

CHROMASENS GmbH

Release-History for the allPIXA camera firmware

Latest changes: May, 2020

We welcome any suggestions, questions, bug reports to: support@chromasens.de

Please be aware that any changes in previous versions are kept in all the following versions

Version 1.71

Changes / new features:

- + Revision 1.71 of the firmware can be used for all generations of cameras, independent of the serial number.
- + By this all the features / changes / bug fixes of the 1.6x revisions become available also for cameras with serial numbers < 5000
- + ScanCancel can be initiated through camera link interface by using CC4
- + Improved stability of camera behavior regarding the TA, WR and white control.
- + New image trigger triggering option (internal light barrier) using ROI image data for triggering
- + Behaviour of FVAL changed back to firmware version 1.50, what results in better interoperability with certain frame grabbers.
(FVAL-Start 3 clocks before first LVAL and FVAL-End 3 clocks after last LVAL)

Bug fixes for:

- + The previous versions contained a bug when the image size (number of lines in one image) was alternated between very small and huge images.
- + Correction of an issue if the camera is operated in encoder mode with the condition of >> 1 lines / encoder increment
- + Fixing of minor bugs found during intensive software tests at Chromasens -> improved stability.

Important:

- + If a camera previously running firmware revisions < 1.60 is updated to versions > 1.6x the generation of new shading data for the camera is mandatory. (Black- and White-reference)

Availability:

- + This firmware version is available for cameras with the sensor lengths 4096 and 7300

Further items to be aware of:

- + see release notes of 1.67

Version 1.69

Changes / new features:

- + None

Bug fixes for:

- + It was not possible to set up a line distance > 4 with 4k cameras.

Important:

- + If a camera previously running firmware revisions < 1.60 is updated to versions > 1.6x the generation of new shading data for the camera is mandatory. (Black- and White-reference)

Further items to be aware of:

- + see release notes of 1.67

Version 1.68**Changes / new features:**

- + Reimplementation of some obsolete Tags for compatibility with certain customer applications.

Bug fixes for:

- + Certain modes of using *SuppressReverseLines* resulted in missing images.

Important:

- + If a camera previously running firmware revisions < 1.60 is updated to versions > 1.6x the generation of new shading data for the camera is mandatory. (Black- and White-reference)

Further items to be aware of:

- + see release notes of 1.67

Version 1.67**Changes / new features:**

- + Implementation of function *SuppressReverseLines*
This function can be used to suppress the image lines during reverse movements of the scanned object and to restart capturing at the correct position in encoder mode.

Bug fixes for:

- + Some cameras showed start-up problems with previous 1.6x packages.

Important:

- + If a camera previously running firmware revisions < 1.60 is updated to versions > 1.6x the generation of new shading data for the camera is mandatory. (Black- und White-reference)

Minimum required PC-Software-Versions and Interface definition:

- + CST: 2.8.x
- + CSAPI: 1.7x
- + HSI: 1.40
- + Manual: 3.6

Changes in interface:

- + Type of tag TAG_SET_SCANDIR changed from BIN to SHORT
- + Type of tag TAG_SET_VSYLENGTH changed from SHORT to LONG

(These changes were already implemented with revision 1.61)

Open items:

- + In Master-Slave mode the FVAL signal of the slave can show a jitter of 1 LVAL if used in frame scan mode with encoder.

As work-a-round line scan mode should be used combined with usage of CC2 to synchronously start collection.

- + Firmware Package only available for 4k and 7k cameras.

Version 1.66

Intermediate version -> is replaced by 1.67; cameras should be updated to 1.67 (or later)

Version 1.65

Changes / new features:

- + The new functions of rev. 1.6.1 are now usable independent of the serial number of the camera.

Bug fixes for:

- + All known issues of previous packages 1.6x

Important:

- + If a camera previously running firmware revisions < 1.60 is updated to 1.65 the generation of new shading data for the camera is mandatory. (Black- und White-reference)

Minimum required PC-Software-Versions and Interface definition:

- + CST: 2.8.x
- + CSAPI: 1.7x

Open items:

- + Firmware Package only available for 4k and 7k cameras.

Version 1.62

Important:

- + Version 1.62 of the allPIXA firmware can only be used with cameras with serial numbers > 5000.

Bug fixes for:

- + All known issues of package 1.61

Minimum required PC-Software-Versions and Interface definition:

- + CST: 2.7.x
- + CSAPI: 1.6x
- + HSI: 1.30

Open items:

- + New functions are not available for cameras with serial numbers < 5000

Version 1.61

Important:

- + Version 1.61 of the allPIXA firmware can only be used with cameras with serial numbers > 5000.

Changes / new features:

- + Improved precision for internal gain control
- + Extended image size in area mode with up to 1 million lines
- + Compensation of hardware specification change / EOL of some components
- + Improved compatibility with some frame grabbers types
- + Shift in gain handling can result in higher gain values as result of camera balancing

Minimum required PC-Software-Versions and Interface definition:

- + CST: 2.7.x
- + CSAPI: 1.6x
- + HSI: 1.30

Open items:

- + New functions are not available for cameras with serial numbers < 5000

Version 1.50**Changes / new features:**

- + Improved master-slave handling for encoder speed exceeding maximum scanning speed.
- + Improvements in master-slave mode for switching between encoder mode and free running mode.

Minimum required CST-Version:

- + 2.6.6

Version 1.48**Changes / new features:**

- + Speed compensated image start in encoder mode. The optimized compensation applies to the debouncing modes LB0 and LB3 in the CST section "Image trigger signal handling"
- + Improved image quality for 4k systems
- + Minor bug fixes

Minimum required CST-Version:

- + 2.6.6

Version 1.44**Changes / new features:**

- + Integration of 1.43 in major release
- + Extended encoder mode performance
- + Minor bug fixes

Minimum required CST-Version:

- + 2.6.5

Version 1.43 (2k systems only)**Changes / new features:**

- + Improved image quality

Version 1.42**Changes / new features:**

- + master/slave synchronisation with IO signals X5-4/12 available
- + boot up of sensor at 7k allPIXA improved
- + CameraLink LVAL handling using encoder mode at maximum line speed improved

Version 1.41**Changes / new features:**

- + 2 additional reference sets for Offset and Shading correction can be stored in the camera. (totally 4 sets each)
- + Optimized variable scan width by changes on "number of pixel per scan line" does no longer effect offset and shading correction
- + Improved ROI handling area set with "number of pixel per scan line" is automatically centred to middle of sensor
- + Optimized tab balancing
- + Simplified handling of white reference mark with automatic master detection mode for white reference position
- + Horizontal binning function
- + Extended parameters for Info Block (TimeStamp, Speed2High)
- + Enhanced validation against faulty parameter values
- + Special gamma LUT for sRGB conversion at gamma selection 0.1
- + Increased limit by 2 times for max allowed integration time
- + Optimized handling of low res encoders for multiple scan lines at one encoder clock
- + Optimized multiple camera synchronization functionality (Minimum CST version to access full functionality version 2.6)

Version 1.30**Changes / new features:**

- + Internal Offset and Shading correction
- + Line shift for allPIXA 2k and allPIXA 4k up to 6 lines
- + Line trigger reduction factor
- + Enable encoder by CC Bit
- + Enable Info data in image
- + CCM Colour Conversion Matrix
- + Keystone correction
- + New mode, reduced camera link data rate for application with long cable
- + Factory default parameter stored in setting 19

Version 1.21**Changes:**

- + Parameter optimizing Camera Link interface

Version 1.20**Changes:**

- + First valid Pixel of scanline without offset (default value=0 for full image size)

New functions:

- + LinePeriod@FreeRun
- + Encoder mode incl. calculation of transport speed
- + Video output in grey mode