Boson®+ Software IDD

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1 Boson SDK Description

The SDK describes the command and control API for the Boson camera. Description of video interfaces and image capture are not included in this SDK.

1.1 Global Objects

1.1.1 Basic Data Types

SDK Name	C	C#	Python
CHAR	"int8_t"	"SByte"	"int"
UCHAR	"uint8_t"	"Byte"	"int"
INT_16	"int16_t"	"Int16"	"int"
UINT_16	"uint16_t"	"UInt16"	"int"
INT_32	"int32_t"	"Int32"	"int"
UINT_32	"uint32_t"	"UInt32"	"int"
FLOAT	"float"	"Double"	"float"
DOUBLE	"double"	"Double"	"float"

Some functions will use fixed size arrays of these data types. These arrays will be represented by "<DataType>*<size_of_array>". Other functions will use dynamically sized arrays (limited to the UCHAR or BYTE type). This will be noted as a BYTEARRAY. Note that functions using the "BYTEARRAY" type are limited in maximum size. Each SDK has a property, definition, or static variable that declares the maximum transfer size (typically 256 bytes).

1.1.2 Enums

Global Enumerations are available to all modules.

1.1.2.1 FLR_ENABLE_E — <INT_32>

FLR_DISABLE = 0
FLR_ENABLE = 1
FLR_ENABLE_END = 2

1.1.2.2 FLR_TEMPERATURE_UNIT_E — <INT_32>

FLR_TEMPERATURE_UNIT_KELVIN = 0
FLR_TEMPERATURE_UNIT_CELSIUS = 1
FLR_TEMPERATURE_UNIT_FAHRENHEIT = 2
FLR_TEMPERATURE_UNIT_LAST = 3

1.1.3 Structs

Global Structure types available to all modules.

1.1.3.1 FLR_ROI_T

Field Name	DataType	Bytes
rowStart	UINT_16	2
rowStop	UINT_16	2

colStart	UINT_16	2
colStop	UINT_16	2

1.1.4 Functions

1.1.4.1 Initialize(port, baudrate=921600)

Starts communications and returns handle. Argument port may be "COM<N>" or <N-1> depending on platform. Baudrate is 921600 for Boson.

1.1.4.2 Close(handle)

Stops communications and releases handle.

1.2 Module: TLINEAR

This module is used to convert corrected 16-bit data to temperature

1.2.1 Enums

No enumerations in module TLinear.

1.2.2 Structs

No struct types in module TLinear.

1.2.3 Functions

1.2.3.1 TLinearSetControl()

[SET] The current enable state of the TLinear module.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003E0001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.2.3.2 TLinearGetControl()

[GET] The current enable state of the TLinear module.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003E0002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.2.3.3 TLinearGetLUT()

Get LUT for a given offset

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003E0003	N/A	N/A
mode	FLR_BOSON_TABLETYPE_E	0:4	
offset	UINT_16	4:6	

Output/Receive parameters:

Name	DataType	Bytes	Notes
a	FLOAT*16	0:64	
b	FLOAT*16	64:128	

1.2.3.4 TLinearRefreshLUT()

Recalculate flux to temperature map with current Radiometry parameters.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003E0007	N/A	N/A
mode	FLR_BOSON_TABLETYPE_E	0:4	

No output parameters.

1.3 Module: AGC

The Automatic Gain Control module provides API's to control and interrogate the automatic gain control algorithm.

1.3.1 Enums

1.3.1.1 FLR_AGC_MODE_E — <INT_32>

FLR_AGC_MODE_NORMAL = 0
FLR_AGC_MODE_HOLD = 1
FLR_AGC_MODE_THRESHOLD = 2
FLR_AGC_MODE_AUTO_BRIGHT = 3

FLR_AGC_MODE_AUTO_LINEAR = 4
FLR_AGC_MODE_MANUAL = 5
FLR_AGC_MODE_END = 6

1.3.2 Structs

No struct types in module agc.

1.3.3 Functions

1.3.3.1 agcSetPercentPerBin()

[SET] The maximum percentage of pixels allowed in a bin in relation to the total number of pixels accumulated.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090001	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.2 agcGetPercentPerBin()

[GET] The maximum percentage of pixels allowed in a bin in relation to the total number of pixels accumulated.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.3 agcSetLinearPercent()

[SET] Defines how linear the mapping from the input to output dynamic range will be. The valid range of the variable is [0 100] where a value of 0 (%) means the transfer function shape will be based entirely on the input histogram and a value of 100 (%) means the transfer function will be a straight line (linear).

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00090003	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.4 agcGetLinearPercent()

[GET] Defines how linear the mapping from the input to output dynamic range will be. The valid range of the variable is [0 100] where a value of 0 (%) means the transfer function shape will be based entirely on the input histogram and a value of 100 (%) means the transfer function will be a straight line (linear).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.5 agcSetOutlierCut()

[SET] The amount of histogram "outliers" (beginning and end) to ignore as a percentage of histSum. A non-zero value for this parameter will limit the effect of outlier pixel values such as non-operational pixels or small areas with extremely high values (high irradiance) or low values (low irradiance).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090005	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.6 agcGetOutlierCut()

[GET] The amount of histogram "outliers" (beginning and end) to ignore as a percentage of histSum. A non-zero value for this parameter will limit the effect of outlier pixel values such as non-operational pixels or small areas with extremely high values (high irradiance) or low values (low irradiance).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.7 agcGetDrOut()

[GET] The desired output dynamic range of the transfer function. The transfer function module will try to scale the transfer function such that this output dynamic range is achieved.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.8 agcSetMaxGain()

[SET] The maximum transfer function gain. This gain limit is applied on a per bin basis such that locally the transfer function slope never exceeds the limit defined by the maxGain parameter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090009	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.9 agcGetMaxGain()

[GET] The maximum transfer function gain. This gain limit is applied on a per bin basis such that locally the transfer function slope never exceeds the limit defined by the maxGain parameter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.10 agcSetdf()

[SET] The damping factor. This controls the update rate of the transfer function per function call. The damping factor has a valid range of [0 100] where a value of 0 means there is no damping and the latest calculated transfer function will the output transfer function and a value of 100 for df will freeze the update of the transfer function (i.e. 100% damped).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009000B	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.11 agcGetdf()

[GET] The damping factor. This controls the update rate of the transfer function per function call. The damping factor has a valid range of [0 100] where a value of 0 means there is no damping and the latest calculated transfer function will the output transfer function and a value of 100 for df will freeze the update of the transfer function (i.e. 100% damped).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009000C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.12 agcSetGamma()

[SET] The gamma correction value, also known as 'ACE'. This parameter can be used to compensate for the gamma of the display. In this implementation gamma<1 will generate a transfer function that has more contrast in the high irradiance range. Negative values for gamma are not allowed.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009000D	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.13 agcGetGamma()

[GET] The gamma correction value, also known as 'ACE'. This parameter can be used to compensate for the gamma of the display. In this implementation gamma<1 will generate a transfer function that has more contrast in the high irradiance range. Negative values for gamma are not allowed.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009000E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.14 agcGetFirstBin()

[GET] The index of the first populated bin in the histogram (starting form bin 0). If outlierCut is set to a value greater than zero firstBin may not be the first bin containing non-zero value (see outlierCut).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090010	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.3.3.15 agcGetLastBin()

[GET] The index of the last populated bin in the histogram (starting form bin 0). If outlierCut is set to a value greater than zero lastBin may not be the last bin containing a non-zero value (see outlierCut).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090012	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.3.3.16 agcSetDetailHeadroom()

[SET] The amount of headroom to be given to the detail component when DDE is enabled and has a non-zero gain. If this parameter is set to zero: positive valued detail signals (HP signal) in the highest irradiance regions of the image may saturate at the drOut level and negative valued detail signals in the lowest irradiance regions may saturate at 0. The allowed range for this parameter is [0 drOut-1] with a typical value of 10.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090013	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.17 agcGetDetailHeadroom()

[GET] The amount of headroom to be given to the detail component when DDE is enabled and has a non-zero gain. If this parameter is set to zero: positive valued detail signals (HP signal) in the highest irradiance regions of the image may saturate at the drOut level and negative valued detail signals in the lowest irradiance regions may saturate at 0. The allowed range for this parameter is [0 drOut-1] with a typical value of 10.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090014	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.18 agcSetd2br()

[SET] The detail-to-background-ratio (d2br), also known as 'DDE'\. This defines the ratio of the detail (HP) gain and the maximum slope/gain of the background (LP). The allowable range for this parameter is [0 inf] with a typical setting of 1.3.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090015	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.19 agcGetd2br()

[GET] The detail-to-background-ratio (d2br), also known as 'DDE'\. This defines the ratio of the detail (HP) gain and the maximum slope/gain of the background (LP). The allowable range for this parameter is [0 inf] with a typical setting of 1.3.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090016	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.20 agcSetSigmaR()

[SET] The smoothing factor. This defines the properties of the edge-preserving low pass filter used for the DDE functionality. Higher values for this parameter will result in more aggressive low pass filtering which will cause higher amplitude signals to be present in the detail (HP) component. Allowable range is [0 inf] with a typical setting of 2000. Value should be proportional to imager responsivity.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090017	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.21 agcGetSigmaR()

[GET] The smoothing factor. This defines the properties of the edge-preserving low pass filter used for the DDE functionality. Higher values for this parameter will result in more aggressive low pass filtering which will cause higher amplitude signals to be present in the detail (HP) component. Allowable range is [0 inf] with a typical setting of 2000. Value should be proportional to imager responsivity.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090018	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.22 agcSetUseEntropy()

[SET] Switches from Plateau Equalization to Entropy Equalization.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009001E	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.3.3.23 agcGetUseEntropy()

[GET] Switches from Plateau Equalization to Entropy Equalization.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009001F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.3.3.24 agcSetROI()

[SET] The current region of interest. Set the start and stop columns and rows, starting with column=0, row=0 in the upper left corner.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090020	N/A	N/A
roi	FLR_ROI_T	0:8	

No output parameters.

1.3.3.25 agcGetROI()

[GET] The current region of interest. Set the start and stop columns and rows, starting with column=0, row=0 in the upper left corner.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090021	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
roi	FLR_ROI_T	0:8	

1.3.3.26 agcGetMaxGainApplied()

[GET] The scaled value of the max gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090025	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.27 agcGetSigmaRApplied()

[GET] The scaled value of sigma R.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090026	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.28 agcSetOutlierCutBalance()

[SET] The adjustment of outlier cut to be biased towards the top (2.0), bottom (0.0), or center (1.0) of the histogram.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090027	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.29 agcGetOutlierCutBalance()

[GET] The adjustment of outlier cut to be biased towards the top (2.0), bottom (0.0), or center (1.0) of the histogram.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090028	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.30 agcGetOutlierCutApplied()

Get the applied outlier cut percentages at the top and bottom of histogram.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00090029	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
percentHigh	FLOAT	0:4	
percentLow	FLOAT	4:8	

1.3.3.31 agcSetDetailHeadroomBalance()

[SET] The adjust detail headroom to biased towards the top (2.0), bottom (0.0), or center (1.0) of the histogram.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009002A	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.32 agcGetDetailHeadroomBalance()

[GET] The adjust detail headroom to biased towards the top (2.0), bottom (0.0), or center (1.0) of the histogram.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009002B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.33 agcGetDetailHeadroomApplied()

Get the applied headroom as (fractional) counts at the top and bottom of histogram.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009002C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
countsHigh	FLOAT	0:4	
countsLow	FLOAT	4:8	

1.3.3.34 agcGetTfThresholds()

Get the threshold values for AGC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090030	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
tf_thresholdMin	UINT_16	0:2	
tf_thresholdMax	UINT_16	2:4	

1.3.3.35 agcSetTfThresholds()

Set the threshold values used when overriding AGC (using agcSetMode).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090031	N/A	N/A
tf_thresholdMin	UINT_16	0:2	
tf_thresholdMax	UINT_16	2:4	

No output parameters.

1.3.3.36 agcGetMode()

[GET] The AGC mode. Normal - automatic processing based on the image. Hold - take what was calculated in Normal mode and make it fixed. Threshold - analyze frame but set first and last bin values based on thresholds.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00090032	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
mode	FLR_AGC_MODE_E	0:4	

1.3.3.37 agcSetMode()

[SET] The AGC mode. Normal - automatic processing based on the image. Hold - take what was calculated in Normal mode and make it fixed. Threshold - analyze frame but set first and last bin values based on thresholds.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090033	N/A	N/A
mode	FLR_AGC_MODE_E	0:4	

No output parameters.

1.3.3.38 agcSetHighTempAlarmValues()

Set the threshold values for high temp alarm. lowGain - raw value from lepton in low gain, highGain - raw value from lepton in high gain, pixPopulation - number of pixels for alarm to be activated

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090034	N/A	N/A
lowGain	UINT_32	0:4	
highGain	UINT_32	4:8	
pixPopulation	UINT_32	8:12	

No output parameters.

1.3.3.39 agcGetContrast()

[GET] The user adjustable contrast of the scene

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090040	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
contrast	INT_32	0:4	

1.3.3.40 agcSetContrast()

[SET] The user adjustable contrast of the scene

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090041	N/A	N/A
contrast	INT_32	0:4	

No output parameters.

1.3.3.41 agcGetBrightnessBias()

[GET] The user adjustable brightness bias of the scene

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090042	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
brightness Bias	INT_32	0:4	

1.3.3.42 agcSetBrightnessBias()

[SET] The user adjustable brightness bias of the scene

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090043	N/A	N/A
brightness Bias	INT_32	0:4	

No output parameters.

1.3.3.43 agcGetBrightness()

[GET] The user adjustable brightness of the scene

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090044	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
brightness	INT_32	0:4	

1.3.3.44 agcSetBrightness()

[SET] The user adjustable brightness of the scene

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090045	N/A	N/A
brightness	INT_32	0:4	

No output parameters.

1.3.3.45 agcSetMaxGainForLowGain()

[SET] The maximum transfer function gain, for when the camera is in low gain. This gain limit is applied on a per bin basis such that locally the transfer function slope never exceeds the limit defined by the maxGain parameter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090046	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.46 agcGetMaxGainForLowGain()

[GET] The maximum transfer function gain, for when the camera is in low gain. This gain limit is applied on a per bin basis such that locally the transfer function slope never exceeds the limit defined by the maxGain parameter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00090047	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.47 agcSetRadius()

[SET] DDE+ edge boldness, size of objects that gets sharpened

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009004A	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.3.3.48 agcGetRadius()

[GET] DDE+ edge boldness, size of objects that gets sharpened

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009004B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.3.3.49 agcSetGmax()

[SET] DDE+ detail sharpness that excludes noise

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009004C	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.50 agcGetGmax()

[GET] DDE+ detail sharpness that excludes noise

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009004D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.3.3.51 agcSetGmin()

[SET] DDE+ noise suppression

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009004E	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.3.3.52 agcGetGmin()

[GET] DDE+ noise suppression

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0009004F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.4 Module: BOSON

Functions to control the general operation of the Boson camera.

1.4.1 Enums

1.4.1.1 FLR_BOSON_GAINMODE_E — <INT_32>

FLR_BOSON_HIGH_GAIN = 0

FLR_BOSON_LOW_GAIN = 1
FLR_BOSON_AUTO_GAIN = 2
FLR_BOSON_DUAL_GAIN = 3
FLR_BOSON_MANUAL_GAIN = 4
FLR_BOSON_GAINMODE_END = 5

1.4.1.2 FLR_BOSON_FFCMODE_E — <INT_32>

FLR_BOSON_MANUAL_FFC = 0
FLR_BOSON_AUTO_FFC = 1
FLR_BOSON_EXTERNAL_FFC = 2
FLR_BOSON_SHUTTER_TEST_FFC = 3
FLR_BOSON_FFCMODE_END = 4

1.4.1.3 FLR_BOSON_TIMESTAMPTYPE_E — <INT_32>

FLR_BOSON_UARTINIT = 0
FLR_BOSON_PIXELCLOCKINIT = 1
FLR_BOSON_AUTHEVENT = 2
FLR_BOSON_FIRSTVALIDIMAGE = 3
FLR_BOSON_TIMESTAMPTYPE_END = 4

1.4.1.4 FLR_BOSON_AUTOGAIN_SWITCH_CONDITION_E — <INT_32>

FLR_BOSON_AUTOGAIN_SWITCH_CONDITION_RELATIVE_HOT = 0
FLR_BOSON_AUTOGAIN_SWITCH_CONDITION_RELATIVE_COLD = 1
FLR_BOSON_AUTOGAIN_SWITCH_CONDITION_RELATIVE_HOT_OR_COLD = 2
FLR_BOSON_AUTOGAIN_SWITCH_CONDITION_END = 3

1.4.1.5 FLR_BOSON_FFCSTATUS_E — <INT_32>

FLR_BOSON_NO_FFC_PERFORMED = 0
FLR_BOSON_FFC_IMMINENT = 1
FLR_BOSON_FFC_IN_PROGRESS = 2
FLR_BOSON_FFC_COMPLETE = 3
FLR_BOSON_FFCSTATUS_END = 4

1.4.1.6 FLR_BOSON_MYRIADTEMPMODE_E — <INT_32>

FLR_BOSON_NORMAL_MYRIADTEMP_MODE = 0
FLR_BOSON_STATIC_MYRIADTEMP_MODE = 1

1.4.1.7 FLR_BOSON_EXT_SYNC_MODE_E — <INT_32>

FLR_BOSON_EXT_SYNC_DISABLE_MODE = 0
FLR_BOSON_EXT_SYNC_MASTER_MODE = 1
FLR_BOSON_EXT_SYNC_SLAVE_MODE = 2
FLR_BOSON_EXT_SYNC_END = 3

1.4.1.8 FLR_BOSON_TEMP_DIODE_STATUS_E — <INT_32>

FLR_BOSON_TEMP_DIODE_NORMAL = 0
FLR_BOSON_TEMP_DIODE_FAULT = 1
FLR_BOSON_TEMP_DIODE_END = 2

1.4.1.9 FLR_BOSON_TABLETYPE_E — <INT_32>

FLR_BOSON_LOWGAIN_TABLE = 0
FLR_BOSON_HIGHGAIN_TABLE = 1
FLR_BOSON_TABLETYPE_END = 2

1.4.2 Structs

1.4.2.1 FLR_BOSON_PARTNUMBER_T

Field Name	DataType	Bytes
value	UCHAR*20	20

1.4.2.2 FLR_BOSON_SENSOR_PARTNUMBER_T

Field Name	DataType	Bytes
value	UCHAR*32	32

1.4.2.3 FLR_BOSON_GAIN_SWITCH_PARAMS_T

Field Name	DataType	Bytes
pHighToLowPercent	UINT_32	4
cHighToLowPercent	UINT_32	4
pLowToHighPercent	UINT_32	4
hysteresisPercent	UINT_32	4

1.4.2.4 FLR_BOSON_GAIN_SWITCH_RADIOMETRIC_PARAMS_T

Field Name	DataType	Bytes
pHighToLowPercent	UINT_32	4
TempHighToLowDegK	FLOAT	4
pLowToHighPercent	UINT_32	4

TempLowToHigh DegK	FLOAT	4

1.4.2.5 FLR_BOSON_SATURATION_LUT_T

Field Name	DataType	Bytes
value	UINT_16*17	34

1.4.2.6 FLR_BOSON_SATURATION_HEADER_LUT_T

Field Name	DataType	Bytes
lut	FLR_BOSON_SATURATION_LUT_T	34
tableIndex	UINT_16	2

1.4.3 Functions

1.4.3.1 bosonGetCameraSN()

[GET] The camera's serial number.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.4.3.2 bosonGetCameraPN()

[GET] The camera's part number.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_BOSON_PARTNUMBER_T	0:20	

1.4.3.3 bosonGetSensorSN()

[GET] The sensor's serial number.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.4.3.4 bosonRunFFC()

Performs an FFC operation.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050007	N/A	N/A

No output parameters.

1.4.3.5 bosonSetFFCTempThreshold()

[SET] The temperature threshold (in degC*10) for the FFC desired flag. If the camera is in Auto FFC mode, an FFC desired flag will result in an automatic FFC event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050008	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.4.3.6 bosonGetFFCTempThreshold()

[GET] The temperature threshold (in degC*10) for the FFC desired flag. If the camera is in Auto FFC mode, an FFC desired flag will result in an automatic FFC event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.4.3.7 bosonSetFFCFrameThreshold()

[SET] The time threshold (in seconds) for the FFC desired flag. If the camera is in Auto FFC mode, an FFC desired flag will result in an automatic FFC event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005000A	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.4.3.8 bosonGetFFCFrameThreshold()

[GET] The time threshold (in seconds) for the FFC desired flag. If the camera is in Auto FFC mode, an FFC desired flag will result in an automatic FFC event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.4.3.9 bosonGetFFCInProgress()

[GET] The mode of the FFC state machine.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005000C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	INT_16	0:2	

1.4.3.10 bosonReboot()

Tells the camera to perform a reboot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050010	N/A	N/A

No output parameters.

1.4.3.11 bosonSetFFCMode()

[SET] The mode of the camera's FFC operation.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050012	N/A	N/A
ffcMode	FLR_BOSON_FFCMODE_E	0:4	

No output parameters.

1.4.3.12 bosonGetFFCMode()

[GET] The mode of the camera's FFC operation.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050013	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
ffcMode	FLR_BOSON_FFCMODE_E	0:4	

1.4.3.13 bosonSetGainMode()

[SET] The mode of the camera's temperature compensation operation.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050014	N/A	N/A
gainMode	FLR_BOSON_GAINMODE_E	0:4	

No output parameters.

1.4.3.14 bosonGetGainMode()

[GET] The mode of the camera's temperature compensation operation.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050015	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
gainMode	FLR_BOSON_GAINMODE_E	0:4	

1.4.3.15 bosonWriteDynamicHeaderToFlash()

Saves the current user settings of the camera to the Dynamic header, part of the non-volatile flash memory. Saved settings will be used instead of defaults at subsequent start-ups.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050018	N/A	N/A

No output parameters.

1.4.3.16 bosonReadDynamicHeaderFromFlash()

Reads the settings stored in Dynamic header and writes them over the current values in use.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050019	N/A	N/A

No output parameters.

1.4.3.17 bosonRestoreFactoryDefaultsFromFlash()

Reads the settings stored in Factory header and writes them over the current values in use.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005001B	N/A	N/A

No output parameters.

1.4.3.18 bosonRestoreFactoryBadPixelsFromFlash()

Reads the bad pixels stores in the Factory Bad Pixel map and writes them over the current bap pixel map in use.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050020	N/A	N/A

No output parameters.

1.4.3.19 bosonWriteBadPixelsToFlash()

Writes the current bad pixel and vector offsets in use to the User Bad Pixel portion of the non-volatile flash.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050021	N/A	N/A

No output parameters.

1.4.3.20 bosonGetSoftwareRev()

Returns the version of the Camera Software.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050022	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
major	UINT_32	0:4	
minor	UINT_32	4:8	
patch	UINT_32	8:12	

1.4.3.21 bosonSetBadPixelLocation()

Mark a pixel location as bad, for replacement by the Bad Pixel Replacement module.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005002D	N/A	N/A
row	UINT_32	0:4	
col	UINT_32	4:8	

No output parameters.

1.4.3.22 bosonlookupFPATempDegCx10()

Returns the camera's sensor temp in degrees Celsius x10.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050030	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	INT_16	0:2	

1.4.3.23 bosonlookupFPATempDegKx10()

Returns the camera's sensor temp in degrees Kelvin x10.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050031	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.4.3.24 bosonWriteLensNvFfcToFlash()

Stores the current flat-field correction terms to non-volatile flash.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050033	N/A	N/A

No output parameters.

1.4.3.25 bosonWriteLensGainToFlash()

Writes the current Lens Gain map to flash.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050035	N/A	N/A

No output parameters.

1.4.3.26 bosonSetLensNumber()

[SET] The desired lens number

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050038	N/A	N/A
lensNumber	UINT_32	0:4	

No output parameters.

1.4.3.27 bosonGetLensNumber()

[GET] The desired lens number

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050039	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
lensNumber	UINT_32	0:4	

1.4.3.28 bosonSetTableNumber()

[SET] The desired table number.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005003A	N/A	N/A
tableNumber	UINT_32	0:4	

No output parameters.

1.4.3.29 bosonGetTableNumber()

[GET] The desired table number.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005003B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
tableNumber	UINT_32	0:4	

1.4.3.30 bosonGetSensorPN()

[GET] The sensor's part number.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005003F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
sensorPN	FLR_BOSON_SENSOR_PARTNUMBER_T	0:32	

1.4.3.31 bosonSetGainSwitchParams()

[SET] The parameters for the auto gain switching when the scene is relatively hot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050040	N/A	N/A
parm_struct	FLR_BOSON_GAIN_SWITCH_PARAMS_T	0:16	

No output parameters.

1.4.3.32 bosonGetGainSwitchParams()

[GET] The parameters for the auto gain switching when the scene is relatively hot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050041	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
parm_struct	FLR_BOSON_GAIN_SWITCH_PARAMS_T	0:16	

1.4.3.33 bosonGetSwitchToHighGainFlag()

[GET] The status of the SwitchToHighGain flag.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050042	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
switchToHighGainFlag	UCHAR	0:1	

1.4.3.34 bosonGetSwitchToLowGainFlag()

[GET] The status of the SwitchToLowGain flag.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050043	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
switchToLowGainFlag	UCHAR	0:1	

1.4.3.35 bosonGetCLowToHighPercent()

[GET] The calculated percent counts for the transition from low gain to high gain state in Hot Automatic Table Switch Mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050044	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
cLowToHighPercent	UINT_32	0:4	

1.4.3.36 bosonGetMaxNUCTables()

[GET] The number of the highest Gain table.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050045	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
maxNUCTables	UINT_32	0:4	

1.4.3.37 bosonGetMaxLensTables()

[GET] The number of Lens tables the camera supports.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050046	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
maxLensTables	UINT_32	0:4	

1.4.3.38 bosonGetFfcWaitCloseFrames()

[GET] Number of frames to wait for the shutter to close during an Auto or Manual FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005004E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.4.3.39 bosonSetFfcWaitCloseFrames()

[SET] Number of frames to wait for the shutter to close during an Auto or Manual FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005004F	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.4.3.40 bosonCheckForTableSwitch()

Performs table switch if camera's "Table Switch Desired" flag has been set.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050050	N/A	N/A

No output parameters.

1.4.3.41 bosonGetDesiredTableNumber()

[GET] The table number that the camera wants to switch to.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050052	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

desiredTableNumber	UINT_32	0:4	

1.4.3.42 bosonGetFfcStatus()

[GET] The status of the FFC function - FLR_BOSON_NO_FFC_PERFORMED, FLR_BOSON_FFC_IMMINENT, FLR_BOSON_FFC_IN_PROGRESS , FLR_BOSON_FFC_COMPLETE

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050054	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
ffcStatus	FLR_BOSON_FFCSTATUS_E	0:4	

1.4.3.43 bosonGetFfcDesired()

[GET] The state of the FFC desired flag.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050055	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
ffcDesired	UINT_32	0:4	

1.4.3.44 bosonGetSwRevInHeader()

Get the version of the software that the header was written with. It could be different than the current software version.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050056	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
major	UINT_32	0:4	

minor	UINT_32	4:8	
patch	UINT_32	8:12	

1.4.3.45 bosonGetLastFFCFrameCount()

[GET] The frame counter value at the time of the last FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005005D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
frameCount	UINT_32	0:4	

1.4.3.46 bosonGetLastFFCTempDegKx10()

[GET] The FPA temperature value at the time of the last FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005005E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
temp	UINT_16	0:2	

1.4.3.47 bosonGetTableSwitchDesired()

[GET] Determine if camera gain wants to select a different table.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005005F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
tableSwitchDesired	UINT_16	0:2	

1.4.3.48 bosonGetOverTempThreshold()

[GET] The temperature threshold in deg C above with the camera will go into low power state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050061	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
temperatureInC	FLOAT	0:4	

1.4.3.49 bosonGetLowPowerMode()

[GET] The state of low power flag. If enabled, the camera is in low power state and not fully functional.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050062	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
lowPowerMode	UINT_16	0:2	

1.4.3.50 bosonGetOverTempEventOccurred()

[GET] The state of the overTemp event occurred flag. If enabled, it means that an overTemp event has occurred. It continues to be set in the low power state. It gets cleared when the core temperature goes below or is equal to Threshold - 6°C.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050063	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

overTempEventOccurred	UINT_16	0:2	

1.4.3.51 bosonSetPermitThermalShutdownOverride()

[SET] The flag to ignore the overTemp event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050064	N/A	N/A
permitThermalShutdownOverride	FLR_ENABLE_E	0:4	

No output parameters.

1.4.3.52 bosonGetPermitThermalShutdownOverride()

[GET] The flag to ignore the overTemp event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050065	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
permitThermalShutdownOverride	FLR_ENABLE_E	0:4	

1.4.3.53 bosonGetMyriadTemp()

[GET] The core temperature in °C.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050068	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
myriadTemp	FLOAT	0:4	

1.4.3.54 bosonGetNvFFCNucTableNumberLens0()

[GET] The NUC table number used when the NVFFC map was saved for to Lens0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005006D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
nvFFCNucTableNumberLens0	INT_32	0:4	

1.4.3.55 bosonGetNvFFCNucTableNumberLens1()

[GET] The NUC table number used when the NVFFC map was saved for Lens1.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005006F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
nvFFCNucTableNumberLens1	INT_32	0:4	

1.4.3.56 bosonGetNvFFCFPATempDegKx10Lens0()

[GET] The FPA Temp when the NVFFC map was saved for Lens0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050071	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
nvFFCFPATempDegKx10Lens0	UINT_16	0:2	

1.4.3.57 bosonGetNvFFCFPATempDegKx10Lens1()

[GET] The FPA Temp when the NVFFC map was saved for Lens1.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050073	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
nvFFCFPATempDegKx10Lens1	UINT_16	0:2	

1.4.3.58 bosonSetFFCWarnTimeInSecx10()

[SET] The amount of time in 10ths of a second before the occurrence of FFC that the warn time symbol should be displayed and the ffc state is set to imminent.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050074	N/A	N/A
ffcWarnTime	UINT_16	0:2	

No output parameters.

1.4.3.59 bosonGetFFCWarnTimeInSecx10()

[GET] The amount of time in 10ths of a second before the occurrence of FFC that the warn time symbol should be displayed and the ffc state is set to imminent.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050075	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
ffcWarnTime	UINT_16	0:2	

1.4.3.60 bosonGetOverTempEventCounter()

[GET] The counter value that counts the number of times the overTemp event occurred.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050076	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
overTempEventCounter	UINT_32	0:4	

1.4.3.61 bosonSetOverTempTimerInSec()

[SET] The time is seconds that we want to wait before setting the camera in low power state after an overTemp event has occurred.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050077	N/A	N/A
overTempTimerInSec	UINT_16	0:2	

No output parameters.

1.4.3.62 bosonGetOverTempTimerInSec()

[GET] The time is seconds that we want to wait before setting the camera in low power state after an overTemp event has occurred.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050078	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

overTempTimerInSec	UINT_16	0:2	

1.4.3.63 bosonUnloadCurrentLensCorrections()

Current lens maps to unity. Lens gain map will remain until next reboot, SFFC/NVFFC will remain until next lens switch (or reboot). See also: bosonReloadCurrentLensCorrections.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050079	N/A	N/A

No output parameters.

1.4.3.64 bosonSetTimeForQuickFFCsInSecs()

[SET] The number of seconds after startup that FFC trigger params are 'reduced' to produce FFC events more often.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005007A	N/A	N/A
timeForQuickFFCsInSecs	UINT_32	0:4	

No output parameters.

1.4.3.65 bosonGetTimeForQuickFFCsInSecs()

[GET] The number of seconds after startup that FFC trigger params are 'reduced' to produce FFC events more often.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005007B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

timeForQuickFFCsInSecs	UINT_32	0:4	

1.4.3.66 bosonReloadCurrentLensCorrections()

Reload current lens maps from non-volatile flash.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005007C	N/A	N/A

No output parameters.

1.4.3.67 bosonGetBootTimestamps()

Get several hard coded timestamp values.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005007F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
FirstLight	FLOAT	0:4	
StartInit	FLOAT	4:8	
BosonExecDone	FLOAT	8:12	
Timestamp4	FLOAT	12:16	

1.4.3.68 bosonSetExtSyncMode()

[SET] The External Sync mode (master, slave, disabled)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050098	N/A	N/A
mode	FLR_BOSON_EXT_SYNC_MODE_E	0:4	

No output parameters.

1.4.3.69 bosonGetExtSyncMode()

[GET] The External Sync mode (master, slave, disabled)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00050099	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
mode	FLR_BOSON_EXT_SYNC_MODE_E	0:4	

1.4.3.70 bosonGetLastCommand()

Get sequence number and command ID of last command the camera received.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0005009A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
sequenceNum	UINT_32	0:4	
cmdID	UINT_32	4:8	

1.4.3.71 bosonGetSensorHostCalVersion()

[GET] The sensor calibration version code.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A0	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
version	UINT_32	0:4	

1.4.3.72 bosonSetDesiredStartupTableNumber()

[SET] The Start-up NUC table number, the NUC table loaded by default at start-up.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A1	N/A	N/A
table	INT_32	0:4	

No output parameters.

1.4.3.73 bosonGetDesiredStartupTableNumber()

[GET] The Start-up NUC table number, the NUC table loaded by default at start-up.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A2	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
table	INT_32	0:4	

1.4.3.74 bosonSetNvFFCMeanValueLens0()

[SET] The mean FFC value for NvFFC lens 0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A3	N/A	N/A
meanValue	FLOAT	0:4	

No output parameters.

1.4.3.75 bosonGetNvFFCMeanValueLens0()

[GET] The mean FFC value for NvFFC lens 0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A4	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
meanValue	FLOAT	0:4	

1.4.3.76 bosonSetNvFFCMeanValueLens1()

[SET] The mean FFC value for NvFFC lens 1.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A5	N/A	N/A
meanValue	FLOAT	0:4	

No output parameters.

1.4.3.77 bosonGetNvFFCMeanValueLens1()

[GET] The mean FFC value for NvFFC lens 1.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A6	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
meanValue	FLOAT	0:4	

1.4.3.78 bosonSetInvertImage()

[SET] The invert (horizontal flip) image orientation state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A7	N/A	N/A
invertImage	FLR_ENABLE_E	0:4	

No output parameters.

1.4.3.79 bosonGetInvertImage()

[GET] The invert (horizontal flip) image orientation state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A8	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
invertImage	FLR_ENABLE_E	0:4	

1.4.3.80 bosonSetRevertImage()

[SET] The revert (vertical flip) image orientation state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500A9	N/A	N/A
revertImage	FLR_ENABLE_E	0:4	

No output parameters.

1.4.3.81 bosonGetRevertImage()

[GET] The revert (vertical flip) image orientation state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500AA	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
revertImage	FLR_ENABLE_E	0:4	

1.4.3.82 bosonGetTimeStamp()

Get the value for a specified timestamp enumeration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500AB	N/A	N/A
timeStampType	FLR_BOSON_TIMESTAMPTYPE_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
timeStamp	FLOAT	0:4	

1.4.3.83 bosonGetISPFrameCount()

[GET] The current ISP frame counter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500AC	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
ispFrameCount	UINT_32	0:4	

1.4.3.84 bosonWriteUserBadPixelsToAllTables()

Writes the user bad pixels in DRAM to all NUC tables in Flash.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500AD	N/A	N/A

No output parameters.

1.4.3.85 bosonWriteFactoryBadPixelsToAllTables()

Writes the factory bad pixels in DRAM to all NUC tables in Flash.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500AE	N/A	N/A

No output parameters.

1.4.3.86 bosonGetTempDiodeStatus()

The status of temperature diode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500B1	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
status	FLR_BOSON_TEMP_DIODE_STATUS_E	0:4	

1.4.3.87 bosonClearFactoryBadPixelsInDDR()

Empty the current bad pixel map in DDR.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500B2	N/A	N/A

No output parameters.

1.4.3.88 bosonGetFfcWaitOpenFrames()

[GET] Number of frames to wait for the shutter to open during an Auto or Manual FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500B3	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.4.3.89 bosonSetFfcWaitOpenFrames()

[SET] Number of frames to wait for the shutter to open during an Auto or Manual FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500B4	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.4.3.90 bosonGetFfcWaitOpenFlagSettleFrames()

[GET] Number of frames to wait for the shutter and sensor to settle after opening the shutter during an Auto or Manual FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500B5	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.4.3.91 bosonSetFfcWaitOpenFlagSettleFrames()

[SET] Number of frames to wait for the shutter and sensor to settle after opening the shutter during an Auto or Manual FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500B6	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.4.3.92 bosonGetTauExtFfcCompatibilityMode()

[GET] When enabled, this flag changes the table switching behavior when in External FFC mode so that table switches will happen automatically.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500BA	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.4.3.93 bosonSetTauExtFfcCompatibilityMode()

[SET] When enabled, this flag changes the table switching behavior when in External FFC mode so that table switches will happen automatically.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500BB	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.4.3.94 bosonGetInitialTableSelectionTempOffset()

[GET] Offset in counts (signed) for initial high gain selection.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500C7	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	INT_16	0:2	

1.4.3.95 bosonSetInitialTableSelectionTempOffset()

[SET] Offset in counts (signed) for initial high gain selection.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500C8	N/A	N/A
data	INT_16	0:2	

No output parameters.

1.4.3.96 bosonGetImageValid()

[GET] Indicates when the output image becomes valid

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500C9	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	INT_16	0:2	

1.4.3.97 bosonGetCurrentTableType()

[GET] The (gain) type of the current table.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500CA	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_BOSON_TABLETYPE_E	0:4	

1.4.3.98 bosonGetGainSwitchFrameThreshold()

[GET] The number of consecutive frames required to trigger an automatic gain switch.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500CB	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.4.3.99 bosonSetGainSwitchFrameThreshold()

[SET] The number of consecutive frames required to trigger an automatic gain switch.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500CC	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.4.3.100 bosonGetGainSwitchHysteresisTime()

[GET] The minimum time in seconds between automatic gain switches.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500CD	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.4.3.101 bosonSetGainSwitchHysteresisTime()

[SET] The minimum time in seconds between automatic gain switches.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500CE	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.4.3.102 bosonGetGainSwitchDesired()

[GET] Flag to indicate gain switch is desired.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500CF	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.4.3.103 bosonGetGainSwitchRadiometricParams()

[GET] The parameters for automatic gain switching when radiometry is enabled and the scene is relatively hot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500D2	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
parm_struct	FLR_BOSON_GAIN_SWITCH_RADIOMETRIC_PARAMS_T	0:16	

1.4.3.104 bosonSetGainSwitchRadiometricParams()

[SET] The parameters for automatic gain switching when radiometry is enabled and the scene is relatively hot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500D3	N/A	N/A
parm_struct	FLR_BOSON_GAIN_SWITCH_RADIOMETRIC_PARAMS_T	0:16	

No output parameters.

1.4.3.105 bosonSetSaturationOverrideMode()

[SET] The mode enable for overriding the saturation value from the LUT, to a fixed value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500D8	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.4.3.106 bosonGetSaturationOverrideMode()

[GET] The mode enable for overriding the saturation value from the LUT, to a fixed value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500D9	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.4.3.107 bosonSetSaturationOverrideValue()

[SET] The value used for the saturation override mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500DA	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.4.3.108 bosonGetSaturationOverrideValue()

[GET] The value used for the saturation override mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500DB	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.4.3.109 bosonSetffcHighLowGainThresholdMode()

[SET] The mode enable for using separate high/low gain thresholds for FFC time and temp triggers.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500DC	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.4.3.110 bosonGetffcHighLowGainThresholdMode()

[GET] The mode enable for using separate high/low gain thresholds for FFC time and temp triggers.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500DD	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.4.3.111 bosonSetFFCTempThresholdLowGain()

[SET] The temperature threshold (in degC*10) for the FFC desired flag. If the camera is in Auto FFC mode, an FFC desired flag will result in an automatic FFC event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500DE	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.4.3.112 bosonGetFFCTempThresholdLowGain()

[GET] The temperature threshold (in degC*10) for the FFC desired flag. If the camera is in Auto FFC mode, an FFC desired flag will result in an automatic FFC event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500DF	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.4.3.113 bosonSetFFCFrameThresholdLowGain()

[SET] The time threshold (in seconds) for the FFC desired flag. If the camera is in Auto FFC mode, an FFC desired flag will result in an automatic FFC event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E0	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.4.3.114 bosonGetFFCFrameThresholdLowGain()

[GET] The time threshold (in seconds) for the FFC desired flag. If the camera is in Auto FFC mode, an FFC desired flag will result in an automatic FFC event.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E1	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	UINT_32	0:4	

1.4.3.115 bosonGetBoardID()

[GET] Read the Board ID.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E2	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.4.3.116 bosonSetAutoGainSwitchConditions()

[SET] Select which conditions trigger a gain switch (relative hot scene, relative cold scene or both).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E3	N/A	N/A
data	FLR_BOSON_AUTOGAIN_SWITCH_CONDITION_E	0:4	

No output parameters.

1.4.3.117 bosonGetAutoGainSwitchConditions()

[GET] Select which conditions trigger a gain switch (relative hot scene, relative cold scene or both).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E4	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_BOSON_AUTOGAIN_SWITCH_CONDITION_E	0:4	

1.4.3.118 bosonSetGainSwitchParamsCATS()

[SET] The parameters for the auto gain switching when the scene is relatively cold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E5	N/A	N/A
parm_struct	FLR_BOSON_GAIN_SWITCH_PARAMS_T	0:16	

No output parameters.

1.4.3.119 bosonGetGainSwitchParamsCATS()

[GET] The parameters for the auto gain switching when the scene is relatively cold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E6	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
parm_struct	FLR_BOSON_GAIN_SWITCH_PARAMS_T	0:16	

1.4.3.120 bosonGetGainSwitchRadiometricParamsCATS()

[GET] The parameters for automatic gain switching when radiometry is enabled and the scene is relatively cold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E7	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
parm_struct	FLR_BOSON_GAIN_SWITCH_RADIOMETRIC_PARAMS_T	0:16	

1.4.3.121 bosonSetGainSwitchRadiometricParamsCATS()

[SET] The parameters for automatic gain switching when radiometry is enabled and the scene is relatively cold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E8	N/A	N/A
parm_struct	FLR_BOSON_GAIN_SWITCH_RADIOMETRIC_PARAMS_T	0:16	

No output parameters.

1.4.3.122 bosonGetCLowToHighPercentCATS()

[GET] The calculated percent counts for the transition from low gain to high gain state in Cold Automatic Table Switch Mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000500E9	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
cLowToHighPercent	UINT_32	0:4	

1.5 Module: BPR

The BPR module exposes functions to control the Bad Pixel Replace algorithm

1.5.1 Enums

1.5.1.1 FLR_BPR_DISPLAY_MODE_E — <INT_32>

FLR_BPR_NORMAL_DISPLAY_MODE = 0
FLR_BPR_MIN_VALUE_ONLY_MODE = 1
FLR_BPR_MAX_VALUE_ONLY_MODE = 2
FLR_BPR_MIN_MAX_TOGGLE_MODE = 3
FLR_BPR_BPR_DISPLAY_MODE_END = 4

1.5.2 Structs

No struct types in module bpr.

1.5.3 Functions

1.5.3.1 bprGetState()

[GET] The state of the bad-pixel replace (BPR) algorithm.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00030001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.5.3.2 bprSetState()

[SET] The state of the bad-pixel replace (BPR) algorithm.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00030002	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.5.3.3 bprGetStats()

Get frame statistics about pixel replacement.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00030003	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
threeby	UINT_32	0:4	
fiveby	UINT_32	4:8	
rows	UINT_32	8:12	
budget	UINT_32	12:16	
used	UINT_32	16:20	

1.5.3.4 bprGetDisplayMode()

[GET] Current display mode for replaced pixels; can use corrected (normal) values or several fixed indicator values.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00030005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_BPR_DISPLAY_MODE_E	0:4	

1.5.3.5 bprSetDisplayMode()

[SET] Current display mode for replaced pixels; can use corrected (normal) values or several fixed indicator values.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00030006	N/A	N/A
data	FLR_BPR_DISPLAY_MODE_E	0:4	

No output parameters.

1.5.3.6 bprGetDisplayModeMinValue()

[GET] The displayed minimum value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00030007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.5.3.7 bprSetDisplayModeMinValue()

[SET] The displayed minimum value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00030008	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.5.3.8 bprGetDisplayModeMaxValue()

[GET] The displayed maximum value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00030009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.5.3.9 bprSetDisplayModeMaxValue()

[SET] The displayed maximum value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0003000A	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.5.3.10 bprGetWorkBufIndex()

[GET] Current work buffer index for getting stats.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0003000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.5.3.11 bprSetWorkBufIndex()

[SET] Current work buffer index for getting stats.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0003000C	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.5.3.12 bprGetWorkBufStats()

Get single work-buffer statistics about pixel replacement.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0003000D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
threeby	UINT_32	0:4	
fiveby	UINT_32	4:8	
rows	UINT_32	8:12	
budget	UINT_32	12:16	
used	UINT_32	16:20	

1.6 Module: CAPTURE

This set of controls is used to capture one or more video frames to Boson's internal memory. These captured frames are stored in DRAM and will be erased when the camera reboots or loses power.

1.6.1 Enums

1.6.1.1 FLR_CAPTURE_SRC_E — <INT_32>

FLR_CAPTURE_SRC_NUC = 1
FLR_CAPTURE_SRC_RESERVED = 2
FLR_CAPTURE_SRC_TNF = 3
FLR_CAPTURE_SRC_BLEND = 4
FLR_CAPTURE_SRC_VIS = 5
FLR_CAPTURE_SRC_MSX = 6
FLR_CAPTURE_SRC_RAW = 7
FLR_CAPTURE_SRC_TLINEAR = 8
FLR_CAPTURE_SRC_END = 9

1.6.1.2 FLR_CAPTURE_FILE_TYPE_E — <INT_32>

FLR_CAPTURE_NONE = 0
FLR_CAPTURE_JPEG = 1
FLR_CAPTURE_PNG = 2

1.6.1.3 FLR_CAPTURE_STATE_E — <INT_32>

FLR_CAPTURE_READY = 0
FLR_CAPTURE_IN_PROGRESS = 1

1.6.2 Structs

1.6.2.1 FLR_CAPTURE_SETTINGS_T

Field Name	DataType	Bytes
dataSrc	FLR_CAPTURE_SRC_E	4
numFrames	UINT_32	4
bufferIndex	UINT_16	2

1.6.2.2 FLR_CAPTURE_FILE_SETTINGS_T

Field Name	DataType	Bytes
captureFileType	FLR_CAPTURE_FILE_TYPE_E	4
filePath	UCHAR*128	128

1.6.2.3 FLR_CAPTURE_STATUS_T

Field Name	DataType	Bytes
state	FLR_CAPTURE_STATE_E	4
result	UINT_32	4
capturedFrames	UINT_32	4
missedFrames	UINT_32	4
savedFrames	UINT_32	4
unsyncFrames	UINT_32	4

1.6.3 Functions

1.6.3.1 captureSingleFrame()

Deprecated/Legacy.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00070001	N/A	N/A

No output parameters.

1.6.3.2 captureFrames()

Capture up to 16 frames from specified source to buffer(s). You can select which slot the capture begins in, though you cannot capture more frames than slots. Ex: Capturing 16 frames can only be accomplished if slot 0 is selected as the start point.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00070002	N/A	N/A
data	FLR_CAPTURE_SETTINGS_T	0:10	

No output parameters.

1.6.3.3 captureSingleFrameWithSrc()

Capture a single frame from the specified source. Always uses capture slot 0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00070003	N/A	N/A
data	FLR_CAPTURE_SRC_E	0:4	

No output parameters.

1.6.3.4 captureSingleFrameToFile()

Capture a single frame to file. Not available in Boson.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00070004	N/A	N/A

No output parameters.

1.6.3.5 captureGetStatus()

Get current capture status.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00070005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

status	FLR_CAPTURE_STATUS_T	0:24	

1.7 Module: COLORLUT

This module is used to control which (if any) false color mode is applied to the 8-bit video output.

1.7.1 Enums

1.7.1.1 FLR_COLORLUT_ID_E — <INT_32>

FLR_COLORLUT_DEFAULT = 0
FLR_COLORLUT_WHITEHOT = 0
FLR_COLORLUT_0 = 0
FLR_COLORLUT_BLACKHOT = 1
FLR_COLORLUT_1 = 1
FLR_COLORLUT_2 = 2
FLR_COLORLUT_RAINBOW = 2
FLR_COLORLUT_3 = 3
FLR_COLORLUT_RAINBOW_HC = 3
FLR_COLORLUT_IRONBOW = 4
FLR_COLORLUT_4 = 4
FLR_COLORLUT_LAVA = 5
FLR_COLORLUT_5 = 5
FLR_COLORLUT_6 = 6
FLR_COLORLUT_ARCTIC = 6
FLR_COLORLUT_7 = 7
FLR_COLORLUT_GLOBOW = 7
FLR_COLORLUT_GRADEDFIRE = 8
FLR_COLORLUT_8 = 8
FLR_COLORLUT_HOTTEST = 9
FLR_COLORLUT_9 = 9
FLR_COLORLUT_EMBERGLOW = 10
FLR_COLORLUT_10 = 10
FLR_COLORLUT_11 = 11
FLR_COLORLUT_AURORA = 11
FLR_COLORLUT_ID_END = 12

1.7.2 Structs

No struct types in module colorLut.

1.7.3 Functions

1.7.3.1 colorLutSetControl()

[SET] The current enable state of the colorize module.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000B0001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.7.3.2 colorLutGetControl()

[GET] The current enable state of the colorize module.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000B0002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.7.3.3 colorLutSetId()

[SET] The current color palette, by ID.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000B0003	N/A	N/A
data	FLR_COLORLUT_ID_E	0:4	

No output parameters.

1.7.3.4 colorLutGetId()

[GET] The current color palette, by ID.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000B0004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_COLORLUT_ID_E	0:4	

1.7.3.5 colorLutSetOutlineColor()

Set the R,G,B value used for display of outline edges.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000B0005	N/A	N/A
red	UCHAR	0:1	
green	UCHAR	1:2	
blue	UCHAR	2:3	

No output parameters.

1.7.3.6 colorLutGetOutlineColor()

Get the R,G,B value used for display of outline edges.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000B0006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
red	UCHAR	0:1	
green	UCHAR	1:2	
blue	UCHAR	2:3	

1.8 Module: DUMMY

TestModule, no camera functionality.

1.8.1 Enums

No enumerations in module dummy.

1.8.2 Structs

No struct types in module dummy.

1.8.3 Functions

1.8.3.1 dummyBadCommand()

Command Id deliberately not implemented on camera to allow testing.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xDEADBEEF	N/A	N/A

No output parameters.

1.9 Module: DVO

The Digital Video Out module provides funtions to control and interrogate the digital video display if connected to the digital output interface.

1.9.1 Enums

1.9.1.1 FLR_DVO_OUTPUT_FORMAT_E — <INT_32>

FLR_DVO_RGB = 0
FLR_DVO_YCBCR = 1
FLR_DVO_DEFAULT_FORMAT = 2
FLR_DVO_IR16 = 3
FLR_DVO_OUTPUT_FORMAT_END = 4

1.9.1.2 FLR_DVO_OUTPUT_RGB_FORMAT_E — <INT_32>

FLR_DVO_RGB888 = 0
FLR_DVO_MRGB888 = 1
FLR_DVO_RGB565 = 2
FLR_DVO_MRGB565 = 3
FLR_DVO_OUTPUT_RGB_FORMAT_END = 4

1.9.1.3 FLR_DVO_OUTPUT_YCBCR_FORMAT_E — <INT_32>

FLR_DVO_YCBCR422_8B = 0
FLR_DVO_MYCBCR422_8B = 1
FLR_DVO_OUTPUT_YCBCR_FORMAT_END = 2

1.9.1.4 FLR_DVO_OUTPUT_IR16_FORMAT_E — <INT_32>

FLR_DVO_IR16_16B = 0
FLR_DVO_MIR16_8B = 1
FLR_DVO_OUTPUT_IR16_FORMAT_END = 2

1.9.1.5 FLR_DVO_OUTPUT_CBCR_ORDER_E — <INT_32>

FLR_DVO_CRCB = 0
FLR_DVO_CBCR = 1
FLR_DVO_OUTPUT_CBCR_ORDER_END = 2

1.9.1.6 FLR_DVO_OUTPUT_Y_ORDER_E — <INT_32>

FLR_DVO_YFIRST = 0
FLR_DVO_YLAST = 1
FLR_DVO_OUTPUT_Y_ORDER_END = 2

1.9.1.7 FLR_DVO_OUTPUT_RGB_ORDER_E — <INT_32>

FLR_DVO_ORDER_RGB = 0
FLR_DVO_ORDER_BGR = 1
FLR_DVO_OUTPUT_RGB_ORDER_END = 2

1.9.1.8 FLR_DVO_TYPE_E — <INT_32>

FLR_DVO_TYPE_MONO16 = 0
FLR_DVO_TYPE_MONO8 = 1
FLR_DVO_TYPE_COLOR = 2
FLR_DVO_TYPE_ANALOG = 3
FLR_DVO_TYPE_RAW = 4
FLR_DVO_TYPE_MONO14 = 5
FLR_DVO_TYPE_TLINEAR = 6
FLR_DVO_TYPE_MONO12 = 7
FLR_DVO_TYPE_MONO8MONO14 = 8
FLR_DVO_TYPE_MONO8MONO12 = 9
FLR_DVO_TYPE_COLORMONO14 = 10
FLR_DVO_TYPE_COLORMONO12 = 11
FLR_DVO_TYPE_COLORMONO8 = 12
FLR_DVO_TYPE_COLORTLINEAR = 13
FLR_DVO_TYPE_MONO8TLINEAR = 14
FLR_DVO_TYPE_END = 15

1.9.1.9 FLR_DVO_OUTPUT_INTERFACE_E — <INT_32>

FLR_DVO_CMOS = 0
FLR_DVO_MIPI = 1
FLR_DVO_OUTPUT_INTERFACE_END = 2

1.9.1.10 FLR_DVO_DISPLAY_MODE_E — <INT_32>

FLR_DVO_CONTINUOUS = 0
FLR_DVO_ONE_SHOT = 1
FLR_DVO_DISPLAY_MODE_END = 2

1.9.1.11 FLR_DVO_VIDEO_STANDARD_E — <INT_32>

FLR_DVO_NTSC = 0
FLR_DVO_PAL = 1
FLR_DVO_VIDEO_STANDARD_END = 2

1.9.1.12 FLR_DVO_LCD_CONFIG_ID_E — <INT_32>

FLR_DVO_DEFAULT = 0
FLR_DVO_CUSTOM1 = 1
FLR_DVO_CUSTOM2 = 2
FLR_DVO_CONFIG1 = 3
FLR_DVO_CONFIG2 = 4

1.9.1.13 FLR_DVO_LCD_CLOCK_RATE_E — <INT_32>

FLR_DVO_LCD_CLOCK_DEFAULT = 0
FLR_DVO_LCD_CLOCK_27MHZ = 1
FLR_DVO_LCD_CLOCK_13_5MHZ = 2
FLR_DVO_LCD_CLOCK_48MHZ = 3
FLR_DVO_LCD_CLOCK_60MHZ = 4
FLR_DVO_LCD_CLOCK_END = 5

1.9.1.14 FLR_DVO_MIPI_STATE_E — <INT_32>

FLR_DVO_MIPI_STATE_OFF = 0
FLR_DVO_MIPI_STATE_PAUSED = 1
FLR_DVO_MIPI_STATE_ACTIVE = 2
FLR_DVO_MIPI_STATE_END = 3

1.9.1.15 FLR_DVO_MIPI_CLOCK_LANE_MODE_E — <INT_32>

FLR_DVO_MIPI_CLOCK_LANE_MODE_NON_CONTINUOUS = 0
FLR_DVO_MIPI_CLOCK_LANE_MODE_CONTINUOUS = 1
FLR_DVO_MIPI_CLOCK_LANE_MODE_END = 2

1.9.2 Structs

1.9.2.1 FLR_DVO_YCBCR_SETTINGS_T

Field Name	DataType	Bytes
ycbcrFormat	FLR_DVO_OUTPUT_YCBCR_FORMAT_E	4
cbcrOrder	FLR_DVO_OUTPUT_CBCR_ORDER_E	4
yOrder	FLR_DVO_OUTPUT_Y_ORDER_E	4

1.9.2.2 FLR_DVO_RGB_SETTINGS_T

Field Name	DataType	Bytes
rgbFormat	FLR_DVO_OUTPUT_RGB_FORMAT_E	4
rgbOrder	FLR_DVO_OUTPUT_RGB_ORDER_E	4

1.9.2.3 FLR_DVO_LCD_CONFIG_T

Field Name	DataType	Bytes
width	UINT_32	4
hPulseWidth	UINT_32	4
hBackP	UINT_32	4
hFrontP	UINT_32	4
height	UINT_32	4
vPulseWidth	UINT_32	4
vBackP	UINT_32	4
vFrontP	UINT_32	4
outputFormat	UINT_32	4
control	UINT_32	4
rotation	UINT_32	4
pixelClockkHz	UINT_32	4

1.9.3 Functions

1.9.3.1 dvoSetAnalogVideoState()

[SET] The state of analog video.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060004	N/A	N/A
analogVideoState	FLR_ENABLE_E	0:4	

No output parameters.

1.9.3.2 dvoGetAnalogVideoState()

[GET] The state of analog video.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
analogVideoState	FLR_ENABLE_E	0:4	

1.9.3.3 dvoSetOutputFormat()

[SET] The output format for the lcd output. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060006	N/A	N/A
format	FLR_DVO_OUTPUT_FORMAT_E	0:4	

No output parameters.

1.9.3.4 dvoGetOutputFormat()

[GET] The output format for the lcd output. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
format	FLR_DVO_OUTPUT_FORMAT_E	0:4	

1.9.3.5 dvoSetOutputYCbCrSettings()

[SET] The YCBCR mode, Y order and CB/CR order. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060008	N/A	N/A

settings	FLR_DVO_YCBCR_SETTINGS_T	0:12	

No output parameters.

1.9.3.6 dvoGetOutputYCbCrSettings()

[GET] The YCBCR mode, Y order and CB/CR order. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
settings	FLR_DVO_YCBCR_SETTINGS_T	0:12	

1.9.3.7 dvoSetOutputRGBSettings()

[SET] The RGB mode and RGB order. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006000A	N/A	N/A
settings	FLR_DVO_RGB_SETTINGS_T	0:8	

No output parameters.

1.9.3.8 dvoGetOutputRGBSettings()

[GET] The RGB mode and RGB order. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

settings	FLR_DVO_RGB_SETTINGS_T	0:8	

1.9.3.9 dvoApplyCustomSettings()

Applies the settings set by dvoSetOutputFormat, dvoSetOutputYCbCrSettings and dvoSetOutputRGBSettings. If FLR_DVO_DEFAULT_FORMAT is chosen, this function applies the default lcd settings for the selected source. If FLR_DVO_YCBCR is set then the settings set by dvoSetOutputYCbCrSettings are applied and if FLR_DVO_RGB is selected, the settings set by dvoSetOutputRGBSettings are applied to the lcd output format.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006000C	N/A	N/A

No output parameters.

1.9.3.10 dvoSetDisplayMode()

[SET] The display mode to continuous or one shot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006000D	N/A	N/A
displayMode	FLR_DVO_DISPLAY_MODE_E	0:4	

No output parameters.

1.9.3.11 dvoGetDisplayMode()

[GET] The display mode to continuous or one shot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006000E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
displayMode	FLR_DVO_DISPLAY_MODE_E	0:4	

1.9.3.12 dvoSetType()

[SET] The tap at which the DVO source points to.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006000F	N/A	N/A
tap	FLR_DVO_TYPE_E	0:4	

No output parameters.

1.9.3.13 dvoGetType()

[GET] The tap at which the DVO source points to.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060010	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
tap	FLR_DVO_TYPE_E	0:4	

1.9.3.14 dvoSetVideoStandard()

[SET] The analog video output to be either NTSC or PAL.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060011	N/A	N/A
videoStandard	FLR_DVO_VIDEO_STANDARD_E	0:4	

No output parameters.

1.9.3.15 dvoGetVideoStandard()

[GET] The analog video output to be either NTSC or PAL.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060012	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
videoStandard	FLR_DVO_VIDEO_STANDARD_E	0:4	

1.9.3.16 dvoSetCheckVideoDacPresent()

[SET] The flag to either check or ignore the presence of the DAC. If we set this flag is enabled and if the video DAC is not present, we do not output the BT.656 data.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060013	N/A	N/A
checkVideoDacPresent	FLR_ENABLE_E	0:4	

No output parameters.

1.9.3.17 dvoGetCheckVideoDacPresent()

[GET] The flag to either check or ignore the presence of the DAC. If we set this flag is enabled and if the video DAC is not present, we do not output the BT.656 data.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060014	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
checkVideoDacPresent	FLR_ENABLE_E	0:4	

1.9.3.18 dvoSetCustomLcdConfig()

Set a custom LCD configuration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060015	N/A	N/A
id	FLR_DVO_LCD_CONFIG_ID_E	0:4	
config	FLR_DVO_LCD_CONFIG_T	4:52	

No output parameters.

1.9.3.19 dvoGetCustomLcdConfig()

Get a custom LCD configuration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060016	N/A	N/A
id	FLR_DVO_LCD_CONFIG_ID_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
config	FLR_DVO_LCD_CONFIG_T	0:48	

1.9.3.20 dvoSetLCDConfig()

[SET] The current LCD configuration ID.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060017	N/A	N/A
id	FLR_DVO_LCD_CONFIG_ID_E	0:4	

No output parameters.

1.9.3.21 dvoGetLCDConfig()

[GET] The current LCD configuration ID.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060018	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
id	FLR_DVO_LCD_CONFIG_ID_E	0:4	

1.9.3.22 dvoGetClockInfo()

Get the current output clock configuration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060019	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
horizontalSyncWidth	UINT_32	0:4	
verticalSyncWidth	UINT_32	4:8	
clocksPerRowPeriod	UINT_32	8:12	
horizontalFrontPorch	UINT_32	12:16	
horizontalBackPorch	UINT_32	16:20	
frontTelemetryPixels	UINT_32	20:24	
rearTelemetryPixels	UINT_32	24:28	
videoColumns	UINT_32	28:32	
validColumns	UINT_32	32:36	
telemetryRows	UINT_32	36:40	
videoRows	UINT_32	40:44	
validRows	UINT_32	44:48	
verticalFrontPorch	UINT_32	48:52	
verticalBackPorch	UINT_32	52:56	
rowPeriodsPerFrame	UINT_32	56:60	
clocksPerFrame	UINT_32	60:64	
clockRateInMHz	FLOAT	64:68	
frameRateInHz	FLOAT	68:72	

validOnRisingEdge	UINT_32	72:76	
dataWidthInBits	UINT_32	76:80	

1.9.3.23 dvoSetAllCustomLcdConfigs()

Set all custom LCD configurations.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006001A	N/A	N/A
config0	FLR_DVO_LCD_CONFIG_T	0:48	
config1	FLR_DVO_LCD_CONFIG_T	48:96	

No output parameters.

1.9.3.24 dvoGetAllCustomLcdConfigs()

Get all custom LCD configurations.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006001B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
config0	FLR_DVO_LCD_CONFIG_T	0:48	
config1	FLR_DVO_LCD_CONFIG_T	48:96	

1.9.3.25 dvoSetOutputIr16Format()

[SET] The IR16 format settings, 16B or 8B Multiplex. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006001C	N/A	N/A
format	FLR_DVO_OUTPUT_IR16_FORMAT_E	0:4	

No output parameters.

1.9.3.26 dvoGetOutputIr16Format()

[GET] The IR16 format settings, 16B or 8B Multiplex. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006001D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
format	FLR_DVO_OUTPUT_IR16_FORMAT_E	0:4	

1.9.3.27 dvoSetLcdClockRate()

[SET] LCD aux clock rate.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006001E	N/A	N/A
clockRate	FLR_DVO_LCD_CLOCK_RATE_E	0:4	

No output parameters.

1.9.3.28 dvoGetLcdClockRate()

[GET] LCD aux clock rate.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006001F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
clockRate	FLR_DVO_LCD_CLOCK_RATE_E	0:4	

1.9.3.29 dvoSetLcdVideoFrameRate()

[SET] LCD Video frame rate in Hz (only supported in continuous mode).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060020	N/A	N/A
framerate	UINT_32	0:4	

No output parameters.

1.9.3.30 dvoGetLcdVideoFrameRate()

[GET] LCD Video frame rate in Hz (only supported in continuous mode).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060021	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
framerate	UINT_32	0:4	

1.9.3.31 dvoSetMipiStartState()

[SET] Initial starting state for MIPI interface following boot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060022	N/A	N/A
state	FLR_DVO_MIPI_STATE_E	0:4	

No output parameters.

1.9.3.32 dvoGetMipiStartState()

[GET] Initial starting state for MIPI interface following boot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060023	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
state	FLR_DVO_MIPI_STATE_E	0:4	

1.9.3.33 dvoSetMipiState()

[SET] MIPI interface state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060024	N/A	N/A
state	FLR_DVO_MIPI_STATE_E	0:4	

No output parameters.

1.9.3.34 dvoGetMipiState()

[GET] MIPI interface state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060025	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
state	FLR_DVO_MIPI_STATE_E	0:4	

1.9.3.35 dvoSetMipiClockLaneMode()

[SET] MIPI clock lane behavior, non-continuous or continuous.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060026	N/A	N/A
mode	FLR_DVO_MIPI_CLOCK_LANE_MODE_E	0:4	

No output parameters.

1.9.3.36 dvoGetMipiClockLaneMode()

[GET] MIPI clock lane behavior, non-continuous or continuous.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060027	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
mode	FLR_DVO_MIPI_CLOCK_LANE_MODE_E	0:4	

1.9.3.37 dvoSetOutputInterface()

[SET] Set the output interface, CMOS or MIPI.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060028	N/A	N/A
format	FLR_DVO_OUTPUT_INTERFACE_E	0:4	

No output parameters.

1.9.3.38 dvoGetOutputInterface()

[GET] Set the output interface, CMOS or MIPI.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00060029	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
format	FLR_DVO_OUTPUT_INTERFACE_E	0:4	

1.9.3.39 dvoSetOutputFormatVC1()

[SET] The output format for the lcd output of MIPI VC1 stream. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006002A	N/A	N/A
format	FLR_DVO_OUTPUT_FORMAT_E	0:4	

No output parameters.

1.9.3.40 dvoGetOutputFormatVC1()

[GET] The output format for the lcd output of MIPI VC1 stream. In order to apply these settings, dvoApplyCustomSettings function needs to be called.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0006002B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
format	FLR_DVO_OUTPUT_FORMAT_E	0:4	

1.10 Module: DVOMUX

The Digital Video Out Muxer module provides funtions to control image source for output interfaceses.

1.10.1 Enums

1.10.1.1 FLR_DVOMUX_TYPE_E — <INT_32>

FLR_DVOMUX_TYPE_MONO16 = 0
FLR_DVOMUX_TYPE_MONO8 = 1
FLR_DVOMUX_TYPE_COLOR = 2
FLR_DVOMUX_TYPE_ANALOG = 3
FLR_DVOMUX_TYPE_MONO14 = 4
FLR_DVOMUX_TYPE_END = 5

1.10.1.2 FLR_DVOMUX_SOURCE_E — <INT_32>

FLR_DVOMUX_SRC_IR = 0
FLR_DVOMUX_SRC_VIS = 1
FLR_DVOMUX_SRC_H264DEC = 2
FLR_DVOMUX_SRC_END = 3

1.10.1.3 FLR_DVOMUX_OUTPUT_IF_E — <INT_32>

FLR_DVOMUX_OUTPUT_IF_DVO = 0
FLR_DVOMUX_OUTPUT_IF_UVC = 1
FLR_DVOMUX_OUTPUT_IF_CAPTURE = 2
FLR_DVOMUX_OUTPUT_IF_MIPITX = 3
FLR_DVOMUX_OUTPUT_IF_H264ENC = 4
FLR_DVOMUX_OUTPUT_IF_END = 5

1.10.2 Structs

No struct types in module dvoMux.

1.10.3 Functions

1.10.3.1 dvoMuxSetType()

Set the type of data that should be outputed on the given interface.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00330000	N/A	N/A
output	FLR_DVOMUX_OUTPUT_IF_E	0:4	
source	FLR_DVOMUX_SOURCE_E	4:8	
type	FLR_DVOMUX_TYPE_E	8:12	

No output parameters.

1.10.3.2 dvoMuxGetType()

Get the type of data that should be outputed on the given interface.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00330001	N/A	N/A
output	FLR_DVOMUX_OUTPUT_IF_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
source	FLR_DVOMUX_SOURCE_E	0:4	
type	FLR_DVOMUX_TYPE_E	4:8	

1.11 Module: FILEOPS

These APIs describe the File operations for managing files and directories.

1.11.1 Enums

No enumerations in module fileOps.

1.11.2 Structs

No struct types in module fileOps.

1.11.3 Functions

1.11.3.1 fileOpsDir()

Iterate through current directory contents.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160000	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
dirent	UCHAR*128	0:128	

1.11.3.2 fileOpsCd()

Change the current working directory.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160001	N/A	N/A
path	UCHAR*128	0:128	

Output/Receive parameters:

Name	DataType	Bytes	Notes
pwd	UCHAR*128	0:128	

1.11.3.3 fileOpsMd()

Make a new directory.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160002	N/A	N/A
path	UCHAR*128	0:128	

No output parameters.

1.11.3.4 fileOpsFopen()

Open a file pointer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160003	N/A	N/A
path	UCHAR*128	0:128	
mode	UCHAR*128	128:256	

Output/Receive parameters:

Name	DataType	Bytes	Notes
id	UINT_32	0:4	

1.11.3.5 fileOpsFclose()

Close a file pointer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160004	N/A	N/A
id	UINT_32	0:4	

No output parameters.

1.11.3.6 fileOpsFread()

Read data from the specified file pointer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160005	N/A	N/A
id	UINT_32	0:4	
length	UINT_32	4:8	

Output/Receive parameters:

Name	DataType	Bytes	Notes
buf	UCHAR*128	0:128	
ret	UINT_32	128:132	

1.11.3.7 fileOpsFwrite()

Write data to the specified file pointer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160006	N/A	N/A

id	UINT_32	0:4	
length	UINT_32	4:8	
buf	UCHAR*128	8:136	

Output/Receive parameters:

Name	DataType	Bytes	Notes
ret	UINT_32	0:4	

1.11.3.8 fileOpsFtell()

Get the current data pointer location for the specified file pointer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160007	N/A	N/A
id	UINT_32	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
offset	UINT_32	0:4	

1.11.3.9 fileOpsFseek()

Set the data pointer location for the specified file pointer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160008	N/A	N/A
id	UINT_32	0:4	
offset	UINT_32	4:8	
origin	UINT_32	8:12	

No output parameters.

1.11.3.10 fileOpsFtruncate()

Trucate the specified file pointer to a maximum length.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00160009	N/A	N/A
id	UINT_32	0:4	

length	UINT_32	4:8	

No output parameters.

1.11.3.11 fileOpsRmdir()

Delete the specified folder.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0016000A	N/A	N/A
path	UCHAR*128	0:128	

No output parameters.

1.11.3.12 fileOpsRm()

Delete the specified file.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0016000B	N/A	N/A
path	UCHAR*128	0:128	

No output parameters.

1.11.3.13 fileOpsRename()

Rename the specified file or folder.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0016000C	N/A	N/A
oldpath	UCHAR*128	0:128	
newpath	UCHAR*128	128:256	

No output parameters.

1.11.3.14 fileOpsGetFileSize()

Get the size of the specified file.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0016000D	N/A	N/A

path	UCHAR*128	0:128	

Output/Receive parameters:

Name	DataType	Bytes	Notes
fileLength	UINT_32	0:4	

1.12 Module: FLASHIO

Flash memory controls.

1.12.1 Enums

No enumerations in module flashIO.

1.12.2 Structs

No struct types in module flashIO.

1.12.3 Functions

1.12.3.1 flashIOSetProtectionState()

[SET] The write protection state, allowing or disallowing flash write and erase operations.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00300001	N/A	N/A
protection State	FLR_ENABLE_E	0:4	

No output parameters.

1.12.3.2 flashIOGetProtectionState()

[GET] The write protection state, allowing or disallowing flash write and erase operations.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00300002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
protection State	FLR_ENABLE_E	0:4	

1.13 Module: FLASHMAPFS

Functions to control the general operation of the flash filesystem.

1.13.1 Enums

No enumerations in module flashMapFs.

1.13.2 Structs

No struct types in module flashMapFs.

1.13.3 Functions

1.13.3.1 flashMapFsGetHeaderVersion()

Returns version info of the flashMap header.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00340005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
major	UINT_32	0:4	
minor	UINT_32	4:8	
patch	UINT_32	8:12	

1.14 Module: GAO

This module exposes functions to control the application of various gains and offsets during the Non Uniformity Corrections part of the pipeline.

1.14.1 Enums

1.14.1.1 FLR_GAO_NUC_TYPE_E — <INT_32>

FLR_GAO_NUC_TYPE_ONE_POINT_FFC = 0
FLR_GAO_NUC_TYPE_TWO_POINT_FIELD = 1
FLR_GAO_NUC_TYPE_TWO_POINT_FACTORY = 2
FLR_GAO_NUC_TYPE_END = 3

1.14.1.2 FLR_GAO_SFFC_MODE_E — <INT_32>

FLR_GAO_SFFC_MODE_TRADITIONAL = 0

FLR_GAO_SFFC_MODE_BOSS = 1
FLR_GAO_SFFC_MODE_END = 3

1.14.2 Structs

1.14.2.1 FLR_GAO_RNS_COL_CORRECT_T

Field Name	DataType	Bytes
value	INT_16*20	40

1.14.3 Functions

1.14.3.1 gaoSetGainState()

[SET] State of per-pixel gain coefficients (including lens gain correction). When disabled, unity gain is applied to all pixels. Most users should leave this enabled.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.2 gaoGetGainState()

[GET] State of per-pixel gain coefficients (including lens gain correction). When disabled, unity gain is applied to all pixels. Most users should leave this enabled.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.3 gaoSetFfcState()

[SET] State of per-pixel Flat-Field Correction (FFC) coefficients. Pixels over the threshold will not be averaged. Most users should leave this enabled.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000003	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.4 gaoGetFfcState()

[GET] State of per-pixel Flat-Field Correction (FFC) coefficients. Pixels over the threshold will not be averaged. Most users should leave this enabled.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.5 gaoSetTempCorrectionState()

[SET] State of per-pixel temperature corrections. Additionally, controls application of Row Noise algorithm (if available).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000005	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.6 gaoGetTempCorrectionState()

[GET] State of per-pixel temperature corrections. Additionally, controls application of Row Noise algorithm (if available).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLR_ENABLE_E	0:4	

1.14.3.7 gaoSetIConstL()

[SET] The value of a global offset. Most users should leave this at the default value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000007	N/A	N/A
data	INT_16	0:2	

No output parameters.

1.14.3.8 gaoGetIConstL()

[GET] The value of a global offset. Most users should leave this at the default value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	INT_16	0:2	

1.14.3.9 gaoSetIConstM()

[SET] The value of a second global offset. Most users should leave this at the default value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000009	N/A	N/A
data	INT_16	0:2	

No output parameters.

1.14.3.10 gaoGetIConstM()

[GET] The value of a second global offset. Most users should leave this at the default value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	INT_16	0:2	

1.14.3.11 gaoSetAveragerState()

[SET] State of smart-averager function which cuts frame rate in half.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000000B	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.12 gaoGetAveragerState()

[GET] State of smart-averager function which cuts frame rate in half.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000000C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.13 gaoSetNumFFCFrames()

[SET] Specifies the number of frames (2, 4, 8, or 16) to be integrated during flat-field correction (FFC).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000000D	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.14.3.14 gaoGetNumFFCFrames()

[GET] Specifies the number of frames (2, 4, 8, or 16) to be integrated during flat-field correction (FFC).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000000E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.14.3.15 gaoGetAveragerThreshold()

[GET] Specifies the threshold to be used by the smart-averager function. Most users should leave this at its default value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000010	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.14.3.16 gaoSetTestRampState()

[SET] State of test ramp generated by internal electronics (in lieu of data from the sensor array). Most users should leave this disabled as it is intended primarily as a diagnostic feature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000013	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.17 gaoGetTestRampState()

[GET] State of test ramp generated by internal electronics (in lieu of data from the sensor array). Most users should leave this disabled as it is intended primarily as a diagnostic feature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000014	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.18 gaoSetSffcState()

[SET] State of supplemental flat-field correction (SFFC).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000017	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.19 gaoGetSffcState()

[GET] State of supplemental flat-field correction (SFFC).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000018	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.20 gaoSetNucType()

[SET] The value of the NUC type to either one point or two point.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00000023	N/A	N/A
nucType	FLR_GAO_NUC_TYPE_E	0:4	

No output parameters.

1.14.3.21 gaoGetNucType()

[GET] The value of the NUC type to either one point or two point.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000024	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
nucType	FLR_GAO_NUC_TYPE_E	0:4	

1.14.3.22 gaoSetFfcZeroMeanState()

[SET] State of zero mean FFC correction mode. Enabling this mode corrects offsets relative to the frame mean instead of an absolute target.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000025	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.23 gaoGetFfcZeroMeanState()

[GET] State of zero mean FFC correction mode. Enabling this mode corrects offsets relative to the frame mean instead of an absolute target.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000026	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.24 gaoGetAveragerDesiredState()

[GET] The desired averager state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000003E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.25 gaoGetAppliedClip()

[GET] Get value for the soft saturation clipping.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000004D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.14.3.26 gaoSetAppliedClipEnable()

[SET] Enable for the soft saturation clipping.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000004F	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.27 gaoGetAppliedClipEnable()

[GET] Enable for the soft saturation clipping.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000050	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.28 gaoSetFfcShutterSimulationState()

[SET] Enables or dibsales FFC shutter simulator when compiled in.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000005A	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.29 gaoGetFfcShutterSimulationState()

[GET] Enables or dibsales FFC shutter simulator when compiled in.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000005B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.30 gaoSetFfcShutterSimulatorValue()

[SET] 14bit value to fill frames in NUC when simulated FFC shutter is closed.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000005C	N/A	N/A
value	UINT_16	0:2	

No output parameters.

1.14.3.31 gaoGetFfcShutterSimulatorValue()

[GET] 14bit value to fill frames in NUC when simulated FFC shutter is closed.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000005D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
value	UINT_16	0:2	

1.14.3.32 gaoSetBcnrState()

[SET] Enables or disables for BCNR state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0000005F	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.14.3.33 gaoGetBcnrState()

[GET] Enables or disables for BCNR state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000060	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.14.3.34 gaoGetAppliedSffcScaleFactor()

[GET] SFFC Scale factor that is currently getting applied to the image.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000061	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.14.3.35 gaoSetSffcMode()

[SET] The mechanism used to calculate the SFFC scale factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000062	N/A	N/A
mode	FLR_GAO_SFFC_MODE_E	0:4	

No output parameters.

1.14.3.36 gaoGetSffcMode()

[GET] The mechanism used to calculate the SFFC scale factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00000063	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
mode	FLR_GAO_SFFC_MODE_E	0:4	

1.15 Module: IMAGESTATS

The Image Stats module provides the APIs needed to gather statistics about the images being captured throught the camera. The statistics are gathered from the whole image or for a region of interest selected using commands below.

1.15.1 Enums

No enumerations in module imageStats.

1.15.2 Structs

No struct types in module imageStats.

1.15.3 Functions

1.15.3.1 imageStatsGetTotalHistPixelsInROI()

[GET] The number of pixels which are described by the ROI.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x001D0000	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
totalPixelsInROI	UINT_32	0:4	

1.15.3.2 imageStatsGetPopBelowLowToHighThresh()

[GET] The number of pixels that are below the low to high threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
popBelowLowToHighThresh	UINT_32	0:4	

1.15.3.3 imageStatsGetPopAboveHighToLowThresh()

[GET] The number of pixels that are above the high to low threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
popAboveHighToLowThresh	UINT_32	0:4	

1.15.3.4 imageStatsSetROI()

[SET] The ROI to be used when collecting ROI image stats. The ROI sent is a datatype that describes row start, row stop, column start, and column stop.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0003	N/A	N/A
roi	FLR_ROI_T	0:8	

No output parameters.

1.15.3.5 imageStatsGetROI()

[GET] The ROI to be used when collecting ROI image stats. The ROI sent is a datatype that describes row start, row stop, column start, and column stop.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
roi	FLR_ROI_T	0:8	

1.15.3.6 imageStatsGetFirstBin()

[GET] The first bin that contains an intensity value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
firstBin	UINT_16	0:2	

1.15.3.7 imageStatsGetLastBin()

[GET] The last bin that contains an intensity value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
lastBin	UINT_16	0:2	

1.15.3.8 imageStatsGetMean()

[GET] The mean intensity value in the image.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
mean	UINT_16	0:2	

1.15.3.9 imageStatsGetFirstBinInROI()

[GET] The intensity value in the first bin in the ROI.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
firstBinInROI	UINT_16	0:2	

1.15.3.10 imageStatsGetLastBinInROI()

[GET] The intensity value in the last bin in the ROI.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D0009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
lastBinInROI	UINT_16	0:2	

1.15.3.11 imageStatsGetMeanInROI()

[GET] The mean intensity value in the selected region of interest.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
meanInROI	UINT_16	0:2	

1.15.3.12 imageStatsGetImageStats()

Get the mean, peak, and base intensity values in the image.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
meanIntensity	UINT_16	0:2	
peakIntensity	UINT_16	2:4	
baseIntensity	UINT_16	4:6	

1.15.3.13 imageStatsGetPopAboveLowToHighThreshCATS()

[GET] The number of pixels that are above the CATS low to high threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D000C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
popAboveLowToHighThresh	UINT_32	0:4	

1.15.3.14 imageStatsGetPopBelowHighToLowThreshCATS()

[GET] The number of pixels that are below the CATS high to low threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D000D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
popBelowHighToLowThresh	UINT_32	0:4	

1.15.3.15 imageStatsGetPopBetweenLthCATSAndLthSATS()

[GET] The number of pixels that are above the CATS low to high threshold and below the SATS low to high threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001D000E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
popBetweenCatsAndSats	UINT_32	0:4	

1.16 Module: ISOTHERM

API for the isotherm module.

1.16.1 Enums

1.16.1.1 FLR_ISOTHERM_REGION_E — <INT_32>

FLR_ISOTHERM_REGION_DISABLED = 0
FLR_ISOTHERM_REGION_CORRELATED = 1
FLR_ISOTHERM_REGION_NON_CORRELATED = 2
FLR_ISOTHERM_REGION_COLORIZE = 3

FLR_ISOTHERM_REGION_BLEND = 4
FLR_ISOTHERM_REGION_CORRELATED_HSV = 5
FLR_ISOTHERM_REGION_NON_CORRELATED_HSV = 6
FLR_ISOTHERM_REGION_COMMON = 7
FLR_ISOTHERM_REGION_LAST = 8

1.16.1.2 FLR_ISOTHERM_GAIN_E — <INT_32>

FLR_ISOTHERM_GAIN_LOW = 0
FLR_ISOTHERM_GAIN_HIGH = 1
FLR_ISOTHERM_GAIN_LAST = 2

1.16.1.3 FLR_ISOTHERM_UNIT_E — <INT_32>

FLR_ISOTHERM_UNIT_KELVIN = 0
FLR_ISOTHERM_UNIT_CELSIUS = 1
FLR_ISOTHERM_UNIT_FAHRENHEIT = 4
FLR_ISOTHERM_UNIT_PERCENT = 5
FLR_ISOTHERM_UNIT_RAW = 6
FLR_ISOTHERM_UNIT_LAST = 7

1.16.2 Structs

1.16.2.1 FLR_ISOTHERM_COLOR_T

Field Name	DataType	Bytes
r	UINT_16	2
g	UINT_16	2
b	UINT_16	2

1.16.2.2 FLR_ISOTHERM_COLORS_T

Field Name	DataType	Bytes
range1	FLR_ISOTHERM_COLOR_T	6
range2	FLR_ISOTHERM_COLOR_T	6
range3	FLR_ISOTHERM_COLOR_T	6
num	UINT_16	2

1.16.2.3 FLR_ISOTHERM_SETTINGS_T

Field Name	DataType	Bytes
thIsoT1	INT_32	4
thIsoT2	INT_32	4
thIsoT3	INT_32	4

thIsoT4	INT_32	4
thIsoT5	INT_32	4
color0	FLR_ISOTHERM_COLORS_T	20
color1	FLR_ISOTHERM_COLORS_T	20
color2	FLR_ISOTHERM_COLORS_T	20
color3	FLR_ISOTHERM_COLORS_T	20
color4	FLR_ISOTHERM_COLORS_T	20
color5	FLR_ISOTHERM_COLORS_T	20
region0	FLR_ISOTHERM_REGION_E	4
region1	FLR_ISOTHERM_REGION_E	4
region2	FLR_ISOTHERM_REGION_E	4
region3	FLR_ISOTHERM_REGION_E	4
region4	FLR_ISOTHERM_REGION_E	4
region5	FLR_ISOTHERM_REGION_E	4

1.16.3 Functions

1.16.3.1 isothermGetEnable()

[GET] Enable status of isotherm

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0046	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
isothermEnable	FLR_ENABLE_E	0:4	

1.16.3.2 isothermSetEnable()

[SET] Enable status of isotherm

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0047	N/A	N/A
isothermEnable	FLR_ENABLE_E	0:4	

No output parameters.

1.16.3.3 isothermSetTemps()

Set the temperature thresholds for isotherms

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0048	N/A	N/A
table	FLR_ISOTHERM_GAIN_E	0:4	
thIsoT1	INT_32	4:8	
thIsoT2	INT_32	8:12	
thIsoT3	INT_32	12:16	
thIsoT4	INT_32	16:20	
thIsoT5	INT_32	20:24	

No output parameters.

1.16.3.4 isothermGetTemps()

Get the temperature thresholds for isotherms

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0049	N/A	N/A
table	FLR_ISOTHERM_GAIN_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
thIsoT1	INT_32	0:4	
thIsoT2	INT_32	4:8	
thIsoT3	INT_32	8:12	
thIsoT4	INT_32	12:16	
thIsoT5	INT_32	16:20	

1.16.3.5 isothermSetIsoColorValues()

Set color values for isotherms.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F004A	N/A	N/A

table	FLR_ISOTHERM_GAIN_E	0:4	
region0	FLR_ISOTHERM_COLORS_T	4:24	
region1	FLR_ISOTHERM_COLORS_T	24:44	
region2	FLR_ISOTHERM_COLORS_T	44:64	
region3	FLR_ISOTHERM_COLORS_T	64:84	
region4	FLR_ISOTHERM_COLORS_T	84:104	
region5	FLR_ISOTHERM_COLORS_T	104:124	

No output parameters.

1.16.3.6 isothermGetIsoColorValues()

Get color values for isotherms.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F004B	N/A	N/A
table	FLR_ISOTHERM_GAIN_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
region0	FLR_ISOTHERM_COLORS_T	0:20	
region1	FLR_ISOTHERM_COLORS_T	20:40	
region2	FLR_ISOTHERM_COLORS_T	40:60	
region3	FLR_ISOTHERM_COLORS_T	60:80	
region4	FLR_ISOTHERM_COLORS_T	80:100	
region5	FLR_ISOTHERM_COLORS_T	100:120	

1.16.3.7 isothermSetRegionMode()

Set iostherm region modes.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F004C	N/A	N/A
table	FLR_ISOTHERM_GAIN_E	0:4	
region0	FLR_ISOTHERM_REGION_E	4:8	
region1	FLR_ISOTHERM_REGION_E	8:12	
region2	FLR_ISOTHERM_REGION_E	12:16	
region3	FLR_ISOTHERM_REGION_E	16:20	
region4	FLR_ISOTHERM_REGION_E	20:24	

region5	FLR_ISOTHERM_REGION_E	24:28	

No output parameters.

1.16.3.8 isothermGetRegionMode()

Get iostherm region modes.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F004D	N/A	N/A
table	FLR_ISOTHERM_GAIN_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
region0	FLR_ISOTHERM_REGION_E	0:4	
region1	FLR_ISOTHERM_REGION_E	4:8	
region2	FLR_ISOTHERM_REGION_E	8:12	
region3	FLR_ISOTHERM_REGION_E	12:16	
region4	FLR_ISOTHERM_REGION_E	16:20	
region5	FLR_ISOTHERM_REGION_E	20:24	

1.16.3.9 isothermGetUnit()

[GET] Currenlty used temperature unit

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F004E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
unit	FLR_ISOTHERM_UNIT_E	0:4	

1.16.3.10 isothermSetUnit()

[SET] Currenlty used temperature unit

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F004F	N/A	N/A
unit	FLR_ISOTHERM_UNIT_E	0:4	

No output parameters.

1.16.3.11 isothermGetSettingsLowGain()

[GET] All low gain settings in one call

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0050	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
settings	FLR_ISOTHERM_SETTINGS_T	0:164	

1.16.3.12 isothermSetSettingsLowGain()

[SET] All low gain settings in one call

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0051	N/A	N/A
settings	FLR_ISOTHERM_SETTINGS_T	0:164	

No output parameters.

1.16.3.13 isothermGetSettingsHighGain()

[GET] All high gain settings in one call

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0052	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
settings	FLR_ISOTHERM_SETTINGS_T	0:164	

1.16.3.14 isothermSetSettingsHighGain()

[SET] All high gain settings in one call

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0053	N/A	N/A
settings	FLR_ISOTHERM_SETTINGS_T	0:164	

No output parameters.

1.16.3.15 isothermSetColorLutId()

Set background colors LUT for both gains

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0054	N/A	N/A
colorLutIdLowGain	FLR_COLORLUT_ID_E	0:4	
colorLutIdHighGain	FLR_COLORLUT_ID_E	4:8	

No output parameters.

1.16.3.16 isothermGetColorLutId()

Get background colors LUT for both gains

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x003F0055	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
colorLutIdLowGain	FLR_COLORLUT_ID_E	0:4	
colorLutIdHighGain	FLR_COLORLUT_ID_E	4:8	

1.17 Module: JFFS2

These APIs describe opernations that may be performed on the JFFS2 file system.

1.17.1 Enums

1.17.1.1 FLR_JFFS2_STATE_E — <INT_32>

FLR_JFFS2_INITIAL = 0

FLR_JFFS2_CONFIGURED = 1
FLR_JFFS2_MOUNTING = 2
FLR_JFFS2_MOUNTED = 3
FLR_JFFS2_UNMOUNTING = 4
FLR_JFFS2_UNMOUNTED = 5
FLR_JFFS2_FAILED_MOUNT = 6
FLR_JFFS2_FAILED_UNMOUNT = 7
FLR_JFFS2_FAILED_CONFIG = 8
FLR_JFFS2_DISABLED = 9
FLR_JFFS2_STATE_END = 10

1.17.2 Structs

No struct types in module jffs2.

1.17.3 Functions

1.17.3.1 jffs2Mount()

Mount the JFFS2 filesystem. Will mount existing filesystem, format empty flash,or fail on non-empty flash.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00170001	N/A	N/A

No output parameters.

1.17.3.2 jffs2Unmount()

Unmount the JFFS2 filesystem.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00170002	N/A	N/A

No output parameters.

1.17.3.3 jffs2GetState()

[GET] Status of the current JFFS2 filesystem

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00170007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
state	FLR_JFFS2_STATE_E	0:4	

1.18 Module: LATENCYCTRL

Video Latency measurements and control

1.18.1 Enums

No enumerations in module latencyCtrl.

1.18.2 Structs

No struct types in module latencyCtrl.

1.18.3 Functions

1.18.3.1 latencyCtrlSetLowLatencyState()

[SET] State of the pipeline freeze parameter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390000	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.18.3.2 latencyCtrlGetLowLatencyState()

[GET] State of the pipeline freeze parameter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.18.3.3 latencyCtrlSetJitterReduction()

Deprecated.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390002	N/A	N/A
enable	FLR_ENABLE_E	0:4	
line	INT_32	4:8	

No output parameters.

1.18.3.4 latencyCtrlGetJitterReduction()

Deprecated.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390003	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
enable	FLR_ENABLE_E	0:4	
line	INT_32	4:8	

1.18.3.5 latencyCtrlLatencyResetStats()

Reset latency and jitter measurements.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390004	N/A	N/A

No output parameters.

1.18.3.6 latencyCtrlGetJitter()

Get values of absolute frame jitter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
jitterMin	FLOAT	0:4	
jitterMax	FLOAT	4:8	

1.18.3.7 latencyCtrlGetLatency()

Get values for frame latency.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
latencyMin	FLOAT	0:4	
latencyMax	FLOAT	4:8	

1.18.3.8 latencyCtrlSetUsbVideoLatencyReduction()

Set configuration for usb latency reduction.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390007	N/A	N/A
line	INT_32	0:4	

No output parameters.

1.18.3.9 latencyCtrlGetUsbVideoLatencyReduction()

Get configuration for usb latency reduction.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00390008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
line	INT_32	0:4	

1.19 Module: LFSR

Image shading correction filter.

1.19.1 Enums

No enumerations in module lfsr.

1.19.2 Structs

No struct types in module lfsr.

1.19.3 Functions

1.19.3.1 lfsrSetApplyOffsetEnableState()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.19.3.2 lfsrGetApplyOffsetEnableState()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.19.3.3 lfsrSetMaxIterations()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0008	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.19.3.4 lfsrGetMaxIterations()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.19.3.5 lfsrSetDf()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C000A	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.19.3.6 lfsrGetDf()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.19.3.7 lfsrSetLambda1()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C000C	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.19.3.8 lfsrGetLambda1()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C000D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.19.3.9 lfsrSetLambda2()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C000E	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.19.3.10 lfsrGetLambda2()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C000F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.19.3.11 lfsrSetHaltEnable()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0013	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.19.3.12 IfsrGetHaltEnable()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0014	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.19.3.13 IfsrSetRandomMethod()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0015	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.19.3.14 IfsrGetRandomMethod()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0016	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.19.3.15 IfsrSetSingleStepEnable()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0017	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.19.3.16 IfsrGetSingleStepEnable()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0018	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.19.3.17 IfsrSetR_LocalBump()

[SET] Returns the local bump threshold for random number

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C001A	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.19.3.18 IfsrGetR_LocalBump()

[GET] Returns the local bump threshold for random number

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C001B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLOAT	0:4	

1.19.3.19 IfsrSetR_CornerBump()

[SET] Returns the corner bump threshold for random number

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C001C	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.19.3.20 IfsrGetR_CornerBump()

[GET] Returns the corner bump threshold for random number

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C001D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.19.3.21 IfsrSetFFC_ResetEnable()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0026	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.19.3.22 IfsrGetFFC_ResetEnable()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0027	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.19.3.23 IfsrSetNormalizeAtCenterSpotState()

[SET] Enable offsets normalization against mean value of a center spot

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0028	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.19.3.24 IfsrGetNormalizeAtCenterSpotState()

[GET] Enable offsets normalization against mean value of a center spot

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002C0029	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.20 Module: MEM

The mem module provides tools for byte level access to volatile and persistent memory objects.

1.20.1 Enums

1.20.1.1 FLR_MEM_LOCATION_E — <INT_32>

FLR_MEM_INVALID = 0
FLR_MEM_BOOTLOADER = 1
FLR_MEM_UPGRADE_APP = 2
FLR_MEM_LENS_NVFFC = 3
FLR_MEM_LENS_SFFC = 4
FLR_MEM_LENS_GAIN = 5

FLR_MEM_LENS_DISTORTION = 6
FLR_MEM_USER_SPACE = 7
FLR_MEM_RUN_CMDS = 8
FLR_MEM_JFFS2 = 9
FLR_MEM_MEMTEST_APP = 10
FLR_MEM_LAST = 11

1.20.2 Structs

No struct types in module mem.

1.20.3 Functions

1.20.3.1 memReadCapture()

Read bytes from the selected image buffer at the specified offset.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF0003	N/A	N/A
bufferNum	UCHAR	0:1	
offset	UINT_32	1:5	
sizeInBytes	UINT_16	5:7	

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	BYTEARRAY	0:512	

1.20.3.2 memGetCaptureSize()

Get the size of the buffer in bytes, as well as the number of rows and columns in each capture buffer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF0004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
bytes	UINT_32	0:4	
rows	UINT_16	4:6	
columns	UINT_16	6:8	

1.20.3.3 memWriteFlash()

Write bytes to the selected Flash enum at the specified offset. Lens enums require an additional index parameter, other enums must set this parameter to 0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF0005	N/A	N/A
location	FLR_MEM_LOCATION_E	0:4	
index	UCHAR	4:5	
offset	UINT_32	5:9	
sizeInBytes	UINT_16	9:11	
data	BYTEARRAY	11:267	

No output parameters.

1.20.3.4 memReadFlash()

Read bytes from the selected Flash enum at the specified offset. Lens enums require an additional index parameter, other enums must set this parameter to 0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF0006	N/A	N/A
location	FLR_MEM_LOCATION_E	0:4	
index	UCHAR	4:5	
offset	UINT_32	5:9	
sizeInBytes	UINT_16	9:11	

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	BYTEARRAY	0:512	

1.20.3.5 memGetFlashSize()

Get the size of a specified Flash enum in bytes.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0xFFFF0007	N/A	N/A
location	FLR_MEM_LOCATION_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
bytes	UINT_32	0:4	

1.20.3.6 memEraseFlash()

Prepare the specified Flash location for writing. Lens enums require an additional index parameter, other enums must set this parameter to 0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF0008	N/A	N/A
location	FLR_MEM_LOCATION_E	0:4	
index	UCHAR	4:5	

No output parameters.

1.20.3.7 memEraseFlashPartial()

Prepare subsections of the specified Flash location for writing. Flash erases must start and end on a multiple of 0x1000.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF0009	N/A	N/A
location	FLR_MEM_LOCATION_E	0:4	
index	UCHAR	4:5	
offset	UINT_32	5:9	
length	UINT_32	9:13	

No output parameters.

1.20.3.8 memReadCurrentGain()

Read bytes from the current applied gain buffer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF000A	N/A	N/A

offset	UINT_32	0:4	
sizeInBytes	UINT_16	4:6	

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	BYTEARRAY	0:512	

1.20.3.9 memGetGainSize()

Get the size of the buffer in bytes, as well as the number of rows and columns in applied gain buffer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
bytes	UINT_32	0:4	
rows	UINT_16	4:6	
columns	UINT_16	6:8	

1.20.3.10 memGetCaptureSizeSrc()

Get the size of the capture buffer in bytes, rows, and columns according to specified capture source.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF000C	N/A	N/A
src	FLR_CAPTURE_SRC_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
bytes	UINT_32	0:4	
rows	UINT_16	4:6	
columns	UINT_16	6:8	

1.20.3.11 memReadCaptureSrc()

Read bytes from the selected image buffer at the specified offset, assuming the specified capture source.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0xFFFF000D	N/A	N/A
src	FLR_CAPTURE_SRC_E	0:4	
bufferNum	UCHAR	4:5	
offset	UINT_32	5:9	
sizeInBytes	UINT_16	9:11	

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	BYTEARRAY	0:512	

1.21 Module: RADIOMETRY

Radiometry.

1.21.1 Enums

1.21.1.1 FLR_RADIOMETRY_RBFO_TYPE_E — <INT_32>

FLR_RADIOMETRY_DEFAULT_RBFO = 0
FLR_RADIOMETRY_FACTORY_RBFO = 1

1.21.1.2 FLR_RADIOMETRY_UNCERTAINTY_FACTOR_E — <INT_32>

FLR_RADIOMETRY_UNCERTAINTY_FACTOR_1 = 1
FLR_RADIOMETRY_UNCERTAINTY_FACTOR_2 = 2
FLR_RADIOMETRY_UNCERTAINTY_FACTOR_3 = 3
FLR_RADIOMETRY_UNCERTAINTY_FACTOR_4 = 4
FLR_RADIOMETRY_UNCERTAINTY_FACTOR_5 = 5

1.21.2 Structs

1.21.2.1 FLR_RADIOMETRY_SIGNAL_COMP_FACTOR_LUT_T

Field Name	DataType	Bytes
value	UINT_16*17	34

1.21.2.2 FLR_RADIOMETRY_NOISE_COMP_FACTOR_LUT_T

Field Name	DataType	Bytes
value	UINT_16*17	34

1.21.2.3 FLR_RADIOMETRY_SIGNAL_COMP_FACTOR_HEADER_LUT_T

Field Name	DataType	Bytes
lut	FLR_RADIOMETRY_SIGNAL_COMP_FACTOR_LUT_T	34
tableIndex	UINT_16	2

1.21.2.4 FLR_RADIOMETRY_NOISE_COMP_FACTOR_HEADER_LUT_T

Field Name	DataType	Bytes
lut	FLR_RADIOMETRY_NOISE_COMP_FACTOR_LUT_T	34
tableIndex	UINT_16	2

1.21.2.5 FLR_RADIOMETRY_RBFO_PARAMS_T

Field Name	DataType	Bytes
RBFO_R	FLOAT	4
RBFO_B	FLOAT	4
RBFO_F	FLOAT	4
RBFO_O	FLOAT	4

1.21.2.6 FLR_RADIOMETRY_TAUX_PARAMS_T

Field Name	DataType	Bytes
A3	FLOAT	4
A2	FLOAT	4
A1	FLOAT	4
A0	FLOAT	4

1.21.3 Functions

1.21.3.1 radiometrySetTempStableEnable()

[SET] The Temp Stable enable state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420000	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.21.3.2 radiometryGetTempStableEnable()

[GET] The Temp Stable enable state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.21.3.3 radiometrySetFNumberLens0()

[SET] Set/Get the lens' F Number; format float.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420004	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.4 radiometryGetFNumberLens0()

[GET] Set/Get the lens' F Number; format float.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.5 radiometrySetFNumberLens1()

[SET] Set/Get the lens' F Number; format float.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420006	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.6 radiometryGetFNumberLens1()

[GET] Set/Get the lens' F Number; format float.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.7 radiometrySetTauLens0()

[SET] Set/Get the lens' transmission number; format float.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420008	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.8 radiometryGetTauLens0()

[GET] Set/Get the lens' transmission number; format float.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLOAT	0:4	

1.21.3.9 radiometrySetTauLens1()

[SET] Set/Get the lens' transmission number; format float.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042000A	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.10 radiometryGetTauLens1()

[GET] Set/Get the lens' transmission number; format float.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.11 radiometryGetGlobalGainDesired()

[GET] Get the desired global gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042000E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.12 radiometryGetGlobalOffsetDesired()

[GET] Get the desired global offset.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042000F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.13 radiometryGetGlobalGainApplied()

[GET] Get the applied global gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420010	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.14 radiometryGetGlobalOffsetApplied()

[GET] Get the applied global offset.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420011	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.15 radiometrySetTComponentOverrideMode()

[SET] The TComponent mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420012	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.21.3.16 radiometryGetTComponentOverrideMode()

[GET] The TComponent mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420013	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.21.3.17 radiometrySetGlobalGainOverride()

[SET] Set,Get the global gain override value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420014	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.18 radiometryGetGlobalGainOverride()

[GET] Set,Get the global gain override value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420015	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.19 radiometrySetGlobalOffsetOverride()

[SET] Set,Get the global offset override value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420016	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.21.3.20 radiometryGetGlobalOffsetOverride()

[GET] Set,Get the global offset override value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420017	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.21.3.21 radiometrySetGlobalParamOverrideMode()

[SET] Set,Get the Global Parameter Override mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420018	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.21.3.22 radiometryGetGlobalParamOverrideMode()

[GET] Set,Get the Global Parameter Override mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420019	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.21.3.23 radiometrySetRBFOHighGainDefault()

[SET] Set Default High Gain RBFO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042001A	N/A	N/A
data	FLR_RADIOMETRY_RBFO_PARAMS_T	0:16	

No output parameters.

1.21.3.24 radiometryGetRBFOHighGainDefault()

[GET] Get Default High Gain RBFO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042001B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_RADIOMETRY_RBFO_PARAMS_T	0:16	

1.21.3.25 radiometrySetRBFOLowGainDefault()

[SET] Set Default Low Gain RBFO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042001C	N/A	N/A
data	FLR_RADIOMETRY_RBFO_PARAMS_T	0:16	

No output parameters.

1.21.3.26 radiometryGetRBFOLowGainDefault()

[GET] Get Default Low Gain RBFO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042001D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLR_RADIOMETRY_RBFO_PARAMS_T	0:16	

1.21.3.27 radiometrySetRBFOHighGainFactory()

[SET] Set,Get Factory High Gain RBFO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042001E	N/A	N/A
data	FLR_RADIOMETRY_RBFO_PARAMS_T	0:16	

No output parameters.

1.21.3.28 radiometryGetRBFOHighGainFactory()

[GET] Set,Get Factory High Gain RBFO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042001F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_RADIOMETRY_RBFO_PARAMS_T	0:16	

1.21.3.29 radiometrySetRBFOLowGainFactory()

[SET] Set,Get Factory Low Gain RBFO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420020	N/A	N/A
data	FLR_RADIOMETRY_RBFO_PARAMS_T	0:16	

No output parameters.

1.21.3.30 radiometryGetRBFOLowGainFactory()

[GET] Set,Get Factory Low Gain RBFO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420021	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_RADIOMETRY_RBFO_PARAMS_T	0:16	

1.21.3.31 radiometrySetDampingFactor()

[SET] The Radiometry Global Gain/Offset damping factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420022	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.32 radiometryGetDampingFactor()

[GET] The Radiometry Global Gain/Offset damping factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420023	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.33 radiometryGetGoMEQ()

[GET] The Global Offset intermediate value M_EQ.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420024	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLOAT	0:4	

1.21.3.34 radiometryGetGoMShutter()

[GET] The Global Offset intermediate value M_Shutter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420025	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.35 radiometryGetGoMLens()

[GET] The Global Offset intermediate value M_Lens.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420026	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.36 radiometryGetGoMLG()

[GET] The Global Offset intermediate value M_LG.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420027	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.37 radiometryGetGoMFFC()

[GET] The Global Offset intermediate value M_FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420028	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.38 radiometryGetTempLensHousing()

[GET] The temp of the Lens Housing (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420029	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.39 radiometryGetTempShutterHousing()

[GET] The temp of the Shutter Housing (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042002A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.40 radiometryGetTempShutterPaddle()

[GET] The temp of the Shutter Paddle (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042002B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.41 radiometrySetFNumberShutterHousing()

[SET] The FNumber of the Shutter Housing.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042002C	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.42 radiometryGetFNumberShutterHousing()

[GET] The FNumber of the Shutter Housing.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042002D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.43 radiometrySetEmissivityShutterHousing()

[SET] The emissivity of the Shutter Housing.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042002E	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.44 radiometryGetEmissivityShutterHousing()

[GET] The emissivity of the Shutter Housing.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x0042002F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.45 radiometrySetM_DTfpa_Lens()

[SET] Thermal Model param M_DTfpa_Lens.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420030	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.46 radiometryGetM_DTfpa_Lens()

[GET] Thermal Model param M_DTfpa_Lens.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420031	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.47 radiometrySetOffset_Lens()

[SET] Offset_Lens deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420032	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.48 radiometryGetOffset_Lens()

[GET] Offset_Lens deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420033	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.49 radiometrySetM_Recursive_Lens()

[SET] Thermal Model param M_Recursive_Lens.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420034	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.50 radiometryGetM_Recursive_Lens()

[GET] Thermal Model param M_Recursive_Lens.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420035	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.51 radiometryGetGgFfc()

[GET] The current value GG_FFC, which is the GG as calculated at the time of the last FFC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420036	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLOAT	0:4	

1.21.3.52 radiometryGetCountsFromTemp()

Get counts from a temp (degK float), using the RBFO calcs; user specifies default or factory RBFO coefficients.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420037	N/A	N/A
rbfoType	FLR_RADIOMETRY_RBFO_TYPE_E	0:4	
temp	FLOAT	4:8	

Output/Receive parameters:

Name	DataType	Bytes	Notes
counts	UINT_16	0:2	

1.21.3.53 radiometryGetTempFromCounts()

Get temp (degK float) from Flux counts, using the RBFO calcs; user specifies default or factory RBFO coefficients.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420038	N/A	N/A
rbfoType	FLR_RADIOMETRY_RBFO_TYPE_E	0:4	
counts	UINT_16	4:6	

Output/Receive parameters:

Name	DataType	Bytes	Notes
temp	FLOAT	0:4	

1.21.3.54 radiometrySetTempLensHousingOverride()

[SET] The value of the Lens Housing Override Temp (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420039	N/A	N/A

data	FLOAT	0:4	

No output parameters.

1.21.3.55 radiometryGetTempLensHousingOverride()

[GET] The value of the Lens Housing Override Temp (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042003A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.56 radiometrySetTempShutterHousingOverride()

[SET] The value of the Shutter Housing Override Temp (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042003B	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.57 radiometryGetTempShutterHousingOverride()

[GET] The value of the Shutter Housing Override Temp (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042003C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.58 radiometrySetTempShutterPaddleOverride()

[SET] The value of the Shutter Paddle Override Temp (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042003D	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.59 radiometryGetTempShutterPaddleOverride()

[GET] The value of the Shutter Paddle Override Temp (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042003E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.60 radiometrySetSignalFactorLut()

[SET] The Signal Factor LUT for the current NUC table.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042003F	N/A	N/A
data	FLR_RADIOMETRY_SIGNAL_COMP_FACTOR_LUT_T	0:34	

No output parameters.

1.21.3.61 radiometryGetSignalFactorLut()

[GET] The Signal Factor LUT for the current NUC table.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420040	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_RADIOMETRY_SIGNAL_COMP_FACTOR_LUT_T	0:34	

1.21.3.62 radiometrySetNoiseFactorLut()

[SET] The Noise Factor LUT for the current NUC table.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420041	N/A	N/A
data	FLR_RADIOMETRY_NOISE_COMP_FACTOR_LUT_T	0:34	

No output parameters.

1.21.3.63 radiometryGetNoiseFactorLut()

[GET] The Noise Factor LUT for the current NUC table.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420042	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_RADIOMETRY_NOISE_COMP_FACTOR_LUT_T	0:34	

1.21.3.64 radiometrySetM_tfpaK()

[SET] The gain factor for converting Tfpa_LUT into Kelvin.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420047	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.65 radiometryGetM_tfpaK()

[GET] The gain factor for converting Tfpa_LUT into Kelvin.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00420048	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.66 radiometrySetB_tfpaK()

[SET] The offset for converting Tfpa_LUT into Kelvin.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420049	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.67 radiometryGetB_tfpaK()

[GET] The offset for converting Tfpa_LUT into Kelvin.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042004A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.68 radiometrySetTAuxParams()

[SET] The coefficients for the TAuxK calc.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042004B	N/A	N/A
data	FLR_RADIOMETRY_TAUX_PARAMS_T	0:16	

No output parameters.

1.21.3.69 radiometryGetTAuxParams()

[GET] The coefficients for the TAuxK calc.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042004C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_RADIOMETRY_TAUX_PARAMS_T	0:16	

1.21.3.70 radiometrySetM_tAux()

[SET] The gain factor for converting TAux Counts into TAuxCtsAdj.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042004D	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.71 radiometryGetM_tAux()

[GET] The gain factor for converting TAux Counts into TAuxCtsAdj.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042004E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.72 radiometrySetB_tAux()

[SET] The offset for converting TAux Counts into TAuxCtsAdj.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042004F	N/A	N/A

data	FLOAT	0:4	

No output parameters.

1.21.3.73 radiometryGetB_tAux()

[GET] The offset for converting TAux Counts into TAuxCtsAdj.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420050	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.74 radiometrySetTsource_FFC()

[SET] The user-specified temp of the target during external FFC, in degK.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420051	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.75 radiometryGetTsource_FFC()

[GET] The user-specified temp of the target during external FFC, in degK.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420052	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.76 radiometrySetM_DTfpa_Sh_h()

[SET] Thermal Model param M_DTfpa_Sh_h.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420053	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.77 radiometryGetM_DTfpa_Sh_h()

[GET] Thermal Model param M_DTfpa_Sh_h.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420054	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.78 radiometrySetOffset_Sh_h()

[SET] Thermal Model param Offset_Sh_h.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420055	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.79 radiometryGetOffset_Sh_h()

[GET] Thermal Model param Offset_Sh_h.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420056	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.80 radiometrySetM_Recursive_Sh_h()

[SET] Thermal Model param M_Recursive_Sh_h.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420057	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.81 radiometryGetM_Recursive_Sh_h()

[GET] Thermal Model param M_Recursive_Sh_h.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420058	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.82 radiometrySetM_DTfpa_Sh_p()

[SET] Thermal Model param M_DTfpa_Sh_p.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420059	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.83 radiometryGetM_DTfpa_Sh_p()

[GET] Thermal Model param M_DTfpa_Sh_p.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042005A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLOAT	0:4	

1.21.3.84 radiometrySetOffset_Sh_p()

[SET] Thermal Model param Offset_Sh_p.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042005B	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.85 radiometryGetOffset_Sh_p()

[GET] Thermal Model param Offset_Sh_p.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042005C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.86 radiometrySetM_Recursive_Sh_p()

[SET] Thermal Model param M_Recursive_Sh_p.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042005D	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.87 radiometryGetM_Recursive_Sh_p()

[GET] Thermal Model param M_Recursive_Sh_p.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042005E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.88 radiometrySetM_Delta_Sh_p()

[SET] M_Delta_Sh_p deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042005F	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.89 radiometryGetM_Delta_Sh_p()

[GET] M_Delta_Sh_p deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420060	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.90 radiometrySetB_Delta_Sh_p()

[SET] B_Delta_Sh_p deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420061	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.91 radiometryGetB_Delta_Sh_p()

[GET] B_Delta_Sh_p deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420062	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.92 radiometryGetDtTfpaK()

[GET] The calculated DtTfpaK.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420064	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.93 radiometryGetDtTfpaK_Damp()

[GET] The (damped) calculated DtTfpaK.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420065	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.94 radiometryGetTAuxK()

[GET] The calculated TAuxK.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420066	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.95 radiometrySetExternalFfcUpdateMode()

[SET] Set/Get mode for whether M_FFC is updated during External FFC operations.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420067	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.21.3.96 radiometryGetExternalFfcUpdateMode()

[GET] Set/Get mode for whether M_FFC is updated during External FFC operations.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420068	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.21.3.97 radiometryGetGG_scale()

[GET] Deprecated, use GG_Scale_HG or _LG.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042006A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.98 radiometrySetTempWindow()

[SET] Current temperature of external window (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042006B	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.99 radiometryGetTempWindow()

[GET] Current temperature of external window (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042006C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.100 radiometrySetTransmissionWindow()

[SET] Transmission (percentage) of external window.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042006D	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.101 radiometryGetTransmissionWindow()

[GET] Transmission (percentage) of external window.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042006E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.102 radiometrySetReflectivityWindow()

[SET] Reflectivity (percentage) of external window.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042006F	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.103 radiometryGetReflectivityWindow()

[GET] Reflectivity (percentage) of external window.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420070	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.104 radiometrySetTempWindowReflection()

[SET] Temperature reflected by external window (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420071	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.105 radiometryGetTempWindowReflection()

[GET] Temperature reflected by external window (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420072	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLOAT	0:4	

1.21.3.106 radiometrySetTransmissionAtmosphere()

[SET] Transmission (percentage) of atmosphere.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420073	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.107 radiometryGetTransmissionAtmosphere()

[GET] Transmission (percentage) of atmosphere.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420074	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.108 radiometrySetTempAtmosphere()

[SET] Current temperature of atmosphere (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420075	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.109 radiometryGetTempAtmosphere()

[GET] Current temperature of atmosphere (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420076	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.110 radiometrySetEmissivityTarget()

[SET] Emissivity (percentage) of target.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420077	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.111 radiometryGetEmissivityTarget()

[GET] Emissivity (percentage) of target.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420078	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.112 radiometrySetTempBackground()

[SET] Current temperature of background (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420079	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.113 radiometryGetTempBackground()

[GET] Current temperature of background (degK).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042007A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.114 radiometryGetRadiometryCapable()

[GET] Get for the Radiometry Capable flag.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042007D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.21.3.115 radiometrySetdeltaTempDampingFactor()

[SET] Damping factor for dTfpaKdt_Damped, range of 0 to 1.0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042007E	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.116 radiometryGetdeltaTempDampingFactor()

[GET] Damping factor for dTfpaKdt_Damped, range of 0 to 1.0.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042007F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.117 radiometrySetdeltaTempIntervalTime()

[SET] Interval time for calculating the deltaTemp/dt. (milliseconds)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420080	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.118 radiometryGetdeltaTempIntervalTime()

[GET] Interval time for calculating the deltaTemp/dt. (milliseconds)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420081	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.119 radiometrySetdeltaTempMaxValue()

[SET] Max (abs) value allowable of deltaTemp/dt. (degK/min)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420082	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.120 radiometryGetdeltaTempMaxValue()

[GET] Max (abs) value allowable of deltaTemp/dt. (degK/min)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420083	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.121 radiometrySetdeltaTempMaxIncrement()

[SET] Max (abs) increment/decrement value allowable of deltaTemp/dt. (degK/min)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420084	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.122 radiometryGetdeltaTempMaxIncrement()

[GET] Max (abs) increment/decrement value allowable of deltaTemp/dt. (degK/min)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420085	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.123 radiometrySetdeltaTempDampingTime()

[SET] Interval time between updating dTfpaKdt_Damped milliseconds. Maximum precision 16ms.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420086	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.124 radiometryGetdeltaTempDampingTime()

[GET] Interval time between updating dTfpaKdt_Damped milliseconds. Maximum precision 16ms.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420087	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.125 radiometryGetResponsivityFpaTemp()

[GET] Gets the calculated responsivity per FPA temp.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420088	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.126 radiometrySetM_Delta_Lens()

[SET] M_Delta_Lens deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420089	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.127 radiometryGetM_Delta_Lens()

[GET] M_Delta_Lens deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042008A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.128 radiometrySetB_Delta_Lens()

[SET] B_Delta_Lens deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042008B	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.129 radiometryGetB_Delta_Lens()

[GET] B_Delta_Lens deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042008C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.130 radiometrySetM_Delta_Sh_h()

[SET] M_Delta_Sh_h deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042008D	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.131 radiometryGetM_Delta_Sh_h()

[GET] M_Delta_Sh_h deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042008E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.132 radiometrySetB_Delta_Sh_h()

[SET] B_Delta_Sh_h deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042008F	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.133 radiometryGetB_Delta_Sh_h()

[GET] B_Delta_Sh_h deprecated, use the HG/LG APIs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420090	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.134 radiometrySetGG_Scale_HG()

[SET] Set/Get GG_Scale_HG.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420091	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.135 radiometryGetGG_Scale_HG()

[GET] Set/Get GG_Scale_HG.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420092	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.136 radiometrySetGG_Scale_LG()

[SET] Set/Get GG_Scale_LG.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420093	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.137 radiometryGetGG_Scale_LG()

[GET] Set/Get GG_Scale_LG.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420094	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.138 radiometrySetRbfoScaledMode()

[SET] Mode for whether RBFO params are scaled by GG_Scale.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420095	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.21.3.139 radiometryGetRbfoScaledMode()

[GET] Mode for whether RBFO params are scaled by GG_Scale.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420096	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.21.3.140 radiometryGetUncertaintyFactor()

[GET] Get Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420097	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_RADIOMETRY_UNCERTAINTY_FACTOR_E	0:4	

1.21.3.141 radiometryGetTRoomMinThresh()

[GET] Get TRoomMinThresh for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00420099	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.142 radiometryGetTRoomMaxThresh()

[GET] Get TRoomMaxThresh for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042009B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.143 radiometryGetTOperatingMinThresh()

[GET] Get TOperatingMinThresh for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042009D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.144 radiometryGetTOperatingMaxThresh()

[GET] Get TOperatingMaxThresh for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0042009F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.145 radiometryGetStableTempThresh()

[GET] Get StableTempThresh for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200A1	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLOAT	0:4	

1.21.3.146 radiometryGetSlowDriftThresh()

[GET] Get SlowDriftThresh for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200A3	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.147 radiometryGetFfcTempThresh()

[GET] Get SlowDriftThresh for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200A5	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.148 radiometryGetTargetTempMinThreshLG()

[GET] Get TargetTempMinThresh (low gain) for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200A7	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.149 radiometryGetTargetTempMaxThreshLG()

[GET] Get TargetTempMaxThresh for (low gain) Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200A9	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.150 radiometryGetMFactorThresh()

[GET] Get MFactorThresh for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200AB	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.151 radiometryGetTargetTempMinThreshHG()

[GET] Get TargetTempMinThresh (high gain) for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200AD	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.152 radiometryGetTargetTempMaxThreshHG()

[GET] Get TargetTempMaxThresh for (high gain) Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200AF	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.153 radiometryGetUncertaintyStatusBits()

[GET] Get status bits for Uncertainty Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B0	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.21.3.154 radiometrySetTemperatureOffset_HG()

[SET] Flat Offset in Kelvin used for (high gain) conversions from Flux to Temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B1	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.155 radiometryGetTemperatureOffset_HG()

[GET] Flat Offset in Kelvin used for (high gain) conversions from Flux to Temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B2	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.156 radiometrySetTemperatureOffset_LG()

[SET] Flat Offset in Kelvin used for (low gain) conversions from Flux to Temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B3	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.157 radiometryGetTemperatureOffset_LG()

[GET] Flat Offset in Kelvin used for (low gain) conversions from Flux to Temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B4	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.158 radiometrySetM_Delta_Lens_HG()

[SET] Thermal Model param M_Delta_Lens for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B5	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.159 radiometryGetM_Delta_Lens_HG()

[GET] Thermal Model param M_Delta_Lens for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B6	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.160 radiometrySetB_Delta_Lens_HG()

[SET] Thermal Model param B_Delta_Lens for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B7	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.161 radiometryGetB_Delta_Lens_HG()

[GET] Thermal Model param B_Delta_Lens for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B8	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.162 radiometrySetM_Delta_Lens_LG()

[SET] Thermal Model param M_Delta_Lens for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200B9	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.163 radiometryGetM_Delta_Lens_LG()

[GET] Thermal Model param M_Delta_Lens for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200BA	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	FLOAT	0:4	

1.21.3.164 radiometrySetB_Delta_Lens_LG()

[SET] Thermal Model param B_Delta_Lens for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200BB	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.165 radiometryGetB_Delta_Lens_LG()

[GET] Thermal Model param B_Delta_Lens for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200BC	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.166 radiometrySetOffset_Lens_HG()

[SET] Thermal Model param Offset_Lens for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200BD	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.167 radiometryGetOffset_Lens_HG()

[GET] Thermal Model param Offset_Lens for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200BE	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.168 radiometrySetOffset_Lens_LG()

[SET] Thermal Model param Offset_Lens for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200BF	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.169 radiometryGetOffset_Lens_LG()

[GET] Thermal Model param Offset_Lens for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C0	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.170 radiometrySetM_Delta_Sh_p_HG()

[SET] Thermal Model param M_Delta_Sh_p for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C1	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.171 radiometryGetM_Delta_Sh_p_HG()

[GET] Thermal Model param M_Delta_Sh_p for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C2	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.172 radiometrySetB_Delta_Sh_p_HG()

[SET] Thermal Model param B_Delta_Sh_p for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C3	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.173 radiometryGetB_Delta_Sh_p_HG()

[GET] Thermal Model param B_Delta_Sh_p for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C4	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.174 radiometrySetM_Delta_Sh_p_LG()

[SET] Thermal Model param M_Delta_Sh_p for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C5	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.175 radiometryGetM_Delta_Sh_p_LG()

[GET] Thermal Model param M_Delta_Sh_p for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C6	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.176 radiometrySetB_Delta_Sh_p_LG()

[SET] Thermal Model param B_Delta_Sh_p for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C7	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.177 radiometryGetB_Delta_Sh_p_LG()

[GET] Thermal Model param B_Delta_Sh_p for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C8	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.178 radiometrySetM_Delta_Sh_h_HG()

[SET] Thermal Model param M_Delta_Sh_h for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200C9	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.179 radiometryGetM_Delta_Sh_h_HG()

[GET] Thermal Model param M_Delta_Sh_h for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200CA	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.180 radiometrySetB_Delta_Sh_h_HG()

[SET] Thermal Model param B_Delta_Sh_h for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200CB	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.181 radiometryGetB_Delta_Sh_h_HG()

[GET] Thermal Model param B_Delta_Sh_h for High Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200CC	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.182 radiometrySetM_Delta_Sh_h_LG()

[SET] Thermal Model param M_Delta_Sh_h for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200CD	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.183 radiometryGetM_Delta_Sh_h_LG()

[GET] Thermal Model param M_Delta_Sh_h for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200CE	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.184 radiometrySetB_Delta_Sh_h_LG()

[SET] Thermal Model param B_Delta_Sh_h for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200CF	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.21.3.185 radiometryGetB_Delta_Sh_h_LG()

[GET] Thermal Model param B_Delta_Sh_h for Low Gain.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200D0	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.21.3.186 radiometryGetGG_RoomTemp()

[GET] Return the scaled GG calculated for room temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x004200D1	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.22 Module: ROIC

Interface to read FPA related variables

1.22.1 Enums

1.22.1.1 FLR_ROIC_TEMP_MODE_E — <INT_32>

FLR_ROIC_TEMP_NORMAL_MODE = 0
FLR_ROIC_TEMP_OFFSET_MODE = 1
FLR_ROIC_TEMP_STATIC_MODE = 2
FLR_ROIC_TEMP_MODE_END = 3

1.22.1.2 FLR_ROIC_EXT_SYNC_MODE_E — <INT_32>

FLR_ROIC_EXT_SYNC_DISABLE_MODE = 0
FLR_ROIC_EXT_SYNC_MASTER_MODE = 1
FLR_ROIC_EXT_SYNC_SLAVE_MODE = 2
FLR_ROIC_EXT_SYNC_END = 3

1.22.2 Structs

1.22.2.1 FLR_ROIC_FPATEMP_TABLE_T

Field Name	DataType	Bytes
value	INT_16*32	64

1.22.3 Functions

1.22.3.1 roicGetFPATemp()

[GET] The raw (uncorrected) output of the focal plane array temperature sensor. Note: A different command, bosonlookupFPATempDegCx10, provides the calibrated output in degrees Celsius, and bosonlookupFPATempDegKx10 provides the output in Kelvin.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.22.3.2 roicGetFrameCount()

[GET] the value of a frame counter which increments by one for each new frame.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.22.3.3 roicGetActiveNormalizationTarget()

[GET] The normalization target for the active pixels for the currently loaded table. The normalization target is the nominal expected output of the camera immediately after FFC (non-radiometric) when imaging the FFC source.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.22.3.4 roicSetFPARampState()

[SET] A test ramp generated by the sensor array. Most users should leave this disabled as it is intended primarily as a diagnostic feature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020014	N/A	N/A
state	FLR_ENABLE_E	0:4	

No output parameters.

1.22.3.5 roicGetFPARampState()

[GET] A test ramp generated by the sensor array. Most users should leave this disabled as it is intended primarily as a diagnostic feature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020015	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
state	FLR_ENABLE_E	0:4	

1.22.3.6 roicGetSensorADC1()

[GET] The value of an internal analog-to-digital converter. This internal ADC is not currently used.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020019	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.22.3.7 roicGetSensorADC2()

[GET] The value of an internal analog-to-digital converter. This internal ADC is not currently used.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002001A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.22.3.8 roicSetFPATempOffset()

[SET] Specifies an override of or an offset applied to the camera's internal temperature sensor, intended primarily as a diagnostic feature. Only has effect in two of the three FPA Temp modes (see roicSetFPATempMode)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002001B	N/A	N/A
data	INT_16	0:2	

No output parameters.

1.22.3.9 roicGetFPATempOffset()

[GET] Specifies an override of or an offset applied to the camera's internal temperature sensor, intended primarily as a diagnostic feature. Only has effect in two of the three FPA Temp modes (see roicSetFPATempMode)

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002001C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	INT_16	0:2	

1.22.3.10 roicSetFPATempMode()

[SET] Specifies the FPA temp mode (normal, fixed/override, or offset). Fixed/override and offset modes are intended primarily as diagnostic features, and most customers should leave this in its default state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002001D	N/A	N/A
data	FLR_ROIC_TEMP_MODE_E	0:4	

No output parameters.

1.22.3.11 roicGetFPATempMode()

[GET] Specifies the FPA temp mode (normal, fixed/override, or offset). Fixed/override and offset modes are intended primarily as diagnostic features, and most customers should leave this in its default state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002001E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ROIC_TEMP_MODE_E	0:4	

1.22.3.12 roicGetFPATempTable()

[GET] The look-up table used internally for conversion of the raw output of the camera's internal temp sensor into a calibrated value (deg C or Kelvin).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020020	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
table	FLR_ROIC_FPATEMP_TABLE_T	0:64	

1.22.3.13 roicSetFPATempValue()

[SET] The value of the FPA temp when the FPA temp mode is set to fixed.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020022	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.22.3.14 roicGetFPATempValue()

[GET] The value of the FPA temp when the FPA temp mode is set to fixed.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020023	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.22.3.15 roicGetPreambleError()

[GET] Preamble error occurrence.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020029	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
preambleError	UINT_32	0:4	

1.22.3.16 roicInducePreambleError()

Induce a periodic error in video feed, used during validation.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002002B	N/A	N/A

everyNthFrame	UINT_32	0:4	

No output parameters.

1.22.3.17 roicGetRoicStarted()

[GET] State of ROIC.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002002C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
roicStarted	FLR_ENABLE_E	0:4	

1.22.3.18 roicSetFrameSkip()

[SET] Skip input frames, lowering output framerate and average power consumption.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00020039	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.22.3.19 roicGetFrameSkip()

[GET] Skip input frames, lowering output framerate and average power consumption.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002003A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.22.3.20 roicSetFrameOneShot()

Sets frameSkip one shot.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0002003D	N/A	N/A

No output parameters.

1.23 Module: SCALER

This module is used to control eZoom functionality.

1.23.1 Enums

No enumerations in module scaler.

1.23.2 Structs

1.23.2.1 FLR_SCALER_ZOOM_PARAMS_T

Field Name	DataType	Bytes
zoom	UINT_32	4
xCenter	UINT_32	4
yCenter	UINT_32	4

1.23.3 Functions

1.23.3.1 scalerGetMaxZoom()

[GET] The maximum scaling factor allowed by the current camera configuration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000D0001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
zoom	UINT_32	0:4	

1.23.3.2 scalerSetZoom()

[SET] The current zoom parameters.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000D0002	N/A	N/A

zoomParams	FLR_SCALER_ZOOM_PARAMS_T	0:12	

No output parameters.

1.23.3.3 scalerGetZoom()

[GET] The current zoom parameters.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000D0003	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
zoomParams	FLR_SCALER_ZOOM_PARAMS_T	0:12	

1.23.3.4 scalerSetFractionalZoom()

Zoom parameters using numerator and denominator.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000D0007	N/A	N/A
zoomNumerator	UINT_32	0:4	
zoomDenominator	UINT_32	4:8	
zoomXCenter	UINT_32	8:12	
zoomYCenter	UINT_32	12:16	
inChangeEnable	FLR_ENABLE_E	16:20	
zoomOutXCenter	UINT_32	20:24	
zoomOutYCenter	UINT_32	24:28	
outChangeEnable	FLR_ENABLE_E	28:32	

No output parameters.

1.23.3.5 scalerSetIndexZoom()

Zoom parameters pre-calculated steps.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000D0008	N/A	N/A
zoomIndex	UINT_32	0:4	
zoomXCenter	UINT_32	4:8	
zoomYCenter	UINT_32	8:12	
inChangeEnable	FLR_ENABLE_E	12:16	
zoomOutXCenter	UINT_32	16:20	
zoomOutYCenter	UINT_32	20:24	
outChangeEnable	FLR_ENABLE_E	24:28	

No output parameters.

1.24 Module: SCNR

Spatial Column Noise Reduction settings

1.24.1 Enums

1.24.1.1 FLR_SCNR_CORR_SELECT_E — <INT_32>

FLR_SCNR_STD_CORR = 0
FLR_SCNR_ABS_DIFF_CORR = 1
FLR_SCNR_CORR_END = 2

1.24.1.2 FLR_SCNR_MODE_E — <INT_32>

FLR_SCNR_MODE_M = 0
FLR_SCNR_MODE_I = 1
FLR_SCNR_MODE_DIFFS = 2
FLR_SCNR_MODE_OFFSETS = 3
FLR_SCNR_MODE_END = 4

1.24.2 Structs

No struct types in module scnr.

1.24.3 Functions

1.24.3.1 scnrSetEnableState()

[SET] State fo Spatial Column Noise Reduction (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.24.3.2 scnrGetEnableState()

[GET] State fo Spatial Column Noise Reduction (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.24.3.3 scnrSetThColSum()

[SET] The threshold that determines if a column should increment or decrement by 1.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080003	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.24.3.4 scnrGetThColSum()

[GET] The threshold that determines if a column should increment or decrement by 1.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.24.3.5 scnrSetThPixel()

[SET] The (base) threshold that determines if a neighboring pixel is within range to affect the correction of the center.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080005	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.24.3.6 scnrGetThPixel()

[GET] The (base) threshold that determines if a neighboring pixel is within range to affect the correction of the center.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.24.3.7 scnrSetMaxCorr()

[SET] The (base) maximum correction amount that will be applied.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080007	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.24.3.8 scnrGetMaxCorr()

[GET] The (base) maximum correction amount that will be applied.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.24.3.9 scnrGetThPixelApplied()

[GET] The current (scaled with temperature) value of ThPixel.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.24.3.10 scnrGetMaxCorrApplied()

[GET] The (scaled with temperature) maximum correction.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.24.3.11 scnrSetThColSumSafe()

[SET] The threshold (for Safe Mode) that determines if a column should increment or decrement by 1.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008000C	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.24.3.12 scnrGetThColSumSafe()

[GET] The threshold (for Safe Mode) that determines if a column should increment or decrement by 1.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008000D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.24.3.13 scnrSetThPixelSafe()

[SET] The (base) threshold (for Safe Mode) that determines if a neighboring pixel is within range to affect the correction of the center.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008000E	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.24.3.14 scnrGetThPixelSafe()

[GET] The (base) threshold (for Safe Mode) that determines if a neighboring pixel is within range to affect the correction of the center.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008000F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes

data	UINT_16	0:2	

1.24.3.15 scnrSetMaxCorrSafe()

[SET] The (base) maximum correction amount (for Safe Mode) that will be applied.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080010	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.24.3.16 scnrGetMaxCorrSafe()

[GET] The (base) maximum correction amount (for Safe Mode) that will be applied.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080011	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.24.3.17 scnrSetCorrectionMethod()

[SET] Correction Method (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080012	N/A	N/A
data	FLR_SCNR_CORR_SELECT_E	0:4	

No output parameters.

1.24.3.18 scnrGetCorrectionMethod()

[GET] Correction Method (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080013	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_SCNR_CORR_SELECT_E	0:4	

1.24.3.19 scnrSetStdThreshold()

[SET] Std Deviation Threshold (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080014	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.24.3.20 scnrGetStdThreshold()

[GET] Std Deviation Threshold (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080015	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.24.3.21 scnrSetNFrames()

[SET] NumFrames for M-Mode (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080016	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.24.3.22 scnrGetNFrames()

[GET] NumFrames for M-Mode (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080017	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.24.3.23 scnrSetResetDesired()

[SET] Reset Desired (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080018	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.24.3.24 scnrGetResetDesired()

[GET] Reset Desired (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080019	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.24.3.25 scnrSetM_modeOnly()

[SET] M Mode Only (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008001A	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.24.3.26 scnrGetM_modeOnly()

[GET] M Mode Only (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008001B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.24.3.27 scnrGetMode()

[GET] SCNR Mode (scnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008001C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_SCNR_MODE_E	0:4	

1.24.3.28 scnrSetSpecklesEnableState()

[SET] Speckles Enable state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080020	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.24.3.29 scnrGetSpecklesEnableState()

[GET] Speckles Enable state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080021	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.24.3.30 scnrSetSpecklesThreshold()

[SET] Speckles threshold for calculating diffs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080022	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.24.3.31 scnrGetSpecklesThreshold()

[GET] Speckles threshold for calculating diffs.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080023	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.24.3.32 scnrSetSpecklesRatio()

[SET] Speckles ratio for calculating offsets.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080024	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.24.3.33 scnrGetSpecklesRatio()

[GET] Speckles ratio for calculating offsets.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080025	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.24.3.34 scnrSetSpecklesDF()

[SET] Speckles damping factor for damping offsets.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080026	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.24.3.35 scnrGetSpecklesDF()

[GET] Speckles damping factor for damping offsets.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080027	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.24.3.36 scnrGetSpecklesDiffsBufferAddr()

[GET] Speckles Diffs BufferAddr.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080028	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.24.3.37 scnrGetSpecklesOffsBufferAddr()

[GET] Speckles Offsets BufferAddr.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00080029	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.24.3.38 scnrSetSpecklesResetDesired()

[SET] Speckles Reset Desired.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008002A	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.24.3.39 scnrGetSpecklesResetDesired()

[GET] Speckles Reset Desired.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0008002B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.25 Module: SFFC

Supplemental Flat Field Control (SFFC).

1.25.1 Enums

No enumerations in module sffc.

1.25.2 Structs

No struct types in module sffc.

1.25.3 Functions

1.25.3.1 sffcGetScaleFactor()

[GET] The currently applied Scale Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0000	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.25.3.2 sffcGetDeltaTempLinearCoeff()

[GET] The linear coefficient for delta FPA temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.25.3.3 sffcSetDeltaTempLinearCoeff()

[SET] The linear coefficient for delta FPA temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0002	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.25.3.4 sffcGetDeltaTempOffsetCoeff()

[GET] The offset coefficient for delta FPA temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0003	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.25.3.5 sffcSetDeltaTempOffsetCoeff()

[SET] The offset coefficient for delta FPA temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0004	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.25.3.6 sffcGetFpaTempLinearCoeff()

[GET] The linear coefficient for current FPA temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.25.3.7 sffcSetFpaTempLinearCoeff()

[SET] The linear coefficient for current FPA temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0006	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.25.3.8 sffcGetFpaTempOffsetCoeff()

[GET] The offset coefficient for current FPA temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.25.3.9 sffcSetFpaTempOffsetCoeff()

[SET] The offset coefficient for current FPA temperature.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0008	N/A	N/A
data	FLOAT	0:4	

No output parameters.

1.25.3.10 sffcGetDeltaTempTimeLimitInSecs()

[GET] The number of seconds for which the delta FPA temperature scale factor is applied.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001C0009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.25.3.11 sffcSetDeltaTempTimeLimitInSecs()

[SET] The number of seconds for which the delta FPA temperature scale factor is applied.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x001C000A	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.26 Module: SPNR

Functions for controlling Spatial Pattern Noise Reduction (SPNR) correction. SPNR is also referred to as Silent Shutterless NUC (SSN).

1.26.1 Enums

1.26.1.1 FLR_SPNR_STATE_E — <INT_32>

FLR_SPNR_READY = 0
FLR_SPNR_DESIRED = 1
FLR_SPNR_IN_PROGRESS = 2
FLR_SPNR_COMPLETE = 3

1.26.1.2 FLR_SPNR_ALGORITHM_E — <INT_32>

FLR_SPNR_ALGO_DEFAULT = 0
FLR_SPNR_ALGO_DWT = 0
FLR_SPNR_ALGO_ITER = 1

1.26.1.3 FLR_SPNR_RESET_E — <INT_32>

FLR_SPNR_HARD_RESET = 0
FLR_SPNR_SOFT_RESET = 1

1.26.2 Structs

1.26.2.1 FLR_SPNR_PSD_KERNEL_T

Field Name	DataType	Bytes
fvalue	FLOAT*64	256

1.26.3 Functions

1.26.3.1 spnrSetEnableState()

[SET] State of SPNR corrections.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0001	N/A	N/A

data	FLR_ENABLE_E	0:4	

No output parameters.

1.26.3.2 spnrGetEnableState()

[GET] State of SPNR corrections.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.26.3.3 spnrGetState()

[GET] The current SPNR execution state - FLR_SPNR_READY, FLR_SPNR_DESIRED, FLR_SPNR_IN_PROGRESS or FLR_SPNR_COMPLETE.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_SPNR_STATE_E	0:4	

1.26.3.4 spnrSetFrameDelay()

[SET] The frame delay parameter. This determines how many frames it takes between SPNR iterations. Note: Change value with caution.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0005	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.26.3.5 spnrGetFrameDelay()

[GET] The frame delay parameter. This determines how many frames it takes between SPNR iterations. Note: Change value with caution.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.26.3.6 spnrSetSF()

[SET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C000B	N/A	N/A
sf	FLOAT	0:4	

No output parameters.

1.26.3.7 spnrGetSF()

[GET] No description available

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C000C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
sf	FLOAT	0:4	

1.26.3.8 spnrGetSFApplied()

[GET] The currently applied Scale Factor.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0015	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
sf	FLOAT	0:4	

1.26.3.9 spnrSetPSDKernel()

[SET] The PSD kernel. This is power spectral density of the noise. Note: Change value with caution.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C001A	N/A	N/A
data	FLR_SPNR_PSD_KERNEL_T	0:256	

No output parameters.

1.26.3.10 spnrGetPSDKernel()

[GET] The PSD kernel. This is power spectral density of the noise. Note: Change value with caution.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C001B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_SPNR_PSD_KERNEL_T	0:256	

1.26.3.11 spnrSetSFMin()

[SET] The minimum Scale Factor ("SF") value, used when there is no scene motion. Scale Factor controls how aggressively the image is corrected.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C001C	N/A	N/A
sfmin	FLOAT	0:4	

No output parameters.

1.26.3.12 spnrGetSFMin()

[GET] The minimum Scale Factor ("SF") value, used when there is no scene motion. Scale Factor controls how aggressively the image is corrected.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C001D	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
sfmin	FLOAT	0:4	

1.26.3.13 spnrSetSFMax()

[SET] The maximum Scale Factor ("SF") value used when there is much scene motion. Scale Factor controls how aggressively the image is corrected.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C001E	N/A	N/A
sfmax	FLOAT	0:4	

No output parameters.

1.26.3.14 spnrGetSFMax()

[GET] The maximum Scale Factor ("SF") value used when there is much scene motion. Scale Factor controls how aggressively the image is corrected.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C001F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
sfmax	FLOAT	0:4	

1.26.3.15 spnrSetDFMin()

[SET] The minimum Damping Factor ("DF") value, used when there is much scene motion.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0020	N/A	N/A
dfmin	FLOAT	0:4	

No output parameters.

1.26.3.16 spnrGetDFMin()

[GET] The minimum Damping Factor ("DF") value, used when there is much scene motion.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0021	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
dfmin	FLOAT	0:4	

1.26.3.17 spnrSetDFMax()

[SET] The maximum Damping Factor ("DF") value, used when there is no scene motion.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0022	N/A	N/A
dfmax	FLOAT	0:4	

No output parameters.

1.26.3.18 spnrGetDFMax()

[GET] The maximum Damping Factor ("DF") value, used when there is no scene motion.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0023	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
dfmax	FLOAT	0:4	

1.26.3.19 spnrSetNormTarget()

[SET] The NormTarget, which adjusts how sensitive SPNR is to motion.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0024	N/A	N/A
normTarget	FLOAT	0:4	

No output parameters.

1.26.3.20 spnrGetNormTarget()

[GET] The NormTarget, which adjusts how sensitive SPNR is to motion.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0025	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
normTarget	FLOAT	0:4	

1.26.3.21 spnrGetNormTargetApplied()

[GET] The actual NormTarget applied in the algorithm after parameter scaling.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0026	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
normTargetApplied	FLOAT	0:4	

1.26.3.22 spnrSetThPix()

[SET] The threshold th_pix, which is number of counts away from the center pixel.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0027	N/A	N/A
th_pix	UINT_16	0:2	

No output parameters.

1.26.3.23 spnrGetThPix()

[GET] The threshold th_pix, which is number of counts away from the center pixel.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0028	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
th_pix	UINT_16	0:2	

1.26.3.24 spnrSetThPixSum()

[SET] The threshold th_pixSum, which determines how many pixels within the kernel will be considered a majority.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0029	N/A	N/A
th_pixSum	UINT_16	0:2	

No output parameters.

1.26.3.25 spnrGetThPixSum()

[GET] The threshold th_pixSum, which determines how many pixels within the kernel will be considered a majority.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C002A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
th_pixSum	UINT_16	0:2	

1.26.3.26 spnrSetMaxcorr()

[SET] The threshold maxcorr, which determines the amount of correction allowed.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C002B	N/A	N/A
maxcorr	UINT_16	0:2	

No output parameters.

1.26.3.27 spnrGetMaxcorr()

[GET] The threshold maxcorr, which determines the amount of correction allowed.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C002C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
maxcorr	UINT_16	0:2	

1.26.3.28 spnrGetAlgorithm()

[GET] Algorithm currently running.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0033	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_SPNR_ALGORITHM_E	0:4	

1.26.3.29 spnrSetAlgorithmDesired()

[SET] Desired algorithm.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x000C0034	N/A	N/A
data	FLR_SPNR_ALGORITHM_E	0:4	

No output parameters.

1.26.3.30 spnrGetAlgorithmDesired()

[GET] Desired algorithm.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0035	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_SPNR_ALGORITHM_E	0:4	

1.26.3.31 spnrSetDFFast()

[SET] Damping Factor used for regions that will be damped quickly.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0037	N/A	N/A
dffast	FLOAT	0:4	

No output parameters.

1.26.3.32 spnrGetDFFast()

[GET] Damping Factor used for regions that will be damped quickly.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0038	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
dffast	FLOAT	0:4	

1.26.3.33 spnrSetDFSlow()

[SET] Damping factor used for regions that will be damped slowly.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C0039	N/A	N/A
dfslow	FLOAT	0:4	

No output parameters.

1.26.3.34 spnrGetDFSlow()

[GET] Damping factor used for regions that will be damped slowly.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C003A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
dfslow	FLOAT	0:4	

1.26.3.35 spnrSetSensitivityThreshold()

[SET] Threshold at which a region will not be updated.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C003B	N/A	N/A
threshold	FLOAT	0:4	

No output parameters.

1.26.3.36 spnrGetSensitivityThreshold()

[GET] Threshold at which a region will not be updated.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C003C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
threshold	FLOAT	0:4	

1.26.3.37 spnrSetReset()

[SET] Hard or Soft reset of the SPNR algorithms correction buffers.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000C003D	N/A	N/A
resetType	FLR_SPNR_RESET_E	0:4	

No output parameters.

1.27 Module: SPOTMETER

Spot meter module. Collect statistics for each pixel in ROI.

1.27.1 Enums

1.27.1.1 FLR_SPOTMETER_STATS_TEMP_MODE_E — <INT_32>

FLR_SPOTMETER_CELCIUS = 0
FLR_SPOTMETER_FAHRENHEIT = 1
FLR_SPOTMETER_KELVIN = 2
FLR_SPOTMETER_END = 3

1.27.2 Structs

1.27.2.1 FLR_SPOTMETER_SPOT_PARAM_T

Field Name	DataType	Bytes
row	UINT_16	2
column	UINT_16	2
value	UINT_16	2

1.27.2.2 FLR_SPOTMETER_STAT_PARAM_TEMP_T

Field Name	DataType	Bytes
row	UINT_16	2
column	UINT_16	2
value	FLOAT	4

1.27.3 Functions

1.27.3.1 spotMeterSetEnable()

[SET] Spot meter enable state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430000	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.27.3.2 spotMeterGetEnable()

[GET] Spot meter enable state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.27.3.3 spotMeterGetRoiMaxSize()

Get the maximum width and height of spot meter ROI.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
width	UINT_16	0:2	
height	UINT_16	2:4	

1.27.3.4 spotMeterSetRoi()

[SET] The ROI of an image for which the statistics are calculated. The ROI sent is a datatype that describes row start, row stop, column start, and column stop.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430003	N/A	N/A
roi	FLR_ROI_T	0:8	

No output parameters.

1.27.3.5 spotMeterGetRoi()

[GET] The ROI of an image for which the statistics are calculated. The ROI sent is a datatype that describes row start, row stop, column start, and column stop.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
roi	FLR_ROI_T	0:8	

1.27.3.6 spotMeterGetSpotStats()

Get the mean, deviation, and min, max pixel statistics of spot, values in counts.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
mean	UINT_16	0:2	
deviation	UINT_16	2:4	
min	FLR_SPOTMETER_SPOT_PARAM_T	4:10	
max	FLR_SPOTMETER_SPOT_PARAM_T	10:16	

1.27.3.7 spotMeterSetStatsMode()

[SET] Controls the temp scale for the spot stats temp API, Celcius or Fahrenheit.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430006	N/A	N/A
mode	FLR_SPOTMETER_STATS_TEMP_MODE_E	0:4	

No output parameters.

1.27.3.8 spotMeterGetStatsMode()

[GET] Controls the temp scale for the spot stats temp API, Celcius or Fahrenheit.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
mode	FLR_SPOTMETER_STATS_TEMP_MODE_E	0:4	

1.27.3.9 spotMeterGetTempStats()

Get the mean, deviation, and min, max pixel statistics of spot, but in Temp rather than counts.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00430008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
mean	FLOAT	0:4	
deviation	FLOAT	4:8	
min	FLR_SPOTMETER_STAT_PARAM_TEMP_T	8:16	
max	FLR_SPOTMETER_STAT_PARAM_TEMP_T	16:24	

1.28 Module: SRNR

Spatial Row Noise correction filter.

1.28.1 Enums

No enumerations in module srnr.

1.28.2 Structs

No struct types in module srnr.

1.28.3 Functions

1.28.3.1 srnrSetEnableState()

[SET] The SRNR correction state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00280001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.28.3.2 srnrGetEnableState()

[GET] The SRNR correction state.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00280002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.28.3.3 srnrSetThRowSum()

[SET] The SRNR row sum threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00280003	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.28.3.4 srnrGetThRowSum()

[GET] The SRNR row sum threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00280004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.28.3.5 srnrSetThPixel()

[SET] The SRNR pixel threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00280005	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.28.3.6 srnrGetThPixel()

[GET] The SRNR pixel threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00280006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.28.3.7 srnrSetMaxCorr()

[SET] The SRNR maximum correction.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00280007	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.28.3.8 srnrGetMaxCorr()

[GET] The SRNR maximum correction.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00280008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.28.3.9 srnrGetThPixelApplied()

[GET] The SRNR applied pixel threshold.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0028000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.28.3.10 srnrGetMaxCorrApplied()

[GET] The SRNR applied maximum correction.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0028000B	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.29 Module: SYMBOLOGY

These APIs are used to manage the symbology of the camera for position, orientation, image type, etc.

1.29.1 Enums

1.29.1.1 FLR_SYMBOLOGY_TEXT_ALIGNMENT_E — <INT_16>

FLR_SYMBOLOGY_LEFT_TOP = 17
FLR_SYMBOLOGY_CENTER_TOP = 18

FLR_SYMBOLOGY_RIGHT_TOP = 19
FLR_SYMBOLOGY_LEFT_MIDDLE = 33
FLR_SYMBOLOGY_CENTER_MIDDLE = 34
FLR_SYMBOLOGY_RIGHT_MIDDLE = 35
FLR_SYMBOLOGY_LEFT_BOTTOM = 49
FLR_SYMBOLOGY_CENTER_BOTTOM = 50
FLR_SYMBOLOGY_RIGHT_BOTTOM = 51
FLR_SYMBOLOGY_ALIGNMENT_LAST = 64

1.29.1.2 FLR_SYMBOLOGY_TRANSFORMATION_E — <INT_16>

FLR_SYMBOLOGY_TRANSFORMATION_NONE = 0
FLR_SYMBOLOGY_TRANSFORMATION_FLIP_BOTH = 1
FLR_SYMBOLOGY_TRANSFORMATION_FLIP_HORIZONTAL = 2
FLR_SYMBOLOGY_TRANSFORMATION_FLIP_VERTICAL = 3

1.29.1.3 FLR_SYMBOLOGY_IMAGE_TYPE_E — <INT_16>

FLR_SYMBOLOGY_RAW_IMAGE = 0
FLR_SYMBOLOGY_PNG_IMAGE = 1
FLR_SYMBOLOGY_JPEG_IMAGE = 2
FLR_SYMBOLOGY_BMP_IMAGE = 3

1.29.1.4 FLR_SYMBOLOGY_SCALING_MODE_E — <INT_16>

FLR_SYMBOLOGY_SCALING_MODE_NONE = 0
FLR_SYMBOLOGY_SCALING_MODE_FIT = 1
FLR_SYMBOLOGY_SCALING_MODE_CROP = 2
FLR_SYMBOLOGY_SCALING_MODE_FILL = 3

1.29.1.5 FLR_SYMBOLOGY_TYPE_E — <INT_16>

FLR_SYMBOLOGY_EMPTY = 0
FLR_SYMBOLOGY_BITMAP = 1
FLR_SYMBOLOGY_ARC = 2
FLR_SYMBOLOGY_TEXT = 3
FLR_SYMBOLOGY_FILLEDRECTANGLE = 4
FLR_SYMBOLOGY_RECTANGLE = 5
FLR_SYMBOLOGY_FILLEDELLIPSE = 6
FLR_SYMBOLOGY_LINE = 7
FLR_SYMBOLOGY_SPRITE = 8

1.29.2 Structs

No struct types in module symbology.

1.29.3 Functions

1.29.3.1 symbologySetEnable()

[SET] State of symbol drawing.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140000	N/A	N/A
draw_symbols	FLR_ENABLE_E	0:4	

No output parameters.

1.29.3.2 symbologyCreateBitmap()

Create a bitmap symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140001	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	

No output parameters.

1.29.3.3 symbologySendData()

Send raw symbol data to specified symbol. Must declare "size" of data less than or equal to 128 bytes.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140003	N/A	N/A
ID	UCHAR	0:1	
size	INT_16	1:3	
text	UCHAR*128	3:131	

No output parameters.

1.29.3.4 symbologyCreateArc()

Create an arc or ellipsoid symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140004	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	
start_angle	FLOAT	9:13	
end_angle	FLOAT	13:17	
color	UINT_32	17:21	

No output parameters.

1.29.3.5 symbologyCreateText()

Create a text symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140006	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	
font	CHAR	9:10	
size	INT_16	10:12	
alignment	FLR_SYMBOLOGY_TEXT_ALIGNMENT_E	12:14	
color	UINT_32	14:18	
text	UCHAR*128	18:146	

No output parameters.

1.29.3.6 symbologyMoveSprite()

Move an existing symbol to new absolute coordinates.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140007	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	

No output parameters.

1.29.3.7 symbologyAddToGroup()

Add a symbol to a group.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140008	N/A	N/A
ID	UCHAR	0:1	
group_ID	UCHAR	1:2	

No output parameters.

1.29.3.8 symbologyRemoveFromGroup()

Remove a symbol from a group.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140009	N/A	N/A
ID	UCHAR	0:1	
group_ID	UCHAR	1:2	

No output parameters.

1.29.3.9 symbologyUpdateAndShow()

Redraw and show or hide the specified symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014000A	N/A	N/A
ID	UCHAR	0:1	
visible	UCHAR	1:2	

No output parameters.

1.29.3.10 symbologyUpdateAndShowGroup()

Redraw and show or hide all symbols in a specified group.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014000B	N/A	N/A
group_ID	UCHAR	0:1	
visible	UCHAR	1:2	

No output parameters.

1.29.3.11 symbologyDelete()

Delete the specified symbol

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014000C	N/A	N/A
ID	UCHAR	0:1	

No output parameters.

1.29.3.12 symbologyDeleteGroup()

Delete all symbols from group.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014000D	N/A	N/A
group_ID	UCHAR	0:1	

No output parameters.

1.29.3.13 symbologyCreateFilledRectangle()

Create a solid color rectangle symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014000E	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	

pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	
color	UINT_32	9:13	

No output parameters.

1.29.3.14 symbologyCreateOutlinedRectangle()

Create an outlined rectangle with transparent center.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140010	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	
color	UINT_32	9:13	

No output parameters.

1.29.3.15 symbologyCreateBitmapFromPng()

Create a bitmap symbol from PNG encoded data.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140012	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
size	INT_16	5:7	

No output parameters.

1.29.3.16 symbologyCreateCompressedBitmap()

Create a bitmap symbol from RLE color data.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00140014	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	

No output parameters.

1.29.3.17 symbologyCreateBitmapFromPngFile()

Create a bitmap symbol from PNG file.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140016	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
path	UCHAR*128	5:133	

No output parameters.

1.29.3.18 symbologyCreateBitmapFromFile()

Create bitmap symbol from RAW file.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140017	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
path	UCHAR*128	5:133	
imageType	FLR_SYMBOLOGY_IMAGE_TYPE_E	133:135	

No output parameters.

1.29.3.19 symbologyResetWritePosition()

Reset write pointer for symbol ID.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140018	N/A	N/A
ID	UCHAR	0:1	

No output parameters.

1.29.3.20 symbologyMoveByOffset()

Move an existing symbol by offset coordinates.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140019	N/A	N/A
ID	UCHAR	0:1	
off_X	INT_16	1:3	
off_Y	INT_16	3:5	

No output parameters.

1.29.3.21 symbologyMoveGroupByOffset()

Move all symbols in a group by offset coordinates.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014001A	N/A	N/A
ID	UCHAR	0:1	
off_X	INT_16	1:3	
off_Y	INT_16	3:5	

No output parameters.

1.29.3.22 symbologyCreateFilledEllipse()

Create a solid color ellipsoid or circle.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014001B	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	

width	INT_16	5:7	
height	INT_16	7:9	
color	UINT_32	9:13	

No output parameters.

1.29.3.23 symbologyCreateLine()

Create a line symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014001C	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
pos_X2	INT_16	5:7	
pos_Y2	INT_16	7:9	
color	UINT_32	9:13	

No output parameters.

1.29.3.24 symbologySetZorder()

Set the Z coordinate for the specified symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014001D	N/A	N/A
ID	UCHAR	0:1	
zorder	UCHAR	1:2	

No output parameters.

1.29.3.25 symbologySaveConfiguration()

Save current symbol definitions, positions, and visibility to config file.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014001E	N/A	N/A

No output parameters.

1.29.3.26 symbologyReloadConfiguration()

Load symbol definitions, positions, and visibility from config file.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014001F	N/A	N/A

No output parameters.

1.29.3.27 symbologyGetEnable()

[GET] The symbol drawing enable status.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140020	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
draw_symbols	FLR_ENABLE_E	0:4	

1.29.3.28 symbologySetClonesNumber()

Set the number of clones for the specified symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140021	N/A	N/A
ID	UCHAR	0:1	
numberOfClones	UCHAR	1:2	

No output parameters.

1.29.3.29 symbologyMoveCloneByOffset()

Move specified clone of specified symbol by offset coordinates.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140022	N/A	N/A
ID	UCHAR	0:1	

cloneID	UCHAR	1:2	
pos_X	INT_16	2:4	
pos_Y	INT_16	4:6	

No output parameters.

1.29.3.30 symbologyMoveCloneSprite()

Move specified clone of specified symbol to absolute coordinates.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140023	N/A	N/A
ID	UCHAR	0:1	
cloneID	UCHAR	1:2	
pos_X	INT_16	2:4	
pos_Y	INT_16	4:6	

No output parameters.

1.29.3.31 symbologySetTransformation()

[SET] The global symbol transformation enumeration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140024	N/A	N/A
transformation	FLR_SYMBOLOGY_TRANSFORMATION_E	0:2	

No output parameters.

1.29.3.32 symbologyUpdateAllVisible()

Update and redraw all currently visible symbols.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140025	N/A	N/A

No output parameters.

1.29.3.33 symbologySetSizeAndScalingMode()

Set desired size and scaling mode for specified symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140026	N/A	N/A
ID	UCHAR	0:1	
width	INT_16	1:3	
height	INT_16	3:5	
scalingMode	FLR_SYMBOLOGY_SCALING_MODE_E	5:7	

No output parameters.

1.29.3.34 symbologyCreateLineHVT()

Create HVT line symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140027	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
pos_X2	INT_16	5:7	
pos_Y2	INT_16	7:9	
color1	UINT_32	9:13	
color2	UINT_32	13:17	
dashLen	UINT_16	17:19	
thickness	UINT_16	19:21	

No output parameters.

1.29.3.35 symbologyCreateTextHVT()

Create HVT text symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140028	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	

font	CHAR	9:10	
size	INT_16	10:12	
alignment	FLR_SYMBOLOGY_TEXT_ALIGNMENT_E	12:14	
color1	UINT_32	14:18	
color2	UINT_32	18:22	
dashLen	UCHAR	22:23	
text	UCHAR*128	23:151	

No output parameters.

1.29.3.36 symbologyCreateTextBg()

Create text with background color symbol.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140029	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	
pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	
font	CHAR	9:10	
size	INT_16	10:12	
alignment	FLR_SYMBOLOGY_TEXT_ALIGNMENT_E	12:14	
color	UINT_32	14:18	
bgColor	UINT_32	18:22	
text	UCHAR*128	22:150	

No output parameters.

1.29.3.37 symbologyCreateScaledBitmapFromFile()

Create bitmap with scaling from file pointer.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014002A	N/A	N/A
ID	UCHAR	0:1	
pos_X	INT_16	1:3	

pos_Y	INT_16	3:5	
width	INT_16	5:7	
height	INT_16	7:9	
scalingMode	FLR_SYMBOLOGY_SCALING_MODE_E	9:11	
path	UCHAR*128	11:139	
imageType	FLR_SYMBOLOGY_IMAGE_TYPE_E	139:141	

No output parameters.

1.29.3.38 symbologyGetLocation()

Get symbol location.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014002B	N/A	N/A
ID	UCHAR	0:1	

Output/Receive parameters:

Name	DataType	Bytes	Notes
pos_X	INT_16	0:2	
pos_Y	INT_16	2:4	

1.29.3.39 symbologyGetSize()

Get symbol size.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014002C	N/A	N/A
ID	UCHAR	0:1	

Output/Receive parameters:

Name	DataType	Bytes	Notes
width	INT_16	0:2	
height	INT_16	2:4	

1.29.3.40 symbologyGetZorder()

Get symbol Z order.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014002D	N/A	N/A
ID	UCHAR	0:1	

Output/Receive parameters:

Name	DataType	Bytes	Notes
zorder	UCHAR	0:1	

1.29.3.41 symbologyGetColor()

Get symbol color.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014002E	N/A	N/A
ID	UCHAR	0:1	

Output/Receive parameters:

Name	DataType	Bytes	Notes
color	UINT_32	0:4	

1.29.3.42 symbologyGetType()

Get symbol type.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0014002F	N/A	N/A
ID	UCHAR	0:1	

Output/Receive parameters:

Name	DataType	Bytes	Notes
type	FLR_SYMBOLOGY_TYPE_E	0:2	

1.29.3.43 symbologyCopySymbol()

Copy symbol from source ID to destination ID.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00140030	N/A	N/A
source	UCHAR	0:1	
destination	UCHAR	1:2	

No output parameters.

1.29.3.44 symbologyGetTextFontSize()

Get text symbol font size.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00140031	N/A	N/A
ID	UCHAR	0:1	

Output/Receive parameters:

Name	DataType	Bytes	Notes
size	INT_16	0:2	

1.30 Module: SYSCTRL

General Pipeline controls

1.30.1 Enums

1.30.1.1 FLR_SYSCTRL_USBIR16_MODE_E — <INT_32>

FLR_SYSCTRL_USBIR16_MODE_16 = 0
FLR_SYSCTRL_USBIR16_MODE_14 = 1
FLR_SYSCTRL_USBIR16_MODE_TLINEAR = 2
FLR_SYSCTRL_USBIR16_MODE_LAST = 3

1.30.1.2 FLR_SYSCTRL_OPERATING_MODE_E — <INT_32>

FLR_SYSCTRL_MODE_UNKNOWN = -1
FLR_SYSCTRL_MODE_STARTUP = 0
FLR_SYSCTRL_MODE_NORMAL_IMAGING = 1
FLR_SYSCTRL_MODE_UPDATE = 2
FLR_SYSCTRL_MODE_LOW_POWER_IMAGING = 3
FLR_SYSCTRL_MODE_LOW_POWER = 4
FLR_SYSCTRL_MODE_TESTRAMP = 5
FLR_SYSCTRL_MODE_LENS_GAIN_CAL = 6
FLR_SYSCTRL_MODE_SFFC_CAL = 7
FLR_SYSCTRL_MODE_END = 8

1.30.2 Structs

No struct types in module sysctrl.

1.30.3 Functions

1.30.3.1 sysctrlSetFreezeState()

[SET] State of the pipeline freeze parameter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E0001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.30.3.2 sysctrlGetFreezeState()

[GET] State of the pipeline freeze parameter.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E0002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.30.3.3 sysctrlGetCameraFrameRate()

[GET] The framerate of the camera in frames per second (60/30 or 9).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E0007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
frameRate	UINT_32	0:4	

1.30.3.4 sysctrlGetUptimeSecs()

[GET] The elapsed time since boot in seconds. This value is approximate.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E0008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
uptime	UINT_32	0:4	

1.30.3.5 sysctrlSetUsbVideoIR16Mode()

[SET] Data packing for USB Video sent via 'Y16' format

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E000D	N/A	N/A
data	FLR_SYSCTRL_USBIR16_MODE_E	0:4	

No output parameters.

1.30.3.6 sysctrlGetUsbVideoIR16Mode()

[GET] Data packing for USB Video sent via 'Y16' format

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E000E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_SYSCTRL_USBIR16_MODE_E	0:4	

1.30.3.7 sysctrlSetOperatingMode()

[SET] Configures system parameters including video pipeline (when applicable) for the selected mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E000F	N/A	N/A

data	FLR_SYSCTRL_OPERATING_MODE_E	0:4	

No output parameters.

1.30.3.8 sysctrlGetOperatingMode()

[GET] Configures system parameters including video pipeline (when applicable) for the selected mode.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E0010	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_SYSCTRL_OPERATING_MODE_E	0:4	

1.30.3.9 sysctrlGetAvgFpaTempCounts()

[GET] The average temperature of the FPA in counts.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E0018	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLOAT	0:4	

1.30.3.10 sysctrlSetFpaTempFrames()

[SET] The number of frames to average the FPA temperature over.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E0019	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.30.3.11 sysctrlGetFpaTempFrames()

[GET] The number of frames to average the FPA temperature over.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000E0020	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.31 Module: SYSINFO

These APIs are used to return System Information. Currently only Monitor information is returned.

1.31.1 Enums

1.31.1.1 FLR_SYSINFO_SW_CONFIG_ID_E — <INT_32>

FLR_SYSINFO_UNKNOWN = 0
FLR_SYSINFO_BOSON_1406 = 1
FLR_SYSINFO_BOSON_1407 = 2
FLR_SYSINFO_BOSON_1403 = 3
FLR_SYSINFO_BOSON_BLENDED = 4
FLR_SYSINFO_BOSON_OTS = 5
FLR_SYSINFO_BOSON_MARITIME = 6
FLR_SYSINFO_NV4 = 7
FLR_SYSINFO_BOSON_SWIR = 8
FLR_SYSINFO_SENSORTEST_1406 = 9
FLR_SYSINFO_SENSORTEST_1407 = 10
FLR_SYSINFO_NEUTRINOLC = 11
FLR_SYSINFO_GLUON_1406 = 12
FLR_SYSINFO_GLUON_1407 = 13
FLR_SYSINFO_GRAVITON_1407 = 14
FLR_SYSINFO_BOSON_1904 = 15
FLR_SYSINFO_BOSON_OUTLINE_1406 = 16
FLR_SYSINFO_GRAVITON_1406 = 17
FLR_SYSINFO_BOSON_OUTLINE_1407 = 18
FLR_SYSINFO_SENSORTEST_1904 = 19
FLR_SYSINFO_BOSON_MIPI_1407 = 20
FLR_SYSINFO_BOSON_MIPI_1406 = 21

FLR_SYSINFO_BOSON_BASE_1407 = 22
FLR_SYSINFO_BOSON_BASE_1406 = 23
FLR_SYSINFO_BOSON_MIPI_1904 = 24

1.31.1.2 FLR_SYSINFO_SW_PERMISSIONS_E — <INT_32>

FLR_SYSINFO_FACTORY = 0
FLR_SYSINFO_USER = 1

1.31.1.3 FLR_SYSINFO_PROBE_TIP_MODEL_E — <INT_32>

FLR_SYSINFO_PTM_UNKNOWN = 0
FLR_SYSINFO_PTM_VSC_IR32 = 1
FLR_SYSINFO_PTM_VSC_IR21 = 2
FLR_SYSINFO_PTM_VS80CIR_21 = 3
FLR_SYSINFO_PTM_VSC_IR33 = 4
FLR_SYSINFO_PTM_LAST = 5

1.31.2 Structs

1.31.2.1 FLR_SYSINFO_MONITOR_BUILD_VARIANT_T

Field Name	DataType	Bytes
value	UCHAR*50	50

1.31.2.2 FLR_SYSINFO_PROBE_TIP_TYPE

Field Name	DataType	Bytes
model	FLR_SYSINFO_PROBE_TIP_MODEL_E	4
hwRevision	UCHAR	1

1.31.3 Functions

1.31.3.1 sysinfoGetMonitorSoftwareRev()

Get the software revision of the bootloader code.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
major	UINT_32	0:4	

minor	UINT_32	4:8	
patch	UINT_32	8:12	

1.31.3.2 sysinfoGetMonitorBuildVariant()

[GET] The bootloader variant name.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
monitorBuildVariant	FLR_SYSINFO_MONITOR_BUILD_VARIANT_T	0:50	

1.31.3.3 sysinfoGetProductName()

[GET] Device name.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0003	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
name	UCHAR*128	0:128	

1.31.3.4 sysinfoGetCameraSN()

[GET] Camera serial number.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
number	UCHAR*128	0:128	

1.31.3.5 sysinfoGetBootLocation()

[GET] Boot Sw Location.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
bootSwLocation	UINT_32	0:4	

1.31.3.6 sysinfoGetSwConfigID()

[GET] Sw config id.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
swConfigID	FLR_SYSINFO_SW_CONFIG_ID_E	0:4	

1.31.3.7 sysinfoGetSwPermissions()

[GET] Is Software factory or User.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
swPermissions	FLR_SYSINFO_SW_PERMISSIONS_E	0:4	

1.31.3.8 sysinfoGetIs9HzBuild()

[GET] Is Sw 9Hz build.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
is9HzBuild	UINT_32	0:4	

1.31.3.9 sysinfoGetProductVersion()

Returns the friendly version number of the product configuration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
major	UINT_32	0:4	
minor	UINT_32	4:8	
patch	UINT_32	8:12	

1.31.3.10 sysinfoGetMonitorProductRev()

Get the product revision of the bootloader code.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F000F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
major	UINT_32	0:4	
minor	UINT_32	4:8	
patch	UINT_32	8:12	

1.31.3.11 sysinfoGetOpticalRevision()

[GET] Returns Optical Revision value if available for this camera. Returns NotImplemented otherwise.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0011	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
revision	UINT_16	0:2	

1.31.3.12 sysinfoGetSensorRevision()

[GET] Returns Sensor Revision value if available for this camera. Returns NotImplemented otherwise.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0013	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
revision	UINT_16	0:2	

1.31.3.13 sysinfoGetProbeTipSN()

[GET] Borescope probe tip serial number.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0015	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
number	UCHAR*128	0:128	

1.31.3.14 sysinfoGetMechanicalRevision()

[GET] Returns Mechanical Revision value if available for this camera. Returns NotImplemented otherwise.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0017	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
revision	UINT_16	0:2	

1.31.3.15 sysinfoGetProbeTipType()

[GET] Probe tip model

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x002F0018	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
type	FLR_SYSINFO_PROBE_TIP_TYPE	0:5	

1.32 Module: SYSTEMSYMBOLS

These APIs are used to control/manage the system symbols

1.32.1 Enums

1.32.1.1 FLR_SYSTEMSYMBOLS_SYMBOL_E — <INT_32>

FLR_SYSTEMSYMBOLS_FFC_IMMINENT = 0
FLR_SYSTEMSYMBOLS_FFC_DESIRED = 1
FLR_SYSTEMSYMBOLS_TABLE_SWITCH_DESIRED = 2
FLR_SYSTEMSYMBOLS_LOW_GAIN = 3
FLR_SYSTEMSYMBOLS_OVERTEMP = 4
FLR_SYSTEMSYMBOLS_SPOTMETER = 5
FLR_SYSTEMSYMBOLS_ISOTHERM = 6
FLR_SYSTEMSYMBOLS_SYMBOL_LAST = 7

1.32.1.2 FLR_SYSTEMSYMBOLS_ID_TYPE_E — <INT_32>

FLR_SYSTEMSYMBOLS_ELEMENT = 0
FLR_SYSTEMSYMBOLS_GROUP = 1
FLR_SYSTEMSYMBOLS_ID_LAST = 2

1.32.1.3 FLR_SYSTEMSYMBOLS_STATE_E — <INT_32>

FLR_SYSTEMSYMBOLS_ENTERED = 0

FLR_SYSTEMSYMBOLS_EXITED = 1
FLR_SYSTEMSYMBOLS_STATE_LAST = 2

1.32.2 Structs

1.32.2.1 FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T

Field Name	DataType	Bytes
id	UCHAR	1
x	INT_16	2
y	INT_16	2
width	INT_16	2
height	INT_16	2
color	UINT_32	4
size	INT_16	2

1.32.2.2 FLR_SYSTEMSYMBOLS_SPOTCONFIG_T

Field Name	DataType	Bytes
symbol	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
area	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
min	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
max	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
mean	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
meanBar	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
greenBarOutline	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
greenBar	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
greenBarText1	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
greenBarText2	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
greenBarText3	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15

greenBarText4	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
greenBarText5	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15

1.32.2.3 FLR_SYSTEMSYMBOLS_SPOTCONFIG_ID_T

Field Name	DataType	Bytes
symbol	UCHAR	1
area	UCHAR	1
min	UCHAR	1
max	UCHAR	1
mean	UCHAR	1
meanBar	UCHAR	1
greenBarOutline	UCHAR	1
greenBar	UCHAR	1
greenBarText1	UCHAR	1
greenBarText2	UCHAR	1
greenBarText3	UCHAR	1
greenBarText4	UCHAR	1
greenBarText5	UCHAR	1

1.32.2.4 FLR_SYSTEMSYMBOLS_ISOCONFIG_T

Field Name	DataType	Bytes
colorBar	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15
colorBarOutline	FLR_SYSTEMSYMBOLS_SPOT_ISO_ENTRY_T	15

1.32.2.5 FLR_SYSTEMSYMBOLS_ISOCONFIG_ID_T

Field Name	DataType	Bytes
colorBar	UCHAR	1
colorBarOutline	UCHAR	1

1.32.2.6 FLR_SYSTEMSYMBOLS_BARCONFIG_T

Field Name	DataType	Bytes
val0	INT_16	2

val1	INT_16	2
val2	INT_16	2
val3	INT_16	2
val4	INT_16	2

1.32.3 Functions

1.32.3.1 systemSymbolsGetID()

Get the ID associated with the specified symbol enumeration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B0002	N/A	N/A
symbol	FLR_SYSTEMSYMBOLS_SYMBOL_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
id	UCHAR	0:1	
id_type	FLR_SYSTEMSYMBOLS_ID_TYPE_E	1:5	

1.32.3.2 systemSymbolsSetID()

Set the ID associated with the specified symbol enumeration

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B0003	N/A	N/A
symbol	FLR_SYSTEMSYMBOLS_SYMBOL_E	0:4	
id	UCHAR	4:5	
id_type	FLR_SYSTEMSYMBOLS_ID_TYPE_E	5:9	

No output parameters.

1.32.3.3 systemSymbolsGetEnable()

Get the enable state for the specified symbol enumeration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B0004	N/A	N/A
symbol	FLR_SYSTEMSYMBOLS_SYMBOL_E	0:4	

Output/Receive parameters:

Name	DataType	Bytes	Notes
enabled	FLR_ENABLE_E	0:4	

1.32.3.4 systemSymbolsSetEnable()

Set the enable state for the specified symbol enumeration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B0005	N/A	N/A
symbol	FLR_SYSTEMSYMBOLS_SYMBOL_E	0:4	
enabled	FLR_ENABLE_E	4:8	

No output parameters.

1.32.3.5 systemSymbolsGetSpotConfig()

[GET] the extended configuration for SpotMeter symbols.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B0008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
config	FLR_SYSTEMSYMBOLS_SPOTCONFIG_T	0:195	

1.32.3.6 systemSymbolsSetSpotConfig()

[SET] the extended configuration for SpotMeter symbols.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x001B0009	N/A	N/A
config	FLR_SYSTEMSYMBOLS_SPOTCONFIG_T	0:195	

No output parameters.

1.32.3.7 systemSymbolsGetIsoConfig()

[GET] the extended configuration for Isotherm color bar.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
config	FLR_SYSTEMSYMBOLS_ISOCONFIG_T	0:30	

1.32.3.8 systemSymbolsSetIsoConfig()

[SET] the extended configuration for Isotherm color bar.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B000B	N/A	N/A
config	FLR_SYSTEMSYMBOLS_ISOCONFIG_T	0:30	

No output parameters.

1.32.3.9 systemSymbolsGetBarConfig()

Get the current temperature labels for SpotMeter bar.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B000C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
lowGainConfig	FLR_SYSTEMSYMBOLS_BARCONFIG_T	0:10	

highGainConfig	FLR_SYSTEMSYMBOLS_BARCONFIG_T	10:20	
unit	FLR_TEMPERATURE_UNIT_E	20:24	

1.32.3.10 systemSymbolsSetBarConfig()

Set the temperature labels for the SpotMeter bar.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B000D	N/A	N/A
lowGainConfig	FLR_SYSTEMSYMBOLS_BARCONFIG_T	0:10	
highGainConfig	FLR_SYSTEMSYMBOLS_BARCONFIG_T	10:20	
unit	FLR_TEMPERATURE_UNIT_E	20:24	

No output parameters.

1.32.3.11 systemSymbolsGetSpotConfigIds()

[GET] the SpotMeter symbols ids.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B000F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
config	FLR_SYSTEMSYMBOLS_SPOTCONFIG_ID_T	0:13	

1.32.3.12 systemSymbolsSetSpotConfigIds()

[SET] the SpotMeter symbols ids.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B0010	N/A	N/A
config	FLR_SYSTEMSYMBOLS_SPOTCONFIG_ID_T	0:13	

No output parameters.

1.32.3.13 systemSymbolsGetIsoConfigIds()

[GET] the Isotherm symbols ids.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B0011	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
config	FLR_SYSTEMSYMBOLS_ISOCONFIG_ID_T	0:2	

1.32.3.14 systemSymbolsSetIsoConfigIds()

[SET] the Isotherm symbols ids.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x001B0012	N/A	N/A
config	FLR_SYSTEMSYMBOLS_ISOCONFIG_ID_T	0:2	

No output parameters.

1.33 Module: TELEMETRY

Boson provides an option to send a line of telemetry along with each CMOS video frame. A complete list of the telemetry line contents is provided in the Boson datasheet.

1.33.1 Enums

1.33.1.1 FLR_TELEMETRY_LOC_E — <INT_32>

FLR_TELEMETRY_LOC_TOP = 0
FLR_TELEMETRY_LOC_BOTTOM = 1
FLR_TELEMETRY_LOC_END = 2

1.33.1.2 FLR_TELEMETRY_PACKING_E — <INT_32>

FLR_TELEMETRY_PACKING_DEFAULT = 0
FLR_TELEMETRY_PACKING_Y = 1
FLR_TELEMETRY_PACKING_8BITS = 2

FLR_TELEMETRY_PACKING_END = 3

1.33.1.3 FLR_TELEMETRY_ORDER_E — <INT_32>

FLR_TELEMETRY_ORDER_DEFAULT = 0
FLR_TELEMETRY_ORDER_SWAP16B = 1
FLR_TELEMETRY_ORDER_END = 2

1.33.2 Structs

No struct types in module telemetry.

1.33.3 Functions

1.33.3.1 telemetrySetState()

[SET] State of telemetry on DVO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.33.3.2 telemetryGetState()

[GET] State of telemetry on DVO.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.33.3.3 telemetrySetLocation()

[SET] The telemetry to before(top) or after(bottom) the image.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040003	N/A	N/A
data	FLR_TELEMETRY_LOC_E	0:4	

No output parameters.

1.33.3.4 telemetryGetLocation()

[GET] The telemetry to before(top) or after(bottom) the image.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_TELEMETRY_LOC_E	0:4	

1.33.3.5 telemetrySetPacking()

[SET] The type of packing that the telemetry data is presented - 16 Bit, Color or 8 -Bit.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040005	N/A	N/A
data	FLR_TELEMETRY_PACKING_E	0:4	

No output parameters.

1.33.3.6 telemetryGetPacking()

[GET] The type of packing that the telemetry data is presented - 16 Bit, Color or 8 -Bit.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_TELEMETRY_PACKING_E	0:4	

1.33.3.7 telemetrySetOrder()

[SET] The half-word (16 bits) order for telemetry data.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040007	N/A	N/A
data	FLR_TELEMETRY_ORDER_E	0:4	

No output parameters.

1.33.3.8 telemetryGetOrder()

[GET] The half-word (16 bits) order for telemetry data.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_TELEMETRY_ORDER_E	0:4	

1.33.3.9 telemetrySetPackingVC1()

[SET] The type of packing that the telemetry data for MIPI VC1 is presented - 16 Bit, Color or 8 -Bit.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00040009	N/A	N/A
data	FLR_TELEMETRY_PACKING_E	0:4	

No output parameters.

1.33.3.10 telemetryGetPackingVC1()

[GET] The type of packing that the telemetry data for MIPI VC1 is presented - 16 Bit, Color or 8 -Bit.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0004000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_TELEMETRY_PACKING_E	0:4	

1.33.3.11 telemetrySetMipiEmbeddedDataTag()

[SET] Use Embedded Data Tag (0x12) for telemetry on MIPI.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0004000B	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.33.3.12 telemetryGetMipiEmbeddedDataTag()

[GET] Use Embedded Data Tag (0x12) for telemetry on MIPI.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0004000C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.34 Module: TESTRAMP

The test ramp can be used to replace the live video feed for calibration and error checking of the camera. The actual enable switch is located in the GAO module.

1.34.1 Enums

1.34.1.1 FLR_TESTRAMP_TYPE_E — <INT_32>

FLR_TESTRAMP_ZERO = 0
FLR_TESTRAMP_INCREMENTING = 1
FLR_TESTRAMP_VERT_SHADE = 2
FLR_TESTRAMP_HORIZ_SHADE = 3
FLR_TESTRAMP_BIG_VERT_SHADE = 4
FLR_TESTRAMP_SIMPLE_VERTICAL = 5
FLR_TESTRAMP_VTST_CHECKERBOARD = 6
FLR_TESTRAMP_VTST_DIAGONAL_STRIPE = 7
FLR_TESTRAMP_VTST_MOVING_LINE_BLACK = 8
FLR_TESTRAMP_VTST_DIAGONAL_LR = 9

FLR_TESTRAMP_VTST_DIAGONAL_RL = 10
FLR_TESTRAMP_PN9_FILL = 11
FLR_TESTRAMP_HORIZ_BARS = 12
FLR_TESTRAMP_VERT_BARS = 13
FLR_TESTRAMP_BPR_MAP = 14
FLR_TESTRAMP_CORN_2_CORN = 15
FLR_TESTRAMP_PN9_CONTINUOUS = 16
FLR_TESTRAMP_PSEUDORANDOM = 17
FLR_TESTRAMP_DMA_LAST = 18
FLR_TESTRAMP_ONSHAVE_START = 30
FLR_TESTRAMP_ONSHAVE_VERT_SHADE = 30
FLR_TESTRAMP_ONSHAVE_HORIZ_SHADE = 31
FLR_TESTRAMP_ONSHAVE_DIAG_SHADE = 32
FLR_TESTRAMP_ONSHAVE_ANIMATION = 33
FLR_TESTRAMP_TYPE_LAST = 34

1.34.2 Structs

1.34.2.1 FLR_TESTRAMP_SETTINGS_T

Field Name	DataType	Bytes
start	UINT_16	2
end	UINT_16	2
increment	UINT_16	2

1.34.2.2 FLR_TESTRAMP_ANIMATION_SETTINGS_T

Field Name	DataType	Bytes
moveLines	INT_16	2
moveFrames	UINT_16	2

1.34.3 Functions

1.34.3.1 testRampSetType()

Set the selected test ramp buffer to one of the pre-configured patterns. The simulated video frame is redrawn on set.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100000	N/A	N/A
index	UCHAR	0:1	

data	FLR_TESTRAMP_TYPE_E	1:5	

No output parameters.

1.34.3.2 testRampGetType()

Get the selected test ramp buffer's current pattern type.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100001	N/A	N/A
index	UCHAR	0:1	

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_TESTRAMP_TYPE_E	0:4	

1.34.3.3 testRampSetSettings()

Change the selected buffer's ramp settings. The buffer is redrawn on set. At present, the "Incrementing" pattern is the only configurable ramp.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100002	N/A	N/A
index	UCHAR	0:1	
data	FLR_TESTRAMP_SETTINGS_T	1:7	

No output parameters.

1.34.3.4 testRampGetSettings()

Get the selected test ramp buffer's current ramp settings.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100003	N/A	N/A
index	UCHAR	0:1	

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_TESTRAMP_SETTINGS_T	0:6	

1.34.3.5 testRampSetMotionState()

[SET] Enable or disable looping through the test ramp buffers. If the Boson is configured with more than one test ramp: the video will display each ramp buffer once, then repeat.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100004	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.34.3.6 testRampGetMotionState()

[GET] Enable or disable looping through the test ramp buffers. If the Boson is configured with more than one test ramp: the video will display each ramp buffer once, then repeat.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100005	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.34.3.7 testRampSetIndex()

[SET] The selected ramp buffer on the next frame.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100006	N/A	N/A
data	UCHAR	0:1	

No output parameters.

1.34.3.8 testRampGetIndex()

[GET] The selected ramp buffer on the next frame.

Input/Send parameters:

Name	DataType	Bytes	Notes

FunctionID	0x00100007	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UCHAR	0:1	

1.34.3.9 testRampGetMaxIndex()

[GET] The last valid index for a ramp buffer. MaxIndex=1 or two buffers is the default configuration.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UCHAR	0:1	

1.34.3.10 testRampSetPN9ContinuousMode()

[SET] Turns on or off continuous generation of PN9 pixel values.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00100009	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.34.3.11 testRampGetPN9ContinuousMode()

[GET] Turns on or off continuous generation of PN9 pixel values.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0010000A	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.34.3.12 testRampSetAnimationSettings()

[SET] Set or get test ramps animation settings.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0010000B	N/A	N/A
settings	FLR_TESTRAMP_ANIMATION_SETTINGS_T	0:4	

No output parameters.

1.34.3.13 testRampGetAnimationSettings()

[GET] Set or get test ramps animation settings.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x0010000C	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
settings	FLR_TESTRAMP_ANIMATION_SETTINGS_T	0:4	

1.35 Module: TF

The Temporal Filter module provides API's to control or interrogate the functionality of the temporal noise filter.

1.35.1 Enums

1.35.1.1 FLR_TF_MOTION_MODE_E — <INT_32>

FLR_TF_MOTION_MODE_FRAME_BASED = 0
FLR_TF_MOTION_MODE_MOTION_BASED = 1
FLR_TF_MOTION_MODE_END = 2

1.35.2 Structs

1.35.2.1 FLR_TF_WLUT_T

Field Name	DataType	Bytes
value	UCHAR*32	32

1.35.2.2 FLR_TF_NF_LUT_T

Field Name	DataType	Bytes
value	UINT_16*17	34

1.35.2.3 FLR_TF_TEMP_SIGNAL_COMP_FACTOR_LUT_T

Field Name	DataType	Bytes
value	UINT_16*17	34

1.35.3 Functions

1.35.3.1 tfSetEnableState()

[SET] State of Temporal Noise Reduction (tnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0001	N/A	N/A
data	FLR_ENABLE_E	0:4	

No output parameters.

1.35.3.2 tfGetEnableState()

[GET] State of Temporal Noise Reduction (tnr).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0002	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_ENABLE_E	0:4	

1.35.3.3 tfSetDelta_nf()

[SET] The Delta NF value. The delta_nf modifies the filter behavior by scaling the index into the table of weights (wLUT).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0003	N/A	N/A

data	UINT_16	0:2	

No output parameters.

1.35.3.4 tfGetDelta_nf()

[GET] The Delta NF value. The delta_nf modifies the filter behavior by scaling the index into the table of weights (wLUT).

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0004	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.35.3.5 tfSetTHDeltaMotion()

[SET] The Delta Motion threshold. The Delta Motion specifies a threshold to determine if there was motion in the scene enough to trigger the SPNR algorithm.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0005	N/A	N/A
data	UINT_16	0:2	

No output parameters.

1.35.3.6 tfGetTHDeltaMotion()

[GET] The Delta Motion threshold. The Delta Motion specifies a threshold to determine if there was motion in the scene enough to trigger the SPNR algorithm.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0006	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.35.3.7 tfSetWLut()

[SET] The values in the Table of Weights - (wLUT). The weight table specifies the ration of the averaging of the current with the previous frame.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0007	N/A	N/A
data	FLR_TF_WLUT_T	0:32	

No output parameters.

1.35.3.8 tfGetWLut()

[GET] The values in the Table of Weights - (wLUT). The weight table specifies the ration of the averaging of the current with the previous frame.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0008	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_TF_WLUT_T	0:32	

1.35.3.9 tfGetMotionCount()

[GET] The current motion count from the camera. The motion count is the number of pixels in the image that is classified as have moved from the previous frame.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0009	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.35.3.10 tfSetMotionThreshold()

[SET] The motion detection threshold. If the number of pixels in a frame detected as having moved exceeds this threshold, the frame is considered to have motion and can trigger SPNR to execute.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A000E	N/A	N/A
data	UINT_32	0:4	

No output parameters.

1.35.3.11 tfGetMotionThreshold()

[GET] The motion detection threshold. If the number of pixels in a frame detected as having moved exceeds this threshold, the frame is considered to have motion and can trigger SPNR to execute.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A000F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_32	0:4	

1.35.3.12 tfGetDelta_nfApplied()

[GET] The actual Delta NF applied in the algorithm after parameter scaling.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0016	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.35.3.13 tfGetTHDeltaMotionApplied()

[GET] The actual Delta motion applied in the algorithm after parameter scaling.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A0017	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	UINT_16	0:2	

1.35.3.14 tfSetTempSignalCompFactorLut()

[SET] The LUT used to calculate RNF value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A001D	N/A	N/A
data	FLR_TF_TEMP_SIGNAL_COMP_FACTOR_LUT_T	0:34	

No output parameters.

1.35.3.15 tfGetTempSignalCompFactorLut()

[GET] The LUT used to calculate RNF value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A001E	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_TF_TEMP_SIGNAL_COMP_FACTOR_LUT_T	0:34	

1.35.3.16 tfGetRnf()

[GET] The current responsivity normalization factor (RNF) value.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x000A001F	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
rnf	UINT_16	0:2	

1.36 Module: UART

UART Device on Myriad SOC

1.36.1 Enums

1.36.1.1 FLR_UART_STARTUP_BAUDRATE_E — <INT_32>

FLR_UART_921600_BAUD = 0
FLR_UART_460800_BAUD = 1
FLR_UART_230400_BAUD = 2
FLR_UART_115200_BAUD = 3
FLR_UART_57600_BAUD = 4
FLR_UART_38400_BAUD = 5
FLR_UART_19200_BAUD = 6
FLR_UART_14400_BAUD = 7
FLR_UART_9600_BAUD = 8
FLR_UART_4800_BAUD = 9
FLR_UART_2400_BAUD = 10
FLR_UART_1200_BAUD = 11
FLR_UART_600_BAUD = 12
FLR_UART_300_BAUD = 13
FLR_UART_110_BAUD = 14
FLR_UART_BAUDRATE_END = 15

1.36.2 Structs

No struct types in module uart.

1.36.3 Functions

1.36.3.1 uartSetStartupBaudRate()

[SET] Start up baudrate for UART.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00400000	N/A	N/A
data	FLR_UART_STARTUP_BAUDRATE_E	0:4	

No output parameters.

1.36.3.2 uartGetStartupBaudRate()

[GET] Start up baudrate for UART.

Input/Send parameters:

Name	DataType	Bytes	Notes
FunctionID	0x00400001	N/A	N/A

Output/Receive parameters:

Name	DataType	Bytes	Notes
data	FLR_UART_STARTUP_BAUDRATE_E	0:4	