Phantom Miro 320S/321SLC

Datasheet

Production Datasheet

Mechanical Drawing R Series

Mechanical Drawing LC Series
Available in R and LC Styles

- 1,380 fps at 1920 x 1200
- >2,200 fps at 1152 x 1152 square resolution
- 3.2 Gpx/s throughput
- 1 µs minimum exposure, global shutter
- 10 µm pixel size
- 12-bit pixel depth
- Phantom CineFlash compatible

- HD-SDI output for improved video workflow and monitoring

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All Phantom Miro cameras are small, lightweight, rugged digital high-speed cameras packed with advanced features. The Miro 320S includes HD-SDI video for advanced monitoring and workflow possibilities. The camera has advanced features previously available on cameras at twice the price, is easy to learn and use, and addresses applications in a wide variety of industries.

The Miro 320S performance level is available in three body styles. The R-Series is a rugged camera for harsher environments. The LC-Series has a flip-out LCD touchscreen interface for camera control and cine playback.

The Miro 320S is a 2 megapixel camera with 3.2 Gigapixels/second (Gpx/s) throughput. This translates to 1380 fps at 1920 x 1200, or over 1500 fps at 1920 x 1080. Frame rates up to 325,000 fps are available at reduced resolutions. The Miro 320S uses microlenses on its custom-designed CMOS sensor with 10µm pixel pitch to achieve great light sensitivity, and with 12-bit pixel depth you can expect excellent image quality.

Scientists and engineers can take advantage of the 3.2 Gpx/s throughput, precise timing, camera synchronization, flexible triggering, excellent light sensitivity, and many other advanced features to gain insight into products and processes. The camera allows you to see what cannot be seen with the human eye. Applications ranging from animal studies to PIV to product characterization are now possible with this accessible camera.

Artists now have access to a camera based on the Academy Award winning technology of the Phantom Flex for TV and new media applications.

Each Miro camera is compatible with Vision Research's new and unique CineFlash storage technology. These removable, non-volatile storage devices slide into the camera body and provide a way to quickly save shots from the camera's memory without the need for time-consuming and costly downloads. Later, remove the CineFlash module from the camera and insert it into the docking station connected to a computer. Cines stored on the CineFlash are now immediately available on the computer. You can also transfer the cines from the camera to your computer and edit the images using our Phantom Camera Control software (PCC). When ordering your camera, just specify if you want 120GB or 240GB CineFlash storage. A 120GB CineFlash and Dock come with every R or LC camera purchase!

The M-, R-, and LC-Series come with a battery that can power the camera when AC power is not available or is lost during an experiment.

Each Miro camera supports four lens mounts: Nikon F/G, C, PL or EOS. EOS mounts allow the use of Canon EF and EF-S automated lenses. Adjust lens aperture and focus remotely using our Remote Control Unit or Phantom Camera Control software.

These cameras also have a number of other advanced features including an internal capping shutter, Image-Based Auto-Trigger, camera synchronization, immediate playback of recorded cines, and more!
What's in the Box...

- Power supply
- Ethernet cable
- Battery, battery charger
- 120GB CineFlash and Dock
- Capture cable

* Measured according to ISO 12232:2006 method

Note: The high speed movies are all taken with this camera. They have been greatly reduced in resolution and compressed in size so we can show them to you on the web. Movie quality directly from the camera is superior to what you will see here.

{slide=Liquid Balloons and Dancers }

{youtube} https://www.youtube.com/watch?v=ak3EHKXlrz8&index=2&list=PL0TccwBnZqgTYSgXJW8zFhySBCMTeIDKMi {/youtube}

{/slide}

{slide= Chris Bryan Films 2014 Phantom Reel }
All images were shot using The Phantom Flex, Phantom Miro M-320S and the new Phantom 4K Flex with Arri Ultra prime lenses and Chris Bryan Films custom underwater housing's. Please visit my website for more info: WWW.CHRISBRYANFILMS.COM

{youtube}j8g_UVfEITg{/youtube}

{slide}

{slide= Colibri Productions Show Reel 2013 - using Phantom Miro M320S}

{vimeo}69647182{/vimeo}

{slide}

{slide= Erik Ippel Underwater Phantom Reel}

This is the underwater housing used with the Miro
Phantom Miro 320S

Utilizing CMOS sensors, Phantom Miro 320S records at frame rates ranging from 5760fps to over 1,050,000fps. With an onboard battery, a complete recording session is ensured without the need for additional power. The Miro 320S is the perfect choice for applications requiring ultra-high frame rates, capturing fast-moving events with unparalleled accuracy.

Key features include:
- **Ultra-high frame rates**: up to 1,152,000fps at 1024 x 1024 resolution.
- **Powerful processor**: 32-bit, 32MB RAM, ensuring smooth operation even under high-demand conditions.
- **Sturdy design**: Combination of HD-SDI connector and Ethernet port for flexible connectivity options.
- **HD-SDI output**: Supports up to 1080p signals for high-definition video transmission.
- **Battery and power options**: Rechargeable battery, optional external power supply.

Ideal for:
- Sports analysis
- Wildlife monitoring
- Automotive testing
- Scientific research

**Specifications**:
- **Resolution**: 128 x 64, 64 x 8, 325,000fps
- **Data rates**: 325,000fps at 128 x 64, 64 x 8
- **Memory**: 1GB, 2GB, 4GB CineFlash internal RAM
- **Shutter types**: Burst mode, shutter off mode for PIV applications
- **Auto exposure**: Yes
- **Dynamic range**: 55 dB
- **Fill factor**: 70%
- **ISO values**: Color 1,250D; Monochrome 5,000D; 12,500T
- **Sensor type**: CMOS
- **Pixel size**: 10µm
- **Minimum frame rate**: 24 fps
- **Maximum speed**: 3,2Gpx/s

**Additional accessories**:
- Spare batteries
- Battery charger
- Remote control unit
- Upgrade bundled 60GB CineFlash to 120GB or 240GB
- PCC software
- 120GB CineFlash and dock
- Ethernet cable
- MatLab
- Phantom SDK

**Contact Information**

For more details and support, please visit our website or contact our customer service directly.