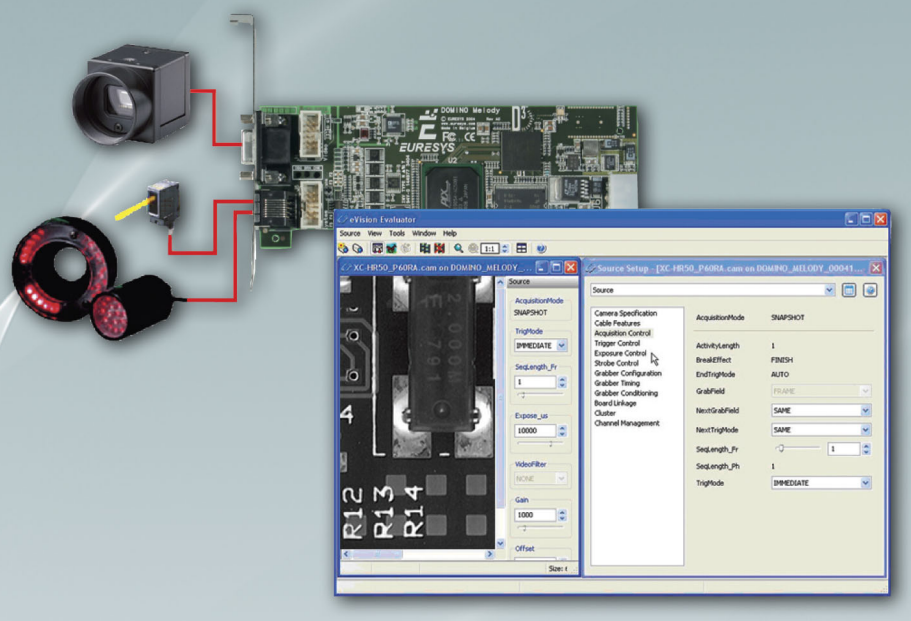
MultiCam™

Release Notes up to MultiCam 6.4.1.555
July 8, 2009



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MultiCam 6.4.1 for Linux (32- and 64-bit)

Improvements

Supported OS

From version 6.4.1.555, MultiCam supports x86-64 Linux operating systems.

Linux

MultiCam is designed to be more distribution-independent with the kernels 2.6.18 and 2.6.24, x86 and x64 platforms. It is expected to work with a wide range of distributions. Support will only be provided under Red Hat Enterprise Linux 5.2, which is the validated distribution.

OS Version	Additional Information	
Red Hat Enterprise Linux 5.2	Intel and AMD 32-bit x86	Kernel 2.6.18-92
	Intel and AMD 64-bit x64	

Two **MultiCam for Linux** drivers are distributed on the Euresys website:

- **MultiCam for Linux 32-bit**
- **MultiCam for Linux 64-bit**

Supported Boards

PICOLO series	32-bit	64-bit	DOMINO series	32-bit	64-bit	GRABLINK series	32-bit	64-bit
Picolo	✓	-	Domino Iota	✓	-	Grablink Value	✓	✓
Picolo Junior 4	✓	-	Domino Alpha 2	✓	-	Grablink Value cPCI	✓	✓
Picolo Pro 2	✓	-	Domino Delta	✓	-	Grablink Expert 2	✓	✓
Picolo Pro 3	✓	-	Domino Melody	✓	✓	Grablink Expert 2 cPCI	✓	✓
Picolo Tetra	✓	-	Domino Harmony	✓	✓	Grablink Avenue	✓	✓
Picolo Tymo	✓	-	Domino Symphony	✓	✓	Grablink Express	✓	✓
Picolo Alert	✓	✓	Domino Symphony PCIe	✓	✓	Grablink Quickpack ColorScan	✓	✓
Picolo Alert PCIe	✓	✓				Grablink Quickpack CFA	✓	✓
Picolo Alert Compact	✓	✓				Grablink Quickpack CFA PCIe	✓	✓
Picolo Alert Compact PCIe	✓	✓						
Picolo Alert RC	✓	✓						
Picolo Alert RCRB	✓	✓						
Picolo Alert RCRB PCIe	✓	✓						
Picolo Diligent	✓	✓						
Picolo Diligent Plus	✓	✓						

Solved Issues

SeqLength_Fr parameter

On Grablink Avenue and Grablink Express, the SeqLength_Fr parameter is forced to -1 (the only available value) when AcquisitionMode=VIDEO.

This malfunction is solved since MultiCam 6.4.1.555.

MultiCam 6.4

Environment

Supported Boards

PICOLO series	DOMINO series	GRABLINK series
Picolo Picolo Junior 4 Picolo Pro 2 Picolo Pro 3 Picolo Tetra Picolo Tymo Picolo Alert (PCI) Picolo Alert PCIe Picolo Alert Compact (PCI) Picolo Alert Compact PCIe Picolo Alert RC (PCI) Picolo Alert RCRB (PCI) Picolo Alert RCRB PCIe Picolo Diligent (PCI) Picolo Diligent Plus (PCIe)	Domino Iota Domino Alpha 2 Domino Delta Domino Melody Domino Harmony Domino Symphony (PCI) Domino Symphony PCIe	Grablink Value (PCI) Grablink Value cPCI Grablink Expert 2 (PCI) Grablink Expert 2 cPCI Grablink Avenue Grablink Express Grablink Quickpack ColorScan Grablink Quickpack CFA Grablink Quickpack CFA PCIe

Supported OS

Windows

OS Version	Additional Information	
Windows 2000	x86	Service Pack 4
Windows Server 2003	x86	Service Pack 1
Windows Vista	x86	—
Windows XP	x86	Service Pack 2

Linux

MultiCam is designed to be more distribution-independent with the kernels 2.6.18 and 2.6.24, x86 and x64 platforms. It is expected to work with a wide range of distributions. Support will only be provided under **Red Hat Enterprise Linux 5.2**, which is the validated distribution.

Supported IDEs

Using MultiCam with C and C++

- Microsoft Visual C++ 2005
- Microsoft Visual C++ .NET 2003
- Microsoft Visual C++ 6.0
- Borland C++ Builder 2006
- Borland C++ Builder 6.0
- gcc 4.1.0-28.4

Using MultiCam with .NET

- Microsoft Visual C# 2005
- Microsoft Visual C# .NET 2003

Using MultiCam with ActiveX

- Microsoft Visual Basic 6.0
- Borland Delphi 2006
- Borland Delphi 6.0

Using DirectShow (Picolo series)

- Microsoft Visual C++ 2005
- Microsoft Visual C++ .NET 20033

Improvements

Supported OS

MultiCam for Linux is now designed to be more distribution-independent with the kernels 2.6.18 and 2.6.24, x86 platforms. It is expected to work with a wide range of distributions. Support will only be provided under **Red Hat Enterprise Linux 5.2**, which is the validated distribution.

Solved Issues

MultiCam

In MultiCam 6.4.0.390, the ActiveX API is unusable.
This malfunction is solved since MultiCam 6.4.0.527.

GRABLINK series

ColorRegistration parameter

In MultiCam Studio, the ColorRegistration parameter does not appear on Grablink Value and Grablink Expert 2 in the list of parameters when Spectrum=COLOR and ColorMethod=BAYER.

This malfunction is solved since MultiCam 6.4.0.527.

Obsolete Product

PICOLO Jet-X

From MultiCam 6.4 on, Picolo Jet-X is obsolete. It is not supported anymore.

Known Issues

MultiCam

AVIFileWriter file greater than 1 GB (C++)

The maxfileSize parameter range of the C++ CreateAviWriter function is limited from 1 to 2047 (MBytes). When values greater than 1023 are selected, the Version parameter must be set to 1.

As a workaround, when calling CreateAviWriter function, maxfileSize can never be greater than 2047 and Version should be 1. The hard drive on which the AVI is saved must be in NTFS.

All MultiCam Boards

Inoperative TriggerDelay_us when trigMode is SOFT

The TrigDelay_us parameter only affects hardware trigger and does not affect software triggers.

As a workaround, use a software timer to manage the acquisition.

PICOLO series

I/O intermittently not functional on Cx878 Picolo series

Under undetermined circumstances, I/O signaling and acquisition with hardware frame trigger may not work on Picolo, Picolo Pro 2, Picolo Pro 3 and Picolo Tetra.

There is no workaround.

ImageSizeX is 702 instead of 704 when Standard=PAL and PixelTiming=BROADCAST

When Standard=PAL and PixelTiming=BROADCAST, ImageSizeX is wrongly set to 702 pixels instead of 704. This problem applies to Picolo, Picolo Pro 2, Picolo Pro 3, Picolo Junior 4, Picolo Tetra and Picolo Tymo.

As a workaround, set manually ImageSizeX to the correct value.

InvalidCastException when retrieving Surface associated with SignalInfo instance

When running a .NET application, an InvalidCastException exception can be raised while retrieving the MultiCam callback, the Surface associated to a SignalInfo instance. Thus, when executing the following statement: Surface currentSurface = signalInfo.Surf.

There are two workaround:

1. *Check if the image can be discarded. This exception can be caught in the customer application and the image can be discarded.*
2. *Repeatedly call Surface currentSurface = signalInfo.Surf statement until no exception is raised. Example:*

```
bool ok = false;
while(!ok)
{
  try
  {
    surface = signalInfo.Surf;
    ok = true;
  }
  catch(InvalidCastException e)
  {
  }
}
```

*Only applicable for **Picolo Alert**.*

DOMINO series

Invalid strobe pulse when using PreStrobe parameter

The pre-strobe function is not available on Domino Melody, Domino Harmony and Domino Symphony.

There is no workaround.

GRABLINK series

Grablink Quickpack CFA may not be seen by MultiCam when there are many boards in the system

When Grablink Quickpack CFA is present beside other Grablink boards in the computer, it may not be seen by MultiCam after subsequent reboots following the installation. This occurs only with Linux operating systems.

There is no workaround.

Invalid strobe duration with ITTL on Grablink Expert 2

The strobe signal provided by the ITTL I/O line is about 40-50 µs larger than expected.

As a workaround, reduce the duration of the strobe by 50 µs when using ITTL lines.

Wrong serial port ID returned by CameraLink DLL

The string "Grablink Avenue" is returned instead of "Grablink Express" when calling clGetSerialPortIdentifier API function with Grablink Express and the CameraLink dll.

There is no workaround.

Inoperative StartExposure signal with Grablink Expert 2

Acquiring a sequence of X images with Grablink Expert 2, the StartExposure signal is only issued for the first acquisition.

There is no workaround.

MultiCam 6.3

New Product

Grablink Quickpack CFA PCIe

Grablink Quickpack CFA PCIe is a flexible, high-performance image acquisition and pre-processing board, dedicated to area-scan color inspection. Grablink Quickpack CFA PCIe interfaces with Base configuration Camera Link area-scan cameras up to 85 MHz. It has a 128 MB memory and features nine general-purpose I/O lines.

Grablink Quickpack CFA PCIe is a 4-lane PCI Express frame grabber and offers a data delivery bandwidth of 320 MByte/s.

Improvements

Documentation

New Flash animations on product covers

New dynamic animations are included on the different product covers. This implies that the Adobe Flash plugin is required to display them properly, and that the documentation file size has increased.

This improvement is available since MultiCam 6.3.0.161.

New table of contents for Grablink Quickpack CFA

The TOC have been revised. The new TOC allows users to quickly access desired topics more effectively. For example, the commonly used topics are grouped in the first level rather than a few levels down.

This improvement is available since MultiCam 6.3.0.49.

Revised LUT chapter

The LUT chapter has been revised.

This improvement is available since MultiCam 6.3.0.49.

MultiCam

Driver

MultiCam 6.3 is the first MultiCam version supporting Grablink Quickpack CFA PCIe.

Trigger decimation feature

The following parameters are used for trigger decimation:

- TrigDelay_Pls
- NextTrigDelay_Pls

This feature is only available for Grablink Quickpack CFA PCIe.

Camfile identification header

Starting from MultiCam 6.3, the new directive **Board** will replace the old **MPF** directive. However, the MPF directive is still supported.

Example of a CAM file header

```
;*****************************************************************
; Camera Manufacturer: My Cameras
; Camera Model: ProgressiveFR
; Camera Configuration: Progressive Free-Run Scanning, Analog synchronization
; Board: Domino_Alpha_2
; Board: Domino_Iota
;*****************************************************************
```

GRABLINK series

New 4XR tap geometry for Grablink Expert 2

A new 4XR value of MultiCam parameter TapGeometry has been implemented and documented.

This improvement is available since MultiCam 6.3.0.161.

Solved Issues

All MultiCam Boards

Wrong error message when MultiCam Studio starts before the MultiCam Service has started

When MultiCam Studio starts before the MultiCam Service has started, a wrong error message appears: "Function: ELicenses::Initialize() Could not grant any license - Launch license manager" before the relevant one: "MultiCam initialization failed! Error: 'Cannot open MultiCam Library'". This has been corrected: only the relevant error message is now displayed, after a timeout of 20 seconds.

This malfunction is solved since MultiCam 6.3.0.161.

Second channel can not be disposed

When two channels are used, calling the dispose method of the second channel is not possible without freezing the application.

This malfunction is solved since MultiCam 6.3.0.92.

Application .NET C# hangs

.NET C# application crashes while running in mscorlib or in mscorwks. The call stacks indentify the Callbackdestructor function as the source of the crash.

This malfunction is solved since MultiCam 6.3.0.90.

PICOLO series

DirectShow filter video settings are not properly recalled from one session to another

When creating a Euresys Source Filter, the video standard settings of the previous session were not recalled.

This malfunction is solved since MultiCam 6.3.0.161.

Picolo and Picolo Pro 2 under Windows Vista

Windows Vista recognizes **Picolo** and **Picolo Pro 2** boards as a **Picolo Pro 3** board. This causes an issue during boards installation, under Windows Vista only.

This malfunction is solved since MultiCam 6.3.0.98.

Abnormal frame rate reduction while I/Os are used

Frame rate is reduced when using the I/O lines on Picolo Pro 2.

This malfunction is solved since MultiCam 6.3.0.98.

MultiCam Studio fails recognizing Picolo and Picolo Pro 2 under Windows Vista

Windows Vista recognizes Picolo and Picolo Pro 2 boards as a Picolo Pro 3 board. This issue is present since MultiCam 6.3.0.49 under Windows Vista only.

This malfunction is solved since MultiCam 6.3.0.98.

Application hangs when there is a long delay between acquisition

Instantiating and using a source filter after ESFilter.dll has been unloaded by the application could lead to a crash. Only applicable for **Picolo Diligent** and **Picolo Alert**.

This malfunction is solved since MultiCam 6.3.0.90.

DOMINO series

Line rate too low on Domino Symphony

The line rate specification has been improved. The line rate is limited to a value that does not allow Domino Symphony to support some latest top-notch cameras with high performances (such as 30 fps, 1.2 Megapixels or 90 fps VGA). The documentation will be updated in a next release. Until then, the table here under overrides the Video signal AC requirements table in DOMINO Symphony Handbook > Board Specifications > DC/AC Characteristics > **Video Signal** topic.

This malfunction is solved since MultiCam 6.3.0.98.

Video signal AC requirements

Analog video input signal AC characteristic	Conditions	Min	Typ	Max	Unit
Frame rate	Synchronous camera operation	25		500	Hz
	Asynchronous camera operation	—		500	Hz
Line rate	Synchronous camera operation	10		**52.5**	kHz
	Asynchronous camera operation Digital vertical synchronization	10		**52.5**	kHz
	Asynchronous camera operation Analog vertical synchronization	10		31.5	kHz
Sync edge rise/fall time	Sampling frequency ≤ 40 MHz	100	200	300	ns
	Sampling frequency > 40 MHz	50	100	150	ns
Line jitter		-200	0	+200	ns

First few lines of the image are sligthly left-shifted when Digital Vsync is used

First lines of an image are slightly shifted using Digital VSync. It only occurs in special circumstances.

This malfunction is solved since MultiCam 6.3.0.98.

Frame rate lower than expected when 3 cameras are connected on Domino Symphony

When connecting 3 cameras on Domino Symphony, the frame rate is abnormally low.

This malfunction is solved since MultiCam 6.3.0.98.

Domino Symphony PCIe may crash with some cameras

This malfunction is solved since MultiCam 6.3.0.98.

GRABLINK series

Incorrect images were delivered where one column of pixels every two is black

This issue occurs only when the MultiCam Channel is configured with TapConfiguration = MEDIUM_2T24, TapGeometry = 1X2, and ColorFormat = RGB24PL.

Only applicable for **Grablink Expert 2**.

This malfunction is solved since MultiCam 6.3.0.90.

Incorrect images were delivered where Blue and Green color planes are swapped

This issue occurs only when the MultiCam Channel is configured with TapConfiguration = MEDIUM_2T24, TapGeometry = 1X2, and ColorFormat = RGB24PL.

Only applicable for **Grablink Expert 2**.

This malfunction is solved since MultiCam 6.3.0.90.

Color plane swapping using ADR

This problem may occur both on **Grablink Avenue** and **Grablink Express** boards. Color plane swapping occurs with planar color formats when the following operating conditions are met:

3. A planar color format is used, such as RGB24PL.
4. The board is close to its maximum delivery bandwidth.

   Take note for the 2nd condition:

   - Such a condition may be detected when the expected frame rate or line rate appears lower than the value that would be expected.
   - The maximum delivery bandwidth may depend of the Motherboard/PCI busses performance.

Only applicable for **Grablink Express** and **Avenue**.

This malfunction is solved since MultiCam 6.3.0.90.

Inoperative value, Dvalmode = DG

DValMode = DG is not taken into account when using line-scan cameras. The frame grabber behaves as DValMode = DN in any cases, disregarding the effective value of DValMode. This problem does not occur in area-scan cameras. Only applicable for **Grablink Express** and **Avenue.**

This malfunction is solved since MultiCam 6.3.0.90.

PoCL power interruption at first MultiCam initialization

The power of PoCL cameras is temporarily interrupted when the driver is reopened. Only applicable for **Grablink Express.**

This malfunction is solved since MultiCam 6.3.0.49.

Inoperative PoCL status parameters

The following PoCL specific parameters did not work properly:

- PoCL_GroundJumper,
- PoCL_Mode,
- PoCL_PowerInput,
- PoCL_Status

Only applicable for **Grablink Express.**

This malfunction is solved since MultiCam 6.3.0.49.

Known Issues

All MultiCam Boards

Inoperative TriggerDelay_us when trigMode is SOFT

The TrigDelay_us parameter only affects hardware trigger and does not affect software triggers.

As a workaround, use a software timer to manage the acquisition.

PICOLO series

InvalidCastException when retrieving Surface associated with SignalInfo instance

When running a .NET application, an InvalidCastException exception can be raised while retrieving the MultiCam callback, the Surface associated to a SignalInfo instance. Thus, when executing the following statement: Surface currentSurface = signalInfo.Surf.

There are two workaround:

5. *Check if the image can be discarded. This exception can be caught in the customer application and the image can be discarded.*
6. *Repeatedly call Surface currentSurface = signalInfo.Surf statement until no exception is raised. Example:*

```
bool ok = false;
while(!ok)
{
  try
  {
    surface = signalInfo.Surf;
    ok = true;
  }
  catch(InvalidCastException e)
  {
  }
}
```

*Only applicable for **Picolo Alert**.*

DOMINO series

Invalid strobe pulse when using PreStrobe parameter

The pre-strobe function is not available on Domino Melody, Domino Harmony and Domino Symphony.

There is no workaround.

GRABLINK series

Wrong serial port ID returned by CameraLink DLL

The string "Grablink Avenue" is returned instead of "Grablink Express" when calling clGetSerialPortIdentifier API function with Grablink Express and the CameraLink dll.

There is no workaround.

Inoperative StartExposure signal with Grablink Expert 2

Acquiring a sequence of X images with Grablink Expert 2, the StartExposure signal is only issued for the first acquisition.

There is no workaround.

MultiCam 6.2

New Products

DOMINO Symphony

Domino Symphony is a high-performance frame grabber for industrial applications. Domino Symphony interfaces to four single-tap monochrome analog cameras. It has 10-bit A/D converters operating up to 65 MHz and an on-board 64 MB memory.

Domino Symphony is available in two types:

- Domino Symphony (PCI), a 64-bit, 66 MHz Conventional and offers a data delivery bandwidth of 240 MByte/s.
- Domino Symphony PCIe, 1-lane PCI Express and offers a data delivery bandwidth of 180 MByte/s.

PICOLO Alert Compact

Picolo Alert Compact is a variant of the Picolo Alert. The 16 video inputs are available on the Sub-D High-density 44 pin female connector, located in the bracket.

Picolo Alert Compact is available in two types:

- Picolo Alert Compact (PCI), a 64-bit, 66 MHz Conventional PCI and offers a data delivery bandwidth of 200 MByte/s.
- Picolo Alert Compact PCIe, 1-lane PCI Express and offers a data delivery bandwidth of 180 MByte/s.

PICOLO Alert RC

Picolo Alert RC is a variant of the Picolo Alert. The 16 video inputs are available on the internal VEB connectors, located on the PCB.

Picolo Alert RC is available in two types:

- Picolo Alert RC (PCI), a 64-bit, 66 MHz Conventional PCI and offers a data delivery bandwidth of 200 MByte/s.
- Picolo Alert RC PCIe, 1-lane PCI Express and offers a data delivery bandwidth of 180 MByte/s.

PICOLO Alert RCRB

Picolo Alert RCRB (PCI) is a variant of Picolo Alert RC (PCI) without bracket.

Improvements

MultiCam

MultiCam Full and MultiCam Light installers

MultiCam is now available in two packages:

- **MultiCam Full** installation file for typical and custom installations.
- **MultiCam Light** installation file for runtime installations.

Refer to MultiCam Distribution in the Euresys Boards Documentation for more details.

The command-line installation procedure is updated in the Euresys Boards Documentation.

This improvement is available since MultiCam 6.2.0.20.

Functions added in the MultiCam C API

New functions are added to the MultiCam C API:

- McSetParamPtr
- McSetParamNmPtr
- McSetParamInt64
- McSetParamNmInt64
- McGetParamPtr
- McGetParamNmPtr
- McGetParamInt64
- McGetParamNmInt64

Refer to the Euresys Boards Documentation for more details.

This improvement is available since MultiCam 6.2.0.20.

Methods added in the MultiCam C++ and .NET APIs

The methods MultiCamObject::SetParam and MultiCamObject::GetParam are overloaded to accept new argument types.

Refer to the Euresys Boards Documentation for more details.

This improvement is available since MultiCam 6.2.0.20.

Parameter enhancement

The following parameters have been modified for easier access:

- SurfaceAddr
- SurfaceContext
- TimeStamp_us

The backward compatibility is guaranteed, but the new usage is recommended. Refer to the documentation for more information.

This improvement is available since MultiCam 6.2.0.20.

Number of MultiCam channels

The maximum number of MultiCam channels that you can create has been increased.

Refer to Channel Creation in the Euresys Boards Documentation for more details.

This improvement is available since MultiCam 6.2.0.20.

Solved Issues

MultiCam

Board detection failure after driver initialization

When the MultiCam service is not started, the McOpenDriver function returned MC_INTERNAL_ERROR instead of MC_SERVICE_ERROR.

This malfunction is solved since MultiCam 6.2.0.20.

DMA Violation with Microsoft Driver Verifier activated

A "DMA Violation" blue screen could occur under certain circumstances when Microsoft Driver Verifier is activated.

This malfunction is solved since MultiCam 6.2.0.20.

Driver blocked after several McRegisterCallback calls

MultiCam driver was blocked when calling the McRegisterCallback function more than once.

This malfunction is solved since MultiCam 6.2.0.20.

OverrunCount parameter wrongly available

The OverrunCount parameter was wrongly available for Picolo and Domino boards.

This malfunction is solved since MultiCam 6.2.0.20.

MultiCam installers

The configuration of Visual Studio IDE was not restored when unselected by user within a "Modify" maintenance installation. The Delphi packages were not removed from Borland installation directory when unselected by user within a "Modify" maintenance installation.

These malfunctions are solved since MultiCam 6.2.0.20.

MultiCam Studio initialization

During initialization, MultiCam Studio started before MultiCam service.

This malfunction is solved since MultiCam 6.2.0.20.

MultiCam Studio integer collection display

Parameters of type "integer collection" were not displayed in MultiCam Studio properties dialog.

This malfunction is solved since MultiCam 6.2.0.20.

PICOLO series

Invalid OutputStyle on Picolo Pro 2

The default value for OutputStyle parameter is ITTL instead of TTL, and you can not change it to TTL. Picolo, Picolo Pro 2, Picolo Pro 3 and Picolo Tetra were affected.

This malfunction is solved since MultiCam 6.2.0.20.

GRABLINK series

Hactive_Px and Vactive_Ln upper boundaries not checked

Hactive_Px and Vactive_Ln upper boundaries were not checked at channel activation.

This malfunction is solved since MultiCam 6.2.0.20.

Frame rate limitation

The frame rate was abnormally low when you used some high resolution cameras on Grablink Quickpack CFA.

This malfunction is solved since MultiCam 6.2.0.20.

Wrong operation of the SurfaceIndex parameter

Setting SurfaceIndex with dynamical descriptor list upload was not correctly supported. Acquisitions were performed in the wrong channel surfaces during the Dynamic DMA activation on Grablink Expert 2.

This malfunction is solved since MultiCam 6.2.0.20.

LineRateMode parameter

The LineRateMode parameter can be set to a new value: Expose. This is only applicable to Grablink Avenue and Grablink Expert 2 boards.

Refer to the Line Rate Modes topic in the MultiCam User Guide of the Euresys Boards Documentation for more details.

This malfunction is solved since MultiCam 6.2.0.20.

Available values for the PoCL_PowerInput parameter

On Grablink Express, the ON value for the PoCL_PowerInput parameter was not available but was replaced by AUTO.

This malfunction is solved since MultiCam 6.2.0.20.

DOMINO series

MC_SIG_CLUSTER_UNAVAILABLE MultiCam signal not generated

The MC_SIG_CLUSTER_UNAVAILABLE MultiCam signal was not generated when no surface was available during acquisition. Only applicable for Domino Melody.

In addition, acquisition did not restart when a surface became available again.

This malfunction is solved since MultiCam 6.2.0.20.

Wrong AcquisitionCleanup level

The level of the AcquisitionCleanup parameter was not correct, and it did not appear in MultiCam Studio. Only applicable for Domino D^3 boards.

This malfunction is solved since MultiCam 6.2.0.20.

SampleTrim parameter range

Limits did not exist for the SampleTrim parameter to avoid the SampleClk_Hz parameter to run out of range. Only applicable for Domino D^3 boards.

This malfunction is solved since MultiCam 6.2.0.20.

VideoFilter parameter setting

The VideoFilter parameter could be wrongly set while a channel was in the active state. Only applicable for Domino D^3 boards.

This malfunction is solved since MultiCam 6.2.0.20.

ExposeTrim parameter

An internal error occurred if the ExposeTrim parameter was set to value -4 or -5. Applicable for all Domino boards.

This malfunction is solved since MultiCam 6.2.0.20.

CableComp parameter irrelevant for Domino D^3 boards

The CableComp parameter was removed from Domino D^3 boards as it was not relevant.

This malfunction is solved since MultiCam 6.2.0.20.

AuxResetEdge parameter irrelevant for Domino D^3 boards

The AuxResetEdge parameter was removed from Domino D^3 boards as it was not relevant.

This malfunction is solved since MultiCam 6.2.0.20.

MultiCam 6.1

New Product

PICOLO Diligent Plus

Picolo Diligent Plus is designed for demanding video surveillance applications, and offers simultaneously full D1 compressed and uncompressed streams on four video inputs. The acquisition rate of 100/120 frame/s or 200/240 field/s is permanently available for PAL/NTSC formats.

An on-board header of four contact-closure inputs, five solid-state relay outputs and a powerful watchdog function are available for your system integration needs.

Picolo Diligent Plus is a 1-lane PCI Express board, and offers data delivery bandwidth of 180 MByte/s.

Solved Issues

GRABLINK series

Some trigger signals are lost with Grablink Avenue

For applications using Grablink Avenue and the Trigger, EndTrigger, PageDelay or EndDelay settings, the trigger signals, that occurred before the end of the period defined by the EndTrigger or EndDelay parameters, were lost to this application.

This malfunction is solved since MultiCam 6.1.0.6.

Inoperative serial communication under Linux

On Linux, serial communication can not be operated on Grablink Avenue, Grablink Express, and Grablink Quickpack CFA.

This malfunction is solved since MultiCam 6.1.0.6.

MultiCam 6.0

New Features

eVision On-Board Licenses

Open eVision, the next version of the Euresys eVision processing libraries, will implement a new licensing scheme. Thus MultiCam does not support the eVision on-board licenses anymore.

MultiCam Sample Programs

The MultiCam sample programs are now distributed as a package, independently of the MultiCam drivers. The **Sample Programs** topic in the Euresys Boards Documentation links directly to the relevant page on the Euresys website.

EasyMultiCam

EasyMultiCam was the object-oriented version of MultiCam. It was distributed through the eVision package.

This interface is now part of MultiCam 6.0, and is documented in the **MultiCam C++/.NET Reference** of the Euresys Boards Documentation. It does not require the eVision libraries installation anymore.

Translation Functions

The translation functions ease the transfer of data between MultiCam acquisition and eVision processing tools.

These functions, that were previously part of EasyMultiCam, are now included in the sample programs package.

Installation Tool

MultiCam is distributed with a new version of its installation tool. This application can be used either with its graphical interface, or called silently by a custom application. The command-line version is fully documented in the MultiCam User Guide of the Euresys Boards Documentation.

Supported Cameras Documentation

All supported cameras are listed and described in the Euresys Boards Documentation.

Additional cameras are supported from time to time. For these cameras, the documentation and the additional files are available on the Euresys website through two dedicated topics in the documentation. These topics are named **Latest Analog Camera Interfaces** and **Latest Digital Camera Interfaces** respectively.

MultiCam Service

The following applies from MultiCam 6 and operates on Windows OS.

MultiCam relies on a service named “MultiCam Service”. This service is automatically started when the computer boots.

Software should only access MultiCam when this service is started. McOpenDriver() will return MC_SERVICE_ERROR if the MultiCam service is not started when called.

New Product

GRABLINK Express

Grablink Express acquires images from **digital cameras** complying with the Camera Link standard. **Line-scan and area-scan**, progressive and interlaced, grayscale and RGB color cameras can be interfaced in applications using a Grablink Express board. Grablink Express is mainly used for industrial applications.

Improvements

MultiCam

New exception condition

Until version 5.5.0.1, a severe program failure might occur when a channel was activated while a surface was still PROCESSING. Now, any attempt to activate a channel while a surface is PROCESSING returns a MC_CLUSTER_BUSY error.

This improvement is available since MultiCam 5.5.0.1.

Documentation

Dynamic presentation of the MultiCam parameters

The MultiCam Reference part of the documentation includes a new feature. This dynamic feature allows the user to only expose the part of the documentation relevant for a chosen board series.

This improvement is available since MultiCam 6.0.

All documentation is included in a single file

All the documentation is distributed as a single chm file. This file also includes the additional PDF files which are viewable from inside the documentation. There is only a single entry point for all the boards and MultiCam documentation.

This improvement is available since MultiCam 6.0.

Internet Explorer supported versions

Internet Explorer version 5.5 or later must be installed to fully benefit from these new features

This improvement is available since MultiCam 6.0.

Parameter setting order during channel creation

Since MultiCam 5.1, the channel creation is more stringent.

A physical board must be assigned to a channel instance. The board to channel assignment must be performed immediately after the channel creation and before applying any other channel parameter setting.

This improvement is available since MultiCam 5.5.0.2.

All supported cameras are documented in one place

The documentation of all cameras supported by Euresys frame grabbers is collected and available in one single location.

Previously, the PDF files were available in a separate folder. Now, they are classified, by manufacturer and model, together with the built-in cameras documentation, in the single documentation file available with all MultiCam releases.

This improvement is available since MultiCam 5.5.0.2.

White balance

The White Balance documentation has been improved in MultiCam User Guide. Additional specifications have been added for the white balance operation with Grablink Quickpack CFA.

This improvement is available since MultiCam 5.5.0.1.

I/O documentation for Grablink series

The I/O documentation has been corrected and improved in all Grablink handbooks.

This improvement is available since MultiCam 5.5.0.1.

Solved Issues

PICOLO series

Restarting a channel after a signal loss could crash the application

With a **Picolo Alert** or a **Picolo Diligent**, restarting a channel after a video signal loss could make the application crash after a timeout period of 10 seconds. This behavior was reported only with DirectShow filters.

This malfunction is solved since MultiCam 6.0.0.0.

Access violation error when releasing the DirectShow filter

Releasing a Euresys Source Filter instance while the video signal is lost could sometimes lead to an access violation.

This malfunction is solved since MultiCam 6.0.0.0.

Unstable behavior when using the DirectShow filter

With a **Picolo Jet-X**, under certain circumstances, the Euresys Source Filter became non-responding after changing the output format several times.

This malfunction is solved since MultiCam 6.0.0.1.

System crash when using the property pages of the DirectShow filter

With a **Picolo Jet-X**, displaying the property pages while the filter graph was running could lead to a system crash and a blue screen.

This malfunction is solved since MultiCam 6.0.0.1.

DOMINO series

Possible blue screen when starting simultaneous applications with several frame grabbers

A blue screen could occur when you started several applications simultaneously with several frame grabbers.

This malfunction is solved since MultiCam 5.5.0.2.

Wrong parity with camera Teli CS3920

The Domino boards randomly acquired frames with the wrong parity after a channel activation on a Teli CS3920 camera.

This malfunction is solved since MultiCam 6.0.0.0.

GRABLINK series

Using the rate converter made the RP mode inoperable

RP mode is inoperative when you activate the rate converter. Only applicable for **Grablink Avenue**.

This malfunction is solved since MultiCam 6.0.0.0.

Synchronization problem in case of insufficient PCI bandwidth

Some synchronization issues appear in the acquired image flow when the available PCI bus bandwidth is not large enough. In such cases, the system should have skipped some images to guarantee that the acquired images are not corrupted. Only applicable for **Grablink Avenue**.

This malfunction is solved since MultiCam 6.0.0.0.

The HFR mode was inoperative on Grablink Avenue

The HFR —High Frame Rate— mode used for very high-speed acquisitions was inoperative, and behaved as the Snapshot mode. Only applicable for **Grablink Avenue**.

This malfunction is solved since MultiCam 6.0.0.0.

The windowing feature produced corrupted image

Activating the windowing feature corrupted the acquired images by introducing high frequency noise in these images. Only applicable for **Grablink Avenue**.

This malfunction is solved since MultiCam 6.0.0.0.

Inoperative BreakEffect in absence of trigger pulses

In a system with a **Grablink Avenue**, the parameter AcquisitionMode set to PAGE, BreakEffect set to ABORT and TrigMode set to PULSE, the channel then the ForceTrig are activated, if this channel is set to IDLE before receiving the first line trigger pulse, then it will not stop immediately. Instead, an acquisition failure will occur after a 20 seconds time-out period.

This malfunction is solved since MultiCam 6.0.0.0.

Application crashes with high horizontal resolution on a Grablink Quickpack CFA

Configuring a camera through a camfile, with a horizontal resolution set to more than 3840 pixels can lead to a crash of MultiCam Studio or of the application.

This malfunction is solved since MultiCam 5.5.0.3.

LineIndex not implemented on Grablink Quickpack ColorScan

The LineIndex parameter was not implemented on Grablink Quickpack ColorScan and always returned a 0 value.

This malfunction is solved since MultiCam 5.5.0.2.

Possible blue screen when starting simultaneous applications with several frame grabbers

A blue screen could occur when you start several applications simultaneously with several frame grabbers.

This malfunction is solved since MultiCam 5.5.0.2.

PCI bandwidth issue with Grablink Quickpack CFA

It has been reported that the effective PCI bandwidth was lower than expected.

For instance Grablink Quickpack CFA is now capable to deliver RGB24 images at full rate from a 640 x 480, 250 fps, 10 bits/pixel BAYER camera.

This malfunction is solved since MultiCam 5.5.0.1.

Vertical synchronization and colors issue with Grablink Quickpack CFA

Sporadic vertical synchronization failures were observed on Grablink Quickpack CFA. With BAYER CFA cameras, this synchronization issue caused abnormal colors since the color registration became incorrect.

This malfunction is solved since MultiCam 5.5.0.1.

DirectShow

DirectShow filter malfunction in WME environment with Picolo Alert

In a WME environment, using Picolo Alert with an NTSC camera and the default filter settings can lead the application to stop.

This malfunction is solved since MultiCam 5.5.0.2.

Documentation

Wrong Drawing in Grablink Avenue Handbook and Grablink Quickpack CFA Handbook

In Grablink Avenue Handbook and in Grablink Quickpack CFA Handbook, an error was found on **System** connector new drawing. The PGND and +5V pins were inverted.

The correct pinout is:

- The **PGND** signal is available on **pin 17**.
- The **+5V** signal is available on **pin 26**.

This malfunction is fixed since MultiCam 5.5.0.2.