



NAC's newest Memrecam ... the GX-3 – a multi-purpose workhorse for the most sophisticated high-speed applications!

The most experienced name in high-speed video introduces the GX-3 — the latest member of the new GX family of high-speed digital cameras. The Memrecam GX-3 is the only system in its class capable of taking mega pixel images at 2,000 fps at 1280 x 800 pixels OR 1024 x 1024 pixels!



With an astonishing active pixel size of 21.7 microns and superior Dynamic Range, the NAC Memrecam GX-3 has the unsurpassed light sensitivity you need for the most demanding applications! The cost effective GX-3 is a fully self-contained, digital, high-speed video system that records brilliant color or crisp monochrome images with *over 1.3 million pixels!* Using the very latest CMOS sensor technology, the new Memrecam GX-3 provides high-end performance capturing spectacular images at frame rates up to 198,000 fps.

The GX-3 offers seamless integration with all other cameras in the Memrecam GX family making it the perfect all around camera for your application requirements!

- Superior Light Sensitivity: >20,000 ISO monochrome, > 5,000 ISO color
- High Resolution: 1280 X 1024 pixels
- Adjustable Frame Rates from 50fps to 198,000fps in 1fps increments
- Selectable Bit Density: 12 bits / 10 bits / 8 bits (extends recording) STANDARD
- Variable Region of Interest with Continuously adjustable resolution in 16 x 4 pixel increments
- Gigabit Ethernet Laptop Friendly Interface
- Continuous Live Video Output (NTSC / PAL) during setup and recording
- Auto Exposure Control
- Dynamic Range Expansion Shutter (pixel level shuttering)
- Versatile Recording: Burst-Trigger, Multi-Trigger and Event-Trigger Modes
- Memory Segment with automatic segment change capability
- External Sync Recording
- IRIG-B Timing Capture and Synchronization with Phase Shift
- Built-in Memory Backup
- USB2 for direct download to external storage (HDD, Flash Memory Card, etc.)
- Convenient functions for FOV setting: Low Light Mode, Fiducial Mark
- Compact and Rugged Body
- Optional Multi-Channel Wave Inserter (MCWI) allows for the capture of synchronized digital and / or analog data.



Choose NAC to help address your high-speed imaging needs and you'll see *The Visible Difference!*

Memrecam GX-3 Specifications:

Camera Features

Auto Exposure Control
Adjustable Frame Rates
Automatic Temperature Calibration
Selectable Bit Density
Variable Region of Interest
Continuously Adjustable Resolution
Gigabit Ethernet Interface
Continuous Live Video Output
Dynamic Range Expansion Shutter
Multiple Trigger Modes
Memory Segmentation
External Sync Recording
IRIG-B Timing Capture and Sync with Phase Shift
Built-in Memory Backup
USB2 Direct Download to non-volatile storage media
Compact, Rugged Design

Sensor: 1280 X 1024 pixel CMOS (up to 1500fps)

Bit Depth: 12-bit, 10-bit and 8-bit (operator selectable) - STANDARD

Sensitivity: >20,000 ISO monochrome and >5,000 ISO color

Electronic Shutter: Adjustable in minimum 1us increments

Resolution: Continually adjustable resolution with recording rates from 50fps to 198,000fps.

Formats: Image formats supported include 5:4, 4:3, 16:9, SXGA, XGA, VGA, QVGA and customer selectable.

Lens Mount: F-Mount is standard, other mounts, including C-Mount are available.

Memory Backup: Memory backup comes standard.

Standalone Operation: Cameras do not require a PC for setup and operation.

Camera Control: 1000Base-T/100Base-TX

Operation Control: The camera can be controlled using NAC's optional J-Pad III hand-held controller or via a PC-based control system.

IRIG-B: Cameras support real time IRIG-B time insertion and can be synchronized to IRIG-B.

Data Storage: Recorded images can be downloaded directly to a PC via Gigabit Ethernet or to a non-volatile storage medium (e.g. HDD, Flash Memory Card, etc.) via USB2.

I/O Connectors and LED Indicators:

J3: Supports Gigabit Ethernet, trigger input (photo isolation), IRIG-B input (modulated) EST/EVENT input and exposure pulse output (strobe output pulse).

Status Indicators: Power, Ethernet, USB, Memory Backup and Camera Status.

Mechanical and Environmental

Size: 100(W) X 110(H) X 260(D) mm

Weight: 4 kg (approximately 9.4 lbs).

Connectors: Integrated, quick-release.

Power: 20-32Vdc

Operating Temperature: 0°C to 40°C

Storage Temperature: -10°C to 60°C

Software

Camera Control: Camera connection, VIEW, set recording parameters, ARM, Trigger, playback, image download, modify image settings and format conversion.

Synchronous Data Recording: Scene number, date and time of trigger (including IRIG time), shutter speed, date and time of test (including IRIG time), camera settings, video process data and comments.

Image Processing: Image quality adjustment (e.g. white balancing, adjustments for gain, knee, gamma, and edge enhance), select region of interest, display of stored image information and format conversion.

Playback: Variable playback speed in forward and reverse, including freeze frame and endless loop. Single images can be reviewed or multiple images in split screen. Zoom function is available for image playback.

Measurement: XY Coordinate information is exportable to a CSV file and is therefore compatible with a variety of spreadsheet packages. Linear or angular measurements are available including displacement, velocity and acceleration.

Software Developers' Kit: NAC provides a standard SDK based upon an ActiveX component. The SDK will support C++, Visual C++ and Visual Basic.



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GX3 Frame Rate/Resolution Table

| Frame Rate FPS | Maximum Resolution | | Record Time sec | |
|-------------------|--------------------|-------------|-----------------|--------|
| | Hor. | Vert. | 2GB | 4GB |
| 100 | 1280 | 1024 | 12.91 | 25.82 |
| 250 | 1280 | 1024 | 5.16 | 10.33 |
| 500 | 1280 | 1024 | 2.58 | 5.16 |
| 1,000 | 1280 | 1024 | 1.29 | 2.58 |
| 1,500 | 1280 | 1024 | 0.86 | 1.72 |
| 2,000 | 1024 | 1024 | 0.81 | 1.61 |
| 2,000 | 1280 | 800 | 0.83 | 1.65 |
| 2,500 | 1024 | 768 | 0.86 | 1.72 |
| 3,000 | 800 | 800 | 0.88 | 1.76 |
| 4,000 | 800 | 608 | 0.87 | 1.74 |
| 5,000 | 624 | 624 | 0.87 | 1.74 |
| 5,000 | 704 | 528 | 0.91 | 1.82 |
| 6,000 | 640 | 480 | 0.92 | 1.84 |
| 8,000 | 512 | 384 | 1.08 | 2.15 |
| 10,000 | 452 | 368 | 1.02 | 2.03 |
| 15,000 | 436 | 192 | 1.35 | 2.69 |
| 20,000 | 320 | 192 | 1.38 | 2.75 |
| 30,000 | 192 | 144 | 2.04 | 4.08 |
| 40,000 | 144 | 144 | 2.04 | 4.08 |
| 50,000 | 128 | 128 | 2.07 | 4.13 |
| 60,000 | 96 | 96 | 3.06 | 6.12 |
| 80,000 | 64 | 64 | 5.16 | 10.33 |
| 100,000 | 64 | 32 | 8.26 | 16.52 |
| 150,000 | 16 | 64 | 11.02 | 22.03 |
| 198,000 | 4 | 16 | 133.52 | 267.05 |

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