Allied Vision
a **TKH Vision** brand

RELEASE NOTES

eGrabber

eGrabber 25.12 Release Notes

Document **D232EN-AV eGrabber Release Notes-eGrabber-25.12.1.2209** built on **2026-01-19**

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https://www.alliedvision.com

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1. Release Benefits

*Benefits of added or improved features of **eGrabber 25.12***

Allied Vision Frame Grabbers

Extended support for 1X_2YE TapGeometry

This release of **eGrabber** adds the support for 1X_2YE TapGeometry to the “2-camera” firmware variant of **PC3623-T Coaxlink Quad CXP-12 Value** frame grabber.

The 1X_2YE tap geometry is a configuration used in CoaXPress for area-scan cameras that feature two zones across the vertical direction.

WARNING
Allied Vision Frame Grabbers are only compatible with cameras manufactured by a company of **TKH vision group**!

2. Release Specification

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2.1. Supported Products

This topic shows, for each product series and sub-series, the list of officially[1] supported products by **eGrabber 25.12**.

- The **Product code and name** column shows the order code and the official name of the product.
- The **Class** column shows the functional class of the product (e.g.: Frame Grabber, I/O Extension ...).
- The **Icon** column shows the product icon used in this documentation package.

CoaXPress CXP-6 products

Product code and name	Class	Icon	First release
PC1633-T Coaxlink Quad G3	Frame Grabber		eGrabber 25.10
PC3602-T Coaxlink Octo	Frame Grabber		eGrabber 25.10

CoaXPress CXP-12 products

Product code and name	Class	Icon	First release
PC3621-LH-T Coaxlink Mono CXP-12-LH	Frame Grabber		eGrabber 25.10
PC3622-T Coaxlink Duo CXP-12	Frame Grabber		eGrabber 25.10
PC3623-T Coaxlink Quad CXP-12 Value	Frame Grabber		eGrabber 25.10

[1] Excluding preliminary products

2.2. Firmware Variants

This topic shows, for each officially supported product (group), the list of officially available[1] firmware variants provided with **eGrabber 25.12**.

- The **Firmware variant** column shows the name of the firmware variant.
- The **HCMAP** column shows the Host Connection Map[2] .
- The **Features** column shows the main features of the firmware variant.
- The **Description** column shows a one-phrase description of the connection scheme.
- The **Rev.** column shows the revision number of the firmware delivered with this release.

PC1633-T Coaxlink Quad G3

Firmware Variant	HCMAP	Features	Description	Rev.
1-camera	1D4	FFC LUT CFA-12	One 1- or 2- or 4-connection area-scan camera	496
1-camera, 4-data-stream	1D4S4		One 1- or 2- or 4-connection area-scan camera, up to 4 data streams	496
1-camera, line-scan	1D4	FFC LUT FLIPX	One 1- or 2- or 4-connection line-scan camera	496
2-camera	2D22	LUT CFA-35-D0	One or two 1- or 2-connection area-scan cameras	496
2-camera, bayer	2D22	CFA-35	One or two 1- or 2-connection area-scan cameras	496
2-camera, line-scan	2D22	LUT	One or two 1- or 2-connection line-scan cameras	496
3-camera	3D211	LUT	One 1- or 2-connection and one or two 1-connection area-scan cameras	496
4-camera	4D1111	LUT	One or two or three or four 1-connection area-scan cameras	496
4-camera, line-scan	4D1111	LUT	One or two or three or four 1-connection line-scan cameras	496

[1] Excluding custom firmware variants

[2] Specific assignment of the Device connections to the Host connectors

PC3602-T Coaxlink Octo

Firmware Variant	HCMAP	Features	Description	Rev.
1-camera	1D8	LUT CFA-123	One 1- or 2- or 4- or 8-connection area-scan camera	496
1-camera, line-scan	1D8	LUT MI	One 1- or 2- or 4- or 8-connection line-scan camera	499
2-camera	2D44	FFC LUT CFA-125	One or two 1- or 2- or 4-connection area-scan cameras	496
2-camera, line-scan	2D44	LUT FLIPX MI PLANAR	One or two 1- or 2- or 4-connection line-scan cameras	499
3-camera	3D422	LUT	One 1- or 2- or 4-connection and one or two 1- or 2-connection area-scan cameras	496
4-camera	4D2222	LUT	One or two or three or four 1- or 2-connection area-scan cameras	496
4-camera, line-scan	4D2222	LUT MI	One or two or three or four 1- or 2-connection line-scan cameras	499
5-camera	5D41111	LUT	One 1- or 2- or 4-connection and one or two or three or four 1-connection area-scan cameras	496
5-camera, 5D22211	5D22211	LUT	One or two or three 1- or 2-connection and one or two 1-connection area-scan cameras	496
8-camera	8D11111111	LUT	Up to eight 1-connection area-scan cameras	496
8-camera, line-scan	8D11111111	LUT MI	Up to eight 1-connection line-scan cameras	499

PC3621-LH-T Coaxlink Mono CXP-12-LH

Firmware Variant	HCMAP	Features	Description	Rev.
1-camera	1D1	LUT	One 1-connection area-scan camera	496
1-camera, line-scan	1D1	LUT	One 1-connection line-scan camera	496

PC3622-T Coaxlink Duo CXP-12

Firmware Variant	HCMAP	Features	Description	Rev.
1-camera	1D2	LUT CFA-3	One 1- or 2-connection area-scan camera	496
1-camera, line-scan	1D2	LUT	One 1- or 2-connection line-scan camera	496
2-camera	2D11	LUT	One or two 1-connection area-scan cameras	496
2-camera, line-scan	2D11	LUT	One or two 1-connection line-scan cameras	496

PC3623-T Coaxlink Quad CXP-12 Value

Firmware Variant	HCMAP	Features	Description	Rev.
1-camera	1D4	FFC LUT CFA-12 BIN	One 1- or 2- or 4-connection area-scan camera	496
1-camera, line-scan	1D4	FFC LUT BIN MI LT	One 1- or 2- or 4-connection line-scan camera	496
2-camera	2D22	LUT	One or two 1- or 2-connection area-scan cameras	496
2-camera, line-scan	2D22	LUT MI LT	One or two 1- or 2-connection line-scan cameras	499
3-camera	3D211	LUT	One 1- or 2-connection and one or two 1-connection area-scan cameras	496
4-camera	4D1111	LUT	One or two or three or four 1-connection area-scan cameras	496
4-camera, line-scan	4D1111	LUT MI	One or two or three or four 1-connection line-scan cameras	499

Features abbreviations

- *BIN*: Pixel binning
- *CFA-12*: Bayer CFA decoding - Methods 1 and 2
- *CFA-123*: Bayer CFA decoding - Methods 1, 2, and 3
- *CFA-125*: Bayer CFA decoding - Methods 1, 2, and 5
- *CFA-2-S0*: Bayer CFA decoding - Method 2 on Stream0
- *CFA-3*: Bayer CFA decoding - Method 3
- *CFA-35*: Bayer CFA decoding - Methods 3 and Method 5
- *CFA-35-D0*: Bayer CFA decoding - Methods 3 and 5 on Device0
- *FLIPX*: Horizontal image flipping
- *FFC*: Flat-field correction
- *JPEG-S1*: JPEG encoding on Stream1
- *LLE*: Laser line extraction
- *LT*: Mapping of events from the I/O Toolbox to CoaXPress trigger messages LinkTrigger0 and LinkTrigger1
- *LUT*: Lookup table processing
- *MI*: Metadata insertion
- *PLANAR*: RGB to PLANAR_RGB or BGR to PLANAR_BGR conversions

2.3. Camera Interfaces Standard Compliance

CoaXPress

Coaxlink frame grabbers together with **eGrabber 25.12** comply with:

- *CoaXPress Standard 1.0*
- *CoaXPress Standard 1.1*
- *CoaXPress Standard 1.1.1*
- *CoaXPress Standard 2.0*
- *CoaXPress Standard 2.1*[1]

WARNING
Allied Vision Frame Grabbers are only compatible with cameras manufactured by a company of **TKH vision group**!

[1] GenICam GenDC (Generic Data Container) support is optional in CoaXPress 2.1 and is currently not included.

2.4. Supported Operating Systems

See also: Supported Operating Sytems History

Windows

eGrabber driver, **eGrabber Studio**, **eGrabber Gigelink**, **eGrabber Recorder** and **GenICam Browser (Deprecated)** are designed to support all versions of **Windows 10** and **Windows 11**, including the **Server** and the **IoT Enterprise** versions on **x86-64 (64-bit)** platforms.

WARNING

eGrabber 25.12 is the last release supporting Windows 10 versions prior to 1809. Starting with **eGrabber 26.01**, the minimum Windows 10 version requirements will change to Windows 10 version 1809 or later.

Release validation

This release has been validated with the following Windows versions:

OS Name & Version	Platform	Notes
Microsoft Windows 10	x86-64 (64-bit)	Enterprise edition - Version 22H2
Microsoft Windows 11	x86-64 (64-bit)	Enterprise edition - Version 22H2
		Enterprise edition - Version 23H2
		Enterprise edition - Version 24H2
Microsoft Windows Server 2025	x86-64 (64-bit)	Standard edition - Version 24H2

NOTE

- The driver is signed by Microsoft.
- Power saving modes of the operating systems (StandBy, Sleep, Suspend...) are not supported.
- Kernel DMA Protection is not supported.

Linux

eGrabber driver, **eGrabber Studio**, **eGrabber Gigelink**, **eGrabber Recorder** and **GenICam Browser (Deprecated)** are designed to be distribution-independent on **x86-64 (64-bit)**, and **AArch64 (64-bit)** platforms. They are expected to work with a wide range of distributions.

Minimum kernel version requirements

- **eGrabber Gigelink** requires kernel version 3.14 or higher
- Other tools and libraries requires kernel version 3.2 or higher

GNU C library (glibc) requirements

- **eGrabber Studio** requires glibc version 2.17 (or higher)
- Other tools and libraries require glibc version 2.17 (or higher) on **AArch64 (64-bit)**, version 2.15 (or higher) on **x86-64 (64-bit)**

WARNING
eGrabber 25.12 is the last release supporting Linux kernel versions prior to version 4.4 and GNU C library version prior to 2.23. Starting with **eGrabber 26.01**, the Minimum kernel version requirements will change to *Linux kernel version 4.4 or higher* and the GNU C library (glibc) requirements will change to *GLIBC 2.23 or higher*.

Release validation

This release has been validated with the following distribution(s):

OS Name & Version	Platform	Notes
Linux Debian 7	x86-64 (64-bit)	Kernel version 3.2
Linux Fedora 33	x86-64 (64-bit)	Kernel version 5.8.15
Linux OpenSUSE Leap 15.4	x86-64 (64-bit)	Kernel version 5.14
Linux Ubuntu 17.04	x86-64 (64-bit)	Kernel version 4.10
Linux Ubuntu 18.04	AArch64 (64-bit)	Kernel version 5.4.0-42
Linux Ubuntu 20.04 LTS	x86-64 (64-bit)	Kernel version 5.15
Linux Ubuntu 22.04 LTS	AArch64 (64-bit)	Kernel version 5.15
Linux Ubuntu 23.10	x86-64 (64-bit)	Kernel version 6.5
Linux Ubuntu 24.10	x86-64 (64-bit)	Kernel 6.12.1-realtime

NOTE
Power saving modes of the operating systems (StandBy, Sleep, Suspend...) are not supported.

See also: Installing eGrabber on Linux in the Getting Started section of the Coaxlink series or Grablink Duo Handbooks

macOS

eGrabber driver, **eGrabber Studio** and **GenICam Browser (Deprecated)** are designed to support **all macOS versions from version 10.14** on **x86-64 (64-bit)** platforms and **all macOS versions from version 12.3** on **AArch64 (64-bit)** platforms.

Release validation

This release has been validated with the following version(s):

OS Name & Version	Platform	Notes
macOS 10.15.7	x86-64 (64-bit)	A.k.a. Catalina
macOS 12.6.3	AArch64 (64-bit)	A.k.a. Monterey
macOS 12.7.4	x86-64 (64-bit)	A.k.a. Monterey

NOTE

- The driver for macOS is signed by Euresys using a certificate that has been signed by Apple.
- Power saving modes of the operating systems (StandBy, Sleep, Suspend...) are not supported.

WARNING

eGrabber 25.12 is the last release providing macos-aarch64-kext and macos-x86_64-kext drivers for macOS.

2.5. Memento

Memento version 4.0 or later is required when using **Coaxlink driver** version 4.0 or later and any version of **eGrabber driver**.

Memento version 9.5 is required to use the **Memento Analyzer**.

2.6. Development Tools

eGrabber driver should be usable with any development tool that supports at least one of these interfaces:

C/C++

eGrabber driver provides four GenICam GenTL producers: coaxlink.cti, grablink.cti, gigelink.cti and playlink.cti.

coaxlink.cti

coaxlink.cti supports **Coaxlink frame grabbers**, it includes following libraries:

- An x86_64 dynamic library designed to be used with ISO-compliant C/C++ compilers for the development of x86-64 (64-bit) applications.
- An AArch64 dynamic library designed to be used with ISO-compliant C/C++ compilers for the development of AArch64 (64-bit) applications.

eGrabber

eGrabber driver also provides the eGrabber library, a library of C++ classes that provide a high-level interface.

- On Linux, the eGrabber library requires GLIBCXX_3.4.21/CXXABI_1.3.9 → libstdc++.so.6.0.21 or higher.

.NET

- EGrabber.NET assembly for Windows, Linux and macOS (Any CPU) targeting .NET 6.0 (previously called .NET Core)
- EGrabber.NETFramework.dll: a .NET assembly designed to be used with development environments compatible with .NET Framework 4.6 or higher.

NOTE: Updating an application to use EGrabber.NETFramework.dll or EGrabber.NET.dll instead of Coaxlink_NetApi.dll is easy and recommended.

Python

Python bindings for **eGrabber** allow users to call eGrabber functions and operate **eGrabber-driven frame grabbers** from Python scripts. They are compatible with Python 3.8 or higher under Windows, Linux and macOS.

On Windows, the eGrabber installer adds a shortcut in the Windows Start Menu to install the eGrabber Python bindings.

2.7. Software Tools

*Software tools delivered together with **eGrabber 25.12***

Name	Description
eGrabber Studio	GUI tool for testing the image acquisition with **eGrabber** from Camera Link, CoaXPress and GigE Vision cameras and upgrading the firmware of **eGrabber-driven frame grabbers**. **StudioLink** enables the **new Open eVision Studio** application to connect to an opened **eGrabber Studio** EGrabber source, control the acquisition and get images to process within **Open eVision Studio**.
Firmware Manager Console	Command-line tool for installing or upgrading the firmware embedded in **eGrabber-driven frame grabbers**.
GenTL Console	Command-line tool giving access to all the functions and commands exposed by the Euresys GenTL Producer.

NOTE

- The **eGrabber driver**, **eGrabber Studio**, **eGrabber Gigelink**, the **Firmware Manager Console**, the **GenICam Browser (Deprecated)** and the **GenTL Console** can be used free of charge with other Euresys products.
- Starting from release 23.04, **eGrabber Studio** includes a **Firmware Manager**.

3. Important Notices

Important notifications to be read before installing and/or using the product on your PC!

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3.1. Firmware Revisions

WARNING

eGrabber driver checks the compatibility of the firmware installed on every frame grabber. For those having an incompatible firmware, the GenTL driver exposes 0 (zero) Device.

If the requirement is not satisfied for all the **eGrabber-driven frame grabbers** in your system, it is *mandatory* to apply the Firmware Upgrade procedure prior to using this version of the driver.

NOTE

Starting with eGrabber 25.03, the firmware revision numbers are listed, for each firmware-variant in the Firmware Variants table

3.2. CPU Requirements

The image converter requires a CPU that has the Supplemental Streaming SIMD Extension 3 (SSSE3) instruction set.

3.3. Image Buffer Limits

Maximum buffer size

0xfffffff0 bytes (4 GiB - 16 B) for all operating systems

Number of buffers

The number of buffers is only limited by available system resources.

NOTE: when using very large numbers of buffers, DSAnnounceBuffer calls can take longer and longer to complete (or even fail with error code GC_ERR_CUSTOM_IOCTL_BUFFER_ANNOUNCE_FAILED). If this happens, the user should set DmaEngineOptimization=LowMemoryUsage in the data stream module.

3.4. Notice for Linux

Important notification to be read before installing and/or using the product on your Linux PC

- **Memento** must be installed prior to **eGrabber**.
- If the **eGrabber** package is already installed, proceed as follows:
  - Uninstall **eGrabber**.
  - Install **Memento**.
  - Re-install **eGrabber**.
- If NVIDIA RDMA is required, read "Notice for NVIDIA RDMA" on page 17

3.5. Notice for NVIDIA RDMA

NVIDIA RDMA is only suppported on Linux.

NVIDIA RDMA samples require a NVIDIA GPU that suppports RDMA.

The NVIDIA RDMA samples allocate memory on the GPU and announce this memory using NvidiaRdmaMemory.

See the following files in the eGrabber sample programs:

- cpp/egrabber/samples/503-grabn-cuda-rdma-process.*
- cpp/nvidia/egrabber-cuda with the command line argument cudaRDMA

Installation instructions:

- NVIDIA CUDA drivers:

- Follow the installation instructions from: https://developer.nvidia.com/cuda-downloads?target_os=Linux&target_arch=x86_64&Distribution=Ubuntu&target_version=20.04&target_type=deb_network

- NVIDIA driver sources:
  - These are needed to produce the Module.symvers file associated with the installed nvidia driver. This file will be required to install the eGrabber package
  - Select the appropriate driver from https://www.nvidia.com/download/index.aspx?lang=en-us
  - Make sure to download the version that matches the nvidia-<version> already installed in /usr/src/
  - Extract the archive with -x option
  - Change to directory kernel in the extracted archive
  - Run make module
  - The file Module.symvers should have been generated
- eGrabber package
  - Extract the egrabber-linux-x86_64 archive
  - Install the package with the following command:
    sudo NVIDIA_KERNEL_PATH=<dir path containing Module.symvers> ./install.sh

The line Enabling NVIDIA RDMA build should appear during the installation of the eGrabber package.

A successful build can be confirmed if the command lsmod | grep coaxlink (or lsmod | grep grablink) indicates that coaxlink (or grablink) module depends on nvidia.

3.6. Notices for macOS

Important notifications to be read before installing the driver on your Mac

Driver types

Install the **Memento** package corresponding to the **eGrabber** driver type:

eGrabber driver package	Memento package
egrabber-macos-aarch64-dext-<MA.MI.RE.BU>.pkg	memento-macos-aarch64-dext-<MA.MI.RE.BU>.pkg
egrabber-macos-aarch64-kext-<MA.MI.RE.BU>.pkg	memento-macos-aarch64-kext-<MA.MI.RE.BU>.pkg
egrabber-macos-x86_64-dext-<MA.MI.RE.BU>.pkg	memento-macos-x86_64-dext-<MA.MI.RE.BU>.pkg
egrabber-macos-x86_64-kext-<MA.MI.RE.BU>.pkg	memento-macos-x86_64-kext-<MA.MI.RE.BU>.pkg

TIP

dext drivers operate in user-mode using the default Full Security policy level. It is not necessary

WARNING

eGrabber 25.12 is the last release providing macos-aarch64-kext and macos-x86_64-kext drivers for macOS.

Reduced Security level (only for kext drivers on Mac computers with Apple silicon)

Kernel extensions must be explicitly enabled before the installation of **AV** -aarch64-kext-packages on Mac computers with Apple silicon.

See https://support.apple.com/fr-be/guide/security/sec8e454101b/web

To enable kernel extensions on a Mac with Apple silicon:

1. Enter macOS recovery
2. In Utilities > Startup Security Utility > Security Policy
   a. Select Reduced Security
   b. Check Allow user management of kernel extensions from identified developers
3. Restart the system

Approval of kernel extension (only for kext drivers on Mac computers with Apple silicon)

After installing **eGrabber** or **Memento AV**-aarch64-kext packages, newly installed **AV** kernel extensions must be approved by the administrator in the Security and Privacy preferences and the system needs to be restarted.

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4.1. Products Update

*Modification(s) to the list of supported products and or accessories in **eGrabber 25.12***

See also: "Coaxlink series Handbook" PDF document

4.2. Firmware Variants Update

*Added (or removed) firmware variants in **eGrabber 25.12***

4.3. Features Updates

*Added and improved features in **eGrabber 25.12***

eGrabber

- eGrabber sample programs added Python sample programs "cuda-grab-and-invert" and "cuda-rdma"
- eGrabber sample programs added added C# sample program "egrabber-cuda.NET"
- ImageConvert: Added operation IMAGE_CONVERT_OUTPUT_OPERATION_REVERSE_Y to flip the image in the Y direction
- Grablink Added CameraLinkChannelX, CameraLinkChannelY, and CameraLinkChannelZ enum entries to remote device module DeviceClockSelector feature and device module RemoteDeviceClockSelector feature
- Coaxlink Grablink Added new RejectedLine event
- Coaxlink Grablink Added **Memento** error traces for invalid pixel processing configurations
- Coaxlink Grablink Added an option to sort the interface list by PCI slot number
- eGrabber Added section *GenTL producers configuration* to the *eGrabber Programmer's Guide* detailing the parameters available in configuration files
- Added features to the system module to display the parameters read from configuration files
- **GenApi**: improved documentation of virtual @info command

4.4. Solved Issues

*Solved issues in **eGrabber 25.12***

eGrabber

- eGrabber Fixed SaveToDisk for GVSP 10-bit and 12-bit packed formats
- **GenApi**: fixed a race condition on the actual polling time of GenApi nodes (with the PollingTime attribute) when identical XML documents were loaded multiple times in the same application
- **gentl**: fixed --set and --setup options of dtr command (regression introduced in 25.05)
- Fixed installation on RHEL/CentOS 9.6 (kernel 5.14.0-513)

Frame grabbers (Coaxlink series and Grablink Duo)

Fixed an issue where the "Firmware too old" status was incorrectly reported when the **PC3628 Coaxlink QSFP28** did not have sufficient power on the PCI Express slot

4.5. Breaking Changes

Changes in the API that are not backward compatible

Since eGrabber 25.09

- On Windows, coaxlink.cti, grablink.cti, gigelink.cti, and playlink.cti now look for their configuration files (coaxlink.ini, grablink.ini, gigelink.ini, and playlink.cfg respectively) in %PUBLIC%\Documents\Euresys\eGrabber\ instead of %PUBLIC%\Documents\eGrabber\
- Removed 2 member variables from NewBufferData; these member variables are for internal use only and should not be used:
  - Python NewBufferData.dsh and NewBufferData.bh
  - .NET NewBufferData::DataStreamHandle and NewBufferData::BufferHandle

Since eGrabber 25.07

Removed BUFFER_INFO_CUSTOM_STREAM_LINE_WIDTH, BUFFER_INFO_CUSTOM_STREAM_LINE_PITCH, BUFFER_INFO_CUSTOM_STREAM_STRIPE_HEIGHT, BUFFER_INFO_CUSTOM_STREAM_STRIPE_PITCH, BUFFER_INFO_CUSTOM_STREAM_STRIPE_OFFSET, and BUFFER_INFO_CUSTOM_STREAM_BLOCK_HEIGHT, which were deprecated since eGrabber 24.09

WARNING

- BUFFER_INFO_CUSTOM_STREAM_STRIPE_ARRANGEMENT is deprecated and will be removed in a future release
- StripeArrangement=Geometry_1X_1YE is deprecated and will be removed in a future release; StripeArrangement=Geometry_1X_1Y with ReverseY=True should be used instead

Since eGrabber 25.04

- .NET Fixed a typo in EGrabberDiscovery; the property GentTL has been renamed to GenTL; an application using EGrabberDiscovery.GentTL will no longer work starting from this release of eGrabber unless it's updated to use EGrabberDiscovery.GenTL instead
- Deprecation of EGrabbers.h is now enforced; EGrabbers.h was deprecated in **eGrabber 22.03**; two options to fix user code:
  - recommended change use EGrabberDiscovery instead of EGrabbers
  - add #define EURESYS_USE_EGRABBERS_DEPRECATED_API before #include <EGrabbers.h>

Since eGrabber 24.09

.NET Improved EGrabber.NET API to support buffers larger than 2GiB

Since eGrabber 24.06

cti configuration files locations

- coaxlink.cti, grablink.cti, and gigelink.cti now look for their configuration file (coaxlink.ini, grablink.ini, and gigelink.ini, respectively) in the eGrabber configuration directory:
  - on Windows: %PUBLIC%\Documents\Euresys\eGrabber\
  - on Linux: /etc/opt/euresys/egrabber/
  - on macOS: /usr/local/etc/opt/euresys/egrabber/

Since eGrabber 22.08

eGrabber Recorder : Removed asynchronous writes

- The eGrabber Recorder binary interface has not changed, however the arguments related to async handles are no longer functional; applications using this API need to be adapted (depending on the application architecture, a dedicated thread will be required to perform the writes in the background).
- The Recorder Python bindings have been adapted to remove the asynchronous writes as well as the Record flags (e.g. recorder.read() now returns a tuple with 2 elements instead of 3).

Since eGrabber 22.05

- Previously, enableEvent<NewBufferData> was implicitly performed in the constructor of EGrabber.
- Now, enableEvent<NewBufferData> is performed in start unless NewBufferData event has been disabled beforehand; any attempt to pop a NewBufferData structure before start and without explicitly enabling NewBufferData event will lead to an error.

Since eGrabber 19.0

The minimal GLIBC version required for x86-64 (64-bit) Linux binaries is now 2.14.

Since eGrabber 14.0

- BUFFER_INFO_SIZE_FILLED now reports the number of bytes transferred, excluding padding (if any)
- BUFFER_INFO_DATA_SIZE reports the value that was previously reported by BUFFER_INFO_SIZE_FILLED

Since Coaxlink 12.2

NeverWrite is the new default value of CxpLinkConfigurationOption.

NOTE: The recommended way to set the CoaXPress link configuration is by using the equivalent feature in the remote device module; this can be named ConnectionConfig, LinkConfig, or CxpLinkConfiguration depending on the camera.

NOTE: Alternatively, the previous behavior can be restored by setting CxpLinkConfigurationOption to AlwaysWrite. However, the GenApi cache for this register might become invalid!

Since Coaxlink 12.0

- **PC1637 Coaxlink Quad 3D-LLE**: STREAM_INFO_CUSTOM_WIDTH and BUFFER_INFO_WIDTH are now multiplied by two if two laser-lines are extracted
- The Coaxlink .NET assembly targets:
  - the .NET framework 2.0 in Coaxlink versions up to 11.x
  - the .NET framework 4.0 in Coaxlink versions 12.0 and higher

Since Coaxlink 11.1

Behavior of PC1637 Coaxlink Quad 3D-LLE from firmware revision 285:

- The line pitch alignment has been changed to 16 bytes (before firmware revision 285, the line pitch alignment of the card was 8 bytes); this means the Width of the camera must be a multiple of 16 (Mono8).
- When the extraction is disabled, the card behaves like an area-scan variant (and the data stream feature BufferHeight is not available); when the extraction is enabled, BufferHeight is available and determines the number of profiles to extract; when the extraction is disabled, applications no longer require extra care to make sure acquisitions always start with the first line of the acquired images.

CoaXPress

Ignore any remote device whose master connection is not connected to the first connector of a Coaxlink Device; the driver now requires a master connection to be connected to the first connector whereas the extension connections can be connected to the remaining Coaxlink Device connectors in any order.

See also: "Firmware Variants" on page 7 for the applicable connection schemes.

Image converter

Updated ImageConvertInput and ImageConvertOutput structures.
Subsequent potential build issues can be fixed by either:

- using IMAGE_CONVERT_INPUT and IMAGE_CONVERT_OUTPUT initialization macros (recommended approach) or
- adding the suffix Version0 to ImageConvertInput and ImageConvertOutput types.

NOTE: Users of EGrabber are not affected by this breaking change

Since Coaxlink 10.3

PayLoadSize behavior: The feature PayloadSize is not available anymore when the remote device Width is not in line with the data stream Width.Inc

Since Coaxlink 10.2

Additional constructor parameter required: The grabber classes (based on EGrabber) instanciated by EGrabbers require the additional constructor parameter (bool remoteRequired).

See also: sample "*213-egrabbers*" for details

Since Coaxlink 10

Deprecated the functions Features, RegexFeatures, GlobFeatures, EnumEntries, RegexEnumEntries, GlobEnumEntries from namespace Euresys, which are still available by #defining EURESYS_USE_NS_EURESYS_DEPRECATED_API. Two options to fix user code:

1. *Recommended change* Replace all occurrences of:
   - Euresys::Features() by Euresys::query::features()
   - Euresys::RegexFeatures(re) by Euresys::query::features().regex(re)
   - Euresys::GlobFeatures(g) by Euresys::query::features().glob(g)
   - Euresys::EnumEntries(f) by Euresys::query::enumEntries(f)
   - Euresys::RegexEnumEntries(f,re) by Euresys::query::enumEntries(f).regex(re)
   - Euresys::GlobEnumEntries(f,g) by Euresys::query::enumEntries(f).glob(g)
2. Or add #define EURESYS_USE_NS_EURESYS_DEPRECATED_API before #include <EGrabber.h> (or #include <EGenTL.h>), a quick fix that doesn't require changing source code.

Since Coaxlink 9.3.1

Removed data stream event counts from the list of possible contexts of device event notifications: StartOfCameraReadoutEventCount, EndOfCameraReadoutEventCount, StartOfScanEventCount, EndOfScanEventCount, RejectedFrameEventCount, and RejectedScanEventCount are no longer valid values for EventNotificationContext1, EventNotificationContext2, and EventNotificationContext3 in the device module.

Since Coaxlink 9.3

Data stream features StartOfScanTriggerSource, EndOfScanTriggerSource and ScanLength are now reset by the data stream feature StreamReset. Previously, they were reset by the device feature DeviceReset.

Since Coaxlink 9.2

GenApi Features Range Checking

Range checking will prevent applications from setting forbidden values to camera features. A meaningful error will be reported if such an event should happen.

Since Coaxlink 9.1.1

Camera Model - Exposure Time Range Boundaries

When ExposureTimeMin and/or ExposureTimeMax are/is set, the order in which the features ExposureTimeMin, ExposureTimeMax and ExposureTime are set is imposed by the constraints.

Since Coaxlink 7.1.1

GenTL 1.5 header file

Moved to standard GenTL 1.5 header file (was previously GenTL 1.4):

- GenTL 1.5 changed namespace from GenICam::Client to GenTL,
- Coaxlink custom GenTL definitions have been moved accordingly from the namespace GenICam::Client::Euresys to namespace GenTL::EuresysCustomGenTL,
- replaced header file GenTL_v1_4.h by GenTL_v1_5.h,
- replaced header file GenTL_v1_4_EuresysCustom.h by GenTL_v1_5_EuresysCustom.h.

Euresys::GenTL class renaming

Renamed the class Euresys::GenTL into Euresys::EGenTL to avoid name conflicts with the new standard GenTL 1.5 namespace GenTL. This will impact any code using the class Euresys::GenTL:

- renamed header file EuresysGenTL.h into EGenTL.h,
- renamed header file EuresysGenTLErrors.h into EGenTLErrors.h,
- Euresys::EGenTL is now declared in header file EGenTL.h.

Deprecated Euresys::SharedGenTL Class

Deprecated the class Euresys::SharedGenTL, which is still available by defining EURESYS_USE_SHAREDGENTL_DEPRECATED_API.

Two options to fix user code:

1. *Recommended change* Replace all occurrences of Euresys::SharedGenTL by Euresys::EGenTL,
2. Or add #define EURESYS_USE_SHAREDGENTL_DEPRECATED_API before #include <EGrabber.h>, a quick fix that doesn't require changing source code.

GenTL 1.5 Changes

Announcing or revoking buffers while acquiring returns the error code GC_ERR_BUSY (was GC_ERR_RESOURCE_IN_USE for GenTL 1.4)

Revoking a queued buffer returns the error code GC_ERR_BUSY (was GC_ERR_RESOURCE_IN_USE for GenTL 1.4)

New device access status values (defined by GenTL 1.5) returned by the GenTL functions IFGetDeviceInfo and DevGetInfo for the command DEVICE_INFO_ACCESS_STATUS:

- DEVICE_ACCESS_STATUS_OPEN_READWRITE: when the device is opened by the current producer with read/write access
- DEVICE_ACCESS_STATUS_OPEN_READONLY: when the device is opened by the current producer with read-only access

Since Coaxlink 7.0.0

Product Rename

Renamed **Coaxlink Duo PCIe/104** into **Coaxlink Duo PCIe/104-MIL**; this will impact the names of GenTL interfaces (i.e., INTERFACE_INFO_ID)

OemSafetyKey Length

The length of ProgramOemSafetyKey and CheckOemSafetyKey is now limited by a user-configurable MaximumOemKeyLength (4096 characters by default)

LUT Configuration Locking

LUT configuration features (datastream) are locked while grabbing.

CIC Features Availability

Features related to the CIC (device) are not available when CameraControlMethod is NC or EXTERNAL.

Since Coaxlink 4.6.1

EGrabber API

Deprecated EGrabber method announceBuffer (superseded by announceAndQueue).

Two options to fix user code:

1. *Recommended change* Replace all occurrences of announceBuffer by announceAndQueue (GenTLMemory(...)) or announceAndQueue(UserMemory(...)),
2. Or add #define EURESYS_USE_EGRABBER_DEPRECATED_API before #include <EGrabber.h>.

Since Coaxlink 4.5.1

Euresys Name Space for EGrabber Classes

EGrabber C++ classes now belong to Euresys namespace.

Two options to fix user code:

1. *Recommended change* Replace each occurrence of EGrabber by Euresys::EGrabber,
2. Or add using namespace Euresys; after #include <EGrabber.h>.

Since Coaxlink 4.4.1

EGrabber API

The API of EGrabber .NET classes have changed since Coaxlink 4.4.0 beta. GenTL class now behaves like SharedGenTL, which is what most users need

NOTE: The GenTL constructor accepts a new argument, named shared, which can be used to revert to the old behavior.

RGBConverter.h

Added inplace1x2yeReordering methods instead of Inplace1x2yeReordering class

NOTE: User code needs to be adapted to call inplace1x2yeReordering instead of creating an Inplace1x2yeReordering instance, please see include/RGBConverter.h for a code sample.

Since Coaxlink 4.4.0

.NET Assembly

Added new assembly exposing EGrabber classes, previous CoaxlinkGrabber classes are removed from the assembly.

EGrabber

Deprecated getInfoString methods (replaced by getInfo).

Two options to fix user code:

1. *Recommended change* Replace all occurrences of getInfoString<module> (and getBufferInfoString) by getInfo<module, std::string> (and getBufferInfo<std::string>)
2. Or add #define EURESYS_USE_EGRABBER_DEPRECATED_API before #include <EGrabber.h>.

GenTL C++ class

Deprecated bayerConvert function

Though the function bayerConvert is superseded by the image converter, it is still possible to use it, if required please add #define EURESYS_USE_BAYER_DEPRECATED_API before #include <EuresysGenTL.h> or #include <EGrabber.h>

Since Coaxlink 4.3

Data Stream Module GenApi feature

UnpackingMode: Changed default value to LSB (instead of MSB)

Since Coaxlink 4.1

Device Module features changes

- Merged CycleTriggerSource and CycleHardwareTriggerSource features.
- Renamed CycleSoftwareTrigger into StartCycle.
- Renamed CyclePeriodTarget into CycleMinimumPeriod.
- Renamed ErrorCounter into ErrorCount.
- Renamed ErrorCounterReset into ErrorCountReset.
- Removed backward compatibility for deprecated features: TriggerSource, TargetFramePeriod, ExposureRecovery.

5. Known Issues

*Known issues of **eGrabber 25.12***

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5.1. Deviations from the GenTL Specification

EventKill

GenTL specification

The GenTL specification states that:

- In case of multiple pending wait operations EventKill causes one wait operation to return with a GC_ERR_ABORT error code.
- This means that if more than one thread waits for an event, the EventKill function terminates only one wait operation and other threads will continue execution.
- Therefore in order to cancel all pending wait operations EventKill must be called as many times as wait operations are pending.
- In case this function is called while no wait operation was pending the next call to EventGetData will return a GC_ERR_ABORT.

NOTE

- This implementation is prone to race conditions: calling EventKill N times in a row to kill exactly N waiting threads is not guaranteed to work as expected because signaling an event that is already in the signaled state has no effect. In other words, some of the EventKill calls could have no effect.
- EventKill as specified is not easy to use: How many EventKill calls are required? How many EventGetData calls should we expect to return GC_ERR_ABORT? Note that race conditions affect these questions.

Euresys GenTL implementation

The Euresys GenTL implementation solves these issues, but differs slightly:

- EventKill aborts all pending wait operations on the event handle.
- EventKill has no impact on subsequent wait operations.

DSStopAcquisition

GenTL specification

The GenTL specification states that:

- Each call to DSStartAcquisition must be accompanied by a call to DSStopAcquisition.
- Argument iNumToAcquire passed to DSStartAcquisition sets the number of filled delivered buffers after which the acquisition engine stops automatically.
- There must be a call to DSStopAcquisition accompanying each call to DSStartAcquisition even though the stream already stopped because the number of frames to acquire was reached.
- DSStopAcquisition returns GC_ERR_RESOURCE_IN_USE when the acquisition engine has already been terminated or has not been started.

Euresys GenTL implementation

The Euresys GenTL implementation differs slightly:

- DSStopAcquisition will not return GC_ERR_RESOURCE_IN_USE if the data stream hasn't been started.
- DSStopAcquisition will not return GC_ERR_RESOURCE_IN_USE if the data stream has already been stopped by a prior call to DSStopAcquisition.
- DSStopAcquisition will not return GC_ERR_RESOURCE_IN_USE if the data stream has stopped automatically after iNumToAcquire images have been captured.

In other words, DSStopAcquisition is idempotent: it can be applied multiple times without changing the result beyond the initial application.

With the Euresys implementation, it is not necessary to treat some errors as normal, and race conditions (between DSStopAcquisition and the automatic stop of the data stream are avoided. Furthermore, if the data stream has stopped automatically after acquiring iNumToAcquire images, DSStartAcquisition can be called without first calling DSStopAcquisition.

5.2. Deviations from the PCI Express Specification

Applies to **PC1633-T Coaxlink Quad G3**.

QuadG3

PC1633-T Coaxlink Quad G3operates only at PCIe 2.0 and PCIe 3.0 link speeds.

This product cannot be used when inserted in PCIe revision 1.x slots.

5.3. GenICam Browser (Deprecated) and gentl view Limitations

Only images having a width aligned on a 4-bytes boundary can be displayed correctly.

6. Appendix

6.1. About Icons

Icons are used everywhere in the eGrabber documentation to represent a specific product. They are particularly useful in "Applies to" elements to obtain a compact representation of a product list.

Applies to:

Duo QuadG3 Octo Mono12LH Duo12 Value12

Icons used in this edition of the eGrabber documentation

Icons are composed of graphical elements characterizing the product:

Background	Description
	Analog product (Domino series)
	SDTV product (Picolo series)
	HDTV product (Picolo HD and Picolo.net series)
	Camera Link product (Grablink series)
	CoaXPress product (Coaxlink series)
	CoaXPress-over-Fiber product (Coaxlink series)
	Accessory product
	Software libraries
	Free software
Text	**Description**
Alphanumeric	Shortened product name (e.g. "Value12", "QSFP+") - Only for main products
Number	Product code w.o. prefix (e.g. 1625) - For accessories
Top border	**Description**
	Low performance camera interface (e.g. CXP-6, CL-85)
	High performance camera interface (e.g.CoF 10, CXP-12)
	Highest performance camera interface (e.g. CoF-25)
Badge	**Description**
Prelim	Preliminary
REQ	Product on request
NRND	Not recommended for new designs
EOL	End-of-life product

Top-left corner triangle	Description
Red	Allied Vision product