Mega Speed®

MS180K

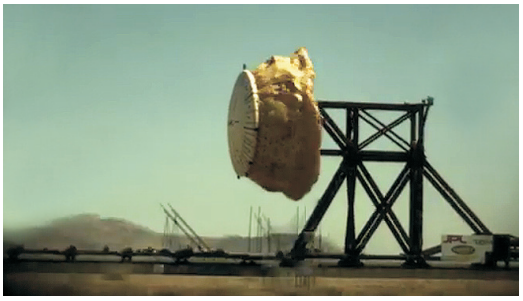
4K
HIGH SPEED CAMERA

Image Width	Image Height	Image Bit Depth	Record Time With 32GB RAM In Seconds	Record Time With 64GB RAM In Seconds	Maximum FPS
4096	2176	8	3.75	7.5	1000
3840	2176	8	3.1	6.2	1300
2560	2176	8	3.2	6.4	1900
1920	1080	8	4.75	9.5	3650
1536	1152	8	5.5	11	3450
1280	1024	8	6.75	13.5	3850
1280	736	8	7	14	5100
640	480	8	15	30	7300
4096	2176	10	3.75	7.5	800
3840	2176	10	3.25	6.5	1000
2560	2176	10	4.5	9	1000
1920	1080	10	7.5	15	2000
1536	1152	10	5.5	11	1850
1280	1024	10	10.5	21	2000
1280	736	10	11.5	23	2800
640	480	10	25	50	4100

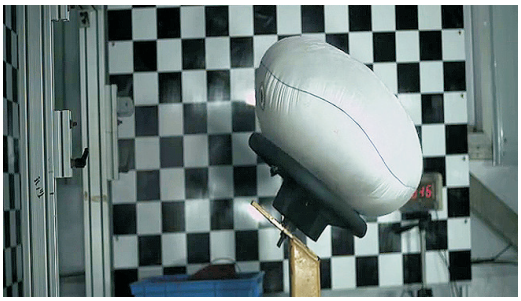


There is no speed increase if you reduce the sensor width. There is onlya speed increase if you reduce image height. Example. 1280 x 1024will have the same frame speed as 2560 x 1024. Record time will Increase however with the reduced image size of 1280 x 1024.

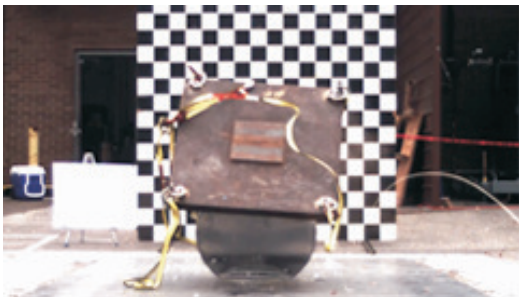
Sample Applications



Aerospace



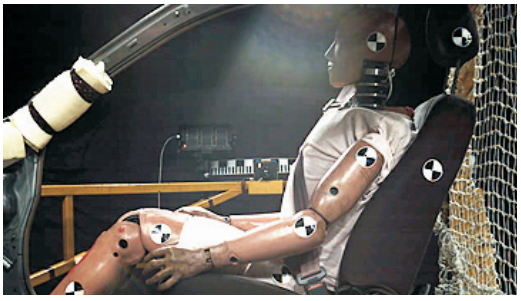
Automotive



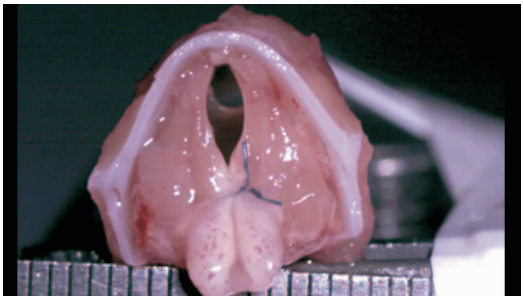
Drop Test



Aerospace



Automotive Testing



Biology Study

Https://www.megaspeedusa.com/

Ph#: 1-800-565-2772

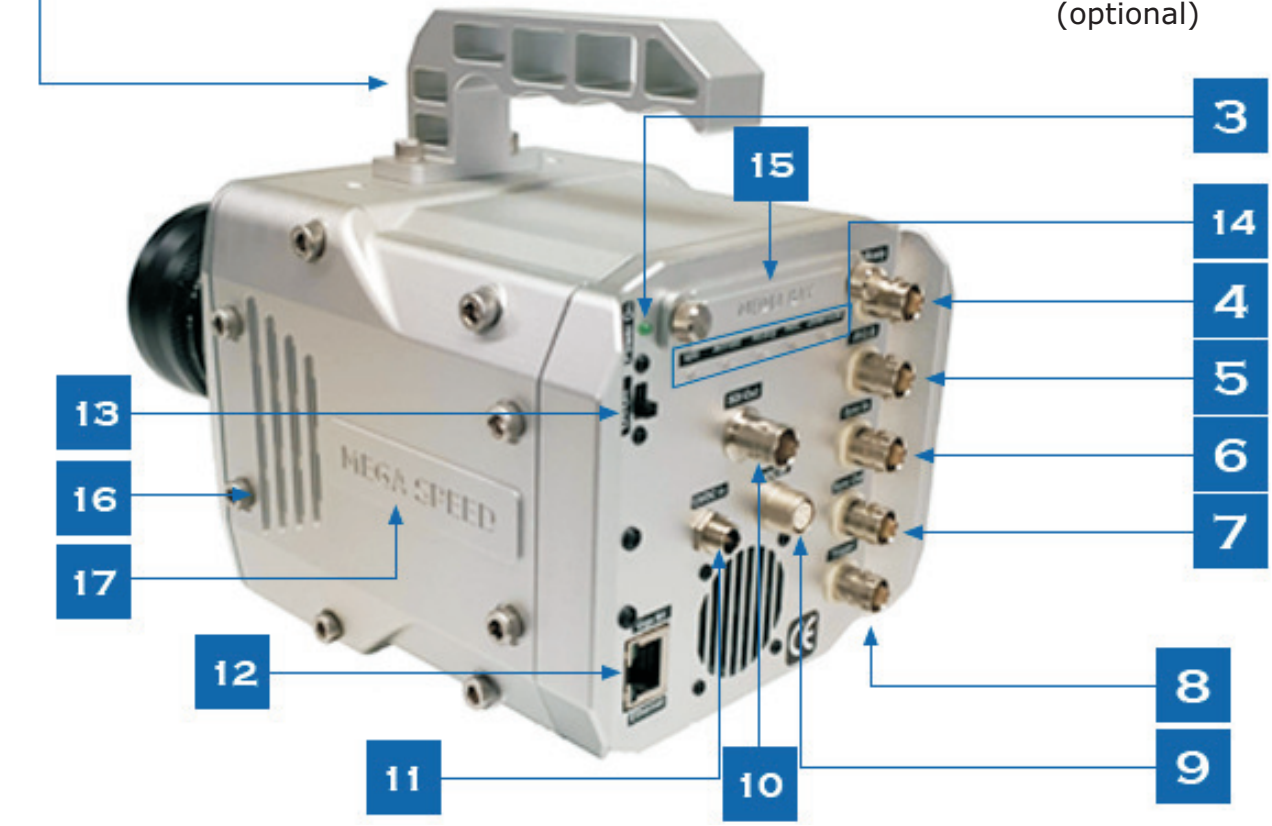
EM: sales@megaspeedusa.com

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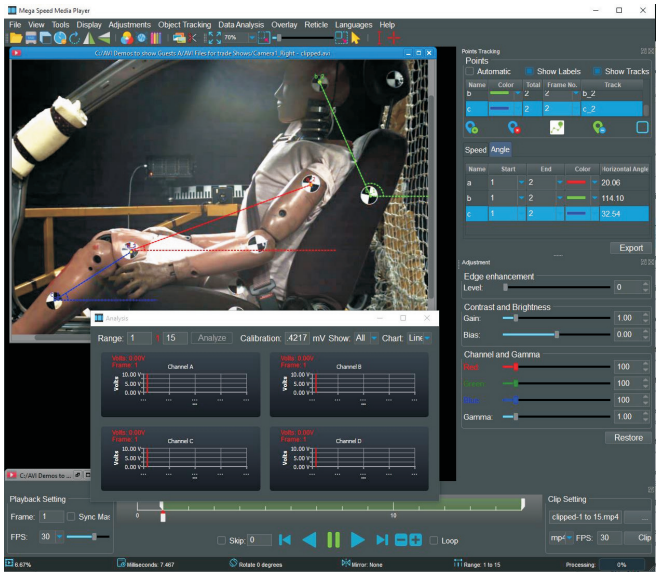
1: Handle
2: Standard "C" Mount
3: Power On LED
4: Ready Out
5: IRIG B
6: Sync In (optional)
7: Sync Out
8: Trigger
9: ADC-In
10: Spare Port
11: 12 VDC In
12: Gigabit Ethernet
13: Off/On
14: (Left to Right)
    Idle LED
    Armed LED
    Ready LED
    Record LED
    Download LED
15: Media Bay (optional)
16: Cooler Fan
17: Internal Lithium Batteries (optional)



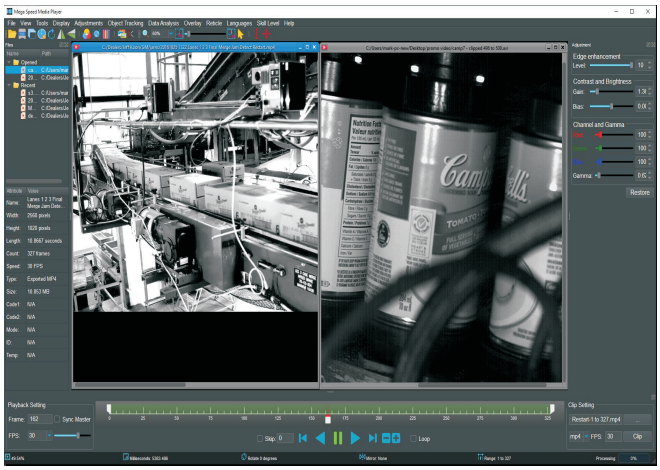
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MEGA SPEED®

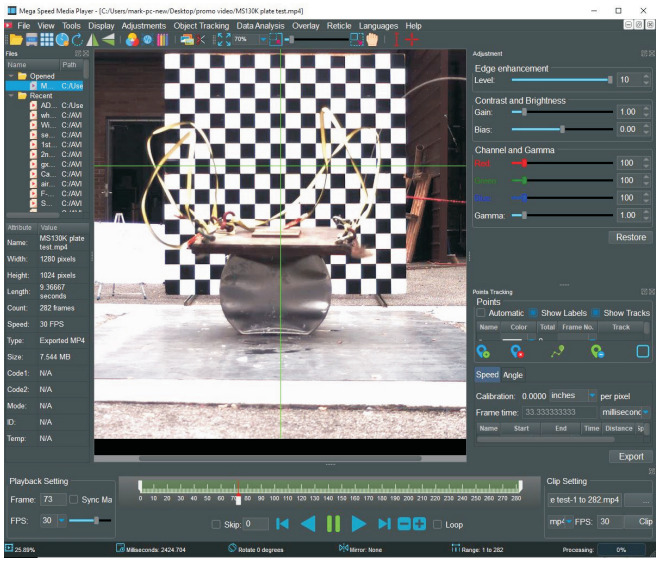
MS180K











Making Sense Of Your High Speed Image Data. The Included Mega Speed Media Player!

New Tools To Measure, Synchronize, Batch Process, Clip And Compress. The Fastest Video Analysing Work-Flow Available. Helping You Make Sense Of All Your High Speed Image Data. Free with every Mega Speed Camera.

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MEGA SPEED MS180K SPECIFICATIONS

Sensor Specifications And Exposure Control	▪ CMOS 4/3 image sensor. Available with either monochrome or color sensors ▪ 4096 x2176 pixels maximum resolution ▪ 4096 x 32 pixels minimum resolution ▪ 1000 fps maximum speed at 4096 x2176 pixels in 10 bit pixel data ▪ 1300 fps maximum speed at 3840 x2176 pixels in 8 bit pixel data ▪ Image size is software adjustable ▪ 4.5 µm x 4.5um pixel format ▪ Software adjustable global shutter down to 2 µs in 1 µs step ▪ Automatic electronic exposure control or manual exposure control ▪ Spectral response is 400nm to 1000nm peaking at 550nm ▪ Forced air cooled sensor with heat sink ▪ 69 dB Dynamic Range ▪ 67% Peak QE ▪ 10 bit pixel bit depth at full image size and maximum speed of 1000fps ▪ Average full well capacity 30,000e
Trigger Options	▪ 3.3 VDC to 24 VDC via BNC trigger jack Optional 3.3VDC to 48 VDC extended range ▪ 3.3 VDC Mega Speed trigger box Optional equipment ▪ Dry contact trigger control ▪ Software controlled manual trigger ▪ Software controlled automatic trigger ▪ Multiple start/stop trigger mode with auto stop when camera memory is full ▪ Pre/post trigger mode with full scale pre and post segment adjustment ▪ Segmented trigger mode with exposure, frame rate, file length & next segment control ▪ Single sequence trigger mode ▪ Snap Shot trigger mode for PIV calculations
Time Source And Synchronization	▪ By internal PC clock ▪ By external IRG time clock to camera IRIG BNC - user supplied ▪ Sync in to BNC connector from external clock source or master camera ▪ Sync out from BNC connector from pass through sync source or frame time ▪ Sync in to BNC connector from external IRIG source - user supplied ▪ 10 ns accurate time propagation delay ▪ 3.3 VDC ready out signal when camera is in armed status via ready BNC
Camera Inputs	▪ IRIG BNC connector ▪ Sync in BNC connector ▪ Multi channel data acquisition analog to digital connector for 0 to 10 VDC levels ▪ DC power supply jack ▪ 1 Gigabit RJ 45 jack for Gigabit camera control Optional 5 and 10 GB Ethernet connection
Camera Outputs	▪ Ready out BNC connector ▪ Sync out BNC connector ▪ Idle status LED ▪ Armed status LED ▪ Ready status LED ▪ Recording status LED ▪ Download status LED ▪ Power on status LED ▪ Battery charge status LED Optional when equipped with internal battery backup
Video Output	▪ Live stream to PC via Gigabit connection
Camera Input Protection	▪ Reverse input voltage protection ▪ ESD circuitry protection ▪ EMI shielding ▪ Camera temperature watch dog ▪ Camera voltage level indicator
Memory	▪ 64 GB internal SD RAM recording buffer

MEGA SPEED MS180K SPECIFICATIONS

	▪ High Speed re-moveable SSD Optional. 256 GB, 512 GB or 1TB
Camera Firmware	▪ Remote on-site firmware upgrade feature
Record Times	▪ 5 seconds at maximum frame rate and maximum image size saving 10 bit depth
PC Software Control	▪ Mega Speed Camera Control ▪ Windows 10 / 11 ▪ Software control for all camera functions (frame rate, exposure time, image size etc) ▪ Record to internal SDRAM ▪ Download rate control ▪ Auto-download and re-arm for next event ▪ Frame time, event and settings stamping ▪ Trigger glitch detection to remove false triggers
Video Editing Software	▪ Mega Speed Media Player ▪ Video playback and review ▪ Video file clipping and merging ▪ Vertical and horizontal cross hair reticules ▪ Thumbnail view ▪ MP4 video compression engine to compress edited files and for file sharing ▪ Gamma, white balance ▪ Image cropping and Image rotation ▪ Image export to JPEG, BMP, TIFF, DNG, AVI, H.264, MP4, RAW, MSV, PDF ▪ Compatible with other vendors software ▪ Video playback time base adjustment tool ▪ Basic object tracking , velocity and distance measurement ▪ Multi channel data analysis tools synchronized to video file
PC Requirements	▪ Modern day PC running Windows 10 /11 ▪ 1000GB minimum hard drive ▪ 32GB PC RAM ▪ 1 GB Ethernet chip-set ▪ 1 RJ 45 connection for GB connection to camera ▪ USB 2.0/3.0 USB ports ▪ CAT6 cable for camera connection ▪ Large monitor with 4K resolution
Lens Mount	▪ Nikon F mount Optional C mount, Canon, Pentax, etc.
Camera Size	▪ 4.5" x 4.9" x 7.35"
Camera Weight	▪ 4 lbs
Camera Body / Structure	▪ Machined aluminum frame anodized hard coat natural finish for low solar load. ▪ Compact efficient modern design ▪ Vented side ribs ▪ Heat sink and forced air cooling ▪ Convenient detachable top mount handle ▪ Convenient quick attach BNC and multi-pin rear connections ▪ Full function camera status LED indicators
Camera Mounts	▪ 5 -bottom1/4 x 20 tpi, threaded, 2 top 1/4 x 20 tpi both threaded 0.250 down
Camera Power Requirements	▪ 12 VDC 35 watts ▪ Internal battery Optional
Temperature / Shock Rating	▪ -5°C - to +40°C. 50G, 10ms, half sine wave, 4 axis, repeated. Optional 100G
Frame Rates	▪ Refer to the frame rate table
Included In the Box	▪ Camera ▪ Camera handle ▪ Camera tripod mounts ▪ BNC 2M patch cables and tees ▪ Dry contact trigger pickle switch ▪ 15' CAT 6 Ethernet cable

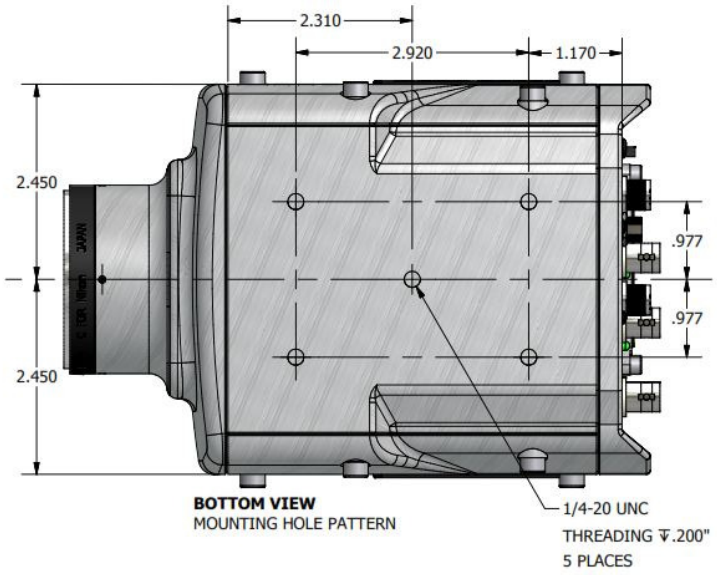
MEGA SPEED MS180K SPECIFICATIONS

	▪ Camera brick power supply ▪ Camera control software ▪ Media player software ▪ Sensor cleaning swabs ▪ Custom Soft Mega Speed camera bag ▪ Installation USB stick with install software and owner's manual
Available As An Option	▪ Color or monochrome image sensor ▪ Extended 3.3VDC to 48 VDC trigger input range ▪ 3.3 VDC Mega Speed trigger box ▪ NBASE 2.5 , 5.0 and 10 GB Ethernet connection ▪ Internal battery and charge status LED ▪ 1280 x 720 SDI 60 fps ▪ Solid state drive size (240 GB, 512GB or 1TB) ▪ F mount for Nikon, Canon, Pentax ▪ 10VDC to 36 VDC supply voltage ▪ ADC patch cable ▪ Lenses with various focal lengths ▪ Tri-pod ▪ LED work lights ▪ Hi G-Force cables and connectors
	Specifications and option availability subject to change without notice. Confirm with your sales representative before placing an order

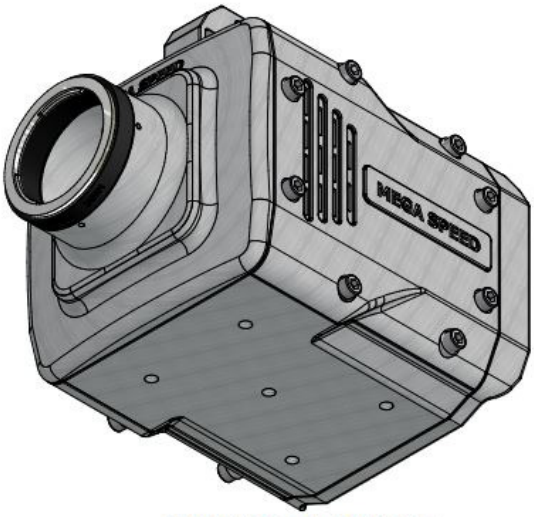
Notes: Available options are high-lighted in GRAY color.

Mechanical Dimensions

MEGA SPEED MS180K SPECIFICATIONS



BOTTOM VIEW
MOUNTING HOLE PATTERN



ISOMETRIC BOTTOM RIGHT



ISOMETRIC TOP RIGHT