Baumer
Passion for Sensors

Software

Baumer GAPI SDK v2.10

Software Development Kit

Article number: 11117626 (Windows®) / 11117625 (Linux®) / 11161949 (ARM®)



Overview

- Easy integration of Baumer cameras into your application specific software environment, available for C++, C# and C
- Low CPU load thanks to efficient drivers for GigE Vision® and USB Vision™ standards
- Numerous sample programs and documentations
- Intuitive test- and visualizing tool: The Camera Explorer, providing the first image after just one click.
- Easy camera integration and cross-series exchange of cameras thanks to GenICam™ conformity
- Selectable color calculation algorithms for edge excellent quality or rapid transformation

GiGE VISION USB3 VISION GENICAM

Pyramid Imaging

Baumer GAPI SDK Windows	
interface	GigE/ Dual GigE, 10 GigE, USB 3.0
operating system	Windows® 7 / 8 / 10 (32 bit and 64 bit)
compiler	Microsoft® Compiler (included in Microsoft® Visual Studio)
programming languages	C++11, C# and C99
supported standards	GenTL 1.5 SFNC and PFNC 2.3 GenAPI 3.2 GigE Vision® (v1.2, v2.0) USB3 Vision™ v1.0.1
supported cameras	MXG/ MXU/ VLG/ VLG.I/ VLU/ PXU TXG/ EXG/ LXG/ HXG/ SXG/ VEXG/ VEXU VCXG/ VCXU/ VQXT/ VLXT All cameras with GigE Vision® v1.2 and v2.0 standard

Baumer GAPI SDK x86-64 Linux®	
interface	GigE/ Dual GigE, 10 GigE, USB 3.0
operating system	Linux® (64 bit) Ubuntu® 14.04 and up Debian® 8 and up Fedora® 19 and up openSUSE® 13.1 and up
compiler	gcc 4.8 or greater
programming languages	C++11 and C99
supported standards	GenTL 1.5 SFNC and PFNC 2.3 GenAPI 3.2 GigE Vision® (v1.2, v2.0) USB3 Vision™ v1.0.1
supported cameras	MXG/ MXU/ VLG/ VLG.I/ VLU/ PXU TXG/ EXG/ LXG/ HXG/ SXG/ VEXG/ VEXU VCXG/ VCXU/ VQXT/ VLXT All cameras with GigE Vision® v1.2 and v2.0 standard

Baumer GAPI SDK ARMhf und AArch64	
ODROID-XU4 with Linux® Ubuntu® 18.04 (32bit)	
interface	GigE, USB 3.0
compiler	gcc 4.8 (ARMhf) or gcc 5.4 (AArch64) and greater
programming languages	C++11 and C99
supported standards	GenTL 1.5 SFNC and PFNC 2.3 GenAPI 3.2 GigE Vision® (v1.2, v2.0) USB3 Vision™ v1.0.1
supported cameras	MXG/ MXU/ VLG/ VLG.I/ VLU/ PXU TXG/ EXG/ LXG/ HXG/ SXG/ VEXG/ VEXU VCXG/ VCXU/ VQXT/ VLXT All cameras with GigE Vision® v1.2 and v2.0 standard
supported and tested boards	Nvidia Jetson TK1, Tx1, Tx2, Nano, Xavier / Rasberry Pi 3 and 4, Odroid XU4, PINE64 ROCK64 and many more

Recommended Requirement x86 platforms	
single-camera system	CPU Intel® Core™ i5-2520M CPU@2.50GHz, Cores: 2, RAM: 4 GB
multi-camera system	CPU Intel® Core™ i7-3770 CPU@3.40GHz, Cores: 8, RAM: 8 GB
10GigE camera system	CPU Intel® Core™ i7-7820X CPU@3.60GHz, Cores: 8, RAM: 32 GB

Documentation an Examples	
documentation	Programmers Guide Programmers Guide Baumer Features
examples	Windows: for C++, C# and C Linux for C++ and C

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EN/200122

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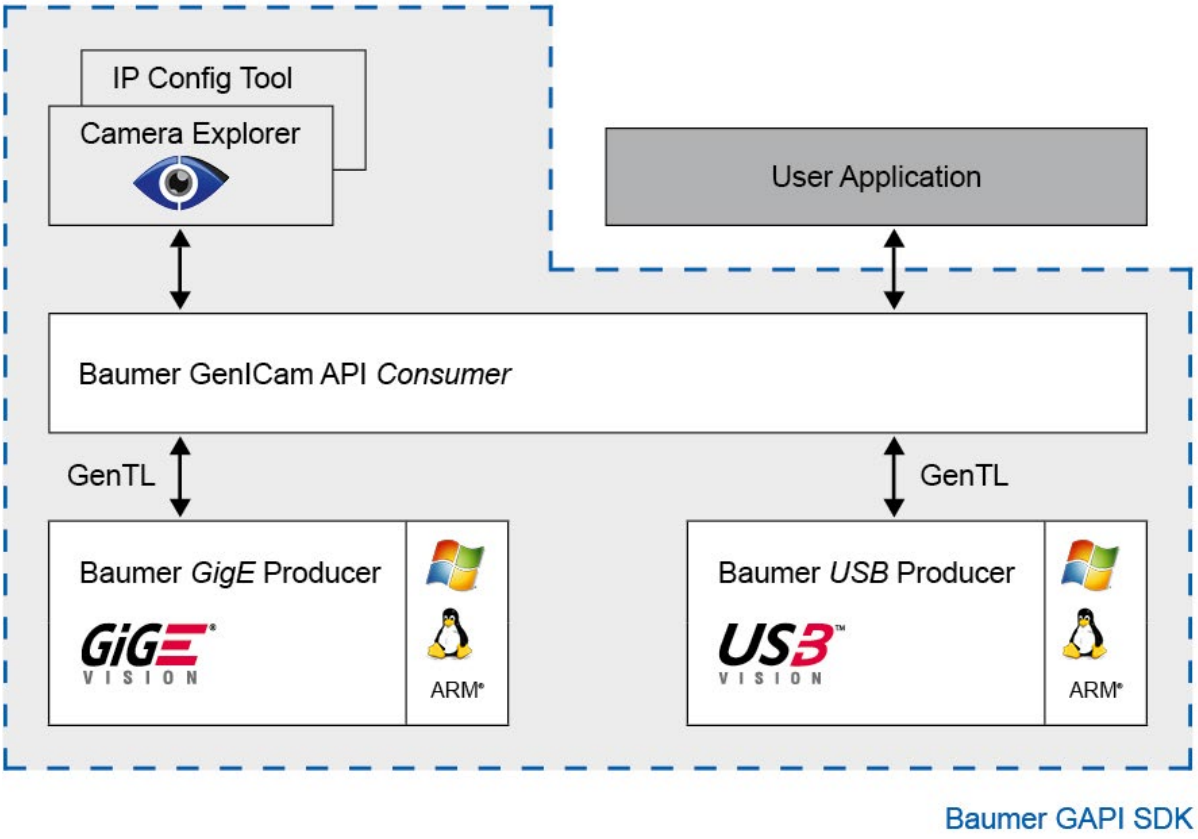
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Tools	
Camera Explorer	Visualisation and Evaluation Tool
IP configuration tool GigE	Configuration of camera Network-IP, for Windows® only
Project generation tool	Easy producing of project files for SDK examples

Driver	
Baumer filter driver	GigE/ Dual GigE, for Windows® only
Baumer USB driver	USB 3.0 (Windows®) Libusb (Linux®)

Overview Baumer GAPI function	
Common	Camera parameter / feature control Image capture Image pixel transformation via Baumer Processor (Bilinear3x3, Baumer5x5, NearestNeighbor) Event Handling (image callback) Device & PnP Events Shading Correction Polarisation Formats: AOP, DOP, ADOLP, most/ least reflecting, 4 panes (0°, 45°, 90°, 135°), intensity
GigE interface specific	Resend algorithm Multiple IP addresses on one NIC Action CMD IP Configuration Force IP
USB3.0 interface specific	Connection of the camera is possible via USB PortID

Overview Baumer GAPI Layer



Pyramid Imaging

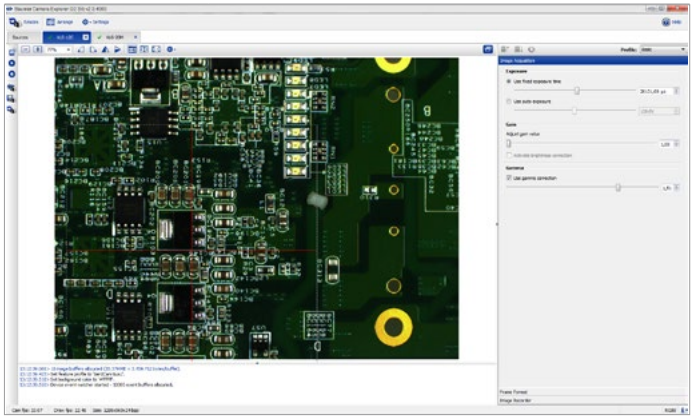
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Tool: Camera Explorer for Evaluation and Visualisation	
description	Visualisation and Test Tool Featuring all features supported by the camera in use.
specials	Quick Start mode Auto exposure Image flipping Recording images and image series Recording of videos Show crosshairs Save feature settings View image statistics Image event information Selectable color calculation algorithms Histrogram display in live view



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