

# **DCAM-API**

## **Property List**

For

**C10650**

**August 2013**

**HAMAMATSU**

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## INTRODUCTION

This manual describes about properties which camera supports. To refer the detail explanation of each properties, please see "Property Reference".

## PROPERTY LIST AND VALUES WHICH CAMERA SUPPORTS

### C10650

- X-Ray line sensor camera

| C10650 Sensor mode                      |     |      |
|-----------------------------------------|-----|------|
| DCAM_IDPROP_COLORTYPE                   | R/O | MODE |
| DCAMPROP_COLORTYPE_BW                   |     |      |
| DCAM_IDPROP_BITSPERCHANNEL              | R/O | LONG |
| 12                                      |     |      |
| DCAM_IDPROP_SENSORMODE                  | R/W | MODE |
| DCAMPROP_SENSORMODE_AREA                |     |      |
| DCAMPROP_SENSORMODE_TDI                 |     |      |
| DCAM_IDPROP_SENSORMODE_LINEBUNDLEHEIGHT | R/W | LONG |
| 1 to 7000                               |     |      |

| C10650 Trigger                           |     |      |
|------------------------------------------|-----|------|
| DCAM_IDPROP_TRIGGERSOURCE                | R/W | MODE |
| DCAMPROP_TRIGGERSOURCE_INTERNAL          |     |      |
| DCAMPROP_TRIGGERSOURCE_EXTERNAL          |     |      |
| DCAMPROP_TRIGGERSOURCE_SOFTWARE          |     |      |
| DCAM_IDPROP_TRIGGER_MODE                 | R/W | MODE |
| DCAMPROP_TRIGGER_MODE_NORMAL             |     |      |
| DCAMPROP_TRIGGER_MODE_START              |     |      |
| DCAM_IDPROP_TRIGGERACTIVE                | R/W | MODE |
| DCAMPROP_TRIGGERACTIVE_EDGE              |     |      |
| DCAMPROP_TRIGGERACTIVE_SYNCREADOUT       |     |      |
| DCAM_IDPROP_TRIGGERPOLARITY              | R/W | MODE |
| DCAMPROP_TRIGGERPOLARITY_NEGATIVE        |     |      |
| DCAM_IDPROP_TRIGGERTIMES                 | R/W | LONG |
| 1 to 2                                   |     |      |
| DCAM_IDPROP_TRIGGERENABLE_ACTIVE         | R/W | MODE |
| DCAMPROP_TRIGGERENABLE_ACTIVE_ALWAYS     |     |      |
| DCAMPROP_TRIGGERENABLE_ACTIVE_LEVEL      |     |      |
| DCAMPROP_TRIGGERENABLE_ACTIVE_START      |     |      |
| DCAM_IDPROP_TRIGGERENABLE_POLARITY       | R/O | MODE |
| DCAMPROP_TRIGGERENABLE_POLARITY_NEGATIVE |     |      |

| C10650 Timing control              |     |                   |
|------------------------------------|-----|-------------------|
| DCAM_IDPROP_EXPOSURETIME           | R/W | double, second    |
| 0.736 to 26.3                      |     | Binning 1x1       |
| 0.368 to 13.15                     |     | Binning 2x2       |
| DCAM_IDPROP_INTERNALFRAMERATE      | R/O | double, frame/sec |
| 0.030637254 to 7.8125              |     |                   |
| DCAM_IDPROP_INTERNAL_FRAMEINTERVAL | R/O | double, second    |
| 0.128 to 32.64                     |     |                   |
| DCAM_IDPROP_INTERNALLINERATE       | R/W | double, line/sec  |
| 38.023 to 1358.696                 |     |                   |
| DCAM_IDPROP_INTERNALLINESPEED      | R/W | double, m/sec     |
| 0.1 to 3.9                         |     | Binning 1x1       |
| 0.2 to 7.8                         |     | Binning 2x2       |

| <b>C10650 Binning and ROI</b>   |                    |     |            |
|---------------------------------|--------------------|-----|------------|
| DCAM_IDPROP_SUBARRAYMODE        |                    | R/W | MODE       |
|                                 | DCAMPROP_MODE__OFF |     |            |
|                                 | DCAMPROP_MODE__ON  |     |            |
| DCAM_IDPROP_SUBARRAYHPOS        |                    | R/W | LONG       |
|                                 | 8 to 3040          |     | C10650-504 |
|                                 | 8 to 4608          |     | C10650-505 |
| DCAM_IDPROP_SUBARRAYHSIZE       |                    | R/W | LONG       |
|                                 | 0 to 3032          |     | C10650-504 |
|                                 | 0 to 4600          |     | C10650-505 |
| DCAM_IDPROP_BINNING             |                    | R/W | MODE       |
|                                 | 1 to 2             |     |            |
| DCAM_IDPROP_BINNING_INDEPENDENT |                    | R/W | MODE       |
|                                 | DCAMPROP_MODE__OFF |     |            |
|                                 | DCAMPROP_MODE__ON  |     |            |
| DCAM_IDPROP_BINNING_HORZ        |                    | R/W | LONG       |
|                                 | 1 to 2             |     |            |
| DCAM_IDPROP_BINNING_VERT        |                    | R/W | LONG       |
|                                 | 1 to 2             |     |            |

| <b>X-Ray line – ALU</b>                   |                                    |     |      |
|-------------------------------------------|------------------------------------|-----|------|
| DCAM_IDPROP_SUBTRACT                      |                                    | R/W | MODE |
|                                           | DCAMPROP_MODE__OFF                 |     |      |
|                                           | DCAMPROP_MODE__ON                  |     |      |
| DCAM_IDPROP_SUBTRACTIMAGEMEMORY           |                                    | R/W | MODE |
|                                           | 0 to 31                            |     |      |
| DCAM_IDPROP_STORESUBTRACTIMAGETOMEMORY    |                                    | W/O | MODE |
|                                           | 0 to 31                            |     |      |
| DCAM_IDPROP_SHADINGCORRECTION             |                                    | R/W | MODE |
|                                           | DCAMPROP_MODE__OFF                 |     |      |
|                                           | DCAMPROP_MODE__ON                  |     |      |
| DCAM_IDPROP_SHADINGCALIBDATAMEMORY        |                                    | R/W | MODE |
|                                           | 0 to 31                            |     |      |
| DCAM_IDPROP_STORESHADINGCALIBDATATOMEMORY |                                    | W/O | MODE |
|                                           | 0 to 31                            |     |      |
| DCAM_IDPROP_CAPTUREMODE                   |                                    | R/W | MODE |
|                                           | DCAMPROP_CAPTUREMODE__NORMAL       |     |      |
|                                           | DCAMPROP_CAPTUREMODE__DARKCALIB    |     |      |
|                                           | DCAMPROP_CAPTUREMODE__SHADINGCALIB |     |      |
|                                           | DCAMPROP_CAPTUREMODE__TAPGAINCALIB |     |      |

|                                                          |     |              |            |
|----------------------------------------------------------|-----|--------------|------------|
| <b>C10650 - Calibration and correction</b>               |     |              |            |
| DCAM_IDPROP_DARKCALIB_MAXIMUMINTENSITY                   | R/W | LONG         |            |
| 0 to 4095                                                |     |              |            |
| DCAM_IDPROP_SHADINGCALIB_MINIMUMINTENSITY                | R/W | LONG         |            |
| 0 to 4095                                                |     |              |            |
| DCAM_IDPROP_SHADINGCALIB_AVERAGEFRAMECOUNT               | R/W | LONG         |            |
| 0 to 1024                                                |     |              |            |
| DCAM_IDPROP_SHADINGCALIB_STABLEFRAMECOUNT                | R/W | LONG         |            |
| 0 to 100                                                 |     |              |            |
| DCAM_IDPROP_SHADINGCALIB_INTENSITYMAXIMUMERRORPERCENTAGE | R/W | LONG         |            |
| 0 to 200                                                 |     |              |            |
| DCAM_IDPROP_SHADINGCALIB_METHOD                          | R/W | MODE         |            |
| DCAMPROP_SHADINGCALIB_METHOD_AVERAGE                     |     |              |            |
| DCAMPROP_SHADINGCALIB_METHOD_MAXIMUM                     |     |              |            |
| DCAMPROP_SHADINGCALIB_METHOD_USETARGET                   |     |              |            |
| DCAM_IDPROP_SHADINGCALIB_TARGET                          | R/W | LONG         |            |
| 0 to 4095                                                |     |              |            |
| DCAM_IDPROP_TAPCALIB_GAIN                                | R/W | MODE [ARRAY] |            |
| 0 to 63                                                  |     |              |            |
| DCAM_IDPROP_TAPGAINCALIB_METHOD                          | R/W | MODE         |            |
| DCAMPROP_TAPGAINCALIB_METHOD_AVE                         |     |              |            |
| DCAMPROP_TAPGAINCALIB_METHOD_MIN                         |     |              |            |
| DCAMPROP_TAPGAINCALIB_METHOD_MAX                         |     |              |            |
| DCAM_IDPROP_TAPCALIB_BASEDATAMEMORY                      | R/W | MODE         |            |
| 0 to 63                                                  |     |              |            |
| DCAM_IDPROP_TAPCALIBDATAMEMORY                           | W/O | MODE         |            |
| 0 to 3                                                   |     |              |            |
| DCAM_IDPROP_STORETAPCALIBDATATOMEMORY                    | R/W | MODE         |            |
| 0 to 63                                                  |     |              |            |
| DCAM_IDPROP_NUMBEROF_TAPCALIB                            | R/O | LONG         |            |
| 0 to 63                                                  |     |              |            |
| DCAM_IDPROP_CALIBREGION_MODE                             | R/W | MODE         |            |
| DCAMPROP_MODE_OFF                                        |     |              |            |
| DCAMPROP_MODE_ON                                         |     |              |            |
| DCAM_IDPROP_CALIBREGION_HPOS                             | R/W | LONG [ARRAY] |            |
| 0 to 3039                                                |     |              | C10650-504 |
| 0 to 4607                                                |     |              | C10650-505 |
| DCAM_IDPROP_CALIBREGION_HSIZE                            | R/W | LONG [ARRAY] |            |
| 1 to 3040                                                |     |              | C10650-504 |
| 1 to 4608                                                |     |              | C10650-505 |
| DCAM_IDPROP_NUMBEROF_CALIBREGION                         | R/W | LONG         |            |
| 1 to 4                                                   |     |              |            |
| DCAM_IDPROP_MASKREGION_MODE                              | R/W | MODE         |            |
| DCAMPROP_MODE_OFF                                        |     |              |            |
| DCAMPROP_MODE_ON                                         |     |              |            |
| DCAM_IDPROP_MASKREGION_HPOS                              | R/W | LONG [ARRAY] |            |
| 0 to 3039                                                |     |              | C10650-504 |
| 0 to 4607                                                |     |              | C10650-505 |
| DCAM_IDPROP_MASKREGION_HSIZE                             | R/W | LONG [ARRAY] |            |
| 1 to 3040                                                |     |              | C10650-504 |
| 1 to 4608                                                |     |              | C10650-505 |
| DCAM_IDPROP_NUMBEROF_MASKREGION                          | R/W | LONG         |            |
| 1 to 4                                                   |     |              |            |

**C10650 - Calibration and correction(Continued)**

| DCAM_IDPROP_CAMERASTATUS_INTENSITY    |                                                        | R/O | MODE |
|---------------------------------------|--------------------------------------------------------|-----|------|
|                                       | DCAMPROP_CAMERASTATUS_INTENSITY_GOOD                   |     |      |
|                                       | DCAMPROP_CAMERASTATUS_INTENSITY_TOODARK                |     |      |
|                                       | DCAMPROP_CAMERASTATUS_INTENSITY_TOOBRIGHT              |     |      |
|                                       | DCAMPROP_CAMERASTATUS_INTENSITY_UNCARE                 |     |      |
| DCAM_IDPROP_CAMERASTATUS_INPUTTRIGGER |                                                        | R/O | MODE |
|                                       | DCAMPROP_CAMERASTATUS_INPUTTRIGGER_GOOD                |     |      |
|                                       | DCAMPROP_CAMERASTATUS_INPUTTRIGGER_NONE                |     |      |
|                                       | DCAMPROP_CAMERASTATUS_INPUTTRIGGER_TOOFREQUENT         |     |      |
| DCAM_IDPROP_CAMERASTATUS_CALIBRATION  |                                                        | R/O | MODE |
|                                       | DCAMPROP_CAMERASTATUS_CALIBRATION_DONE                 |     |      |
|                                       | DCAMPROP_CAMERASTATUS_CALIBRATION_NOTYET               |     |      |
|                                       | DCAMPROP_CAMERASTATUS_CALIBRATION_NOTRIGGER            |     |      |
|                                       | DCAMPROP_CAMERASTATUS_CALIBRATION_TOOFREQUENTTRIGGER   |     |      |
|                                       | DCAMPROP_CAMERASTATUS_CALIBRATION_OUTOFADJUSTABLERANGE |     |      |
|                                       | DCAMPROP_CAMERASTATUS_CALIBRATION_UNSUITABLETABLE      |     |      |

**C10650 - Output intensity**

| DCAM_IDPROP_OUTPUT_INTENSITY   |                                          | R/W | MODE |
|--------------------------------|------------------------------------------|-----|------|
|                                | DCAMPROP_OUTPUT_INTENSITY_NORMAL         |     |      |
|                                | DCAMPROP_OUTPUT_INTENSITY_TESTPATTERN    |     |      |
| DCAM_IDPROP_TESTPATTERN_KIND   |                                          | R/W | MODE |
|                                | DCAMPROP_TESTPATTERN_KIND_FLAT           |     |      |
|                                | DCAMPROP_TESTPATTERN_KIND_HORZGRADATION  |     |      |
|                                | DCAMPROP_TESTPATTERN_KIND_IHORZGRADATION |     |      |
|                                | DCAMPROP_TESTPATTERN_KIND_VERTGRADATION  |     |      |
|                                | DCAMPROP_TESTPATTERN_KIND_IVERTGRADATION |     |      |
|                                | DCAMPROP_TESTPATTERN_KIND_LINE           |     |      |
|                                | DCAMPROP_TESTPATTERN_KIND_DIAGONAL       |     |      |
| DCAM_IDPROP_TESTPATTERN_OPTION |                                          | R/W | MODE |
|                                | 0 to 255                                 |     |      |

**C10650 - Image information**

| DCAM_IDPROP_IMAGE_WIDTH      |                 | R/W | LONG       |
|------------------------------|-----------------|-----|------------|
|                              | 8 to 3040       |     | C10650-504 |
|                              | 8 to 4608       |     | C10650-505 |
| DCAM_IDPROP_IMAGE_HEIGHT     |                 | R/W | LONG       |
|                              | 8 to 5518       |     | C10650-504 |
|                              | 8 to 3640       |     | C10650-505 |
| DCAM_IDPROP_IMAGE_ROWBYTES   |                 | R/W | LONG       |
|                              | 16 to 6080      |     | C10650-504 |
|                              | 16 to 9216      |     | C10650-505 |
| DCAM_IDPROP_IMAGE_FRAMEBYTES |                 | R/W | LONG       |
|                              | 128 to 33549440 |     | C10650-504 |
|                              | 128 to 33546240 |     | C10650-505 |





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