

Advanced Feature - Timestamp

Marlin 06 Series

(Firmware 3.03 required)

Document history

v1	02.02.2006		Initial version
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Register overview

Offset	Register name	Remarks
0x1000040	ADV_INQ_1	
0x1000600	TIMESTAMP	except MF131x
0x1000610	FRMCNT_STAMP	except MF131x
0x1000620	TRGCNT_STAMP	except MF131x

Advanced Feature Inquiry

Offset	Name	Field	Bit	Description
0x1000040	ADV_INQ_1		[0..19]	See 'AdvancedFeatures.pdf'
		TimeStamp	[22]	
		FrmCntStamp	[23]	Frame counter stamp
		TrgCntStamp	[24]	Trigger counter stamp
			[25..31]	See 'AdvancedFeatures.pdf'
0x1000044	ADV_INQ_2		[0..31]	See 'AdvancedFeatures.pdf'
0x1000048	ADV_INQ_3		[0..31]	See 'AdvancedFeatures.pdf'
0x100004C	ADV_INQ_4		[0..31]	See 'AdvancedFeatures.pdf'

Each named bit indicates if a feature is present or not. If a feature is marked as not present the associated register space might not be available and read/write errors can occur.

Timestamp

Offset	Name	Field	Bit	Description
0x1000600	TIMESTAMP	Presence_Inq	[0]	Indicates presence of this feature (read only)
			[1..5]	-
		ON_OFF	[6]	Timestamp on/off
		BYTESWAP	[7]	Swap byte order
		Format_0_Inq	[8]	Presence of Format 0 0:N/A 1:Available
		Format_1_Inq	[9]	Presence of Format 1 0:N/A 1:Available
		Format_2_Inq	[10]	Presence of Format 2 0:N/A 1:Available
		Format_3_Inq	[11]	Presence of Format 3 0:N/A 1:Available
		Format_4_Inq	[12]	Presence of Format 4 0:N/A 1:Available
		Format	[13..15]	0: use format 0 1: use format 1 2: ...
		LinePos	[16..31]	Line position of stamp

Enabling this feature, timestamp data will be inserted into any captured image. The size of the timestamp depends on the selected timestamp format. The `BYTESWAP` bit could be used to swap the byte order of the timestamp data.

The `LinePos` field indicates at which line the stamp will be inserted. Enter a

- **positive value** from $0 \dots \text{HeightOfImage}$ to specify a position relative to the top of the image. `LinePos=0` specifies the very first image line.
- **negative value** from $-1 \dots -\text{HeightOfImage}$ to specify a position relative to the bottom of the image. `LinePos=-1` specifies the very last image line.

Timestamp outside the visible image area

For format 7 modes the image frame transported may contain padding data at the end of the transported frame. Setting `LinePos=HeightOfImage` places the stamp in this padding area. If the transported image frame doesn't contain any padding data the camera won't relocate the timestamp to the visible area automatically.

Take in mind that the accuracy of the timestamp might be affected by asynchronous traffic – mainly if image settings are changed.

Format 0:

The IEEE1394 cycle counter will be inserted into the very first 4 bytes/pixels of a line.

second count (128) 7 bits	cycle count (7999) 13 bits	cycle offset (3071) 12 bits
1-Hz cycle timer counter	8,000-Hz cycle timer counter	24.576-MHz cycle timer counter

Frame counter stamp

Offset	Name	Field	Bit	Description
0x1000610	FRMCNT_STAMP	Presence_Inq	[0]	Indicates presence of this feature (read only)
		Reset	[1]	Clear frame counter
			[2..5]	-
		ON_OFF	[6]	Timestamp on/off
		BYTESWAP	[7]	Swap byte order
			[8..15]	-
		LinePos	[16..31]	Line position of stamp

Enabling this feature, the current frame counter value (images captured) will be inserted as a 32-Bit integer value into any captured image.

Setting the `Reset` flag to 1 resets the frame counter to 0 – the `Reset` flag is self-cleared.

The `ON_OFF`, `BYTESWAP` and `LinePos` fields are simply a mirror of the Timestamp feature. Settings of these fields are applied to all image stamp features.

The 4 bytes of the frame counter value will be inserted as the 5th to 8th Byte of a line.

Trigger counter stamp

Offset	Name	Field	Bit	Description
0x1000620	TRGCNT_STAMP	Presence_Inq	[0]	Indicates presence of this feature (read only)
		Reset	[1]	Clear frame counter
			[2..5]	-
		ON_OFF	[6]	Timestamp on/off
		BYTESWAP	[7]	Swap byte order
			[8..15]	-
		LinePos	[16..31]	Line position of stamp

Enabling this feature, the current trigger counter value will be inserted as a 32-Bit integer value into any captured image.

Setting the `Reset` flag to 1 resets the trigger counter to 0 – the `Reset` flag is self-cleared.

The `ON_OFF`, `BYTESWAP` and `LinePos` fields are simply a mirror of the Timestamp feature. Settings of these fields are applied to all image stamp features.

The 4 bytes of the trigger counter value will be inserted as the 9th to 12th Byte of a line.