

## DATA SHEET

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# Phantom® Miro® C110

The Cost Effective and Easy to Use camera, perfect for many applications

### Key Features:

- 12-bit 1.3 Megapixel CMOS sensor
- 800 fps @ 1280 x 1024
- 1125 fps at 1280 x 720
- Available in Monochrome or Color
- ISO Mono 5,000 (T), 2,500 (D)\*
- Color 640 (T)\*, 640 (D)\*, adjustable
- Compact and sturdy
- Standard BNC and Ethernet connections
- Reversible mount for C & CS lenses
- 8GB of RAM included
- Easy-to-use signals:
  - Trigger
  - AUX 1:
    - FSYNC
    - Strobe
    - Event
    - Memgate
  - AUX 2:
    - Strobe
    - Ready

\* Measured according to ISO 12232:2006 method



Miro C110  
Side view

Miro C110 Rear view of connectors

### Key Benefits:

#### When it's too fast to see, and too important not to®

The **Phantom Miro C110** is the **perfect go-to camera** for many applications that benefit from high quality, high speed analysis. Its ideal mix of **speed, image quality and ease of use** makes it one of the most flexible analytical tools in the lab.

- 800 frames per second (fps) at full 1.3 Mpx resolution, 1125 fps @ 1280 x 720, and up to 29,800 fps at smaller resolutions
- Sturdy and small, easy to connect and use, with common BNC and Ethernet connectors
- Phantom quality image and features, in a cost effective camera

The smart companion for a **wide range of applications** such as industrial trouble-shooting, mechanical analysis and motion analysis, the Miro C110 is **easy to work with**. Its sturdy, small body connects to signaling with common BNC cables, and uses a standard Ethernet cable for camera control and data downloading. Its accessible Trigger BNC and two AUX BNC's make it easily controlled in any situation.

### Specifications

The Miro C110 is based on a 1.3 Mpx sensor with 1.0 Gpx throughput. This provides 800 fps at 1280 x 1024, and up to 29,840 fps at lower resolutions, with very low noise to capture critical details. Also, the Miro C110's exposure times can be set as low as 5 microseconds, to further help **eliminate motion blur** and freeze objects in motion. The minimum frame rate at all resolutions is 100 fps.

The camera uses a 12-bit pixel depth, CMOS sensor, with 5.6 µm pixel size. Its image sensor format is 2/3", and takes advantage of a large selection of C and CS lenses. Available in either Color or Monochrome, it **makes the most out of available light**, with light sensitivity ISO ratings measured according to ISO 12232:2006 method:

	D (Daylight)	T (Tungsten)
Monochrome	2500	5000
Color	640	640

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## Phantom® Miro® C110

### Additional Features:

- Image-Based Auto-Trigger (IBAT)
- Continuous Recording
- Auto-Exposure
- Multi-cine Acquisition
- Gb Ethernet
- Motion Analysis software included
- Size and Weight:
  - 1.2 lb, 0.54 kg; 2.9 x 3.65 x 3.25 inches
  - 73 x 93 x 82.5 mm (H x W x D)
- Operating Temperature: 0° C to 50° C
- Tiered Service Contracts to protect your investment

### Complete with Easy-to-Use Phantom Features

The Miro C110 comes equipped with 8GB of memory, providing 5.0 seconds of record time at maximum frame rate and resolution, and longer at reduced rates and resolutions. It uses powerful Phantom Camera Control (PCC) software. PCC makes an easy job out of capturing the event and then adjusting image characteristics like color and brightness. Flexible triggering options **easily capture the images of a specific event**. Images are automatically recorded into a circular buffer, and the trigger option determines which of those images are saved to RAM – images before, after, or on either side of the trigger, depending on the actual experiment set-up. There is also a suite of advanced features to support your analysis, including:



Phantom Miro C110

- **Image-Based Auto-Trigger:** Trigger the camera (or even a number of connected cameras) from motion detected within the live image. This makes it easier to catch events that are not predictable and may occur infrequently.
- **Multi-Cine:** Partition internal memory into up to 63 segments and make shorter recordings back-to-back without missing any action.
- **Continuous Recording:** Perfect to record many occurrences of an event, especially an event that happens rarely or is unpredictable. Continuous recording mode automatically saves a cine to a connected PC immediately after it is recorded then re-arms the camera, waiting for the next cine. A recording can be triggered manually, from an event detection system, or even by our Image-Based Auto-Trigger. The number of recordings is limited only by the amount of available disk storage.

Trim Save the Cine in either its raw format, or convert it **popular formats such as Quicktime or AVI** or save frames in JPEG or TIFF, to easily email the analysis to colleagues.

Maximum Frame Rates		
Horizontal	Vertical	FPS
1280	1024	800
1280	720	1125
768	768	1060
640	480	1670
512	512	1570
384	288	2710
256	256	3025
128	128	5645
128	8	29,840

### Focused

Since 1950, Vision Research has been designing, and manufacturing high-speed cameras. Our single focus is to invent, build, and support the most advanced cameras possible.



AMETEK Vision Research's digital high-speed cameras are subject to the export licensing jurisdiction of the Export Administration Regulations. As a result, the export, transfer, or re-export of these cameras to a country embargoed by the United States is strictly prohibited. Likewise, it is prohibited under the Export Administration Regulations to export, transfer, or re-export AMETEK Vision Research's digital high-speed cameras to certain buyers and/or end users.

Customers are also advised that some models of AMETEK Vision Research's digital high-speed cameras may require a license from the U.S. Department of Commerce to be: (1) exported from the United States; (2) transferred to a foreign person in the United States; or (3) re-exported to a third country. Interested parties should contact the U.S. Department of Commerce to determine if an export or a re-export license is required for their specific transaction.

## MILANO SYSTEMS

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Milano Systems S.r.l.  
Via Umbria 10 – 20090 Segrate (MI) Italia  
www.milanosystems.it