

## CSI-2 FIRMWARE RELEASE NOTES

## Alvium 1500 C and 1800 C cameras

 2022-Aug-16  
 V00.10.00.6c9062b1

**Helpful downloads**

- Operating and updating cameras: Alvium CSI-2 Cameras User Guide
- Controls for **Direct Register Access**: Alvium CSI-2 Register Controls Reference
- Features for **GeniCam for CSI-2 Access**: Alvium Features Reference  
[www.alliedvision.com/en/support/technical-documentation/alvium-csi-2-documentation](http://www.alliedvision.com/en/support/technical-documentation/alvium-csi-2-documentation)
- Firmware files  
[www.alliedvision.com/en/support/firmware](http://www.alliedvision.com/en/support/firmware)
- Firmware updater, included in **Vimba Suite**  
[www.alliedvision.com/software](http://www.alliedvision.com/software)

## Latest firmware version for your Alvium CSI-2 model

The following table lists the latest firmware version for your Alvium CSI-2 camera.

Model	FW version	FW release date
<b>Alvium 1500</b> C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501 m/c NIR <b>Alvium 1800</b> C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c	<a href="#">FW 00.10.00.6c9062b1   updated notes</a>	2022-Jul-20

Table 3: Latest firmware version by model

## FW 00.10.00.6c9062b1 | updated notes

Date of **note updates**: 2022-Aug-16

Date of firmware release: 2022-Jul-20

### Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 4: Supported models

### New models

Alvium 1800 C-234m/c, C-812 UV

### Changed features

In previous firmware versions, Black Level values were adjusted to the pixel formats: 8-bit values for 8-bit pixel formats, 10 for 10, and 12 for 12. With this firmware update, the representation of Black Level is independent from the pixel format: 12-bit values are used for all pixel formats. Therefore, you may have to adjust your settings used with previous firmware versions.

The maximum value for Gain was increased from 24 to 48 dB for all models with Sony IMX global shutter sensors. **Added information**: For Alvium 1800 C-030 VSWIR and C-130 VSWIR, the maximum Gain value was increased to 42 dB.

**Added information**: FPNC was disabled for Alvium 1800 C-030 VSWIR and 1800 C-130 VSWIR models.

### New features

Available with Alvium 1800 C-500, C-507, C-511, C-1236, C-2050, using **GenICam for CSI-2 Access**:

- Serial Hub subcategory for I/O control by UART
- Software Signal Control subcategory to enable external devices to trigger actions within the camera by software commands (The features in this category are still in the testing phase and not fully validated.)

### Resolved issues

Alvium ID	Affected models	Description
721	Models in <b>GenICam for CSI-2 Access</b> mode	<b>TestPattern</b> has been visible on CSI-2 cameras, but the feature was not working properly. The feature has been removed.

Table 5: Resolved issues

## Known issues

Alvium ID	Affected models	Description
617	Models in <b>GenICam for CSI-2 Access</b> mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in <b>GenICam for CSI-2 Access</b> mode	Features <b>StatFramesCRCError</b> , <b>StatFramesIncomplete</b> , <b>StatFramesUnderrun</b> in the <b>StreamInformation/Statistics</b> category return 0, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , no image is transmitted.

Table 6: Known issues

## FW 00.10.00.6c9062b1

Release date: 2022-Jul-20

**Note:** Data of this note entry is outdated. Please see [FW 00.10.00.6c9062b1 | updated notes](#) on page 2.

## Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 7: Supported models

## New models

Alvium 1800 C-234m/c, C-812 UV

## Changed features

In previous firmware versions, Black Level values were adjusted to the pixel formats: 8-bit values for 8-bit pixel formats, 10 for 10, and 12 for 12. With this firmware update, the representation of Black Level is independent from the pixel format: 12-bit values are used for all pixel formats. Therefore, you may have to adjust your settings used with previous firmware versions.

The maximum value for Gain was increased from 24 to 48 dB for all models with Sony IMX global shutter sensors.

## New features

Available with Alvium 1800 C-500, C-507, C-511, C-1236, C-2050, using **GenICam for CSI-2 Access**:

- Serial Hub subcategory for I/O control by UART
- Software Signal Control subcategory to enable external devices to trigger actions within the camera by software commands (The features in this category are still in the testing phase and not fully validated.)

## Resolved issues

Alvium ID	Affected models	Description
721	Models in <b>GenICam for CSI-2 Access</b> mode	<b>TestPattern</b> has been visible on CSI-2 cameras, but the feature was not working properly. The feature has been removed.

Table 8: Resolved issues

## Known issues

Alvium ID	Affected models	Description
617	Models in <b>GenICam for CSI-2 Access</b> mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in <b>GenICam for CSI-2 Access</b> mode	Features <b>StatFramesCRCError</b> , <b>StatFramesIncomplete</b> , <b>StatFramesUnderrun</b> in the <b>StreamInformation/Statistics</b> category return 0, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , no image is transmitted.

Table 9: Known issues

## FW 00.08.01.13f227a4

Release date: 2022-May-16

## Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-500m/c

Table 10: Supported models

## New models

No new models were added.

## New features

No features were added.

## Resolved issues

Alvium ID	Affected models	Description
775	1500 C-120c, 1500 C-210c, 1500 C-500c, 1500 C-501c NIR, 1800 C-500c	Wrong <b>AutoWhiteBalance</b> measurement was fixed.

## Known issues

Alvium ID	Affected models	Description
721	Models in <b>GenICam for CSI-2 Access</b> mode	<b>TestPattern</b> is visible on CSI-2 cameras, but the feature is not working properly. If the test pattern value is changed, the embedded board must be rebooted twice before the camera can be operated again.
617	Models in <b>GenICam for CSI-2 Access</b> mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in <b>GenICam for CSI-2 Access</b> mode	Features <b>StatFramesCRCError</b> , <b>StatFramesIncomplete</b> , <b>StatFramesUnderrun</b> in the <b>StreamInformation/Statistics</b> category return $\emptyset$ , incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , no image is transmitted.

Table 11: Known issues

## FW 00.08.00.6727174b

Release date: 2022-Mar-21

## Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-240m/c, C-291m/c, C-319m/c, C-507m/c, C-508m/c, C-500m/c, C-511 m/c, C-811 m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 12: Supported models

## New models

Alvium 1800 C-052m/c, C-291m/c, C-500m/c

## New features

**GenICam for CSI-2 Access** for 1800 C-500, C-507, C-511, C-1236, C-2050

This includes the following features:

- Auto Mode Regions feature group
- Contrast
- Convolution filters for image processing
- Counter and Timer Control category
- Digital binning
- Exposure Active Mode
- Look-up table (LUT)
- Shutter Mode

- Stream Information features for MIPI CSI-2
- Transport Layer Control: Additional features for CSI-2
- Triggering: Additional features and options
- User Sets

## Known issues

Alvium ID	Affected models	Description
721	Models in <b>GenICam for CSI-2 Access</b> mode	<b>TestPattern</b> is visible on CSI-2 cameras, but the feature is not working properly. If the test pattern value is changed, the embedded board must be rebooted twice before the camera can be operated again.
617	Models in <b>GenICam for CSI-2 Access</b> mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in <b>GenICam for CSI-2 Access</b> mode	Features <b>StatFramesCRCError</b> , <b>StatFramesIncomplete</b> , <b>StatFramesUnderrun</b> in the <b>StreamInformation/Statistics</b> category return 0, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , no image is transmitted.

Table 13: Known issues

## FW 00.07.00.81db3896

Release date: 2021-Dec-10

**Note:** Binning controls were stated as new features in the version from 2021-Dec-10 of this document. This information had to be removed from the document because the current camera driver does not support binning.

## Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-130 VSWIR, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 14: Supported models

## New models

Alvium 1800 C-030 VSWIR, C-130 VSWIR

## New features

- Configurable I2C address
- Monochrome image output from color models

## Resolved issues

Alvium ID	Affected models	Description
395	All	After <b>Acquisition Stop</b> has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if <b>Exposure Auto</b> is enabled. The camera must be rebooted.

Table 15: Resolved issues

## Known issues

Alvium ID	Affected models	Description
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , no image is transmitted.

Table 16: Known issues

## FW 00.06.00.35992

Release date: 2021-Aug-13

## Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-040m/c, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 17: Supported models

## New models

Alvium 1500 C-501m/c NIR, 1800 C-511, C-811, C-1242, C-1620, C-2040

## New features

No features were added.

## Resolved issues

Alvium ID	Affected models	Description
553	1800 C-2460m/c	Calculated frame rates for small ROIs are not exact.

Table 18: Resolved issues

## Known issues

Alvium ID	Affected models	Description
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , no image is transmitted.
395	All	After <b>Acquisition Stop</b> has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if <b>Exposure Auto</b> is enabled. The camera must be rebooted.

Table 19: Known issues

## FW 00.04.00.34658

Release date: 2021-May-03

## Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-1236m/c, C-1240m/c, C-2050 m/c, C-2460m/c

Table 20: Supported models

## New models

Alvium 1800 C-2460m/c

## New features

- Exposure Active controls
- Line Configuration for I/O lines
- Line Status for I/O lines

## Resolved issues

Alvium ID	Affected models	Description
387	1500 C-120m/c, 1500 C-210m/c, 1500 C-500m/c, 1800 C-2050m/c	When the ROI is reduced during streaming, the frame rate remains the same. The correct frame rate can be adjusted if streaming is stopped and the pixel format is selected again.

Table 21: Resolved issues



## Known issues

Alvium ID	Affected models	Description
338	1500 C-210m/c, 1500 C-500m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , no image is transmitted.
395	All	After <b>Acquisition Stop</b> has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if <b>Exposure Auto</b> is enabled. The camera must be rebooted.
553	1800 C-2460m/c	Calculated frame rates for small ROIs are not exact.

Table 22: Known issues

## FW 00.03.00.31919

Release date: 2020-Dec-08

## Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-1236m/c, C-1240m/c, C-2050 m/c

Table 23: Supported models

## New models

No models were added.

## New features

- Exposure Auto limits (minimum and maximum values)
- Gain Auto limits (minimum and maximum values)
- Intensity Auto controls (precedence and target value controls)
- Frame rate control
- Sensor timing optimizations increase maximum frame rates for selected models
- Triggering over CSI-2 (Frame Start)
- Updated default values for auto white balance
- Fixed pattern noise correction (FPNC) support for all models, except Alvium 1800 C-2050
- Defect pixel correction (DPC, factory calibrated) for 1800 C-2050m/c models

## Resolved issues

Alvium ID	Affected models	Description
299	1800 C-1236m/c, 1800 C-1240m/c, 1800 C-2050m/c	Fixed issue with <b>Acquisition Stop</b> command.

Table 24: Resolved issues

## Known issues

Alvium ID	Affected models	Description
338	1500 C-210m/c, 1500 C-500m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , no image is transmitted.
387	1500 C-120m/c, 1500 C-210m/c, 1500 C-500m/c, 1800 C-2050m/c	When the ROI is reduced during streaming, the frame rate remains the same. The correct frame rate can be adjusted if streaming is stopped and the pixel format is selected again.
395	All	After <b>Acquisition Stop</b> has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if <b>Exposure Auto</b> is enabled. The camera must be rebooted.

Table 25: Known issues

## FW 00.02.00.29974

Release date: 2020-Jul-23

## Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-1236m/c, C-1240m/c, C-2050 m/c

Table 26: Supported models

## New models

Alvium 1800 C-240m/c, C-508m/c, C-1240m/c

## New features

No features were added.

## Resolved issues

No issues were fixed.

## Known issues

Alvium ID	Affected models	Description
299	1800 C-1236m/c, 1800 C-1240m/c, 1800 C-2050m/c	<b>Acquisition Stop</b> command during sensor readout can stop the camera.
338	1500 C-210m/c, 1500 C-500m/c, 1800 C-1240m/c, 1800 C-2050m/c	If <b>Acquisition Stop</b> is executed shortly after <b>Acquisition Start</b> , the captured frame is discarded.

Table 27: Known issues

## FW 00.01.03.29478

Release date: 2020-May-07

### Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c, C-319m/c, C-507m/c, C-1236m/c, C-2050 m/c

Table 28: Supported models

### New models

Alvium 1800 C-319m/c, C-507m/c, C-1236m/c, C-2050m/c

### New features

Defect pixel correction (DPC, factory calibrated, except for 1800 C-2050m/c models)

### Resolved issues

Alvium ID	Affected models	Description
49	All	Fixed first black image in qv412.
79	All	Fixed issues with <b>Offset X</b> for <b>Offset Y</b> .

Table 29: Resolved issues

### Known issues

Alvium ID	Affected models	Description
299	1800 C-1236m/c, 1800 C-1240m/c, 1800 C-2050m/c	<b>Acquisition Stop</b> command during sensor readout can stop the camera.
395	All	After <b>Acquisition Stop</b> has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if <b>Exposure Auto</b> is enabled. The camera must be must be rebooted.

Table 30: Known issues

## FW 00.01.02.28100

Release date: 2019-Dec-03

### Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c

Table 31: Supported models

## New models

Alvium 1500 C-210m/c

Alvium 1800 C-040m/c, C-158m/c

## New features

- Gamma
- Saturation
- ROI: Adjustable width
- Mirror image

## Resolved issues

No issues were fixed.

## Known issues

Alvium ID	Affected models	Description
49	All	When streaming with qv4L2, the first image is black.
79	All	Large values for <b>Offset X</b> for <b>Offset Y</b> may not work properly.

Table 32: Known issues

## FW 00.01.00.26405

Release date: 2019-Jul-01

## Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-500m/c

Table 33: Supported models

## New models

Initial commercial release of Alvium 1500 C-050m/c, C-120m/c, C-500m/c

## Known issues

No issues have been discovered.

## Contact us

### Website, email

**General**

[www.alliedvision.com/en/contact](http://www.alliedvision.com/en/contact)

[info@alliedvision.com](mailto:info@alliedvision.com)

**Distribution partners**

[www.alliedvision.com/en/avt-locations/avt-distributors](http://www.alliedvision.com/en/avt-locations/avt-distributors)

**Support**

[www.alliedvision.com/en/support](http://www.alliedvision.com/en/support)

[www.alliedvision.com/en/about-us/contact-us/technical-support-repair-/rma](http://www.alliedvision.com/en/about-us/contact-us/technical-support-repair-/rma)

**Current firmware and release notes**

<https://www.alliedvision.com/en/support/firmware-downloads>

## Offices

**Europe, Middle East, and Africa  
(Headquarters)**

Allied Vision Technologies GmbH  
Taschenweg 2a  
07646 Stadtroda, Germany  
T// +49 36428 677-0 (Reception)  
T// +49 36428 677-230 (Sales)  
F// +49 36428 677-28

**Asia-Pacific****China**

Allied Vision Technologies  
(Shanghai) Co., Ltd.  
2-2109 Hongwell Int. Plaza  
1602# ZhongShanXi Road  
Shanghai 200235, China  
T// +86 21 64861133

**Singapore**

Allied Vision Technologies Asia Pte. Ltd  
82 Playfair Rd, #07-01 D'Lithium  
Singapore 368001  
T// +65 6634 9027

**North, Central, and South America****Canada**

Allied Vision Technologies Canada Inc.  
300 – 4621 Canada Way  
Burnaby, BC V5G 4X8, Canada  
T// +1 604 875 8855

**USA**

Allied Vision Technologies, Inc.  
102 Pickering Way- Suite 502  
Exton, PA 19341, USA  
Toll-free// +1-877-USA-1394  
T// +1 978 225 2030