

4-channel multistandard frame grabber - mvSIGMA-SQe

Discontinued



- 4 channel multistandard frame grabber
- 16 CVBS/gray inputs
- 16 digital-In, 8 digital-Out
- PCI Express®
- Ideal solution for multi channel acquisition or split screen display in surveillance applications

The mvSIGMA-SQe is a four channel frame grabber for standard color or gray scale video signals. The 16 video inputs can be switched independently to each of the four channels. This makes it a product optimally suited for surveillance applications, either for live display of multiple inputs in parallel or by its ability to capture up to four video signals at the same time. The digital I/Os match the need to connect alarm input and output devices to the system. The optional watchdog ensures the reliability of the application by the ability to restart a system.

/* */

- Features

- Comparison PCI-E
- Applications
- Downloads

- 16 gray / CVBS or 4 x YC video inputs
- Each channel equals one mvDELTA, but with 16 input analog MUX
- Automatic or fixed gain
- Scaler and color space conversion
- 16/8 digital I/O signals
- PCI Express® x1

- 4 parallel, independent acquisition channels
- Free input assignment to any channel
- Hardware assisted fast input switching
- Local PCI bus frees load on system PCI
- Opt. watchdog for automatic restart of the complete system
- Full bandwidth for each mvSIGMA-SQe board

Signal input

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

	Gray/VBS	4	4	16	-	-	-
	RGB	-	-	-	-	-	-
	Digital	-	-	-	1	2	2
Parallel acquisition inputs	Number	1	1	4	1	2	2
	RGB/ Multi-spectral	-	-	-	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
				optional: yes			
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 + 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. FULL) 2x

Resolution

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

Pixel clock

Family		mvDELTA		mvSIGMA	mvHYPERI		
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	mvHYPERION		
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
Outputs	Threshold programmable	-	-	yes	no	no	no
	General inputs	-	-	16	2	4	4
	TTL outputs	-	-	-	-	-	-
	Relay	-	-	-	-	-	-
	Highside drivers	-	-	8 (12V) or ext. VDD > 12V	-	-	-
	General outputs	-	-	8	1	2	2

FPGA

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

Bus

Family	mvDELTA		mvSIGMA	mvHYPERION		
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	mvHYPERION			
Product Scaling	(Cinch) only down-scaling 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	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	8 / 10 / 12 / 14 / 16 bit

Video output

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

Sync output

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

Camera power supply

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

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 Board		(Cinch)	BNC	SQe	CLb	CLm	CLf
Length (mm)	Length	123	123	170	147	155	155
	Width (mm)	95	95	111	95	111.5	111.5

Ambient conditions

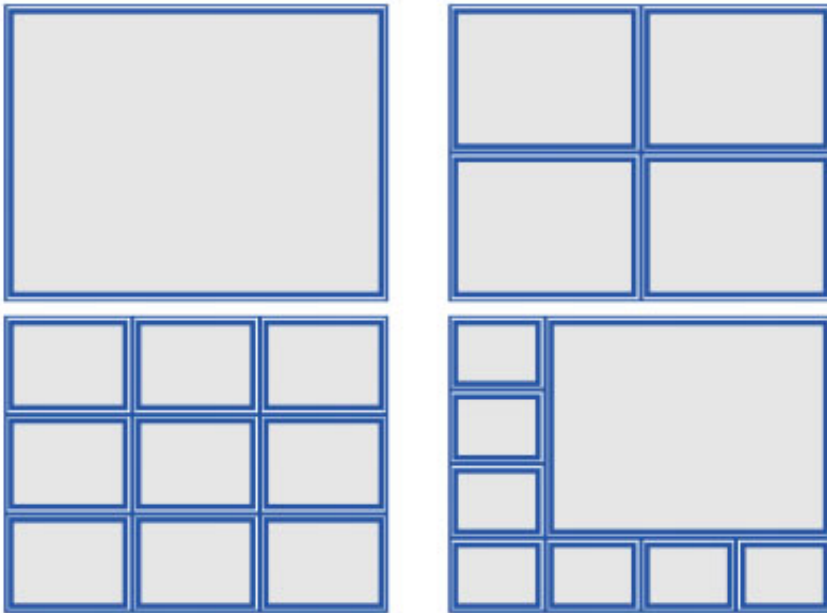
Family		mvDELTA		mvSIGMA	mvHYPERI		
Product		(Cinch)	BNC	SQe	CLb	CLm	CLf
Permissible ambient temperature	Permissible ambient temperature	0 .. 50 °C	0 .. 50 °C	0 .. 50 °C	0 .. 45 °C	0 .. 45 °C	0 .. 45 °C
	Permissible storage temperature	-20 .. 70 °C	-20 .. 70 °C	-20 .. 70 °C	-20 .. 70 °C	-20 .. 70 °C	-20 .. 70 °C
	Relative humidity	10-90%, no n-	10-90%, no n-	10-90%, no n-	10-90%, no n-	10-90%, no n-	10-90%, no n-

Software

Family	mvDELTA	mvSIGMA	mvHYPERI	ON		
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)	XP / Vista / 7 (32 bit / 64 bit)	XP / Vista / 7 (32 bit / 64 bit)
	Linux®	yes	yes	yes	yes	yes
	Twain	yes	yes	yes	yes	yes

All data refer to the current revision.

- Simultaneous capture of multiple cameras
- Visualization
- Fast input switching
- Live split screen display



Split screen samples

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](#).


 [mvDELTA_mvSIGMA x86 2.36.0.msi](#) | 45,852.0 kB

mvDELTA / mvSIGMA 32 Bit Windows (7, 8.1, 10)

 [mvDELTA_mvSIGMA_x86_64_2.36.0.msi](#) | 73,020.0 kB

mvDELTA / mvSIGMA 64 Bit Windows (7, 8.1, 10)

Ab Version 2.5.0 ist der Treiber nicht mehr WHQL zertifiziert / Since version 2.5.0, the driver is not WHQL certified anymore

 [mvIMPACT_Acquire.history](#) | 882.5 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)

The frame grabber is supported by the Video4Linux driver. Here's a complete list:

<http://www.mjmwired.net/kernel/Documentation/video4linux/CARDLIST.bttv>

Via command line you can load the frame grabber:

```
sudo rmmod bt878 bttv  
sudo modprobe bttv card=125
```

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

mvSDK for Windows (deprecated)

 [mvSL32 4.1.17.54](#) | 640.5 kB

mvDELTA / mvSIGMA 32 Bit Windows (XP, Vista, 7; mvSIGMA-SLC: > Hardware Revision 3.10)

Gerätetreiber (**nicht** mvIMPACT Acquire) / device driver (**not** mvIMPACT Acquire)


 [mvSL32 4.1.17.54.history](#) | 29.1 kB

32 Bit mvDELTA / mvSIGMA History-Datei / 32 Bit mvDELTA / mvSIGMA history file

mvSDK for Linux (deprecated)


 [README](#) | 5.3 kB

Readme-Datei mit Installationshinweisen des Gerätetreibers (nicht mvIMPACT Acquire) / Readme file with installation guide for device driver (not mvIMPACT Acquire)

 [dist_slx-4.1.17.54-1](#) | 3,392.7 kB

mvDELTA / mvSIGMA 32 Bit **Release** Linux

Gerätetreiber (**nicht** mvIMPACT Acquire) / device driver (**not** mvIMPACT Acquire)

 [dist_slx-4.1.17.54-1.history](#) | 28.7 kB

32 Bit mvDELTA / mvSIGMA History-Datei / 32 Bit mvDELTA / mvSIGMA history file

Manuals

 [mvDELTA / mvSIGMA technical manual \(chm\)](#) | 2,118.1 kB

mvDELTA / mvSIGMA Technisches Handbuch / Technical Manual

[Hinweis / Note](#)

 [mvDELTA / mvSIGMA technical manual \(pdf\)](#) | 1,733.4 kB

mvDELTA / mvSIGMA Technisches Handbuch / Technical Manual


[Hinweis / Note](#)

 [mvDELTA/mvSIGMA technical manual \(html\)](#)

mvDELTA/mvSIGMA Technisches Handbuch / Technical Manual

 [mvIMPACT Acquire API C++](#) | 9,883.7 kB

mvIMPACT Acquire API C++ Handbuch / Manual

 [mvIMPACT Acquire API C](#) | 3,729.8 kB

mvIMPACT Acquire API C Handbuch / Manual

 [mvIMPACT Acquire API.NET](#) | 6,875.1 kB

mvIMPACT Acquire API .NET Handbuch / Manual

Datasheets

 [mvDELTA e 2007-05 MR](#) | 247.6 kB

Datenblatt / Datasheet mvDELTA

 [mvSIGMA-SLC e 2006-09 MR](#) | 232.5 kB

Datenblatt / Datasheet mvSIGMA-SLC

 [mvSIGMA-SQ e 2007-05 MR](#) | 261.9 kB

Datenblatt / Datasheet mvSIGMA-SQ / mvSIGMA-SQe

Subject to change without notice, Date 09/2005