CHROMASENS GmbH
Release-History for the allPIXA pro camera firmware
Latest changes: May, 2018

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 3.02

Official release of 3.01

Version 3.01

Changes / new features:
- Can be used for cameras independent of serial number
- Can be used for cameras with line lengths ≥ 4096
- New limits for RGB line distance
  Independent for any line length (4096 Px to 7300 Px):   5.0 lines
  Therefore incline correction (cameras mounted in an angle below 90° from object) is possible again.
- New camera type: 5K allPIXA pro
- Shorter delay between setting parameters to frame start in encoder/ line trigger mode
- The line period in the info block of the image and in CST display is a multiple of 10ns and therefore easier to read. (Caution: This is a functional change to previous packages)
- Slave cameras shows correct information for line time
- Non valid date at the info block of the slave cameras is set to zero.
- Gamma 0,2 contains a conversion table for special usage.
- Improved stability and performance of gain and reference settings.

Bug fixes for:
- Internal synchronization issues for OEM-scanner with lower pixel clocks
- Reading of the temperature of external LED-controller (OEM versions)
- Sequence start with frame synchronous LED flash

Important:
- If a camera previously running firmware revisions < 3.00 is updated to versions ≥ 3.0x the generation of new shading data for the camera is mandatory. (Black- and White-reference)

Minimum required PC-Software-Versions and Interface definition:
- CST: 2.7.2 build 11
- CSAPI: 1.7x
- HSI: 1.40
- Manual: 1.1

Further items to be aware of:
- It is mandatory to keep the correct order of the files during the download. (defined in the load list)
- It is recommended to save all settings before performing the update.

Version 3.00

Changes / new features:
- Compensation of hardware specification change / EOL of some components
- The functionality of the camera is kept fully compatible. The process improvements on CCD side are related to a higher sensitivity of the pixels. That way less light is required to drive the CCD. Chromasens adjusted the gain control in the firmware, so that it is possible to operate the cameras with the same settings and to minimize the impact to customer applications.
- The colour filters were slightly updated so that the crosstalk between the colour channels is reduced resulting into an even better colour representation
- 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.
- New limits for RGB line distance
  Line length > 4096:   4.0
  Line length <= 4096:   6.0
- Continuous scanning is possible in frame scan mode. E.g. by setting
  first valid scan line   0
  No Of Scan Lines   1000 (e.g.)
  setting block size in frame grabber to identical value (1000 in this sample)
- See list of improvements in version 2.22 which was only used in special projects. With version 3.00 these features become available for all users.

Bug fixes for:
- Infoblock now contains valid data also in grey mode

Important:
- This package is restricted to cameras with serial numbers > 1000 (= only distributed with new cameras)
- If a camera previously running firmware revisions < 3.00 is updated to versions > 3.0x the generation of new shading data for the camera is mandatory. (Black- and White-reference)

Minimum required PC-Software-Versions and Interface definition:
- CST: 2.7.2 build 11
- CSAPI: 1.7x
- HSI: 1.40
- Manual: 1.1

Further items to be aware of:
- none

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

Open items:

- This package is restricted to cameras with serial numbers > 1000 (only distributed with new cameras)

Version 2.22 (Color + Mono partially)

Changes / new features:

+ Extended functionality of Testpattern 3
+ Added a new CameraLink Base mode 1X3 for mono output of the colour camera
+ Slave cameras automatically detect scan direction from Master camera.
+ Extended flash mode functionality for automatic flashing only during image acquisition in area mode
+ Automatic insertion of information in each line extended functionality for I/O port signals and temperatures (each line info block)
+ Extended internal binning functionality up to 16 times and 2/3 binning
+ New CST functionality to display a line plot and contrast values of a single scanned line only by using the serial interface (CL-Ser or RS232) - for easy setup or testing without the use or need of framegrabbers
+ Extended image size in area mode with up to 1 million lines
+ Modified representation of white reference border in the image
+ New image trigger triggering option (internal light barrier) using ROI image data for triggering
+ improved precision for internal gain control
+ internal parameter calibrated with "white balancing" or "Tab balancing" processes can be saved automated to selected setting, additionally calibrated values can be reloaded and can be copied to other setting
+ Usability improvements in CST

Bug fixes for:

+ Bug fix for CL-Full80 10Tx8b camera link mode
+ Minor bug fixes in special configurations

Minimum required CST-Version:

+ 2.7

Version 2.12 (Color + Mono)

Changes / new features:

+ LED-Flash mode fully implemented
  for up to 4 real time LED trigger signals
+ Master/slave connection via internal connector X12 possible
+ Additional Product_ID identifier implemented
+ Light barrier 3 / trigger (slow) (LB3) can be linked to CC3
+ Debouncing of light barriers is coupled to internal line processing
+ Extended camera link mode support
+ New line length configuration: 6000 pixels.

Bug fixes for:
+ Bug fix at CL-Full80 8Tx10b (1X8-1Y raw) camera link mode
+ Wrong license key could lead to black images in previous revisions
+ Minor bug fixes in special configurations

Minium required CST-Version:
+ 2.6.5

Version 2.11 (Color + Mono)

Changes / new features:
+ Improved implementation for LED-Flash modes
+ Improved image quality of camera

Bug fixes for:
+ Bug fix at 4K Lineshift >6 lines

Known issues:
Problem in implementation of CL-Full80 8Tx10b (1X8-1Y raw) camera link mode --> not to be used

Version 2.10 (Colour + Mono)

Changes / new features:
+ Support of flash mode with up to 4 colours and up to 4 patterns for LED-controllers (e.g. XLC4)
+ Protection against overheating
+ Enhanced validation against faulty parameter values

Bug fixes for:
+ CL-Full80_10tapx8bit
+ Testpattern with mono Output for colour camera

Version 2.09 (Mono + Color)

Changes / new features:
+ allPIXA pro as monochrome camera
+ increased camera speed:
        4K: 101.6 KHz (9.84µs@CLFull64_8Tx8b)
        7K: 59.4 KHz (16.8µs@CLFull64_8Tx8b))
+ Easier Camera Link modes for Mono:
        CL-Medium 4Tx8b (1X4 raw)
        CL-Full64 8Tx8b (1X8 raw)

Version 1.00 (Color)

Changes / new features:
+ Line shift for allPIXA pro 2k and allPIXA pro 4k up to 8+8 lines
+ Line shift for allPIXA pro 7k up to 6+6 lines

+ increased camera speed:
    2K: 92.7 KHz
    4K: 50.8 KHz (19.53µs)
    7K: 29.7 KHz (33.65µs)
+ New + faster Camera-Link Modes:
    Medium: 2T24 as 1X2 in addition to 2XE
    Full64_8Bitx8Taps: 1X8 in RGB
    Full80_10Bitx8Taps: 1X8 in RGB
    OEM only: Medium 4T8 as 1X4 for Grey fast output (soon)