAST Drive |
| Supports long record duration<br>(streaming)   | x   | x  | x                                 | x                             | x                   | x                       | x                                  | x  | ✓                       |
| Pixel size (μm)  | 20  | 20   | 10                                | 20                            | 10                  | 10                      | 6.6                                | 6.6  | 10                      |
| Bit-depth  | 12 / 8  | 12   | 12                                | 12                            | 12                  | 12                      | 10                                 | 8  | 12                      |
| Variable region of interest (ROI)  | ✓   | ✓  | ✓                                 | ✓                             | ✓                   | ✓                       | x                                  | x  | ✓                       |
| Multi-head support   | x   | x  | x                                 | x                             | x                   | x                       | x                                  | 6  | 2                       |
| Lens mounts  | Nikon F / G , EF, C                             | Nikon F / G , EF, C                          | Nikon F / G , EF, C               | Nikon F / G, EF, C, M42       | Nikon F / G, EF , C | Nikon F / G, EF, C, M42 | C                                  | C  | Nikon F / G, C, MFT     |
| Closed Case □Range Version□  | ✓   | ✓  | ✓                                 | x                             | x                   | x                       | ✓                                  | x  | ✓                       |
| High-G operation   | 25g   | 30g  | 30g                               | 100g                          | 100g                | 100g                    | 150g                               | 160g   | x                       |
| Fan Stop Function  | ✓   | ✓  | ✓                                 | ✓                             | ✓                   | ✓                       | Sealed body w/o fan                | x  | x                       |
| Gigabit Ethernet Connection  | ✓ (dual)  | ✓  | ✓                                 | ✓                             | ✓                   | ✓                       | ✓ (& WiFi)                         | ✓ (& USB3)   | ✓                       |
| PC-Less operation with keypad  | Optional  | x  | x                                 | x                             | x                   | x                       | x                                  | x  | x                       |
| Saved image formats  | BMP, TIFF, JPEG, PNG, RAWW, MRAW, AVI, MOV, MP4 |  |                                   |                               |                     |                         |                                    |  |                         |
| Supports Photron DAQ   | ✓   | ✓  | ✓                                 | ✓                             | ✓                   | ✓                       | ✓ incld. built-in<br>accelerometer | ✓ incld. built-in<br>accelerometer   | 2 channel, built-in     |



#### **Credibility and reputation through technological achievement**

Developments in advanced imaging technologies pioneered by Photron over the past 25 years are now being utilized in high-speed camera systems designed for a range of scientific and industrial applications. Photron has invested in the development of unique, advanced CMOS image sensors, the core technology of high-speed photography. Innovations in this area have led to a rapid increase in camera performance, allowing high-speed imaging to be applied to important new application areas.

#### **The highest quality design, manufacturing and support**

As an ISO9001:2008 certified manufacturer, Photron manufactures its full range of high-speed camera systems at its own facility located in Yonezawa City, Yamagata Prefecture, Japan. International technical support centers located in the USA, Europe, Japan, and China ensure fast and professional local support for Photron camera users around the world.

#### **Photron is a leading name worldwide in high-speed imaging**

Used in internationally renowned research facilities in more than 30 countries worldwide, Photron FASTCAM high-speed cameras are trusted to provide high quality results in the most challenging applications and environments. Photron continues to utilize the latest technological innovations to further advance product performance to meet the most demanding requirements from users around the world.

#### **High-speed imaging applications knowledge**

For more than 30 years, Photron has focused on the design and application of high-speed imaging products. Photron application engineers have a wealth of knowledge and experience in demanding imaging requirements and are able to advise both new and experienced users on high-speed imaging solutions and imaging techniques to achieve optimum results.

### **Photron Authorized Distributor**

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|             |   |
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