

New Firmware for Baumer MXG and *VisiLine*® Cameras

The rollout for the new camera firmware for Baumer MXG, *VisiLine*® and *VisiLine*® IP has begun. From now on, all cameras are delivered with functional extensions.

Functional Extension: real colour binning

This presents a very important novelty – beside the implementation of a FPGA based binning for cameras with CMOSIS CMOS sensor – is the introduction of **real colour binning to all colour cameras**.

	CCD mono	CCD colour	CMOS mono	CMOS colour
Binning Formats	1x2, 2x1, 2x2			
Colour Binning	☒	☑	☒	☑

Baumer is a pioneer in the area of implementing real colour binning for Sony CCD and CMOSIS CMOS sensor based cameras. *For their competitors the provision of colour binning is mostly a special feature of sensors such as e2v.*

The binning within cameras utilising CMOSIS sensors and the colour binning takes place within the camera's FPGA. This means the expected sensitivity increase takes place but the frame rates will not be negatively affected:

	CCD mono	CCD colour	CMOS mono	CMOS colour
Sensitivity Increase	☑	☑	☑	☑
Frame Rate Increase	☑	☒	☒	☒

For an unobstructed operation of the binning function – for instance in combination with partial scan – changing the horizontal resolution of the CMOSIS cameras is essential:

	MXGC20/VLG-22x/VLG-22x.I	MXGC40/VLG-40x/VLG-40x.I
Resolution Old	2044 x 1084	2040 x 2044
Resolution New	2044 x 1084	2040 x 2044

Improvement 1: FPNC

For minimising CMOS-based image noise the algorithm of the fixed pattern noise correction (FPNC) was improved.

Improvement 2: Compatibility with 3rd Party Software

In former firmware versions the naming of the pixel formats was a result of the PFNC (Pixel Format Naming Convention) that aims to the use of GigE Vision 2.0 standard.

In order to increase the compatibility with 3rd party software, the pixel formats were renamed to be conforming to the GigE Vision 1.2 standard.

Improvement 3: Factory Settings

With the new firmware the packet size and the heartbeat timeout will remain unmodified on loading factory settings. Due to this, the camera remains configurable on restoring the factory settings.

Bugfixing

The firmware update is also used to implement some bug fixes.

For example the following bugs were fixed:

- Sporadically stop of the cameras on small ROIs
- Displaying wrong colours on very small ROIs or on changing pixel formats
- Faulty initialization of HDR when loading UserSets

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