

Novitec USB3 Camera API

Generated by Doxygen 1.8.6

Thu May 8 2014 17:13:27

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1.1 Class List

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

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novitec::Handle	??
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novitec::Trigger	??
novitec::VideoFormat	??
novitec::VideoFormatInfo	??

Chapter 2

Class Documentation

2.1 novitec::Camera Class Reference

```
#include <Camera.h>
```

Public Member Functions

- [Camera](#) (void)
- virtual [~Camera](#) (void)
- virtual [Error Connect](#) ([novitec::Handle](#) *pHandle)
- virtual [Error Disconnect](#) (void)
- virtual [Error Start](#) (void)
- virtual [Error Stop](#) (void)
- virtual [Error GetImage](#) ([Image](#) *pImage, unsigned int uiTimeout=500)
- virtual [Error GetGrabMode](#) ([BufferMode](#) *pBufferMode, unsigned int *pNumOfBuffers)
- virtual [Error SetGrabMode](#) ([BufferMode](#) bufferMode, unsigned int uiNumOfBuffers)
- virtual [Error GetVideoFormat](#) (unsigned int *pPosX, unsigned int *pPosY, unsigned int *pWidth, unsigned int *pHeight, [PixelFormat](#) *pPixelFormat)
- virtual [Error GetVideoFormat](#) ([VideoFormat](#) *format)
- virtual [Error SetVideoFormat](#) (unsigned int uiPosX, unsigned int uiPosY, unsigned int uiWidth, unsigned int uiHeight, [PixelFormat](#) pixelFormat)
- virtual [Error SetVideoFormat](#) ([VideoFormat](#) format)
- virtual [Error GetVideoFormatInfo](#) ([VideoFormatInfo](#) *info)
- virtual [Error GetProperty](#) ([PropertyType](#) type, unsigned int *pValue)
- virtual [Error GetPropertyAbs](#) ([PropertyType](#) type, float *pValue)
- virtual [Error GetProperty](#) ([Property](#) *pProp)
- virtual [Error SetProperty](#) ([PropertyType](#) type, unsigned int uiValue)
- virtual [Error SetPropertyAbs](#) ([PropertyType](#) type, float fValue)
- virtual [Error SetProperty](#) ([Property](#) Prop)
- virtual [Error GetPropertyInfo](#) ([PropertyInfo](#) *pInfo)
- virtual [Error GetPropertyRange](#) ([PropertyType](#) type, unsigned int *pMin, unsigned int *pMax)
- virtual [Error GetPropertyRangeAbs](#) ([PropertyType](#) type, float *pMin, float *pMax)
- virtual [Error GetTrigger](#) (unsigned int *pSource, bool *pOnOff, bool *pPolarity)
- virtual [Error GetTrigger](#) ([Trigger](#) *pTrig)
- virtual [Error SetTrigger](#) (unsigned int uiSource, bool bOnOff, bool bPolarity)
- virtual [Error SetTrigger](#) ([Trigger](#) trig)
- virtual [Error GetStrobe](#) (unsigned int *pSource, bool *pOnOff, bool *pPolarity, unsigned int *pDelay=0, unsigned int *pDuration=0)
- virtual [Error GetStrobe](#) ([Strobe](#) *pStrobe)

- virtual [Error SetStrobe](#) (unsigned int uiSource, bool bOnOff, bool bPolarity, unsigned int uiDelay=0, unsigned int uiDuration=0)
- virtual [Error SetStrobe](#) ([Strobe](#) strobe)
- virtual [Error ReadRegister](#) (unsigned int ucAddress, unsigned int *pValue)
- virtual [Error WriteRegister](#) (unsigned int ucAddress, unsigned int uiValue)
- virtual [Error FireSoftwareTrigger](#) ()
- virtual [Error GetCurrentMemChannel](#) (int *pMemChannel)
- virtual [Error SaveProperties](#) (int iMemChannel)
- virtual [Error LoadProperties](#) (int iMemChannel)
- virtual [Error ClearStatistics](#) ()
- virtual [Error GetStatistics](#) ([Statistics](#) stat)
- virtual [Error Pause](#) ()
- virtual [Error Resume](#) ()
- virtual [Error GetNumOfAvailableBuffers](#) (int *pNumOfBuffers)
- virtual [Error GetImageEx](#) ([Image](#) *pImage, int iBufferIndex, int *pNumOfAvailableBuffers=0, bool bClearCurrentBuffer=true)
- virtual [Error SendRawCtrlPacket](#) (unsigned char *pData, unsigned int uiLength)
- virtual [Error RecvRawCtrlPacket](#) (unsigned char *pData, unsigned int *pLength)

2.1.1 Detailed Description

카메라 클래스, Gain, exposure 등의 카메라 파라미터 제어, Trigger/Strobe 등의 기능 제어 및 이미지 획득을 수행

2.1.2 Constructor & Destructor Documentation

2.1.2.1 novitec::Camera::Camera (void)

기본 생성자

2.1.2.2 virtual novitec::Camera::~~Camera (void) [virtual]

기본 소멸자

2.1.3 Member Function Documentation

2.1.3.1 virtual Error novitec::Camera::Connect (novitec::Handle * pHandle) [virtual]

카메라 연결

Parameters

<i>pHandle</i>	카메라 핸들 포인터
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See Also

[DeviceManager::GetCameraHandle\(\)](#)

2.1.3.2 virtual Error novitec::Camera::Disconnect (void) [virtual]

카메라 연결 해제

2.1.3.3 virtual Error novitec::Camera::FireSoftwareTrigger () [virtual]

소프트웨어 트리거 발생

2.1.3.4 virtual Error novitec::Camera::GetCurrentMemChannel (int * *pMemChannel*) [virtual]

현재 사용중인 메모리 채널(카메라 EEPROM) 번호 획득

2.1.3.5 virtual Error novitec::Camera::GetGrabMode (BufferMode * *pBufferMode*, unsigned int * *pNumOfBuffers*) [virtual]

그랩 모드 획득

Parameters

<i>pBufferMode</i>	그랩 방법
<i>pNumOfBuffers</i>	버퍼 수

2.1.3.6 virtual Error novitec::Camera::GetImage (Image * *plmage*, unsigned int *uiTimeout* = 500) [virtual]

프레임 버퍼에서 한장의 이미지 획득

Parameters

<i>plmage</i>	이미지 버퍼
<i>uiTimeout</i>	Timeout 시간 (ms)

2.1.3.7 virtual Error novitec::Camera::GetProperty (PropertyType *type*, unsigned int * *pValue*) [virtual]

프로퍼티 획득

2.1.3.8 virtual Error novitec::Camera::GetProperty (Property * *pProp*) [virtual]

프로퍼티 획득

2.1.3.9 virtual Error novitec::Camera::GetPropertyAbs (PropertyType *type*, float * *pValue*) [virtual]

프로퍼티 획득

2.1.3.10 virtual Error novitec::Camera::GetPropertyInfo (PropertyInfo * *pInfo*) [virtual]

프로퍼티 정보 획득

2.1.3.11 virtual Error novitec::Camera::GetPropertyRange (PropertyType *type*, unsigned int * *pMin*, unsigned int * *pMax*) [virtual]

프로퍼티 범위 획득

2.1.3.12 virtual Error novitec::Camera::GetPropertyRangeAbs (PropertyType *type*, float * *pMin*, float * *pMax*) [virtual]

프로퍼티 범위 획득

2.1.3.13 `virtual Error novitec::Camera::GetStrobe (unsigned int * pSource, bool * pOnOff, bool * pPolarity, unsigned int * pDelay = 0, unsigned int * pDuration = 0) [virtual]`

스트로브 획득

2.1.3.14 `virtual Error novitec::Camera::GetStrobe (Strobe * pStrobe) [virtual]`

스트로브 획득

2.1.3.15 `virtual Error novitec::Camera::GetTrigger (unsigned int * pSource, bool * pOnOff, bool * pPolarity) [virtual]`

트리거 획득

2.1.3.16 `virtual Error novitec::Camera::GetTrigger (Trigger * pTrig) [virtual]`

트리거 획득

2.1.3.17 `virtual Error novitec::Camera::GetVideoFormat (unsigned int * pPosX, unsigned int * pPosY, unsigned int * pWidth, unsigned int * pHeight, PixelFormat * pPixelFormat) [virtual]`

비디오 포맷 획득

2.1.3.18 `virtual Error novitec::Camera::GetVideoFormat (VideoFormat * format) [virtual]`

비디오 포맷 획득

2.1.3.19 `virtual Error novitec::Camera::GetVideoFormatInfo (VideoFormatInfo * info) [virtual]`

비디오 포맷 정보 획득

설정 가능 센서 영역 및 픽셀 포맷 정보 획득

2.1.3.20 `virtual Error novitec::Camera::LoadProperties (int iMemChannel) [virtual]`

저장되어 있는 메모리 채널을 불러와 카메라 설정 값 변경

Warning

로드 시 현재 메모리 채널도 같이 변경 됩니다.

2.1.3.21 `virtual Error novitec::Camera::ReadRegister (unsigned int ucAddress, unsigned int * pValue) [virtual]`

레지스터 읽기

2.1.3.22 `virtual Error novitec::Camera::SaveProperties (int iMemChannel) [virtual]`

현재 설정을 지정한 메모리 채널에 저장

Warning

저장 시 현재 메모리 채널도 같이 변경 됩니다.

2.1.3.23 `virtual Error novitec::Camera::SetGrabMode (BufferMode bufferMode, unsigned int uiNumOfBuffers)`
`[virtual]`

그랩 모드 설정

두가지 버퍼모드를 제공 합니다. BM_DIRECT : 버퍼에서 최근 이미지를 리턴 BM_BUFFERED : 이전에 획득한 버퍼의 다음 버퍼 리턴

Parameters

<i>bufferMode</i>	그랩 방법
<i>uiNumOfBuffers</i>	버퍼 수

2.1.3.24 `virtual Error novitec::Camera::SetProperty (PropertyType type, unsigned int uiValue)` `[virtual]`

프로퍼티 설정

2.1.3.25 `virtual Error novitec::Camera::SetProperty (Property Prop)` `[virtual]`

프로퍼티 설정

2.1.3.26 `virtual Error novitec::Camera::SetPropertyAbs (PropertyType type, float fValue)` `[virtual]`

프로퍼티 설정

2.1.3.27 `virtual Error novitec::Camera::SetStrobe (unsigned int uiSource, bool bOnOff, bool bPolarity, unsigned int uiDelay = 0, unsigned int uiDuration = 0)` `[virtual]`

스트로브 설정

2.1.3.28 `virtual Error novitec::Camera::SetStrobe (Strobe strobe)` `[virtual]`

스트로브 설정

2.1.3.29 `virtual Error novitec::Camera::SetTrigger (unsigned int uiSource, bool bOnOff, bool bPolarity)` `[virtual]`

트리거 설정

2.1.3.30 `virtual Error novitec::Camera::SetTrigger (Trigger trig)` `[virtual]`

트리거 설정

2.1.3.31 `virtual Error novitec::Camera::SetVideoFormat (unsigned int uiPosX, unsigned int uiPosY, unsigned int uiWidth, unsigned int uiHeight, PixelFormat pixelFormat)` `[virtual]`

비디오 포맷 설정

2.1.3.32 `virtual Error novitec::Camera::SetVideoFormat (VideoFormat format)` `[virtual]`

비디오 포맷 설정

2.1.3.33 `virtual Error novitec::Camera::Start (void) [virtual]`

카메라로 부터 영상 획득 프로세스 시작

2.1.3.34 `virtual Error novitec::Camera::Stop (void) [virtual]`

영상 획득 프로세스 중지

2.1.3.35 `virtual Error novitec::Camera::WriteRegister (unsigned int ucAddress, unsigned int uiValue) [virtual]`

레지스터 쓰기

The documentation for this class was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Camera.h

2.2 novitec::CameraInfo Struct Reference

Public Attributes

- char **serialNumber** [16]
- char **manufacturer** [32]
- char **modelName** [32]
- int **firmwareVersion** [4]

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h

2.3 novitec::DeviceManager Class Reference

Public Member Functions

- [DeviceManager](#) (void)
- [~DeviceManager](#) (void)
- [Error GetNumberOfCameras](#) (unsigned int *pNumCameras)
- [Error GetCameraHandle](#) (unsigned int uiIndex, [Handle](#) *pHandle)
- [Error GetCameraInfo](#) (unsigned int uiIndex, [novitec::CameraInfo](#) *pCameraInfo)

2.3.1 Constructor & Destructor Documentation

2.3.1.1 `novitec::DeviceManager::DeviceManager (void)`

기본 생성자

2.3.1.2 `novitec::DeviceManager::~~DeviceManager (void)`

기본 소멸자

2.3.2 Member Function Documentation

2.3.2.1 Error novitec::DeviceManager::GetCameraHandle (unsigned int *uiIndex*, Handle * *pHandle*)

카메라 핸들 획득

2.3.2.2 Error novitec::DeviceManager::GetCameraInfo (unsigned int *uiIndex*, novitec::CameraInfo * *pCameraInfo*)

카메라 정보 획득

2.3.2.3 Error novitec::DeviceManager::GetNumberOfCameras (unsigned int * *pNumCameras*)

연결된 카메라 수 획득

The documentation for this class was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/DeviceManager.h

2.4 novitec::Error Class Reference

Public Member Functions

- **Error** (const ErrorType &errorType)
- virtual **Error** & **operator=** (const **Error** &error)
- virtual **Error** & **operator=** (const ErrorType &errorType)
- virtual bool **operator==** (const **Error** &error) const
- virtual bool **operator==** (const ErrorType &errorType) const
- virtual bool **operator!=** (const **Error** &error) const
- virtual bool **operator!=** (const ErrorType &errorType) const
- virtual int **GetType** (void)
- char * **GetDescription** (void)

The documentation for this class was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Error.h

2.5 novitec::FrameBufferOption Struct Reference

Public Attributes

- BufferMode **mode**
- unsigned int **numOfBuffers**

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h

2.6 novitec::Handle Class Reference

Public Member Functions

- void * **GetDescriptor** (void)
- novitec::InterfaceType **GetInterfaceType** (void)

Friends

- class **Camera**
- class **DeviceManager**

The documentation for this class was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Handle.h

2.7 novitec::Image Class Reference

Public Member Functions

- void **Create** (int iWidth, int iHeight, novitec::PixelFormat ePixelFormat)
- void **Release** ()
- novitec::Error **Convert** (novitec::Image *dst, novitec::PixelFormat ePixelFormat, novitec::DebayerMethod eDebayerMethod=HQ_LINEAR)
- novitec::Error **Save** (char *fileName, novitec::FileFormat fileFormat)

Public Attributes

- int **width**
- int **height**
- int **bpp**
- unsigned int **timeStamp**
- unsigned int **frameNum**
- unsigned char * **data**
- novitec::PixelFormat **pixelFormat**

The documentation for this class was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Image.h

2.8 novitec::Property Struct Reference

Public Member Functions

- **Property** (PropertyType prop)
- void **Write** (unsigned int intVal)
- void **WriteAbs** (float floatVal)

Public Attributes

- PropertyType **propType**
- bool **autoManual**
- bool **absControl**
- unsigned int **value**
- float **absValue**

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h

2.9 novitec::PropertyInfo Struct Reference

Public Member Functions

- **PropertyInfo** (PropertyType prop)

Public Attributes

- PropertyType **propType**
- bool **available**
- bool **supportAutoMode**
- bool **supportAbsControl**
- unsigned int **minValue**
- unsigned int **maxValue**
- float **minValueAbs**
- float **maxValueAbs**

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h

2.10 novitec::Statistics Struct Reference

Public Attributes

- float **frameRate**
- unsigned int **missedFrames**

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h

2.11 novitec::Strobe Struct Reference

Public Attributes

- unsigned int **source**
- bool **onOff**
- bool **polarity**
- unsigned int **duration**
- unsigned int **delay**

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h

2.12 novitec::Trigger Struct Reference

Public Attributes

- unsigned int **source**
- bool **onOff**
- bool **polarity**

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h

2.13 novitec::VideoFormat Struct Reference

Public Attributes

- unsigned int **x**
- unsigned int **y**
- unsigned int **width**
- unsigned int **height**
- novitec::PixelFormat **pixelFormat**

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h

2.14 novitec::VideoFormatInfo Struct Reference

Public Attributes

- unsigned int **sensorWidth**
- unsigned int **sensorHeight**
- unsigned int **unitWidth**
- unsigned int **unitHeight**
- bool **supportRAW8**
- bool **supportRAW16**
- bool **supportMONO8**
- bool **supportMONO16**
- bool **supportYUV422**
- bool **supportRGB**

The documentation for this struct was generated from the following file:

- E:/work/svn/fx3_camera_projects/src/Defs.h