



eYS3D Android SDK

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Chapter 1

Deprecated List

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_11_BITS](#)

As of release 1.1.1, replaced by [RECTIFY_11_BITS](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_11_BITS_RAW](#)

As of release 1.1.1, replaced by [RAW_11_BITS](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_14_BITS](#)

As of release 1.1.1, replaced by [RECTIFY_14_BITS](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_14_BITS_RAW](#)

As of release 1.1.1, replaced by [RAW_14_BITS](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_8_BITS](#)

As of release 1.1.1, replaced by [RECTIFY_8_BITS](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_8_BITS_RAW](#)

As of release 1.1.1, replaced by [RAW_8_BITS](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_8_BITS_x80](#)

As of release 1.1.1, replaced by [RECTIFY_8_BITS_x80](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_8_BITS_x80_RAW](#)

As of release 1.1.1, replaced by [RAW_8_BITS_x80](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_OFF_RAW](#)

As of release 1.1.1, replaced by [COLOR_ONLY](#)

Member [com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_OFF_RECTIFY](#)

As of release 1.1.1, replaced by [OFF_RECTIFY](#)

Member [com.esp.android.usb.camera.core.ApcCamera.getDepthDataType \(\)](#)

As of release 1.1.1, replaced by [getVideoMode\(\)](#)

Member [com.esp.android.usb.camera.core.ApcCamera.open \(\)](#)

As of release 1.1.2, replaced by [ApcCamera#open\(USBMonitor.UsbControlBlock\)](#)

Member [com.esp.android.usb.camera.core.ApcCamera.setDepthDataType \(short type\)](#)

As of release 1.1.1, replaced by [setVideoMode\(int mode\)](#)

Member [com.esp.android.usb.camera.core.UVCCamera.getDevice \(\)](#)

As of release 1.1.2, replaced by [UVCCamera#getDevice\(boolean\)](#)

Member [com.esp.android.usb.camera.core.UVCCamera.getDeviceName \(\)](#)

As of release 1.1.2, replaced by [UVCCamera#getDeviceName\(boolean\)](#)

Member [com.esp.android.usb.camera.core.UVCCamera.getUsbControlBlock \(\)](#)

As of release 1.1.2, replaced by [UVCCamera#getUsbControlBlock\(boolean\)](#)

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

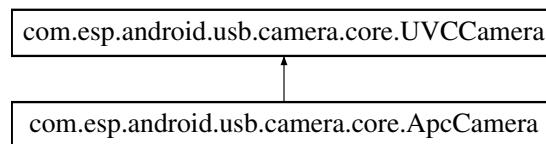
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com.esp.android.usb.camera.core.ILivePLYCallback	46
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Chapter 4

Class Documentation

4.1 com.esp.android.usb.camera.core.ApcCamera Class Reference

Inheritance diagram for com.esp.android.usb.camera.core.ApcCamera:



Classes

- class [CurrentFrameRate](#)
- class [DistanceLimit](#)
- enum [eys_error](#)
- class [VideoMode](#)

Public Member Functions

- [ApcCamera](#) ()
- int [open](#) ()
- int [open](#) (final USBMonitor.UsbControlBlock ctrlBlock)
- void [close](#) ()
- void [setPreviewTexture](#) (final SurfaceTexture texture, final int camera_switch)
- void [stopPreview](#) (final int camera_switch)
- int [generateLUTFile](#) ()
- int [getDeviceType](#) ()
- boolean [getIsUSB3](#) ()
- [StreamInfo](#) [] [getStreamInfoList](#) (int interfaceNumber)
- void [setPreviewSize](#) ([StreamInfo](#) streamInfo)
- void [setPreviewSize](#) ([StreamInfo](#) streamInfo, int maxFps)
- int [getIndexOfStreamInfo](#) (int width, int height, int interfaceNumber, boolean isFormatMJPEG)
- int [getIndexOfStreamInfo](#) ([StreamInfo](#) streamInfo)
- byte [] [getFileData](#) (int nID)
- int [setFileData](#) (byte[] buffer, int nID)

- int [getSensorRegisterValue](#) (String[] value, int nId, int address, int flag)
- int [setSensorRegisterValue](#) (int nId, int address, int nValue, int flag)
- boolean [isIRSupported](#) ()
- int [getFWRegisterValue](#) (String[] value, int address)
- int [getFWRegisterValue](#) (int[] pValue, int address)
- int [SetFWRegisterValue](#) (int address, int nValue)
- int [getHWRegisterValue](#) (String[] value, int address)
- int [setHWRegisterValue](#) (int address, int nValue)
- String [getFwVersionValue](#) ()
- String [getProductVersion](#) ()
- int [setIRCurrentValue](#) (int value)
- int [getIRCurrentValue](#) ()
- int [getIRMinValue](#) ()
- int [getIRMaxValue](#) ()
- int [setIRMaxValue](#) (int value)
- int [getIRMode](#) ()
- int [SetIRMode](#) (int value)
- int [getPid](#) ()
- String [getPidValue](#) ()
- String [getVidValue](#) ()
- int [setPidVidValue](#) (int nPid, int nVid)
- int [enableSenorIF](#) (boolean blsEnable)
- String [getSerialNumberValue](#) ()
- int [setSerialNumberValue](#) (String str)
- byte [] [getYOffsetValue](#) ()
- byte [] [getYOffsetValue](#) (int index)
- int [setYOffsetValue](#) (byte[] buffer, int index)
- byte [] [getRectifyTableValue](#) ()
- byte [] [getRectifyTableValue](#) (int index)
- int [setRectifyTableValue](#) (byte[] buffer, int index)
- int [] [getZDTableValue](#) ()
- int [] [getZDTableValue](#) (int index)
- int [] [getZDTableValue](#) (int index, int type)
- int [setZDTableValue](#) (byte[] buffer, int index, int type)
- short [getDepthDataType](#) ()
- int [setDepthDataType](#) (short type)
- int [getVideoMode](#) ()
- int [setVideoMode](#) (int mode)
- [RectifyLogData](#) [getRectifyLogData](#) (int index)
- byte [] [getLogDataValue](#) (int index, int type)
- int [setLogDataValue](#) (byte[] buffer, int index, int type)
- boolean [getHWPostProcess](#) ()
- int [setHWPostProcess](#) (boolean enable)
- byte [] [readFlashData](#) ()
- int [writeFlashData](#) (byte[] buffer, boolean blsSerialNumberKeep, boolean blsSensorPositionKeep, boolean blsRectificationTableKeep, boolean blsZDTableKeep, boolean blsCalibrationLogKeep, boolean blsParaLutKeep, boolean blsKeepISP, boolean bSetFWTag)
- int [writeFlashDataASIC](#) (byte[] buffer, byte[] bufferOri)
- boolean [getAESTatusEnabled](#) ()
- int [setEnableAE](#) ()
- int [setDisableAE](#) ()
- int [getAutoWhiteBalance](#) ()
- int [setAutoWhiteBalance](#) (boolean on)
- int [] [getWhiteBalanceLimit](#) ()
- int [getCurrentWhiteBalance](#) ()

- int [setCurrentWhiteBalance](#) (int value)
- int [] [getPowerlineFrequencyLimit](#) ()
- int [getCurrentPowerlineFrequency](#) ()
- int [setCurrentPowerlineFrequency](#) (int value)
- int [setExposureMode](#) (int mode)
- int [getExposureMode](#) ()
- int [setExposureAbsoluteTime](#) (int time)
- int [getExposureAbsoluteTime](#) ()
- int [getExposurePriority](#) ()
- int [setExposurePriority](#) (int priority)
- int [setFishTag_eYs3D](#) (String output_file, boolean audio_in)
- int [setFishTag](#) (String input_file, boolean audio_in)
- int [getSurfaceWidth](#) ()
- int [getSurfaceHeight](#) ()
- [CurrentFrameRate](#) [getCurrentFrameRate](#) (final int camera_switch)
- void [setMonitorFrameRate](#) (boolean enable, final int camera_switch)
- int [getFileIDHeader](#) (final int camera_switch)
- int [getFileIDVersion](#) (final int camera_switch)
- boolean [setInterleaveMode](#) (boolean enabled)
- [DistanceLimit](#) [getDistanceLimitInZDTable](#) ()
- int [setDistanceFilter](#) (int zNear, int zFar)
- int [getCurrentFileIndex](#) ()
- int [saveStaticPly](#) (String filename)
- int [saveStaticPlyWithFilter](#) (String filename, boolean isPlyFilterEnabled)
- int [setDepthFilterByType](#) (int which, boolean isEnabled)
- int [setDepthFilters](#) (boolean bDoDepthFilter, boolean bSubSample, boolean bEdgePreservingFilter, boolean bHoleFill, boolean bTemporalFilter, boolean bFlyingDepthCancellation)
- int [onStartLivePly](#) ([ILivePlyCallback](#) livePlyCallback)
- int [onStopLivePly](#) ()
- int [setModuleSync](#) ()
- void [closeIMU](#) ()
- boolean [isIMUEnabled](#) ()
- String [getIMUModuleName](#) ()
- String [getIMUFWVersion](#) ()
- int [getIMUDDataOutputByte](#) (int format)
- int [setIMUDDataFormat](#) (int format)
- int [getIMUDDataFormat](#) ()
- int [enableIMUDDataOutput](#) (boolean enable)
- [IMUDData](#) [readIMUDData](#) ()
- int [readIMUDData](#) ([IIMUCallback](#) callback)
- int [stopReadIMUDData](#) ()
- int [doIMUCalibration](#) ([IIMUCallback](#) callback)
- int [startIMULogData](#) (String fileName)
- int [stopIMULogData](#) ()
- int [] [getDeviceFocalLength](#) ()
- int [] [getFlashFocalLength](#) (int width, int height)

Static Public Member Functions

- static String [getSDKVerion](#) ()

Static Public Attributes

- static final int [DO_DEPTH_FILTER](#) = 0

Product Version

- static final String **PRODUCT_VERSION_EX8029** ="EX8029"
- static final String **PRODUCT_VERSION_EX8030** ="EX8030"
- static final String **PRODUCT_VERSION_EX8031** ="EX8031"
- static final String **PRODUCT_VERSION_EX8032** ="EX8032"
- static final String **PRODUCT_VERSION_EX8036** ="EX8036"
- static final String **PRODUCT_VERSION_EX8037** ="EX8037"
- static final String **PRODUCT_VERSION_EX8038** ="EX8038"
- static final String **PRODUCT_VERSION_EX8052** ="EX8052"
- static final String **PRODUCT_VERSION_EX8059** ="EX8059"
- static final String **PRODUCT_VERSION_YX8059** ="YX8059"
- static final String **PRODUCT_VERSION_YX8062** ="YX8062"
- static final String **PRODUCT_VERSION_YX8071** ="HYPATIA"

Depth Data Type

- static final short [DEPTH_DATA_OFF_RAW](#) = 0
- static final short [DEPTH_DATA_8_BITS](#) = 1
- static final short [DEPTH_DATA_14_BITS](#) = 2
- static final short [DEPTH_DATA_8_BITS_x80](#) = 3
- static final short [DEPTH_DATA_11_BITS](#) = 4
- static final short [DEPTH_DATA_OFF_RECTIFY](#) = 5
- static final short [DEPTH_DATA_8_BITS_RAW](#) = 6
- static final short [DEPTH_DATA_14_BITS_RAW](#) = 7
- static final short [DEPTH_DATA_8_BITS_x80_RAW](#) = 8
- static final short [DEPTH_DATA_11_BITS_RAW](#) = 9
- static final short **DEPTH_DATA_11_BITS_COMBINED_RECTIFY** = 13

error code

- static final int **EYS_OK** = 1
- static final int **EYS_ParaLUT_ERROR** = -2487
- static final int **EYS_MapLUT_ERROR** = -2488
- static final int **EYS_AppendFront_ERROR** = -2489
- static final int **EYS_LoadLUT_ERROR** = -2490
- static final int **EYS_ERROR** = -1
- static final int **EYS_UVCCAMERA_NOT_OPEN** = -2
- static final int **UVC_ERROR_ACCESS** = -3
- static final int **DEVICE_FIND_FAIL** = -25
- static final int **DEVICE_NOT_SUPPORT** = -33

4.1.1 Detailed Description

[ApcCamera](#)

4.1.2 Constructor & Destructor Documentation

4.1.2.1 ApcCamera()

```
com.esp.android.usb.camera.core.ApcCamera.ApcCamera ( )
```

the constructor of this class should be call within the thread that has a looper (UI thread or a thread that called `Looper.prepare()`)

4.1.3 Member Function Documentation

4.1.3.1 close()

```
void com.esp.android.usb.camera.core.ApcCamera.close ( )
```

close and release UVC camera

4.1.3.2 closeIMU()

```
void com.esp.android.usb.camera.core.ApcCamera.closeIMU ( )
```

This is for multiple IMU devices. If you open multiple IMU devices and want to close them. Please check all the IMU devices called `closeIMU()` first then call `close()` or `destroy()` ()}

4.1.3.3 doIMUCalibration()

```
int com.esp.android.usb.camera.core.ApcCamera.doIMUCalibration (
    IIMUCallback callback )
```

IMU Calibration

Parameters

<i>callback</i>	callback
-----------------	----------

See also

[IIMUCallback::onCalibration\(boolean\)](#)

Returns

APC_OK means successfully start IMU calibration. Check the calibration result by callback [IIMUCallback↔::onCalibration](#)

4.1.3.4 enableIMUDataOutput()

```
int com.esp.android.usb.camera.core.ApcCamera.enableIMUDataOutput (
    boolean enable )
```

Enable/Disable IMU data output

Parameters

<i>enable</i>	boolean
---------------	---------

Returns

APC_OK means successfully set IMU data output

4.1.3.5 enableSensorIF()

```
int com.esp.android.usb.camera.core.ApcCamera.enableSensorIF (
    boolean bIsEnable )
```

enable sensor IF

Parameters

<i>bIsEnable</i>	set true to enable sensor IF
------------------	------------------------------

4.1.3.6 generateLUTFile()

```
int com.esp.android.usb.camera.core.ApcCamera.generateLUTFile ( )
```

Generate LUT file

4.1.3.7 getAESTatusEnabled()

```
boolean com.esp.android.usb.camera.core.ApcCamera.getAESTatusEnabled ( )
```

Get status of auto exposure

4.1.3.8 getAutoWhiteBalance()

```
int com.esp.android.usb.camera.core.ApcCamera.getAutoWhiteBalance ( )
```

Get status of auto white balance.

Returns

result 0 : OFF 1 : ON -1 : EYS_ERROR -3 : UVC_ERROR_ACCESS -33 : DEVICE_NOT_SUPPORT

4.1.3.9 `getCurrentFileIndex()`

```
int com.esp.android.usb.camera.core.ApcCamera.getCurrentFileIndex ( )
```

Get current file index, ex : ZD table, Rectify log data Note : This function should use after setPreviewSize (depth)

Returns

current file index

4.1.3.10 `getCurrentFrameRate()`

```
CurrentFrameRate com.esp.android.usb.camera.core.ApcCamera.getCurrentFrameRate (
    final int camera_switch )
```

Get the frame rate of uvc and preview.

Parameters

<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]
----------------------	---

Returns

current frame rate

See also

[CurrentFrameRate](#)

4.1.3.11 `getCurrentPowerlineFrequency()`

```
int com.esp.android.usb.camera.core.ApcCamera.getCurrentPowerlineFrequency ( )
```

Get current value of light source.

Returns

result -1 : EYS_ERROR -33 : DEVICE_NOT_SUPPORT else : Current value of light source

4.1.3.12 `getCurrentWhiteBalance()`

```
int com.esp.android.usb.camera.core.ApcCamera.getCurrentWhiteBalance ( )
```

Get current value of white balance.

Returns

result -1 : EYS_ERROR -33 : DEVICE_NOT_SUPPORT else : Current value of white balance

4.1.3.13 `getDepthDataType()`

```
short com.esp.android.usb.camera.core.ApcCamera.getDepthDataType ( )
```

Get type of depth.

Deprecated As of release 1.1.1, replaced by [getVideoMode\(\)](#)

4.1.3.14 `getDeviceFocalLength()`

```
int [ ] com.esp.android.usb.camera.core.ApcCamera.getDeviceFocalLength ( )
```

Get device focal length

Returns

int[], index {leftFx, leftFy, rightFx, rightFy}.

4.1.3.15 `getDeviceType()`

```
int com.esp.android.usb.camera.core.ApcCamera.getDeviceType ( )
```

Get device type.

Returns

0:OTHERS, 1:AXES1, 2:PUMA

4.1.3.16 getDistanceLimitInZDTable()

```
DistanceLimit com.esp.android.usb.camera.core.ApcCamera.getDistanceLimitInZDTable ( )
```

This function parse ZD table and return minimum distance and maximum distance. And this function should use after setPreviewSize. According to the provided resolutions, we could know which ZDTable is suitable for calculating distance. And the index of 0, 1 represent the z nearest, z farthest respectively. In addition, the length unit here is millimeter.

4.1.3.17 getExposureAbsoluteTime()

```
int com.esp.android.usb.camera.core.ApcCamera.getExposureAbsoluteTime ( )
```

Get exposure time: Gets the absolute exposure time.

Returns

result -25 : DEVICE_FIND_FAIL -33 : DEVICE_NOT_SUPPORT else : Current value of exposure time (-13 ~ 3)

4.1.3.18 getExposureMode()

```
int com.esp.android.usb.camera.core.ApcCamera.getExposureMode ( )
```

Get Camera Terminal exposure mode

Returns

1 : manual mode 2 : auto mode 4 : shutter priority mode 8 : aperture priority mode -1 : EYS_ERROR -3 : UVC_ERROR_ACCESS -33 : DEVICE_NOT_SUPPORT

4.1.3.19 getExposurePriority()

```
int com.esp.android.usb.camera.core.ApcCamera.getExposurePriority ( )
```

Get value of exposure priority.

Returns

result -1 -> EYS_ERROR -3 -> UVC_ERROR_ACCESS -33 -> DEVICE_NOT_SUPPORT other -> Exposure priority

4.1.3.20 getFileData()

```
byte [] com.esp.android.usb.camera.core.ApcCamera.getFileData (
    int nID )
```

Get file data.

Parameters

<i>nID</i>	file ID
------------	---------

Returns

data of specified file ID APC_Y_OFFSET_FILE_ID_0 30 APC_RECTIFY_FILE_ID_0 40 APC_ZD_TABLE_FILE_ID_0 50 APC_ISP_FILE_ID_0 120 APC_LSC_FILE_ID_0 150 APC_USER_DATA_FILE_ID_0 200 APC_CALIB_LOG_FILE_ID_0 240

4.1.3.21 getFileIDHeader()

```
int com.esp.android.usb.camera.core.ApcCamera.getFileIDHeader (
    final int camera_switch )
```

Get file ID header.

Parameters

<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]
----------------------	---

4.1.3.22 getFileIDVersion()

```
int com.esp.android.usb.camera.core.ApcCamera.getFileIDVersion (
    final int camera_switch )
```

Get file ID version.

Parameters

<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]
----------------------	---

4.1.3.23 getFlashFocalLength()

```
int [] com.esp.android.usb.camera.core.ApcCamera.getFlashFocalLength (
    int width,
    int height )
```

Get flash focal length

Returns

int[], index {leftFx, leftFy, rightFx, rightFy, pixelUnit}.

4.1.3.24 getFWRegisterValue() [1/2]

```
int com.esp.android.usb.camera.core.ApcCamera.getFWRegisterValue (
    String [] value,
    int address )
```

Get value of firmware register.

Parameters

<i>value</i>	value of register
--------------	-------------------

4.1.3.25 getFWRegisterValue() [2/2]

```
int com.esp.android.usb.camera.core.ApcCamera.getFWRegisterValue (
    int [] pValue,
    int address )
```

Get value of firmware register.

Parameters

<i>pValue</i>	value of register
---------------	-------------------

4.1.3.26 getFwVersionValue()

```
String com.esp.android.usb.camera.core.ApcCamera.getFwVersionValue ( )
```

Get firmware version.

Returns

firmware version

4.1.3.27 getHWPostProcess()

```
boolean com.esp.android.usb.camera.core.ApcCamera.getHWPostProcess ( )
```

Check if hardware post process is on.

4.1.3.28 getHWRegisterValue()

```
int com.esp.android.usb.camera.core.ApcCamera.getHWRegisterValue (
    String [] value,
    int address )
```

Get value of hardware register.

Parameters

<i>value</i>	value of register
--------------	-------------------

4.1.3.29 getIMUDataFormat()

```
int com.esp.android.usb.camera.core.ApcCamera.getIMUDataFormat ( )
```

Get IMU data format

See also

[IMUData.DataFormat](#)

Returns

[IMUData.DataFormat](#)

4.1.3.30 getIMUDataOutputByte()

```
int com.esp.android.usb.camera.core.ApcCamera.getIMUDataOutputByte (
    int format )
```

Get IMU data output byte

Parameters

<i>format</i>	int
---------------	-----

See also

[IMUData.DataFormat](#)

4.1.3.31 getIMUFWVersion()

```
String com.esp.android.usb.camera.core.ApcCamera.getIMUFWVersion ( )
```

Get IMU firmware version.

Returns

IMU module name

4.1.3.32 getIMUModuleName()

```
String com.esp.android.usb.camera.core.ApcCamera.getIMUModuleName ( )
```

Get IMU module name.

Returns

IMU module name

4.1.3.33 getIndexOfStreamInfo() [1/2]

```
int com.esp.android.usb.camera.core.ApcCamera.getIndexOfStreamInfo (
    int width,
    int height,
    int interfaceNumber,
    boolean isFormatMJPEG )
```

Get index of [StreamInfo](#) in the supported resolution list by specifying size and format.

Returns

index of [StreamInfo](#) in the supported list, return -1 if the input was not supported

4.1.3.34 getIndexOfStreamInfo() [2/2]

```
int com.esp.android.usb.camera.core.ApcCamera.getIndexOfStreamInfo (
    StreamInfo streamInfo )
```

Get index of [StreamInfo](#) in the supported resolution list

Returns

index of [StreamInfo](#) in the supported list, return -1 if the input was not supported

4.1.3.35 getIRCurrentValue()

```
int com.esp.android.usb.camera.core.ApcCamera.getIRCurrentValue ( )
```

Get intensity of IR emitter. range [getIRMinValue, getIRMaxValue]

4.1.3.36 getIRMaxValue()

```
int com.esp.android.usb.camera.core.ApcCamera.getIRMaxValue ( )
```

Get maximum intensity of IR emitter. It was not supported on EX8029 If return value equals 0xff means the module is not support IR control

4.1.3.37 getIRMinValue()

```
int com.esp.android.usb.camera.core.ApcCamera.getIRMinValue ( )
```

Get minimum intensity of IR emitter. It was not supported with EX8029

4.1.3.38 getIRMode()

```
int com.esp.android.usb.camera.core.ApcCamera.getIRMode ( )
```

Get mode of IR emitter. It was not supported on EX8029

4.1.3.39 getIsUSB3()

```
boolean com.esp.android.usb.camera.core.ApcCamera.getIsUSB3 ( )
```

Get the state of usb.

Returns

Return true if current device was running on USB 3.

4.1.3.40 getLogDataValue()

```
byte [] com.esp.android.usb.camera.core.ApcCamera.getLogDataValue (
    int index,
    int type )
```

Get log data.

Returns

log data (null if failed)

4.1.3.41 `getPid()`

```
int com.esp.android.usb.camera.core.ApcCamera.getPid ( )
```

Get pID.

4.1.3.42 `getPidValue()`

```
String com.esp.android.usb.camera.core.ApcCamera.getPidValue ( )
```

Get pID.

4.1.3.43 `getPowerlineFrequencyLimit()`

```
int [ ] com.esp.android.usb.camera.core.ApcCamera.getPowerlineFrequencyLimit ( )
```

Get min/max/default of light source.

Returns

result NULL : FAIL intArray : index -> 0 (min), 1 (max), 2 (def) index value : 1 => 50Hz, 2 => 60Hz ...

4.1.3.44 `getProductVersion()`

```
String com.esp.android.usb.camera.core.ApcCamera.getProductVersion ( )
```

Get product version. Depth module:EX8029,EX8036,EX8037 360 module: EX8030,EX8032

Returns

product version

4.1.3.45 `getRectifyLogData()`

```
RectifyLogData com.esp.android.usb.camera.core.ApcCamera.getRectifyLogData (
    int index )
```

Get rectify log data.

Parameters

<i>index</i>	index of rectify log data
--------------	---------------------------

Returns

[RectifyLogData](#)

See also

[RectifyLogData](#)

4.1.3.46 getRectifyTableValue() [1/2]

```
byte [] com.esp.android.usb.camera.core.ApcCamera.getRectifyTableValue ( )
```

Get rectify table with index 0.

Returns

rectify table

4.1.3.47 getRectifyTableValue() [2/2]

```
byte [] com.esp.android.usb.camera.core.ApcCamera.getRectifyTableValue (
    int index )
```

Get rectify table.

Parameters

<i>index</i>	index of rectify table
--------------	------------------------

Returns

rectify table (null if failed)

4.1.3.48 getSDKVerion()

```
static String com.esp.android.usb.camera.core.ApcCamera.getSDKVerion ( ) [static]
```

Get SDK version

Returns

Version of SDK.

4.1.3.49 getSensorRegisterValue()

```
int com.esp.android.usb.camera.core.ApcCamera.getSensorRegisterValue (
    String [] value,
    int nId,
    int address,
    int flag )
```

Get value of sensor register.

Parameters

<i>value</i>	value of register
--------------	-------------------

4.1.3.50 getSerialNumberValue()

```
String com.esp.android.usb.camera.core.ApcCamera.getSerialNumberValue ( )
```

Get serial number.

Returns

serial number

4.1.3.51 getStreamInfoList()

```
StreamInfo [] com.esp.android.usb.camera.core.ApcCamera.getStreamInfoList (
    int interfaceNumber )
```

Get supported resolution list of the device. [StreamInfo](#) contains supported resolution and format.

See also

[StreamInfo](#)

Parameters

<i>interfaceNumber</i>	[INTERFACE_NUMBER_DEPTH,INTERFACE_NUMBER_COLOR]
------------------------	---

Returns

array of supported resolution and format

4.1.3.52 `getSurfaceHeight()`

```
int com.esp.android.usb.camera.core.ApcCamera.getSurfaceHeight ( )
```

Get the surface height of panorama buffer.

4.1.3.53 `getSurfaceWidth()`

```
int com.esp.android.usb.camera.core.ApcCamera.getSurfaceWidth ( )
```

Get the surface width of panorama buffer

4.1.3.54 `getVideoMode()`

```
int com.esp.android.usb.camera.core.ApcCamera.getVideoMode ( )
```

Get video mode.

4.1.3.55 `getVidValue()`

```
String com.esp.android.usb.camera.core.ApcCamera.getVidValue ( )
```

Get vID.

4.1.3.56 `getWhiteBalanceLimit()`

```
int [] com.esp.android.usb.camera.core.ApcCamera.getWhiteBalanceLimit ( )
```

Get min/max/default of white balance.

Returns

result NULL : FAIL intArray : index -> 0 (min), 1 (max), 2 (def)

4.1.3.57 `getYOffsetValue()` [1/2]

```
byte [] com.esp.android.usb.camera.core.ApcCamera.getYOffsetValue ( )
```

Get Y offset.

Returns

Y offset

4.1.3.58 `getYOffsetValue()` [2/2]

```
byte [] com.esp.android.usb.camera.core.ApcCamera.getYOffsetValue (
    int index )
```

Get Y offset.

Parameters

<i>index</i>	index of Y offset
--------------	-------------------

Returns

Y offset

4.1.3.59 `getZDTableValue()` [1/3]

```
int [] com.esp.android.usb.camera.core.ApcCamera.getZDTableValue ( )
```

Get ZD table with index = 0, type = 0.

4.1.3.60 `getZDTableValue()` [2/3]

```
int [] com.esp.android.usb.camera.core.ApcCamera.getZDTableValue (
    int index )
```

Get ZD table with type = 0.

4.1.3.61 `getZDTableValue()` [3/3]

```
int [] com.esp.android.usb.camera.core.ApcCamera.getZDTableValue (
    int index,
    int type )
```

Get ZD table. Size of ZD table: AXES = 256 PUMA = 2048

Parameters

<i>index</i>	index of ZD table for different resolution
<i>type</i>	type of depth

Returns

ZD table.(null if failed.)

4.1.3.62 `isIMUEnabled()`

```
boolean com.esp.android.usb.camera.core.ApcCamera.isIMUEnabled ( )
```

Get IMU status

Returns

true is on, false is off

4.1.3.63 isIRSupported()

```
boolean com.esp.android.usb.camera.core.ApcCamera.isIRSupported ( )
```

Check if IR emitter was supported with the device.

4.1.3.64 onStartLivePly()

```
int com.esp.android.usb.camera.core.ApcCamera.onStartLivePly (
    ILivePlyCallback livePlyCallback )
```

onStartLivePly will callback color array (R, G, B) and vertex position array (x, y, z). Stride is 3, which means r = color[0], g = color[1], b = color[2] x = vertex[0], y = vertex[1], z = vertex[2]

Parameters

<i>livePlyCallback</i>	
------------------------	--

Returns

eyes_error.EYS_SUCCESS means successfully setup.

4.1.3.65 onStopLivePly()

```
int com.esp.android.usb.camera.core.ApcCamera.onStopLivePly ( )
```

onStopLivePly

Returns

eyes_error.EYS_SUCCESS means successfully closed.

4.1.3.66 open() [1/2]

```
int com.esp.android.usb.camera.core.ApcCamera.open ( )
```

Deprecated As of release 1.1.2, replaced by ApcCamera#open(USBMonitor.UsbControlBlock)

4.1.3.67 `open()` [2/2]

```
int com.esp.android.usb.camera.core.ApcCamera.open (
    final USBMonitor.UsbControlBlock ctrlBlock )
```

connect to a UVC camera USB permission is necessary before this method is called

Parameters

<i>ctrlBlock</i>	from USBMonitor
------------------	---------------------------------

4.1.3.68 readFlashData()

```
byte [] com.esp.android.usb.camera.core.ApcCamera.readFlashData ( )
```

Get flash data of firmware.

Returns

flash data

4.1.3.69 readIMUData() [1/2]

```
IMUData com.esp.android.usb.camera.core.ApcCamera.readIMUData ( )
```

Read IMU data directly (current IMU data format)

Returns

[IMUData](#).

4.1.3.70 readIMUData() [2/2]

```
int com.esp.android.usb.camera.core.ApcCamera.readIMUData (
    IIMUCallback callback )
```

Read IMU data by callback

Parameters

<i>callback</i>	callback
-----------------	----------

See also

[IIMUCallback::onData\(IMUData\)](#)

Returns

APC_OK means successfully set callback and "read thread" start

4.1.3.71 saveStaticPly()

```
int com.esp.android.usb.camera.core.ApcCamera.saveStaticPly (
    String filename )
```

This function will capture a depth data frame with infrared projection and a color frame without infrared projection, generating a PLY file (Polygon File Format) in the designated path assigned by nativeSetExternalStoragePublicDirectory. Logs pattern is esp_ply in both Java and native side. If you enable SAVE_PLY_RAW macro in the PlyWriter.h, SDK saves color and depth raw data files in the provided folder.

Parameters

<i>filename</i>	This file will save to filename.ply at the designated path.
-----------------	---

Returns

EysdCameara.eyes_error

4.1.3.72 saveStaticPlyWithFilter()

```
int com.esp.android.usb.camera.core.ApcCamera.saveStaticPlyWithFilter (
    String filename,
    boolean isPlyFilterEnabled )
```

This function will capture a depth data frame with infrared projection and a color frame without infrared projection, generating a PLY file (Polygon File Format) in the designated path assigned by nativeSetExternalStoragePublicDirectory. Logs pattern is esp_ply in both Java and native side. If you enable SAVE_PLY_RAW macro in the PlyWriter.h, SDK saves color and depth raw data files in the provided folder.

Parameters

<i>filename</i>	This file will save to filename.ply at the designated path.
<i>isPlyFilterEnabled</i>	Enable post-processing to make a enhanced PLY file.

Returns

EysdCameara.eyes_error

4.1.3.73 setAutoWhiteBalance()

```
int com.esp.android.usb.camera.core.ApcCamera.setAutoWhiteBalance (
    boolean on )
```

Turn on/off auto white balance.

Parameters

<i>on</i>	false : Turn OFF true : Turn ON
-----------	---------------------------------

Returns

result 0 : SUCCESS -1 : EYS_ERROR -3 : UVC_ERROR_ACCESS -33 : DEVICE_NOT_SUPPORT

4.1.3.74 setCurrentPowerlineFrequency()

```
int com.esp.android.usb.camera.core.ApcCamera.setCurrentPowerlineFrequency (
    int value )
```

Set current value of light source.

Returns

result 0 : SUCCESS -1 : EYS_ERROR -33 : DEVICE_NOT_SUPPORT

4.1.3.75 setCurrentWhiteBalance()

```
int com.esp.android.usb.camera.core.ApcCamera.setCurrentWhiteBalance (
    int value )
```

Set current value of white balance.

Returns

result 0 : SUCCESS -1 : EYS_ERROR -33 : DEVICE_NOT_SUPPORT

4.1.3.76 setDepthDataType()

```
int com.esp.android.usb.camera.core.ApcCamera.setDepthDataType (
    short type )
```

Set depth data type, 11 bit for disparity data, 14 bit for Z data

Deprecated As of release 1.1.1, replaced by [setVideoMode\(int mode\)](#)

4.1.3.77 setDepthFilterByType()

```
int com.esp.android.usb.camera.core.ApcCamera.setDepthFilterByType (
    int which,
    boolean isEnabled )
```


Parameters

<i>which</i>	Decide which filter type you want to set.
<i>isEnabled</i>	boolean value to set.

Returns

EysdCamera.eys_error
Either EYS_SUCCESS or EYS_VERIFY_DATA_FAIL.

4.1.3.78 setDepthFilters()

```
int com.esp.android.usb.camera.core.ApcCamera.setDepthFilters (
    boolean bDoDepthFilter,
    boolean bSubSample,
    boolean bEdgePreservingFilter,
    boolean bHoleFill,
    boolean bTemporalFilter,
    boolean bFlyingDepthCancellation )
```

Parameters

<i>bDoDepthFilter</i>	The following functions of filter. If not enable this flag, none of filter would work.
<i>bSubSample</i>	Enable sub-sampling.
<i>bEdgePreservingFilter</i>	Enable edge preserving filter.
<i>bHoleFill</i>	Enable depth hole filling algorithm.
<i>bTemporalFilter</i>	Enable temporal filter which filters out noise.
<i>bFlyingDepthCancellation</i>	if want to filter out flying point.

Returns

4.1.3.79 setDisableAE()

```
int com.esp.android.usb.camera.core.ApcCamera.setDisableAE ( )
```

Turn off auto exposure.

4.1.3.80 setDistanceFilter()

```
int com.esp.android.usb.camera.core.ApcCamera.setDistanceFilter (
    int zNear,
    int zFar )
```

This function should be called after getDistanceLimitInZDTable to ensure SDK reads the nearest supported distance and the farthest one in ZDTable. And regenerate color palette which is a table whose domain from HSV color model 'Hue value' belong [0, 270] to Distance belong [m, n] which $m \leq n$ in millimeter. Native library will check for zNear zFar, if setting out of range. It will set back to the nearest extreme value.

4.1.3.81 setEnableAE()

```
int com.esp.android.usb.camera.core.ApcCamera.setEnableAE ( )
```

Turn on auto exposure.

4.1.3.82 setExposureAbsoluteTime()

```
int com.esp.android.usb.camera.core.ApcCamera.setExposureAbsoluteTime (
    int time )
```

Set exposure time: Sets the absolute exposure time. The time parameter should be provided in units of 0.0001 seconds (e.g., use the value 100 for a 10ms exposure period). Auto exposure should be set to manual or shutter↔_priority before attempting to change this setting.

4.1.3.83 setExposureMode()

```
int com.esp.android.usb.camera.core.ApcCamera.setExposureMode (
    int mode )
```

Set exposure mode to camera terminal

Parameters

<i>mode</i>	1 : manual mode 2 : auto mode 4 : shutter priority mode 8 : aperture priority mode
-------------	--

Returns

result 0 : SUCCESS -1 : EYS_ERROR -3 : UVC_ERROR_ACCESS -33 : DEVICE_NOT_SUPPORT

4.1.3.84 setExposurePriority()

```
int com.esp.android.usb.camera.core.ApcCamera.setExposurePriority (
    int priority )
```

Chooses whether the camera may vary the frame rate for exposure control reasons. A priority value of zero means the camera may not vary its frame rate. A value of 1 means the frame rate is variable. This setting has no effect outside of the auto and shutter_priority auto-exposure modes.

Parameters

<i>priority</i>	
-----------------	--

Returns

4.1.3.85 setFileData()

```
int com.esp.android.usb.camera.core.ApcCamera.setFileData (
    byte [] buffer,
    int nID )
```

Set file data.

Parameters

<i>nID</i>	file ID APC_Y_OFFSET_FILE_ID_0 30 APC_RECTIFY_FILE_ID_0 40 APC_ZD_TABLE_FILE_ID_0 50 APC_ISP_FILE_ID_0 120 APC_LSC_FILE_ID_0 150 APC_USER_DATA_FILE_ID_0 200 APC_CALIB_LOG_FILE_ID_0 240
------------	--

4.1.3.86 setFishTag()

```
int com.esp.android.usb.camera.core.ApcCamera.setFishTag (
    String input_file,
    boolean audio_in )
```

Set 360 metadata to file

4.1.3.87 setFishTag_eYs3D()

```
int com.esp.android.usb.camera.core.ApcCamera.setFishTag_eYs3D (
    String output_file,
    boolean audio_in )
```

Set 360 metadata to file eys

4.1.3.88 SetFWRegisterValue()

```
int com.esp.android.usb.camera.core.ApcCamera.SetFWRegisterValue (
    int address,
    int nValue )
```

Set value of firmware register.

4.1.3.89 setHWPostProcess()

```
int com.esp.android.usb.camera.core.ApcCamera.setHWPostProcess (
    boolean enable )
```

Set hardware post process.

4.1.3.90 setHWRegisterValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setHWRegisterValue (
    int address,
    int nValue )
```

Set value of hardware register.

4.1.3.91 setIMUDataFormat()

```
int com.esp.android.usb.camera.core.ApcCamera.setIMUDataFormat (
    int format )
```

Set IMU data format

Parameters

<i>format</i>	int
---------------	-----

See also

[IMUData.DataFormat](#)

Returns

APC_OK means successfully set IMU data format

4.1.3.92 setInterleaveMode()

```
boolean com.esp.android.usb.camera.core.ApcCamera.setInterleaveMode (
    boolean enabled )
```

Change the status of the interleave mode. This function includes drop frames and set fw registers. Note that setting fw register should after preview.

4.1.3.93 setIRCurrentValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setIRCurrentValue (
    int value )
```

Set intensity of IR emitter.

4.1.3.94 setIRMaxValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setIRMaxValue (
    int value )
```

This will extend the default IR maximum value

Parameters

<i>value</i>	to set the maximum
--------------	--------------------

Returns**4.1.3.95 SetIRMode()**

```
int com.esp.android.usb.camera.core.ApcCamera.SetIRMode (
    int value )
```

Set mode of IR emitter. It was not supported on EX8029

4.1.3.96 setLogDataValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setLogDataValue (
    byte [] buffer,
    int index,
    int type )
```

Set log data.

4.1.3.97 setModuleSync()

```
int com.esp.android.usb.camera.core.ApcCamera.setModuleSync ( )
```

Module sync Frame count change to serial count

Returns

eys_error.EYS_SUCCESS means successfully set module sync register.

4.1.3.98 setMonitorFrameRate()

```
void com.esp.android.usb.camera.core.ApcCamera.setMonitorFrameRate (
    boolean enable,
    final int camera_switch )
```

Turn on/off monitoring frame rate

Parameters

<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]
----------------------	---

4.1.3.99 setPidVidValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setPidVidValue (
    int nPid,
    int nVid )
```

Set pID and vID.

Parameters

<i>nPid</i>	pID
<i>nVid</i>	vID

4.1.3.100 setPreviewSize() [1/2]

```
void com.esp.android.usb.camera.core.ApcCamera.setPreviewSize (
    StreamInfo streamInfo )
```

Set preview size by [StreamInfo](#) with default fps [0,30]

Parameters

<i>streamInfo</i>	
-------------------	--

4.1.3.101 setPreviewSize() [2/2]

```
void com.esp.android.usb.camera.core.ApcCamera.setPreviewSize (
    StreamInfo streamInfo,
    int maxFps )
```

Set preview size by [StreamInfo](#) with specified fps.

Parameters

<i>streamInfo</i>	
<i>maxFps</i>	

4.1.3.102 setPreviewTexture()

```
void com.esp.android.usb.camera.core.ApcCamera.setPreviewTexture (
    final SurfaceTexture texture,
    final int camera_switch )
```

set preview surface with SurfaceTexture. this method require API >= 14

Parameters

<i>texture</i>	for preview
<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]

4.1.3.103 setRectifyTableValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setRectifyTableValue (
    byte [] buffer,
    int index )
```

Set rectify table.

Parameters

<i>buffer</i>	input
<i>index</i>	index of rectify table

4.1.3.104 setSensorRegisterValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setSensorRegisterValue (
    int nId,
    int address,
    int nValue,
    int flag )
```

Set sensor Register

4.1.3.105 setSerialNumberValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setSerialNumberValue (
    String str )
```

Set serial number.

4.1.3.106 setVideoMode()

```
int com.esp.android.usb.camera.core.ApcCamera.setVideoMode (
    int mode )
```

Set video mode. Notice: only PUMA type IC can support this setting. This function has not been supported since it could be running on USB3 only.

Parameters

<i>mode</i>	video mode
-------------	------------

See also

[VideoMode](#)

4.1.3.107 setYOffsetValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setYOffsetValue (
    byte [] buffer,
    int index )
```

Set Y offset.

Parameters

<i>buffer</i>	input Y offset
<i>index</i>	index

4.1.3.108 setZDTableValue()

```
int com.esp.android.usb.camera.core.ApcCamera.setZDTableValue (
    byte [] buffer,
    int index,
    int type )
```

Set ZD table.

Parameters

<i>buffer</i>	input
<i>index</i>	index of ZD table
<i>type</i>	type of depth

4.1.3.109 startIMULogData()

```
int com.esp.android.usb.camera.core.ApcCamera.startIMULogData (
    String fileName )
```

Start save IMU raw data (sdcard/eYs3D/fileName_imu_log.txt)

Parameters

<i>fileName</i>	file name
-----------------	-----------

Returns

APC_OK means successfully start to save IMU raw data.

4.1.3.110 stopIMULogData()

```
int com.esp.android.usb.camera.core.ApcCamera.stopIMULogData ( )
```

Stop save IMU raw data

Returns

APC_OK means successfully stop to save IMU raw data.

4.1.3.111 stopPreview()

```
void com.esp.android.usb.camera.core.ApcCamera.stopPreview (
    final int camera_switch )
```

stop preview

Parameters

<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]
----------------------	---

4.1.3.112 stopReadIMUData()

```
int com.esp.android.usb.camera.core.ApcCamera.stopReadIMUData ( )
```

Stop read IMU data thread

Returns

APC_OK means successfully stop read thread

4.1.3.113 writeFlashData()

```
int com.esp.android.usb.camera.core.ApcCamera.writeFlashData (
    byte [] buffer,
    boolean bIsSerialNumberKeep,
    boolean bIsSensorPositionKeep,
    boolean bIsRectificationTableKeep,
    boolean bIsZDTableKeep,
    boolean bIsCalibrationLogKeep,
    boolean bIsParaLutKeep,
    boolean bIsKeepISP,
    boolean bSetFWTag )
```

write firmware code(.bin) to flash The firmware code is the combination of boot loader, firmware body and plug-in data, also can keep original functions(Serial Number, Sensor Position, RectificationTable, ZD Table and CalibrationLog) on camera flash by KEEP_DATA_CTRL control

Parameters

<i>buffer</i>	input data
---------------	------------

4.1.3.114 writeFlashDataASIC()

```
int com.esp.android.usb.camera.core.ApcCamera.writeFlashDataASIC (
    byte [] buffer,
    byte [] bufferOri )
```

Write firmware flash data to device with backup file.

Parameters

<i>buffer</i>	input data
<i>bufferOri</i>	backup data

4.1.4 Member Data Documentation**4.1.4.1 DEPTH_DATA_11_BITS**

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_11_BITS = 4 [static]
```

Deprecated As of release 1.1.1, replaced by [RECTIFY_11_BITS](#)

4.1.4.2 DEPTH_DATA_11_BITS_RAW

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_11_BITS_RAW = 9 [static]
```

Deprecated As of release 1.1.1, replaced by [RAW_11_BITS](#)

4.1.4.3 DEPTH_DATA_14_BITS

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_14_BITS = 2 [static]
```

Deprecated As of release 1.1.1, replaced by [RECTIFY_14_BITS](#)

4.1.4.4 DEPTH_DATA_14_BITS_RAW

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_14_BITS_RAW = 7 [static]
```

Deprecated As of release 1.1.1, replaced by [RAW_14_BITS](#)

4.1.4.5 DEPTH_DATA_8_BITS

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_8_BITS = 1 [static]
```

Deprecated As of release 1.1.1, replaced by [RECTIFY_8_BITS](#)

4.1.4.6 DEPTH_DATA_8_BITS_RAW

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_8_BITS_RAW = 6 [static]
```

Deprecated As of release 1.1.1, replaced by [RAW_8_BITS](#)

4.1.4.7 DEPTH_DATA_8_BITS_x80

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_8_BITS_x80 = 3 [static]
```

Deprecated As of release 1.1.1, replaced by [RECTIFY_8_BITS_x80](#)

4.1.4.8 DEPTH_DATA_8_BITS_x80_RAW

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_8_BITS_x80_RAW = 8 [static]
```

Deprecated As of release 1.1.1, replaced by [RAW_8_BITS_x80](#)

4.1.4.9 DEPTH_DATA_OFF_RAW

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_OFF_RAW = 0 [static]
```

Deprecated As of release 1.1.1, replaced by [COLOR_ONLY](#)

4.1.4.10 DEPTH_DATA_OFF_RECTIFY

```
final short com.esp.android.usb.camera.core.ApcCamera.DEPTH_DATA_OFF_RECTIFY = 5 [static]
```

Deprecated As of release 1.1.1, replaced by [OFF_RECTIFY](#)

4.1.4.11 DO_DEPTH_FILTER

```
final int com.esp.android.usb.camera.core.ApcCamera.DO_DEPTH_FILTER = 0 [static]
```

These const value decide which depth filter you want to en(dis)able. See {<code> setDepthFilterByType }

4.2 com.esp.android.usb.camera.core.ApcCamera.CurrentFrameRate Class Reference

Public Attributes

- double [mFrameRateUvc](#) = -1
- double [mFrameRatePreview](#) = -1

4.2.1 Detailed Description

Container for monitoring frame rate. Enabled by calling `setMonitorFrameRate(boolean enable,final int camera_↔ switch)`.

4.2.2 Member Data Documentation

4.2.2.1 mFrameRatePreview

```
double com.esp.android.usb.camera.core.ApcCamera.CurrentFrameRate.mFrameRatePreview = -1
```

Frame rate of preview

4.2.2.2 mFrameRateUvc

```
double com.esp.android.usb.camera.core.ApcCamera.CurrentFrameRate.mFrameRateUvc = -1
```

Frame rate of device

4.3 com.esp.android.usb.camera.core.IMUData.DataFormat Class Reference

4.4 com.esp.android.usb.camera.core.DeviceFilter Class Reference

Static Public Member Functions

- static List< [DeviceFilter](#) > [getDeviceFilters](#) (final Context context, final int deviceFilterXmlId)

4.4.1 Member Function Documentation

4.4.1.1 getDeviceFilters()

```
static List<DeviceFilter> com.esp.android.usb.camera.core.DeviceFilter.getDeviceFilters (
    final Context context,
    final int deviceFilterXmlId ) [static]
```

Get device filter with id at xml

Parameters

<i>context</i>	
<i>deviceFilter</i> ↔ <i>XmIId</i>	

Returns

4.5 [com.esp.android.usb.camera.core.ApcCamera.DistanceLimit Class Reference](#)4.6 [com.esp.android.usb.camera.core.ApcCamera.eys_error Enum Reference](#)4.7 [com.esp.android.usb.camera.core.IErrorCallback Interface Reference](#)4.8 [com.esp.android.usb.camera.core.IFrameCallback Interface Reference](#)

Public Member Functions

- void [onFrame](#) (ByteBuffer frame, int frameCount)

4.8.1 Detailed Description

Callback interface for [UVCCamera](#) class If you need frame data as ByteBuffer, you can use this callback interface with [UVCCamera::setFrameCallback](#)

4.8.2 Member Function Documentation

4.8.2.1 [onFrame\(\)](#)

```
void com.esp.android.usb.camera.core.IFrameCallback.onFrame (
    ByteBuffer frame,
    int frameCount )
```

This method is called from native library via JNI on the same thread as [UVCCamera::startCapture](#). You can use both [UVCCamera::startCapture](#) and [#setFrameCallback](#) but it is better to use either for better performance. You can also pass pixel format type to [UVCCamera::setFrameCallback](#) for this method. Some frames may drops if this method takes a time.

Parameters

<i>frame</i>	ByteBuffer
<i>frameCount</i>	int

4.9 com.esp.android.usb.camera.core.IIMUCallback Interface Reference

Public Member Functions

- void [onData](#) ([IMUData](#) data)
- void [onCalibration](#) (boolean isSuccess)

4.9.1 Detailed Description

Callback interface for [UVCCamera](#) class If you need IMU data by callback, you can use this callback interface with `UVCCamera::getIMUData(IIMUCallback callback)`. This callback also include calibration result.

4.9.2 Member Function Documentation

4.9.2.1 onCalibration()

```
void com.esp.android.usb.camera.core.IIMUCallback.onCalibration (
    boolean isSuccess )
```

This method is called from native library via JNI.

Parameters

<i>isSuccess</i>	boolean
------------------	---------

4.9.2.2 onData()

```
void com.esp.android.usb.camera.core.IIMUCallback.onData (
    IMUData data )
```

This method is called from native library via JNI. You can also call `UVCCamera::getIMUData()` to get [IMUData](#) directly.

Parameters

<i>data</i>	IMUData
-------------	-------------------------

See also

[IMUData](#)

4.10 com.esp.android.usb.camera.core.ILivePlyCallback Interface Reference

Public Member Functions

- void [onLivePlyCallback](#) (float[] colorArray, float[] depthVertex)

4.10.1 Member Function Documentation

4.10.1.1 onLivePlyCallback()

```
void com.esp.android.usb.camera.core.ILivePlyCallback.onLivePlyCallback (
    float [] colorArray,
    float [] depthVertex )
```

Parameters

<i>colorArray</i>	desc
<i>depthVertex</i>	desc

4.11 com.esp.android.usb.camera.core.IMUData Class Reference

Classes

- class [DataFormat](#)

4.12 com.esp.android.usb.camera.core.USBMonitor.OnDeviceConnectListener Interface Reference

Public Member Functions

- void [onAttach](#) (UsbDevice device)
- void [onDetach](#) (UsbDevice device)
- void [onConnect](#) (UsbDevice device, [UsbControlBlock](#) ctrlBlock, boolean createNew)
- void [onDisconnect](#) (UsbDevice device, [UsbControlBlock](#) ctrlBlock)
- void [onCancel](#) ()

4.12.1 Member Function Documentation

4.12.1.1 onAttach()

```
void com.esp.android.usb.camera.core.USBMonitor.OnDeviceConnectListener.onAttach (
    UsbDevice device )
```

called when device attached

Parameters

<i>device</i>	attached device
---------------	-----------------

4.12.1.2 onCancel()

```
void com.esp.android.usb.camera.core.USBMonitor.OnDeviceConnectListener.onCancel ( )
```

called when canceled or could not get permission from user

4.12.1.3 onConnect()

```
void com.esp.android.usb.camera.core.USBMonitor.OnDeviceConnectListener.onConnect (
    UsbDevice device,
    UsbControlBlock ctrlBlock,
    boolean createNew )
```

called after device open

Parameters

<i>device</i>	connected device
<i>createNew</i>	new device has been connected

4.12.1.4 onDetach()

```
void com.esp.android.usb.camera.core.USBMonitor.OnDeviceConnectListener.onDetach (
    UsbDevice device )
```

called when device detach(after onDisconnect)

Parameters

<i>device</i>	detached device
---------------	-----------------

4.12.1.5 onDisconnect()

```
void com.esp.android.usb.camera.core.USBMonitor.OnDeviceConnectListener.onDisconnect (
    UsbDevice device,
    UsbControlBlock ctrlBlock )
```

called when USB device removed or its power off (this callback is called after device closing)

Parameters

<i>device</i>	disconnected device
<i>ctrlBlock</i>	control block

4.13 com.esp.android.usb.camera.core.RectifyLogData Class Reference**Public Member Functions**

- String [toString](#) ()

4.13.1 Detailed Description

Rectify Log Data

4.13.2 Member Function Documentation**4.13.2.1 toString()**

```
String com.esp.android.usb.camera.core.RectifyLogData.toString ( )
```

retrun rectify table as string

4.14 com.esp.android.usb.camera.core.StreamInfo Class Reference**Public Attributes**

- int [interfaceNumber](#)

4.14.1 Detailed Description

Container for resolution and format information from device.

4.14.2 Member Data Documentation

4.14.2.1 interfaceNumber

```
int com.esp.android.usb.camera.core.StreamInfo.interfaceNumber
```

for different endpoint

4.15 com.esp.android.usb.camera.core.USBMonitor.UsbControlBlock Class Reference

Public Member Functions

- [UsbControlBlock](#) (final [USBMonitor](#) monitor, final [UsbDevice](#) device)
- synchronized [UsbInterface](#) [open](#) (final int interfaceIndex)
- void [close](#) (final int interfaceIndex)
- synchronized void [close](#) ()

4.15.1 Constructor & Destructor Documentation

4.15.1.1 UsbControlBlock()

```
com.esp.android.usb.camera.core.USBMonitor.UsbControlBlock.UsbControlBlock (
    final USBMonitor monitor,
    final UsbDevice device )
```

this class needs permission to access USB device before constructing

Parameters

<i>monitor</i>	
<i>device</i>	

4.15.2 Member Function Documentation

4.15.2.1 close() [1/2]

```
void com.esp.android.usb.camera.core.USBMonitor.UsbControlBlock.close (
    final int interfaceIndex )
```

close specified interface. USB device itself still keep open.

Parameters

<i>interfaceIndex</i>	
-----------------------	--

4.15.2.2 close() [2/2]

```
synchronized void com.esp.android.usb.camera.core.USBMonitor.UsbControlBlock.close ( )
```

close specified interface. USB device itself still keep open.

4.15.2.3 open()

```
synchronized UsbInterface com.esp.android.usb.camera.core.USBMonitor.UsbControlBlock.open (
    final int interfaceIndex )
```

open specific interface

Parameters

<i>interfaceIndex</i>	
-----------------------	--

Returns

4.16 com.esp.android.usb.camera.core.USBMonitor.UsbDeviceInfo Class Reference

4.17 com.esp.android.usb.camera.core.USBMonitor Class Reference

Classes

- interface [OnDeviceConnectListener](#)
- class [UsbControlBlock](#)
- class [UsbDeviceInfo](#)

Public Member Functions

- synchronized void [register](#) ()
- synchronized void [unregister](#) ()
- boolean [hasPermission](#) (final UsbDevice device)
- synchronized void [requestPermission](#) (final UsbDevice device)
- void [setDeviceFilter](#) (final [DeviceFilter](#) filter)
- void [setDeviceFilter](#) (final List< [DeviceFilter](#) > filters)
- int [getDeviceCount](#) ()
- Iterator< UsbDevice > [getDevices](#) ()
- List< UsbDevice > [getDeviceList](#) ()
- List< UsbDevice > [getDeviceList](#) (final [DeviceFilter](#) filter)
- List< UsbDevice > [getDeviceList](#) (final List< [DeviceFilter](#) > filters)
- final void [dumpDevices](#) ()

4.17.1 Member Function Documentation

4.17.1.1 dumpDevices()

```
final void com.esp.android.usb.camera.core.USBMonitor.dumpDevices ( )
```

output device list to LogCat

4.17.1.2 getDeviceCount()

```
int com.esp.android.usb.camera.core.USBMonitor.getDeviceCount ( )
```

return the number of connected USB devices that matched device filter

Returns

4.17.1.3 getDeviceList() [1/3]

```
List<UsbDevice> com.esp.android.usb.camera.core.USBMonitor.getDeviceList ( )
```

return device list, return empty list if no device matched

Returns

4.17.1.4 getDeviceList() [2/3]

```
List<UsbDevice> com.esp.android.usb.camera.core.USBMonitor.getDeviceList (
    final DeviceFilter filter )
```

return device list, return empty list if no device matched

Parameters

<i>filter</i>	
---------------	--

Returns

device list

4.17.1.5 getDeviceList() [3/3]

```
List<UsbDevice> com.esp.android.usb.camera.core.USBMonitor.getDeviceList (
    final List< DeviceFilter > filters )
```

return device list, return empty list if no device matched

Parameters

<i>filters</i>	
----------------	--

Returns

device list

4.17.1.6 getDevices()

```
Iterator<UsbDevice> com.esp.android.usb.camera.core.USBMonitor.getDevices ( )
```

get USB device list

Returns

device list

4.17.1.7 hasPermission()

```
boolean com.esp.android.usb.camera.core.USBMonitor.hasPermission (
    final UsbDevice device )
```

return whether the specific Usb device has permission

Parameters

<i>device</i>	
---------------	--

Returns

4.17.1.8 register()

```
synchronized void com.esp.android.usb.camera.core.USBMonitor.register ( )
```

register BroadcastReceiver to monitor USB events

4.17.1.9 requestPermission()

```
synchronized void com.esp.android.usb.camera.core.USBMonitor.requestPermission (
    final UsbDevice device )
```

request permission to access to USB device

Parameters

<i>device</i>	
---------------	--

4.17.1.10 setDeviceFilter() [1/2]

```
void com.esp.android.usb.camera.core.USBMonitor.setDeviceFilter (
    final DeviceFilter filter )
```

set device filter

Parameters

<i>filter</i>	
---------------	--

4.17.1.11 setDeviceFilter() [2/2]

```
void com.esp.android.usb.camera.core.USBMonitor.setDeviceFilter (
    final List< DeviceFilter > filters )
```

set device filters

Parameters

<i>filters</i>	
----------------	--

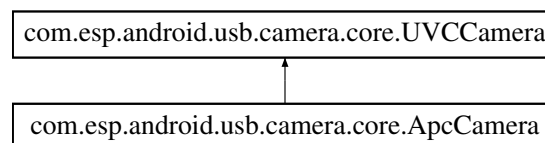
4.17.1.12 unregister()

```
synchronized void com.esp.android.usb.camera.core.USBMonitor.unregister ( )
```

unregister BroadcastReceiver

4.18 com.esp.android.usb.camera.core.UVCCamera Class Reference

Inheritance diagram for com.esp.android.usb.camera.core.UVCCamera:



Public Member Functions

- [UVCCamera](#) ()
- abstract int [open](#) (final [UsbControlBlock](#) ctrlBlock)
- abstract void [close](#) ()
- UsbDevice [getDevice](#) ()
- String [getDeviceName](#) ()
- [UsbControlBlock](#) [getUsbControlBlock](#) ()
- void [setPreviewSize](#) (final int width, final int height, final int camera_switch)
- void [setPreviewSize](#) (final int width, final int height, final int mode, final int camera_switch)
- void [setPreviewSize](#) (final int width, final int height, final int mode, final float bandwidth, final int camera_switch↔)
- void [setPreviewSize](#) (final int width, final int height, final int min_fps, final int max_fps, final int mode, final float bandwidth, final int camera_switch)
- void [setPreviewDisplay](#) (final SurfaceHolder holder, final int camera_switch)
- abstract void [setPreviewTexture](#) (final SurfaceTexture texture, final int camera_switch)
- void [setPreviewDisplay](#) (final Surface surface, final int camera_switch)
- void [setFrameCallback](#) (final [IFrameCallback](#) callback, final int pixelFormat, final int camera_switch)
- void [startPreview](#) (final int camera_switch)
- abstract void [stopPreview](#) (final int camera_switch)
- void [destroy](#) ()

Static Public Attributes

camera switch

To specify endpoint

- static final int **CAMERA_COLOR** = 0
- static final int **CAMERA_DEPTH** = 1
- static final int **CAMERA_360** = 2

interface number for color , depth

- static final int **INTERFACE_NUMBER_COLOR** = 1
- static final int **INTERFACE_NUMBER_DEPTH** = 2

default value for preview setting

- static final int **DEFAULT_PREVIEW_WIDTH** = 640
- static final int **DEFAULT_PREVIEW_HEIGHT** = 480
- static final int **DEFAULT_PREVIEW_MODE** = 0
- static final int **DEFAULT_PREVIEW_MIN_FPS** = 1
- static final int **DEFAULT_PREVIEW_MAX_FPS** = 30
- static final float **DEFAULT_BANDWIDTH** = 1.0f

frame format of requested stream

- static final int **FRAME_FORMAT_YUYV** = 0
- static final int **FRAME_FORMAT_MJPEG** = 1

format for call back function (support RGBX only for now)

- static final int **PIXEL_FORMAT_RGBX** = 3

4.18.1 Constructor & Destructor Documentation

4.18.1.1 UVCCamera()

```
com.esp.android.usb.camera.core.UVCCamera.UVCCamera ( )
```

the constructor of this class should be call within the thread that has a looper (UI thread or a thread that called `Looper.prepare`)

4.18.2 Member Function Documentation

4.18.2.1 close()

```
abstract void com.esp.android.usb.camera.core.UVCCamera.close ( ) [abstract]
```

close and release UVC camera

4.18.2.2 destroy()

```
void com.esp.android.usb.camera.core.UVCCamera.destroy ( )
```

destroy [UVCCamera](#) object

4.18.2.3 getDevice()

```
UsbDevice com.esp.android.usb.camera.core.UVCCamera.getDevice ( )
```

Deprecated As of release 1.1.2, replaced by [UVCCamera#getDevice\(boolean\)](#)

4.18.2.4 getDeviceName()

```
String com.esp.android.usb.camera.core.UVCCamera.getDeviceName ( )
```

Deprecated As of release 1.1.2, replaced by [UVCCamera#getDeviceName\(boolean\)](#)

4.18.2.5 getUsbControlBlock()

```
UsbControlBlock com.esp.android.usb.camera.core.UVCCamera.getUsbControlBlock ( )
```

Deprecated As of release 1.1.2, replaced by [UVCCamera#getUsbControlBlock\(boolean\)](#)

4.18.2.6 open()

```
abstract int com.esp.android.usb.camera.core.UVCCamera.open (
    final UsbControlBlock ctrlBlock ) [abstract]
```

connect to a UVC camera USB permission is necessary before this method is called

Parameters

<i>ctrlBlock</i>	
------------------	--

4.18.2.7 setFrameCallback()

```
void com.esp.android.usb.camera.core.UVCCamera.setFrameCallback (
    final IFrameCallback callback,
    final int pixelFormat,
    final int camera_switch )
```

set frame callback

Parameters

<i>callback</i>	callbackfunction
-----------------	------------------

See also

[IFrameCallback](#)

Parameters

<i>pixelFormat</i>	support PIXEL_FORMAT_RGBX only
<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]

4.18.2.8 setPreviewDisplay() [1/2]

```
void com.esp.android.usb.camera.core.UVCCamera.setPreviewDisplay (
    final SurfaceHolder holder,
    final int camera_switch )
```

set preview surface with SurfaceHolder you can use SurfaceHolder came from SurfaceView/GLSurfaceView

Parameters

<i>holder</i>	
<i>camera_switch</i>	target switch [CAMERA_COLOR, CAMERA_DEPTH]

4.18.2.9 setPreviewDisplay() [2/2]

```
void com.esp.android.usb.camera.core.UVCCamera.setPreviewDisplay (
    final Surface surface,
    final int camera_switch )
```

set preview surface with Surface

Parameters

<i>surface</i>	
<i>camera_switch</i>	target switch [CAMERA_COLOR, CAMERA_DEPTH]

4.18.2.10 `setPreviewSize()` [1/4]

```
void com.esp.android.usb.camera.core.UVCCamera.setPreviewSize (
    final int width,
    final int height,
    final int camera_switch )
```

Set preview size and preview mode

Parameters

<i>width</i>	
<i>height</i>	

4.18.2.11 `setPreviewSize()` [2/4]

```
void com.esp.android.usb.camera.core.UVCCamera.setPreviewSize (
    final int width,
    final int height,
    final int mode,
    final int camera_switch )
```

Set preview size and preview mode

Parameters

<i>width</i>	
<i>height</i>	
<i>mode</i>	0:yuyv, other:MJPEG

4.18.2.12 `setPreviewSize()` [3/4]

```
void com.esp.android.usb.camera.core.UVCCamera.setPreviewSize (
    final int width,
    final int height,
    final int mode,
```

```
final float bandwidth,
final int camera_switch )
```

Set preview size and preview mode

Parameters

<i>width</i>	
<i>height</i>	
<i>mode</i>	0:yuyv, other:MJPEG
<i>bandwidth</i>	[0.0f,1.0f]

4.18.2.13 setPreviewSize() [4/4]

```
void com.esp.android.usb.camera.core.UVCCamera.setPreviewSize (
    final int width,
    final int height,
    final int min_fps,
    final int max_fps,
    final int mode,
    final float bandwidth,
    final int camera_switch )
```

Set preview size and preview mode

Parameters

<i>width</i>	
<i>height</i>	
<i>min_fps</i>	
<i>max_fps</i>	
<i>mode</i>	
<i>bandwidth</i>	

4.18.2.14 setPreviewTexture()

```
abstract void com.esp.android.usb.camera.core.UVCCamera.setPreviewTexture (
    final SurfaceTexture texture,
    final int camera_switch ) [abstract]
```

set preview surface with SurfaceTexture. this method require API >= 14

Parameters

<i>texture</i>	
<i>camera_switch</i>	target switch [CAMERA_COLOR, CAMERA_DEPTH]

4.18.2.15 startPreview()

```
void com.esp.android.usb.camera.core.UVCCamera.startPreview (
    final int camera_switch )
```

start preview

Parameters

<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]
----------------------	---

4.18.2.16 stopPreview()

```
abstract void com.esp.android.usb.camera.core.UVCCamera.stopPreview (
    final int camera_switch ) [abstract]
```

stop preview

Parameters

<i>camera_switch</i>	target switch [CAMERA_COLOR,CAMERA_DEPTH]
----------------------	---

4.19 com.esp.android.usb.camera.core.ApcCamera.VideoMode Class Reference

Static Public Attributes

Video mode

- static final int **COLOR_ONLY** = 0
- static final int **RECTIFY_8_BITS** = 1
- static final int **RECTIFY_14_BITS** = 2
- static final int **RECTIFY_8_BITS_x80** = 3
- static final int **RECTIFY_11_BITS** = 4
- static final int **OFF_RECTIFY** = 5
- static final int **RAW_8_BITS** = 6
- static final int **RAW_14_BITS** = 7
- static final int **RAW_8_BITS_x80** = 8
- static final int **RAW_11_BITS** = 9
- static final int **COLOR_ONLY_INTERLEAVE_MODE** = 16
- static final int **RECTIFY_8_BITS_INTERLEAVE_MODE** = 17
- static final int **RECTIFY_14_BITS_INTERLEAVE_MODE** = 18
- static final int **RECTIFY_8_BITS_x80_INTERLEAVE_MODE** = 19
- static final int **RECTIFY_11_BITS_INTERLEAVE_MODE** = 20
- static final int **OFF_RECTIFY_INTERLEAVE_MODE** = 21
- static final int **RAW_8_BITS_INTERLEAVE_MODE** = 22
- static final int **RAW_14_BITS_INTERLEAVE_MODE** = 23

- static final int **RAW_8_BITS_x80_INTERLEAVE_MODE** = 24
- static final int **RAW_11_BITS_INTERLEAVE_MODE** = 25
- static final int **DEPTH_DATA_SCALE_DOWN_MODE_OFFSET** = 32
- static final int **SCALE_DOWN_14_BITS** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_14_BITS
- static final int **SCALE_DOWN_14_BITS_RAW** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_14_BITS_INTERLEAVE_MODE
- static final int **SCALE_DOWN_ILM_14_BITS** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_14_BITS_INTERLEAVE_MODE
- static final int **SCALE_DOWN_ILM_14_BITS_RAW** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_14_BITS_INTERLEAVE_MODE
- static final int **SCALE_DOWN_11_BITS** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_11_BITS
- static final int **SCALE_DOWN_11_BITS_RAW** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_11_BITS_INTERLEAVE_MODE
- static final int **SCALE_DOWN_ILM_11_BITS** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_11_BITS_INTERLEAVE_MODE
- static final int **SCALE_DOWN_ILM_11_BITS_RAW** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_11_BITS_INTERLEAVE_MODE
- static final int **SCALE_DOWN_8_BITS** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_8_BITS
- static final int **SCALE_DOWN_8_BITS_RAW** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_8_BITS_INTERLEAVE_MODE
- static final int **SCALE_DOWN_ILM_8_BITS** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_8_BITS_INTERLEAVE_MODE
- static final int **SCALE_DOWN_ILM_8_BITS_RAW** = DEPTH_DATA_SCALE_DOWN_MODE_OFFSET + RECTIFY_8_BITS_INTERLEAVE_MODE

4.19.1 Detailed Description

Video mode define.

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