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Sapera LT™ 6.0

Acquisition Parameters Reference Manual

Revision 2

Part number OC-SAPM-APR00

NOTICE

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Introduction

Overview of the Manual

The *Sapera++ LT Programmer's* manual, the *Sapera LT Basic Modules Reference* manual and the *Sapera LT Active X Programmer's* manual are the reference documents for the C++, C, and Active X APIs, respectively. The *Sapera LT Acquisition Parameters Reference* manual complements these manuals by describing the parameters, capabilities, and concepts related to the acquisition process. The functions using acquisition parameters are described in the appropriate API reference manual mentioned above.

The *Sapera LT Acquisition Parameters Reference* online manual contains additional references to acquisition parameters and capabilities that typically do not need to be used by the user application.

The printed manual covers the following topics:

- **Sapera LT Acquisition Parameters Definitions**
  Description of the Sapera Acquisition parameters plus the related data structures and definitions.
- **DALSA Contact Information**
  Phone numbers, web site, and important email addresses.

The online manual additionally covers the following topics:

- **Advanced Acquisition Controls**
  Description of acquisition controls including camera parameters and capabilities.
- **Appendix A: Acquisition Configuration File Formats**
  Description of the Sapera camera configuration files (.CCA, .CVI, .CCF) fields.

About the Manual

This manual exists in printed, compiled HTML help, and Adobe Acrobat® (PDF) formats. The help and PDF formats make full use of hypertext cross-references and include links to the DALSA home page on the Internet located at **http://www.imaging.com**, accessed using any web browser.

Using the Manual

File names, directories, and Internet sites will be in bold text (for example, **setup.exe**, **c:\windows, http://www.imaging.com**). Function parameters will be in italics (for example, *hServer*).

Source code, code examples, text file listings, and text that must be entered using the keyboard will be in typewriter-style text (for example, [`PixelClock`]).

Menu and dialog actions will be indicated in bold text in the order of the instructions to be executed, with each instruction separated by bullets. For example, going to the File menu and choosing Save would be written as **File•Save**.

Acquisition Parameter Definitions

Introduction

This section describes the parameters and definitions required for control of the acquisition process.

Refer to the Advanced Acquisition Control section found in the online version of this manual to add advanced controls (such as detection of frame grabber capabilities) to the imaging application.

Using the Acquisition Parameters

A Sapera acquisition configuration is defined through the Acquisition Parameters. These parameters are divided in two categories:

- Camera parameters
- Video Input Conditioning (VIC) parameters

The Camera parameters describe the signal specifications of the video source (digital or analog). These parameters define the video source capabilities and modes of operation. Consult the section, Advanced Acquisition Control, in the online version of this manual for a description of the Camera related parameters.

The VIC related parameters define how the acquisition front end is configured in regards to the video source.

The Camera and VIC parameters typically are stored in CAM & VIC files (files with the .CCA and .CVI extension, respectively) or combined in a unique camera configuration file (file with the .CCF extension) and reloaded at will. This provides a convenient and portable method to initialize the frame grabber with predefined configurations. Sapera LT ships with an extensive list of camera configuration files for supported cameras. In addition, .CVI/CCF files are provided with DALSA application notes to support the described camera modes or are generated by the Sapera CamExpert program as required by the imaging application.

CamExpert, the Sapera camera configuration utility, allows configuring the frame grabber (camera configuration file) using existing camera definition files included with the Sapera LT package. The user can also create or modify camera configuration files for new or custom cameras. Multiple .CCF files with different VIC parameters can be created from an existing .CCA file to support various camera operating modes.

It is strongly recommended to start interfacing a camera with your frame grabber using CamExpert instead of experimenting directly with one of the supplied demo programs. CamExpert is designed to guide you through the camera interfacing process with minimum effort.

When dynamic control is required, such as brightness and contrast, the Sapera API provides functions for direct access to any Camera or VIC parameter.

The possible values of an acquisition parameter and its availability are generally indicated by Sapera Acquisition capabilities (CORACQ_CAP_*).

Note: Sapera Acquisition capabilities are INT32 values, unless specified otherwise.

Acquisition Parameters

This section describes the Acquisition Management and VIC related parameters. Unlike the VIC parameters, the Acquisition Management parameters are not stored in any acquisition configuration files.

Acquisition Management Related Parameters

ID	Parameter
0x700	CORACQ_PRM_LABEL
0x701	CORACQ_PRM_EVENT_TYPE
0x702	CORACQ_PRM_EVENT_COUNT
0x703	CORACQ_PRM_EVENT_SERVER
0x704	CORACQ_PRM_EVENT_CALLBACK
0x705	CORACQ_PRM_EVENT_CONTEXT
0x706	CORACQ_PRM_HSYNC_TIMEOUT
0x707	CORACQ_PRM_VSYNC_TIMEOUT
0x708	CORACQ_PRM_SIGNAL_STATUS
0x809	CORACQ_PRM_DETECT_PIXEL_CLK
0x80a	CORACQ_PRM_DETECT_HACTIVE
0x80b	CORACQ_PRM_DETECT_VACTIVE
0x80c	CORACQ_PRM_FLAT_FIELD_SELECT
0x80d	CORACQ_PRM_FLAT_FIELD_ENABLE

CORACQ_PRM_DETECT_HACTIVE

Description	Number of horizontal active pixels per line detected by the acquisition device.
Type	UINT32
Note	Only available if CORACQ_CAP_DETECT_HACTIVE is TRUE.

CORACQ_PRM_DETECT_PIXEL_CLK

Description	Pixel clock frequency (in Hz) detected by the acquisition device.
Type	UINT32
Note	Only available if CORACQ_CAP_DETECT_PIXEL_CLK is TRUE.

CORACQ_PRM_DETECT_VACTIVE

Description	Number of vertical active lines per field detected by the acquisition device.
Type	UINT32
Note	Only available if CORACQ_CAP_DETECT_VACTIVE is TRUE.

CORACQ_PRM_EVENT_CALLBACK

Description	Pointer to the Callback function registered using the function CorAcqRegisterCallback.
Type	PCORCALLBACK
Note	This parameter is read-only.

CORACQ_PRM_EVENT_CONTEXT

Description	Context pointer registered using the function CorAcqRegisterCallback.
Type	void *
Note	This parameter is read-only.

CORACQ_PRM_EVENT_COUNT

Description	Number of events that have occurred since a callback function was registered using the CorAcqRegisterCallback function.
Type	UINT32
Note	This parameter is read-only.

CORACQ_PRM_EVENT_SERVER

Description	Handle to a server to which an event notification is made via a callback function.
Type	CORSERVER
Note	This parameter is read-only.

CORACQ_PRM_EVENT_TYPE

Description	Event to be signaled while a transfer is in progress, unless otherwise specified.
Type	UINT32
Limits	The CORACQ_CAP_EVENT_TYPE capability specifies the event type(s) supported by the acquisition module. The capability returns the supported values ORed together.
Values	The values may be ORed if more than one event is desired.

CORACQ_VAL_EVENT_VERTICAL_TIMEOUT (0x00000040). Call the callback function when a vertical timeout is detected. See CORACQ_PRM_VERTICAL_TIMEOUT_DELAY.

CORACQ_VAL_EVENT_TYPE_EXTERNAL_TRIGGER2 (0x00000080)
Call the callback function upon receiving an external trigger event from external trigger 2 which will then acquire at least one image. Therefore, the maximum callback rate cannot be greater than the acquisition video frame rate. See also CORACQ_PRM_EXT_TRIGGER_ENABLE

CORACQ_VAL_EVENT_TYPE_START_OF_FIELD (0x00010000)Call the callback function at start of odd or even field.

CORACQ_VAL_EVENT_TYPE_START_OF_ODD (0x00020000)
Call the callback function at start of odd field.

CORACQ_VAL_EVENT_TYPE_START_OF_EVEN (0x00040000)
Call the callback function at start of even field.

CORACQ_VAL_EVENT_TYPE_START_OF_FRAME (0x00080000
Call the callback function at start of frame.

CORACQ_VAL_EVENT_TYPE_END_OF_FIELD (0x00100000)
Call the callback function at end of odd or even field.

CORACQ_VAL_EVENT_TYPE_END_OF_ODD (0x00200000)
Call the callback function at end of odd field.

CORACQ_VAL_EVENT_TYPE_END_OF_EVEN (0x00400000)
Call the callback function at end of even field.

CORACQ_VAL_EVENT_TYPE_END_OF_FRAME (0x00800000)
Call the callback function at end of frame.

CORACQ_VAL_EVENT_TYPE_EXTERNAL_TRIGGER (0x01000000)
Call the callback function upon receiving an external trigger which will then acquire at least one image. Therefore, the maximum callback rate cannot be greater than the acquisition video frame rate. See also CORACQ_PRM_EXT_TRIGGER_ENABLE

CORACQ_VAL_EVENT_TYPE_VERTICAL_SYNC (0x02000000)
Call the callback function on every vertical sync, even if not acquiring.

CORACQ_VAL_EVENT_TYPE_VIRTUAL_FRAME (0x00000100)
Call the callback function upon the start of a frame in linescan. The frame length is controlled by the parameter CORACQ_PRM_CROP_HEIGHT.

CORACQ_VAL_EVENT_TYPE_END_OF_LINE (0x04000000)
Call the callback function at end of line *n*.

CORACQ_VAL_EVENT_TYPE_END_OF_NLINES (0x08000000)
Call the callback function at end of *n* lines.

CORACQ_VAL_EVENT_TYPE_NO_HSYNC (0x10000000)
Call the callback function if a timeout occurs due to a missing horizontal sync during live acquisition. The timeout value is specified by CORACQ_PRM_HSYNC_TIMEOUT. The event is only generated once, unless a new CorXferStart command is issued or a new horizontal sync is detected.

CORACQ_VAL_EVENT_TYPE_NO_VSYNC (0x20000000)
Call the callback function if a timeout occurs due to a missing vertical sync during live acquisition. The timeout value is specified by CORACQ_PRM_VSYNC_TIMEOUT. The event is only generated once, unless a new CorXferStart command is issued or a new vertical sync is detected.

CORACQ_VAL_EVENT_TYPE_NO_PIXEL_CLK (0x40000000)
Call the callback function if no pixel clock is detected. The event is only generated once, unless a new CorXferStart command is issued or the pixel clock is detected again and then lost.

CORACQ_VAL_EVENT_TYPE_PIXEL_CLK (0x80000000)
Call the callback function if a pixel clock is detected. The event is only generated once, unless a new CorXferStart command is issued or the pixel clock is lost again and then detected.

CORACQ_VAL_EVENT_TYPE_FRAME_LOST (0x00008000)
Call the callback function for each frames lost during live acquisition. This error can usually occur if there is not enough bandwidth to transfer images to host memory.

CORACQ_VAL_EVENT_TYPE_DATA_OVERFLOW (0x00004000)
Call the callback function when a data overflow occurs during live acquisition. This error can usually occur if the acquisition device cannot sustain the data rate of the incoming images.

CORACQ_VAL_EVENT_TYPE_EXTERNAL_TRIGGER_IGNORED (0x00002000)
Call the callback function when an external trigger event is dropped. This occurs when the external trigger rate is faster then the acquisition frame rate. See also CORACQ_PRM_EXT_TRIGGER_ENABLE.

CORACQ_VAL_EVENT_TYPE_USER_DEFINE (0x00000200)
Call the callback function when a “user defined” event occurs. Applicable when custom firmware which supports the user defined event, is loaded on to the acquisition board. This event does not have any other identification thus only the application can know the meaning of the user defined event.

CORACQ_VAL_EVENT_TYPE_EXTERNAL_TRIGGER_TOO_SLOW (0x00000400)
Call the callback function if the detected external trigger rate is too slow for the hardware to process. This event can occur when using the shaft encoder multiplier.

CORACQ_VAL_EVENT_TYPE_HSYNC_LOCK (0x00000800)
Call the callback function if a horizontal sync unlock to lock condition is detected.

CORACQ_VAL_EVENT_TYPE_HSYNC_UNLOCK (0x00001000)
Call the callback function if an horizontal sync lock to unlock condition is detected.

CORACQ_PRM_FLAT_FIELD_ENABLE

Description Enable or disable the flat field resource.

Type UINT32

Availability Available only if CORACQ_CAP_FLAT_FIELD is TRUE

Values

TRUE (0x00000001),	Enable the flat field
FALSE (0x00000000),	Disable the flat field

CVI entry None

Related Capabilities The flat field correction algorithm can be further characterized by the following capabilities.

Below are the relative minimum and maximum pixel gains:
CORACQ_CAP_FLAT_FIELD_GAIN_MIN and
CORACQ_CAP_FLAT_FIELD_GAIN_MAX

Divide the relative pixel gain by CORACQ_CAP_FLAT_FIELD_GAIN_DIVISOR to get the actual gain value.

Example:

```
for:    CORACQ_CAP_FLAT_FIELD_GAIN_MIN = 0x01
        CORACQ_CAP_FLAT_FIELD_GAIN_MAX = 0xFF
        CORACQ_CAP_FLAT_FIELD_GAIN_DISIVOR = 0x80
then:   Minimum gain is   1 / 0x80 = 0.0078125
        Maximum gain is   0xFF / 0x80 = 1.9921875
```

Below are the minimum and maximum gray level pixel offsets:
CORACQ_CAP_FLAT_FIELD_OFFSET_MIN and
CORACQ_CAP_FLAT_FIELD_OFFSET_MAX

CORACQ_CAP_FLAT_FIELD_PIXEL_REPLACEMENT returns TRUE if pixel replacement is supported. A gain of zero indicates a pixel replacement.

CORACQ_PRM_FLAT_FIELD_SELECT

Description Selects the active flat field resource created using the function CorAcqNewFlatfield.

Type UINT32

Availability Available only if CORACQ_CAP_FLAT_FIELD is TRUE

Values 0 … (n-1), where ‘n’ is the number of flat field resources created. The maximum number that can be created is limited by the amount of memory available on the PC and/or on the device.

CVI entry None

CORACQ_PRM_HSYNC_TIMEOUT

Description Timeout value (in µsec) used to generate the event "horizontal loss of sync" (CORACQ_VAL_EVENT_TYPE_NO_HSYNC). Also used by the function CorAcqDetectSync to auto-detect video source sync timings. See the *Sapera LT Basic Modules Reference Manual* for information on the CorAcqDetectSync function.

Type UINT32

Availability Available only if CORACQ_CAP_DETECT_SYNC is TRUE.

CORACQ_PRM_LABEL

Description	Acquisition device ID: Zero-terminated array of characters with a fixed size of 128 bytes.
Type	CHAR[128]
Note	This parameter is read-only.

CORACQ_PRM_SIGNAL_STATUS

Description	Status of input signals connected to the acquisition device. The returned value is the ORed combination of all valid values.
Type	UINT32
Limits	The CORACQ_CAP_SIGNAL_STATUS capability returns the supported values ORed together.
Values	CORACQ_VAL_SIGNAL_HSYNC_PRESENT (0x00000001) True if an horizontal sync signal (analog video source) or a line valid (digital video source) has been detected by the acquisition device. CORACQ_VAL_SIGNAL_VSYNC_PRESENT (0x00000002) True if a vertical sync signal (analog video source) or a frame valid (digital video source) has been detected by the acquisition device. CORACQ_VAL_SIGNAL_PIXEL_CLK_PRESENT (0x00000004) True if a pixel clock signal has been detected by the acquisition device. CORACQ_VAL_SIGNAL_CHROMA_PRESENT (0x00000008) True if a color burst signal has been detected by the acquisition device. This is valid for NTSC and PAL video signals. CORACQ_VAL_SIGNAL_HSYNC_LOCK (0x00000010) True if the acquisition device has been able to lock to an horizontal sync signal (analog video source). CORACQ_VAL_SIGNAL_VSYNC_LOCK (0x00000020) True if the acquisition device has been able to lock to a vertical sync signal (analog video source). CORACQ_VAL_SIGNAL_POWER_PRESENT (0x00000040) True if power is available for a camera. When true, this indicates only that power is available at the camera connector, where it might be supplied from the board PCI bus or from the board PC power connector (whether this power is used by the camera is unknown). When false, the circuit fuse is blown and power cannot be supplied to any connected camera. (See board manual for information on any fused power supply for cameras).
Note	This parameter is read-only.

CORACQ_PRM_VSYNC_TIMEOUT

Description	Timeout value (in µsec) used to generate the event "vertical loss of sync" (CORACQ_VAL_EVENT_TYPE_NO_VSYNC). Also used by the function CorAcqDetectSync to auto-detect video source sync timings. See CorAcqDetectSync in the *Sapera LT Basic Modules Reference Manual* for further information.
Type	UINT32
Availability	Available if the acquisition device supports auto-detection of synchronization timing signals. The CORACQ_CAP_DETECT_SYNC capability returns TRUE when available. See CorAcqDetectSync in the *Sapera LT Basic Modules Reference Manual* for further information.

VIC Related Parameters

The following table lists VIC parameters by functional groups. A table listing VIC parameters sorted by their ID is available in the section VIC Parameters by ID (see the Help version of this manual).

Typically the acquisition hardware is initialized with Camera and VIC parameters by loading a camera configuration file. These parameters (such as the ones controlling brightness and contrast) can then be modified individually at runtime by the user application.

VIC Parameters by Groups

General	
CORACQ_PRM_VIC_NAME	

Input	
CORACQ_PRM_BIT_ORDERING	CORACQ_PRM_CAMSEL
CORACQ_PRM_PLANAR_INPUT_SOURCES	

Signal Conditioning	
CORACQ_PRM_BRIGHTNESS	CORACQ_PRM_DC_REST_WIDTH
CORACQ_PRM_BRIGHTNESS_RED	CORACQ_PRM_FIX_FILTER_ENABLE
CORACQ_PRM_BRIGHTNESS_GREEN	CORACQ_PRM_FIX_FILTER_SELECTOR
CORACQ_PRM_BRIGHTNESS_BLUE	CORACQ_PRM_FIX_FILTER_SELECTOR_STR
CORACQ_PRM_CONTRAST	CORACQ_PRM_HUE
CORACQ_PRM_CONTRAST_RED	CORACQ_PRM_SCALE_VERT
CORACQ_PRM_CONTRAST_GREEN	CORACQ_PRM_PROG_FILTER_ENABLE
CORACQ_PRM_CONTRAST_BLUE	CORACQ_PRM_PROG_FILTER_FREQ
CORACQ_PRM_DC_REST_MODE	CORACQ_PRM_SATURATION
CORACQ_PRM_DC_REST_START	CORACQ_PRM_SHARPNESS

Stream Conditioning	
CORACQ_PRM_CROP_LEFT	CORACQ_PRM_LUT_FORMAT
CORACQ_PRM_CROP_TOP	CORACQ_PRM_LUT_MAX
CORACQ_PRM_CROP_HEIGHT	CORACQ_PRM_LUT_NENTRIES
CORACQ_PRM_CROP_WIDTH	CORACQ_PRM_LUT_NUMBER
CORACQ_PRM_DECIMATE_COUNT	CORACQ_PRM_PIXEL_MASK
CORACQ_PRM_DECIMATE_METHOD	CORACQ_PRM_SCALE_HORZ
CORACQ_PRM_EXT_TRIGGER_FRAME_COUNT	CORACQ_PRM_SCALE_HORZ_METHOD
CORACQ_PRM_FRAME_LENGTH	CORACQ_PRM_SCALE_VERT
CORACQ_PRM_FLIP	CORACQ_PRM_SCALE_VERT_METHOD
CORACQ_PRM_HSYNC_REF	CORACQ_PRM_SNAP_COUNT
CORACQ_PRM_LUT_ENABLE	CORACQ_PRM_VSYNC_REF

Control Signals	
CORACQ_PRM_CAM_CONTROL_PULSE0_HD_ALIGN	CORACQ_PRM_FRAME_INTEGRATE_ENABLE
CORACQ_PRM_CAM_CONTROL_PULSE1_HD_ALIGN	CORACQ_PRM_INT_FRAME_TRIGGER_ENABLE
CORACQ_PRM_CAM_RESET_DELAY	CORACQ_PRM_INT_FRAME_TRIGGER_FREQ
CORACQ_PRM_CAM_RESET_ENABLE	CORACQ_PRM_INT_LINE_TRIGGER_ENABLE
CORACQ_PRM_CAM_TRIGGER_DELAY	CORACQ_PRM_INT_LINE_TRIGGER_FREQ
CORACQ_PRM_CAM_TRIGGER_ENABLE	CORACQ_PRM_INT_LINE_TRIGGER_FREQ_MIN
CORACQ_PRM_CONTROL_SIGNAL_OUTPUT1	CORACQ_PRM_INT_LINE_TRIGGER_FREQ_MAX
CORACQ_PRM_CONTROL_SIGNAL_OUTPUT2	CORACQ_PRM_LINE_INTEGRATE_DURATION
CORACQ_PRM_EXT_FRAME_TRIGGER_DETECTION	CORACQ_PRM_LINE_INTEGRATE_ENABLE
CORACQ_PRM_EXT_FRAME_TRIGGER_ENABLE	CORACQ_PRM_LINE_TRIGGER_ENABLE
CORACQ_PRM_EXT_FRAME_TRIGGER_LEVEL	CORACQ_PRM_LINESCAN_DIRECTION_OUTPUT
CORACQ_PRM_EXT_FRAME_TRIGGER_SOURCE	CORACQ_PRM_MASTER_MODE
CORACQ_PRM_EXT_LINE_TRIGGER_DETECTION	CORACQ_PRM_MASTER_MODE_HSYNC_POLARITY
CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE	CORACQ_PRM_MASTER_MODE_VSYNC_POLARITY
CORACQ_PRM_EXT_LINE_TRIGGER_LEVEL	CORACQ_PRM_SHAFT_ENCODER_ENABLE

Control Signals	
CORACQ_PRM_EXT_LINE_TRIGGER_SOURCE	CORACQ_PRM_SHAFT_ENCODER_LEVEL
CORACQ_PRM_EXT_LINE_TRIGGER_SOURCE_STR	CORACQ_PRM_SHAFT_ENCODER_DROP
CORACQ_PRM_EXT_TRIGGER_DELAY	CORACQ_PRM_SHAFT_ENCODER_MULTIPLY
CORACQ_PRM_EXT_TRIGGER_DELAY_TIME_BASE	CORACQ_PRM_STROBE_DELAY
CORACQ_PRM_EXT_TRIGGER_DETECTION	CORACQ_PRM_STROBE_DELAY_2
CORACQ_PRM_EXT_TRIGGER_DURATION	CORACQ_PRM_STROBE_DURATION
CORACQ_PRM_EXT_TRIGGER_ENABLE	CORACQ_PRM_STROBE_ENABLE
CORACQ_PRM_EXT_TRIGGER_IGNORE_DELAY	CORACQ_PRM_STROBE_LEVEL
CORACQ_PRM_EXT_TRIGGER_LEVEL	CORACQ_PRM_STROBE_METHOD
CORACQ_PRM_EXT_TRIGGER_SOURCE	CORACQ_PRM_STROBE_POLARITY
CORACQ_PRM_EXT_TRIGGER_SOURCE_STR	CORACQ_PRM_TIME_INTEGRATE_DELAY
CORACQ_PRM_FIX_FILTER_SELECTOR_STR	CORACQ_PRM_TIME_INTEGRATE_DURATION
CORACQ_PRM_FRAME_INTEGRATE_COUNT	CORACQ_PRM_TIME_INTEGRATE_ENABLE
	CORACQ_PRM_VERTICAL_TIMEOUT_DELAY

Output	
CORACQ_PRM_OUTPUT_ENABLE (obsolete) use CORACQ_PRM_EXT_TRIGGER_ENABLE	CORACQ_PRM_OUTPUT_FORMAT

Shared Control Signals	
CORACQ_PRM_SHARED_CAM_RESET	CORACQ_PRM_SHARED_STROBE
CORACQ_PRM_SHARED_CAM_TRIGGER	CORACQ_PRM_SHARED_TIME_INTEGRATE
CORACQ_PRM_SHARED_EXT_TRIGGER	CORACQ_PRM_WEN_ENABLE
CORACQ_PRM_SHARED_FRAME_INTEGRATE	

Bayer Signals
CORACQ_PRM_BAYER_DECODER_ENABLE
CORACQ_PRM_BAYER_DECODER_METHOD
CORACQ_PRM_BAYER_DECODER_SATURATION_FACTOR
CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_BLUE
CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_GREEN
CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_RED
CORACQ_PRM_BAYER_DECODER_WB_GAIN_RED

CORACQ_PRM_BAYER_DECODER_WB_GAIN_GREEN

CORACQ_PRM_BAYER_DECODER_WB_GAIN_BLUE

CORACQ_PRM_BAYER_DECODER_WB_OFFSET_RED

CORACQ_PRM_BAYER_DECODER_WB_OFFSET_GREEN

CORACQ_PRM_BAYER_DECODER_WB_OFFSET_BLUE

VIC Parameters by ID

0x800	CORACQ_PRM_CAMSEL
0x801	CORACQ_PRM_PIXEL_MASK
0x802	CORACQ_PRM_DC_REST_MODE
0x803	CORACQ_PRM_BRIGHTNESS
0x804	CORACQ_PRM_BRIGHTNESS_RED
0x805	CORACQ_PRM_BRIGHTNESS_GREEN
0x806	CORACQ_PRM_BRIGHTNESS_BLUE
0x807	CORACQ_PRM_CONTRAST
0x808	CORACQ_PRM_CONTRAST_RED
0x809	CORACQ_PRM_CONTRAST_GREEN
0x80a	CORACQ_PRM_CONTRAST_BLUE
0x80b	CORACQ_PRM_HUE
0x80c	CORACQ_PRM_SATURATION
0x80d	CORACQ_PRM_FIX_FILTER_ENABLE
0x80e	CORACQ_PRM_FIX_FILTER_SELECTOR
0x80f	CORACQ_PRM_PROG_FILTER_ENABLE
0x810	CORACQ_PRM_PROG_FILTER_FREQ
0x811	CORACQ_PRM_CROP_LEFT
0x812	CORACQ_PRM_CROP_TOP
0x813	CORACQ_PRM_CROP_WIDTH
0x814	CORACQ_PRM_CROP_HEIGHT
0x815	CORACQ_PRM_SCALE_HORZ
0x816	CORACQ_PRM_SCALE_VERT
0x817	CORACQ_PRM_SCALE_HORZ_METHOD
0x818	CORACQ_PRM_SCALE_VERT_METHOD
0x819	CORACQ_PRM_DECIMATE_METHOD
0x81a	CORACQ_PRM_DECIMATE_COUNT
0x81b	CORACQ_PRM_LUT_ENABLE
0x81c	CORACQ_PRM_LUT_NUMBER
0x81d	CORACQ_PRM_STROBE_ENABLE
0x81e	CORACQ_PRM_STROBE_METHOD
0x81f	CORACQ_PRM_STROBE_POLARITY
0x820	CORACQ_PRM_STROBE_DURATION
0x821	CORACQ_PRM_STROBE_DELAY
0x822	CORACQ_PRM_FRAME_INTEGRATE_ENABLE

0x823	CORACQ_PRM_FRAME_INTEGRATE_COUNT
0x824	CORACQ_PRM_TIME_INTEGRATE_ENABLE
0x825	CORACQ_PRM_TIME_INTEGRATE_DURATION
0x826	CORACQ_PRM_CAM_TRIGGER_ENABLE
0x827	CORACQ_PRM_CAM_RESET_ENABLE
0x828	CORACQ_PRM_OUTPUT_FORMAT
0x829-0x82b	Reserved
0x82c	CORACQ_PRM_OUTPUT_ENABLE (obsolete) use CORACQ_PRM_EXT_TRIGGER_ENABLE
0x82d	CORACQ_PRM_VIC_NAME
0x82e	CORACQ_PRM_LUT_MAX
0x82f	CORACQ_PRM_EXT_TRIGGER_DETECTION
0x830	CORACQ_PRM_DC_REST_START
0x831	CORACQ_PRM_DC_REST_WIDTH
0x832	CORACQ_PRM_LUT_FORMAT
0x833	CORACQ_PRM_VSYNC_REF
0x834	CORACQ_PRM_HSYNC_REF
0x835	CORACQ_PRM_LINE_INTEGRATE_ENABLE
0x836	CORACQ_PRM_LINE_INTEGRATE_DURATION
0x837	CORACQ_PRM_LINE_TRIGGER_ENABLE
0x838	CORACQ_PRM_EXT_FRAME_TRIGGER_ENABLE
0x839	CORACQ_PRM_EXT_FRAME_TRIGGER_DETECTION
0x83a	CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE
0x83b	CORACQ_PRM_EXT_LINE_TRIGGER_DETECTION
0x83c	CORACQ_PRM_SNAP_COUNT
0x83d	CORACQ_PRM_INT_LINE_TRIGGER_ENABLE
0x83e	CORACQ_PRM_INT_LINE_TRIGGER_FREQ
0x83f	CORACQ_PRM_LINESCAN_DIRECTION_OUTPUT
0x840	CORACQ_PRM_BIT_ORDERING
0x841	CORACQ_PRM_EXT_TRIGGER_LEVELCORACQ_PRM_EXT_TRIGGER_LEVEL
0x842	CORACQ_PRM_STROBE_LEVEL
0x843	CORACQ_PRM_EXT_FRAME_TRIGGER_LEVEL
0x844	CORACQ_PRM_EXT_LINE_TRIGGER_LEVEL
0x845	CORACQ_PRM_INT_LINE_TRIGGER_FREQ_MIN
0x846	CORACQ_PRM_INT_LINE_TRIGGER_FREQ_MAX
0x847	CORACQ_PRM_MASTER_MODE

0x848	CORACQ_PRM_MASTER_MODE_HSYNC_POLARITY
0x849	CORACQ_PRM_MASTER_MODE_VSYNC_POLARITY
0x84a	CORACQ_PRM_SHAFT_ENCODER_DROP
0x84b	CORACQ_PRM_SHAFT_ENCODER_ENABLE
0x84c	CORACQ_PRM_EXT_TRIGGER_FRAME_COUNT
0x84d	CORACQ_PRM_INT_FRAME_TRIGGER_ENABLE
0x84e	CORACQ_PRM_INT_FRAME_TRIGGER_FREQ
0x84f	CORACQ_PRM_SHARED_EXT_TRIGGER
0x850	CORACQ_PRM_SHARED_CAM_RESET
0x851	CORACQ_PRM_SHARED_CAM_TRIGGER
0x852	CORACQ_PRM_SHARED_TIME_INTEGRATE
0x853	CORACQ_PRM_SHARED_FRAME_INTEGRATE
0x854	CORACQ_PRM_SHARED_STROBE
0x855	CORACQ_PRM_STROBE_DELAY_2
0x856	CORACQ_PRM_FRAME_LENGTH
0x857	CORACQ_PRM_FLIP
0x858	CORACQ_PRM_SHARPNESS
0x859	CORACQ_PRM_EXT_TRIGGER_DURATION
0x85a	CORACQ_PRM_TIME_INTEGRATE_DELAY
0x85b	CORACQ_PRM_CAM_RESET_DELAYCORACQ_PRM_CAM_RESET_DELAY
0x85c	CORACQ_PRM_CAM_TRIGGER_DELAY
0x85d	CORACQ_PRM_SHAFT_ENCODER_LEVEL
0x85e	CORACQ_PRM_WEN_ENABLE
0x85f	CORACQ_PRM_LUT_NENTRIES
0x860	CORACQ_PRM_EXT_FRAME_TRIGGER_SOURCE
0x861	CORACQ_PRM_EXT_LINE_TRIGGER_SOURCE
0x862	CORACQ_PRM_EXT_TRIGGER_SOURCE
0x863	CORACQ_PRM_SHAFT_ENCODER_MULTIPLY
0x864	CORACQ_PRM_PLANAR_INPUT_SOURCES
0x865	CORACQ_PRM_EXT_TRIGGER_DELAY
0x866	CORACQ_PRM_EXT_TRIGGER_DELAY_TIME_BASE
0x867	CORACQ_PRM_BAYER_DECODER_ENABLE
0x868	CORACQ_PRM_BAYER_DECODER_METHOD
0x869	CORACQ_PRM_BAYER_DECODER_WB_GAIN_RED
0x86a	CORACQ_PRM_BAYER_DECODER_WB_GAIN_GREEN
0x86b	CORACQ_PRM_BAYER_DECODER_WB_GAIN_BLUE
0x86c	CORACQ_PRM_BAYER_DECODER_WB_OFFSET_RED

0x86d	CORACQ_PRM_BAYER_DECODER_WB_OFFSET_GREEN
0x86e	CORACQ_PRM_BAYER_DECODER_WB_OFFSET_BLUE
0x86f	CORACQ_PRM_CAM_CONTROL_PULSE0_HD_ALIGN
0x870	CORACQ_PRM_CAM_CONTROL_PULSE1_HD_ALIGN
0x871	CORACQ_PRM_EXT_TRIGGER_IGNORE_DELAY
0x872	CORACQ_PRM_CONTROL_SIGNAL_OUTPUT1
0x873	CORACQ_PRM_CONTROL_SIGNAL_OUTPUT2
0x874	CORACQ_PRM_FIX_FILTER_SELECTOR_STR
0x875	CORACQ_PRM_EXT_LINE_TRIGGER_SOURCE_STR
0x876	CORACQ_PRM_EXT_TRIGGER_SOURCE_STR
0x877	CORACQ_PRM_VERTICAL_TIMEOUT_DELAY
0x878	CORACQ_PRM_BAYER_DECODER_SATURATION_FACTOR
0x879	CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_RED
0x87A	CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_GREEN
0x87B	CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_BLUE

CORACQ_PRM_BAYER_DECODER_ENABLE

Description Enables or disables the hardware Bayer Decoder of the acquisition device. When enabled, it instructs the acquisition device to use the Bayer Decoder to convert the incoming Bayer video data into the specified output format specified by CORACQ_PRM_OUTPUT_FORMAT.

Type UINT32

Availability Onboard hardware Bayer Decoder is supported if the CORACQ_CAP_BAYER_DECODER capability returns TRUE.

Values TRUE (0x00000001), Enable the Bayer Decoder
FALSE (0x00000000), Disable the Bayer Decoder

CVI Entry [Stream Conditioning]
Bayer Decoder Enable

Note This parameter is read-only.

CORACQ_PRM_BAYER_DECODER_METHOD

Description Selects the Bayer Decoder method to apply to convert incoming Bayer images into the specified output format.

Type UINT32

Limits The parameter value must match one of the supported methods of the acquisition device given by CORACQ_CAP_BAYER_DECODER_METHOD. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_BAYER_DECODER_METHOD_1
Technique based on bilinear interpolation. Fast, but tends to smooth the edges of the image.

CORACQ_VAL_BAYER_DECODER_METHOD_2
Advanced technique, better for preserving the edges of the image. However, it works well only when the image has a strong content in green. Otherwise, small amounts of noise may be visible within objects.

CORACQ_VAL_BAYER_DECODER_METHOD_3
Advanced technique, almost as good as Method 2 for preserving the edges, but independent of the image content in green. Small colour artefacts of 1 pixel may be visible at the edges.

CVI Entry [Stream Conditioning]
Bayer Decoder Method

Note Validated only if CORACQ_PRM_BAYER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_SATURATION_FACTOR

Description Adjusts the image saturation after bayer decoding.

Type UINT32

Limits Range limits: CORACQ_CAP_BAYER_DECODER_SATURATION_FACTOR_MIN to CORACQ_CAP_BAYER_DECODER_SATURATION_FACTOR_MAX

Vakues saturationFactor = CORACQ_PRM_BAYER_DECODER_SATURATION_FACTOR / CORACQ_CAP_BAYER_DECODER_SATURATION_FACTOR_DIVISOR

WeightRed = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_RED/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_RED_DIVISOR

WeightGreen = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_GREEN/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_GREEN_DIVISOR

WeightBlue = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_BLUE/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_BLUE_DIVISOR

mono = red * WeightRed + blue * WeightBlue + green * WeightGreen

red = red +(red-mono)*saturationFactor ;

green = green +(green-mono)*saturationFactor ;

blue = blue +(blue-mono)*saturationFactor ;

Availability Onboard hardware Bayer Decoder is supported if the CORACQ_CAP_BAYER_DECODER capability returns TRUE.

Onboard hardware Bayer Decoder Saturation is supported if the CORACQ_CAP_BAYER_DECODER_SATURATION_FACTOR_MIN is not equal to CORACQ_CAP_BAYER_DECODER_SATURATION_FACTOR_MAX

CVI Entry [Stream Conditioning]
Bayer Decoder Saturation Factor

Note Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_BLUE

Description Change the image saturation of the pixel blue component value after bayer decoding.

Type UINT32

Limits Range limits:
CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_BLUE_MIN

to CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_BLUE_MAX

Values saturationFactor = CORACQ_PRM_BAYER_DECODER_SATURATION_FACTOR / CORACQ_CAP_BAYER_DECODER_SATURATION_FACTOR_DIVISOR

WeightRed = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_RED/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_RED_DIVISOR

WeightGreen = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_GREEN/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_GREEN_DIVISOR

WeightBlue = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_BLUE/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_BLUE_DIVISOR

mono = red * WeightRed + blue * WeightBlue + green * WeightGreen

blue = blue +(blue-mono)*saturationFactor ;

Availability Onboard hardware Bayer Decoder is supported if the CORACQ_CAP_BAYER_DECODER capability returns TRUE.

Onboard hardware Bayer Decoder Saturation Weigth Blue is supported if the CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_BLUE_MIN is not equal to CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_BLUE_MAX

CVI Entry [Stream Conditioning]
Bayer Decoder `Weight Blue`

Note Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_GREEN

Description Change the image saturation of the pixel green component value after bayer decoding.

Type UINT32

Limits Range limits:
CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_GREEN_MIN

to CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_GREEN_MAX

Availability Onboard hardware Bayer Decoder is supported if the CORACQ_CAP_BAYER_DECODER capability returns TRUE.

Onboard hardware Bayer Decoder Saturation Weigth Green is supported if the CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_GREEN_MIN is not equal to CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_GREEN_MAX

Values saturationFactor = CORACQ_PRM_BAYER_DECODER_SATURATION_FACTOR / CORACQ_CAP_BAYER_DECODER_SATURATION_FACTOR_DIVISOR

WeightRed = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_RED/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_RED_DIVISOR

WeightGreen = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_GREEN/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_GREEN_DIVISOR

WeightBlue = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_BLUE/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_BLUE_DIVISOR

mono = red * WeightRed + blue * WeightBlue + green * WeightGreen

green = green +(green-mono)*saturationFactor ;

CVI Entry [Stream Conditioning]
Bayer Decoder `Weight Green`

Note Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_RED

Description Change the image saturation of the pixel red component value after bayer decoding.

Type UINT32

Limits Range limits: CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_RED_MIN

to CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_RED_MAX

Availability Onboard hardware Bayer Decoder is supported if the CORACQ_CAP_BAYER_DECODER capability returns TRUE.

Onboard hardware Bayer Decoder Saturation Weigth Red is supported if the CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_RED_MIN is not equal to CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_RED_MAX

Values saturationFactor = CORACQ_PRM_BAYER_DECODER_SATURATION_FACTOR / CORACQ_CAP_BAYER_DECODER_SATURATION_FACTOR_DIVISOR

WeightRed = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_RED/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_RED_DIVISOR

WeightGreen = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_GREEN/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_GREEN_DIVISOR

WeightBlue = CORACQ_PRM_BAYER_DECODER_SATURATION_WEIGHT_BLUE/ CORACQ_CAP_BAYER_DECODER_SATURATION_WEIGHT_BLUE_DIVISOR

mono = red * WeightRed + blue * WeightBlue + green * WeightGreen

red = red +(red-mono)*saturationFactor ;

CVI Entry [Stream Conditioning]
Bayer Decoder `Weight Red`

Note Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_WB_GAIN_RED

Description Bayer Decoder White Balance Gain for the red channel.

Type UINT32

Limits Range limits: CORACQ_CAP_BAYER_DECODER_WB_GAIN_MIN ..
CORACQ_CAP_BAYER_DECODER_WB_GAIN_MAX.
A gain of 1 = 100000

CVI Entry [Stream Conditioning]
Bayer Decoder White Balance Gain Red

Note Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_WB_GAIN_GREEN

Description	Bayer Decoder White Balance Gain for the green channel.
Type	UINT32
Limits	Range limits: CORACQ_CAP_BAYER_DECODER_WB_GAIN_MIN .. CORACQ_CAP_BAYER_DECODER_WB_GAIN_MAX A gain of 1 = 100000
CVI Entry	[Stream Conditioning] Bayer Decoder White Balance Gain Green
Note	Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_WB_GAIN_BLUE

Description	Bayer Decoder White Balance Gain for the blue channel.
Type	UINT32
Limits	Range limits: CORACQ_CAP_BAYER_DECODER_WB_GAIN_MIN .. CORACQ_CAP_BAYER_DECODER_WB_GAIN_MAX A gain of 1 = 100000
CVI Entry	[Stream Conditioning] Bayer Decoder White Balance Gain Blue
Note	Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_WB_OFFSET_RED

Description	Bayer Decoder White Balance Offset for the red channel.
Type	INT32
Limits	Range limits: CORACQ_CAP_BAYER_DECODER_WB_OFFSET_MIN .. CORACQ_CAP_BAYER_DECODER_WB_OFFSET_MAX Offset in gray level units.
CVI Entry	[Stream Conditioning]Bayer Decoder White Balance Offset Red
Note	Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_WB_OFFSET_GREEN

Description	Bayer Decoder White Balance Offset for the green channel.
Type	INT32
Limits	Range limits: CORACQ_CAP_BAYER_DECODER_WB_OFFSET_MIN .. CORACQ_CAP_BAYER_DECODER_WB_OFFSET_MAX Offset in gray level units.
CVI Entry	[Stream Conditioning] Bayer Decoder White Balance Offset Green
Note	Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BAYER_DECODER_WB_OFFSET_BLUE

Description Bayer Decoder White Balance Offset for the blue channel.

Type INT32

Limits Range limits: CORACQ_CAP_BAYER_DECODER_WB_OFFSET_MIN ..
CORACQ_CAP_BAYER_DECODER_WB_OFFSET_MAX
Offset in gray level units.

CVI Entry [Stream Conditioning]
Bayer Decoder White Balance Offset Blue

Note Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_BIT_ORDERING

Description The camera digital bit ordering.

Type UINT32

Limits Applies to digital video acquisition only. This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_BIT_ORDERING.
The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_BIT_ORDERING_STD (0x00000001)
Standard digital bit ordering.

CORACQ_VAL_BIT_ORDERING_9_10 (0x00000002)
For some 10-bit digital cameras, video data bits 9 and 10 are swapped with bits 0 and 1, as required by some 10-bit Kodak camera models.

CORACQ_VAL_BIT_ORDERING_MSB_10 (0x00000004)
For some 8-bit digital cameras, video data bits 0-7 connect to the acquisition device input bits 2-9, as required by some Kodak camera models.

CORACQ_VAL_BIT_ORDERING_MSB_12 (0x00000008)
For use with 12-bit digital cameras, video data bits 4-11 are directed to the input bits 0-7 of the acquisition device.

CORACQ_VAL_BIT_ORDERING_INVERT (0x00000010)
For use with digital cameras, the video data bits are inverted (logical NOT) before going to the acquisition device.

CVI Entry [Input]
Bit Ordering

CORACQ_PRM_BRIGHTNESS

Description Percentage of brightness to be applied to the composite video signal. Applies to analog video signals only.

Type INT32

Availability Available only if CORACQ_CAP_BRIGHTNESS is set to TRUE.

Limits Range limits: CORACQ_CAP_BRIGHTNESS_MIN to CORACQ_CAP_BRIGHTNESS_MAX.

Adjust the parameter by increments of at least CORACQ_CAP_BRIGHTNESS_ STEP percent (%) in order for a change to occur in the video signal (10000 = 100%).

CVI Entry [Signal Conditioning]
Brightness

CORACQ_PRM_BRIGHTNESS_BLUE

Description Percentage of brightness to be applied to the blue video signal. Applies to analog video signals only.

Type INT32

Availability Available only if CORACQ_CAP_BRIGHTNESS_BLUE is set to TRUE.

Limits Range limits: CORACQ_CAP_BRIGHTNESS_BLUE_MIN to CORACQ_CAP_BRIGHTNESS_BLUE_MAX.

Adjust the parameter by increments of at least CORACQ_CAP_BRIGHTNESS_BLUE_STEP percent (%) in order for a change to occur in the video signal (10000 = 100%).

CVI Entry [Signal Conditioning]
Brightness Blue

CORACQ_PRM_BRIGHTNESS_GREEN

Description Percentage of brightness to be applied to the green video signal. Applies to analog video signals only.

Type INT32

Availability Available only if CORACQ_CAP_BRIGHTNESS_GREEN is set to TRUE.

Limits Range limits: CORACQ_CAP_BRIGHTNESS_GREEN_MIN to CORACQ_CAP_BRIGHTNESS_GREEN_MAX.

Adjust the parameter by increments of at least CORACQ_CAP_BRIGHTNESS_GREEN_STEP percent (%) in order for a change to occur in the video signal (10000 = 100%).

CVI Entry [Signal Conditioning]
Brightness Green

CORACQ_PRM_BRIGHTNESS_RED

Description	Percentage of brightness to be applied to the red video signal. Applies to analog video signals only.
Type	INT32
Availability	Available only if CORACQ_CAP_BRIGHTNESS_RED is set to TRUE.
Limits	Range limits: CORACQ_CAP_BRIGHTNESS_RED_MIN to CORACQ_CAP_BRIGHTNESS_RED_MAX. Adjust the parameter by increments of at least CORACQ_CAP_BRIGHTNESS_CONTRAST_RED_ STEP percent (%) in order for a change to occur in the video signal (10000 = 100%).
CVI Entry	[Signal Conditioning] Brightness Red

CORACQ_PRM_CAM_CONTROL_PULSE0_HD_ALIGN

Description	Specifies if the camera control pulse'0' will be aligned with the master HD.	
Type	UINT32	
Values	CORACQ_VAL_CAM_CONTROL_HD_ALIGN_AUTO (0x00000000)	Device Dependent.
	CORACQ_VAL_CAM_CONTROL_HD_ALIGN_ON (0x00000001)	Pulse 0 aligned with HD
	CORACQ_VAL_CAM_CONTROL_HD_ALIGN_OFF (0x00000002)	Pulse 0 not aligned with HD
Limits	Supported only if CORACQ_CAP_CAM_CONTROL_PULSE0_HD_ALIGN is TRUE.	
CVI Entry	[Control Signals] Camera Control Pulse 0 HD Align	

CORACQ_PRM_CAM_CONTROL_PULSE1_HD_ALIGN

Description	Specifies if the camera control pulse’1’ will be aligned with the master HD.
Type	UINT32
Values	CORACQ_VAL_CAM_CONTROL_HD_ALIGN_AUTO (0x00000000) — Device Dependent. CORACQ_VAL_CAM_CONTROL_HD_ALIGN_ON (0x00000001) — Pulse 1 aligned with HD CORACQ_VAL_CAM_CONTROL_HD_ALIGN_OFF (0x00000002) — Pulse 1 not aligned with HD
Limits	Supported only if CORACQ_CAP_CAM_CONTROL_PULSE1_HD_ALIGN is TRUE.
CVI Entry	[Control Signals] Camera Control Pulse 1 HD Align

CORACQ_PRM_CAM_RESET_DELAY

Description	Reset pulse delay (in µs). After receiving a trigger pulse (external, internal, or software), the acquisition device will wait for this delay before generating the reset pulse.
Type	UINT32
Limits	Range limits: CORACQ_CAP_CAM_RESET_DELAY_MIN to CORACQ_CAP_CAM_RESET_DELAY_MAX.
CVI Entry	[Control Signals] Camera Reset Delay
Note	This value is only validated if CORACQ_PRM_CAM_RESET_ENABLE is TRUE.

CORACQ_PRM_CAM_RESET_ENABLE

Description	Enables or disables the reset pulse to the camera. Applies to area scan cameras only.
Type	UINT32
Availability	Available only if CORACQ_CAP_CAM_RESET is TRUE.
Values	TRUE (0x00000001) — Enable FALSE (0x00000000) — Disable
CVI Entry	[Control Signals] Camera Reset Enable
Note	This parameter is mutually exclusive with CORACQ_PRM_FRAME_INTEGRATE_ENABLE, CORACQ_PRM_CAM_TRIGGER_ENABLE and CORACQ_PRM_TIME_INTEGRATE_ENABLE.

CORACQ_PRM_CAM_TRIGGER_DELAY

Description	Trigger pulse delay (in µs). After receiving a trigger pulse (external, internal or software), the acquisition device will wait this delay before generating the trigger pulse.
Type	UINT32
Limits	The value must be in the range CORACQ_CAP_CAM_TRIGGER_DELAY_MIN … CORACQ_CAP_CAM_TRIGGER_DELAY_MAX.
CVI Entry	[Control Signals] Camera Trigger Delay
Note	This value is only validated if CORACQ_PRM_CAM_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_CAM_TRIGGER_ENABLE

Description	Enables or disables the frame trigger pulse to the camera. Applies to area scan cameras only.	
Type	UINT32	
Availability	Available only if CORACQ_CAP_CAM_TRIGGER is TRUE..	
Values	TRUE (0x00000001) FALSE (0x00000000)	Enable Disable
CVI Entry	[Control Signals] Camera Trigger Enable	
Note	This parameter is mutually exclusive with CORACQ_PRM_FRAME_INTEGRATE_ENABLE, CORACQ_PRM_CAM_RESET_ENABLE and CORACQ_PRM_TIME_INTEGRATE_ENABLE.	

CORACQ_PRM_CAMSEL

Description	Numerical value representing the camera selector to acquire from.
Type	UINT32
Limits	If CORACQ_PRM_VIDEO is equal to CORACQ_VAL_VIDEO_MONO: 0 ... CORACQ_CAP_CAMSEL_MONO – 1. Applies to composite cameras. If CORACQ_PRM_VIDEO is equal to CORACQ_VAL_VIDEO_COLOR : 0 ...CORACQ_CAP_CAMSEL_COLOR - 1. Applies to composite cameras. If CORACQ_PRM_VIDEO is equal to CORACQ_VAL_VIDEO_YC: 0 ... CORACQ_CAP_CAMSEL_YC – 1. Applies to Y/C cameras. If CORACQ_PRM_VIDEO is equal to CORACQ_VAL_VIDEO_RGB: 0 ... CORACQ_CAP_CAMSEL_RGB – 1. Applies to RGB cameras.
CVI Entry	[Input] Camera Selector

CORACQ_PRM_CONTRAST

Description Percentage of contrast to be applied to the composite video signal. Applies to analog video signals only.

Type UINT32

Availability Available only if CORACQ_CAP_CONTRAST is set to TRUE.

Limits Range limits: CORACQ_CAP_CONTRAST_MIN to CORACQ_CAP_CONTRAST_MAX.

Adjust the parameter by increments of at least CORACQ_CAP_CONTRAST_STEP percent (%) in order for a change to occur in the video signal (10000 = 100%).

CVI Entry [Signal Conditioning]
Contrast

CORACQ_PRM_CONTRAST_BLUE

Description Percentage of contrast to be applied to the blue video signal. Applies to analog video signals only.

Type UINT32

Availability Available only if CORACQ_CAP_CONTRAST_BLUE is set to TRUE.

Limits Range Limits: CORACQ_CAP_CONTRAST_BLUE_MIN to CORACQ_CAP_CONTRAST_BLUE_MAX.
Adjust the parameter by increments of at least CORACQ_CAP_CONTRAST_BLUE_STEP percent (%) in order for a change to occur in the video signal (10000 = 100%).

CVI Entry [Signal Conditioning]
Contrast Blue

CORACQ_PRM_CONTRAST_GREEN

Description Percentage of contrast to be applied to the green video signal. Applies to analog video signals only.

Type UINT32

Availability Available only if CORACQ_CAP_CONTRAST_GREEN is set to TRUE.

Limits Range Limits: CORACQ_CAP_CONTRAST_GREEN_MIN to CORACQ_CAP_CONTRAST_GREEN_MAX.

Adjust the parameter by increments of at least CORACQ_CAP_CONTRAST_GREEN_STEP percent (%) in order for a change to occur in the video signal (10000 = 100%).

CVI Entry [Signal Conditioning]
Contrast Green

CORACQ_PRM_CONTRAST_RED

Description Percentage of contrast to be applied to the red video signal. Applies to analog video signals only.

Type UINT32

Availability Available only if CORACQ_CAP_CONTRAST_RED is set to TRUE.

Limits Range limits: CORACQ_CAP_CONTRAST_RED_MIN to CORACQ_CAP_CONTRAST_RED_MAX.

Adjust the parameter by increments of at least CORACQ_CAP_CONTRAST_RED_STEP percent (%) in order for a change to occur in the video signal.

CVI Entry [Signal Conditioning]
Contrast Red

CORACQ_PRM_CONTROL_SIGNAL_OUTPUT1

Description Specifies the control signal that must be output on control signal output 1. This parameter permits the synchronization of two acquisition devices using a single input signal from the user on one acquisition device, and synching a second acquisition device to the control signal output 1.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CONTROL_SIGNAL_OUTPUT1. The capability returns the ORed combination of all supported values.

Values See "Signal Name Definitions" on page 69 for CORACQ_VAL_SIGNAL_NAME_xxx definitions

CVI Entry [Control Signals]
Control Signal Output 1

CORACQ_PRM_CONTROL_SIGNAL_OUTPUT2

Description Specifies the control signal that must be output on control signal output 2. This parameter permits the synchronization of two acquisition devices using a single input signal from the user on one acquisition device, and synching a second acquisition device to the control signal output 2.

Type UINT32

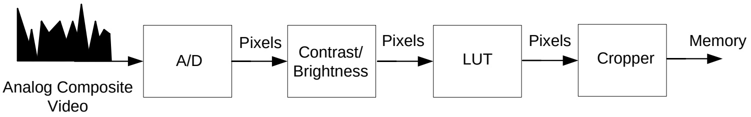
Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CONTROL_SIGNAL_OUTPUT2. The capability returns the ORed combination of all supported values.

Values See "Signal Name Definitions" on page 69 for CORACQ_VAL_SIGNAL_NAME_xxx definitions

CVI Entry [Control Signals]
Control Signal Output 2

CORACQ_PRM_CROP_HEIGHT

Description Cropped height of the acquisition camera image (in lines per frame).



The acquisition device supports vertical cropping if the CORACQ_CAP_CROP_VERT capability returns TRUE.

Type UINT32

Limits The value must be in the range CORACQ_CAP_CROP_HEIGHT_MIN to CORACQ_CAP_CROP_HEIGHT_MAX, and must be a multiple of CORACQ_CAP_CROP_HEIGHT_MULT.

The value must also be in the range CORACQ_CAP_SYNC_CROP_HEIGHT_MIN to CORACQ_CAP_SYNC_CROP_HEIGHT_MAX and must be a multiple of CORACQ_CAP_SYNC_CROP_HEIGHT_MULT

The value (CORACQ_PRM_CROP_TOP + CORACQ_PRM_CROP_HEIGHT) must be smaller or equal to CORACQ_PRM_VACTIVE.

Scale Down limit:
The value CORACQ_PRM_CROP_HEIGHT / (CORACQ_CAP_SCALE_VERT_MIN_FACTOR / CORACQ_VAL_SCALE_FACTOR) must be smaller or equal to CORACQ_PRM_SCALE_VERT. CORACQ_CAP_SCALE_VERT_MIN_FACTOR specifies the factor used in calculating the minimum vertical downscaling ratio supported by the acquisition device. The minimum vertical downscaling ratio is equal to 1/(CORACQ_CAP_SCALE_VERT_MIN_FACTOR/ CORACQ_VAL_SCALE_FACTOR).

Scale Up limit:
The value CORACQ_PRM_CROP_HEIGHT * (CORACQ_CAP_SCALE_VERT_MAX_FACTOR / CORACQ_VAL_SCALE_FACTOR) must be greater or equal to CORACQ_PRM_SCALE_VERT. CORACQ_CAP_SCALE_VERT_MAX_FACTOR specifies the factor used in calculating the maximum vertical upscaling ratio supported by the acquisition device. The maximum vertical upscaling ratio is equal to CORACQ_CAP_SCALE_VERT_MAX_FACTOR/ CORACQ_VAL_SCALE_FACTOR.

CVI Entry [Stream Conditioning]
Crop Height

Note You should not directly use the function CorAcqSetPrm to set the value of this parameter. This may yield an error condition when it is validated together with the other cropping parameters (CORACQ_PRM_CROP_LEFT, CORACQ_PRM_CROP_TOP, and CORACQ_PRM_CROP_WIDTH).

Instead, you should first retrieve the current VIC parameters using CorAcqGetPrms, then modify the cropping parameters using CorVicSetPrm, and finally apply the new values as a block using CorAcqSetPrms.

CORACQ_PRM_CROP_LEFT

Description

Number of pixels to crop from the left side of the acquisition camera image.

Includes the number of pixels in the horizontal blanking. The horizontal blanking includes the horizontal back porch and the horizontal back invalid parameters. If the horizontal sync reference is set to CORACQ_VAL_SYNC_REF_BEGIN, then the horizontal sync is also included.

The acquisition device supports horizontal cropping if the CORACQ_CAP_CROP_HORZ capability returns TRUE.

Type

UINT32

Limits

The value must be in the range CORACQ_CAP_CROP_LEFT_MIN to CORACQ_CAP_CROP_LEFT_MAX, and must be a multiple of CORACQ_CAP_CROP_LEFT_MULT.

The value (CORACQ_PRM_CROP_LEFT + CORACQ_PRM_CROP_WIDTH) must be smaller or equal to CORACQ_PRM_HACTIVE.

The value (CORACQ_PRM_HBACK_PORCH + CORACQ_PRM_HBACK_INVALID + CORACQ_PRM_CROP_LEFT) must be in the range CORACQ_CAP_SYNC_CROP_LEFT_MIN...CORACQ_CAP_SYNC_CROP_LEFT_MAX, and must be a multiple of CORACQ_CAP_SYNC_CROP_LEFT_MULT.

The value (CORACQ_PRM_HBACK_PORCH + CORACQ_PRM_HBACK_INVALID + CORACQ_PRM_CROP_LEFT + CORACQ_PRM_CROP_WIDTH) must be in the range CORACQ_CAP_SYNC_CROP_WIDTH_MIN...CORACQ_CAP_SYNC_CROP_WIDTH_MAX, and must be a multiple of CORACQ_CAP_SYNC_CROP_WIDTH_MULT.

CVI Entry

[Stream Conditioning]
Crop Left

Note

You should not directly use the function CorAcqSetPrm to set the value of this parameter. This may yield an error condition when it is validated together with the other cropping parameters (CORACQ_PRM_CROP_HEIGHT, CORACQ_PRM_CROP_TOP, and CORACQ_PRM_CROP_WIDTH).

Instead, you should first retrieve the current VIC parameters using CorAcqGetPrms, then modify the cropping parameters using CorVicSetPrm, and finally apply the new values as a block using CorAcqSetPrms.

CORACQ_PRM_CROP_TOP

Description

Number of lines per acquisition frame to crop from the top of the camera image.

It includes the number of lines in the vertical blanking. The vertical blank includes the vertical back porch and the vertical back invalid parameters. If the vertical sync reference is set to CORACQ_VAL_SYNC_REF_BEGIN, then the vertical sync is also included.

The acquisition device supports vertical cropping if the CORACQ_CAP_CROP_VERT capability returns TRUE.

Type

UINT32

Limits

The value must be in the range CORACQ_CAP_CROP_TOP_MIN to CORACQ_CAP_CROP_TOP_MAX, and must be a multiple of CORACQ_CAP_CROP_TOP_MULT.

The value (CORACQ_PRM_CROP_TOP + CORACQ_PRM_CROP_HEIGHT) must be smaller or equal to CORACQ_PRM_VACTIVE.

The value (CORACQ_PRM_VBACK_PORCH + CORACQ_PRM_VBACK_INVALID + CORACQ_PRM_CROP_TOP) must be in the range CORACQ_CAP_SYNC_CROP_TOP_MIN...CORACQ_CAP_SYNC_CROP_TOP_MAX, and must be a multiple of CORACQ_CAP_SYNC_CROP_TOP_MULT.

The value (CORACQ_PRM_VBACK_PORCH + CORACQ_PRM_VBACK_INVALID + CORACQ_PRM_CROP_TOP + CORACQ_PRM_CROP_HEIGHT) must be in the range CORACQ_CAP_SYNC_CROP_HEIGHT_MIN...CORACQ_CAP_SYNC_CROP_HEIGHT_MAX, and must be a multiple of CORACQ_CAP_SYNC_CROP_HEIGHT_MULT. See CORACQ_PRM_CROP_HEIGHT for capability information.

CVI Entry

[Stream Conditioning]
Crop Top

Note

You should not directly use the CorAcqSetPrm function to set the value of this parameter. This may yield an error condition when it is validated together with the other cropping parameters (CORACQ_PRM_CROP_HEIGHT, CORACQ_PRM_CROP_LEFT, and CORACQ_PRM_CROP_WIDTH).

Instead, you should first retrieve the current VIC parameters using CorAcqGetPrms, then modify the cropping parameters using CorVicSetPrm, and finally apply the new values as a block using CorAcqSetPrms. See the *Sapera LT Basic Modules Reference Manual* for function descriptions refered to in this table.

CORACQ_PRM_CROP_WIDTH

Description

Cropped width of the acquisition camera image (in pixels).

The acquisition device supports horizontal cropping if the CORACQ_CAP_CROP_HORZ capability returns TRUE.

Type

UINT32

Limits

The value must be in the range CORACQ_CAP_CROP_WIDTH_MIN to CORACQ_CAP_CROP_WIDTH_MAX, and must be a multiple of CORACQ_CAP_CROP_WIDTH_MULT.

The value must also be in the range CORACQ_CAP_SYNC_CROP_WIDTH_MIN to CORACQ_CAP_SYNC_CROP_WIDTH_MAX and must be a multiple of CORACQ_CAP_SYNC_CROP_WIDTH_MULT. See CORACQ_PRM_CROP_LEFT for capability information.

The value (CORACQ_PRM_CROP_LEFT + CORACQ_PRM_CROP_WIDTH) must be smaller or equal to CORACQ_PRM_HACTIVE.

<u>Scale Down limit:</u>
The value CORACQ_PRM_CROP_WIDTH / (CORACQ_CAP_SCALE_HORZ_MIN_FACTOR / CORACQ_VAL_SCALE_FACTOR) must be smaller or equal to CORACQ_PRM_SCALE_HORZ.
CORACQ_CAP_SCALE_HORZ_MIN_FACTOR specifies the factor used in calculating the minimum horizontal downscaling ratio supported by the acquisition device. The minimum horizontal downscaling ratio is equal to 1/(CORACQ_CAP_SCALE_HORZ_MIN_FACTOR/ CORACQ_VAL_SCALE_FACTOR).

<u>Scale Up limit:</u>
The value CORACQ_PRM_CROP_WIDTH * (CORACQ_CAP_SCALE_HORZ_MAX_FACTOR / CORACQ_VAL_SCALE_FACTOR) must be greater or equal to CORACQ_PRM_SCALE_HORZ.
CORACQ_CAP_SCALE_HORZ_MAX_FACTOR specifies the factor used in calculating the maximum horizontal upscaling ratio supported by the acquisition device. The maximum horizontal upscaling ratio is equal to CORACQ_CAP_SCALE_HORZ_MAX_FACTOR/ CORACQ_VAL_SCALE_FACTOR.

CVI Entry

[Stream Conditioning]
Crop Width

Note

You should not directly use the function CorAcqSetPrm to set the value of this parameter. This may yield an error condition when it is validated together with the other cropping parameters (CORACQ_PRM_CROP_HEIGHT, CORACQ_PRM_CROP_LEFT, and CORACQ_PRM_CROP_TOP).

Instead, you should first retrieve the current VIC parameters using CorAcqGetPrms, then modify the cropping parameters using CorVicSetPrm, and finally apply the new values as a block using CorAcqSetPrms.

CORACQ_PRM_DC_REST_MODE

Description

DC restoration mode control. Applies to analog video signals only.
The acquisition device supports DC restoration if the CORACQ_CAP_DC_REST capability returns TRUE.

Type

UINT32

Limits

This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_DC_REST_MODE. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_DC_REST_MODE_AUTO (0x00000001)
The acquisition device automatically activates or deactivates DC restoration and selects the proper values for the start and width of the sampling pulse.
The pulse starting location is set to CORACQ_PRM_HSYNC pixels (see online manual) and the pulse width is set to 0.8 µs (expressed in pixels).

CORACQ_VAL_DC_REST_MODE_ON (0x00000002)
The acquisition device activates DC restoration using user-defined values.

CORACQ_VAL_DC_REST_MODE_OFF (0x00000004)
The acquisition device deactivates DC restoration.

CVI Entry

[Signal Conditioning]
DC Restoration Mode

CORACQ_PRM_DC_REST_START

Description

DC restoration sampling pulse start location relative to the horizontal sync, in pixels. Applies to analog video signals only.

The acquisition device supports DC restoration if the CORACQ_CAP_DC_REST capability returns TRUE.

Type

UINT32

Limits

Range limits: CORACQ_CAP_DC_REST_START_MIN to CORACQ_CAP_DC_REST_START_MAX.

CVI Entry

[Signal Conditioning]
DC Restoration Start

Note

Validated when CORACQ_PRM_DC_REST_MODE is equal to CORACQ_VAL_DC_REST_MODE_ON.

CORACQ_PRM_DC_REST_WIDTH

Description DC restoration sampling pulse width, in pixels. Applies to analog video signals only.

The acquisition device supports DC restoration if the CORACQ_CAP_DC_REST capability returns TRUE.

Type UINT32

Limits Range limits: CORACQ_CAP_DC_REST_WIDTH_MIN to CORACQ_CAP_DC_REST_WIDTH_MAX.

CVI Entry [Signal Conditioning]
DC Restoration Width

Note Validated only if CORACQ_PRM_DC_REST_MODE is equal to CORACQ_VAL_DC_REST_MODE_ON.

CORACQ_PRM_DECIMATE_COUNT

Description The number of fields or frames to decimate per second.

Type UINT32

Limits The value must be smaller than the number of acquisition fields or frames per second, depending on the decimation method requested.

CVI Entry [Stream Conditioning]
Decimate Count

CORACQ_PRM_DECIMATE_METHOD

Description Field and frame decimation method.

The acquisition device supports field/frame decimation if the CORACQ_CAP_DECIMATE capability returns TRUE.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_DECIMATE_METHOD. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_DECIMATE_DISABLE (0x00000001)	No decimation
CORACQ_VAL_DECIMATE_FIELD (0x00000002)	Decimate fields
CORACQ_VAL_DECIMATE_FRAME (0x00000004)	Decimate frames
CORACQ_VAL_DECIMATE_ODD (0x00000008)	Decimate odd fields only
CORACQ_VAL_DECIMATE_EVEN (0x00000010)	Decimate even fields only

CVI Entry [Stream Conditioning]
Decimate Method

CORACQ_PRM_EXT_FRAME_TRIGGER_DETECTION

Description Defines the signal detected that generates an external frame trigger event to the acquisition device. Applies to linescan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_EXT_FRAME_TRIGGER_DETECTION. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_ACTIVE_LOW (0x00000001), Active low signal. Acquisition starts on falling edge of trigger 1 - ends on rising edge of trigger 1 or CORACQ_PRM_CROP_HEIGHT numbers of lines acquired.
CORACQ_VAL_ACTIVE_HIGH (0x00000002), Active high signal. Acquisition starts on rising edge of trigger 1 - ends on falling edge of trigger 1 or CORACQ_PRM_CROP_HEIGHT numbers of lines acquired.
CORACQ_VAL_RISING_EDGE (0x00000004), Rising signal edge. Acquisition starts on rising signal edge and ends on when CORACQ_PRM_CROP_HEIGHT numbers of lines acquired.
CORACQ_VAL_FALLING_EDGE (0x00000008), Falling signal edge. Acquisition starts on falling signal edge and ends on when CORACQ_PRM_CROP_HEIGHT numbers of lines acquired.
CORACQ_VAL_BOTH_EDGE (0x00000010), Both signal edges.
CORACQ_VAL_DOUBLE _PULSE_RISING_EDGE (0x00000020),
Acquisition starts on rising edge of trigger 1 – ends on rising edge of trigger 2.
CORACQ_VAL_DOUBLE _PULSE_FALLING_EDGE (0x00000040),
Acquisition starts on falling edge of trigger 1 – ends on falling edge of trigger 2.

CVI Entry [Control Signals]
External Frame Trigger Detection

Note Validated only if CORACQ_PRM_EXT_FRAME_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_EXT_FRAME_TRIGGER_ENABLE

Description

Enable or disable external frame trigger on the acquisition device. Applies to linescan cameras only.
This feature is used for trigger acquisitions of virtual frames from a linescan camera.
For area scan cameras. See CORACQ_PRM_EXT_TRIGGER_ENABLE.

The acquisition device may be able to simulate an external trigger. See CORACQ_PRM_EXT_TRIGGER_ENABLE for information concerning the CORACQ_CAP_SOFTWARE_TRIGGER capability.

Type

UINT32

Availability

Available only if CORACQ_CAP_EXT_FRAME_TRIGGER is TRUE. This feature is used to trigger the acquisition of a virtual frame from a linescan camera. For area scan cameras. See

CORACQ_PRM_EXT_TRIGGER_ENABLE for information concerning the CORACQ_CAP_EXT_TRIGGER capability.

Values

TRUE (0x00000001)	Enable
FALSE (0x00000000)	Disable

CVI Entry

[Control Signals]
External Frame Trigger Enable

CORACQ_PRM_EXT_FRAME_TRIGGER_LEVEL

Description

Defines the external frame trigger level connected to the acquisition device.Applies to linescan cameras only.

Type

UINT32

Limits

This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_EXT_FRAME_TRIGGER_LEVEL. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_LEVEL_TTL (0x00000001)	TTL signal level.
CORACQ_VAL_LEVEL_422 (0x00000002)	RS-422 signal level.
CORACQ_VAL_LEVEL_LVDS (0x00000004)	LVDS signal level.

CVI Entry

[Control Signals]
External Frame Trigger Level

Note

Validated only if CORACQ_PRM_EXT_FRAME_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_EXT_FRAME_TRIGGER_SOURCE

Description Specifies the physical input source the external frame trigger is connected to on the acquisition device, in the case where the acquisition device has more than one input.

Type UINT32

Limits Range Limits: 0... CORACQ_CAP_EXT_FRAME_TRIGGER_SOURCE – 1 in the case where CORACQ_CAP_EXT_FRAME_TRIGGER_SOURCE is not 0. This capability will have a non-zero value if there is more than one physical input in which to connect an external frame trigger.

CVI Entry [Control Signals]
External Frame Trigger Source

Note Validated only if CORACQ_PRM_EXT_FRAME_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_EXT_LINE_TRIGGER_DETECTION

Description Defines the signal detected that generates an external line trigger event to the acquisition device. Applies to linescan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_EXT_LINE_TRIGGER_DETECTION. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_RISING_EDGE (0x00000004)	Rising signal edge.
CORACQ_VAL_FALLING_EDGE (0x00000008)	Falling signal edge.

CVI Entry [Control Signals]
External Line Trigger Detection

Note Validated only if CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE

Description Enable or disable external line trigger on the acquisition device. Applies to linescan cameras only.
This controls the acquisition line rate of linescan cameras.

The acquisition device may be able to simulate an external trigger. See CORACQ_PRM_EXT_TRIGGER_ENABLE for information concerning the CORACQ_CAP_SOFTWARE_TRIGGER capability.

Type UINT32

Availability Available only if CORACQ_CAP_EXT_LINE_TRIGGER is TRUE.

Values TRUE (0x00000001), Enable
FALSE (0x00000000), Disable

CVI Entry [Control Signals]
External Line Trigger Enable

Note This parameter is mutually exclusive with CORACQ_PRM_INT_LINE_TRIGGER_ENABLE and CORACQ_PRM_SHAFT_ENCODER_ENABLE.

CORACQ_PRM_EXT_LINE_TRIGGER_LEVEL

Description Defines the external line trigger signal level connected to the acquisition device. Applies to linescan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_EXT_LINE_TRIGGER_LEVEL. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_LEVEL_TTL (0x00000001)	TTL signal level
CORACQ_VAL_LEVEL_422 (0x00000002)	RS-422 signal level
CORACQ_VAL_LEVEL_LVDS (0x00000004)	LVDS signal level

CVI Entry [Control Signals]
External Line Trigger Level

Note Validated only if CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_EXT_LINE_TRIGGER_SOURCE

Description Specifies the physical input source the external line trigger is connected to on the acquisition device, in the case where the acquisition device has more than one input.

Type UINT32

Limits Range Limits: 0... CORACQ_CAP_EXT_LINE_TRIGGER_SOURCE – 1 in the case where CORACQ_CAP_EXT_LINE_TRIGGER_SOURCE is not 0. This capability will have a non-zero value if there is more than one physical input in which to connect an external line trigger.

CVI Entry [Control Signals]
External Line Trigger Source

Note Validated only if CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_EXT_LINE_TRIGGER_SOURCE_STR

Description Returns a string representation of the currently selected CORAQ_PRM_EXT_LINE_TRIGGER_SOURCE.

Type CHAR[32]

Values Null terminated string (up to 32 characters including the Null character).

Note Read-only parameter. This parameter is device dependent.

CORACQ_PRM_EXT_TRIGGER_DELAY

Description External trigger delay in units specified by CORACQ_PRM_EXT_TRIGGER_DELAY_TIME_BASE.

Type UINT32

Limits Range limits: CORACQ_CAP_EXT_TRIGGER_DELAY_MIN to CORACQ_CAP_EXT_TRIGGER_DELAY_MAX.

CVI Entry [Control Signals]
External Trigger Delay

CORACQ_PRM_EXT_TRIGGER_DELAY_TIME_BASE

Description External trigger delay time base

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_EXT_TRIGGER_DELAY_TIME_BASE. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_TIME_BASE_US: Time base is in microseconds.

CORACQ_VAL_TIME_BASE_MS: Time base is in milliseconds.

CORACQ_VAL_TIME_LINE: Time base is in line counts.

CORACQ_VAL_TIME_LINE_TRIGGER: Time base is in external line trigger or shaft encoder pulse counts (after drop or/and multiply factors).

CORACQ_VAL_TIME_FRAME: Time base is in video frame counts.

CORACQ_VAL_TIME_BASE_US: Time base is in microseconds.

CVI Entry [Control Signals]
External Trigger Delay Time Base

CORACQ_PRM_EXT_TRIGGER_DETECTION

Description Defines the signal detected that generates an external trigger event to the acquisition device.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_EXT_TRIGGER_DETECTION. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_ACTIVE_LOW (0x00000001)	Active low signal
CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Active high signal
CORACQ_VAL_RISING_EDGE (0x00000004)	Rising edge of signal
CORACQ_VAL_FALLING_EDGE (0x00000008)	Falling edge of signal

CVI Entry [Control Signals]
External Trigger Detection

Note Validated only if external trigger is enabled. See CORACQ_PRM_EXT_TRIGGER_ENABLE.

CORACQ_PRM_EXT_TRIGGER_DURATION

Description Minimum external trigger pulse duration (in µs), needed for the pulse to be acknowledged by the acquisition device. If the duration of the pulse is shorter, the pulse will be discarded. This feature is useful for trigger pulse debouncing. If the value is ‘0’, no validation will be done.

Type UINT32

Limits This value must be in the range CORACQ_CAP_EXT_TRIGGER_DURATION_MIN … CORACQ_CAP_EXT_TRIGGER_DURATION_MAX. A value of 0 means that the device cannot validate the pulse duration.

CVI Entry [Control Signals]
External Trigger Duration

CORACQ_PRM_EXT_TRIGGER_ENABLE

Description Replaces CORACQ_PRM_OUTPUT_ENABLE (obsolete). Enables or disables the external trigger feature of the acquisition device. When enabled, the acquisition device acquires frames upon receiving an external trigger.

The CorAcqSoftwareTrigger function can be used to simulate a hardware trigger.The CORACQ_CAP_SOFTWARE_TRIGGER capability specifies the software trigger type(s) that can be simulated by the acquisition device.See the CorAcqSoftwareTrigger function in the *Sapera LT Basic Modules Reference Manual* for further information.

The capability returns the ORed combination of all valid values as defined below:

CORACQ_VAL_SOFTWARE_TRIGGER_EXT (0x00000001)Simulate an external trigger

CORACQ_VAL_SOFTWARE_TRIGGER_EXT_FRAME (0x00000002) Simulate an external frame trigger

CORACQ_VAL_SOFTWARE_TRIGGER_EXT_LINE (0x00000004) Simulate an external line trigger

Type UINT32

Availability Available only if CORACQ_CAP_EXT_TRIGGER is TRUE. Note that CORACQ_CAP_OUTPUT_ENABLE is obsolete.

Values

CORACQ_VAL_EXT_TRIGGER_OFF (0x00000001)	External Trigger is turned off
CORACQ_VAL_EXT_TRIGGER_ON (0x00000008)	The acquisition device will acquire images whenever an external trigger signal is detected.

CVI Entry [Control Signals]
External Trigger Enable

Note If the CVI entry does not exist or the value is 0, then Output Enable will be used as the default for backward compatibility.
See also other parameters in the CORACQ_PRM_EXT_TRIGGER_xxx series.

CORACQ_PRM_EXT_TRIGGER_FRAME_COUNT

Description Number of images to acquire upon receiving an external trigger.

The acquisition device can acquire more than one frame per trigger if the CORACQ_CAP_EXT_TRIGGER_FRAME_COUNT capability returns TRUE.

Type UINT32

Limits The value must be in the range: 1...(2**32) – 1.

CVI Entry [Stream Conditioning]
External Trigger Frame Count

Note Validated only if external trigger is enabled. See CORACQ_PRM_EXT_TRIGGER_ENABLE.

CORACQ_PRM_EXT_TRIGGER_IGNORE_DELAY

Description Following a valid external trigger, this parameter specifies the time delay, in µsec, where if another external trigger occurs, it will be ignored. The start of the delay (time '0') is the end of the next vertical sync for analog cameras, or the beginning of the next frame valid for digital cameras, following the valid external trigger. If the parameter CORACQ_PRM_CAM_CONTROL_DURING_READOUT is FALSE, time ‘0’ will be the end of the last line acquired from a frame.All external triggers received between the valid external trigger and the Time ‘0’ will also be ignored. Applies to area scan cameras only. For linescan cameras, the external trigger invalid region always extends to the end of the next virtual frame valid following a valid external trigger.

Type UINT32

Values Numerical value representing the delay in µsec.

Limits Range Limits: CORACQ_CAP_EXT_TRIGGER_IGNORE_DELAY_MIN … CORACQ_CAP_EXT_TRIGGER_IGNORE_DELAY_MAX.

CVI Entry [Control Signals]
External Trigger Ignore Delay

Note Validated only if external trigger is enabled. See CORACQ_PRM_EXT_TRIGGER_ENABLE

See also the related event CORACQ_PRM_EVENT_TYPE: CORACQ_VAL_EVENT_TYPE_EXTERNAL_TRIGGER_IGNORED

For analog cameras, if the WEN signal is used, time ‘0’ will be the start of this WEN signal. For analog cameras, if synching to blanking signals, time ‘0’ will be the end of the blanking signal.

CORACQ_PRM_EXT_TRIGGER_LEVEL

Description Defines the external trigger level connected to the acquisition device.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_EXT_TRIGGER_LEVEL. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_LEVEL_TTL (0x00000001)	TTL signal level
CORACQ_VAL_LEVEL_422 (0x00000002)	RS-422 signal level
CORACQ_VAL_LEVEL_LVDS (0x00000004)	LVDS signal level

CVI Entry [Control Signals]
External Trigger Level

Note Validated only if external trigger is enabled. See CORACQ_PRM_EXT_TRIGGER_ENABLE.

CORACQ_PRM_EXT_TRIGGER_SOURCE

Description Specifies the physical input source the external trigger is connected to on the acquisition device, in the case where the acquisition device has more than one input.

Type UINT32

Limits Range Limits: 0... CORACQ_CAP_EXT_TRIGGER_SOURCE – 1 in the case where CORACQ_CAP_EXT_TRIGGER_SOURCE is not 0. This capability will have a non-zero value if more than one physical input to connect an external trigger is present.

CVI Entry [Control Signals]
External Trigger Source

Note Validated only if CORACQ_PRM_EXT_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_EXT_TRIGGER_SOURCE_STR

Description Returns a string representation of the currently selected CORAQ_PRM_EXT_TRIGGER_SOURCE for area scan cameras and CORACQ_PRM_EXT_FRAME_TRIGGER_SOURCE for linescan cameras.

Type CHAR[32]

Values Null terminated string (up to 32 characters including the Null character).

Note Read-only parameter. This parameter is device dependent.

CORACQ_PRM_FIX_FILTER_ENABLE

Description Enable or disable the fixed-frequency filter if available on the acquisition device. Applies to analog video signals only.

Type UINT32

Availability Available only if CORACQ_CAP_FIX_FILTER is TRUE.

Values TRUE (0x00000001), Enable the filter.
FALSE 0x00000000), Disable the filter

CVI Entry [Signal Conditioning]
Fix Filter Enable

CORACQ_PRM_FIX_FILTER_SELECTOR

Description Selects one of the available fixed-frequency filters. Applies to analog video signals only.

Type UINT32

Limits Range Limits: 0... CORACQ_CAP_FIX_FILTER_MAX – 1.

CVI Entry [Signal Conditioning]
Fix Filter Selector

Note Validated only if CORACQ_PRM_FIX_FILTER_ENABLE is TRUE.

CORACQ_PRM_FIX_FILTER_SELECTOR_STR

Description Returns a string representation of the currently selected CORAQ_PRM_FIX_FILTER_SELECTOR.

Type CHAR[32]

Values Null terminated string (up to 32 characters including the Null character).

Note Read-only parameter. This parameter is device dependent.

CORACQ_PRM_FLIP

Description Flipping mode control.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_FLIP. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_FLIP_OFF (0x00000000)	Incoming lines and frames are not flipped.
CORACQ_VAL_FLIP_HORZ (0x00000001)	The acquisition device will flip incoming lines. The right most pixels become the left most pixels
CORACQ_VAL_FLIP_VERT (0x00000002)	The acquisition device will flip incoming frames. The bottom lines become the top lines.

CVI Entry [Stream Conditioning]
Flip

CORACQ_PRM_FRAME_INTEGRATE_COUNT

Description	Number of frames to integrate. Applies to area scan cameras only.
Type	UINT32
Limits	The value is limited to 1... CORACQ_CAP_FRAME_INTEGRATE_COUNT_MAX.
CVI Entry	[Control Signals] Frame Integrate Count
Note	Validated only if CORACQ_PRM_FRAME_INTEGRATE_ENABLE is TRUE.

CORACQ_PRM_FRAME_INTEGRATE_ENABLE

Description	Enables or disables frame integration control. Applies to area scan cameras only.	
Type	UINT32	
Availability	Available only if CORACQ_CAP_FRAME_INTEGRATE is TRUE.	
Values	TRUE (0x00000001) FALSE (0x00000000)	Enable frame integration control. Disable frame integration control.
CVI Entry	[Control Signals] Frame Integrate Enable	
Note	This parameter is mutually exclusive with CORACQ_PRM_CAM_RESET_ENABLE, CORACQ_PRM_CAM_TRIGGER_ENABLE and CORACQ_PRM_TIME_INTEGRATE_ENABLE.	

CORACQ_PRM_FRAME_LENGTH

Description	Specifies if the images output by the acquisition device have a fixed or variable frame length.	
Type	UINT32	
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_FRAME_LENGTH. The capability returns the ORed combination of all supported values.	
Values	CORACQ_VAL_FRAME_LENGTH_FIX (0x00000001) CORACQ_VAL_FRAME_LENGTH_VARIABLE (0x00000002)	Fixed length images Variable length images
CVI Entry	[Stream Conditioning] Frame Length	

CORACQ_PRM_HSYNC_REF

Description Defines the horizontal sync reference edge used for horizontal timing.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_HSYNC_REF. The horizontal sync reference is used as the starting point when counting the pixels in a line. Selecting the reference as the end of the sync is useful when dealing with a sync that might be variable. This is usually the case when time-integrating a video signal. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_SYNC_REF_BEGIN (0x00000001)	Beginning of horizontal sync.
CORACQ_VAL_SYNC_REF_END (0x00000002)	End of horizontal sync.
CORACQ_VAL_SYNC_REF_HV_DEPENDENT (0x00000004)	Horizontal and Vertical sync reference are dependent on if the acquisition device grabs analog or digital video.

CVI Entry [Stream Conditioning]
Horizontal Sync Reference

CORACQ_PRM_HUE

Description Hue control: Phase change in degrees applied to the hue control. Applies only to NTSC analog color video signals (composite or Y/C).

Type INT32

Limits Range: CORACQ_CAP_HUE_MIN to CORACQ_CAP_HUE_MAX.

Adjust the parameter by increments of at least CORACQ_CAP_HUE_STEP percent (%) in order for a change to occur in the video signal.

Availability Available only if CORACQ_CAP_HUE is set to TRUE.

CVI Entry [Signal Conditioning]
Hue

CORACQ_PRM_INT_FRAME_TRIGGER_ENABLE

Description Enable/disable the acquisition device's internal frame trigger feature. Applies to area scan cameras only.

Type UINT32

Availability Available only if CORACQ_CAP_INT_FRAME_TRIGGER is TRUE.

Values

TRUE (0x00000001)	Enable
FALSE (0x00000000)	Disable

CVI Entry [Control Signals]
Internal Frame Trigger Enable

Note Controls the rate that video frames are triggered and acquired.

CORACQ_PRM_INT_FRAME_TRIGGER_FREQ

Description Internal frame trigger frequency in milli-Hz, output by the acquisition device. Applies to area scan cameras only.

Type UINT32

Limits Range limits: CORACQ_CAP_INT_FRAME_TRIGGER_FREQ_MIN ... CORACQ_CAP_INT_FRAME_TRIGGER_FREQ_MAX.

CVI Entry [Control Signals]
Internal Frame Trigger Freq

Note Validated only if CORACQ_PRM_INT_FRAME_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_INT_LINE_TRIGGER_ENABLE

Description Enable/disable the acquisition device's internal line trigger feature. Applies to linescan cameras only.

Type UINT32

Availability Available only if CORACQ_CAP_INT_LINE_TRIGGER is TRUE. This feature is used when the acquisition device itself triggers lines out of a camera.

Values

TRUE (0x00000001)	Enable
FALSE (0x00000000)	Disable

CVI Entry [Control Signals]
Internal Line Trigger Enable

Note Controls the rate video lines are triggered and acquired.
This parameter is mutually exclusive with CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE and CORACQ_PRM_SHAFT_ENCODER_ENABLE.

CORACQ_PRM_INT_LINE_TRIGGER_FREQ

Description Frequency (in Hz) of the internal line trigger signal output by the acquisition device. Applies to linescan cameras only.

Type UINT32

Limits Acquisition device range limits: CORACQ_PRM_INT_LINE_TRIGGER_FREQ_MIN to CORACQ_PRM_INT_LINE_TRIGGER_FREQ_MAX.

Camera range limits: CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MIN to CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MAX.

CVI Entry [Control Signals]
Internal Line Trigger Freq

Note Validated only if CORACQ_PRM_INT_LINE_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_INT_LINE_TRIGGER_FREQ_MAX

Description	Maximum frequency (in Hz) of the internal line trigger signal output by the acquisition device. Applies to linescan cameras only.
Type	UINT32
CVI Entry	None
Note	Read-only parameter. This parameter may be dependent on the pixel clock setting. Always read the parameter after setting the required pixel clock.

CORACQ_PRM_INT_LINE_TRIGGER_FREQ_MIN

Description	Minimum frequency (in Hz) of the internal line trigger signal output by the acquisition device. Applies to linescan cameras only.
Type	UINT32
CVI Entry	None
Note	Read-only parameter. This parameter may be dependent on the pixel clock setting. Always read the parameter after setting the required pixel clock.

CORACQ_PRM_LINE_INTEGRATE_DURATION

Description	Line integration pulse width in pixels. Applies to linescan cameras only.
Type	UINT32
Limits	Range limits: CORACQ_CAP_LINE_INTEGRATE_DURATION_MIN... CORACQ_CAP_LINE_INTEGRATE_DURATION_MAX.
CVI Entry	[Control Signals] Line Integrate Duration
Note	Validated only if CORACQ_PRM_LINE_INTEGRATE_ENABLE is TRUE.

CORACQ_PRM_LINE_INTEGRATE_ENABLE

Description	Enable or disable the line integration control signal to the camera. Applies to linescan cameras only.	
Type	UINT32	
Availability	Available only if CORACQ_CAP_LINE_INTEGRATE is TRUE.	
Values	TRUE (0x00000001) FALSE (0x00000000)	Enable line integration pulse. Disable line integration pulse.
CVI Entry	[Control Signals] Line Integrate Enable	
Note	This parameter is mutually exclusive with CORACQ_PRM_LINE_TRIGGER_ENABLE.	

CORACQ_PRM_LINE_TRIGGER_ENABLE

Description	Enable or disable the line trigger signal pulse to the camera. Applies to linescan cameras only.	
Type	UINT32	
Availability	Available only if CORACQ_CAP_LINE_TRIGGER is TRUE.	
Values	TRUE (0x00000001) FALSE (0x00000000)	Enable Disable
CVI Entry	[Control Signals] Line Trigger Enable	
Note	This parameter is mutually exclusive with CORACQ_PRM_LINE_INTEGRATE_ENABLE.	

CORACQ_PRM_LINESCAN_DIRECTION_OUTPUT

Description	Linescan direction control. Applies to linescan cameras only.	
Type	UINT32	
Limits	Value can only be set to CORACQ_VAL_LINESCAN_DIRECTION_REVERSE if CORACQ_CAP_LINESCAN_DIRECTION is TRUE and CORACQ_PRM_LINESCAN_DIRECTION is TRUE. For DALSA cameras, this control is called the TDI scan direction.	
Values	CORACQ_VAL_LINESCAN_DIRECTION_FORWARD (0x00000001) CORACQ_VAL_LINESCAN_DIRECTION_REVERSE (0x00000002)	Forward direction. Reverse direction.
CVI Entry	[Control Signals] LineScan Direction Output	

CORACQ_PRM_LUT_ENABLE

Description	Enable or disable the input LUT.	
Type	UINT32	
Availability	At least one LUT is available if CORACQ_CAP_LUT is TRUE. CORACQ_CAP_LUT_ENABLE will then return TRUE if it can be enabled/disabled.	
Values	TRUE (0x00000001) FALSE (0x00000000)	Enable the input LUT. Disable the input LUT.
CVI Entry	[Stream Conditioning] Lut Enable	
Note	The LUT cannot be disabled on some acquisition devices.	

CORACQ_PRM_LUT_FORMAT

Description Input LUT format based on the current pixel depth and output format.

Type UINT32

CVI Entry None

Values Possible values are of the type CORLUT_VAL_FORMAT_ and must match the possible values as defined by the CORACQ_CAP_PIXEL_DEPTH capability that specifies the number of bits per pixel per tap supported by the acquisition device.

Note Read-only parameter. This parameter may depend on CORACQ_PRM_PIXEL_DEPTH and CORACQ_PRM_OUTPUT_FORMAT.

CORACQ_PRM_LUT_MAX

Description Maximum number of LUTs available based on the current pixel depth and output format.

Type UINT32

CVI Entry None

Note Read-only parameter. This parameter may depend on CORACQ_PRM_PIXEL_DEPTH and CORACQ_PRM_OUTPUT_FORMAT.

CORACQ_PRM_LUT_NENTRIES

Description The number of elements in the input lookup table.

Type UINT32

Values Usually ranges from 256 to 65536.

CVI Entry None

Note Read only parameter. This parameter may depend on CORACQ_PRM_PIXEL_DEPTH and CORACQ_PRM_OUTPUT_FORMAT.

CORACQ_PRM_LUT_NUMBER

Description Selects which LUT to use.

Type UINT32

Limits The value must be in the range 0...CORACQ_PRM_LUT_MAX – 1.

CVI Entry [Stream Conditioning]
Lut Number

Note Validated only if CORACQ_PRM_LUT_ENABLE is TRUE.

CORACQ_PRM_MASTER_MODE

Description Specifies if the acquisition device drives the horizontal and/or the vertical sync of the camera.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_MASTER_MODE.

Values CORACQ_VAL_MASTER_MODE_DISABLE (0x00000000), Master mode disabled.

CORACQ_VAL_MASTER_MODE_HSYNC_VSYNC (0x00000001),
The acquisition device drives the horizontal and vertical sync of the camera.

CORACQ_VAL_MASTER_MODE_HSYNC (0x00000002),
The acquisition device drives the horizontal sync of the camera.

CORACQ_VAL_MASTER_MODE_VSYNC (0x00000004),
The acquisition device drives the vertical sync of the camera.

CVI Entry [Control Signals]
Master Mode

CORACQ_PRM_MASTER_MODE_HSYNC_POLARITY

Description Specifies the horizontal sync polarity that the acquisition device outputs in master mode.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_MASTER_MODE_HSYNC_POLARITY. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_ACTIVE_LOW (0x00000001)	Horizontal sync is active low.
CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Horizontal sync is active high.

CVI Entry [Control Signals]
Master Mode Horizontal Sync Polarity

Note Validated only if CORACQ_PRM_MASTER_MODE is not equal to CORACQ_VAL_MASTER_MODE_DISABLE.

CORACQ_PRM_MASTER_MODE_VSYNC_POLARITY

Description Specifies the vertical sync polarity that the acquisition device outputs in master mode.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_MASTER_MODE_VSYNC_POLARITY. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_ACTIVE_LOW (0x00000001)	Vertical sync is active low.
CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Vertical sync is active high.

CVI Entry [Control Signals]
Master Mode Vertical Sync Polarity

Note Validated only if CORACQ_PRM_MASTER_MODE is not equal to CORACQ_VAL_MASTER_MODE_DISABLE.

CORACQ_PRM_OUTPUT_ENABLE (obsolete)

Description
Video data output mode. Obsolete, use CORACQ_PRM_EXT_TRIGGER_ENABLE.

Type
UINT32

Limits
This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_OUTPUT_ENABLE. The capability returns the ORed combination of all supported values.

Values
CORACQ_VAL_OUTPUT_ENABLE_AUTO (0x00000001),
The video data is output whenever a frame has been requested and there is a valid frame.

CORACQ_VAL_OUTPUT_ENABLE_ON (0x00000002), Video data output enabled always.

CORACQ_VAL_OUTPUT_ENABLE_OFF (0x00000004), Video data is not output.

CORACQ_VAL_OUTPUT_ENABLE_ON_EXTRIG(0x00000008),
The video data is output on the next valid frame when a frame has been requested and upon receiving an external trigger signal.

CVI Entry
[Output]
Output Enable

Note
When using CORACQ_VAL_OUTPUT_ENABLE_ON_EXTRIG, see also CORACQ_PRM_EXT_TRIGGER_DETECTION, CORACQ_PRM_EXT_TRIGGER_FRAME_COUNT and CORACQ_PRM_EXT_TRIGGER_LEVEL.

CORACQ_PRM_OUTPUT_FORMAT

Description	Data format output by the acquisition device.
Type	UINT32 list
Limits	CORACQ_CAP_OUTPUT_FORMAT specifies the different output formats supported by the acquisition device. The list terminates upon reaching an output format with a value of 0.
Values	CORACQ_VAL_OUTPUT_FORMAT_MONO1 CORACQ_VAL_OUTPUT_FORMAT_MONO8 CORACQ_VAL_OUTPUT_FORMAT_MONO16 CORACQ_VAL_OUTPUT_FORMAT_MONO32 CORACQ_VAL_OUTPUT_FORMAT_RGB5551 CORACQ_VAL_OUTPUT_FORMAT_RGB565 CORACQ_VAL_OUTPUT_FORMAT_RGB888 CORACQ_VAL_OUTPUT_FORMAT_RGB8888 CORACQ_VAL_OUTPUT_FORMAT_RGB101010 CORACQ_VAL_OUTPUT_FORMAT_RGB161616 CORACQ_VAL_OUTPUT_FORMAT_RGB16161616 CORACQ_VAL_OUTPUT_FORMAT_UYVY CORACQ_VAL_OUTPUT_FORMAT_YUY2 CORACQ_VAL_OUTPUT_FORMAT_YVYU CORACQ_VAL_OUTPUT_FORMAT_YUYV CORACQ_VAL_OUTPUT_FORMAT_Y411 CORACQ_VAL_OUTPUT_FORMAT_Y211 CORACQ_VAL_OUTPUT_FORMAT_HSV CORACQ_VAL_OUTPUT_FORMAT_HSI CORACQ_VAL_OUTPUT_FORMAT_HSIP8
CVI Entry	[Output] Output Format

CORACQ_PRM_PIXEL_MASK

Description	Defines the pixel mask values. If any mask bits are set to 0, then the corresponding pixel bits are also set to 0.
Type	UINT32
Availability	Available only if CORACQ_CAP_PIXEL_MASK is TRUE.
CVI Entry	[Stream Conditioning] Pixel Mask

CORACQ_PRM_PLANAR_INPUT_SOURCES

Description Specifies which video input sources will be acquired synchronously and transferred to a vertical planar buffer.

Type UINT32

Availability Available only if CORACQ_CAP_PLANAR_INPUT_SOURCES is TRUE.

Values Bit field representing the video input sources that are to be enabled for synchronized acquisition into a vertical planar buffer. The board video input is enabled if the corresponding bit is 1.

CVI Entry [Input]
Planar Input Sources

Note The acquisition module might have limitations on which inputs can be acquired synchronously. See the board's User's Manual for more details.

CORACQ_PRM_PROG_FILTER_ENABLE

Description Enable or disable the programmable frequency filter. Applies to analog video signals only.

Type UINT32

Availability Available only if CORACQ_CAP_PROG_FILTER is TRUE.

Values

TRUE (0x00000001)	Enable the programmable filter.
FALSE (0x00000000)	Disable the programmable filter.

CVI Entry [Signal Conditioning]
Programmable Filter Enable

CORACQ_PRM_PROG_FILTER_FREQ

Description Programmable filter frequency in Hz. Applies to analog video signals only.

Type UINT32

Limits The value must be in the range CORACQ_CAP_PROG_FILTER_FREQ_MIN ... CORACQ_CAP_PROG_FILTER_FREQ_MAX.

CVI Entry [Signal Conditioning]
Programmable Filter Frequency

Note Validated only if CORACQ_PRM_PROG_FILTER_ENABLE is TRUE.

CORACQ_PRM_SATURATION

Description	Color saturation percentage control applied to analog composite color video signals.
Type	UINT32
Availability	Available only if CORACQ_CAP_SATURATION is set to TRUE
Limits	Range limits: CORACQ_CAP_SATURATION_MIN to CORACQ_CAP_SATURATION_MAX. Adjust the parameter by increments of at least CORACQ_CAP_SATURATION_STEP percent (%) in order for a change to occur in the video signal.
CVI Entry	[Signal Conditioning] Saturation

CORACQ_PRM_SCALE_HORZ

Description	Number of pixels per line output by the scaler.
Type	UINT32
Limits	The value must be in the range CORACQ_CAP_SCALE_HORZ_MIN to CORACQ_CAP_SCALE_HORZ_MAX, and must be a multiple of CORACQ_CAP_SCALE_HORZ_MULT. Scale Down limit: The value CORACQ_PRM_CROP_WIDTH / (CORACQ_CAP_SCALE_HORZ_MIN_FACTOR / CORACQ_VAL_SCALE_FACTOR) must be smaller or equal to CORACQ_PRM_SCALE_HORZ. Scale Up limit: The value CORACQ_PRM_CROP_WIDTH * (CORACQ_CAP_SCALE_HORZ_MAX_FACTOR / CORACQ_VAL_SCALE_FACTOR) must be greater or equal to CORACQ_PRM_SCALE_HORZ. See CORACQ_PRM_CROP_WIDTH for information on both CORACQ_CAP_SCALE_HORZ_MIN_FACTOR and CORACQ_CAP_SCALE_HORZ_MAX_FACTOR.
CVI Entry	[Stream Conditioning] Scale Horizontal
Note	Available only if CORACQ_PRM_SCALE_HORZ_METHOD is not equal to CORACQ_VAL_SCALE_METHOD_DISABLE.

CORACQ_PRM_SCALE_HORZ_METHOD

Description Horizontal scaling method.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_SCALE_HORZ_METHOD. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_SCALE_METHOD_DISABLE (0x00000001),
Disable horizontal scaling.

CORACQ_VAL_SCALE_METHOD_SIMPLE (0x00000002),
Horizontal scaling drops pixels.

CORACQ_VAL_SCALE_METHOD_INTERPOLATION (0x00000004),
Horizontal scaling interpolates pixels.

CORACQ_VAL_SCALE_METHOD_POW2 (0x00000008),
Horizontal scaling must be a power of 2.

CVI Entry [Stream Conditioning]
Scale Horizontal Method

CORACQ_PRM_SCALE_VERT

Description Number of lines per frame output by the scaler.

Type UINT32

Limits The value must be in the range CORACQ_CAP_SCALE_VERT_MIN ... CORACQ_CAP_SCALE_VERT_MAX, and must be a multiple of CORACQ_CAP_SCALE_VERT_MULT.

Scale Down limit: The value CORACQ_PRM_CROP_HEIGHT / (CORACQ_CAP_SCALE_VERT_MIN_FACTOR / CORACQ_VAL_SCALE_FACTOR) must be smaller or equal to CORACQ_PRM_SCALE_VERT.

Scale Up limit: The value CORACQ_PRM_CROP_HEIGHT * (CORACQ_CAP_SCALE_VERT_MAX_FACTOR / CORACQ_VAL_SCALE_FACTOR) must be greater or equal to CORACQ_PRM_SCALE_VERT.

See CORACQ_PRM_CROP_HEIGHT for information on both CORACQ_CAP_SCALE_VERT_MIN_FACTOR and CORACQ_CAP_SCALE_VERT_MAX_FACTOR.

CVI Entry [Stream Conditioning]
Scale Vertical

Note Available only if CORACQ_PRM_SCALE_VERT_METHOD is not equal to CORACQ_VAL_SCALE_METHOD_DISABLE.

CORACQ_PRM_SCALE_VERT_METHOD

Description	Vertical scaling method.
Type	UINT32
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_SCALE_VERT_METHOD. The capability returns the ORed combination of all supported values.
Values	CORACQ_VAL_SCALE_METHOD_DISABLE (0x00000001), Disable vertical scaling. CORACQ_VAL_SCALE_METHOD_SIMPLE (0x00000002), Vertical scaling drops lines. CORACQ_VAL_SCALE_METHOD_INTERPOLATION (0x00000004), Vertical scaling interpolates lines. CORACQ_VAL_SCALE_METHOD_POW2 (0x00000008), Vertical scaling must be a power of 2.
CVI Entry	[Stream Conditioning] Scale Vertical Method

CORACQ_PRM_SHAFT_ENCODER_DROP

Description	Number of signal edges dropped when video acquisitions are controlled by a shaft encoder. Applies to linescan cameras only.
Type	UINT32
Limits	Range limits CORACQ_CAP_SHAFT_ENCODER_DROP_MIN to CORACQ_CAP_SHAFT_ENCODER_DROP_MAX.
CVI Entry	[Control Signals] Shaft Encoder Pulse Drop
Note	Validated only if CORACQ_PRM_SHAFT_ENCODER_ENABLE is TRUE. For more details about the shaft encoder, see "Shaft Encoder Description" on page 96.

CORACQ_PRM_SHAFT_ENCODER_ENABLE

Description	Enable or disable the shaft encoder support of the acquisition device.
Type	UINT32
Availability	Available only if CORACQ_CAP_SHAFT_ENCODER is TRUE.
Values	TRUE (0x00000001) Enable FALSE (0x00000000) Disable
CVI Entry	[Control Signals] Shaft Encoder Enable
Note	This parameter is mutually exclusive with CORACQ_PRM_INT_LINE_TRIGGER_ENABLE and CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE. For more details about the shaft encoder, see "Shaft Encoder Description" on page 96.

CORACQ_PRM_SHAFT_ENCODER_LEVEL

Description Shaft encoder level fed to the acquisition device. Applies to linescan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_SHAFT_ENCODER_LEVEL. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_LEVEL_TTL (0x00000001)	TTL signal.
CORACQ_VAL_LEVEL_422 (0x00000002)	RS-422 signal.
CORACQ_VAL_LEVEL_LVDS (0x00000004)	LVDS signal.

CVI Entry [Control Signals]
Shaft Encoder Level

Note Validated only if CORACQ_PRM_SHAFT_ENCODER_ENABLE is TRUE.

CORACQ_PRM_SHAFT_ENCODER_MULTIPLY

Description Number of signal edges generated for each shaft encoder signal edge, when video acquisitions are controlled by an external shaft encoder trigger. Applies to linescan cameras only.

Type UINT32

Limits Range limits CORACQ_CAP_SHAFT_ENCODER_MULTIPLY_MIN to CORACQ_CAP_SHAFT_ENCODER_MULTIPLY_MAX by increments specified by CORACQ_CAP_SHAFT_ENCODER_MULTIPLY_STEP.

Adjust the parameter by minimum increments as specified by CORACQ_CAP_SHAFT_ENCODER_MULTIPLY_STEP. This capability is a 32-bit bitfield containing the minimum step (bit0 to bit15) and the step t ype (linear or exponential, bit16 to bit31).

Bits 31 - 16	Bits 15 - 0
Step Type	Step Value

The parameter varies as described below:

Step Type	CORACQ_PRM_SHAFT_ENCODER_MULTIPLY
CORSTEP_INCREMENT_LINEAR (0x10000000)	SHAFT_ENCODER_MULTIPLY_MIN + N * *step*
CORSTEP_INCREMENT_EXPONENTIAL (0x20000000)	SHAFT_ENCODER_MULTIPLY_MIN * $step^{N}$ Where N >= 0.

For example, if the CORACQ_CAP_SHAFT_ENCORDER_STEP value is 0x20000002, the step type is CORSTEP_INCREMENT_EXPONENTIAL, with a *step* of 2 .If CORACQ_CAP_SHAFT_ENCODER_MULTIPLY_MIN = 1, CORACQ_PRM_SHAFT_ENCODER_MULTIPLY would be 1, 2, 4, 8...

CVI Entry [Control Signals]
Shaft Encoder Pulse Multiply

Note Validated only if CORACQ_PRM_SHAFT_ENCODER_ENABLE is TRUE.
For more details about the shaft encoder, see "Shaft Encoder Description" on page 96.

See your board User's manual for any hardware limitations of this feature.

CORACQ_PRM_SHARED_CAM_RESET

Description Synchronize the reset output signal of the current acquisition module with another acquisition module of the board.

Type UINT32

Limits This value can only be set to a value different than CORACQ_VAL_SHARED_CONTROL_DISABLE if CORACQ_CAP_SHARED_CAM_RESET is TRUE.

CORACQ_CAP_SHARED_CAM_RESET is required to synchronize resetting more than 1 camera simultaneously. The master acquisition device must be acquiring in order for the slaved acquisition device to acquire.

Values The acquisition module’s index (master device) that the reset output signal will synchronize with, or CORACQ_VAL_SHARED_CONTROL_DISABLE (= -1) if not used.

CVI Entry [Shared Control Signals]
Camera Reset

CORACQ_PRM_SHARED_CAM_TRIGGER

Description Synchronize the trigger output signal of the current acquisition module with another acquisition module of the board.

Type UINT32

Limits This value can only be set to a value different than CORACQ_VAL_SHARED_CONTROL_DISABLE if CORACQ_CAP_SHARED_CAM_TRIGGER is TRUE.

CORACQ_CAP_SHARED_CAM_TRIGGER is required to synchronize triggering more than 1 camera simultaneously. The master acquisition device must be acquiring in order for the slaved acquisition device to acquire.

Values The acquisition module’s index (master device) that the trigger output signal will synchronize with, or CORACQ_VAL_SHARED_CONTROL_DISABLE (= -1) if not used.

CVI Entry [Shared Control Signals]
Camera Trigger

CORACQ_PRM_SHARED_EXT_TRIGGER

Description Share the external trigger signal from another acquisition module.

Type UINT32

Limits This value can only be set to a value different than CORACQ_VAL_SHARED_CONTROL_DISABLE if CORACQ_CAP_SHARED_EXT_TRIGGER is TRUE.

CORACQ_CAP_SHARED_EXT_TRIGGER is required to trigger more than 1 acquisition module simultaneously using a single external trigger input signal. The master acquisition device must be acquiring in order for the slaved acquisition device to acquire properly.

Values The acquisition module's index (master device) from which the external trigger signal will originate, or CORACQ_VAL_SHARED_CONTROL_DISABLE (= -1) if not used.

CVI Entry [Shared Control Signals]
External Trigger

CORACQ_PRM_SHARED_FRAME_INTEGRATE

Description Synchronize the frame integration output signal of the current acquisition module with another acquisition module of the board.

Type UINT32

Limits This value can only be set to a value different than CORACQ_VAL_SHARED_CONTROL_DISABLE if CORACQ_CAP_SHARED_FRAME_INTEGRATE is TRUE. CORACQ_CAP_SHARED_FRAME_INTEGRATE is required to synchronize frame integration using multiple cameras simultaneously. The master acquisition device must be acquiring in order for the slaved device to acquire.

Values The acquisition module's index (master device) that the frame integration output signal will synchronize with, or CORACQ_VAL_SHARED_CONTROL_DISABLE (= -1) if not used.

CVI Entry [Shared Control Signals]
Frame Integrate

CORACQ_PRM_SHARED_STROBE

Description Share the strobe output signal from another acquisition module.

Type UINT32

Limits This value can only be set to a value different than CORACQ_VAL_SHARED_CONTROL_DISABLE if CORACQ_CAP_SHARED_STROBE is TRUE.

CORACQ_CAP_SHARED_STROBE is required when using a single strobe while acquiring with more than one camera simultaneously. The master acquisition device must be acquiring in order for the slaved acquisition device to acquire.

Values The acquisition module's index (master device) from which the strobe output signal will originate, or CORACQ_VAL_SHARED_CONTROL_DISABLE (= -1) if not used.

CVI Entry [Shared Control Signals]
Strobe

CORACQ_PRM_SHARED_TIME_INTEGRATE

Description Synchronize the time integration output signal of the current acquisition module with another acquisition module of the board.

Type UINT32

Limits This value can only be set to a value different than CORACQ_VAL_SHARED_CONTROL_DISABLE if CORACQ_CAP_SHARED_TIME_INTEGRATE is TRUE.

CORACQ_CAP_SHARED_TIME_INTEGRATE is required when synchronizing time integration with multiple cameras simultaneously. The master acquisition device must be acquiring in order for the slaved device to acquire.

Values The acquisition module's index (master device time integration output signal) which will be synchronized with, or CORACQ_VAL_SHARED_CONTROL_DISABLE (= -1) if not used.

CVI Entry [Shared Control Signals]
Time Integrate

CORACQ_PRM_SHARPNESS

Description Analog composite video sharpness control applied to the video signal. Applies to analog composite video signals only.

Type UINT32

Limits Range limits: CORACQ_CAP_SHARPNESS_MIN ... CORACQ_CAP_SHARPNESS_MAX.

CVI Entry [Signal Conditioning]
Sharpness

Note This parameter has no units. Sharpness values are dependent on the board hardware used.

CORACQ_PRM_SNAP_COUNT

Description Number of images to acquire per transfer count.

Type UINT32

Limits The value must be in the range: 1...(2**32) – 1.

Availability Available only if CORACQ_CAP_SNAP_COUNT is TRUE.

CVI Entry [Stream Conditioning]
Snap Count

CORACQ_PRM_STROBE_DELAY

Description Strobe pulse delay #1 (in µs).

Type UINT32

Limits Range limits: CORACQ_CAP_STROBE_DELAY_MIN to CORACQ_CAP_STROBE_DELAY_MAX.

CVI Entry [Control Signals]
Strobe Delay

Note Validated only if CORACQ_PRM_STROBE_ENABLE is TRUE.
See "Strobe Methods" on page 90 for details on using the pulse delay #1 parameter.

CORACQ_PRM_STROBE_DELAY_2

Description Strobe pulse delay #2 (in µs).

Type UINT32

Limits Range limits: CORACQ_CAP_STROBE_DELAY_2_MIN to CORACQ_CAP_STROBE_DELAY_2_MAX.

Note Validated only if CORACQ_PRM_STROBE_ENABLE is TRUE.
See "Strobe Methods" on page 90 for details on using the pulse delay #2 parameter.

CORACQ_PRM_STROBE_DURATION

Description Strobe pulse width (in µs).

Type UINT32

Limits Range limits: CORACQ_CAP_STROBE_DURATION_MIN to CORACQ_CAP_STROBE_DURATION_MAX.

CVI Entry [Control Signals]
Strobe Duration

Note Validated only if CORACQ_PRM_STROBE_ENABLE is TRUE.

CORACQ_PRM_STROBE_ENABLE

Description Enable or disable the strobe pulse.

Type UINT32

Availability Available only if CORACQ_CAP_STROBE is TRUE.

Values

TRUE (0x00000001)	Enable the strobe pulse.
FALSE (0x00000000)	Disable the strobe pulse.

CVI Entry [Control Signals]
Strobe Enable

CORACQ_PRM_STROBE_LEVEL

Description Strobe signal level output by the acquisition device.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_STROBE_LEVEL. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_LEVEL_TTL (0x00000001)	TTL signal.
CORACQ_VAL_LEVEL_422 (0x00000002)	RS-422 signal.
CORACQ_VAL_LEVEL_LVDS (0x00000004)	LVDS signal.

CVI Entry [Control Signals]
Strobe Level

Note Validated only if CORACQ_PRM_STROBE_ENABLE is TRUE.

CORACQ_PRM_STROBE_METHOD

Description Select the strobe pulse output method.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_STROBE_METHOD. The capability returns the ORed combination of all supported values.

Values See "Strobe Methods" on page 90.

CVI Entry [Control Signals]
Strobe Method

Note Validated only if CORACQ_PRM_STROBE_ENABLE is TRUE.

CORACQ_PRM_STROBE_POLARITY

Description Strobe pulse polarity.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_STROBE_POLARITY. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_ACTIVE_LOW (0x00000001)	Strobe pulse will be active low.
CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Strobe pulse will be active high.

CVI Entry [Control Signals]
Strobe Polarity

Note Validated only if CORACQ_PRM_STROBE_ENABLE is TRUE.

CORACQ_PRM_TIME_INTEGRATE_DELAY

Description Time integration delay (in µs). After receiving a trigger pulse (external, internal or software), the acquisition device will wait this delay before generating the time integration pulse(s).

Type UINT32

Limits Range limits: CORACQ_CAP_TIME_INTEGRATE_DELAY_MIN … CORACQ_CAP_TIME_INTEGRATE_DELAY_MAX.

CVI Entry [Control Signals]
Time Integrate Delay

Note Validated only if CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE.

CORACQ_PRM_TIME_INTEGRATE_DURATION

Description Time integration pulse width (in µs). Applies to area scan cameras only.

Type UINT32

Limits Acquisition device range limits: CORACQ_CAP_TIME_INTEGRATE_DURATION_MIN to CORACQ_CAP_TIME_INTEGRATE_DURATION_MAX.

Camera range limits: CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MIN to CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MAX.

CVI Entry [Control Signals]
Time Integrate Duration

Note Validated only if CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE.

CORACQ_PRM_TIME_INTEGRATE_ENABLE

Description Enable or disable the time integration signal pulse to the camera. Applies to area scan cameras only.

Type UINT32

Availability Available only if CORACQ_CAP_TIME_INTEGRATE is TRUE.

Values

TRUE (0x00000001)	Enable time integration pulse.
FALSE (0x00000000)	Disable time integration pulse.

CVI Entry [Control Signals]
Time Integrate Enable

Note This parameter is mutually exclusive with CORACQ_PRM_CAM_TRIGGER_ENABLE and CORACQ_PRM_FRAME_INTEGRATE_ENABLE.

CORACQ_PRM_VERTICAL_TIMEOUT_DELAY

Description Following a valid external/internal/software trigger, this parameter specifies the time delay before which the end of a vertical sync (analog cameras) or beginning of a frame valid (digital cameras) must be detected. If none are detected after this delay, a vertical timeout delay event will be generated if the event is activated. Once a vertical timeout is detected, the acquisition device resets itself and waits for the next valid external/internal/software trigger. Applies to area scan cameras only.

Type UINT32

Values Numerical value representing the delay in µsec.

Limits Range Limits: CORACQ_CAP_VERTICAL_TIMEOUT_DELAY_MIN … CORACQ_CAP_VERTICAL_TIMEOUT_DELAY_MAX.

CVI Entry [Control Signals]
Vertical Timeout Delay

Note

See also the related event CORACQ_PRM_EVENT_TYPE:
CORACQ_VAL_EVENT_TYPE_VERTICAL_TIMEOUT

For analog cameras, if the WEN signal is used, the beginning of the WEN must be detected before the programmed delay expires.
For analog cameras, if synching to blanking signals, the end of the blanking signal must be detected before the programming delay expires.

CORACQ_PRM_VIC_NAME

Description

VIC parameter file description field (up to 63 characters long).

Type

BYTE [64]

CVI Entry

[General]
Vic Name

CORACQ_PRM_VSYNC_REF

Description

Vertical sync reference.

Type

UINT32

Limits

This value must match one of the supported capabilities of the acquisition device given by CORACQ_PRM_VSYNC_REF. The vertical sync reference is used as the starting point for counting video frame lines. Selecting the end of sync as the reference is useful when dealing with a variable width sync. This is often the case when time-integrating a video signal.
The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_SYNC_REF_BEGIN (0x00000001), Beginning of vertical sync.
CORACQ_VAL_SYNC_REF_END (0x00000002), End of vertical sync.

CORACQ_VAL_SYNC_REF_HV_DEPENDENT (0x00000004),
Horizontal and Vertical sync reference are locked together.

CVI Entry

[Stream Conditioning]
Vertical Sync Reference

CORACQ_PRM_WEN_ENABLE

Description

Enable or disable use of the WEN (Write ENable) signal from the camera.

Type

UINT32

Availability

Available only if CORACQ_CAP_WEN is TRUE.

Values

TRUE (0x00000001)	Enable the use of the WEN signal.
FALSE (0x00000000)	Disable the use of the WEN signal

CVI Entry

[Control Signals]
WEN Enable

Data Structures

Defines Data Structures

Pin Connector Description

Certain frame grabbers provide connectors that are configurable; that is, it is possible to assign a control signal—such as pixel clock, HSync, or VSync—to specific pins on a given connector. Sapera LT provides a list of camera parameters to describe the pin assignment for a given camera (see the "Connector Description" parameters list within the Camera Related Parameters section in Advanced Acquisition Control found in the online manual). This allows the frame grabber to automatically configure its pins to meet the camera specifications. Refer to your frame grabber user's manual for a description of the board's capabilities.

DALSA's CamExpert allows for the creation of a camera file (CCA file) with the desired connector descriptions. The bit field description below is provided for users who want to interpret or edit the camera files manually. It represents the value assigned to each of the connector description parameters.

Bits	31-24	23-16	15-0
Description	Connector #	Connector Type	Pin #

Bit Field	**Description**
Pin #	*Pin number on connector (1.. n).* **Note**: The macro CORACQ_VAL_CONNECTOR_PIN(*value*) is provided to extract the pin #, where the *value* is a valid pin connector description.
Connector Type	Type of connector: *CORACQ_VAL_CONNECTOR_TYPE_HIROSE12* *12-pin Hirose connector* *CORACQ_VAL_CONNECTOR_TYPE_CAMLINK* *Camera Link connector.* *The pin number represents the camera control line #:CC1, CC2, CC3 & CC4.* *CORACQ_VAL_CONNECTOR_TYPE_CAM_CONTROL* *Generic camera control connector. The pin numbers (up to 8) are device dependent.* **Note**: The macro CORACQ_VAL_CONNECTOR_TYPE(value) is provided to extract the connector type, where the *value* is a valid connector type.
Connector #	*Number of the connector (in the event the camera has more than 1 connector, 1 .. n).* **Note**: The macro CORACQ_VAL_CONNECTOR_NUMBER(value) is provided to extract the connector number, where the *value* is a valid connector number.

The following are the related capabilities that give the valid values that can be applied to the connector number, connector type, and pin number.

CORACQ_CAP_CONNECTOR_TYPE

Description	Specifies the different connector types available on the device.	
Type	UINT32	
Values	CORACQ_VAL_CONNECTOR_TYPE_HIROSE12 (0x00000001)	Hirose-12 connector
	CORACQ_VAL_CONNECTOR_TYPE_CAMLINK (0x00000002)	Cam Link connector
	CORACQ_VAL_CONNECTOR_TYPE_CAM_CONTROL (0x00000004)	Generic camera control connector

CORACQ_CAP_CONNECTOR_CAMLINK

Description Specifies the different signals that the acquisition device can route to the Cam Link CC1, CC2, CC3, and CC4 connector pins.

Type UINT32[4]

Values Each entry in the table represents a bit field representing the valid signals that can be routed to the respective CameraLink pins. See "Signal Name Definitions" on page 69 for CORACQ_VAL_SIGNAL_NAME_xxx definitions.

CORACQ_CAP_CONNECTOR_HIROSE12

Description Specifies the different signals that the acquisition device can route to the Hirose-12 connector pins.

Type UINT32[12]

Values Each entry in the table represents a bit field representing the valid signals that can be routed to the respective Hirose-12 pins. See "Signal Name Definitions" on page 69 for CORACQ_VAL_SIGNAL_NAME_xxx definitions.

CORACQ_CAP_CONNECTOR_CAM_CONTROL

Description Specifies the different signals that the acquisition device can route to the generic camera control connector pins.

Type UINT32[8]

Values Each entry in the table represents a bit field representing the valid signals that can be routed to the respective generic camera control pins. See "Signal Name Definitions" on page 69 for CORACQ_VAL_SIGNAL_NAME_xxx definitions.

Signal Name Definitions

Define	Value	Definition
CORACQ_VAL_SIGNAL_NAME_NO_CONNECT	0x00000001	No Connection
CORACQ_VAL_SIGNAL_NAME_HD	0x00000002	Horizontal Drive
CORACQ_VAL_SIGNAL_NAME_VD	0x00000004	Vertical Drive
CORACQ_VAL_SIGNAL_NAME_PULSE0	0x00000008	Camera Control Pulse 0
CORACQ_VAL_SIGNAL_NAME_PULSE1	0x00000010	Camera Control Pulse 1
CORACQ_VAL_SIGNAL_NAME_PIXEL_CLOCK_IN	0x00000020	Pixel Clock In
CORACQ_VAL_SIGNAL_NAME_PIXEL_CLOCK_OUT	0x00000040	Pixel Clock Out
CORACQ_VAL_SIGNAL_NAME_LINESCAN_DIRECTION	0x00000080	Linescan Direction
CORACQ_VAL_SIGNAL_NAME_WEN	0x00000100	WEN (Write ENable)
CORACQ_VAL_SIGNAL_NAME_EXT_TRIGGER	0x00000200	External Trigger
CORACQ_VAL_SIGNAL_NAME_EXT_LINE_TRIGGER	0x00000400	External Line Trigger
CORACQ_VAL_SIGNAL_NAME_INT_FRAME_TRIGGER	0x00000800	Internal Frame Trigger
CORACQ_VAL_SIGNAL_NAME_INT_LINE_TRIGGER	0x00001000	Internal Line Trigger
CORACQ_VAL_SIGNAL_NAME_SOFTWARE_TRIGGER	0x00002000	Software Trigger
CORACQ_VAL_SIGNAL_NAME_GND	0x00004000!	Ground
CORACQ_VAL_SIGNAL_NAME_POWER_12V	0x00008000	Power 12V
CORACQ_VAL_SIGNAL_NAME_VIDEO	0x00010000	Video
CORACQ_VAL_SIGNAL_NAME_VIDEO_GND	0x00020000	Video Ground

Structure Definitions

Defines CORACQ_CAM_IO_CONTROL and CORACQ_DETECT_SYNC

CORACQ_CAM_IO_CONTROL

```
 typedef struct
{
    char   label[12];     //User defined descriptive label of the camera control
                          //(for example, BIN, GAIN...)
    UINT32 connectorInput; // Pin Connector Description
    UINT32 nbBits;        //Number of bits needed for this control

    UINT32 level;         //CORACQ_VAL_LEVEL_TTL (0x00000001)
                          //CORACQ_VAL_LEVEL_422 (0x00000002)
                          //CORACQ_VAL_LEVEL_LVDS (0x00000004)

    UINT32 direction;     //CORACQ_VAL_DIR_INPUT (0x00000001)
                          //CORACQ_VAL_DIR_OUTPUT (0x00000002)

    UINT32 polarity;      //Used only for information purposes by an application.
                          //The driver does not make any use of this member.
                          //CORACQ_VAL_ACTIVE_LOW (0x00000001)
                          //CORACQ_VAL_ACTIVE_HIGH (0x00000002)

    UINT32 value;         //The control’s default value when used as an output.
                          //If a bit is set to '1', the corresponding output
                          //will be set to on or high;
                          //otherwise, the output will be set to off or low.

} CORACQ_CAM_IO_CONTROL, *PCORACQ_CAM_IO_CONTROL;
```

CORACQ_DETECT_SYNC

```
typedef struct
{
    UINT32 frame;              //CORACQ_VAL_FRAME_INTERLACED (0x00000001)
                               //CORACQ_VAL_FRAME_PROGRESSIVE (0x00000002)

    UINT32 hSyncPeriod;        //Represents the measured difference between
                               //consecutive horizontal sync pulses in microseconds.
                               //Equivalent to the duration of an entire line.

    UINT32 vSyncPeriod;        //Represents the measured difference between
                               //consecutive vertical sync pulses in microseconds.
                               //Equivalent to the duration of an entire field.

} CORACQ_DETECT_SYNC, *PCORACQ_DETECT_SYNC;
```

Camera Control Method Definitions

This section provides definitions and timing diagrams for the camera control methods supported by Sapera LT. Topics covered are:

- Camera Reset Method
- Camera Trigger Methods
- Frame Integrate Methods
- Line Integrate Methods
- Line Trigger Methods
- Time Integrate Methods
- Strobe Methods

Camera Reset Method

The following camera reset method is available:

CORACQ_VAL_CAM_RESET_METHOD_1

CORACQ_VAL_CAM_RESET_METHOD_1

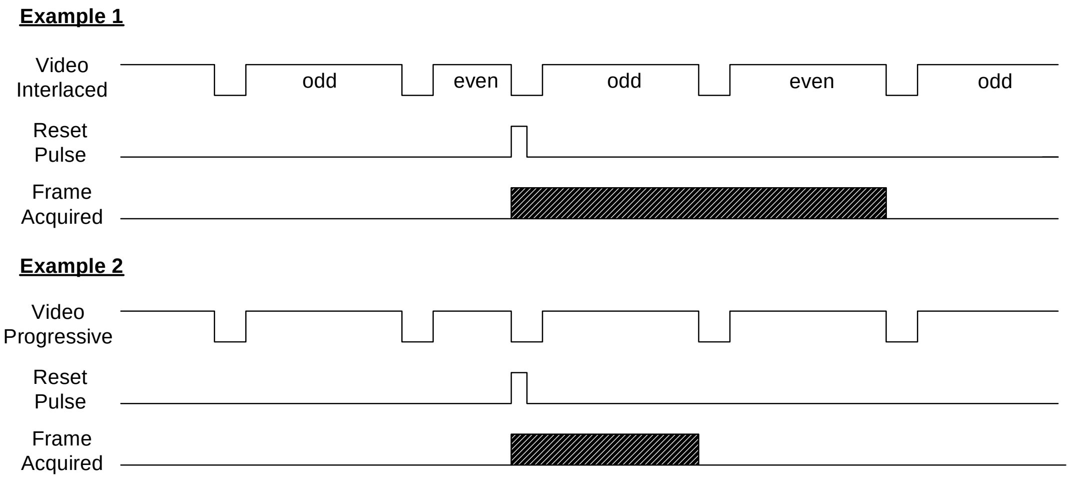
Value 0x00000001 (Camera Reset Method #1)

Description Method selection is via the parameter CORACQ_PRM_CAM_RESET_METHOD.

This method generates an asynchronous reset pulse to a camera. The next generated frame then acquired. The reset pulse is defined by the parameters CORACQ_PRM_CAM_RESET_DURATION and CORACQ_PRM_CAM_RESET_POLARITY (see online manual).

Camera Reset Method #1

This method generates an asynchronous reset pulse to a camera. The next generated frame will be acquired



Camera Trigger Methods

The following camera trigger methods are available:

- CORACQ_VAL_CAM_TRIGGER_METHOD_1
- CORACQ_VAL_CAM_TRIGGER_METHOD_2

CORACQ_VAL_CAM_TRIGGER_METHOD_1

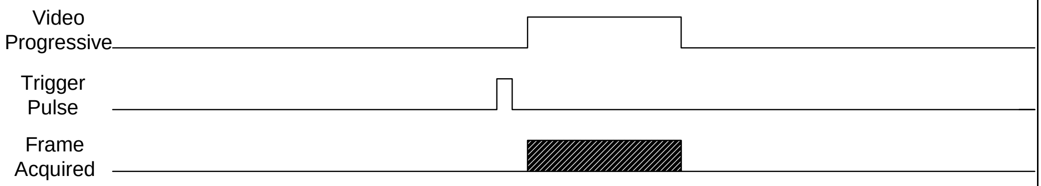
Numerical Value 0x00000001 (Camera Trigger Method 1)

Description Method selection is via the parameter CORACQ_PRM_CAM_TRIGGER_METHOD. This method generates an asynchronous trigger pulse to a camera. The next generated frame is then acquired. The trigger pulse is defined by the parameters CORACQ_PRM_CAM_TRIGGER_DURATION and CORACQ_PRM_CAM_TRIGGER_POLARITY (see online manual).

Camera Trigger Method #1

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

Example



CORACQ_VAL_CAM_TRIGGER_METHOD_2

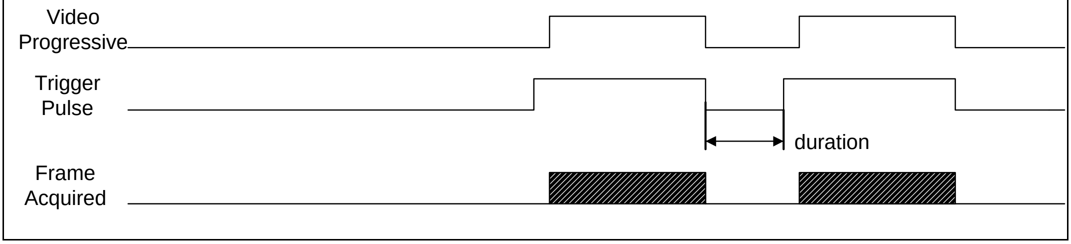
Numerical Value
0x00000002 (Camera Trigger Method #2)

Description
Method selection is via the parameter CORACQ_PRM_CAM_TRIGGER_METHOD. This method generates an asynchronous trigger pulse to a camera. The next generated frame is then acquired. This method's trigger pulse controls the number of lines output by the camera and is usually used to control the length of the frame output by the camera (partial scanning). The trigger pulse is defined by the parameter CORACQ_PRM_CAM_TRIGGER_POLARITY. Its length is dependent on the number of lines to acquire.
The parameter CORACQ_PRM_CAM_TRIGGER_DURATION represents (in this case) the minimum time between triggers to the camera. Required for cameras where the CCD has a minimum reset time before it can be triggered again (see online manual).

Camera Trigger Method #2

This method generates an asynchronous trigger pulse to a camera. The next generated frame will be acquired. The trigger pulse using this method controls the number of lines output by the camera and is usually used to control the length of the frame output by the camera. The trigger duration specifies the minimum time in between 2 triggers for the camera to operate properly.

Example



Frame Integrate Methods

The following frame integrate methods are available:

- CORACQ_VAL_FRAME_INTEGRATE_METHOD_1
- CORACQ_VAL_FRAME_INTEGRATE_METHOD_2

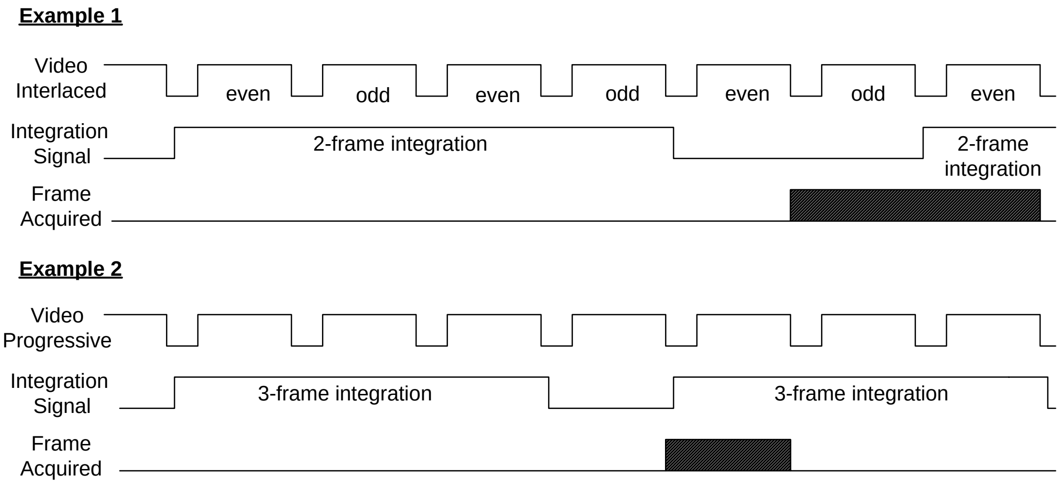
CORACQ_VAL_FRAME_INTEGRATE_METHOD_1

Numerical Value 0x00000001 (Frame Integration Method #1)

Description The frame integration signal is sent prior to the first field to be integrated. The signal is then held until the last field to be integrated is reached. The next frame is then acquired. Method selection is via the parameter CORACQ_PRM_FRAME_INTEGRATE_METHOD.
The polarity of this signal is specified by the parameter CORACQ_PRM_FRAME_INTEGRATE_POLARITY.
The number of frames to integrate is specified with the parameter CORACQ_PRM_FRAME_INTEGRATE_COUNT (see online manual).

Frame Integration Method #1

The frame integration signal is sent prior to the first field to be integrated. The signal is then held until the last field to be integrated is reached. The next frame is then acquired. This method is used by the Cohu 4910.



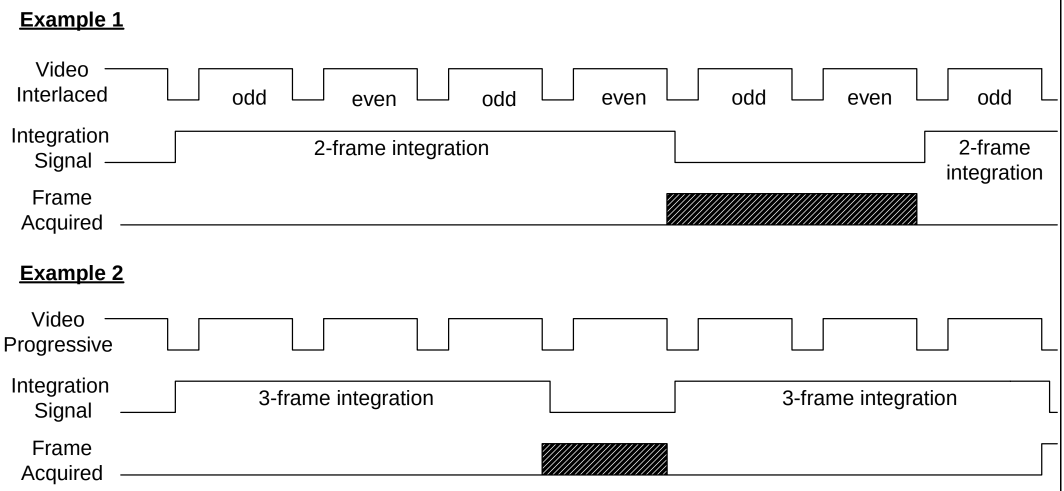
CORACQ_VAL_FRAME_INTEGRATE_METHOD_2

Numerical Value 0x00000002 (Frame Integration Method #2)

Description The frame integration signal is sent during the vertical sync of the first field to be integrated. The signal is then held until the first field to be acquired is reached. The current frame is then acquired. Method selection is via the parameter CORACQ_PRM_FRAME_INTEGRATE_METHOD.
The polarity of this signal is specified by the parameter CORACQ_PRM_FRAME_INTEGRATE_POLARITY.
The number of frames to integrate is specified with the parameter CORACQ_PRM_FRAME_INTEGRATE_COUNT (see online manual).

Frame Integration Method #2

The frame integration signal is sent during the vertical sync of the first field to be integrated. The signal is then held until the first field to be acquired is reached. The current frame is then acquired. This method is used by the Pulnix TM-200.



Line Integrate Methods

The following line integrate methods are available:

- CORACQ_VAL_LINE_INTEGRATE_METHOD_1
- CORACQ_VAL_LINE_INTEGRATE_METHOD_2
- CORACQ_VAL_LINE_INTEGRATE_METHOD_3
- CORACQ_VAL_LINE_INTEGRATE_METHOD_4

CORACQ_VAL_LINE_INTEGRATE_METHOD_1

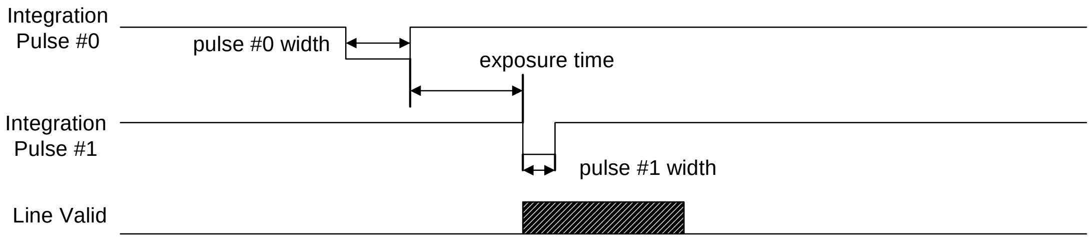
Numerical Value 0x00000001 (Line Integration Method #1)

Description Method selection is via the parameter CORACQ_PRM_LINE_INTEGRATE_METHOD. This method generates two pulses on two different outputs. The distance between the end of the first pulse and the start of the second pulse is the integration time (as specified by the parameter CORACQ_PRM_LINE_INTEGRATE_DURATION). The second pulse is also the Line Trigger input to the camera. For example, on a Dalsa camera, the first pulse is the 'PRIN' signal while the second pulse is the 'EXSYNC' signal. The first pulse is defined by the parameters CORACQ_PRM_LINE_INTEGRATE_PULSE0_DURATION and CORACQ_PRM_LINE_INTEGRATE_PULSE0_POLARITY. The second pulse is defined by the parameters CORACQ_PRM_LINE_INTEGRATE_PULSE1_DURATION and CORACQ_PRM_LINE_INTEGRATE_PULSE1_POLARITY (see online manual).

Line Integration Method #1

This method generates 2 pulses. The distance between the end of the first pulse(#0) and the start of the second pulse (#1) is the integration time. The 2nd pulse is also the Line Trigger input to the camera. For example, on a Dalsa camera, the 1st pulse would be the 'Prin' signal while the 2nd pulse would be the 'Exesync' signal.

Example



CORACQ_VAL_LINE_INTEGRATE_METHOD_2

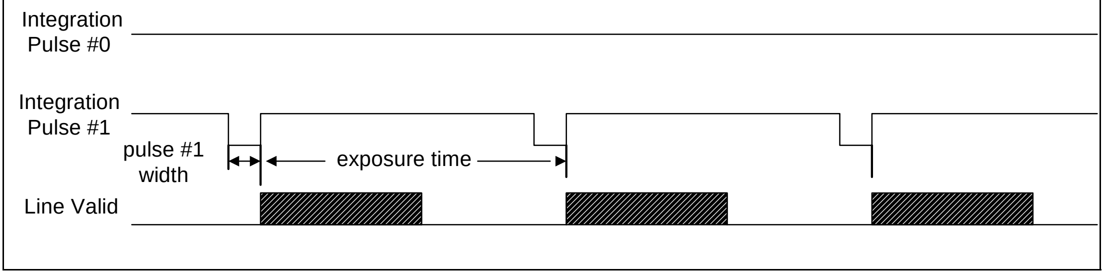
Numerical Value 0x00000002 (Line Integration Method #2)

Description Method selection is via the parameter CORACQ_PRM_LINE_INTEGRATE_METHOD. This method generates two consecutive trigger pulses on the camera's Line Trigger input. The time interval between the end of the two trigger pulses represents the integration time (as specified by the parameter CORACQ_PRM_LINE_INTEGRATE_DURATION). An optional signal with a fixed level might be present. For example, on a Dalsa camera, the Line Trigger input would be the 'EXSYNC' signal and the optional signal would be the 'PRIN' signal. Both pulses are described by the parameters CORACQ_PRM_LINE_INTEGRATE_PULSE1_DURATION and CORACQ_PRM_LINE_INTEGRATE_PULSE1_POLARITY. The optional signal with a fixed level is described by the parameter CORACQ_PRM_LINE_INTEGRATE_PULSE0_POLARITY (see online manual).

Line Integration Method #2

This method generates two consecutive trigger pulses (#1) on the Line Trigger input of the camera. The time interval between the end of the two trigger pulses represents the integration time. An optional signal (#0) with a fixed level might be present. For example, on a Dalsa camera, the Line Trigger input would be the 'Exesync' signal and the optional signal would be the 'Prin' signal.

Example



CORACQ_VAL_LINE_INTEGRATE_METHOD_3

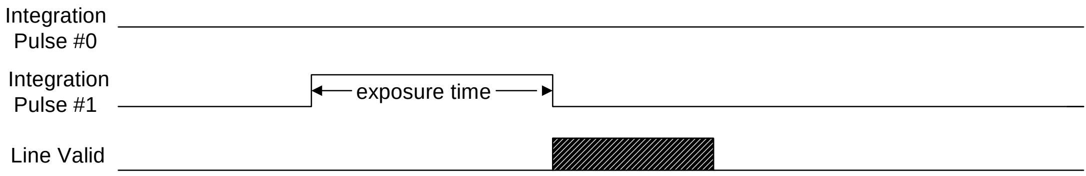
Numerical Value 0x00000004 (Line Integration Method #3)

Description Method selection via the parameter CORACQ_PRM_LINE_INTEGRATE_METHOD. This method generates an asynchronous line integration pulse to a camera. The width of this pulse represents the integration time (as specified by the parameter CORACQ_PRM_LINE_INTEGRATE_DURATION). An optional signal with a fixed level might be present. For example, on a Dalsa camera, the integration pulse would be the 'EXSYNC' signal and the optional signal would be the 'PRIN' signal. The integration pulse is described by the parameter CORACQ_PRM_LINE_INTEGRATE_PULSE1_POLARITY. The optional signal with a fixed level is described by the parameter CORACQ_PRM_LINE_INTEGRATE_PULSE0_POLARITY (see online manual).

Line Integration Method #3

This method generates an asynchronous line integration pulse(#1) to a camera. The width of this pulse represents the integration time. An optional signal (#0) with a fixed level might be present. For example, on a Dalsa camera, the integration pulse would be the 'Exesync' signal and the optional signal would be the 'Prin' signal.

Example



CORACQ_VAL_LINE_INTEGRATE_METHOD_4

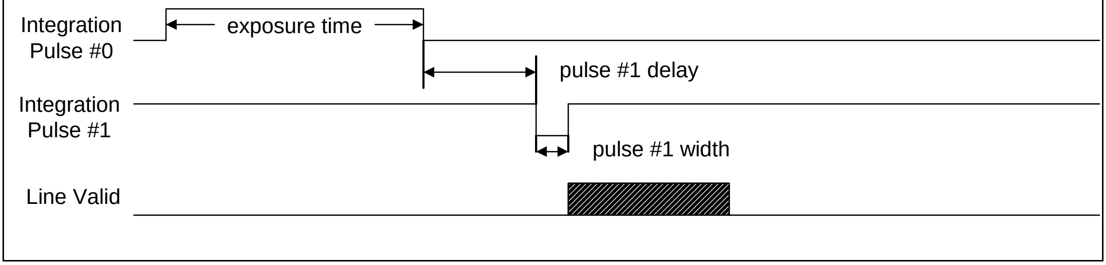
Numerical Value 0x00000008 (Line Integration Method #4)

Description Method selection is via the parameter CORACQ_PRM_LINE_INTEGRATE_METHOD. This method generates an integration pulse followed by a trigger pulse on the camera's line trigger. The width of the integration pulse represents the integration time (as specified by the parameter CORACQ_PRM_LINE_INTEGRATE_DURATION). The first pulse is described by the parameter CORACQ_PRM_LINE_INTEGRATE_PULSE0_POLARITY. The second pulse is described by the parameters CORACQ_PRM_LINE_INTEGRATE_PULSE1_DELAY, CORACQ_PRM_LINE_INTEGRATE_PULSE1_DURATION and CORACQ_PRM_LINE_INTEGRATE_PULSE1_POLARITY (see online manual).

Line Integration Method #4

This method generates an integration pulse (#0) followed by a pulse (#1) on the line trigger of the camera. The width of the integration pulse represents the integration time.

Example



Line Trigger Methods

The following line trigger method is available:

CORACQ_VAL_LINE_TRIGGER_METHOD_1

CORACQ_VAL_LINE_TRIGGER_METHOD_1

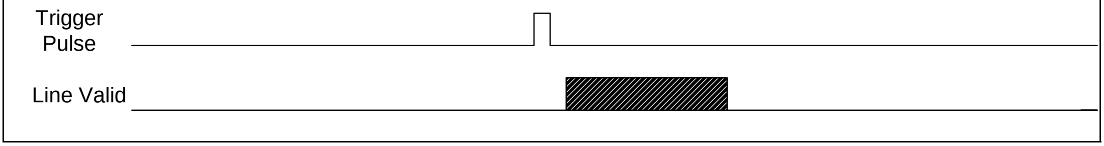
Numerical Value 0x00000001 (Line Trigger Method #1)

Description Method selection is via the parameter CORACQ_PRM_LINE_TRIGGER_METHOD. This method generates an asynchronous line trigger pulse to a camera.. The next generated frame will be acquired. The trigger pulse is described by the parameters CORACQ_PRM_LINE_TRIGGER_DURATION and CORACQ_PRM_LINE_TRIGGER_POLARITY (see online manual).

Line Trigger Method #1

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

Example



Time Integrate Methods

The following time integrate methods are available:

CORACQ_VAL_TIME_INTEGRATE_METHOD_1

CORACQ_VAL_TIME_INTEGRATE_METHOD_2

CORACQ_VAL_TIME_INTEGRATE_METHOD_3

CORACQ_VAL_TIME_INTEGRATE_METHOD_4

CORACQ_VAL_TIME_INTEGRATE_METHOD_5

CORACQ_VAL_TIME_INTEGRATE_METHOD_6

CORACQ_VAL_TIME_INTEGRATE_METHOD_7

CORACQ_VAL_TIME_INTEGRATE_METHOD_8

CORACQ_VAL_TIME_INTEGRATE_METHOD_1

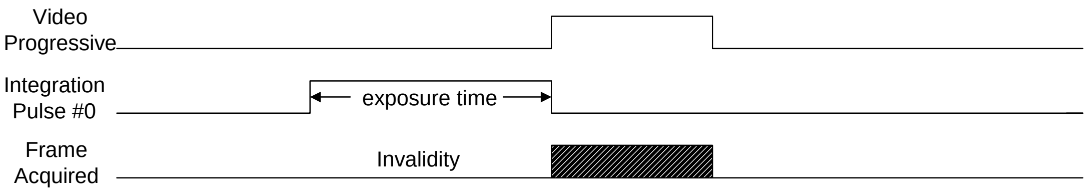
Numerical Value 0x00000001 (Time Integration Method #1)

Description Method selection is via the parameter CORACQ_PRM_TIME_INTEGRATE_METHOD. This method generates an asynchronous time integration pulse to a camera. The width of the pulse (as specified by the parameter CORACQ_PRM_TIME_INTEGRATE_DURATION), represents the integration time (see online manual).

Time Integration Method #1

This method generates an asynchronous time integration pulse (#0) to a camera. The width of this pulse represents the integration time.

Example



CORACQ_VAL_TIME_INTEGRATE_METHOD_2

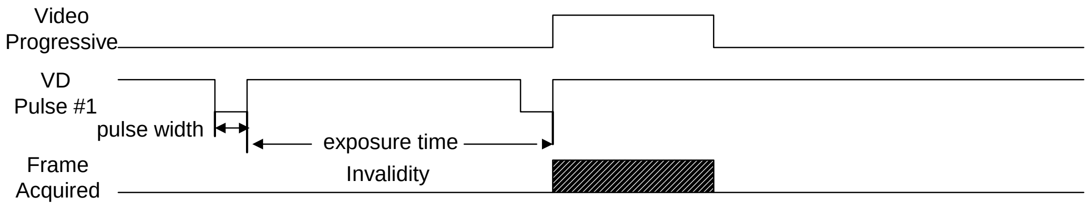
Numerical Value 0x00000002 (Time Integration Method #2)

Description Method selection is via the parameter CORACQ_PRM_TIME_INTEGRATE_METHOD. This method generates two consecutive trigger pulses on the VD (Vertical Drive) input of the camera. The time interval between the end of the two trigger pulses (as specified by the parameter CORACQ_PRM_TIME_INTEGRATE_DURATION) represents the integration time. The VD trigger pulses are described by the parameters CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION and CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY (see online manual).

Time Integration Method #2

This method generates two consecutive trigger pulses (#1) on the VD (Vertical Drive) input of the camera. The time interval between the end of the two trigger pulses represents the integration time.

Example



CORACQ_VAL_TIME_INTEGRATE_METHOD_3

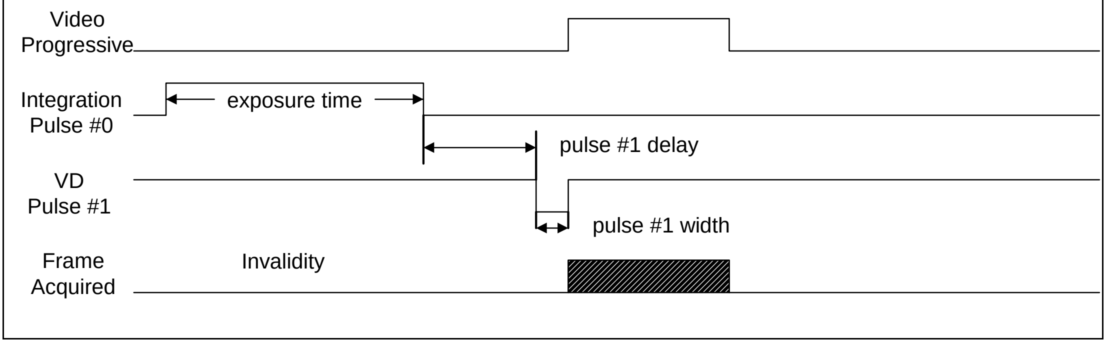
Numerical Value 0x00000004 (Time Integration Method #3)

Description Also known as the E-Donpisha mode. Method selection is via the parameter CORACQ_PRM_TIME_INTEGRATE_METHOD. This method generates an integration pulse on the camera trigger input, followed by a trigger pulse on the camera VD input. The width of the integration pulse (as specified by the parameter CORACQ_PRM_TIME_INTEGRATE_DURATION) represents the integration time.
The polarity of the integration pulse is specified with the CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY parameter. The VD trigger pulse is described by the parameters CORACQ_PRM_TIME_INTEGRATE_PULSE1_DELAY, CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION and CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY, where the delay is the interval between the end of the integration pulse and the start of the VD trigger pulse (see online manual).

Time Integration Method #3

This method generates an integration pulse (#0) followed by a trigger pulse (#1) on the VD input of the camera. The width of the integration pulse represents the integration time. This method is also known as the e-donpisha mode of integration.

Example



CORACQ_VAL_TIME_INTEGRATE_METHOD_4

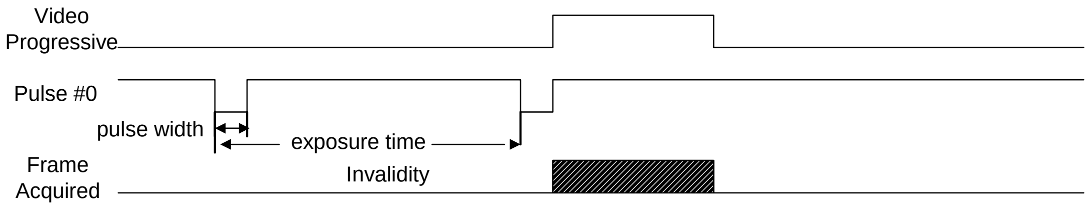
Numerical Value 0x00000008 (Time Integration Method #4)

Description Method selection is via the parameter CORACQ_PRM_TIME_INTEGRATE_METHOD. This method generates two consecutive trigger pulses on the camera trigger input. The time interval between the start of the two trigger pulses (as specified by the parameter CORACQ_PRM_TIME_INTEGRATE_DURATION) represents the integration time.
The trigger pulses are described by the parameters CORACQ_PRM_TIME_INTEGRATE_PULSE0_DURATION and CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY (see online manual).

Time Integration Method #4

This method generates two consecutive trigger pulses (#0) on the trigger input of the camera. The time interval between the start of the two trigger pulses represents the integration time.

Example



CORACQ_VAL_TIME_INTEGRATE_METHOD_5

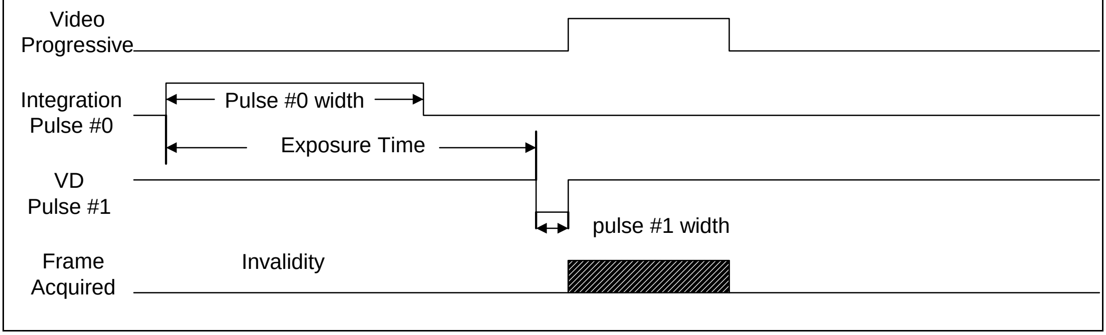
Numerical Value 0x00000010 (Time Integration Method #5)

Description Method selection is via the parameter CORACQ_PRM_TIME_INTEGRATE_METHOD. This method generates a trigger pulse (#0) on the camera trigger input, followed by a trigger pulse (#1) on the camera VD input. The interval between the start of the two pulses (as specified by the parameter CORACQ_PRM_TIME_INTEGRATE_DURATION) represents the integration time. The trigger pulse (#0) on the camera trigger input is defined by the parameters CORACQ_PRM_TIME_INTEGRATE_PULSE0_DURATION and CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY. The VD trigger pulse is defined by the parameters CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION and CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY (see online manual).

Time Integration Method #5

This method generates a trigger pulse (#0) on the trigger input of the camera, followed by a trigger pulse (#1) on the VD input of the camera. The distance between the start of the 2 pulses represents the integration time.

Example



CORACQ_VAL_TIME_INTEGRATE_METHOD_6

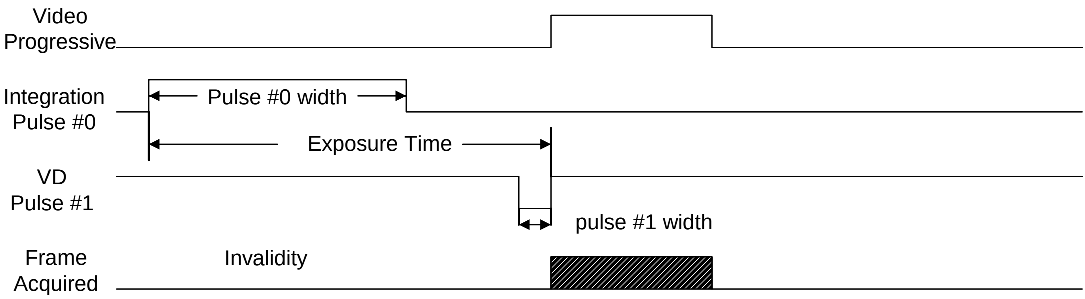
Numerical Value 0x00000020 (Time Integration Method #6)

Description Method selection is via the parameter CORACQ_PRM_TIME_INTEGRATE_METHOD. This method generates a trigger pulse (#0) on the camera trigger input, followed by a trigger pulse (#1) on the camera VD input. The interval between the start of pulse #0 and end of pulse #1 (as specified by the parameter CORACQ_PRM_TIME_INTEGRATE_DURATION) is the integration time. The trigger pulse (#0) on the camera trigger input is defined by the parameters CORACQ_PRM_TIME_INTEGRATE_PULSE0_DURATION and CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY. The VD trigger pulse is defined by the parameters CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION and CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY (see online manual).

Time Integration Method #6

This method generates an trigger pulse (#0) on the trigger input of the camera, followed by a trigger pulse (#1) on the VD input of the camera. The distance between the start of pulse#0 and end of pusle #1 represents the integration time.

Example



CORACQ_VAL_TIME_INTEGRATE_METHOD_7

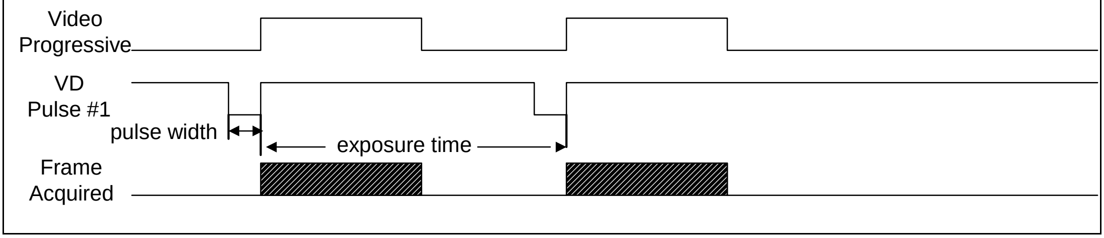
Numerical Value 0x00000040 (Time Integration Method #7)

Description Method selection is via the parameter CORACQ_PRM_TIME_INTEGRATE_METHOD. This method generates two consecutive trigger pulses (#1) on the camera VD (Vertical Drive) input. The time interval between the end of the two trigger pulses (as specified by the parameter CORACQ_PRM_TIME_INTEGRATE_DURATION) is the integration time. This method differs from method #2, since a valid frame is available during the integration time. The VD trigger pulses are described by the parameters CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION and CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY (see online manual).

Time Integration Method #7

This method generates two consecutive trigger pulses (#1) on the VD (Vertical Drive) input of the camera. The time interval between the end of the two trigger pulses represents the integration time. This method differs from method #2, since a valid frame is available during the integration time.

Example



CORACQ_VAL_TIME_INTEGRATE_METHOD_8

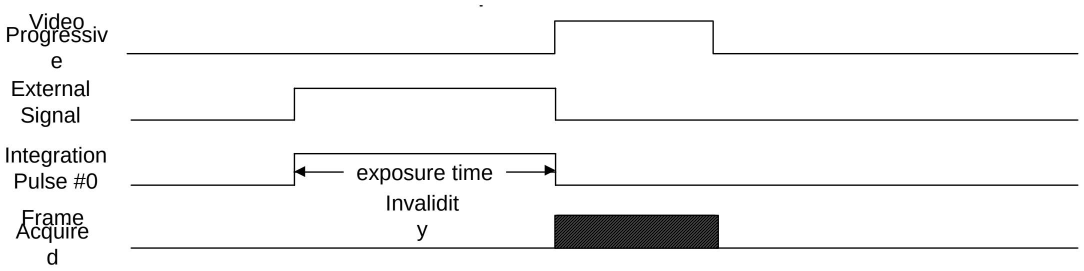
Numerical Value 0x00000080 (Time Integration Method #8)

Description Method selection is via the parameter CORACQ_PRM_TIME_INTERGRATE_METHOD. This method generates an asynchronous time integration pulse to a camera. The width of the pulse represents the integration time and is control by a external signal.

Time Integration Method #8

This method generates an asynchronous time integration pulse (#0) to the camera.
The width of this pulse represents the integration time.

Example



Strobe Methods

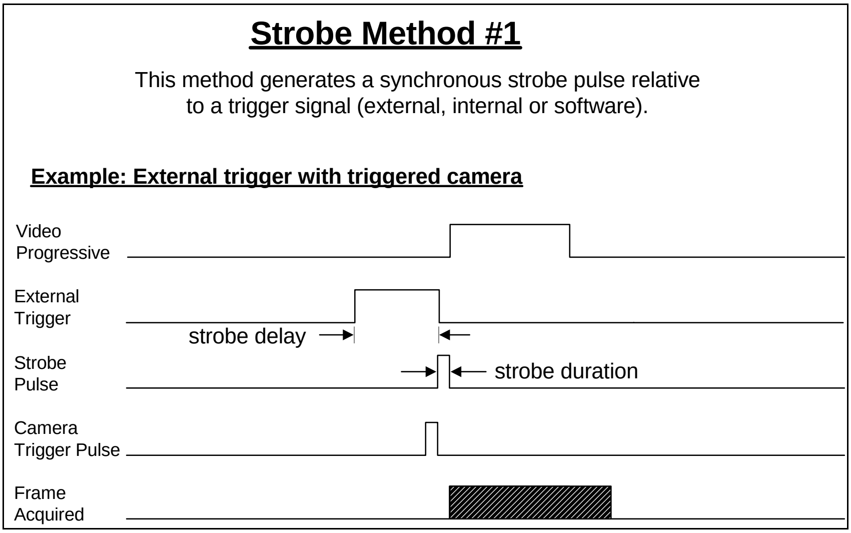
The following strobe methods are available:

- CORACQ_VAL_STROBE_METHOD_1
- CORACQ_VAL_STROBE_METHOD_2
- CORACQ_VAL_STROBE_METHOD_3
- CORACQ_VAL_STROBE_METHOD_4

CORACQ_VAL_STROBE_METHOD_1

Numerical Value 0x00000001 (Strobe Method #1)

Description Method selection is via the parameter CORACQ_PRM_STROBE_METHOD. This method generates a synchronous strobe pulse relative to a trigger signal (external, internal, software) depending on the mode of operation. The strobe pulse is described by the parameters CORACQ_PRM_STROBE_DELAY, CORACQ_PRM_STROBE_DURATION, and CORACQ_PRM_STROBE_POLARITY.



Strobe Method #1

This method generates a synchronous strobe pulse relative to a trigger signal (external, internal or software).

Example: External trigger with triggered camera

CORACQ_VAL_STROBE_METHOD_2

Numerical Value 0x00000002 (Strobe Method #2)

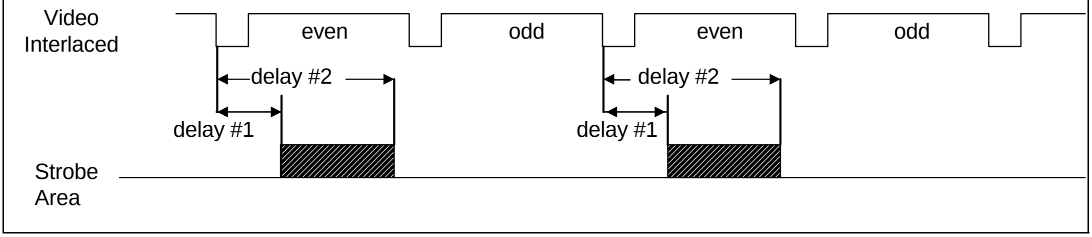
Description Method selection is via the parameter CORACQ_PRM_STROBE_METHOD. This method generates an asynchronous strobe pulse. The pulse is generated outside the region comprising the start of a vertical sync up to the specified strobe delay, but not later than the second strobe delay.

If interlaced video is acquired, then the strobe will be generated on the field previous to the acquired frame. This is true if the field ordering is odd-even (typical), even-odd. or next two fields. The strobe pulse is described by the parameters CORACQ_PRM_STROBE_DELAY, CORACQ_PRM_STROBE_DELAY_2, CORACQ_PRM_STROBE_DURATION, and CORACQ_PRM_STROBE_POLARITY.

Strobe Method #2

This method generates an asynchronous strobe pulse. The pulse will be generated outside the region comprising the start of a vertical sync up to the specified strobe delay, but not later than the 2nd strobe delay. If interlaced video is present, then the strobe will be generated on the field previous to the acquired frame: even if the field ordering is odd-even, odd if the field ordering is even-odd, any field if the field ordering is next 2 fields.

Example: Interlaced, Odd-Even acquisition



CORACQ_VAL_STROBE_METHOD_3

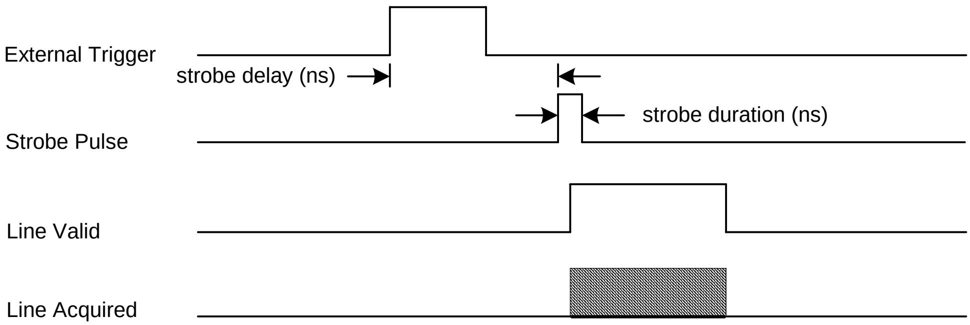
Numerical Value 0x00000004 (Strobe Method #3)

Description Method selection is performed via the parameter CORACQ_PRM_STROBE_METHOD. This method generates a synchronous strobe pulse relative to a line trigger signal (external, internal, software) depending on the mode of operation. The strobe pulse is described by the parameters CORACQ_PRM_STROBE_DELAY, CORACQ_PRM_STROBE_DURATION and CORACQ_PRM_STROBE_POLARITY.

Strobe Method #3

This method generates a synchronous strobe pulse relative to the trigger signal (external, internal, or software).

Example: External Line Trigger



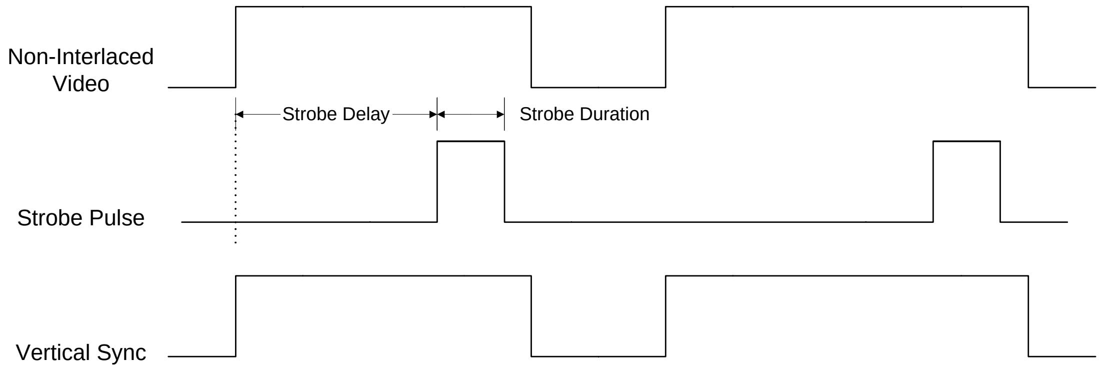
CORACQ_VAL_STROBE_METHOD_4

Numerical Value 0x00000008 (Strobe Method #4)

Description Method selection is via the parameter CORACQ_PRM_STROBE_METHOD. This method generates a synchronous strobe pulse relative to a vertical sync signal.. The strobe pulse is described by the parameters CORACQ_PRM_STROBE_DELAY, CORACQ_PRM_STROBE_DURATION, and CORACQ_PRM_STROBE_POLARITY.

Strobe Method #4

Generates a synchronous strobe pulse relative to the vertical sync signal.

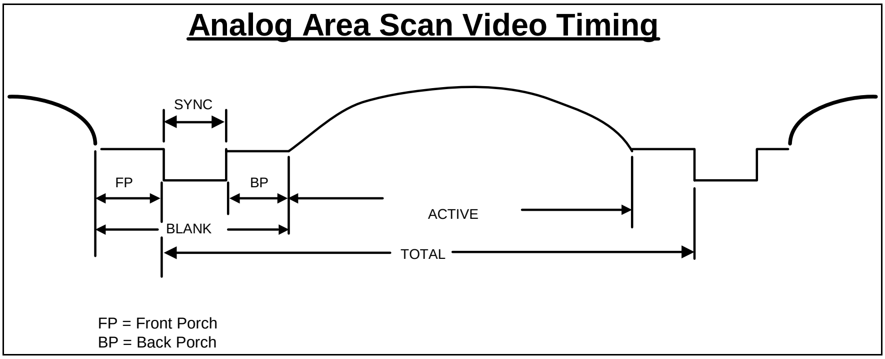


Camera Video Timing Definitions

Generic camera timing diagrams describe the terminology and relationships used in Sapera LT applications. Topics covered are:

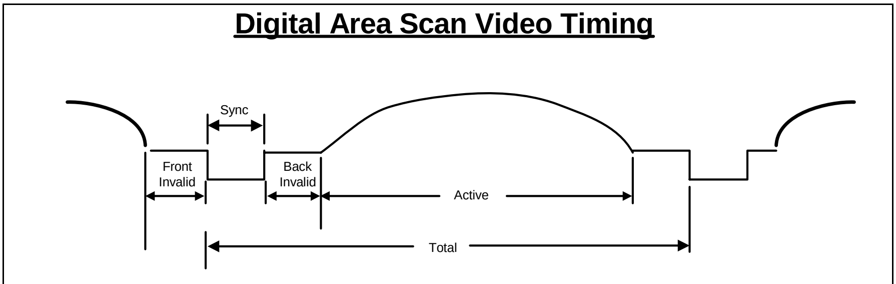
- Area Scan Analog Video Timings
- Area Scan Digital Video Timings
- Linescan Video Timings

Area Scan Analog Video Timings



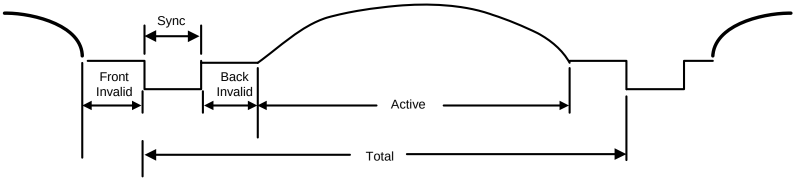
FP = Front Porch
BP = Back Porch

Area Scan Digital Video Timings



Note 1: Sync can also be called Blank (this is usually the case when there are no invalid pixels/lines.
Note 2: The Active section + the invalid sections is also called Line/Frame Valid or Enable.

Linescan Video Timings



Line Scan Video Timing

Note 1: Sync can also be called Blank (this is usually the case when there are no invalid pixels).
Note 2: The Active section + the invalid sections is also called Line Valid or Enable.

Custom Camera Control I/O Description

The acquisition module currently has specific parameters to control the following standard inputs/outputs: integration, camera trigger, camera reset, and strobe.

Custom camera I/Os are useful to control non-standard inputs/outputs from a camera, such as Gain and Binning. These custom controls are defined in the CCA file. The description of a custom I/O includes a label, the number of I/O bits used, the signal level of the I/Os (TTL/RS-422/LVDS), the direction of the I/Os (Inputs or Outputs), the polarity of the control for an active signal, and a default value in the case of an Output. The custom camera I/O information in the CCA file is passed to the acquisition module through the parameter CORACQ_PRM_CAM_IO_CONTROL (see online manual). This is a complex parameter that can accommodate up to 32 different controls. The size of the parameter is therefore 32 * sizeof(CORACQ_CAM_IO_CONTROL).

When applied, the driver scans the entries until a control specifies that 0 I/O bits is needed. It is therefore recommended to first initialize the CORACQ_CAM_IO_CONTROL to 0 before filling in control definitions. The driver assigns the necessary I/Os in an orderly fashion, following the order in which they are defined in the CCA/CCF file. At the function level, the I/O assignment can be setup by using the standard method of loading a CCA/CCF file (CorCamLoad + CorAcqSetPrms), or the CorAcqSetPrmEx function can be simply called with an CORACQ_PRM_CAM_IO_CONTROL (see online manual) parameter. To get/set the value of an I/O, use the Sapera functions (CorAcqDetectSync and CorAcqSetCamIOControl) where the label argument is the string representation of the I/O control as specified in the CCA/CCF file.

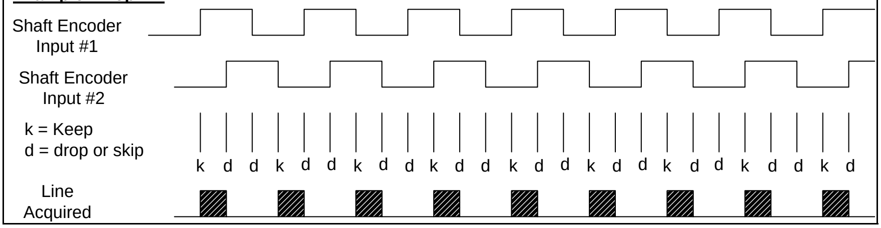
Shaft Encoder Description

The shaft encoder feature is used to control the rate at which an acquisition device acquires lines from a linescan camera. Two (2) square waves, usually out of phase by 90 degrees, are fed to the acquisition device. Every time an edge is detected, the acquisition device outputs the necessary signal(s) to trigger 1 line out from the linescan camera. The rate at which the lines are triggered can be controlled by dropping detected edges.

LineScan Shaft Encoder

The shaft encoder is used to trigger the board every time a line needs to be acquired. The shaft encoder consists of 2 inputs, offset by 90 degrees. Each transition corresponds to one trigger. The drop parameter can be used to skip transitions.

Example: Drop = 2



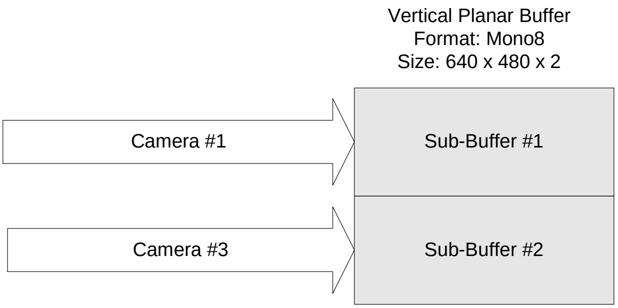
Planar Input Sources Description

The planar input sources parameter, **CORACQ_PRM_PLANAR_INPUT_SOURCES**, is used to acquire from multiple synchronized video sources. It enables selecting which input sources will be acquired into a vertical planar buffer. The parameter value is a bit field. Each bit represents an acquisition input. If the bit is 1, then the source connected to that input are acquired into a vertical planar buffer. All video sources must be synchronized together. The vertical planar buffer format is simply a buffer which has been created with a height that is 'n' times longer than the size of one video source vertical resolution, 'n' being the number of inputs that are to be acquired synchronously. The acquisition function will automatically divide the buffer into sub-buffers which are assigned to each input. Important: the parameter **CORACQ_PRM_CAMSEL** is used to select the sync signal source.

Example:

CORACQ_PRM_PLANAR_INPUT_SOURCES = 0x00000005

(ie. Bit 0 & 2 are active => Camera #1 & #3 will be acquired from)



Advanced Acquisition Control

Introduction

The Acquisition Module controls the acquisition device and its functions. It is used in conjunction with the VIC and Camera modules.

Camera Related Parameters

The camera related parameters, as their name implies, modelize the video source irrelevant of the actual source itself (camera, etc.). These parameters define the video capabilities and modes of operation.

Camera Related Parameters By Groups

General

- CORACQ_PRM_CAM_NAME
- CORACQ_PRM_CAM_COMPANY_NAME
- CORACQ_PRM_CAM_MODEL_NAME

Signal Description

- CORACQ_PRM_CHANNEL
- CORACQ_PRM_CHANNELS_ORDER
- CORACQ_PRM_COUPLING
- CORACQ_PRM_FIELD_ORDER
- CORACQ_PRM_FRAME
- CORACQ_PRM_INTERFACE
- CORACQ_PRM_PIXEL_DEPTH
- CORACQ_PRM_SCAN
- CORACQ_PRM_SIGNAL
- CORACQ_PRM_TAP_OUTPUT
- CORACQ_PRM_TAP_1_DIRECTION
- CORACQ_PRM_TAP_2_DIRECTION
- CORACQ_PRM_TAP_3_DIRECTION
- CORACQ_PRM_TAP_4_DIRECTION
- CORACQ_PRM_TAP_5_DIRECTION
- CORACQ_PRM_TAP_6_DIRECTION
- CORACQ_PRM_TAP_7_DIRECTION
- CORACQ_PRM_TAP_8_DIRECTION
- CORACQ_PRM_TAPS
- CORACQ_PRM_VIDEO
- CORACQ_PRM_VIDEO_LEVEL_MAX
- CORACQ_PRM_VIDEO_LEVEL_MIN
- CORACQ_PRM_VIDEO_STD

Signal Timings

CORACQ_PRM_HACTIVE
CORACQ_PRM_HBACK_PORCH
CORACQ_PRM_HFRONT_PORCH
CORACQ_PRM_VACTIVE
CORACQ_PRM_VBACK_PORCH
CORACQ_PRM_VFRONT_PORCH
CORACQ_PRM_TIMESLOT
CORACQ_PRM_HBACK_INVALID
CORACQ_PRM_HFRONT_INVALID
CORACQ_PRM_HSYNC
CORACQ_PRM_VBACK_INVALID
CORACQ_PRM_VFRONT_INVALID
CORACQ_PRM_VSYNC

Pixel Clock

CORACQ_PRM_PIXEL_CLK_DETECTION
CORACQ_PRM_PIXEL_CLK_INT
CORACQ_PRM_PIXEL_CLK_SRC
CORACQ_PRM_PIXEL_CLK_EXT
CORACQ_PRM_PIXEL_CLK_11

Synchronization Signals

CORACQ_PRM_HSYNC_POLARITY
CORACQ_PRM_VSYNC_POLARITY
CORACQ_PRM_SYNC

Control Signals

CORACQ_PRM_CAM_CONTROL_DURING_READOUT
CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MAX
CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MIN
CORACQ_PRM_CAM_RESET_DURATION
CORACQ_PRM_CAM_RESET_POLARITY
CORACQ_PRM_CAM_RESET_METHOD
CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MAX
CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MIN
CORACQ_PRM_CAM_TRIGGER_DURATION
CORACQ_PRM_CAM_TRIGGER_METHOD
CORACQ_PRM_CAM_TRIGGER_POLARITY
CORACQ_PRM_DATA_VALID_ENABLE
CORACQ_PRM_DATA_VALID_POLARITY
CORACQ_PRM_FRAME_INTEGRATE_METHOD
CORACQ_PRM_FRAME_INTEGRATE_POLARITY
CORACQ_PRM_LINE_INTEGRATE_METHOD
CORACQ_PRM_LINE_INTEGRATE_PULSE0_DELAY
CORACQ_PRM_LINE_INTEGRATE_PULSE0_DURATION
CORACQ_PRM_LINE_INTEGRATE_PULSE0_POLARITY

CORACQ_PRM_LINE_INTEGRATE_PULSE1_DELAY

CORACQ_PRM_LINE_INTEGRATE_PULSE1_DURATION

CORACQ_PRM_LINE_INTEGRATE_PULSE1_POLARITY

CORACQ_PRM_LINE_TRIGGER_DELAY

CORACQ_PRM_LINE_TRIGGER_DURATION

CORACQ_PRM_LINE_TRIGGER_METHOD

CORACQ_PRM_LINE_TRIGGER_POLARITY

CORACQ_PRM_LINESCAN_DIRECTION

CORACQ_PRM_LINESCAN_DIRECTION_POLARITY

CORACQ_PRM_TIME_INTEGRATE_METHOD

CORACQ_PRM_TIME_INTEGRATE_PULSE0_DELAY

CORACQ_PRM_TIME_INTEGRATE_PULSE0_DURATION

CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY

CORACQ_PRM_TIME_INTEGRATE_PULSE1_DELAY

CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION

CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY

CORACQ_PRM_WEN_POLARITY

Connector Description

CORACQ_PRM_CAMLINK_CONFIGURATION

CORACQ_PRM_CONNECTOR_EXPOSURE_INPUT

CORACQ_PRM_CONNECTOR_HD_INPUT

CORACQ_PRM_CONNECTOR_LINE_INTEGRATE_INPUT

CORACQ_PRM_CONNECTOR_LINE_TRIGGER_INPUT

CORACQ_PRM_CONNECTOR_LINESCAN_DIRECTION_INPUT

CORACQ_PRM_CONNECTOR_PIXEL_CLK_OUTPUT

CORACQ_PRM_CONNECTOR_RESET_TRIGGER_INPUT

CORACQ_PRM_CONNECTOR_VD_INPUT

CORACQ_PRM_CONNECTOR_WEN_OUTPUT

Custom Camera I/O Control Signals

CORACQ_PRM_CAM_IO_CONTROL

Bayer

CORACQ_PRM_BAYER_ALIGNMENT

Camera Related Parameters By ID

ID	Parameter
0x00	CORACQ_PRM_CHANNEL

0x01	CORACQ_PRM_FRAME
0x02	CORACQ_PRM_INTERFACE
0x03	CORACQ_PRM_SCAN
0x04	CORACQ_PRM_SIGNAL
0x05	CORACQ_PRM_VIDEO
0x06	CORACQ_PRM_PIXEL_DEPTH
0x07	CORACQ_PRM_VIDEO_STD
0x08	*Reserved*
0x09	CORACQ_PRM_FIELD_ORDER
0x0a	CORACQ_PRM_HACTIVE
0x0b	CORACQ_PRM_HSYNC
0x0c	CORACQ_PRM_VACTIVE
0x0d	CORACQ_PRM_VSYNC
0x0e	CORACQ_PRM_HFRONT_PORCH
0x0f	CORACQ_PRM_HBACK_PORCH
0x10	CORACQ_PRM_COUPLING
0x11	*Reserved*
0x12	CORACQ_PRM_VFRONT_PORCH
0x13	CORACQ_PRM_VBACK_PORCH
0x14	CORACQ_PRM_HFRONT_INVALID
0x15	CORACQ_PRM_HBACK_INVALID
0x16	CORACQ_PRM_VFRONT_INVALID
0x17	CORACQ_PRM_VBACK_INVALID
0x18	CORACQ_PRM_PIXEL_CLK_SRC
0x19	CORACQ_PRM_PIXEL_CLK_INT
0x1a	CORACQ_PRM_PIXEL_CLK_11
0x1b	CORACQ_PRM_PIXEL_CLK_EXT
0x1c	CORACQ_PRM_SYNC
0x1d	CORACQ_PRM_HSYNC_POLARITY
0x1e	CORACQ_PRM_VSYNC_POLARITY
0x1f	CORACQ_PRM_FRAME_INTEGRATE_METHOD
0x20	CORACQ_PRM_FRAME_INTEGRATE_POLARITY
0x21	CORACQ_PRM_TIME_INTEGRATE_METHOD
0x22	CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY
0x23	CORACQ_PRM_CAM_TRIGGER_METHOD
0x24	CORACQ_PRM_CAM_TRIGGER_POLARITY
0x25	CORACQ_PRM_CAM_TRIGGER_DURATION

0x26	CORACQ_PRM_CAM_RESET_METHOD
0x27	CORACQ_PRM_CAM_RESET_POLARITY
0x28	CORACQ_PRM_CAM_RESET_DURATION
0x29	CORACQ_PRM_CAM_NAME
0x2a	CORACQ_PRM_LINE_INTEGRATE_METHOD
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0x6d	CORACQ_PRM_BAYER_ALIGNMENT
0x6e	CORACQ_PRM_CAM_CONTROL_DURING_READOUT

CORACQ_PRM_BAYER_ALIGNMENT

Description Specifies the Bayer alignment of the image output by the video source.

Type UINT32

Limits The parameter value must match one of the supported alignments of the acquisition device given by CORACQ_CAP_BAYER_ALIGNMENT. The capability returns the ORed combination of all supported values as defined below.

Values CORACQ_VAL_BAYER_ALIGNMENT_GB_RG (0x00000001)

CORACQ_VAL_BAYER_ALIGNMENT_BG_GR (0x00000002)

CORACQ_VAL_BAYER_ALIGNMENT_RG_GB (0x00000004)

CORACQ_VAL_BAYER_ALIGNMENT_GR_BG (0x00000008)

CCA Entry [Signal Description]
Bayer Alignment

Note Validated only if CORACQ_PRM_BAYER_DECODER_ENABLE is TRUE.

CORACQ_PRM_CAM_COMPANY_NAME

Description The camera company name for which the camera file is intended for.

Type BYTE [32]

Values String up to 31 characters long.

CCA Entry [General]
Camera Name

CORACQ_PRM_CAM_CONTROL_DURING_READOUT

Description Specifies if the camera control signals can be sent during the readout of a frame.

Type UINT32

Values

TRUE:	Camera controls can be sent during the readout of a frame.
FALSE:	Camera controls will not be sent during the readout of a frame.

Limits Supported only if CORACQ_CAP_CAM_CONTROL_DURING_READOUT is TRUE.

CCA Entry [Control Signals]
Camera Control During Readout

Note Valid only for Area Scan cameras.

CORACQ_PRM_CAM_IO_CONTROL

Description Description of the non-standard camera I/O controls.

Type CORACQ_CAM_IO_CONTROL[32]

Values List of the non-standard camera I/O controls.

CCA Entry [Custom Camera IO Control Signals]
Max Control
Control_x (x takes a value from 0 to 31)

Note See "Custom Camera I/O Control Description" for more information.

CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MAX

Description	Maximum line trigger frequency supported by the camera (in Hz).
Type	UINT32
Limits	This value must be greater or equal to CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MIN
CCA Entry	[Control Signals] Camera Line Trigger Frequency Maximum
Note	Applies to linescan cameras only.

CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MIN

Description	Minimum line trigger frequency supported by the camera (in Hz).
Type	UINT32
Limits	This value must be smaller or equal to CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MAX
CCA Entry	[Control Signals] Camera Line Trigger Frequency Minimum
Note	Applies to linescan cameras only.

CORACQ_PRM_CAM_MODEL_NAME

Description	The camera model name for which the camera file is intended for.
Type	BYTE [32]
Values	String up to 31 characters long.
CCA Entry	[General] Model Name

CORACQ_PRM_CAM_NAME

Description	The name or description of the camera related parameters.
Type	BYTE [64]
Values	String, up to 63 characters long.
CCA Entry	[General] Camera Name

CORACQ_PRM_CAM_RESET_DURATION

Description	Reset pulse width (in µs). Applies to area scan cameras only.
Type	UINT32
Limits	The value must be in the range CORACQ_CAP_CAM_RESET_DURATION_MIN ... CORACQ_CAP_CAM_RESET_DURATION_MAX.
CCA Entry	[Control Signals] Camera Reset Duration
Note	Validated only when CORACQ_PRM_CAM_RESET_ENABLE is TRUE.

CORACQ_PRM_CAM_RESET_METHOD

Description	Method used to generate the reset pulse. Applies to area scan cameras only.
Type	UINT32
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CAM_RESET_METHOD. The capability returns the ORed combination of all supported values.
Values	See Camera Reset Method
CCA Entry	[Control Signals] Camera Reset Method
Note	Available only if CORACQ_CAP_CAM_RESET is TRUE. Validated only when CORACQ_PRM_CAM_RESET_ENABLE is TRUE.

CORACQ_PRM_CAM_RESET_POLARITY

Description	Reset pulse polarity. Applies to area scan cameras only.	
Type	UINT32	
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CAM_RESET_POLARITY. The capability returns the ORed combination of all supported values.	
Values	CORACQ_VAL_ACTIVE_LOW (0x00000001)	Reset pulse will be active low.
	CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Reset pulse will be active high.
CCA Entry	[Control Signals] Camera Reset Polarity	
Note	Available only if CORACQ_CAP_CAM_RESET is TRUE. Validated only when CORACQ_PRM_CAM_RESET_ENABLE is TRUE.	

CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MAX

Description	Maximum time integration supported by the camera (in µs). Applies to area scan cameras only.
Type	UINT32
Limits	This value must be greater or equal to CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MIN.
CCA Entry	[Control Signals] Camera Time Integrate Duration Maximum

CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MIN

Description	Minimum time integration supported by the camera (in µs). Applies to area scan cameras only.
Type	UINT32
Limits	This value must be smaller or equal to CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MAX.
CCA Entry	[Control Signals] Camera Time Integrate Duration Minimum

CORACQ_PRM_CAM_TRIGGER_DURATION

Description Frame trigger pulse width (in µs). Applies to area scan cameras only.

Type UINT32

Limits The value must be in the range CORACQ_CAP_CAM_TRIGGER_DURATION_MIN ... CORACQ_CAP_CAM_TRIGGER_DURATION_MAX.

CCA Entry [Control Signals]
Camera Trigger Duration

Note Available only if CORACQ_CAP_CAM_TRIGGER is TRUE.
Validated only when CORACQ_PRM_CAM_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_CAM_TRIGGER_METHOD

Description Frame trigger pulse output method. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CAM_TRIGGER_METHOD. The capability returns the ORed combination of all supported values.

Values See Camera Trigger Methods

CCA Entry [Control Signals]
Camera Trigger Method

Note Available only if CORACQ_CAP_CAM_TRIGGER is TRUE.
Validated only when CORACQ_PRM_CAM_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_CAM_TRIGGER_POLARITY

Description Frame trigger pulse polarity. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CAM_TRIGGER_POLARITY. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_ACTIVE_LOW (0x00000001)	Frame trigger pulse will be active low.
CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Frame trigger pulse will be active high.

CCA Entry [Control Signals]
Camera Trigger Polarity

Note Available only if CORACQ_CAP_CAM_TRIGGER is TRUE.
Validated only when CORACQ_PRM_CAM_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_CAMLINK_CONFIGURATION

Description Defines the CameraLink connector configuration

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CAMLINK_CONFIGURATION. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_CAMLINK_CONFIGURATION_BASE (0x00000001)
Base configuration (1 connector)

CORACQ_VAL_CAMLINK_CONFIGURATION_MEDIUM (0x00000002)
Medium configuration (2 connectors)

CORACQ_VAL_CAMLINK_CONFIGURATION_FULL (0x00000004)
Full configuration (2 connectors)

CORACQ_VAL_CAMLINK_CONFIGURATION_2BASE (0x00000008)
Dual base configuration (2 connectors)

CORACQ_VAL_CAMLINK_CONFIGURATION_10TAPS_FORMAT1 (0x00000010)
10 Taps (2 connectors) for example, CMC-1000

CORACQ_VAL_CAMLINK_CONFIGURATION_16TAPS (0x000000020)
16 Taps (4 connectors)

CORACQ_VAL_CAMLINK_CONFIGURATION_10TAPS_FORMAT2 (0x00000040)
10 Taps (2 connectors) for example, Basler A504

CCA Entry [Connector Description]
Camlink Configuration

CORACQ_PRM_CHANNEL

Description Number of channels output by the video source. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CHANNEL.

Values

CORACQ_VAL_CHANNEL_SINGLE (0x00000001)	One video channel is fed to the acquisition device.
CORACQ_VAL_CHANNEL_DUAL (0x00000002)	Two synchronous video channels are fed to the acquisition device.

CCA Entry [Signal Description]
Channel

CORACQ_PRM_CHANNELS_ORDER

Description Order of the channels. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_CHANNELS_ORDER. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_CHANNELS_ORDER_NORMAL (0x00000001)
The camera outputs the first line of the video on channel 1 (or A),
the second line on channel 2 (or B), ...

CORACQ_VAL_CHANNELS_ORDER_REVERSE (0x00000002)
The camera outputs the first line of the video on channel 2 (or B),
the second line on channel 1 (or A), ...

CORACQ_VAL_CHANNELS_ORDER_DETECT (0x00000004)
Auto detects the channel order by means of an external signal usually called FI (field index). If the signal is high, then the channel order is considered normal; otherwise it is reversed.

CCA Entry [Signal Description]
Channels Order

CORACQ_PRM_CONNECTOR_EXPOSURE_INPUT

Description Camera exposure input pin description.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
Exposure Input

CORACQ_PRM_CONNECTOR_HD_INPUT

Description Camera horizontal drive input/output pin description.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
HD Input

CORACQ_PRM_CONNECTOR_LINE_INTEGRATE_INPUT

Description Camera line integrate pin description. Applies to linescan cameras only.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
Line Integrate Input

Note Some cameras define this input as PRIN.

CORACQ_PRM_CONNECTOR_LINE_TRIGGER_INPUT

Description Camera line trigger/exposure pin description. Applies to linescan cameras only.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
Line Trigger Input

Note Some cameras define this input as EXSYNC.

CORACQ_PRM_CONNECTOR_LINESCAN_DIRECTION_INPUT

Description Camera linescan direction pin description. Applies to linescan cameras only.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
Linescan Direction Input

CORACQ_PRM_CONNECTOR_PIXEL_CLK_OUTPUT

Description Camera pixel clock output pin description.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
Pixel Clock Output

CORACQ_PRM_CONNECTOR_WEN_OUTPUT

Description Camera WEN (Write ENable) output pin description.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
WEN Output

CORACQ_PRM_CONNECTOR_RESET_TRIGGER_INPUT

Description Camera Reset/Trigger input pin description.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
Reset/Trigger Input

CORACQ_PRM_CONNECTOR_VD_INPUT

Description Camera vertical drive input/output pin description.

Type UINT32

Values See Pin Connector Description

CCA Entry [Connector Description]
VD Input

CORACQ_PRM_COUPLING

Description Video source coupling type. Applies to analog video signals only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_COUPLING. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_COUPLING_AC (0x00000001)	AC coupled.
CORACQ_VAL_COUPLING_DC (0x00000002)	DC coupled.

CCA Entry [Signal Description]
Coupling

CORACQ_PRM_DATA_VALID_ENABLE

Description Specifies if the acquisition device uses the camera data valid signal.

Type UINT32

Limits This value must match the capability of the acquisition device given by CORACQ_CAP_DATA_VALID_ENABLE = TRUE.

Values

FALSE (0x00000000)	Data valid signal is ignored.
TRUE (0x00000001)	Data valid signal is used.

CCA Entry [Control Signals]
Data Valid Enable

CORACQ_PRM_DATA_VALID_POLARITY

Description Specifies the camera data valid polarity received from the acquisition device.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_DATA_VALID_POLARITY. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_ACTIVE_LOW (0x00000001)	Data valid signal active low.
CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Data valid signal active high.

CCA Entry [Control Signals]
Data Valid Polarity

Note Validated only if CORACQ_DATA_VALID_ENABLE is TRUE

CORACQ_PRM_FIELD_ORDER

Description Field order output by the video source. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_FIELD_ORDER. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_FIELD_ORDER_ODD_EVEN (0x00000001)
For an interlaced signal, the odd field is acquired first, followed by the even field.
For a non-interlaced signal, this value is invalid.

CORACQ_VAL_FIELD_ORDER_EVEN_ODD (0x00000002)
For an interlaced signal, the even field is acquired first, followed by the odd field.
For a non-interlaced signal, this value is invalid.

CORACQ_VAL_FIELD_ORDER_NEXT_FIELD (0x00000004)
For an interlaced signal, the next field is acquired whether it is odd or even.
This is the standard value for a non-interlaced signal.

CCA Entry [Signal Description]
Field Order

CORACQ_PRM_FRAME

Description Video source frame type. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_FRAME. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_FRAME_INTERLACED (0x00000001)	Interlaced video.
CORACQ_VAL_FRAME_PROGRESSIVE (0x00000002)	Progressive/non-interlaced video.

CCA Entry [Signal Description]
Frame

CORACQ_PRM_FRAME_INTEGRATE_METHOD

Description Method to be used to control the camera's frame integration. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_FRAME_INTEGRATE_METHOD. The capability returns the ORed combination of all supported values.

Values See Frame Integrate Methods

CCA Entry [Control Signals]
Frame Integrate Method

Note Available only if CORACQ_CAP_FRAME_INTEGRATE is TRUE.
Validated only when CORACQ_PRM_FRAME_INTEGRATE_ENABLE is TRUE.

CORACQ_PRM_FRAME_INTEGRATE_POLARITY

Description	Frame integration pulse polarity. Applies to area scan cameras only.	
Type	UINT32	
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_FRAME_INTEGRATE_POLARITY. The capability returns the ORed combination of all supported values.	
Values	CORACQ_VAL_ACTIVE_LOW (0x00000001)	Frame integration pulse will be active low.
	CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Frame integration pulse will be active high.
CCA Entry	[Control Signals] Frame Integrate Polarity	
Note	Available only if CORACQ_CAP_FRAME_INTEGRATE is TRUE. Validated only when CORACQ_PRM_FRAME_INTEGRATE_ENABLE is TRUE.	

CORACQ_PRM_HACTIVE

Description	Horizontal active portion of the video (in pixels/tap).
Type	UINT32
Limits	Range limits: CORACQ_CAP_HACTIVE_MIN...CORACQ_CAP_HACTIVE_MAX, and also must be a multiple of CORACQ_CAP_HACTIVE_MULT.
CCA Entry	[Signal Timings] Horizontal Active

CORACQ_PRM_HBACK_INVALID

Description	Invalid horizontal portion of the video following the horizontal blanking (in pixels/tap).
Type	UINT32
Limits	Range limits: CORACQ_CAP_HBACK_INVALID_MIN ... CORACQ_CAP_HBACK_INVALID_MAX, and also must be a multiple of CORACQ_CAP_HBACK_INVALID_MULT.
CCA Entry	[Signal Timings] Horizontal Back Invalid

CORACQ_PRM_HBACK_PORCH

Description	The video’s horizontal back porch (in pixels/tap). Applies to analog video signals only.
Type	UINT32
Limits	Range limits: CORACQ_CAP_HBACK_PORCH_MIN ... CORACQ_CAP_HBACK_PORCH_MAX, and must be a multiple of CORACQ_CAP_HBACK_PORCH_MULT.
CCA Entry	[Signal Timings] Horizontal Back Porch

CORACQ_PRM_HFRONT_INVALID

Description Invalid horizontal portion of the video preceding the horizontal blanking (in pixels/tap).

Type UINT32

Limits This value must be in the range CORACQ_CAP_HFRONT_INVALID_MIN...CORACQ_CAP_HFRONT_INVALID_MAX, and must be a multiple of CORACQ_CAP_HFRONT_INVALID_MULT.

CCA Entry [Signal Timings]
Horizontal Front Invalid

CORACQ_PRM_HFRONT_PORCH

Description The video's horizontal front porch (in pixels/tap). Applies to analog video signals only.

Type UINT32

Limits This value must be in the range CORACQ_CAP_HFRONT_PORCH_MIN...CORACQ_CAP_HFRONT_PORCH_MAX, and must be a multiple of CORACQ_CAP_HFRONT_PORCH_MULT.

CCA Entry [Signal Timings]
Horizontal Front Porch

CORACQ_PRM_HSYNC

Description The video's horizontal sync (in pixels/tap).

Type UINT32

Limits Range limits: CORACQ_CAP_HSYNC_MIN...CORACQ_CAP_HSYNC_MAX, and also must be a multiple of CORACQ_CAP_HSYNC_MULT.

CCA Entry [Signal Timings]
Horizontal Sync

CORACQ_PRM_HSYNC_POLARITY

Description Horizontal sync polarity of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_HSYNC_POLARITY. The capability returns the ORed combination of all supported values.

Values	CORACQ_VAL_ACTIVE_LOW (0x00000001)	Horizontal sync pulse is active low.
	CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Horizontal sync pulse is active high.

CCA Entry [Synchronization Signals]
Horizontal Sync Polarity

CORACQ_PRM_INTERFACE

Description Video source interface type.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_INTERFACE since only one interface type is supported per acquisition device.

Values

CORACQ_VAL_INTERFACE_ANALOG (0x00000001)	Analog video source.
CORACQ_VAL_INTERFACE_DIGITAL (0x00000002)	Digital video source.

CCA Entry [Signal Description]
Interface

CORACQ_PRM_LINE_INTEGRATE_DELAY

Description Obsolete. Use instead the equivalent parameter
CORACQ_PRM_LINE_INTEGRATE_PULSE0_DELAY

CORACQ_PRM_LINE_INTEGRATE_METHOD

Description Method to use for controlling the camera's line integration. Applies to linescan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_LINE_INTEGRATE_METHOD. The capability returns the ORed combination of all supported values.

Values See Line Integrate Methods

CCA Entry [Control Signals]
Line Integrate Method

Note Available only if CORACQ_CAP_LINE_INTEGRATE is TRUE.
Validated only when CORACQ_PRM_LINE_INTEGRATE_ENABLE is TRUE.

CORACQ_PRM_LINE_INTEGRATE_POLARITY

Description Obsolete. Use instead the equivalent parameter
CORACQ_PRM_LINE_INTEGRATE_PULSE0_POLARITY

CORACQ_PRM_LINE_INTEGRATE_PULSE0_DELAY

Description Line integration pulse #0 delay (in pixels). Applies to linescan cameras only.

Type UINT32

Limits Range limits: CORACQ_CAP_LINE_INTEGRATE_PULSE0_DELAY_MIN ...
CORACQ_CAP_LINE_INTEGRATE_PULSE0_DELAY_MAX.

CCA Entry [Control Signals]
Line Integrate Pulse 0 Delay

Note Available only if CORACQ_CAP_LINE_INTEGRATE is TRUE.
Validated only when CORACQ_PRM_LINE_INTEGRATE_ENABLE is TRUE.
See Line Integrate Methods for the different usages of the pulse #0 delay parameter.

CORACQ_PRM_LINE_INTEGRATE_PULSE0_DURATION

Description Line integration pulse #0 width (in pixels). Applies to linescan cameras only.

Type UINT32

Limits Range limits: CORACQ_CAP_LINE_INTEGRATE_PULSE0_DURATION_MIN ...
CORACQ_CAP_LINE_INTEGRATE_PULSE0_DURATION_MAX.

CCA Entry [Control Signals]
Line Integrate Pulse 0 Duration

Note Available only if CORACQ_CAP_LINE_INTEGRATE is TRUE.
Validated only when CORACQ_PRM_LINE_INTEGRATE_ENABLE is TRUE.
See Line Integrate Methods for the different usages of the pulse #0 duration parameter.

CORACQ_PRM_LINE_INTEGRATE_PULSE0_POLARITY

Description Line integration pulse #0 polarity. Applies to linescan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_LINE_INTEGRATE_PULSE0_POLARITY. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_ACTIVE_LOW (0x00000001)	Time integration trigger pulse is active low.
CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Time integration trigger pulse is active high.

CCA Entry [Control Signals]
Line Integrate Pulse 0 Polarity

Note Available only if CORACQ_CAP_LINE_INTEGRATE is TRUE.
Validated only when CORACQ_PRM_LINE_INTEGRATE_ENABLE is TRUE.
See Line Integrate Methods for the different usages of the pulse #0.

CORACQ_PRM_LINE_INTEGRATE_PULSE1_DELAY

Description	Line integration pulse #1 delay (in pixels). Applies to linescan cameras only.	
Type	UINT32	
Limits	Range limits: CORACQ_CAP_LINE_INTEGRATE_PULSE1_DELAY_MIN ... CORACQ_CAP_LINE_INTEGRATE_PULSE1_DELAY_MAX.	
CCA Entry	[Control Signals] Line Integrate Pulse 1 Delay	
Note	Available only if CORACQ_CAP_LINE_INTEGRATE is TRUE. Validated only when CORACQ_PRM_LINE_INTEGRATE_ENABLE is TRUE. See Line Integrate Methods for the different usages of the pulse #1 delay parameter.	

CORACQ_PRM_LINE_INTEGRATE_PULSE1_DURATION

Description	Line integration pulse #1 width (in pixels). Applies to linescan cameras only.	
Type	UINT32	
Limits	Range limits: CORACQ_CAP_LINE_INTEGRATE_PULSE1_DURATION_MIN ... CORACQ_CAP_LINE_INTEGRATE_PULSE1_DURATION_MAX.	
CCA Entry	[Control Signals] Line Integrate Pulse 1 Duration	
Note	Available only if CORACQ_CAP_LINE_INTEGRATE is TRUE. Validated only when CORACQ_PRM_LINE_INTEGRATE_ENABLE is TRUE. See Line Integrate Methods for the different usages of the pulse #1 duration parameter.	

CORACQ_PRM_LINE_INTEGRATE_PULSE1_POLARITY

Description	Line integration pulse #1 polarity. Applies to linescan cameras only.	
Type	UINT32	
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_LINE_INTEGRATE_PULSE1_POLARITY. The capability returns the ORed combination of all supported values.	
Values	CORACQ_VAL_ACTIVE_LOW (0x00000001)	Line integration trigger pulse is active low.
	CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Line integration trigger pulse is active high.
CCA Entry	[Control Signals] Line Integrate Pulse 1 Polarity	
Note	Available only if CORACQ_CAP_LINE_INTEGRATE is TRUE. Validated only when CORACQ_PRM_LINE_INTEGRATE_ENABLE is TRUE. See Line Integrate Methods for the different usages of the pulse #1.	

CORACQ_PRM_LINE_TRIGGER_DELAY

Description Line trigger pulse delay (in pixels). Applies to linescan cameras only.

Type UINT32

Limits Range limits: CORACQ_CAP_LINE_TRIGGER_DELAY_MIN ...
CORACQ_CAP_LINE_TRIGGER_DELAY_MAX.

CCA Entry [Control Signals]
Line Trigger Delay

Note Available only if CORACQ_CAP_LINE_TRIGGER is TRUE.
Validated only when CORACQ_PRM_LINE_TRIGGER_ENABLE is TRUE.
See Line Trigger Methods for the different usages of the trigger delay parameter.

CORACQ_PRM_LINE_TRIGGER_DURATION

Description Line Trigger pulse width (in pixels). Applies to linescan cameras only.

Type UINT32

Limits Range limits: CORACQ_CAP_LINE_TRIGGER_DURATION_MIN ...
CORACQ_CAP_LINE_TRIGGER_DURATION_MAX.

CCA Entry [Control Signals]
Line Trigger Duration

Note Available only if CORACQ_CAP_LINE_TRIGGER is TRUE.
Validated only when CORACQ_PRM_LINE_TRIGGER_ENABLE is TRUE.
See Line Trigger Methods for the different usages of the trigger duration parameter.

CORACQ_PRM_LINE_TRIGGER_METHOD

Description Line trigger pulse output method. Applies to linescan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_LINE_TRIGGER_METHOD. The capability returns the ORed combination of all supported values.

Values See Line Trigger Methods

CCA Entry [Control Signals]
Line Trigger Method

Note Available only if CORACQ_CAP_LINE_TRIGGER is TRUE.
Validated only when CORACQ_PRM_LINE_TRIGGER_ENABLE is TRUE.

CORACQ_PRM_LINE_TRIGGER_POLARITY

Description	Line trigger pulse polarity. Applies to linescan cameras only.	
Type	UINT32	
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_LINE_TRIGGER_POLARITY. The capability returns the ORed combination of all supported values.	
Values	CORACQ_VAL_ACTIVE_LOW (0x00000001)	Line trigger pulse is active low.
	CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Line trigger pulse is active high.
CCA Entry	[Control Signals] Line Trigger Polarity	
Note	Available only if CORACQ_CAP_LINE_TRIGGER is TRUE. Validated only when CORACQ_PRM_LINE_TRIGGER_ENABLE is TRUE.	

CORACQ_PRM_LINESCAN_DIRECTION

Description	Specifies if the camera has a direction scan input control.
Type	UINT32
Values	TRUE (0x00000001), Camera has a direction scan input control.
	FALSE (0x00000000), Camera does not have a direction scan input control.
CCA Entry	[Control Signals] LineScan Direction
Note	Applies to linescan cameras only. On DALSA cameras, this control is called the TDI scan direction.

CORACQ_PRM_LINESCAN_DIRECTION_POLARITY

Description	Camera direction scan signal polarity. Applies to linescan cameras only.	
Type	UINT32	
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_LINESCAN_DIRECTION_POLARITY. The capability returns the ORed combination of all supported values.	
Values	CORACQ_VAL_ACTIVE_LOW (0x00000001)	Forward direction scan signal is active low.
	CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Forward direction scan signal is active high.
CCA Entry	[Control Signals] LineScan Direction Polarity	
Note	This value is only available if CORACQ_CAP_LINESCAN_DIRECTION is TRUE.	

CORACQ_PRM_PIXEL_CLK_11

Description Pixel clock frequency (in Hz) so that the camera image has a 1:1 aspect ratio.

Type UINT32

Limits 1.. (2**32) – 1

CCA Entry [Pixel Clock]
Pixel Clock Frequency 1:1

Note This value is only given as information.
Useful to accurately calculate distances between objects from an acquired image.

CORACQ_PRM_PIXEL_CLK_DETECTION

Description Specifies the type of pixel clock detection of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_PIXEL_CLK_DETECTION. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_RISING_EDGE (0x00000004)	Sampling of a pixel is done on the rising edge of the pixel clock.
CORACQ_VAL_FALLING_EDGE (0x00000008)	Sampling of a pixel is done on the falling edge of the pixel clock.

CCA Entry [Pixel Clock]
Pixel Clock Detection

CORACQ_PRM_PIXEL_CLK_EXT

Description External pixel clock frequency (in Hz).

Type UINT32

Limits The value must be in the range
CORACQ_CAP_PIXEL_CLK_EXT_MIN...CORACQ_CAP_PIXEL_CLK_EXT_MAX.

CCA Entry [Pixel Clock]
Pixel Clock Frequency External

Note Validated only if CORACQ_PRM_PIXEL_CLK_SRC specifies that an external pixel clock is needed.

CORACQ_PRM_PIXEL_CLK_INT

Description Internal pixel clock frequency (in Hz).

Type UINT32

Limits The value must be in the range
CORACQ_CAP_PIXEL_CLK_INT_MIN...CORACQ_CAP_PIXEL_CLK_INT_MAX.

CCA Entry [Pixel Clock]
Pixel Clock Frequency Internal

Note This value is validated only if CORACQ_PRM_PIXEL_CLK_SRC specifies that an internal pixel clock is needed.

CORACQ_PRM_PIXEL_CLK_SRC

Description Specifies the source of the acquisition device pixel clock.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_PIXEL_CLK_SRC. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_PIXEL_CLK_SRC_INT (0x00000001)	Internal pixel clock.
CORACQ_VAL_PIXEL_CLK_SRC_EXT (0x00000002)	External pixel clock.
CORACQ_VAL_PIXEL_CLK_SRC_EXT_INT (0x00000004)	The external pixel clock is used while the acquisition device simultaneously outputs its own internal pixel clock for other use.

CCA Entry [Pixel Clock]
Pixel Clock Source

CORACQ_PRM_PIXEL_DEPTH

Description Pixel depth of the digitized video.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_PIXEL_DEPTH.

This capability returns a structure of the following type:

```
typedef struct
{
  UINT32 pixelDepth;
  UINT32 numberOfLuts;
  UINT32 lutFormat;
} CAP_PIXEL_DEPTH;
CAP_PIXEL_DEPTH capPixelDepth[42];
```

A device can support up to 42 different combination. The end of the list is reached when the pixel depth value is 0.

pixelDepth: pixel depth in bits.
numberOfLuts: number of LUTs available
lutFormat: LUT format.

CCA Entry [Signal Description]
Pixel Depth

Note For analog cameras, this parameter is read-only and represents the number of bits digitized by the acquisition device's A/D.

CORACQ_PRM_SCAN

Description Video source scan type.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_SCAN. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_SCAN_AREA (0x00000001)	Area scan video source.
CORACQ_VAL_SCAN_LINE (0x00000002)	Linescan video source.

CCA Entry [Signal Description]
Scan

CORACQ_PRM_SIGNAL

Description Video source signal type.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_SIGNAL. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_SIGNAL_SINGLE_ENDED (0x00000001)	Single ended signal.
CORACQ_VAL_SIGNAL_DIFFERENTIAL (0x00000002)	Differential signal.

CCA Entry [Signal Description]
Signal

CORACQ_PRM_SYNC

Description Synchronization source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_SYNC. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_SYNC_COMP_VIDEO (0x00000001), Composite video source.

CORACQ_VAL_SYNC_COMP_SYNC (0x00000002), Composite sync source.

CORACQ_VAL_SYNC_SEP_SYNC (0x00000004),
Separate horizontal and vertical sync source.

CORACQ_VAL_SYNC_INT_SYNC (0x00000008)
Internal horizontal and vertical syncs generated by the acquisition device.
See also CORACQ_PRM_MASTER_MODE.

CORACQ_VAL_SYNC_RED (0x00000010),
Composite video source from the red channel.

CORACQ_VAL_SYNC_GREEN (0x00000020),
Composite video source from the green channel.

CORACQ_VAL_SYNC_BLUE (0x00000040)
Composite video source from the blue channel.

CCA Entry [Synchronization Signals]
Synchronization Source

CORACQ_PRM_TAP_1_DIRECTION

Description Specifies the direction of tap #1 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_TAP_DIRECTION_LR (0x00000001)
Pixels from the tap have a left to right order.

CORACQ_VAL_TAP_DIRECTION_RL (0x00000002)
Pixels from the tap have a right to left order.

CORACQ_VAL_TAP_DIRECTION_UD (0x00000004)
Lines from the tap have a top-bottom direction (up-down).

CORACQ_VAL_TAP_DIRECTION_DU (0x00000008)
Lines from the tap have a bottom-up direction (down-up).

CORACQ_VAL_TAP_DIRECTION_FROM_TOP (0x00000010)
Lines from the tap start at the top of the camera image.

CORACQ_VAL_TAP_DIRECTION_FROM_MID (0x00000020)
Lines from the tap start in the middle of the camera image.

CORACQ_VAL_TAP_DIRECTION_FROM_BOT (0x00000040)
Lines from the tap start at the bottom of the camera image.

CCA Entry [Signal Description]
Tap 1 Direction

CORACQ_PRM_TAP_2_DIRECTION

Description Specifies the direction of tap #2 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION.

CCA Entry [Signal Description]
Tap 2 Direction

CORACQ_PRM_TAP_3_DIRECTION

Description Specifies the direction of tap #3 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION

CCA Entry [Signal Description]
Tap 3 Direction

CORACQ_PRM_TAP_4_DIRECTION

Description Specifies the direction of tap #4 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION.

CCA Entry [Signal Description]
Tap 4 Direction

CORACQ_PRM_TAP_5_DIRECTION

Description Specifies the direction of tap #5 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION.

CCA Entry [Signal Description]
Tap 5 Direction

CORACQ_PRM_TAP_6_DIRECTION

Description Specifies the direction of tap #6 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION

CCA Entry [Signal Description]
Tap 6 Direction

CORACQ_PRM_TAP_7_DIRECTION

Description	Specifies the direction of tap #7 of the video source.
Type	UINT32
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.
Values	See CORACQ_PRM_TAP_1_DIRECTION
CCA Entry	[Signal Description] Tap 7 Direction

CORACQ_PRM_TAP_8_DIRECTION

Description	Specifies the direction of tap #8 of the video source.
Type	UINT32
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.
Values	See CORACQ_PRM_TAP_1_DIRECTION.
CCA Entry	[Signal Description] Tap 8 Direction

CORACQ_PRM_TAP_9_DIRECTION

Description	Specifies the direction of tap #9 of the video source.
Type	UINT32
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.
Values	See CORACQ_PRM_TAP_1_DIRECTION
CCA Entry	[Signal Description] Tap 9 Direction

CORACQ_PRM_TAP_10_DIRECTION

Description	Specifies the direction of tap #10 of the video source.
Type	UINT32
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.
Values	See CORACQ_PRM_TAP_1_DIRECTION
CCA Entry	[Signal Description] Tap 10 Direction

CORACQ_PRM_TAP_11_DIRECTION

Description Specifies the direction of tap #11 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION

CCA Entry [Signal Description]
Tap 11 Direction

CORACQ_PRM_TAP_12_DIRECTION

Description Specifies the direction of tap #12 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION

CCA Entry [Signal Description]
Tap 12 Direction

CORACQ_PRM_TAP_13_DIRECTION

Description Specifies the direction of tap #13 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION

CCA Entry [Signal Description]
Tap 13 Direction

CORACQ_PRM_TAP_14_DIRECTION

Description Specifies the direction of tap #14 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION

CCA Entry [Signal Description]
Tap 14 Direction

CORACQ_PRM_TAP_15_DIRECTION

Description Specifies the direction of tap #15 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION

CCA Entry [Signal Description]
Tap 15 Direction

CORACQ_PRM_TAP_16_DIRECTION

Description Specifies the direction of tap #16 of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_DIRECTION. The capability returns the ORed combination of all supported values.

Values See CORACQ_PRM_TAP_1_DIRECTION

CCA Entry [Signal Description]
Tap 16 Direction

CORACQ_PRM_TAP_OUTPUT

Description Specifies the tap output type of the video source.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TAP_OUTPUT. The capability returns the ORed combination of all supported values.

Values CORACQ_VAL_TAP_OUTPUT_ALTERNATE (0x00000001)
Construction of a line is done by concatenating the taps 2 by 2, with a pixel in turn from each tap. So the first two taps makes up the first segment of the line, the next two taps make up the second segment… Must be an even number of tabs.

CORACQ_VAL_TAP_OUTPUT_SEGMENTED (0x00000002)
Construction of a line is done by concatenating the output of each tap.

CORACQ_VAL_TAP_OUTPUT_PARALLEL (0x00000004)
Construction of a line is done by concatenating a pixel in turn from each tap.

CCA Entry [Signal Description]
Tap Output

CORACQ_PRM_TAPS

Description Number of taps output by the video source.

Type UINT32

Limits This value must be in the range 1..CORACQ_CAP_TAPS.

CCA Entry [Signal Description]
Taps

CORACQ_PRM_TIMESLOT

Description Number of pixel clocks needed to output 1 pixel on every tap

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device (seen below) given by CORACQ_CAP_TIMESLOT

Values CORACQ_VAL_TIMESLOT_1 (0x01):
for each pixel clock, a pixel from each tap is output (default)

CORACQ_VAL_TIMESLOT_2 (0x02):
2 pixel clock cycles are needed to output 1 pixel from each tap

CORACQ_VAL_TIMESLOT_3 (0x04):
3 pixel clock cycles are needed to output 1 pixel from each tap

CORACQ_VAL_TIMESLOT_4 (0x08):
4 pixel clock cycles are needed to output 1 pixel from each tap

CCA Entry [Signal Description]
Timeslot

CORACQ_PRM_TIME_INTEGRATE_METHOD

Description Method to use to control a camera’s time integration. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TIME_INTEGRATE_METHOD. The capability returns the ORed combination of all supported values.

Values See Time Integrate Methods

CCA Entry [Control Signals]
Time Integrate Method

Note Available only if CORACQ_CAP_TIME_INTEGRATE is TRUE.
CORACQ_CAP_TIME_INTEGRATE is obsolete. Use the equivalent parameter CORACQ_CAP_TIME_INTEGRATE_PULSE0_POLARITY.

CORACQ_CAP_TIME_INTEGRATE_PULSE0_POLARITY Values:
CORACQ_VAL_ACTIVE_LOW
Time integration trigger pulse can be active low.
CORACQ_VAL_ACTIVE_HIGH
Time integration trigger pulse can be active high.

Validated only when CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE.

CORACQ_PRM_TIME_INTEGRATE_POLARITY

Description Obsolete. Use instead the equivalent parameter CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY

CORACQ_PRM_TIME_INTEGRATE_PULSE_DELAY

Description Obsolete. Use instead the equivalent parameter CORACQ_PRM_TIME_INTEGRATE_PULSE1_DELAY

CORACQ_PRM_TIME_INTEGRATE_PULSE_DURATION

Description Obsolete. Use instead the equivalent parameter CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION

CORACQ_PRM_TIME_INTEGRATE_PULSE_POLARITY

Description Obsolete. Use instead the equivalent parameter CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY

CORACQ_PRM_TIME_INTEGRATE_PULSE0_DELAY

Description Time integration pulse #0 delay (in µs). Applies to area scan cameras only.

Type UINT32

Limits Range limits: CORACQ_CAP_TIME_INTEGRATE_PULSE0_DELAY_MIN ... CORACQ_CAP_TIME_INTEGRATE_PULSE0_DELAY_MAX.

CCA Entry [Control Signals]
Time Integrate Pulse 0 Delay

Note Available only if CORACQ_CAP_TIME_INTEGRATE is TRUE.
Validated only when CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE.
See Time Integrate Methods for the different usages of the pulse #0 delay parameter.

CORACQ_PRM_TIME_INTEGRATE_PULSE0_DURATION

Description Time integration pulse #0 width (in µs). Applies to area scan cameras only.

Type UINT32

Limits Range limits: CORACQ_CAP_TIME_INTEGRATE_PULSE0_DURATION_MIN ... CORACQ_CAP_TIME_INTEGRATE_PULSE0_DURATION_MAX.

CCA Entry [Control Signals]
Time Integrate Pulse 0 Duration

Note Available only if CORACQ_CAP_TIME_INTEGRATE is TRUE.
Validated only when CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE.
See Time Integrate Methods for the different usages of the pulse #0 duration parameter.

CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY

Description	Time integration pulse #0 polarity. Applies to area scan cameras only.
Type	UINT32
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TIME_INTEGRATE_PULSE0_POLARITY. The capability returns the ORed combination of all supported values. See CORACQ_PRM_TIME_INTEGRATE_METHOD for further information on CORACQ_CAP_TIME_INTEGRATE_PULSE0_POLARITY.
Values	CORACQ_VAL_ACTIVE_LOW (0x00000001), Time integration pulse is active low. CORACQ_VAL_ACTIVE_HIGH (0x00000002), Time integration pulse is active high.
CCA Entry	[Control Signals] Time Integrate Pulse 0 Polarity
Note	Available only if CORACQ_CAP_TIME_INTEGRATE is TRUE. Validated only when CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE. See Time Integrate Methods for the different usages of the pulse #0.

CORACQ_PRM_TIME_INTEGRATE_PULSE1_DELAY

Description	Time integration pulse #1 delay (in µs). Applies to area scan cameras only.
Type	UINT32
Limits	Range limits CORACQ_CAP_TIME_INTEGRATE_PULSE1_DELAY_MIN ... CORACQ_CAP_TIME_INTEGRATE_PULSE1_DELAY_MAX.
CCA Entry	[Control Signals] Time Integrate Pulse 1 Delay
Note	Available only if CORACQ_CAP_TIME_INTEGRATE is TRUE. Validated only when CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE. See Time Integrate Methods for the different usages of the pulse #1 delay parameter.

CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION

Description	Time integration pulse #1 width (in µs). Applies to area scan cameras only.
Type	UINT32
Limits	Range limits: CORACQ_CAP_TIME_INTEGRATE_PULSE1_DURATION_MIN ... CORACQ_CAP_TIME_INTEGRATE_PULSE1_DURATION_MAX.
CCA Entry	[Control Signals] Time Integrate Pulse 1 Duration
Note	Available only if CORACQ_CAP_TIME_INTEGRATE is TRUE. Validated only when CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE. See Time Integrate Methods for the different usages of the pulse #1 duration parameter.

CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY

Description	Time integration pulse #1 polarity. Applies to area scan cameras only.	
Type	UINT32	
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_TIME_INTEGRATE_PULSE1_POLARITY. The capability returns the ORed combination of all supported values.	
Values	CORACQ_VAL_ACTIVE_LOW (0x00000001)	Time integration trigger pulse is active low.
	CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Time integration trigger pulse is active high.
CCA Entry	[Control Signals] Time Integrate Pulse 1 Polarity	
Note	Available only if CORACQ_CAP_TIME_INTEGRATE is TRUE. Validated only when CORACQ_PRM_TIME_INTEGRATE_ENABLE is TRUE. See Time Integrate Methods for the different usages of the pulse #1.	

CORACQ_PRM_TRIGGER_EXP_SIGNAL

Description	Obsolete. Use CORACQ_PRM_CONNECTOR_xxx parameters to describe the pinout of the camera.

CORACQ_PRM_VACTIVE

Description	Vertical active portion of the video (in lines per field). Applies to area scan cameras only.
Type	UINT32
Limits	Range limits: CORACQ_CAP_VACTIVE_MIN ... CORACQ_CAP_VACTIVE_MAX, and also must be a multiple of CORACQ_CAP_VACTIVE_MULT.
CCA Entry	[Signal Timings] Vertical Active

CORACQ_PRM_VBACK_INVALID

Description	Invalid vertical portion of the video following the vertical blanking (in lines per field). Applies to area scan cameras only.
Type	UINT32
Limits	Range limits: CORACQ_CAP_VBACK_INVALID_MIN ... CORACQ_CAP_VBACK_INVALID_MAX, and must be a multiple of CORACQ_CAP_VBACK_INVALID_MULT.
CCA Entry	[Signal Timings] Vertical Back Invalid

CORACQ_PRM_VBACK_PORCH

Description Vertical back porch portion of the video (in lines per field). Applies to analog video signals only.

Type UINT32

Limits Range limits: CORACQ_CAP_VBACK_PORCH_MIN ...
CORACQ_CAP_VBACK_PORCH_MAX, and must be a multiple of
CORACQ_CAP_VBACK_PORCH_MULT.

CCA Entry [Signal Timings]
Vertical Back Porch

CORACQ_PRM_VFRONT_INVALID

Description Invalid vertical portion of the video preceding the vertical blanking (in lines per field). Applies to area scan cameras only.

Type UINT32

Limits Range limits: CORACQ_CAP_VFRONT_INVALID_MIN ...
CORACQ_CAP_VFRONT_INVALID_MAX, and must be a multiple of
CORACQ_CAP_VFRONT_INVALID_MULT.

CCA Entry [Signal Timings]
Vertical Front Invalid

CORACQ_PRM_VFRONT_PORCH

Description The video's vertical front porch (in lines per field). Applies to analog video signals only.

Type UINT32

Limits Range limits: CORACQ_CAP_VFRONT_PORCH_MIN ...
CORACQ_CAP_VFRONT_PORCH_MAX, and must be a multiple of
CORACQ_CAP_VFRONT_PORCH_MULT.

CCA Entry [Signal Timings]
Vertical Front Porch

CORACQ_PRM_VIDEO

Description Video source video type.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_VIDEO.

Values

CORACQ_VAL_VIDEO_MONO (0x00000001)	Monochrome composite video source.
CORACQ_VAL_VIDEO_COLOR (0x00000002)	Color composite video source.
CORACQ_VAL_VIDEO_YC (0x00000004)	Y/C video source.
CORACQ_VAL_VIDEO_RGB (0x00000008)	RGB video source.
CORACQ_VAL_VIDEO_BAYER (0x00000010)	Bayer video source.

CCA Entry [Signal Description]
Video

CORACQ_PRM_VIDEO_LEVEL_MAX

Description Maximum value (in µV) of the video signal. Applies to analog video signal only.

Type UINT32

Limits This value must be greater or equal to CORACQ_PRM_VIDEO_LEVEL_MIN and must be in the range: [-(2**31)...(2**31)-1].

CCA Entry [Signal Description]
Video Level Maximum

Note For NTSC/RS-170 video standard signal, this value is usually equal to 714000 µV.
For PAL/CCIR video standard signal, this value is usually equal to 700000 µV.

If CORACQ_PRM_VIDEO_LEVEL_MIN and CORACQ_PRM_VIDEO_LEVEL_MAX are both set to 0, then the following default values will be used:
if PAL/CCIR video standard is selected: min = 0, max = 700000
else min = 53550, max = 714000.

CORACQ_PRM_VIDEO_LEVEL_MIN

Description Minimum value (in µV) of the video signal. Applies to analog video signals only.

Type INT32

Limits This value must be smaller or equal to CORACQ_PRM_VIDEO_LEVEL_MAX and must be in the range: [-(2**31)...(2**31)-1].

CCA Entry [Signal Description]
Video Level Minimum

Note For NTSC/RS-170 video standard signal, this value is usually equal to 53550 µV.
For PAL/CCIR video standard signal, this value is usually equal to 0 µV.

If CORACQ_PRM_VIDEO_LEVEL_MIN and CORACQ_PRM_VIDEO_LEVEL_MAX are both set to 0, then the following default values will be used:
if PAL/CCIR video standard is selected: min = 0, max = 700000
else min = 53550, max = 714000.

CORACQ_PRM_VIDEO_STD

Description Video source video standard.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_VIDEO_STD. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_VIDEO_STD_NON_STD (0x00000001)	Non-standard video source.
CORACQ_VAL_VIDEO_STD_RS170_NTSC (0x00000002)	RS-170 and/or NTSC video source.
CORACQ_VAL_VIDEO_STD_CCIR_PAL (0x00000004)	CCIR and/or PAL video source.
CORACQ_VAL_VIDEO_STD_SECAM (0x00000008)	SECAM video source.

CCA Entry [Signal Description]
Video Standard

CORACQ_PRM_VSYNC

Description The video's vertical sync (in lines per field). Applies to area scan cameras only.

Type UINT32

Limits This value must be in the range CORACQ_CAP_VSYNC_MIN...CORACQ_CAP_VSYNC_MAX, and must be a multiple of CORACQ_CAP_VSYNC_MULT.

CCA Entry [Signal Timings]
Vertical Sync

CORACQ_PRM_VSYNC_POLARITY

Description Vertical sync polarity. Applies to area scan cameras only.

Type UINT32

Limits This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_VSYNC_POLARITY. The capability returns the ORed combination of all supported values.

Values

CORACQ_VAL_ACTIVE_LOW (0x00000001)	Vertical sync pulse is active low.
CORACQ_VAL_ACTIVE_HIGH (0x00000002)	Vertical sync pulse is active high.

CCA Entry [Synchronization Signals]
Vertical Sync Polarity

CORACQ_PRM_WEN_POLARITY

Description	Specifies the WEN (Write ENable) signal polarity that the acquisition device will consider as valid.	
Type	UINT32	
Limits	This value must match one of the supported capabilities of the acquisition device given by CORACQ_CAP_WEN_POLARITY. The capability returns the ORed combination of all supported values.	
Values	CORACQ_VAL_ACTIVE_LOW (0x00000001)	WEN is active low.
	CORACQ_VAL_ACTIVE_HIGH (0x00000002)	WEN is active high.
CCA Entry	[Control Signals] WEN Polarity	
Note	Validated only if CORACQ_PRM_WEN_ENABLE is TRUE.	

Configuration File Formats

Overview

This section covers the format descriptions for the information files describing camera definition parameters (.CCA) and acquisition parameters (.CVI). The camera configuration file (.CCF) is the combination of the .CCA and .CVI files into one file.

These parameters are stored in Sapera camera configuration files which an application loads to initialize the acquisition hardware. Note that all camera related parameters can be individually loaded by the application if a single acquisition source (hard-coded) program is desired.

Sapera LT supplies a number of camera definition files for popular cameras available on the market. The Sapera CamExpert tool simplifies making or modifying Sapera camera files and is described in the *Sapera LT User's* manual. Refer also to the CamExpert online help file and descriptive popup help for the various parameter fields.

Camera Definition File Description (CCA)

Sapera camera files (***.cca**) contain the parameters of specific cameras. Most of the information found in these files is the default settings that should never change for a given camera. Values can be written in decimal (for example, 16) or in hexadecimal (for example, 0x10).

The following tables contain each key name used by camera files. Under normal circumstances each ***.cca** filecontains only the information required for a given camera. Note that the *.cca file contains all Sapera camera related parameters whether they are used or needed by the camera.

Key Name **[General]**	**Related Parameter**
Camera Name	CORACQ_PRM_CAM_NAME
Company Name	CORACQ_PRM_CAM_COMPANY_NAME
Model Name	CORACQ_PRM_CAM_MODEL_NAME
Version	Version of this file. This entry does not correspond to any parameter. 100: Initial Version 200: Formats are now indexes into a fix table independent of the Sapera values 300: Parameter CORACQ_PRM_TIME_INTEGRATE_POLARITY is now called

Key Name [General]	Related Parameter
	CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY 301: New parameters CORACQ_PRM_LINE_INTEGRATE_PULSE_xxx, CORACQ_PRM_VIDEO_LEVEL_MIN/MAX

Key Name [Signal Description]	Related Parameter
Bayer Alignment	CORACQ_PRM_BAYER_ALIGNMENT
Channel	CORACQ_PRM_CHANNEL
Channels Order	CORACQ_PRM_CHANNELS_ORDER
Coupling	CORACQ_PRM_COUPLING
Field Order	CORACQ_PRM_FIELD_ORDER
Frame	CORACQ_PRM_FRAME
Interface	CORACQ_PRM_INTERFACE
Pixel Depth	CORACQ_PRM_PIXEL_DEPTH
Scan	CORACQ_PRM_SCAN
Signal	CORACQ_PRM_SIGNAL
Tap Output	CORACQ_PRM_TAP_OUTPUT
Tap 1 Direction	CORACQ_PRM_TAP_1_DIRECTION
Tap 2 Direction	CORACQ_PRM_TAP_2_DIRECTION
Tap 3 Direction	CORACQ_PRM_TAP_3_DIRECTION
Tap 4 Direction	CORACQ_PRM_TAP_4_DIRECTION
Tap 5 Direction	CORACQ_PRM_TAP_5_DIRECTION
Tap 6 Direction	CORACQ_PRM_TAP_6_DIRECTION
Tap 7 Direction	CORACQ_PRM_TAP_7_DIRECTION
Tap 8 Direction	CORACQ_PRM_TAP_8_DIRECTION
Taps	CORACQ_PRM_TAPS
Video	CORACQ_PRM_VIDEO
Video Level Maximum	CORACQ_PRM_VIDEO_LEVEL_MAX
Video Level Minimum	CORACQ_PRM_VIDEO_LEVEL_MIN
Video Standard	CORACQ_PRM_VIDEO_STD

Key Name [Signal Timings]	Related Parameter
Horizontal Active	CORACQ_PRM_HACTIVE
Horizontal Back Invalid	CORACQ_PRM_HBACK_INVALID

Key Name [Signal Timings]	Related Parameter
Horizontal Back Porch	CORACQ_PRM_HBACK_PORCH
Horizontal Front Invalid	CORACQ_PRM_HFRONT_INVALID
Horizontal Front Porch	CORACQ_PRM_HFRONT_PORCH
Horizontal Sync	CORACQ_PRM_HSYNC
Vertical Active	CORACQ_PRM_VACTIVE
Vertical Back Invalid	CORACQ_PRM_VBACK_INVALID
Vertical Back Porch	CORACQ_PRM_VBACK_PORCH
Vertical Front Invalid	CORACQ_PRM_VFRONT_INVALID
Vertical Front Porch	CORACQ_PRM_VFRONT_PORCH
Vertical Sync	CORACQ_PRM_VSYNC

Key Name [Pixel Clock]	Related Parameter
Pixel Clock Detection	CORACQ_PRM_PIXEL_CLK_DETECTION
Pixel Clock Frequency External	CORACQ_PRM_PIXEL_CLK_EXT
Pixel Clock Frequency Internal	CORACQ_PRM_PIXEL_CLK_INT
Pixel Clock Frequency 1:1	CORACQ_PRM_PIXEL_CLK_11
Pixel Clock Source	CORACQ_PRM_PIXEL_CLK_SRC

Key Name [Synchronization Signals]	Related Parameter
Horizontal Sync Polarity	CORACQ_PRM_HSYNC_POLARITY
Synchronization Source	CORACQ_PRM_SYNC
Vertical Sync Polarity	CORACQ_PRM_VSYNC_POLARITY

Key Name [Control Signals]	Related Parameter
Camera Line Trigger Frequency Maximum	CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MAX
Camera Line Trigger Frequency Minimum	CORACQ_PRM_CAM_LINE_TRIGGER_FREQ_MIN
Camera Reset Duration	CORACQ_PRM_CAM_RESET_DURATION
Camera Reset Method	CORACQ_PRM_CAM_RESET_METHOD
Camera Reset Polarity	CORACQ_PRM_CAM_RESET_POLARITY
Camera Time Integrate	CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MAX

Key Name [Control Signals]	Related Parameter
Duration Maximum	
Camera Time Integrate Duration Minimum	CORACQ_PRM_CAM_TIME_INTEGRATE_DURATION_MIN
Camera Trigger Duration	CORACQ_PRM_CAM_TRIGGER_DURATION
Camera Trigger Method	CORACQ_PRM_CAM_TRIGGER_METHOD
Camera Trigger Polarity	CORACQ_PRM_CAM_TRIGGER_POLARITY
Data Valid Enable	CORACQ_PRM_DATA_VALID_ENABLE
Data Valid Polarity	CORACQ_PRM_DATA_VALID_POLARITY
Frame Integrate Method	CORACQ_PRM_FRAME_INTEGRATE_METHOD
Frame Integrate Polarity	CORACQ_PRM_FRAME_INTEGRATE_POLARITY
Line Integrate Method	CORACQ_PRM_LINE_INTEGRATE_METHOD
Line Integrate Pulse 0 Delay	CORACQ_PRM_LINE_INTEGRATE_PULSE0_DELAY
Line Integrate Pulse 0 Duration	CORACQ_PRM_LINE_INTEGRATE_PULSE0_DURATION
Line Integrate Pulse 0 Polarity	CORACQ_PRM_LINE_INTEGRATE_PULSE0_POLARITY
Line Integrate Pulse 1 Delay	CORACQ_PRM_LINE_INTEGRATE_PULSE1_DELAY
Line Integrate Pulse 1 Duration	CORACQ_PRM_LINE_INTEGRATE_PULSE1_DURATION
Line Integrate Pulse 1 Polarity	CORACQ_PRM_LINE_INTEGRATE_PULSE1_POLARITY
Line Trigger Delay	CORACQ_PRM_LINE_TRIGGER_DELAY
Line Trigger Duration	CORACQ_PRM_LINE_TRIGGER_DURATION
Line Trigger Method	CORACQ_PRM_LINE_TRIGGER_METHOD
Line Trigger Polarity	CORACQ_PRM_LINE_TRIGGER_POLARITY
LineScan Direction	CORACQ_PRM_LINESCAN_DIRECTION
LineScan Direction Polarity	CORACQ_PRM_LINESCAN_DIRECTION_POLARITY
Time Integrate Method	CORACQ_PRM_TIME_INTEGRATE_METHOD
Time Integrate Pulse 0 Delay	CORACQ_PRM_TIME_INTEGRATE_PULSE0_DELAY
Time Integrate Pulse 0 Duration	CORACQ_PRM_TIME_INTEGRATE_PULSE0_DURATION
Time Integrate Pulse 0 Polarity	CORACQ_PRM_TIME_INTEGRATE_PULSE0_POLARITY
Time Integrate Pulse 1 Delay	CORACQ_PRM_TIME_INTEGRATE_PULSE1_DELAY
Time Integrate Pulse 1 Duration	CORACQ_PRM_TIME_INTEGRATE_PULSE1_DURATION
Time Integrate Pulse 1 Polarity	CORACQ_PRM_TIME_INTEGRATE_PULSE1_POLARITY
WEN Polarity	CORACQ_PRM_WEN_POLARITY

Key Name [Connector Description]	Related Parameter
Camera Link Configuration	CORACQ_PRM_CAMLINK_CONFIGURATION

Key Name [Connector Description]	Related Parameter
Exposure Input	CORACQ_PRM_CONNECTOR_EXPOSURE_INPUT
HD Input	CORACQ_PRM_CONNECTOR_HD_INPUT
Line Integrate Input	CORACQ_PRM_CONNECTOR_LINE_INTEGRATE_INPUT
Line Trigger Input	CORACQ_PRM_CONNECTOR_LINE_TRIGGER_INPUT
Linescan Direction Input	CORACQ_PRM_CONNECTOR_LINESCAN_DIRECTION_INPUT
Pixel Clock Output	CORACQ_PRM_CONNECTOR_PIXEL_CLK_OUTPUT
Reset/Trigger Input	CORACQ_PRM_CONNECTOR_RESET_TRIGGER_INPUT
VD Input	CORACQ_PRM_CONNECTOR_VD_INPUT
WEN Output	CORACQ_PRM_CONNECTOR_WEN_OUTPUT

Key Name [Custom Camera IO Control Signals]	Related Parameter
Max Control	This entry does not correspond to any parameter. The entry represents the number of custom I/O control defined in this section of the CCA file. ex. Max Control = 4
Control_0	CORACQ_PRM_CAM_IO_CONTROL This entry has the following format: label, bits, level, input/output, polarity, default label: user defined descriptive label of the camera control (for example, BIN) bits: number of bits used by this control level: TTL/RS-422 input/output: direction of the control polarity: active high/low default: default value pin(optional): pin connector description ex. Control_1=CC1, 1, 2, 2, 2, 1 Control_0=CC1, 1, 2, 2, 2, 1,0x01020001 Control_1=CC2, 1, 2, 2, 2, 1,0x01020002 Control_2=CC3, 1, 2, 2, 2, 1,0x01020003 Control_3=CC4, 1, 2, 2, 2, 1,0x01020004 see also CORACQ_CAM_IO_CONTROL see also Pin Connector Description
Control_31	Control_31, 1, 2, 2, 2, 0 or Control_31,1,2,2,2,0,0x01020001

VIC Parameter File Description (CVI)

VIC parameter files (***.cvi**) contain the VIC settings for a specific acquisition module. Values can be written in decimal (for example, 16) or in hexadecimal (for example, 0x10). The following tables contain the key names used by the VIC parameter files.

Key Name [General]	Related Parameter
Vic Name	CORACQ_PRM_VIC_NAME
Version	Version of this file. This entry does not correspond to any parameter. 100: Initial Version 200: Formats are now indexes into a fix table independent of the Sapera values 300: New Parameters CORACQ_PRM_SHARED_xxx, CORACQ_PRM_FRAME_LENGTH, CORACQ_PRM_INT_FRAME_TRIGGER_xxx, CORACQ_PRM_EXT_TRIGGER_FRAME_COUNT

Key Name [Input]	Related Parameter
Bit Ordering	CORACQ_PRM_BIT_ORDERING
Camera selector	CORACQ_PRM_CAMSEL
Planar Input Sources	CORACQ_PRM_PLANAR_INPUT_SOURCES

Key Name [Signal Conditioning]	Related Parameter
Brightness	CORACQ_PRM_BRIGHTNESS
Brightness Red	CORACQ_PRM_BRIGHTNESS_RED
Brightness Green	CORACQ_PRM_BRIGHTNESS_GREEN
Brightness Blue	CORACQ_PRM_BRIGHTNESS_BLUE
Contrast	CORACQ_PRM_CONTRAST
Contrast Red	CORACQ_PRM_CONTRAST_RED
Contrast Green	CORACQ_PRM_CONTRAST_GREEN
Contrast Blue	CORACQ_PRM_CONTRAST_BLUE
DC Restoration Mode	CORACQ_PRM_DC_REST_MODE
DC Restoration Start	CORACQ_PRM_DC_REST_START
DC Restoration Width	CORACQ_PRM_DC_REST_WIDTH
Fix Filter Enable	CORACQ_PRM_FIX_FILTER_ENABLE
Fix Filter Selector	CORACQ_PRM_FIX_FILTER_SELECTOR

Key Name [Signal Conditioning]	Related Parameter
Hue	CORACQ_PRM_HUE
Programmable Filter Enable	CORACQ_PRM_PROG_FILTER_ENABLE
Programmable Filter Frequency	CORACQ_PRM_PROG_FILTER_FREQ
Saturation	CORACQ_PRM_SATURATION
Sharpness	CORACQ_PRM_SHARPNESS

Key Name [Stream Conditioning]	Related Parameter
Bayer Decoder Enable	CORACQ_PRM_BAYER_DECODER_ENABLE
Bayer Decoder Method	CORACQ_PRM_BAYER_DECODER_METHOD
Bayer Decoder White Balance Gain Red	CORACQ_PRM_BAYER_DECODER_WB_GAIN_RED
Bayer Decoder White Balance Gain Green	CORACQ_PRM_BAYER_DECODER_WB_GAIN_GREEN
Bayer Decoder White Balance Gain Blue	CORACQ_PRM_BAYER_DECODER_WB_GAIN_BLUE
Bayer Decoder White Balance Offset Red	CORACQ_PRM_BAYER_DECODER_WB_OFFSET_RED
Bayer Decoder White Balance Offset Green	CORACQ_PRM_BAYER_DECODER_WB_OFFSET_GREEN
Bayer Decoder White Balance Offset Blue	CORACQ_PRM_BAYER_DECODER_WB_OFFSET_BLUE
Crop Left	CORACQ_PRM_CROP_LEFT
Crop Top	CORACQ_PRM_CROP_TOP
Crop Height	CORACQ_PRM_CROP_HEIGHT
Crop Width	CORACQ_PRM_CROP_WIDTH
Decimate Count	CORACQ_PRM_DECIMATE_COUNT
Decimate Method	CORACQ_PRM_DECIMATE_METHOD
External Trigger Frame Count	CORACQ_PRM_EXT_TRIGGER_FRAME_COUNT
Frame Length	CORACQ_PRM_FRAME_LENGTH
Horizontal Sync Reference	CORACQ_PRM_HSYNC_REF
Lut Enable	CORACQ_PRM_LUT_ENABLE
Lut Number	CORACQ_PRM_LUT_NUMBER
Pixel Mask	CORACQ_PRM_PIXEL_MASK
Scale Horizontal	CORACQ_PRM_SCALE_HORZ
Scale Horizontal Method	CORACQ_PRM_SCALE_HORZ_METHOD

Key Name [Stream Conditioning]	Related Parameter
Scale Vertical	CORACQ_PRM_SCALE_VERT
Scale Vertical Method	CORACQ_PRM_SCALE_VERT_METHOD
Snap Count	CORACQ_PRM_SNAP_COUNT
Vertical Sync Reference	CORACQ_PRM_VSYNC_REF

Key Name [Control Signals]	Related Parameter
Camera Control Pulse 0 HD Align	CORACQ_PRM_CAM_CONTROL_PULSE0_HD_ALIGN
Camera Control Pulse 1 HD Align	CORACQ_PRM_CAM_CONTROL_PULSE1_HD_ALIGN
Camera Reset Delay	CORACQ_PRM_CAM_RESET_DELAY
Camera Reset Enable	CORACQ_PRM_CAM_RESET_ENABLE
Camera Trigger Delay	CORACQ_PRM_CAM_TRIGGER_DELAY
Camera Trigger Enable	CORACQ_PRM_CAM_TRIGGER_ENABLE
Control Signal Output 1	CORACQ_PRM_CONTROL_SIGNAL_OUTPUT1
Control Signal Output 2	CORACQ_PRM_CONTROL_SIGNAL_OUTPUT2
External Frame Trigger Detection	CORACQ_PRM_EXT_FRAME_TRIGGER_DETECTION
External Frame Trigger Enable	CORACQ_PRM_EXT_FRAME_TRIGGER_ENABLE
External Frame Trigger Level	CORACQ_PRM_EXT_FRAME_TRIGGER_LEVEL
External Frame Trigger Source	CORACQ_PRM_EXT_FRAME_TRIGGER_SOURCE
External Line Trigger Detection	CORACQ_PRM_EXT_LINE_TRIGGER_DETECTION
External Line Trigger Enable	CORACQ_PRM_EXT_LINE_TRIGGER_ENABLE
External Line Trigger Level	CORACQ_PRM_EXT_LINE_TRIGGER_LEVEL
External Line Trigger Source	CORACQ_PRM_EXT_LINE_TRIGGER_SOURCE
External Trigger Detection	CORACQ_PRM_EXT_TRIGGER_DETECTION
External Trigger Duration	CORACQ_PRM_EXT_TRIGGER_DURATION
External Trigger Enable	CORACQ_PRM_EXT_TRIGGER_ENABLE
External Trigger Ignore Delay	CORACQ_PRM_EXT_TRIGGER_IGNORE_DELAY
External Trigger Level	CORACQ_PRM_EXT_TRIGGER_LEVEL
External Trigger Source	CORACQ_PRM_EXT_TRIGGER_SOURCE
Frame Integrate Count	CORACQ_PRM_FRAME_INTEGRATE_COUNT
Frame Integrate Enable	CORACQ_PRM_FRAME_INTEGRATE_ENABLE
Internal Frame Trigger Enable	CORACQ_PRM_INT_FRAME_TRIGGER_ENABLE
Internal Frame Trigger Freq	CORACQ_PRM_INT_FRAME_TRIGGER_FREQ
Internal Line Trigger Enable	CORACQ_PRM_INT_LINE_TRIGGER_ENABLE
Internal Line Trigger Freq	CORACQ_PRM_INT_LINE_TRIGGER_FREQ

Key Name [Control Signals]	Related Parameter
Line Integrate Duration	CORACQ_PRM_LINE_INTEGRATE_DURATION
Line Integrate Enable	CORACQ_PRM_LINE_INTEGRATE_ENABLE
Line Trigger Enable	CORACQ_PRM_LINE_TRIGGER_ENABLE
LineScan Direction Output	CORACQ_PRM_LINESCAN_DIRECTION_OUTPUT
Master Mode	CORACQ_PRM_MASTER_MODE
Master Mode Horizontal Sync Polarity	CORACQ_PRM_MASTER_MODE_HSYNC_POLARITY
Master Mode Vertical Sync Polarity	CORACQ_PRM_MASTER_MODE_VSYNC_POLARITY
Shaft Encoder Enable	CORACQ_PRM_SHAFT_ENCODER_ENABLE
Shaft Encoder Level	CORACQ_PRM_SHAFT_ENCODER_LEVEL
Shaft Encoder Pulse Drop	CORACQ_PRM_SHAFT_ENCODER_DROP
Strobe Delay	CORACQ_PRM_STROBE_DELAY
Strobe Delay 2	CORACQ_PRM_STROBE_DELAY_2
Strobe Duration	CORACQ_PRM_STROBE_DURATION
Strobe Enable	CORACQ_PRM_STROBE_ENABLE
Strobe Level	CORACQ_PRM_STROBE_LEVEL
Strobe Method	CORACQ_PRM_STROBE_METHOD
Strobe Polarity	CORACQ_PRM_STROBE_POLARITY
Time Integrate Delay	CORACQ_PRM_TIME_INTEGRATE_DELAY
Time Integrate Duration	CORACQ_PRM_TIME_INTEGRATE_DURATION
Time Integrate Enable	CORACQ_PRM_TIME_INTEGRATE_ENABLE
Vertical Timeout Delay	CORACQ_PRM_VERTICAL_TIMEOUT_DELAY
WEN Enable	CORACQ_PRM_WEN_ENABLE

Key Name [Output]	Related Parameter	
Output Enable	CORACQ_PRM_OUTPUT_ENABLE	
Output Format	1: Mono 8 3: Mono 16 7: Mono 32 10: RGB5551 11: RGB565 12: RGB888 13: RGB8888 14: RGB101010	15: RGB161616 19: UYVY 20: YUY2 21: YVYU 22: YUYV 23: Y411 24: Y211 38: RGB16161616
	See also CORACQ_PRM_OUTPUT_FORMAT	

Key Name [Shared Control Signals]	Related Parameter
Camera Reset	CORACQ_PRM_SHARED_CAM_RESET
Camera Trigger	CORACQ_PRM_SHARED_CAM_TRIGGER
External Trigger	CORACQ_PRM_SHARED_EXT_TRIGGER
Frame Integrate	CORACQ_PRM_SHARED_FRAME_INTEGRATE
Strobe	CORACQ_PRM_SHARED_STROBE
Time Integrate	CORACQ_PRM_SHARED_TIME_INTEGRATE

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Technical Support

Any support question or request can be submitted via our web site:

Technical support form via our web page: Support requests for imaging product installations, Support requests for imaging applications	http://www.imaging.com/support
Camera support information	http://www.imaging.com/camsearch
Product literature and driver updates	http://www.imaging.com/download

When encountering hardware or software problems, please have the following documents included in your support request:

- The DALSA Log Viewer .txt file
- The PCI Diagnostic PciDump.txt file
- The DALSA Device Manager BoardInfo.txt file

Note, all these tools are available from the Windows start menu shortcut **Start•Programs•DALSA •Sapera LT•Tools**.

Glossary of Terms

Channel

A channel is a data path from a camera that includes an entire video line.

Chroma

The color portion of the composite NTSC or PAL video signal. Luma is the black-and-white portion of the signal. Often used interchangeably with Chrominance, although this is technically incorrect.

CMYK

A color model in which all colors are composed of varying intensities of the primary subtractive colors: Cyan, Magenta, Yellow, and Black. This color model is often used in print processing.

Color Key

Color keying is a method used to decide the source of a display pixel on the screen. If the graphics pixel on the VGA screen has the pixel value of the color key, then the corresponding pixel in the designated buffer will be displayed; otherwise, the VGA screen's pixel will be displayed.

Complex Parameter

A parameter with a size greater than an UINT32.

Composite Video

A single signal that includes both color video and timing information. NTSC and PAL are composite video standards, while RGB is not.

Contiguous Memory

Memory allocated as a single memory block in physical memory which is not pageable and not moveable.

Decimation

A process whereby pixels are dropped from digitized video waveforms for quick-and-easy image scaling. If 100 pixels are produced by a waveform, but only 50 are stored or used, the video waveform has been decimated by a factor of 2:1.

DLL

Dynamic Link Library. The supplied DLLs form the software interface between a Windows application and the DALSA hardware device.

Element

A data unit within the buffer, which may or may not be a pixel.

Frame Buffer

A large unit of memory used to hold the image for display onscreen.

Grayscale

In image processing, the range of available brightness levels, displayed in shades of gray. In an 8-bit system, the gray scale contains values from 0 to 255.

Host Memory

The Windows system's random-access memory. Typically refers to a frame buffer allocated in the computer system’s memory.

Interlaced

The standard television method of raster scanning, in which the image is the product of two fields, each of which is made up of the image's alternate lines (that is, one field is comprised of lines 1, 3, 5, etc., and the other is comprised of lines 2, 4, 6, etc.).

Keying Color

The Windows color which is used as a switch to the frame buffer video. Wherever the keying color is drawn, it is replaced with video from the buffer.

Lookup Table, LUT

In image processing, the segment of memory that stores values for point processes. Input pixel values are those of the original image, while output values are those altered by the chosen point process. An input lookup table destructively modifies the stored image data, whereas the output lookup table simply receives the stored data and modifies it for output only.

Luma

The black-and-white portion of the composite NTSC or PAL video signal. Chroma is the color portion of the signal. Often used interchangeably with Luminance, although this is technically incorrect.

LVDS

Low Voltage Differential Signaling: A transmission method for sending digital information by using a very low voltage swing differentially over two PCB traces or a balanced cable. LVDS is relatively immune to noise.

Monochrome

A video source with only one component, usually meant to refer to a black-and-white composite signal. A monochrome composite video source has no chroma information.

Noninterlaced

Video scanning method, in which all the lines in the frame are scanned out sequentially. Used in several different analog and digital video systems, including progressive scan analog cameras, digital video cameras and computer monitors.

NTSC

National Television Standards Committee. Color TV standard used in North America, Japan, and in several other jurisdictions. The interlaced video signal is composed of a total of 525 video lines at a frame rate of 30 Hz.

PAL

Phase Alteration by Line. Color TV standard used in most of Europe and in several other jurisdictions. The interlaced video signal is composed of a total of 625 video lines at a frame rate of 25 Hz.

PCI

Peripheral Component Interconnect. The PCI local bus is a 32-bit high performance expansion bus intended for interconnecting add-in boards, controllers, and processor/memory systems.

Pixel

A single picture element, the smallest individual digital video component. The number of pixels describes the number of digital samples taken of the analog video signal. The number of pixels per video line by the number of active video lines describes the acquisition image resolution. The binary size of each pixel (that is, 8 bits, 15 bits, 24 bits) defines the number of gray levels or colors possible for each pixel.

Raster

The pattern of lines traced by rectilinear scanning in display systems.

RGB

Red, Green, Blue. Commonly used to refer to a non-composite video standard which uses these three colors in combination to generate a color video image.

RS-170

The original United States standard for black and white television. Now commonly used to refer to monochrome analog video signals.

Scaling

The act of changing the effective resolution of an image.

SECAM

Sequentiel Couleur avec Mémoire, a TV standard similar to PAL, in which the chroma is FM modulated and the R’-Y and B’-Y signals are transmitted line sequentially. Used primarily in France and Russia as well as in several other French-speaking and former Warsaw Pact countries.

Simple Parameter

A parameter with a size less than or equal to an UINT32.

Stride

The memory distance between two pixels that are viewed as vertically adjacent in the image.

S-Video

Separate video, also known as Y/C video, which supports separate luma (Y) and chroma (C) video inputs and outputs. Often used interchangeably with S-VHS, which is technically incorrect.

Sync

The basic piece of information which tells a video display (TV or computer monitor) where to put the picture. Horizontal sync, or HSYNC, controls the left-right dimension and vertical sync, or VSYNC controls the top-to-bottom dimension.

Tap

A tap is a data path from a camera that includes a part of a video line. An entire video line from the camera must then be constructed by combining all the taps together.

Tearing

A display artifact caused by the fact that the video display will read frame buffer memory asynchronously to the incoming video stream. Tearing is non-data destructive.

Video Input Conditioning , VIC

The act of modifying an analog video signal via bandwidth filtering or gain amplification.

Y/C

See S-Video.

YUV

A common color space used in composite video color systems. Y is the luma component while U and V are the color difference components.

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