

Release Notes for IDS Software Suite 4.92

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Introduction

These release notes describe the changes of the IDS Software Suite 4.92. This version introduces new camera models and enhanced software functions.

IDS Software Suite 4.92.3

New and changed functions

Modifications for UI-1007XS

- The auto exposure (AES) has been improved.
- From version 4.92.3 on, the UI-1007XS supports digital zooming for compressed images.
- The image quality for JPEG compression and image smoothing have been improved.
- The color rendering and brightness of the UI-1007XS have been reworked and adapted to the previous XS model.
- The autofocus function has been revised and the continuous autofocus function has been implemented in the software.
- To provide a better image quality, the frame rates in YUV mode are reduced in the resolutions 1280 x 960, 1280 x 720, 640 x 480 and 800 x 480.

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IDS Software Suite 4.92.2

New products

New camera models

UI-3060SE, UI-3061SE & UI-3062SE

- Global shutter CMOS sensor Sony IMX174
- Long exposure up to 30 seconds
- 1936 x 1216 pixels (2.35 MP) with 5.86 μm pixel size
- Multi AOI (up to 16 AOIs possible)
- Overlapped triggering mode for high frame rates in trigger mode
- Twist-proof USB Type-C connector
- USB Power Delivery for peripheral power supply at the I/O port
- Available as color or monochrome version

UI-3070SE, UI-3071SE & UI-3072SE

- Global shutter CMOS sensor Sony IMX252
- Resolution 3.17 MP (2056 x 1542 pixels)
- Twist-proof USB Type-C connector
- USB Power Delivery for peripheral power supply at the I/O port
- Multi AOI (up to 64 AOIs possible)
- Overlapped triggering mode for high frame rates in trigger mode
- Long exposure up to 30 seconds
- Available as color or monochrome version

UI-3860SE, UI-3861SE & UI-3862SE

- Rolling shutter CMOS sensor Sony IMX290
- Global start function
- 1/3" sensor with 2.9 μm pixel size
- Aspect ratio 16:9 (1936 x 1096 pixels)
- 12 bit per pixel
- Twist-proof USB Type-C connector
- USB Power Delivery for peripheral power supply at the I/O port
- Long exposure up to 120 seconds
- Very light-sensitive BSI sensor
- Available as color or monochrome version

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IDS Software Suite 4.92

New products

New XS



The small, smart XS with auto focus and many other auto functions combines the easiness and comfort of a consumer camera with the scope of industrial applications. The XS can easily be integrated thanks to its USB 2.0 interface and Mini B USB 2.0 connector. Equipped with OmniVision's 5 Mega-pixel CMOS sensor and a pixel size of 1.4 μm the camera delivers excellent images quality and accuracy in color reproduction – even in the harshest ambient light conditions. Due to its lightweight, compact design, 15 fps at full resolution (2592 x 1944 px) and integrated power supply, the XS is perfect for kiosk and embedded systems as well as medical engineering.

At a glance	
Interface	USB 2.0
Sensors	CMOS sensor from OmniVision
Size	23 x 26.5 x 21.5 mm (housing version)
Connections	Mini B connector for USB 2.0
Special features	Auto functions, autofocus, JPEG compression, weight only 12 g

New camera models

UI-1007XS

- OmniVision CMOS sensor (1944 x 2592 pixels)
- Maximum detail accuracy with 5.04 MP
- 5 MP video with 15.0 fps (higher than Full HD)
- Up to 30 fps at lower resolution
- Autofocus (10 cm up to ~)
- Auto exposure, auto gain, auto white balance
- Minimal size, lightweight magnesium housing (23 x 26.5 x 21.5 mm)
- Available as color version

UI-148xLE Rev. 2

- CMOS sensor from ON Semiconductor MT9P031STM
- Rolling and global start shutter
- Resolution 2560 x 1920 pixels
- Full HD resolution using AOI mode
- Binning for greater contrast
- Subsampling and binning for faster preview images
- Unlimited operation with USB 3.0 xHCI host controller
- Available as monochrome version

UI-304xLE

- Global shutter CMOS sensor from Sony IMX273
- 10-pin Molex connector for GPIO, trigger and flash
- Twist-proof USB Type-C connector
- USB Power Delivery for peripheral power supply at the I/O port
- Long exposure up to 30 seconds
- Binning (only in the monochrome version)
- Available as color or monochrome version

New and changed functions**uEye LE USB 3.1 Gen 1 AF: Contrast-based autofocus**

With contrast-based autofocus, the uEye LE USB 3.1 Gen 1 AF models support both manual focus and autofocus.

The screenshot displays the software interface for the uEye LE USB 3.1 Gen 1 AF camera. The interface is divided into several tabs: Input / Output, AES / AGC, Miscellaneous, Advanced features, and Focus. The Focus tab is currently selected, showing a Focus setting slider set to 616, ranging from 0 to 1023. Below the slider is an Autofocus Start button and two checked checkboxes: Run once and Show measured values. The Advanced settings (Autofocus) section is also visible, showing Sharpness calculation set to Tenengrad, Peak search algorithm set to Golden Ratio Search, Focus search range with Limit min at 0 and Limit max at 1023, and Hysteresis set to 8, ranging from 0 to 255.

The control of the single autofocus is only possible in the live image and not in snapshot mode. The autofocus control is contrast-based. All image settings that minimize contrast therefore have a negative effect on the autofocus control.

When the "Focus" tab is open, an AOI is displayed in the live image of the uEye Cockpit which defines the autofocus measure window. You can move, enlarge or reduce this measure window with the mouse.

You can use the settings to select different algorithms for the sharpness calculation:

- Tenengrad
- Mean Score
- Histogram Variance

You can also select different algorithms for the maximum value search (peak search algorithm):

- Golden Ratio Search: Within the preset interval range, the focus function repeatedly divides into new intervals using the Golden Ratio.
- Hill Climbing Search: Within the preset interval range, the focus function scans the register values for a maximum with medium step width until two falling sharpness values occur at the last two steps.
- Global Search: Within the preset interval range, the focus function completely scans with medium step width and the maximum that occurred is memorized.
- Full Scan: Within the preset interval range, the focus function scans with a constant step width for an optimal result.

Extended pixel clock

From version 4.92 on, the extended pixel clock is disabled for the models UI-313x and UI-314x to improve the image quality.

Function for global start shutter

From version 4.92 on, the `is_DeviceFeature()` function activates the global start shutter function. This makes the function `is_SetGlobalShutter()` obsolete. This change affects the models UI-148x/UI-348x/UI-548x, UI-158x/UI-358x/UI-558x, UI-359x, UI-386x/UI-586x and UI-388x/UI-588x that previously required the `is_SetGlobalShutter()` function.

Setting the trigger counter

The function `is_CameraStatus()` is generally used for setting the trigger counters of all cameras. This makes the function `is_SetTriggerCounter()` obsolete. This change affects all USB 3 and USB uEye cameras.

uEye .NET interface

The names of the classes `Camera.PersistentMemory` and `Camera.PersistentMemory.Extended` have been corrected in the uEye .NET interface. Programming based on the previous designations must be adapted to version 4.92 when updating.

Previous designation	New designation
<code>Camera.m_PersistentMemory</code>	<code>Camera.PersistentMemory</code>
<code>Camera.m_PersistentMemory.Extended</code>	<code>Camera.PersistentMemory.Extended</code>

General improvements

- The following models support the black value reference from version 4.92 on:
 - UI-300xSE

- UI-309xSE
- UI-320xSE
- UI-329xSE
- UI-520xFA
- UI-520xSE Rev. 4
- UI-529xFA
- UI-529xSE Rev. 4
- Changes to the system requirements for Windows 7: From version 4.92 on, the Microsoft hotfix KB3033929 must be installed for installing the IDS Software Suite **with** WHQL (e.g. OEM drivers). This hotfix supports SHA-2 code signing under Windows 7.
- Improvements and bugfixes for the reconnect mechanism
- The GigE firmware files have been moved to the hard disk corresponding to the USB 3 firmware files.
- uEye HALCON interface: For IDS Software Suite 4.92, the uEye HALCON interface has been updated for:
 - HALCON 13
 - HALCON 17.12 Progress
 - HALCON 18.05 Progress
 - HALCON 18.11 Steady

Known issues

- In IDS line scan, the GigE uEye CP Rev. 2 models may lose a line between two images with a pixel clock > 60 MHz.
- uEye HALCON interface: In IDS Software Suite 4.92, the uEye HALCON interfaces for HALCON 11 and HALCON 12 are identical to the versions in IDS Software Suite 4.91.

Discontinued products

The following uEye camera model has been discontinued. With version 4.92 it is supported for the last time:

- UI-3013XC

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