

MX4 Firmware Update

3 Configurations:

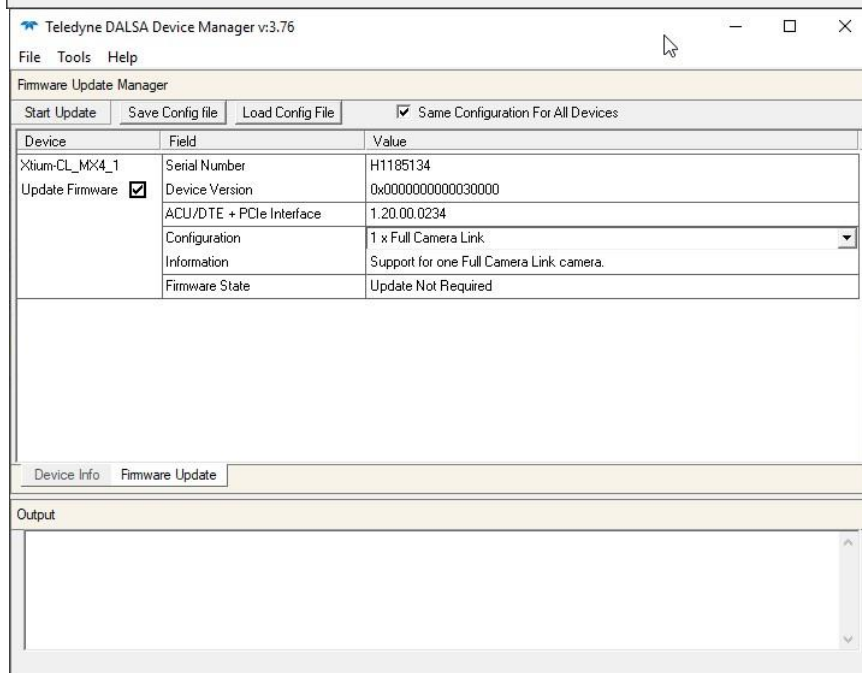
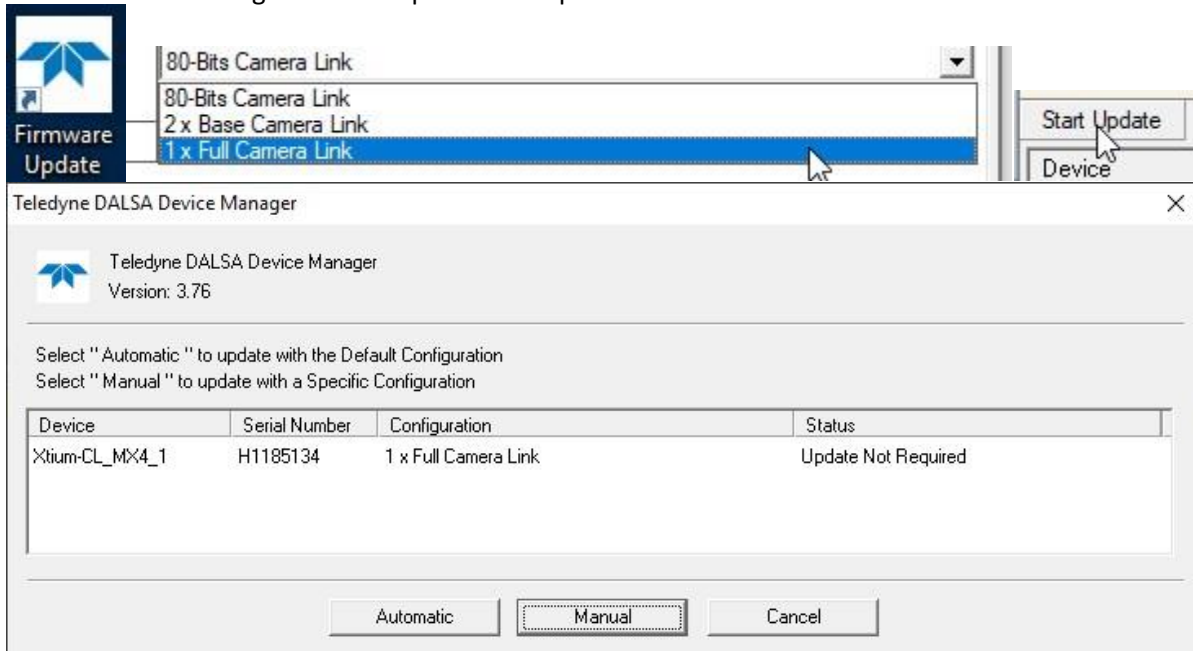
1x Full Camera Link supports one camera in 2-Tap Base, 4-Tap Medium, or 8-Tap Full mode.

2x Base Camera Link supports two cameras in 2-Tap Base mode.

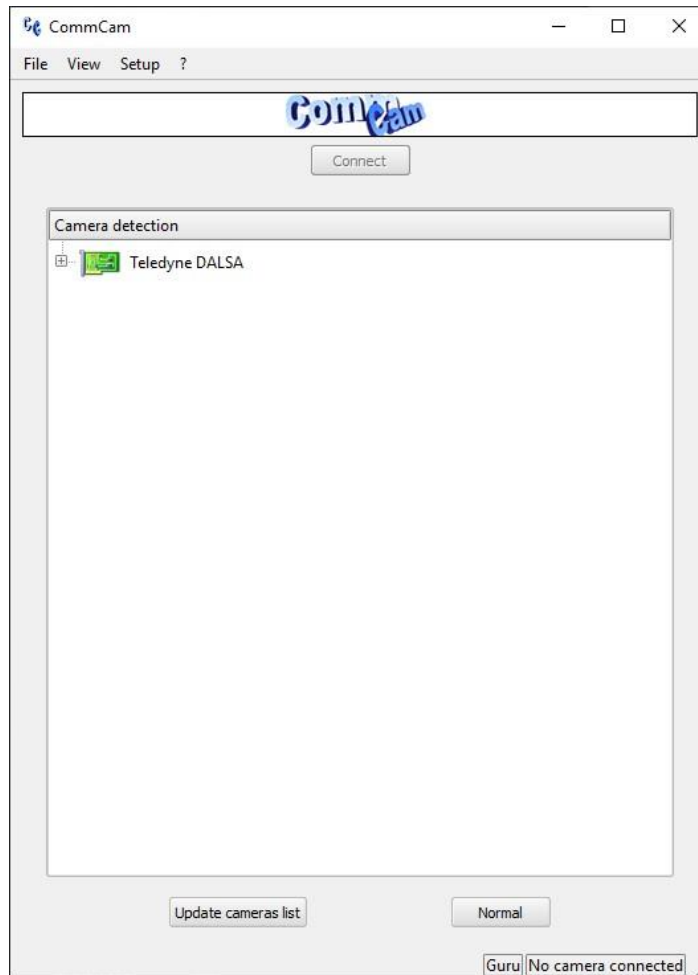
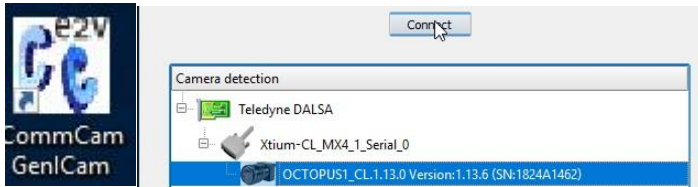
80-bits Camera Link supports one camera in 8-Tap 10-bit mode or 10Tap 8-bit mode.

Spark Is configured to work in 2Tap base mode and mx4 in 1x full camera link.

Choose desired configuration and press start update.



CommCam Expand out the results, click on the camera, and press connect.



- + Device Control
- + Image Format Control
- + Camera Control
- + Camera Link
- + User Set Control
- + Flat field correction
- + Privilege

Device Control	
Device Vendor Name	e2v
Device Model Name	OCTOPUS1_CL
Family Name	
Device Manufacturer Info	EV71Y01CCL2210-BA3
Device Version	K
Device Firmware Version	1.13.6
Device SFNCVersion Major	1
Device SFNCVersion Minor	5
Device SFNCVersion Sub Minor	0
Device ID	1824A1462
Device User ID	C-00540 CS800-840/180-250-OC2K-CL
Electronic Board ID	107300B-1819023
Electronic Board Test Status	OK-AS325-01
Device Serial Port Baud Rate	Baud 9600
Status	
Acquisition running	1
Error on hardware	0
Warning FFC or balance underflow	0
Warning FFC or balance overflow	0
Wait for trigger	
Trigger too fast	
Image Format Control	
Sensor Width	2048
Width	2048
Pixel Format	12-bits
Camera Control	
Line Period	100 us
Line Period Min	7.63 us
Acquisition LineRate	10 kHz
Exposure Time	80 us
Exposure Time Min	1.3 us
Exposure Time Max	99.3 us
Delay	0.6 us
Trigger Jitter	0 us
Synchronisation Mode	Internal Line Trigger with Exposure Time Inter...
GPI State	Off
Number of Missed Trigger	0
Reset Missed Trigger	Done
Preamplifier Gain	x1
Gain	1
Offset	0
Binning Enable	Off
Test Image Selector	Off
Test Image Height	1024
Test Image Constant	2048
Reboot camera	Done

Synchronization Modes (line triggering):

- Internal Line Trigger with Exposure Time Internally controlled
- Internal Line Trigger with Exposure Time Internally controlled**
- Internal Line Trigger with Maximum Exposure Time
- External Line Trigger with programmable Exposure Time
- External Line Trigger with Maximum Exposure Time

Camera Link		
CameraLink Resolution	12bits	2Taps - 2X
CameraLink Geometry	2Taps - 1X2	1Tap - 1X
CameraLink Geometry Order	Normal	2Taps - 1X2
Output Frequency	85 MHz	2Taps - 2X
Reverse X	Off	4Taps - 4X

Select CameraLink Resolution of 10-bits to be able to Use 8 Taps or More configurations.

10bits
2Taps - 2X
2Taps - 2X
4Taps - 4X
4Taps - 1X4
4Taps - 2X2
8Taps - 8X
8Taps - 1X8
8Taps - 4X2
8Taps - 2X4
10Taps - 10X
10Taps - 1X10

Open a user set: Select User Set and then doubleclick Done button beside User Set Load

Save over or update a user set: select user set and then double click Done button beside User Set Save

User Set Control	
User Set Selector	Default
User Set Load	Done
User Set Save	
CurrentUserSet	User Set 5

Flat field correction	
Flat field correction	On
Automatic calibration	
FPN calibration control	Done
FPN calibration abort	Done
PRNU calibration control	Done
PRNU calibration abort	Done
Manual FPN calibration	
Reset FPN	Done
Manual PRNU calibration	
Reset PRNU	Done
Save & restore FFC	
FFCSetSelector	User 1
Load FFC from bank	Done
Save FFC to bank	Done
CurrentFFCSet	Factory
Privilege	
Camera privilege level	Integrator
Change privilege level	1

User Set 1 12-bit 2 Tap Base Mode External Trigger Default User Set that should be loaded for Spark

+	Device Control	
+	Image Format Control	
-	Camera Control	
	Line Period	30 us
	Line Period Min	7.65 us
	Acquisition LineRate	33.3333333333333 kHz
	Exposure Time	29.28 us
	Exposure Time Min	1.3 us
	Exposure Time Max	29.28 us
	Delay	1.3 us
	Trigger Jitter	0.01 us
	Synchronisation Mode	External Line Trigger with programmable Exposure Time
	GPI State	Off
	Number of Missed Trigger	0
	Reset Missed Trigger	Done
	Preamplifier Gain	x1
	Gain	1
	Offset	20
	Binning Enable	Off
	Test Image Selector	Off
	Test Image Height	1024
	Test Image Constant	2048
	Reboot camera	Done
-	Camera Link	
	CameraLink Resolution	12bits
	CameraLink Geometry	2Taps - 1X2
	CameraLink Geometry Order	Normal
	Output Frequency	85 MHz
	Reverse X	Off
-	User Set Control	
	User Set Selector	User Set 1
	User Set Load	Done
	User Set Save	Done
	CurrentUserSet	User Set 1
+	Flat field correction	
-	Privilege	
	Camera privilege level	Integrator
	Change privilege level	1

User Set 2 12-bit 4Tap Medium Mode

Camera Control	
Line Period	10 us
Line Period Min	7.65 us
Acquisition LineRate	100 kHz
Exposure Time	9.28 us
Exposure Time Min	1.3 us
Exposure Time Max	9.28 us
Delay	1.3 us
Trigger Jitter	0.01 us
Synchronisation Mode	External Line Trigger with programmable Exposure Time
GPI State	Off
Number of Missed Trigger	0
Reset Missed Trigger	Done
Preamp Gain	x1
Gain	1
Offset	20
Binning Enable	Off
Test Image Selector	Off
Test Image Height	1024
Test Image Constant	2048
Reboot camera	Done
Camera Link	
CameraLink Resolution	12bits
CameraLink Geometry	4Taps - 4X
CameraLink Geometry Order	Normal
Output Frequency	85 MHz
Reverse X	Off
User Set Control	
User Set Selector	User Set 2
User Set Load	Done
User Set Save	Done
CurrentUserSet	User Set 2

User Set 3 8Tap 10-bit Deca Mode

Camera Control	
Line Period	10 us
Line Period Min	4 us
Acquisition LineRate	100 kHz
Exposure Time	9.28 us
Exposure Time Min	1.3 us
Exposure Time Max	9.28 us
Delay	1.3 us
Trigger Jitter	0.01 us
Synchronisation Mode	External Line Trigger with programmable Exposure Time
GPI State	Off
Number of Missed Trigger	65535
Reset Missed Trigger	Done
Preamp Gain	x1
Gain	1
Offset	20
Binning Enable	Off
Test Image Selector	Off
Test Image Height	1024
Test Image Constant	2048
Reboot camera	Done
Camera Link	
CameraLink Resolution	10bits
CameraLink Geometry	8Taps - 1X8
CameraLink Geometry Order	Normal
Output Frequency	85 MHz
Reverse X	Off
User Set Control	
User Set Selector	User Set 3
User Set Load	Done
User Set Save	Done
CurrentUserSet	User Set 3
Flat field correction	

User Set 4 8Tap 10-bit at 250khz max (4us line period)

Camera Control	
Line Period	4 us
Line Period Min	4 us
Acquisition LineRate	250 kHz
Exposure Time	3.28 us
Exposure Time Min	1.3 us
Exposure Time Max	3.28 us
Delay	1.3 us
Trigger Jitter	0.01 us
Synchronisation Mode	External Line Trigger with programmable Exposure Time
GPI State	Off
Number of Missed Trigger	65535
Reset Missed Trigger	Done
Preamp Gain	x1
Gain	1
Offset	20
Binning Enable	Off
Test Image Selector	Off
Test Image Height	1024
Test Image Constant	2048
Reboot camera	Done
Camera Link	
CameraLink Resolution	10bits
CameraLink Geometry	8Taps - 1X8
CameraLink Geometry Order	Normal
Output Frequency	85 MHz
Reverse X	Off
User Set Control	
User Set Selector	User Set 4
User Set Load	Done
User Set Save	Done
CurrentUserSet	User Set 4

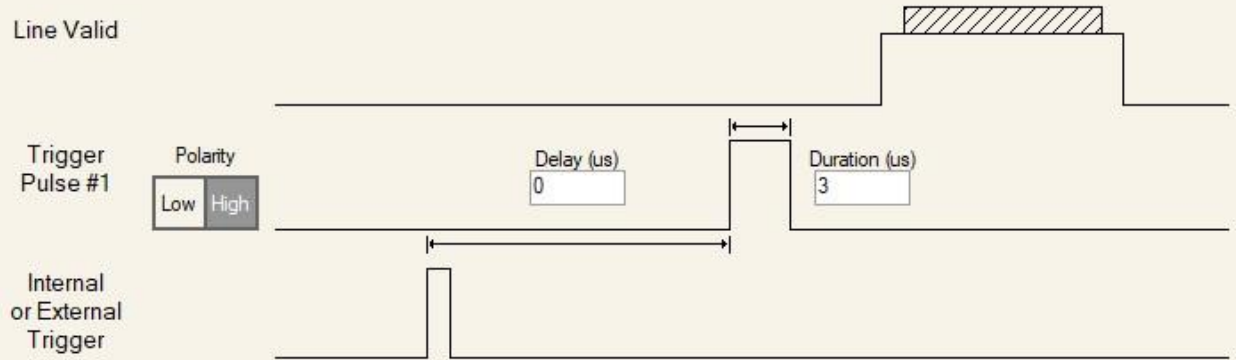
Camexpert

2Tap 12-bit for User Set 1

Basic Timing		Camera Type	Linescan
Advanced Control		Color Type	Monochrome
External Trigger		Pixel Depth	12
Image Buffer and ROI		Horizontal Active...	2048
		Horizontal Offset ...	0
		Pixel Clock Input ...	85
		Data Valid	Disabled
		Camera Sensor G...	1X2-1Y
		PoCL	Disabled
		PoCL Status	Not Active
		Parameter	Value
Basic Timing		Line Sync Source	External Line Trigger
Advanced Control		Internal Line Trig...	5000
External Trigger		Camera Line Trig...	1
Image Buffer and ROI		Camera Line Trig...	16700000
		Camera Control ...	Line Trigger
		Line Integration ...	None
		Line Trigger Meth...	Method 1
		Strobe Method S...	None
		Line Trigger Auto...	Disable
		Time Stamp Base	Microseconds
		Board Sync Outp...	Disabled
		Board Sync Outp...	Disabled
		CC1	Pulse #1
		CC2	Not Used
		CC3	Not Used
		CC4	Not Used

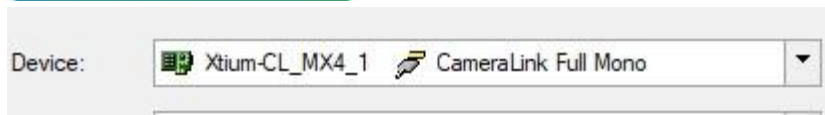
None	Method 1
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Description: This method generates an asynchronous trigger pulse to a camera. The next generated line will be acquired.



	Parameter	Value
Basic Timing	External Trigger	Enable
Advanced Control	External Trigger D...	Rising Edge
External Trigger	External Trigger L...	TTL
Image Buffer and ROI	External Trigger S...	External Trigger #1
	External Trigger ...	0
	Frame Count per ...	1
	External Trigger D...	0
	External Trigger D...	Line Counts
	External Trigger I...	0
	Shaft Encoder Dir...	Ignored
	Shaft Encoder Ed...	0
	Shaft Encoder Ed...	1
	Shaft Encoder Or...	Device Specific
	External Line Trig...	Rising Edge
	External Line Trig...	Shaft Encoder Phase A

	Parameter	Value
Basic Timing	Image Width (in ...	2048
Advanced Control	Image Height (in ...	1024
External Trigger	Image Left Offset...	0
Image Buffer and ROI	Image Buffer For...	Monochrome 16-bits
	Image Flip	Disabled
	Acquisition Fram...	Fix Length



FreeRun or Generate Line Trigger Mode: Frame grabber generates its own line trigger pulse to send to camera so the camera will acquire in either external or internal trigger mode set in Commcam even when the oct system is not generating triggers.

Parameter	Value
Line Sync Source	Internal Line Trigger
Internal Line Trig...	20000
External Trigger	Disabled
External Trigger D...	Rising Edge

4Taps 12-bit for User Set 2

Color Type	Monochrome
Pixel Depth	12
Horizontal Active...	2048
Horizontal Offset ...	0
Pixel Clock Input ...	85
Data Valid	Disabled
Camera Sensor G...	4X-1Y
PoCL	Disabled
PoCL Status	Not Active

Line Trigger Method Setting [X]

None | Method 1

Description: This method generates an asynchronous trigger pulse to a camera. The next generated line will be acquired.

Line Valid

Trigger Pulse #1

Polarity: Low High

Delay (us):

Duration (us):

Internal or External Trigger

OK Cancel

FreeRun/Generate Mode

Parameter	Value
Line Sync Source	Internal Line Trigger
Internal Line Trig...	50000

Parameter	Value
External Trigger	Disabled
External Trigger D...	Rising Edge

Camera Sensor Geometry Setting

GenICam	Description	Diagram	Demo
1X-1Y	One Tap Left to Right	A →	Demo
1X-1Y2	Two Interline Channel, Even A	A → B →	Demo
1X-1Y2	Two Interline Channel, Even B	B → A →	Demo
2X-1Y	Two Taps Separate Left to Right	A → B →	Demo
3X-1Y	Three Taps Separate Left to Right	A → B → C →	Demo
4X-1Y	Four Taps Separate Left to Right	A → B → C → D →	Demo
8X-1Y	Eight Taps Separate Left to Right	A → B → C → D → E → F → G → H →	Demo
10X-1Y	Ten Taps Separate Left to Right	A → B → C → D → E → F → G → H → I → J →	Demo
1X2-1Y	Two Taps Interleaved	A B A B →	Demo
1X3-1Y	Three Taps Interleaved	A B C A B C →	Demo
2X2-1Y	Four Taps Two Segments Interleaved	A B A B → C D C D →	Demo
1X8-1Y	Eight Taps Interleaved	A B C D E F G H →	Demo
2XE-1Y	Two Taps Separate Converge	A → ← B	Demo
2XM-1Y	Two Taps Separate Diverge	← A B →	Demo
2X2E-1Y	Four Taps Interleaved Converge	A B A B → ← C D C D	Demo
2XE-2YE	Four Quadrant Converge	A → ← B ↓ ↓ C → ← D	Demo
Custom	Custom Configuration	Setting	

OK Cancel

8Tap 10-Bit Deca Mode for User Set 3 or 4

Camera Type	Linescan
Color Type	Monochrome
Horizontal Active...	2048
Horizontal Offset ...	0
Pixel Clock Input ...	85
Camera Sensor G...	1X8-1Y
PoCL	Disabled
PoCL Status	Not Active

None Method 1

Description: This method generates an asynchronous trigger pulse to a camera. The next generated line will be acquired.

Line Valid

Trigger Pulse #1

Polarity: Low High

Delay (us):

Duration (us):

Internal or External Trigger: Internal External

Parameter	Value
Line Sync Source	External Line Trigger
Internal Line Trig...	5000
Camera Line Trig...	1
Camera Line Trig...	10000000
Camera Control ...	Line Trigger
Line Integration ...	None
Line Trigger Meth...	Method 1
Strobe Method S...	None
Line Trigger Auto...	Disable
Time Stamp Base	Microseconds
Board Sync Outp...	Disabled
Board Sync Outp...	Disabled
CC1	Pulse #1
CC2	Not Used
CC3	Not Used
CC4	Not Used

Parameter	Value
External Trigger	Enable
External Trigger Detection	Rising Edge
External Trigger Level	TTL
External Trigger Source	External Trigger #1
External Trigger Minimum ...	0
Frame Count per External T...	1
External Trigger Delay	0
External Trigger Delay Time...	Nanoseconds
External Trigger Ignore Delay	0
Shaft Encoder Direction	Ignored
Shaft Encoder Edge Drop	0
Shaft Encoder Edge Multipl...	1
Shaft Encoder Order	Device Specific
External Line Trigger Detect...	Rising Edge
External Line Trigger Source	Shaft Encoder Phase A

Image Width (in Pixels)	2048
Image Height (in Lines)	1024
Image Left Offset (in Pixels)	0
Image Buffer Format	Monochrome 16-bits
Image Flip	Disabled
Acquisition Frame Length ...	Fix Length

FreeRun/Generate 100 and 250khz

Line Sync Source	Internal Line Trigger	Line Sync Source	Internal Line Trigger
Internal Line Trigger Frequ...	100000	Internal Line Trigger Frequ...	250000

Parameter	Value
External Trigger	Disabled
External Trigger D...	Rising Edge