MotionXtra™
HG 2000

The *Motion*Xtra HG 2000 camera system combines high frame rates and excellent resolution for high-performance digital imaging. Designed as a small, lightweight, self-contained camera, the *Motion*Xtra HG 2000 does not require an accompanying processor. The camera is rated to 100 g in any axis and is specifically designed for severe environmental conditions. Features include recording rates from 30 to 2000 frames per second, continuous recording with variable pre and post trigger, and an RS-170 output for both live and playback video. A control-panel lockout feature secures the camera setup for such severe environments as automotive crash sled, airborne, and range applications. In any environment, digital images can be stored during download in compact (Bayer) or 24-bit color TIFF formats. 100 Mbps Ethernet® communication is a standard feature, providing remote control communication and fast image transfer for multiple cameras from a PC.

SNAPSHOT

Rugged design
Withstands punishing environments up to 100 g in any axis.

Unique antiblooming control
Captures surrounding scenes even when looking directly into flood lamps.

Built-in electronic shutter
Eliminates motion blur to provide sharp images.

Variable exposure
Allows from 23 to 983 µsec at 1000 full fps. 5-µsec-increment exposures.

Rear-panel control
Permits stand-alone operation. Provides easy operator access to such features as exposure, frame rate, and playback controls.

Storage flexibility
Stores images on a PCMCIA type II/III hard drive or solid-state memory card. Provides digital download directly to a PC. Allows future detailed analysis using a notebook or desktop computer.

1-800-462-4307

REDLAKE MASD, INC

Motion Xtra
HG 2000

Performance Specifications

Resolution:	512 x 384 photosensitive pixels
Images:	24-bit color
Blooming protection:	>100x for 1-ms exposure @ 1000 fps
Exposure rates:	Electronic shutter variable from 23 to 983 µsec @ 1000 full fps, in 5-µsec increments
Dynamic range:	48 dB @ 25°C ambient temperature
Recording rates:	NTSC = 2000 partial fps; 1000, 500, 250, 125, 60, 30 full fps, and external; PAL = 2000 partial fps; 1000, 500, 250, 125, 50, 25 full fps, and external
Trigger frame:	Variable from start to maximum available image capacity
Trigger mode:	TTL; closed contact; software-selected one-button record mode
Recording times:	1 to 2 sec storage @ 1000 full fps; up to 2.73 sec storage @ 2000 partial fps; longer record times @ slower frame rates
Rear panel controls:	Download; live-normal/play forward; live-low light/play reverse; frame rate (up/down); exposure time (up/down); ready; record; delete recording; RS-485 termination on/off switch
Software:	Control panel software for remote control of one or more cameras via Ethernet or RS-485; for use w/PC using Windows NT® 4.0
Computer interfaces:	RS-485 – control and configuration of 1 or more cameras over serial line; RS-232 – control and configuration of single camera over serial line; dedicated Ethernet 100 Base-T link using UDP/IP protocol – control, configuration, and downloading images from one or more cameras (Note: It is recommended that only *Motion* Xtra HG, HG-TX, CR, and RO cameras be connected to the dedicated network.)
IRIG:	Optional PC-based IRIG-B time capture for annotation of image tag data w/IRIG time
Camera connectors:	Main interface (Mil-C-38999) – conduit for communication lines and power; RS-232 (DB9) – serial communications for control via ASCII commands; BNC – NTSC or PAL RS-170 video output
Mounting:	5 bolt mounts (1/4-20) on the bottom
Lens mount:	C-mount or box mount
Distribution box connectors:	RS-485 (DB9) – multiple camera control on single communication line; RS-232 (DB9) – serial communications for control via built-in ASCII commands; BNC – ready, exposure out, sync in, fault status, NTSC or PAL video, trigger, ready status; RJ45 (LAN) – direct connection from camera to Ethernet HUB, (PC) – direct connection from camera to PC NIC; power input
Dimensions:	4.3 in (10.9 cm) width; 5.5 in (14.97 cm) height; 12 in (30.5 cm) length; 11 lb (5 kg) weight
Power:	+22 to 42 VDC @ 50 W
Shock:	100 g @ 10 ms any axis, 1000 cycles; 50 g @ 100 ms any axis, 1000 cycles
Operating case temperature:	-10 to +50°C
Storage case temperature:	-25 to +65°C
Emission/safety standards:	Meets all applicable international standards

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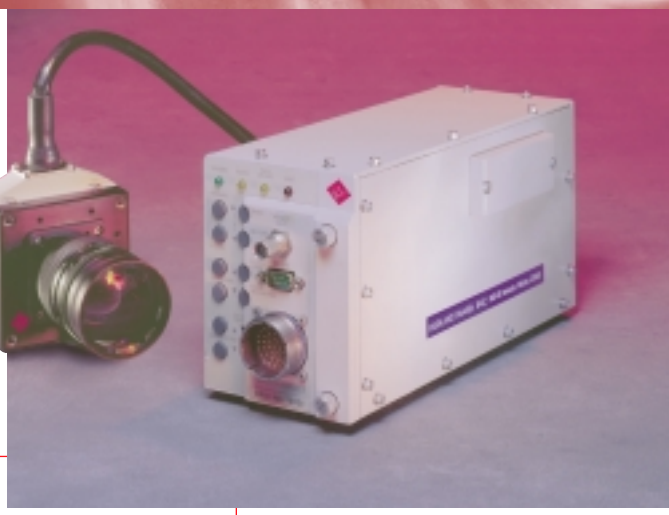
Note: Specifications are typical and subject to change. M101-00

MotionXtra™
HG-TX



The *Motion*Xtra HG-TX digital camera system features high frame rates, excellent resolution, and a small, tethered camera head. The camera is rated to 100 g in any axis and is specifically designed for severe environmental conditions. The built-in electronic shutter eliminates motion blur and provides sharp images. Images can be stored during download in compact (Bayer) or 24-bit color TIFF formats. 100 Mbps Ethernet® capability provides remote control communication and fast image transfer for multiple cameras using a personal computer. The *Motion*Xtra HG-TX is the ideal system for hard-to-reach places commonly found in vehicle impact-testing applications, such as engine compartments, wheel wells, and under dashboards. The system is equally useful in harsh range, aerospace, and ballistics test environments.

SNAPSHOT

Rugged design
Withstands punishing environments up to 100 g in any axis.

Small camera head
Delivers maximum flexibility in hard-to-reach places.

Unique antiblooming control
Captures surrounding scenes even when looking directly into flood lamps.

Variable exposure and extended recording time
Allows from 23 to 983 µsec at 1000 full fps. 5-µsec-increment exposures records up to 13.65 sec at 1000 full fps.

Rear-panel control
Permits stand-alone operation. Provides easy operator access to such features as exposure, frame rate, and playback controls.

Storage flexibility
Stores images on a PCMCIA type II/III hard drive or solid-state memory card. Provides digital download directly to a PC. Allows future detailed analysis using a notebook or desktop computer.

1-800-462-4307

REDLAKE MASD, INC

Motion Xtra

HG-TX

Performance Specifications

Resolution:	512 x 384 photosensitive pixels
Images:	24-bit color
Blooming protection:	>100x for 1-ms exposure @ 1000 fps
Exposure rates:	Electronic shutter variable from 23 to 983 µsec @ 1000 full fps, in 5-µsec increments
Dynamic range:	48 dB @ 25°C ambient temperature
Recording rates:	NTSC = 2000 partial fps; 1000, 500, 250, 125, 60, 30 full fps, and external; PAL = 2000 partial fps; 1000, 500, 250, 125, 50, 25 full fps, and external
Trigger frame:	Variable from start to maximum available image capacity
Trigger mode:	TTL; closed contact; software-selected one-button record mode
Recording times:	1.37 to 13.65 sec storage @ 1000 full fps; up to 18.2 sec storage @ 2000 partial fps; longer record times @ slower frame rates
Rear panel controls:	Download; live-normal/play forward; live-low light/play reverse; frame rate (up/down); exposure time (up/down); ready; record; delete recording; RS-485 termination on/off switch
Software:	Control panel software for remote control of one or more cameras via Ethernet or RS-485; for use w/PC using Windows NT®4.0
Computer interfaces:	RS-485 – control and configuration of 1 or more cameras over serial line; RS-232 – control and configuration of single camera over serial line; dedicated Ethernet 100 Base-T link using UDP/IP protocol – control, configuration, and downloading images from one or more cameras (Note: It is recommended that only *Motion* Xtra HG-TX, HG, CR, RO cameras be connected to the dedicated network.)
IRIG:	Optional PC-based IRIG-B time capture for annotation of image tag data w/IRIG time
Processor dimensions:	4.3 in (10.9 cm) width; 5.5 in (14.97 cm) height; 12 in (30.5 cm) length; 9.75 lb (4.4 kg) weight
Processor connectors:	Main interface (Mil-C-38999) – conduit for communication lines and power; RS-232 (DB9) – serial communications for control via ASCII commands; BNC – NTSC or PAL RS-170 video output
Mounting:	5 bolt mounts (1/4-20) on bottom of processor; 5 bolt mounts (1/4-20) on face of camera
Lens mount:	C-mount or box mount
Camera head dimensions:	3.8 in (9.7 cm) width; 3.8 in (9.7 cm) height; 2.2 in (5.6 cm) length; 3.25 lb (1.5 kg) weight (including cable)
Cable length:	16.4 ft (5 m)
Camera head connector:	Single Mil-C-38999 connector
Distribution box connectors:	RS-485 (DB9) – multiple camera control on single communication line; RS-232 (DB9) – serial communications for control via built-in ASCII commands; BNC – ready, exposure out, sync in, fault status, NTSC or PAL video, trigger, ready status; RJ45 (LAN) – direct connection from camera to Ethernet HUB, (PC) – direct connection from camera to PC NIC; power input
Power:	+22 to 42 VDC @ 50 W
Shock:	100 g @ 10 ms any axis, 1000 cycles; 50 g @ 100 ms any axis, 1000 cycles
Operating case temperature:	-10 to +50°C
Storage case temperature:	-25 to +65°C
Emission/safety standards:	Meets all applicable international standards

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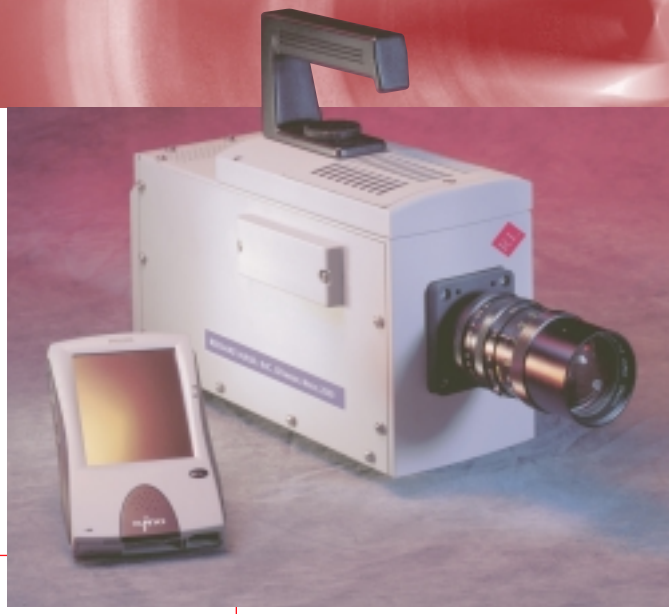
Note: Specifications are typical and subject to change. M102-00



MotionXtra™
CR 2000

The *Motion*Xtra CR 2000 camera system combines high frame rates and excellent resolution for high-performance digital imaging. Designed as a small, lightweight, self-contained camera, the *Motion*Xtra CR 2000 does not require an accompanying processor. The camera offers recording rates up to 2000 frames per second, unlimited continuous recording with variable pre/post trigger, and an RS-170 output for both live and playback video. Playback can be performed instantly at a variety of speeds. A handheld keypad provides easy, intuitive access to most system features. Digital images may be stored during download in compact (Bayer) or industry-standard 24-bit color TIFF formats. 100 Mbps Ethernet® communication is a standard feature, providing remote control communication and fast image transfer from the camera to a PC.

SNAPSHOT

Unique antiblooming control
Captures surrounding scenes even when looking directly into flood lamps.

Built-in electronic shutter
Eliminates motion blur to provide sharp images.

Variable exposure
Allows from 23 to 983 µsec at 1000 full fps. in 5-µsec-increment exposures

Handheld keypad
Provides easy operator access to system functions.

Storage flexibility
Stores images on a PCMCIA type II/III hard drive or solid-state memory card.

Provides digital download directly to a PC.
Allows future detailed analysis using a notebook or desktop computer.

1-800-462-4307

REDLAKE MASD, INC

Motion Xtra

CR 2000

Performance Specifications

Resolution:	512 x 384 photosensitive pixels
Images:	24-bit color
Blooming protection:	>100x for 1-ms exposure @ 1000 fps
Exposure rates:	Electronic shutter variable from 23 to 983 µsec @ 1000 full fps, in 5-µsec increments
Dynamic range:	48 dB @ 25ûC ambient temperature
Recording rates:	NTSC = 2000 partial fps; 1000, 500, 250, 125, 60, 30 full fps, and external; PAL = 2000 partial fps; 1000, 500, 250, 125, 50, 25 full fps, and external
Trigger frame:	Variable from start to maximum available image capacity
Trigger mode:	TTL; closed contact; software-selected one-button record mode
Recording times:	2 sec storage @ 1000 full fps; up to 2.73 sec storage @ 2000 partial fps; longer record times @ slower frame rates
Rear panel controls:	Download; live-normal/play forward; live-low light/play reverse; frame rate (up/down); exposure time (up/down); ready; record; delete recording; RS-485 termination on/off switch
Software:	Control panel software for remote control of one or more cameras via Ethernet or RS-485; for use w/PC using Windows NT® 4.0
Computer interfaces:	RS-485 – control and configuration of 1 or more cameras over serial line; RS-232 – control and configuration of single camera over serial line; dedicated Ethernet 100 Base-T link using UDP/IP protocol – control, configuration, and downloading images from one or more cameras (Note: It is recommended that only *Motion*Xtra CR, RO, HG, and HG-TX cameras be connected to the dedicated network.)
X-Y reticle:	Built-in electronic crosshair for data reduction and calibrated measurements
Handheld keypad:	Control of system operation; Windows® CE compliant; 6-ft (1.8-m) cable length
IRIG:	Optional PC-based IRIG-B time capture for annotation of image tag data w/IRIG time
Camera connectors:	Main interface (Mil-C-38999) – conduit for communication lines and power; RS-232 (DB9) – serial communications for control via ASCII commands; BNC – NTSC or PAL RS-170 video output
Mounting:	5 bolt mounts (1/4-20) on the bottom
Lens mount:	C-mount
Multifunction camera cable connectors:	BNC – ready, trigger; RJ45 (PC) – direct connection from camera to PC NIC; power input
Dimensions:	4.4 in (11.2 cm) width; 6.2 in (15.8 cm) height; 12 in (30.5 cm) length; 12.8 lb (5.8 kg) weight
Power:	+22 to 42 VDC @ 50 W
Operating case temperature:	-10 to +50°C
Storage case temperature:	-25 to +65°C
Emission/safety standards:	Meets all applicable international standards

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