

Digital PCI Express® x4 CameraLink frame grabber - mvHYPERION-CLf

Discontinued





- Digital PCI Express® x4 frame grabber
- Different interfaces for CameraLink cameras
- Trigger and flash control for cameras on-board

The mvHYPERION-CLf is a frame grabber for CameraLink cameras. Due to PCI Express® x4 the mvHYPERION-CLf offers a continuous capture bandwidth of 620 MB/s. The frame grabber allows operation of one camera with FULL or MEDIUM interface.

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- Summary
- Hardware
- Software
- Product comparison PCI-E frame grabbers
- Application areas

- Downloads

Product	mvHYPERION-CLf
PCI Express®	x4
Interfaces	1x BASE, 1x MEDIUM, 1x FULL
Continuous data rate	Approx. 620 MB/s
Payload size	Up to 256 Bytes
Max. CL data clock	85 MHz
Digital In/Out	2x 2/1
Permissible ambient temperature	0 .. 45 °C
Permissible storage temperature	-20 .. 70 °C
Supported standards	 

- 1-channel multistandard CameraLink frame grabber for PCI Express® (x4 lane PCI-E)
- Trigger/sync input opto-isolated, 5..24 V
- Switchable input threshold of trigger and sync inputs between 2 V (TTL) and 12 V (PLC)
- Bus master DMA controller
- 2 MiniCL connectors
- 2 connectors for trigger + sync input, flash outputs and 12 V camera power
- Flash outputs opto-isolated, max. 30 V
- Intelligent creation of four camera control signals and

- Serial interface (LVDS level) per channel
- Diverse data storage formats
- Retriggerable (asynchronous resetable)

strobe output per channel with independent video timing generators

- E2PROM
- Power over CameraLink (PoCL)
- Supported CL spec.: 1.2

- [mvIMPACT Acquire](#) drivers for Windows® and Linux® (→)

Signal input

Family		mvDELTAe		mvSIGMA	mvHYPERI ON		
Product		(Cinch)	BNC	SQe	CLb	CLm	CLf
Inputs	CVBS	4	4	16	-	-	-
	YC	1 + 3 x	-	4	-	-	-
		CVBS					

Parallel acquisition inputs	Gray/VBS	4	4	16	-	-	-
	RGB	-	-	-	-	-	-
	Digital	-	-	-	1	2	2
	Number	1	1	4	1	2	2
	RGB/ Multispectral	-	-	-	1	2	2
Synchronous / asynchronous	-/-	-/-	yes/yes	-	yes/yes	-/-	
A/D converter	(bit)	8	8	8	-	-	-
Standards	CCIR-601, RS-170	yes	yes	yes	-	-	-
	Variable/ Slow Scan	-	-	-	-	-	-
	PAL, NTSC, SECAM	yes	yes	yes	-	-	-
Low pass filter (analog) switchable		-	-	-	-	-	-
Restart / Reset		-	-	-	yes	yes	yes
Sensor geometry	Area	ja	yes	yes	yes	yes	yes
	Line	-	-	-	yes	yes	yes
Termination	Ohm / switchable	75 / no	75 / no	75 / no	100 / no	100 / no	100 / no
Coupling / Level		AC	AC	AC	Digital differential / LVDS	Digital differential / LVDS	Digital differential / LVDS
Offset		-	-	-	-	-	-
Analog Gain	Manual / AGC	yes/yes	yes/yes	yes/yes	-	-	-
Plug connector		4 x Cinch + 1 x Mini-DIN4	4 x BNC	2x D-Sub 26	1 x MiniCL (1x BASE) 1x Binder 8pin	2 x MiniCL (2x BASE or 1x MED.) 2x Binder 8pin	2 x MiniCL (1x BASE or 1x MED. or 2x FULL) 2x Binder 8pin

Resolution

Family	mvDELTAe		mvSIGMA	mvHYPERION		
Product	(Cinch)	BNC	SQe	CLb	CLm	CLf
Digitalization	Pixels H x V	768 x 576	768 x 576	768 x 576	-	-
	(50 Hz)	(50 Hz)	(50 Hz)	-	-	-
	640 x 480	640 x 480	640 x 480	-	-	-
	(60 Hz)	(60 Hz)	(60 Hz)	-	-	-
Memory	Pixels H x V	0..768 x 0..576 (50 Hz)	0..768 x 0..576 (50 Hz)	0..768 x 0..576 (50 Hz)	64K x unlimited	64K x unlimited
		0..640 x 0..480 (60 Hz)	0..640 x 0..480 (60 Hz)	0..640 x 0..480 (60 Hz)	64K x unlimited	64K x unlimited

Pixel clock

Family	mvDELTA		mvSIGMA	mvHYPERION		
Product	(Cinch)	BNC	SQe	CLb	CLm	CLf
Frequency	with 50 Hz	17.7 MHz	17.7 MHz	17.7 MHz	-	-
	with 60 Hz	14.3 MHz	14.3 MHz	14.3 MHz	-	-
External	-	-	-	CL clock: 85 MHz	CL clock: 85 MHz	CL clock: 85 MHz

Digital ports

Family	mvDELTA		mvSIGMA	mvHYPERI ON		
Product	(Cinch)	BNC	SQe	CLb	CLm	CLf
Inputs	Ext. pixel clock	-	-	1	2	2
	HD, VD	-	-	1	2	2
	Trigger	-	4 = 1 DigIn trigger capable	1	2	2
	Threshold programmable	-	yes	no	no	no
	General inputs	-	16	2	4	4
Outputs	TTL outputs	-	-	-	-	-
	Relay	-	-	-	-	-
	Highside drivers	-	8 (12V) or ext. VDD > 12V	-	-	-
	General outputs	-	8	1	2	2

FPGA

Family	mvDELTA		mvSIGMA	mvHYPERI ON		
Product	(Cinch)	BNC	SQe	CLb	CLm	CLf
FPGA	-	-	-	yes	yes	yes

Bus

Family	mvDELTA		mvSIGMA	mvHYPERI ON		
Product System	(Cinch) PCI Express x1	BNC PCI Express x1	SQe PCI Express x1	CLb PCI Express x1	CLm PCI Express x4	CLf PCI Express x4
Transfer	up to 200 MB/s	up to 200 MB/s	up to 200 MB/s	up to 200 MB/s	up to 620 MB/s	up to 620 MB/s

Output processing

Family	mvDELTA		mvSIGMA	mvHYPERI ON		
Product Scaling	(Cinch) only down- scaling max. 1:16	BNC only down- scaling max. 1:16	SQe only down- scaling max. 1:16	CLb -	CLm -	CLf -
Filtering	2,3,4 or 5 tap vertical filter	2,3,4 or 5 tap vertical filter	2,3,4 or 5 tap vertical filter	-	-	-
Pixel formats	RGB	8 / 15/ 16 / 24 / 32 bit	8 / 15/ 16 / 24 / 32 bit	8 / 15/ 16 / 24 / 32 bit	24 / 30 / 32 bit	24 / 30 / 32 bit
	YC	16 bit planar / packed	16 bit planar / packed	16 bit planar / packed	-	-
	Gray	8 bit	8 bit	8 bit	8 / 10 / 12 / 14 / 16 bit	8 / 10 / 12 / 14 / 16 bit

Video output

Family	mvDELTA		mvSIGMA	mvHYPERI ON		
Product	(Cinch)	BNC	SQe	CLb	CLm	CLf
Signal	RGB	-	-	-	-	-
	CVBS, YC	-	-	-	-	-

Sync output

Family	mvDELTA		mvSIGMA	mvHYPERI ON		
Product	(Cinch)	BNC	SQe	CLb	CLm	CLf
Signal	-	-	-	-	-	-

Camera power supply

Family	mvDELTA		mvSIGMA	mvHYPERI ON		
Product	(Cinch)	BNC	SQe	CLb	CLm	CLf
Via PCI-E	12V	-	700mA	700mA	700mA	700mA
Via	12V	-	1.5A	2A	2A	2A
additional power plug						

Power requirements

Family		mvDELTA		mvSIGMA	mvHYPERI		
Product		(Cinch)	BNC	SQe	CLb	CLm	CLf
PCI-E	3.3V	0.15A	0.15A	0.15A	1A	1A	1A
	12V	0.2A	0.2A	0.6A	0.05A	0.05A	0.05A

Dimensions

Family		mvDELTA		mvSIGMA	mvHYPERI		
Product		(Cinch)	BNC	SQe	CLb	CLm	CLf
Board	Length	123	123	170	147	155	155
	(mm)						
	Width (mm)	95	95	111	95	111.5	111.5

Ambient conditions

Family		mvDELTA		mvSIGMA	mvHYPERI		
Product		(Cinch)	BNC	SQe	CLb	CLm	CLf
Permissible ambient temperature		0 .. 50 °C	0 .. 50 °C	0 .. 50 °C	0 .. 45 °C	0 .. 45 °C	0 .. 45 °C
Permissible storage temperature		-20 .. 70 °C	-20 .. 70 °C	-20 .. 70 °C	-20 .. 70 °C	-20 .. 70 °C	-20 .. 70 °C
Relative humidity		10-90%, non-condensing	10-90%, non-condensing	10-90%, non-condensing	10-90%, non-condensing	10-90%, non-condensing	10-90%, non-condensing

Software

Family	mvDELTA	mvSIGMA	mvHYPERI	ON	CLm	CLf
Product	(Cinch)	BNC	SQe	CLb	CLm	CLf
Drivers	Windows®	XP / Vista / 7 (32 bit / 64 bit (WOW64))	XP / Vista / 7 (32 bit / 64 bit (WOW64))	XP / Vista / 7 (32 bit / 64 bit (WOW64))	XP / Vista / 7 (32 bit / 64 bit (WOW64))	XP / Vista / 7 (32 bit / 64 bit (WOW64))
	Linux®	yes	yes	yes	yes	yes
	Twain	yes	yes	yes	yes	yes

All data refer to the current revision.


Area/Application	32R16	HD-SDI	CLx
Industrial Image Processing			
▶ 2D/3D measurement	■ ■ ■	■ ■ ■	■ ■ ■
▶ OCR, Pattern recognition	■ ■ ■	■ ■ ■	■ ■ ■
▶ control, robotics	■ ■ ■	■ ■ ■	■ ■ ■
▶ visualisation	■ ■ ■	■ ■ ■	■ ■ ■
▶ line camera applications	□ □ □	□ □ □	■ ■ ■
Security			
▶ object surveillance	■ ■ ■	■ ■ ■	■ ■ ■
▶ traffic surveillance	■ ■ ■	■ ■ ■	■ ■ ■
▶ compressed recording	■ ■ ■	■ ■ ■	■ ■ ■
▶ Video sensoric	■ ■ ■	■ ■ ■	■ ■ ■
Microscopy/Diagnostic			
▶ light microscopy	■ ■ ■	■ ■ ■	■ ■ ■
▶ laser scan systems	□ □ □	□ □ □	■ ■ ■
▶ electron microscopy	□ □ □	□ □ □	■ ■ ■
Medicine			
▶ visual dignostic	■ ■ ■	■ ■ ■	■ ■ ■
▶ laboratory systems	■ ■ ■	■ ■ ■	■ ■ ■
Image Capture/Recording			
▶ document line scanner	□ □ □	□ □ □	■ ■ ■
▶ high res area cameras	□ □ □	□ □ □	■ ■ ■
▶ broadcasting	■ ■ ■	■ ■ ■	□ □ □
■ ■ ■ optimum usage due to special features ■ ■ ■ very suitable ■ ■ ■ suitable			

mvHYPERION - application areas


Drivers and applications for Windows 7, 8.1 (mvIMPACT Acquire)

Since version 2.10.1 of mvIMPACT Acquire the "Merge Modules for mvIMPACT Acquire" are available as a separate download.

For this reason the installation packages are smaller now. The Merge Modules are needed for private setup routines, which shall include mvIMPACT Acquire drivers. More details are available in the [mvIMPACT Acquire manuals](#).

 [mvHYPERION x86 2.45.0.msi](#) | 97,580.0 kB

mvHYPERION 32 Bit Windows (7, 8.1, 10)

 [mvHYPERION x86 64 2.45.0.msi](#) | 116,536.0 kB

mvHYPERION-CLm/-CLf 64 Bit Windows (7, 8.1, 10)

 [mvIMPACT Acquire.history](#) | 924.2 kB

mvIMPACT Acquire History-Datei / mvIMPACT Acquire history file

Older driver versions

To be able to watch or download the drivers, you have to be [registered](#) or [logged in](#).

Drivers and applications for Linux 2.6 .. 3.x.x (mvIMPACT Acquire)

 [install mvHYPERION](#) | 38.4 kB

Linux Installer Skript für mvHYPERION devices / Linux installer script for mvHYPERION devices

 [mvHYPERION x86_ABI2 2.38.0.tgz](#) | 11,114.7 kB

mvHYPERION 32 Bit Linux

Official support for Linux 32-bit x86/i386 systems has ended. If a newer version for this architecture is required please get in contact with the [support team](#).

 [mvHYPERION x86_64_ABI2 2.45.0.tgz](#) | 13,729.4 kB

mvHYPERION 64 Bit Linux

 [mvIMPACT Acquire.history](#) | 924.2 kB

mvIMPACT Acquire History-Datei / mvIMPACT Acquire history file

Older driver versions

To be able to watch or download the drivers, you have to be [registered](#) or [logged in](#).

Additional packages for LabVIEW, DirectShow, VisionPro and Halcon

Since version 1.10.69, the **DirectShow®** driver is part of the mvIMPACT Acquire installation package.

Since version 1.10.85, an interface to **VisionPro®** (Cognex) will be installed automatically when installing an MSI based mvIMPACT Acquire driver package.

mvIMPACT Acquire bindings for **HALCON** are available on MVTec's website:


<http://www.halcon.de/download/>

 [LabVIEW acquire-x86-1.6.8](#) | 9,028.0 kB

32 Bit mvIMPACT Acquire Binding für LabVIEW ab Version 6.1 / 32 Bit mvIMPACT Acquire binding for LabVIEW 6.1 or greater

 [LabVIEW acquire-x86 64-1.6.8](#) | 10,980.0 kB

64 Bit mvIMPACT Acquire Binding für LabVIEW ab Version 6.1 / 64 Bit mvIMPACT Acquire binding for LabVIEW 6.1 or greater

 [LabVIEW acquire.history](#) | 7.2 kB

32 Bit LabView Binding History-Datei / 32 Bit LabView binding history file

Firmware

The firmware can only be used with mvHYPERION-CLx CameraLink frame grabbers!

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.85](#) | 862.7 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.85

Bug fix: Corrected sporadic horizontal image shift in Linescan Medium Mode.

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.84](#) | 865.3 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.84

Bug fix: Corrected Frame-Start trigger mode for area scan cameras.

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.83](#) | 856.5 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.83

Bug fix: Fixed overtriggering problem of the input in combination with a special linescan mode (FrameStart-Trigger=>FrameValid/RisingEdge, FrameStop-Trigger=>FrameValid/FallingEdge); Optimized automatic compensation of a phase error between Base, Medium, and Full channel.

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.82](#) | 868.8 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.82

Bug fix: Horizontal jitter in linescan trigger mode fixed; HRTC starting problem fixed

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.79](#) | 859.4 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.79

Bug fix: Line scan acquisition with TriggerControl-FrameStop fixed

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.78](#) | 849.0 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.78

New feature: ExpandLineValid feature implemented

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.77](#) | 847.1 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.77

Bug fix: "Raw Line Acquisition Mode" is working again

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.76](#) | 843.2 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.76

Bug fix: Removed sporadic horizontal offset (linescan mode)

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.74](#) | 865.3 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.74

Bug fix: Loss of first line after "Request" (linescan cameras)

 [Firmware mvHYPERION-CLb/-CLm/-CLf v.72](#) | 847.2 kB

Firmware mvHYPERION-CLb/-CLm/-CLf v.72

Manuals

 [mvHYPERION technical manual \(chm\)](#) | 2,722.8 kB

mvHYPERION Technisches Handbuch / Technical Manual

[Hinweis](#) / [Note](#)

 [mvHYPERION technical manual \(pdf\)](#) | 2,693.2 kB

mvHYPERION Technisches Handbuch / Technical Manual

 [mvHYPERION technical manual \(html\)](#)

mvHYPERION Technisches Handbuch / Technical Manual

 [mvIMPACT Acquire API C++](#) | 10,460.2 kB

mvIMPACT Acquire API C++ Handbuch / Manual


 [mvIMPACT Acquire API C](#) | 4,078.0 kB

mvIMPACT Acquire API C Handbuch / Manual

 [mvIMPACT Acquire API .NET](#) | 7,733.2 kB

mvIMPACT Acquire API .NET Handbuch / Manual

Datasheets

 [mvHYPERION-Series e 2016-07 MR](#) | 4,661.5 kB

Datenblatt / Datasheet mvHYPERION

Subject to change without notice, Date 10/2011

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