

Canon EOS Digital SDK

EDSDK 13.13.41 API Programming Reference

10/14/2021

History

| Version | Date | Reason and content of revision |
|----------|------------|---|
| 13.9.10 | 12/13/2018 | * Deleted RAW development functionality * Added samples for the following programming languages * Swift * CSharp |
| 13.10.0 | 02/22/2019 | * Added support for the EOS RP |
| 13.10.20 | 04/26/2019 | * Added support for the EOS Kiss X10 / EOS Rebel SL3 / EOS 250D / EOS 200D II * Added Power Zoom Adapter Control functionality |
| 13.10.21 | 05/16/2019 | * Added support for the PowerShot G7X Mark III / PowerShot G5X Mark II |
| 13.10.30 | 07/24/2019 | * Added support for the EOS M6 Mark II / EOS 90D * Change the sample language version as follows: * Swift3 -> Swift5 |
| 13.11.0 | 08/23/2019 | * Added support for the EOS M200 |
| 13.11.10 | 11/8/2019 | * Added functionality as follows: * UTC date time * Evf Click White Balance * Mirror Lockup Control * Switching still image and movie mode * Movie recording image quality * Temperature Warning Information * Get Angle Information |
| 13.12.1 | 01/09/2020 | * Added support for the EOS-1D X Mark III * Added support for Mac OSX 10.15 |
| 13.12.10 | 02/14/2020 | * Added support for the EOS Kiss X10i / EOS Rebel T8i / EOS 850D / EOS Ra * Stopping support OS * Mac OS 10.12 |
| 13.12.31 | 06/25/2020 | * Added support for the EOS R6 / EOS R5 * Added functionality as follows: * Auto power off settings * Changed the following interfaces. Modification of program code is necessary. * EdsFocusInfo |
| 13.13.0 | 09/08/2020 | * Added support for the EOS Kiss M2 / EOS M50 Mark II * Added functionality as follows: * EdsGetEvent |
| 13.13.20 | 03/31/2021 | * Added functionality as follows: * EdsSetFramePoint * kEdsPropID_Aspect * kEdsPropID_Evf_VisibleRect * Added support for macOS v11 * Stopping support OS * macOS v10.13 * Windows 7 |
| 13.13.30 | 06/01/2021 | * Updated the description of the API for power zoom control. Please refer to the chapter below for details. * 6.5 About Power Zoom Control |
| 13.13.40 | 09/16/2021 | *Added value to the definition as follows: *Enum EdsAEMode |
| 13.13.41 | 10/14/2021 | *Fixed issues as follows: *Unable to Build for Windows (64 bit) Architecture Using EDSDK.lib. |

| Revision History/Date | Corrections | Reviser | Remarks |
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1. Introduction

EDSDK stands for EOS Digital Camera Software Development Kit. EDSDK provides the functions required to control cameras connected to a host PC, digital images created in digital cameras, and images downloaded to the PC. This document describes the collection of functions implemented in the EDSDK library.

EDSDK provides an interface for accessing image data shot using a Canon digital camera. Using EDSDK allows users to implement the following types of representative functions in software.

- Allows transfer of images in a camera to storage media on a host PC.
- Allows remotely connected cameras and the image being shot to be controlled from a host PC.

1.1 Basic Topics

EDSDK provides a C language interface for accessing Canon digital cameras and data created these cameras. EDSDK is designed to provide standard methods of accessing different camera models and their data. Using EDSDK allows users to implement Canon digital camera features in software.

There are two versions of EDSDK. One runs under a Windows environment, while the other runs under a Macintosh environment.

1.2 Supported Environments

EDSDK can be used on system configurations such as shown in the table below.

1.2.1 Target Environment

| Windows | |
|--------------|---|
| OS | Windows 8,8.1,10 (64bit/32bit) |
| Memory | 1GB or more |
| Hard disk | 50 MB or more available storage |
| Interface *1 | SuperSpeed USB(USB3.1 Gen1) SuperSpeed USB(USB3.0) Hi-Speed USB(USB2.0) |
| Macintosh | |
| OS | macOS v10.14-10.15 , v11.0 |
| Memory | 1GB or more |
| Hard disk | 50 MB or more available storage |
| Interface *1 | SuperSpeed USB(USB3.1 Gen1) SuperSpeed USB(USB3.0) Hi-Speed USB(USB2.0) |

Notes: *1 Complies with camera specifications and PC USB interface.

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1.3 Supported Cameras

1.3.1 Supported Cameras

The following models are supported as of October 2021.

| Supported Cameras | Camera Control |
|---|----------------|
| EOS Kiss M2 / EOS M50 Mark II | ✓ |
| EOS R5 | ✓ |
| EOS R6 | ✓ |
| EOS Kiss X10i / EOS Rebel T8i / EOS 850D | ✓ |
| EOS Ra | ✓ |
| EOS-1D X Mark III | ✓ |
| EOS M200 | ✓ |
| EOS M6 Mark II | ✓ |
| EOS 90D | ✓ |
| PowerShot G7X Mark III | ✓ |
| PowerShot G5X Mark II | ✓ |
| EOS Kiss X10 / EOS Rebel SL3 / EOS 250D / EOS 200D II | ✓ |
| EOS RP | ✓ |
| PowerShot SX70 HS | ✓ |
| EOS R | ✓ |
| EOS Kiss M / EOS M50 | ✓ |
| EOS Kiss X90 / EOS REBEL T7 / EOS 2000D / EOS 1500D | ✓ |
| EOS REBEL T100/EOS 4000D / EOS 3000D | ✓ |
| EOS M100 | ✓ *1 |
| EOS 6D Mark II | ✓ |
| EOS Kiss X9 / EOS Rebel SL2 / EOS 200D | ✓ |
| EOS Kiss X9i / EOS Rebel T7i / EOS 800D | ✓ |
| EOS 9000D / EOS 77D | ✓ |
| EOS M6 | ✓ *1 |
| EOS M5 | ✓ *1 |
| EOS 5D Mark IV | ✓ |
| EOS-1D X Mark II | ✓ |
| EOS 80D | ✓ |
| EOS Kiss X80 / EOS Rebel T6 / EOS 1300D | ✓ |
| EOS M10 | ✓ *1 |
| EOS 5DS | ✓ |
| EOS 5DS R | ✓ |
| EOS 8000D / EOS REBEL T6sEOS 760D | ✓ |
| EOS Kiss X8i / EOS REBEL T6i / EOS 750D | ✓ |
| EOS M3 | ✓ *1 |
| EOS 7D Mark II | ✓ |

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| EOS Kiss X70/EOS 1200D/EOS REBEL T5/EOS Hi | ✓ |
| EOS M2 | ✓ *1 |
| EOS 70D | ✓ |
| EOS Kiss X7 / EOS 100D / EOS REBEL SL1 | ✓ |
| EOS Kiss X7i / EOS 700D / EOS REBEL T5i | ✓ |
| EOS-1D C | ✓ |
| EOS 6D | ✓ |
| EOS M | ✓ *1 |
| EOS Kiss X6i / EOS 650D / EOS REBEL T4i | ✓ |
| EOS-1D X | ✓ |
| EOS 5D Mark III | ✓ |
| EOS Kiss X50 / EOS REBEL T3 / EOS 1100D | ✓ |
| EOS Kiss X5 / EOS REBEL T3i / EOS 600D | ✓ |
| EOS 60D | ✓ |
| EOS Kiss X4 / EOS REBEL T2i / EOS 550D | ✓ |
| EOS-1D Mark IV | ✓ |
| EOS 7D | ✓ |
| EOS Kiss X3 / EOS REBEL T1i / EOS 500D | ✓ |
| EOS 5D Mark II | ✓ |
| EOS 50D | ✓ |
| EOS DIGITAL REBEL XS / 1000D/ KISS F | ✓ |
| EOS DIGITAL REBEL XSi / 450D / Kiss X2 | ✓ |
| EOS-1Ds Mark III | ✓ |
| EOS 40D | ✓ |
| EOS-1D Mark III | ✓ |

Notes: If you need to handle RAW images on your software, please contact SDK support team in your country.

*1 Remote capture functions are not supported.

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1.4 Installing EDSDK

1.4.1 Including Header Files

The following files are required in order to use the EDSDK using C/C++ language.

EDSDK.h, EDSDKTypes.h, EDSDKErrors.h

Windows:

Be sure to copy the three header files listed above into the header access folder of the development environment.

Be sure to add them to the application project workspace.

*Since these are C language header files, it is necessary to provide header files depending on the programming language.

Macintosh:

Be sure to include the three header files listed above.

1.4.2 Linking the Library

After header files are included, it is necessary to link the EDSDK library as described below.

Windows:

There are two methods of linking EDSDK: one where EDSDK.lib files are copied to the folder specified by a development environment library path and EDSDK.lib is specified as an import module, and another where EDSDK.dll is loaded by the LoadLibrary function.

When loading EDSDK.dll, get pointers to each EDSDK function using the GetProcAddress function and assign them to function pointer variables. When calling each EDSDK function, make the call via the function pointer variable obtained here.

Macintosh:

Add EDSDK.framework to Groups&Files.

1.4.3 Executing the EDSDK Client Application

Windows:

All DLLs are required in order to execute an EDSDK client application.

All of the modules in the DLL folder must be copied into the same folder where the EDSDK client application is in.

Notes: Do not copy the collection of EDSDK library files to the system folder or extension folder.

Macintosh:

Place EDSDK.framework in an application directory such as Contents/frameworks/.

It is also possible to load “EDSDK.framework” as a source file.

Notes: Do not copy the EDSDK framework file to the system folder.

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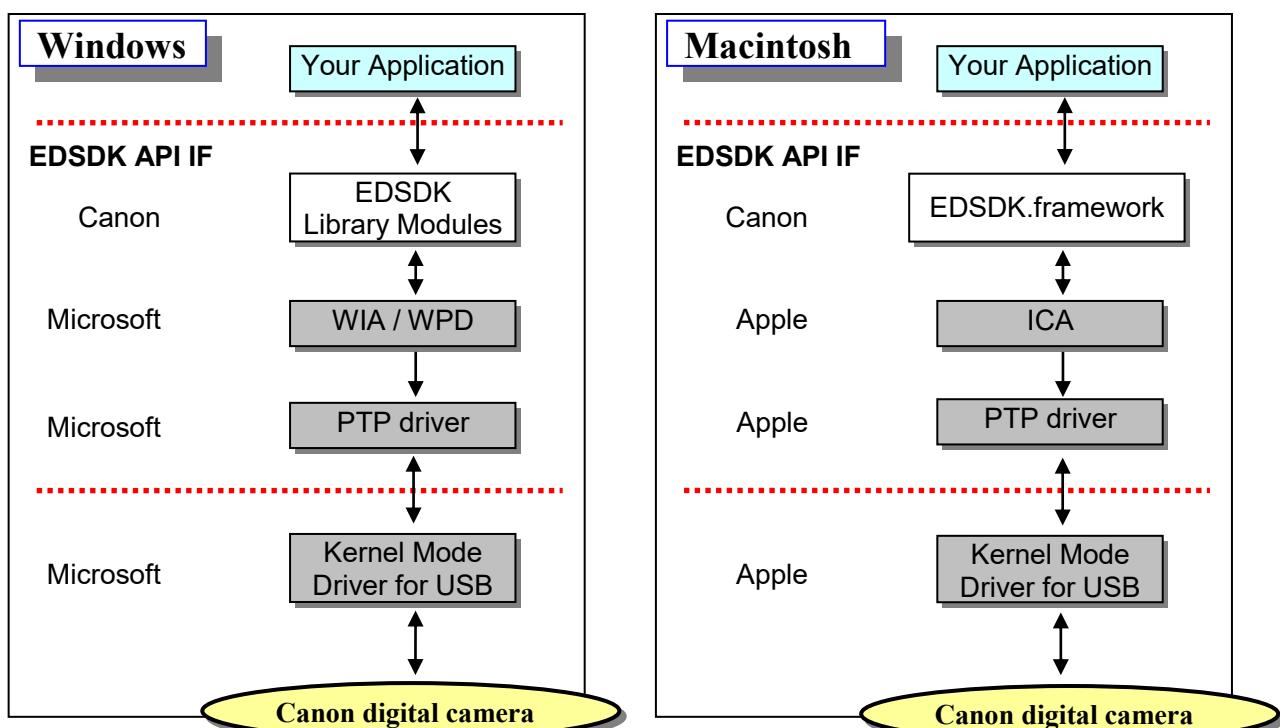
2. Overview

2.1 Protocol for Remote Connection

PTP is an abbreviation of “Picture Transfer Protocol.” PTP is a standard protocol used to transfer images to a PC. A device driver for each model is unnecessary when connecting to an OS that supports PTP.

2.2 System Architecture

The following figure shows the configuration of software when an Canon digital camera has been connected.



Your Application : An EDSDK client application using the EDSDK library

Note: Use the OS standard driver for the EOS digital driver when using a camera that uses PTP for the remote connection protocol when connecting to an OS that supports PTP. Otherwise, the driver provided by Canon must be used.

Figure 2-1 System Architecture

| Revision History/Date | Corrections | Reviser | Remarks |
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2.3 Library Modules

The following figure shows the module configuration of EDSDK.

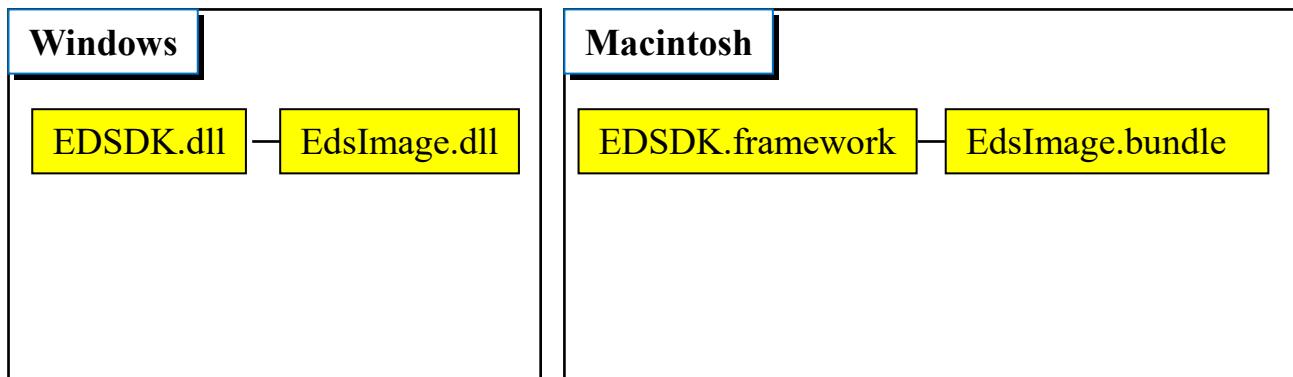


Figure 2-2 Library Module Configuration

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2.4 EDSDK Objects

As shown in Figure 2-3, EDSDK employs a hierarchical structure with a camera list at the root in order to control and access cameras connected to the host PC. This hierarchical structure consists of the following elements: camera list, cameras, volumes, folders, image files, audio files, etc.

These elements are treated as belonging to one of the following object categories: **EdsCameraListRef**, **EdsCameraRef**, **EdsVolumeRef**, and **EdsDirectoryItemRef**. Having a hierarchical structure, these four objects may have child objects.

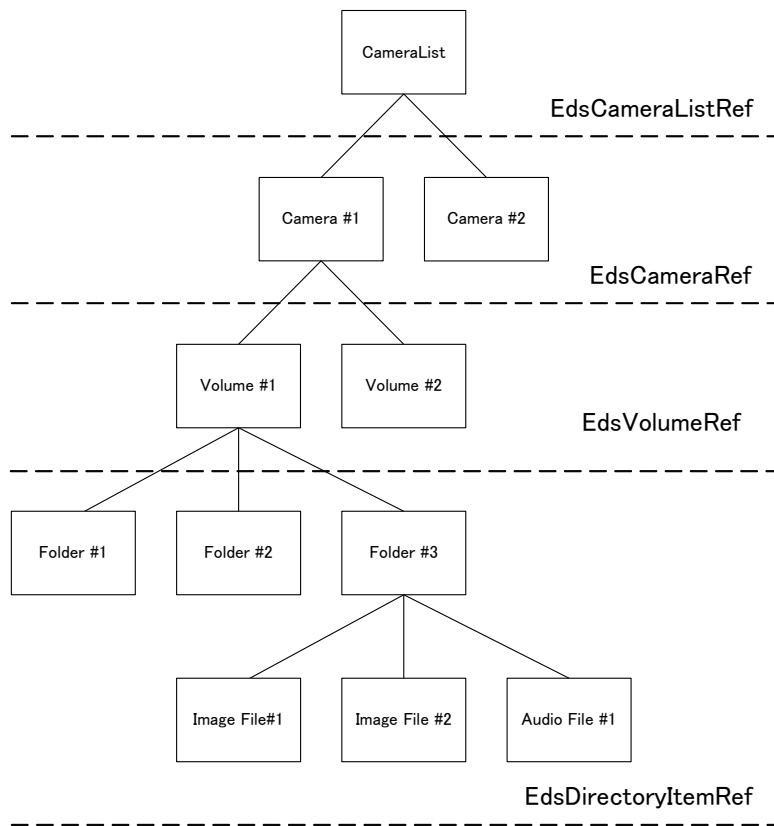


Figure 2-3 Hierarchical Structure of EDSDK Objects

Although the four objects shown above are used to access connected cameras, on an image file is transferred to the host PC, the object used to control that image changes even if it is the same image file.

As shown in Figure 2-4 below, the **EdsStreamRef** object is used to control input/output when transferring images from the camera to the host. Then **EdsImageRef** is used to control the image file transferred to the host. This is due to the fact that operations differ for an image file is stored in the camera versus an image file stored on the host.

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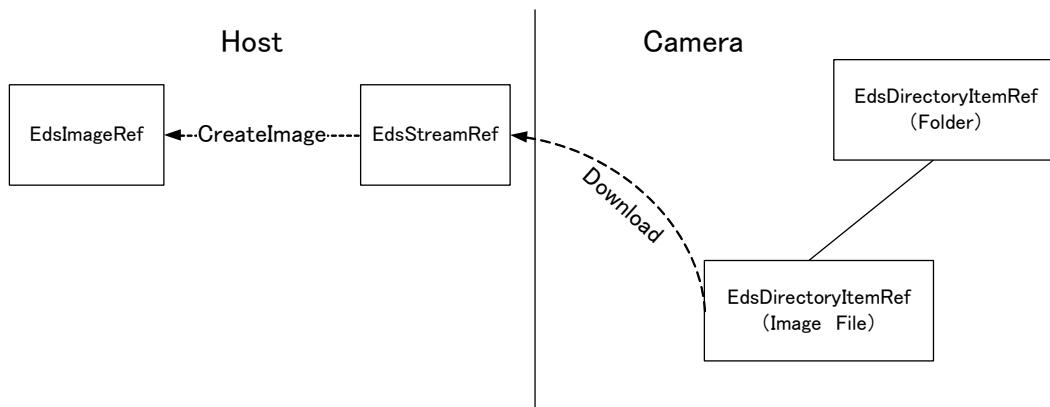


Figure 2-4 Changes in Controlled Objects

Bringing together the above information, the following objects can be handled using the EDSDK.

(1) **EdsCameraListRef**

This object represents an enumeration of the cameras remotely connected to the host PC by USB interface. This object can be used to select the camera to be controlled from among the cameras currently connected with EDSDK client application. This object can also be used when getting an EdsCameraRef child object.

(2) **EdsCameraRef**

This object represents a remotely connected camera. This object is used to control the camera or to get an EdsVolumeRef object when accessing the memory card, which is a child object of the camera.

(3) **EdsVolumeRef**

This object represents the memory card inside the camera. If the camera model allows two memory cards to be installed at once, the EdsVolumeRef object represents one memory card each. This object is used to get an EdsDirectoryItemRef object, which is a child object, when performing operations on a file or folder on the memory card.

(4) **EdsDirectoryItemRef**

This object represents a file or folder on the camera. When files are downloaded from the camera, each file to be downloaded is treated as one of these objects.

(5) **EdsImageRef**

This object represents image data. This data is obtained from image files. This object is used to retrieve and control information included with an image such as thumbnails and parameters.

(6) **EdsStreamRef**

This object represents the file I/O stream. An open stream on the host PC can be specified as the download destination when downloading files in the camera to the host PC. Streams are also used when loading image files stored on the storage media of the host PC into an EDSDK client application. Furthermore, EdsStreamRef objects can also be created in memory.

(7) **EdsEvfImageRef**

This object represents PC live view image data. When using a camera model that supports live view, live view image data set can be downloaded from the camera. Information such as zoom and histogram data is included with image data.

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2.5 Object Management

2.5.1 Object Management Using a Reference Counter

Applications built using the EDSDK carry out object management using a reference counter.

EDSDK stores a reference counter for all objects. The reference counter is set to 1 when an object has been allocated. The developer increases the reference counter by 1 at the point that the object is required by the program, and lowers it by 1 when the object is no longer needed. When a reference counter reaches 0, the associated object is automatically deleted by the EDSDK. The developer must, therefore, explicitly declare that an object is being referred when it is required by the program. EdsRetain and EdsRelease are provided as APIs for controlling object reference counters.

2.5.2 Releasing Resources when Exiting the Library

Applications built using the EDSDK will release all allocated resources when EdsTerminateSDK is called.

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2.6 Properties

Properties are stored under EDSDK for camera and image objects. For example, properties may represent values such as camera Av and Tv. The functions **EdsGetPropertyData** and **EdsSetPropertyData** are used to get and set these properties. Since this API takes objects of undefined type as arguments, the properties that can be retrieved or set differ depending on the given object. In addition, some properties have a list of currently settable values. **EdsGetPropertyDesc** is used to get this list of settable values. For details on types of properties, the objects they are associated with, and the role they play, see Properties.

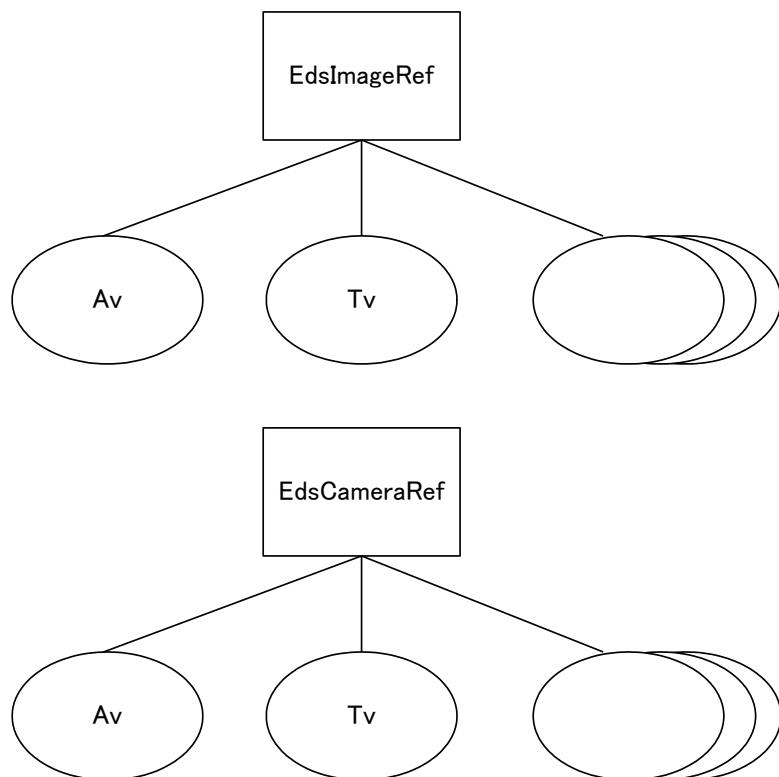


Figure 2-5 Example of Object Properties

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2.7 Camera Status

Cameras remotely connected to the host PC can be in one of several states: UI lock, UI lock release, direct transfer, and direct transfer release. Camera state transitions are shown in the figure below.

(1) UI Lock

In this state, all operations of the camera unit are disabled and only operations from the host PC are accepted. This allows data and instructions to be safely sent from the host PC to the camera.

(2) UI Lock Release

In this state, operations of the camera unit are enabled. Although data and instructions can be sent from the host PC to the camera in this state, conflicts may arise.

(3) Direct Transfer (for models with an Easy Direct button)

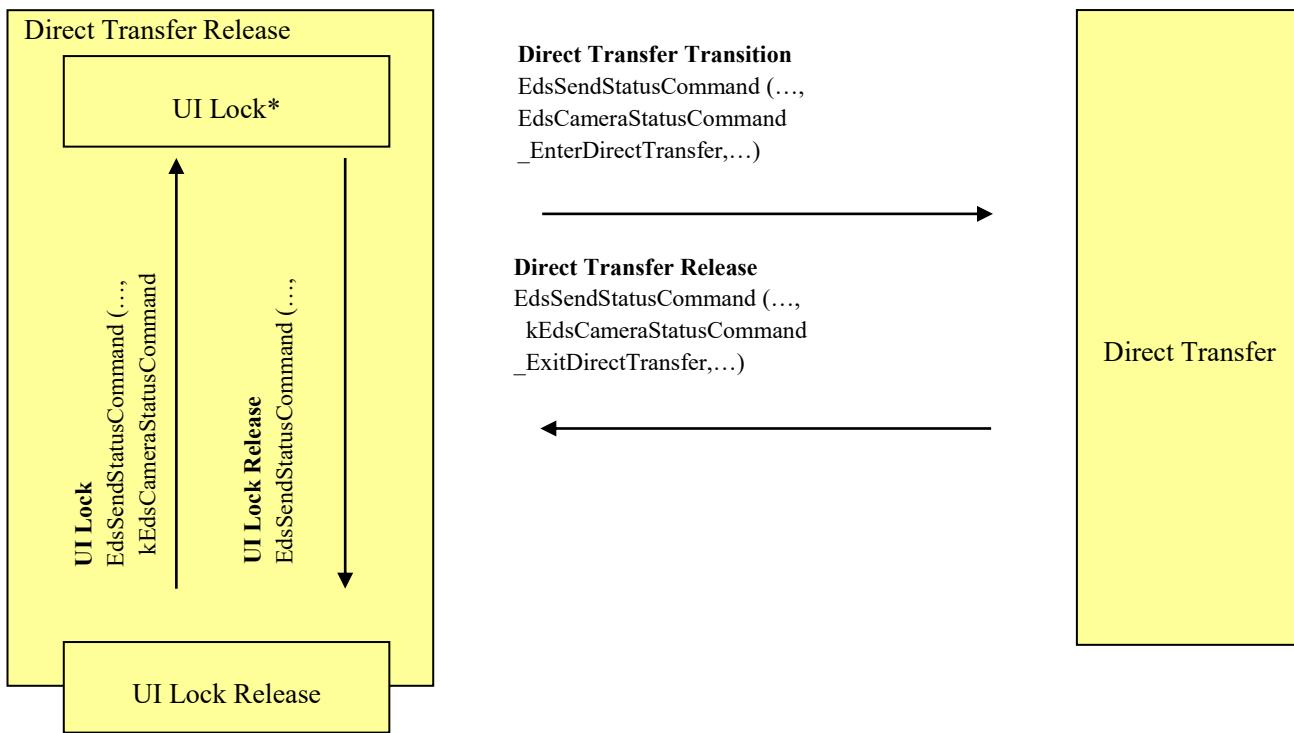
In this state, the camera is currently directly transferring data. Available camera operations are limited to those functions related to the direct transfer. It is possible to send instructions from the PC to the camera in this state.

A direct transfer request event notification (kEdsObjectEvent_DirItemRequestTransferDT) is issued to the EDSDK client application connected to the camera when an operation for starting image download is initiated using camera controls. The EDSDK client application receives this event and begins processing for downloading images from the camera.

(4) Direct Transfer Release

This state indicates that direct transfer is not currently being carried out.

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* The camera sometimes automatically locks/releases when in the UI Lock state.

Figure 2-6 Camera State Transitions

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2.8 Asynchronous Events

An asynchronous event is a mechanism used to issue notifications from the EDSDK to the application regarding cameras connected to the host PC or state changes that have occurred for a camera. For example, if a state change occurs where a camera's shooting mode changes and a new image that needs to be transferred to the PC has been shot, a notification of that fact is sent to the application regardless of its state (asynchronously).

An event handler capable of the specific processing required for a particular event must be registered in order to receive such an event (notification). An event handler is a user function called when an event is received. Event handlers are also referred to as "callback functions." Users can allow events to be accepted by creating and registering callback functions that accept events issued by EDSDK.

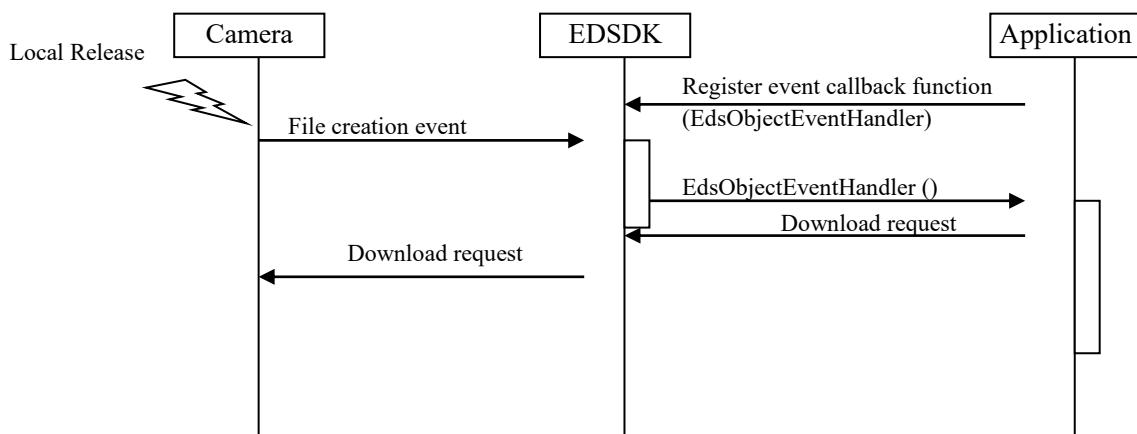


Figure 2-7 Example of a Camera Operation-Based Event Notification

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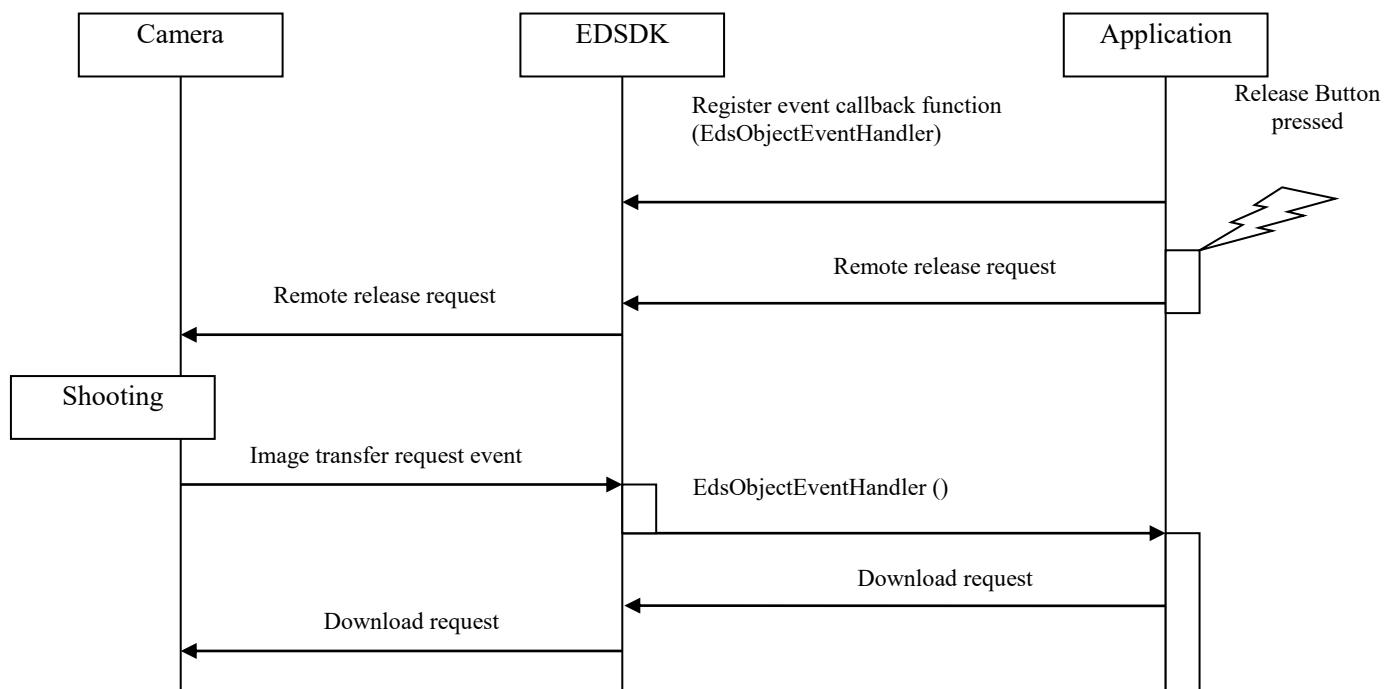


Figure 2-8 Host PC Operation-Related Event Notification

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When an event occurs, the EDSDK executes the callback function registered by the user. The callback function is executed on thread that established a session with the camera and takes information depending on the event type as arguments (as specified by the event ID).

The user must release objects as they become unneeded.

There are three types of events issued from the EDSDK to a client application: object-related events, property-related events, and state-related events.

(1) Object-related events

This is the group of events where request notifications are issued to create, delete or transfer image data stored in a remotely connected camera (in memory) or image files on the memory card.

(2) Property-related events

This is the group of events where notifications are issued regarding changes in the properties of a remotely connected camera.

(3) State-related events

This is the group of events where notifications are issued regarding changes in the state of a remotely connected camera, such as the activation of a shut-down timer.

For details on event information and the role events play, see the section Asynchronous Events.

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2.9 Initializing and Terminating the Library

The user must initialize the EDSDK library in order to use EDSDK functions other than those for getting device information from a camera. The user must also terminate the library when EDSDK functions are no longer needed.

Be sure to execute initialization and termination of the library once each within the application process.

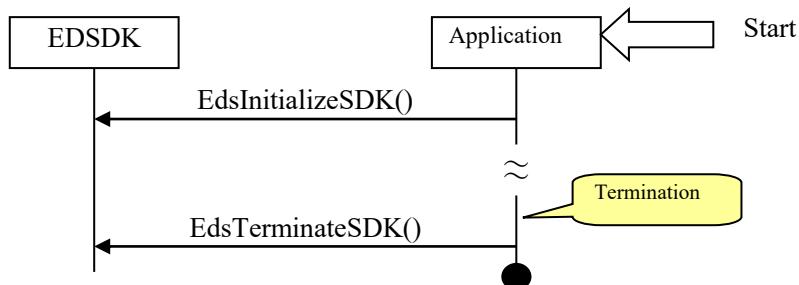


Figure 2-9 Initialization and Termination

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2.10 Accessing a Camera

The EDSDK provides methods of accessing and controlling a camera. In order to allow more than one camera connected to the host PC by USB or other means, it is possible to get all camera objects by repeatedly calling **EdsGetChildAtIndex** by specifying an index of child objects on the camera list.

The number of cameras connected can be obtained using **EdsGetChildCount**. Specify 0 as the index passed to **EdsGetChildAtIndex** if there is only one camera.

EDSDK client application can open a session with any one of the connected cameras. Opening a session means connecting to a camera at the application level so that it is possible to control that camera from the application and get associated properties and events. To open a session, specify the camera in question and call **EdsOpenSession**. Open sessions must be closed using **EdsCloseSession** when communications are finished.

Note that EDSDK does not support opening sessions with more than one camera at once.

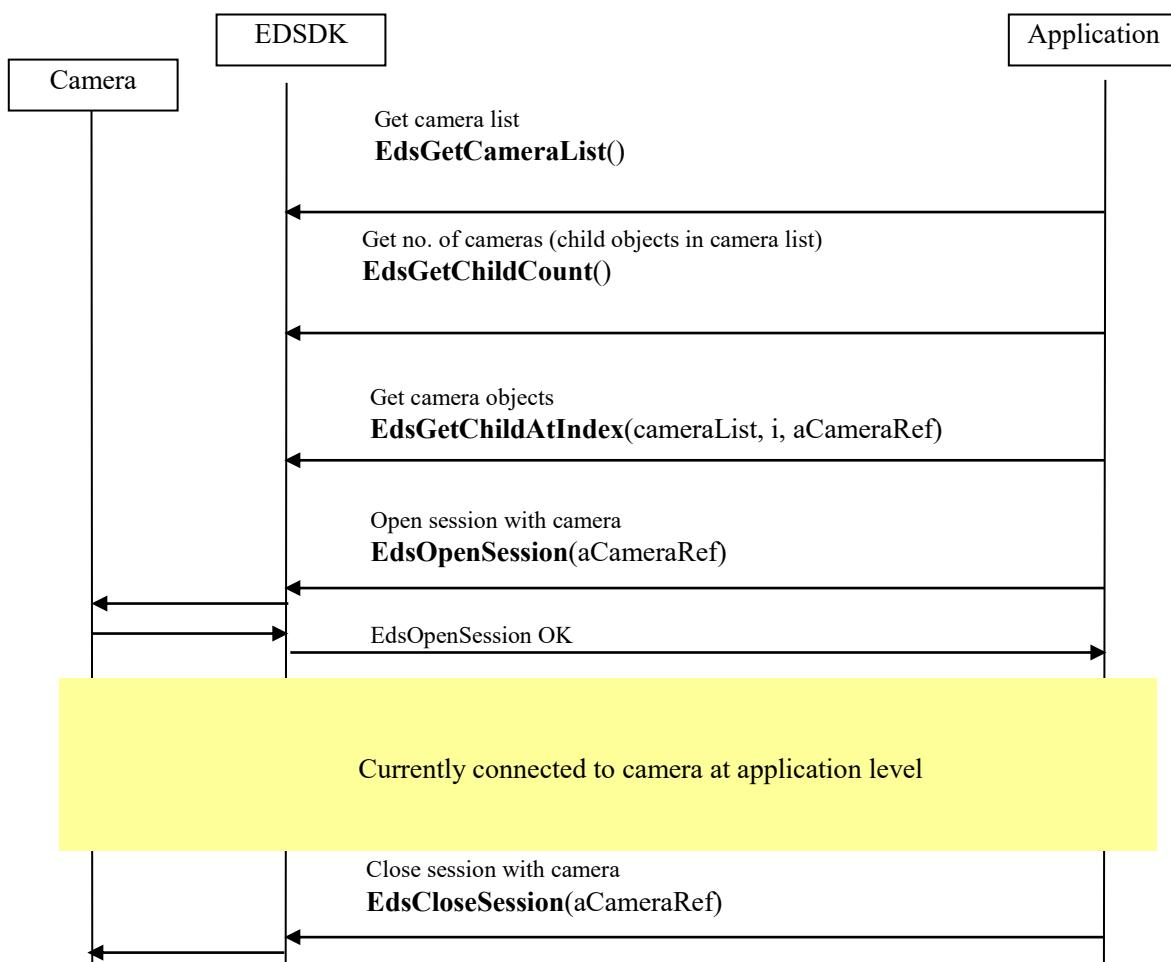


Figure 2-10 Camera Access

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Notes on Developing Windows Applications

When creating applications that run under Windows, a COM initialization is required for each thread in order to access a camera from a thread other than the main thread.

To create a user thread and access the camera from that thread, be sure to execute **CoInitializeEx(NULL, COINIT_APARTMENTTHREADED)** at the start of the thread and **CoUninitialize()** at the end.

Sample code is shown below. This is the same when controlling EdsVolumeRef or EdsDirectoryItemRef objects from another thread, not just with EdsCameraRef .

```
void TakePicture(EdsCameraRef camera)
{
    // Executed by another thread
    HANDLE hThread = (HANDLE)_beginthread(threadProc, 0, camera);
    // Block until finished
    ::WaitForSingleObject( hThread, INFINITE );
}

void threadProc(void* lParam)
{
    EdsCameraRef camera = (EdsCameraRef)lParam;

    CoInitializeEx( NULL, COINIT_APARTMENTTHREADED );

    EdsSendCommand(camera, kEdsCameraCommand_PressShutterButton,
        kEdsCameraCommand_ShutterButton_Completely);

    EdsSendCommand(camera, kEdsCameraCommand_PressShutterButton,
        kEdsCameraCommand_ShutterButton_OFF);

    CoUninitialize();
    _endthread();
}
```

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2.11 Transferring Files in the Camera

This section describes how to access files in the camera and transfer them to the host PC.

Although it is possible to access the camera and control the properties of files (such as the date of creation and protection settings), it is not possible to analyze file properties. Files must therefore be transferred in order to get file properties. A method for transferring thumbnails (header information) only is also provided for such cases.

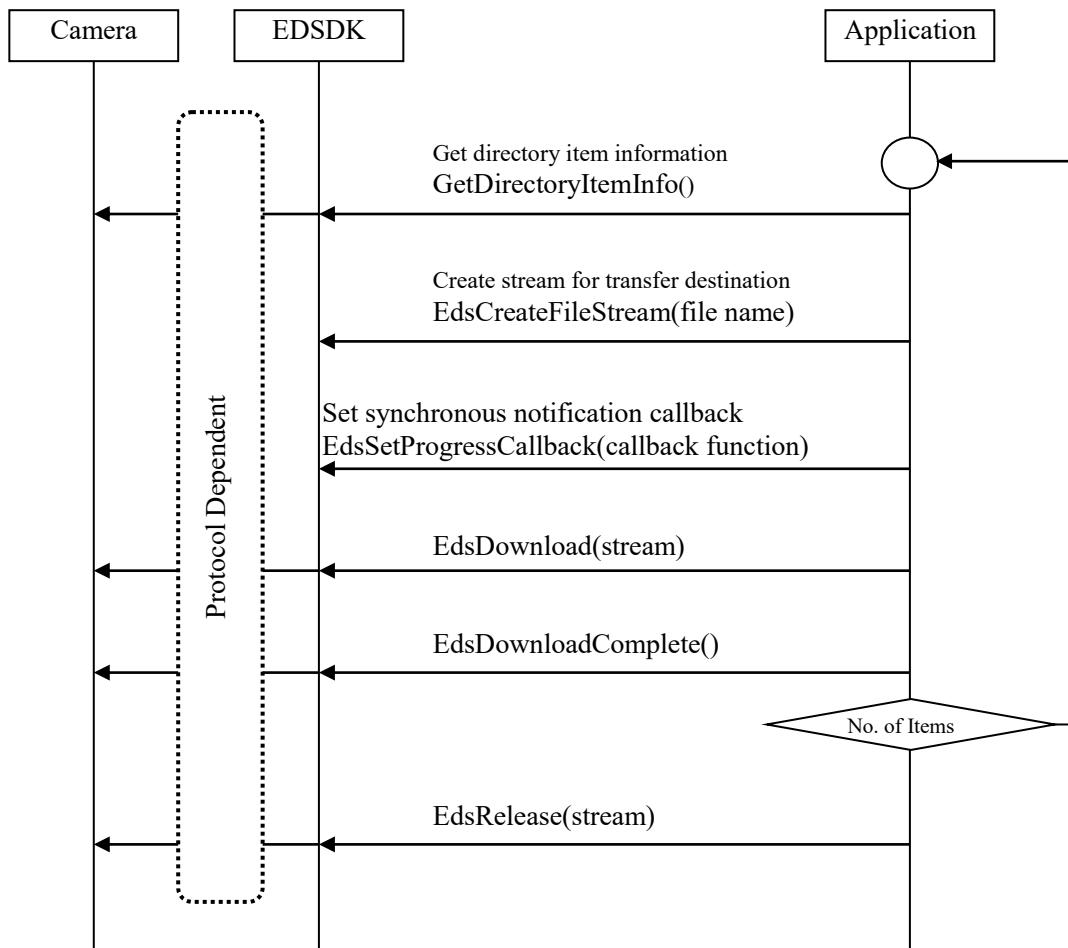


Figure 2-11 Transfer of Files in Camera

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2.12 Transferring Captured Images

When a shoot command is sent from the host PC to the camera, the camera will record the image shot in a buffer inside the camera. Once the shot has been taken, the callback function set using **EdsSetPropertyEventHandler**, **EdsSetObjectEventHandler**, and **EdsSetCameraStateEventHandler** will be called by the EDSDK. The user must sequentially transfer the images stored in the camera buffer to the host PC.

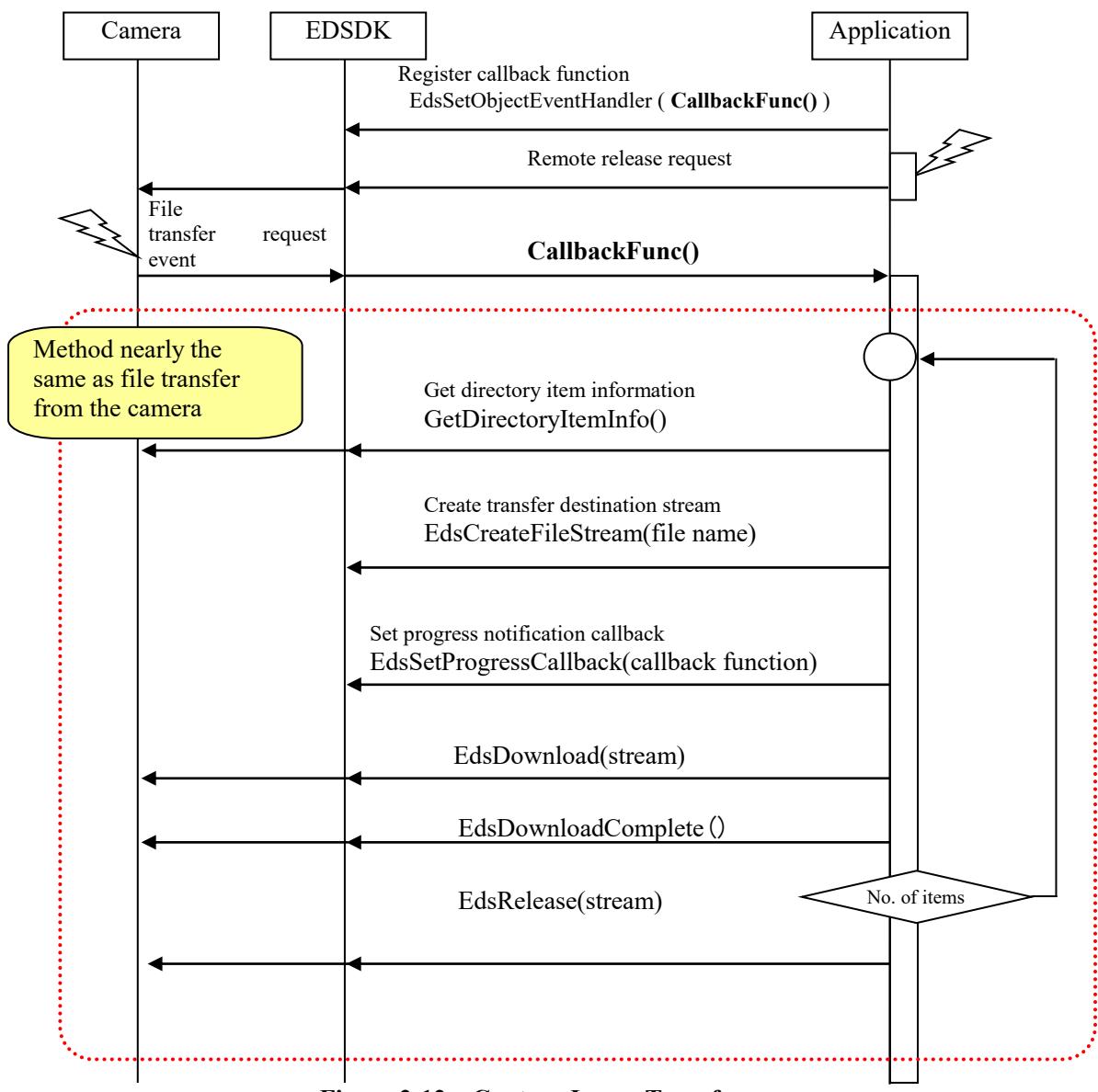


Figure 2-12 Capture Image Transfer

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2.13 Handling Image Objects

2.13.1 Overview

As touched on in the section on EDSDK objects, it is impossible to get an image object reference from an image file stored in a camera. An image object reference can only be obtained after first downloading the image file to a host PC.

An image object is an object that has properties. Camera properties such as Tv and Av that are used while shooting images are stored and can be obtained using **EdsGetPropertyData**.

2.13.2 Getting and Setting Properties

The following figure shows the sequence for getting properties from a camera image.

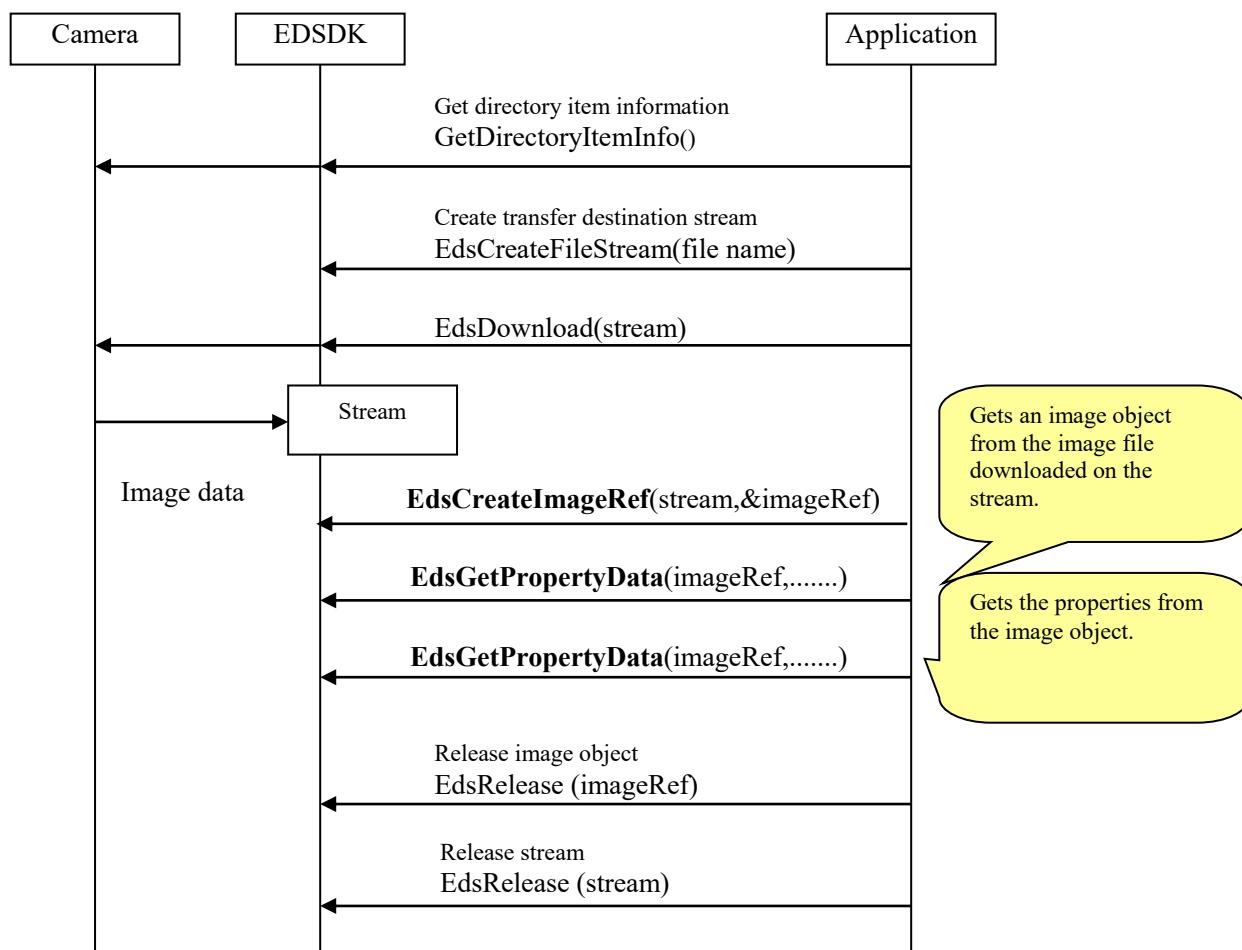


Figure 2-13 Getting an Image Object and Its Properties

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2.14 Basic Data Type Definitions

This section introduces the basic data types used under the EDSDK. These data types are defined as C language types.

```

typedef void           EdsVoid;
typedef int            EdsBool;

typedef char           EdsChar;
typedef char           EdsInt8;
typedef unsigned char  EdsUInt8;
typedef short          EdsInt16;
typedef unsigned short EdsUInt16;
typedef long           EdsInt32;
typedef unsigned long  EdsUInt32;

#ifndef __MACOS__
#ifndef __cplusplus
    typedef long long      EdsInt64;
    typedef unsigned long long EdsUInt64;
#else
    typedef SInt64          EdsInt64;
    typedef UInt64          EdsUInt64;
#endif
#else
    typedef __int64          EdsInt64;
    typedef unsigned __int64  EdsUInt64;
#endif

typedef float           EdsFloat;
typedef double          EdsDouble;

```

2.15 EDSDK Errors

Most of the APIs supplied by EDSDK return an error code of type EdsError as their return value.

The return value of an API that terminates normally is EDS_ERR_OK. If an error occurs, the return value of the API in question is set to the error code indicating the root cause of the error and any passed parameters are stored as undefined values. (Note that an API used to control files is not limited to returning an error related to file control.)

For error codes, see the list given in the header file EdsError.h or see EDS ERROR Lists at the end of the section describing APIs in this document.

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3. API Reference

3.1 API Details

API specifications are explained in the following format.

Description

Indicates the main API function.

Syntax

```
EdsError EdsXXXXX( EdsUInt32 inXXX, EdsBaseRef *outXXX );
```

Indicates the syntax for calling the API.

Parameters

Explains each argument in the syntax individually.

In the syntax, argument names in the format **inXXX** represent arguments for which you enter values. Argument names in the format **outXXX** represent arguments with values set by the libraries (that is, passed by reference). Before calling APIs, you must prepare variables for storing the data to be retrieved.

Return Values

Explains API return values.

See Also

Indicates information related to the API.

Note

Considerations when using the API.

Example

Sample code.

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3.1.1 EdsInitializeSDK

Description

Initializes the libraries.

When using the EDSDK libraries, you must call this API once before using EDSDK APIs.

Syntax

EdsError **EdsInitializeSDK()**

Parameters

None

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsTerminateSDK

Example

- See Sample 1.

3.1.2 EdsTerminateSDK

Description

Terminates use of the libraries.

Calling this function releases all resources allocated by the libraries.

Syntax

EdsError **EdsTerminateSDK()**

Parameters

None

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsInitializeSDK

Example

- See Sample 1.

3.1.3 EdsRetain

Description

Increments the reference counter of existing objects.

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Syntax

```
EdsUInt32 EdsRetain( EdsBaseRef inRef )
```

Parameters

inRef

Objects of all types in the EDSDK can be designated.

| Type | Description |
|---------------------|---|
| EdsCameraListRef | A list of remote cameras |
| EdsCameraRef | A particular remote camera |
| EdsVolumeRef | A volume on the camera's recording media |
| EdsDirectoryItemRef | A directory or file in the volume |
| EdsImageRef | An image file on the host computer |
| EdsStreamRef | Stream data on the remote camera or host computer |

Return Values

Returns a reference counter if successful. For errors, returns 0xFFFFFFFF.

The return value is 4 bytes, and the maximum value of the reference counter is 65535.

See Also

- Related APIs
EdsRelease

3.1.4 EdsRelease**Description**

Decrements the reference counter to an object. When the reference counter reaches 0, the object is released.

Syntax

```
EdsUInt32 EdsRelease ( EdsBaseRef inRef )
```

Parameters

inRef

Objects of all types in the EDSDK can be designated.

(EdsCameraListRef, EdsCameraRef, EdsDirectoryItemRef, EdsImageRef, or EdsStreamRef)

Return Values

Returns a reference counter if successful. For errors, returns 0xFFFFFFFF.

See Also

- Related APIs
EdsRetain, EdsGetCameraList, EdsGetChildAtIndex, and EdsGetParent, EdsCreateImage

Note

- The reference counter is incremented not only for objects with a reference counter incremented explicitly by means of EdsRetain but also for EDSDK objects retrieved by means of EdsGetCameraList, EdsGetChildAtIndex, or EdsGetParent (refer to the objects that can be designated with inRef), for which the reference counter is incremented by one implicitly. Thus, when objects are no longer needed, you must use this API to decrease the reference counter.

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Example

- See Sample 1.

3.1.5 EdsGetChildCount**Description**

Gets the number of child objects of the designated object.

Example: Number of files in a directory

Syntax

```
EdsError EdsGetChildCount ( EdsBaseRef inRef, EdsUInt32* outCount )
```

Parameters

inRef

EdsCameraListRef, EdsVolumeRef, EdsCameraRef, or EdsDirectoryItemRef.

outCount

Pointer to the variable for receiving the child object of the object designated by inRef.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsGetChildAtIndex

Example

- See Sample 2.

3.1.6 EdsGetChildAtIndex**Description**

Gets an indexed child object of the designated object.

| Relevant object | Child object that can be retrieved |
|-----------------|------------------------------------|
| Camera list | Camera |
| Camera | Volume |
| Volume | Directory item |
| Directory item | Directory item (folder or file) |

Syntax

```
EdsError EdsGetChildAtIndex(  

          EdsBaseRef     inRef,  

          EdsInt32       inIndex,  

          EdsBaseRef*    outRef    )
```

Parameters

inRef

Designate the parent object of the object to get. You can designate EdsCameraListRef, EdsCameraRef,

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EdsVolumeRef, or EdsDirectoryItemRef.

inIndex

Designate the index of the child object list. The index is 0-based, so designate 0 to get the first child object.

outRef

The indexed child object.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsGetChildCount and EdsGetParent

Note

The reference counter is implicitly 1 for the retrieved child object. When the object is not needed, you must use EdsRelease to decrease the reference counter.

Example

- See Sample 2.

3.1.7 EdsGetParent

Description

Gets the parent object of the designated object.

Syntax

```
EdsError EdsGetParent( EdsBaseRef inRef, EdsBaseRef *outParentRef );
```

Parameters

inRef

The EdsCameraListRef, EdsCameraRef, EdsVolumeRef, or EdsDirectoryItemRef object.

outParentRef

Returns a pointer to the variable for receiving the parent object reference.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- For details on object parent-child relationships, see EDSDK Objects.
- Related APIs
EdsGetChildAtIndex and EdsRelease

Note

The reference counter is implicitly 1 for the retrieved parent object. When the object is not needed, you must use EdsRelease to decrease the reference counter.

3.1.8 EdsGetCameraList

Description

Gets camera list objects.

| Revision History/Date | Corrections | Reviser | Remarks |
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Syntax

```
EdsError EdsGetCameraList( EdsCameraListRef *outCameraListRef )
```

Parameters**outCameraListRef**

When the return value is EDS_ERR_OK, a list of cameras connected to the host computer is specified in outCameraListRef.

When the return value is other than EDS_ERR_OK, the content of outCameraListRef is unspecified.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsRelease, EdsGetChildCount, and EdsGetChildAtIndex

Note

- The reference counter is implicitly 1 for the retrieved camera list. When the object is not needed, you must use EdsRelease to decrease the reference counter.

Example

- See Sample 2.

3.1.9 EdsGetDeviceInfo**Description**

Gets device information, such as the device name.

Because device information of remote cameras is stored on the host computer, you can use this API before the camera object initiates communication (that is, before a session is opened).

Syntax

```
EdsError EdsGetDeviceInfo(
    EdsCameraRef inCameraRef,
    EdsDeviceInfo *outDeviceInfo )
```

Parameters**inCameraRef**

The camera object for which to get device information.

outDeviceInfo

Pointer to the EdsDeviceInfo structure for receiving device information.

EdsDeviceInfo

| EdsDeviceInfo constituent elements | Type | Description | |
|------------------------------------|-----------|---|--|
| szPortName | EdsChar[] | Port name | |
| szDeviceDescription | EdsChar[] | Device name | |
| deviceSubType | EdsUInt32 | Canon PTP cameras: 1 Canon PTP-IP cameras: 2 | |

| Revision History/Date | Corrections | Reviser | Remarks |
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If the camera involved in PTP communication is connected to a Windows computer on which WIA is installed, 0 is specified in DeviceSubType, representing standard Windows PTP.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

3.1.10 EdsGetVolumeInfo

Description

Gets volume information for a memory card in the camera.

Syntax

```
EdsError EdsGetVolumeInfo(
    EdsVolumeRef inVolumeRef,
    EdsVolumeInfo *outVolumeInfo )
```

Parameters

inVolumeRef

Designate the volume object for which to get volume information.

outVolumeInfo

Specifies the pointer to the EdsVolumeInfo structure for receiving the volume information.

EdsVolumeInfo

| EdsVolumeInfo constituent elements | Type | Description |
|------------------------------------|-----------|--------------------------------------|
| storageType | EdsUInt32 | Value defined by Enum EdsStorageType |
| access | EdsAccess | Value defined by Enum EdsAccess |
| maxCapacity | EdsUInt64 | Maximum size (in bytes) |
| freeSpaceInBytes | EdsUInt64 | Available capacity (in bytes) |
| szVolumeLabel | EdsChar[] | Volume name (an ASCII string) |

Enum EdsStorageType <defined location>EDSDKTypes.h

| Value | Description |
|-------|-------------------------|
| 0 | No memory card inserted |
| 1 | Compact flash |
| 2 | SD card |

Enum EdsAccess <defined location>EDSDKTypes.h

| Value | Description |
|------------|--|
| 0 | Read Only |
| 1 | Write Only |
| 2 | Read and Write |
| 0xFFFFFFFF | Access error Note: This means that the designated memory card is in a state preventing use, such as when the card is not formatted. |

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

| Revision History/Date | Corrections | Reviser | Remarks |
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See Also

- Related APIs
EdsGetChildAtIndex

Note

- In the context of the EDSDK, volumes are objects representing memory cards.
- The constituent element access of EdsVolumeInfo is the access type when the file object is open.

3.1.11 EdsGetDirectoryItemInfo**Description**

Gets information about the directory or file objects on the memory card (volume) in a remote camera.

Syntax

```
EdsError EdsGetDirectoryItemInfo(
    EdsDirectoryItemRef inDireItemRef,
    EdsDirectoryItemInfo* outDirItemInfo )
```

Parameters

inDireItemRef

Designate the directory item object.

outDirItemInfo

Pointer to the DirectoryItemInfo structure for receiving the directory item information.

DirectoryItemInfo includes the following information.

| Constituent elements | Description |
|----------------------|--|
| size | The file size. For folders, the file size is indicated as 0. |
| isFolder | If a folder: True If not a folder: False |
| groupID | A non-zero integer. The same group ID is assigned to files that belong to the same group, such as RAW+JPEG images or RAW+AVI images. |
| option | An option when a direct transfer request is received (a kEdsObjectEvent_DirItemRequestTransferDT event). |
| szFileName | Returns the directory name or file name if successful. Example: "IMG_0060.JPG" |
| format | Returns the directory item type. Values defined in enum EdsObjectFormat. |

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- For information on data types of the EDSDK, see "Data Types Used by the APIs" in the Appendix.

Example

- See Sample 6.

| Revision History/Date | Corrections | Reviser | Remarks |
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3.1.12 EdsOpenSession

Description

Establishes a logical connection with a remote camera.
Use this API after getting the camera's EdsCamera object.

Syntax

```
EdsError EdsOpenSession( EdsCameraRef inCameraRef );
```

Parameters

inCameraRef

Designate the camera object of the camera to connect to.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

Note

Use the EdsCloseSession API to disconnect from the camera.

See Also

- Related APIs
EdsCloseSession

Example

- See Sample 1.

3.1.13 EdsCloseSession

Description

Closes a logical connection with a remote camera.

Syntax

```
EdsError EDSAPI EdsCloseSession( EdsCameraRef inCameraRef );
```

Parameters

inCameraRef

Designate the camera object of the camera to disconnect from.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsOpenSession

Example

- See Sample 1.

| Revision History/Date | Corrections | Reviser | Remarks |
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3.1.14 EdsSendCommand

Description

Sends a command such as "Shoot" to a remote camera.

Syntax

```
EdsError EdsSendCommand( EdsCameraRef inCameraRef,
                         EdsUInt32 inCommand, EdsUInt32 inParam )
```

Parameters

inCameraRef

Only a camera object can be designated.

inCommand

The command ID to send to the object.

In EDSDKTypes.h, you can designate commands defined by enum EdsCameraCommand.

| inCommand | inParam | Description |
|---|------------------------------|---|
| kEdsCameraCommand_ExtendShutDownTimer | N/A | Requests to extend the time for the auto shut-off timer. (Keep Device On) |
| kEdsCameraCommand_DriveLensEvf | enum EdsEvfDriveLens | Drives the lens and adjusts focus This command is supported only in live view mode. This command is supported only for model of EOS Series. |
| kEdsCameraCommand_DoEvfAf | enum EdsEvfAf | Controls auto focus in live view mode. This command is supported only in live view mode. |
| kEdsCameraCommand_PressShutterButton | enum EdsShutterButton | Controls shutter button operations. |
| kEdsCameraCommand_SetRemoteShootingMode | enum DcRemoteShootingMode | Controls remote shooting mode. This command is supported only for model of PowerShot Series. |
| kEdsCameraCommand_DrivePowerZoom | enum EdsDrivePowerZoom | Control start/stop lens zoom drive by Power Zoom Adapter. This property is supported only when using Power Zoom Adapter. |

Return Values

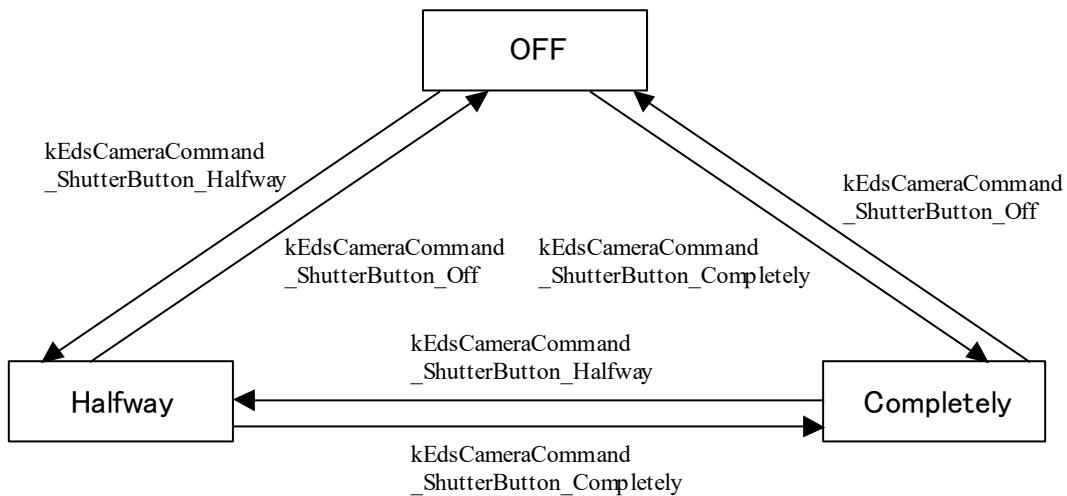
Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

Note

This is a description of EdsShutterButton when kEdsCameraCommand_PressShutterButton is specified in

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InParam.



In the above diagram, “OFF” represents the state in which the camera’s shutter button is not being pressed, “Halfway” represents the state in which it is being pressed halfway, and “Completely” represents the state in which it is being pressed completely.

Since both the “Halfway” and “Completely” states are maintained continuously, they must be explicitly terminated by issuing the kEdsCameraCommand_ShutterButton_Off command.

Usually, AF operations are determined depending on camera and lens settings. Parameters for performing photometry that do not result in AF operations can also be used. Parameters depending on camera and lens settings cannot be used together with parameters that do not result in AF operations. Be sure to use in combination with the following in accordance with the settings you want to use.

| | Depends on Camera/Lens Settings | No AF Operations |
|------------|--|--|
| Halfway | kEdsCameraCommand_ShutterButton_Halfway | kEdsCameraCommand_ShutterButton_Halfway_NonAF |
| Completely | kEdsCameraCommand_ShutterButton_Completely | kEdsCameraCommand_ShutterButton_Completely_NonAF |
| OFF | | kEdsCameraCommand_ShutterButton_Off |

Example

- See Sample 9.

| Revision History/Date | Corrections | Reviser | Remarks |
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Note

This is a description of EdsDrivePowerZoom when kEdsCameraCommand_DrivePowerZoom is specified in InParam.

Example: EdsSendCommand(cameraRef, kEdsCameraCommand_DrivePowerZoom,
kEdsDrivePowerZoom_LimitOff_Wide);

Enum EdsDrivePowerZoom <defined location>EDSDKTypes.h

| 値 | 意味 |
|----------------------------------|---|
| kEdsDrivePowerZoom_Stop | Stop zoom dirve |
| kEdsDrivePowerZoom_LimitOff_Wide | Speed change switch is at FAST position, Zoom starts to Wide direction |
| kEdsDrivePowerZoom_LimitOff_Tele | Speed change switch is at FAST position, Zoom starts to Tele direction |
| kEdsDrivePowerZoom_LimitOn_Wide | Speed change switch is at SLOW position, Zoom starts to Wide direction |
| kEdsDrivePowerZoom_LimitOn_Tele | Speed change switch is at SLOW position, Zoom starts to Tele direction |

3.1.15 EdsSendStatusCommand**Description**

Sets the remote camera state or mode.

Syntax

```
EdsError EdsSendStatusCommand ( EdsCameraRef inCameraRef,
                                EdsCameraStatusCommand inStatusCommand,
                                EdsInt32           inParam);
```

Parameters

inCameraRef

Designate the camera object.

inStatusCommand

Designate the particular mode ID to set the camera to.

In EDSTypes.h, you can designate commands defined by enum EdsCameraStatusCommand.

| inStatusCommand | inParam | Description |
|---|---------|---|
| kEdsCameraStatusCommand_UILock | N/A | Locks the UI |
| kEdsCameraStatusCommand_UIUnLock | N/A | Unlocks the UI |
| kEdsCameraStatusCommand_EnterDirectTransfer | N/A | Puts the camera in direct transfer mode |
| kEdsCameraStatusCommand_ExitDirectTransfer | N/A | Ends direct transfer mode |

inParam

Normally, designate 0 in inParam.

If you want to turn off the camera TFT when locking the UI, designate 1 in inParam.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

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Note

These are pairs of commands to lock and unlock the UI, as well as to put the camera in direct transfer mode and exit this mode. If you switch modes by means of EdsSendStatusCommand, use EdsSendStatusCommand again to restore the original mode.

3.1.16 EdsSetCapacity**Description**

Sets the remaining HDD capacity on the host computer(excluding the portion from image transfer),as calculated by subtracting the portion from the previous time.

Set a reset flag initially and designate the cluster length and number of free clusters.

Some cameras can display the number of shots left on the camera based on the available disk capacity of the host computer.

For these cameras, after the storage destination is set to the computer,use this API to notify the camera of the available disk capacity of the host computer.

Syntax

```
EdsError EdsSetCapacity ( EdsCameraRef inCameraRef,
                          EdsCapacity      inCapacity);
```

Parameters**InCameraRef**

The reference of the camera which will receive the command.

IncCapacity

The remaining capacity of a transmission place.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

Note**3.1.17 EdsGetPropertySize****Description**

Gets the byte size and data type of a designated property from a camera object or image object.

Syntax

```
EdsError EdsGetPropertySize( EdsBaseRef inRef,
                          EdsPropertyID inPropertyID, EdsInt32 inParam,
                          EdsDataType *outEdsDataType, EdsUInt32 *outSize )
```

Parameters**inRef**

Designate either EdsCameraRef or EdsImageRef.

inPropertyID

Designate the property ID.

inParam

Additional information of the property. Used to designate multiple additional items of information, if the property has such information that can be set or retrieved. For descriptions of values that can be designated for each property, see the description of inParam for EdsGetPropertyData.

outEdsDataType

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Returns the property data type. The particular item defined by enum EdsDataType is returned.

outSize

Stores the property size. The data type and value returned varies depending on the property ID. See "Property Details" for further information.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
 - EdsGetPropertyData and EdsGetPropertyDesc
 - For further information on properties, see Properties.

Example

See Sample 3.

3.1.18 EdsGetPropertyData

Description

Gets property information from the object designated in inRef.

Syntax

```
EdsError EdsGetPropertyData(
    EdsBaseRef           inRef,
    EdsPropertyID        inPropertyID,
    EdsInt32            inParam,
    EdsUInt32           inPropertySize,
    EdsVoid             *outPropertyData )
```

| Revision History/Date | Corrections | Reviser | Remarks |
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Parameters

inRef

Designate the object for which to get properties. The EDSDK objects you can designate are EdsCameraRef or EdsImageRef.

inPropertyID

Designate the property ID.

inParam

Designate additional property information. Use additional property information if multiple items of information such as picture styles can be set or retrieved for a property.

Values that can be designated for each property are as follows.

■ Properties regarding camera settings

| inPropertyID | inParam setting value |
|----------------------------|-----------------------|
| kEdsPropID_ProductName | 0 |
| kEdsPropID_BodyIDEx | 0 |
| kEdsPropID_OwnerName | 0 |
| kEdsPropID_MakerName | 0 |
| kEdsPropID_DateTime | 0 |
| kEdsPropID_FirmwareVersion | 0 |
| kEdsPropID_BatteryLevel | 0 |
| kEdsPropID_BatteryQuality | 0 |
| kEdsPropID_SaveTo | 0 |
| kEdsPropID_CurrentStorage | 0 |
| kEdsPropID_CurrentFolder | 0 |
| kEdsPropID_LensStatus | 0 |
| kEdsPropID_Artist | 0 |
| kEdsPropID_Copyright | 0 |

■ Properties regarding images

| InPropertyID | inParam setting value |
|--------------------------------|---|
| kEdsPropID_ImageQuality | 0 |
| kEdsPropID_Orientation | 0 |
| kEdsPropID_ICCProfile | 0 |
| kEdsPropID.FocusInfo | 0 |
| kEdsPropID.WhiteBalance | 0 |
| kEdsPropID.ColorTemperature | 0 |
| kEdsPropID.WhiteBalanceShift | 0 |
| kEdsPropID.ColorSpace | Current color space value : 0 To designate ColorMatrix by designating EdsCameraRef: one of the ColorMatrix numbers To designate a picture style by designating EdsCameraRef: one of enum EdsPictureStyle |
| kEdsPropID.PictureStyle | Current picture style value (or, if EdsImageRef is designated, either the current value or the value at the time of shooting): 0 One of these: User setting 1: kEdsPictureStyle_User1 User setting 2: kEdsPictureStyle_User2 User setting 3: kEdsPictureStyle_User3 |
| kEdsPropID.PictureStyleCaption | 0 |

| Revision History/Date | Corrections | Reviser | Remarks |
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■ Properties regarding image capture

| InPropertyID | inParam setting value |
|---------------------------------|-----------------------|
| kEdsPropID_AEMode | 0 |
| kEdsPropID_DriveMode | 0 |
| kEdsPropID_ISOSpeed | 0 |
| kEdsPropID_MeteringMode | 0 |
| kEdsPropID_AFMode | 0 |
| kEdsPropID_Av | 0 |
| kEdsPropID_Tv | 0 |
| kEdsPropID_ExposureCompensation | 0 |
| kEdsPropID_FocalLength | 0 |
| kEdsPropID_AvailableShots | 0 |
| kEdsPropID_Bracket | 0 |
| kEdsPropID_WhiteBalanceBracket | 0 |
| kEdsPropID_LensName | 0 |
| kEdsPropID_AEBracket | 0 |
| kEdsPropID_FEBracket | 0 |
| kEdsPropID_ISOBracket | 0 |
| kEdsPropID_NoiseReduction | 0 |
| kEdsPropID_FlashOn | 0 |
| kEdsPropID_RedEye | 0 |
| kEdsPropID_FlashMode | 0 |
| kEdsPropID_GPSVersionID | 0 |
| kEdsPropID_GPSLatitudeRef | 0 |
| kEdsPropID_GPSLatitude | 0 |
| kEdsPropID_GPSLongitudeRef | 0 |
| kEdsPropID_GPSLongitude | 0 |
| kEdsPropID_GPSAltitudeRef | 0 |
| kEdsPropID_GPSAltitude | 0 |
| kEdsPropID_GPSTimeStamp | 0 |
| kEdsPropID_GPSSatellites | 0 |
| kEdsPropID_GPSMapDatum | 0 |
| kEdsPropID_GPSDataStamp | 0 |
| kEdsPropID_GPSStatus | 0 |
| kEdsPropID_DC_Zoom | 0 |
| kEdsPropID_DC_Strobe | 0 |
| kEdsPropID_LensBarrelStatus | 0 |
| kEdsPropID_PowerZoom_Speed | 0 |

■ Properties regarding live view

| InPropertyID | inParam setting value |
|------------------------------------|-----------------------|
| kEdsPropID_Evf_OutputDevice | 0 |
| kEdsPropID_Evf_Mode | 0 |
| kEdsPropID_Evf_WhiteBalance | 0 |
| kEdsPropID_Evf_ColorTemperature | 0 |
| kEdsPropID_Evf_DepthOfFieldPreview | 0 |
| kEdsPropID_Evf_Zoom | 0 |

| Revision History/Date | Corrections | Reviser | Remarks |
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| kEdsPropID_Evf_ZoomPosition | 0 |
| kEdsPropID_Evf_HistogramY | 0 |
| kEdsPropID_Evf_HistogramR | 0 |
| kEdsPropID_Evf_HistogramG | 0 |
| kEdsPropID_Evf_HistogramB | 0 |
| kEdsPropID_Evf_ImagePosition | 0 |
| kEdsPropID_Evf_HistogramStatus | 0 |
| kEdsPropID_Evf_AFMode | 0 |
| kEdsPropID_Evf_PowerZoom_CurPosition | 0 |
| kEdsPropID_Evf_PowerZoom_MaxPosition | 0 |
| kEdsPropID_Evf_PowerZoom_MinPosition | 0 |

inPropertySize

Designate the byte size of the property. If the property data size is not known in advance, it can be retrieved by means of EdsGetPropertySize.

outPropertyData

Specifies the property data. The data type and value returned vary depending on the property. For property information, see Properties.

Return Values

Returns EDS_ERR_OK on normal completion. Otherwise, see the EDS Error Lists for error codes.

See Also

- Related APIs
EdsGetPropertySize, EdsSetPropertyData, and EdsGetPropertyDesc
- For further information on properties, see Properties.

Note

Regarding retrieval of the camera property data in particular, the conditions that can be retrieved vary depending on the values of other property data. For further information, see Properties.

Example

- See Sample 3.

3.1.19 EdsSetPropertyData**Description**

Sets property data for the object designated in inRef.

Syntax

```
EdsError EdsSetPropertyData (
    EdsBaseRef      inRef,
    EdsPropertyID   inPropertyID,
    EdsInt32        inParam,
    EdsUInt32       inPropertySize,
    const EdsVoid*  inPropertyData )
```

Parameters

inRef

| Revision History/Date | Corrections | Reviser | Remarks |
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Designate the object for which to set properties. Designate either EdsCameraRef or EdsImageRef.

inPropertyID

Designate the property ID.

inParam

Designate additional property information. Use additional property information if multiple items of information such as picture styles can be set or retrieved for a property. For descriptions of values that can be designated for each property, see the description of inParam for EdsGetPropertyData.

inPropertySize

Designate the size of the property data in bytes. The data size of each property can be retrieved by means of EdsGetPropertySize.

inPropertyData

Designate the property data to set.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsGetPropertySize, EdsGetPropertyData, and EdsGetPropertyDesc.
- For further information on properties, see Properties.

Note

- When you set properties of an image object (EdsImageRef), this API maintains the change internally.

Example

- See Sample 5.

3.1.20 EdsGetPropertyDesc

Description

Gets a list of property data that can be set for the object designated in inRef, as well as maximum and minimum values.

This API is intended for only some shooting-related properties.

Be sure before executing **EdsSetPropertyData**, use this API to get the values that can be set for the following Properties.

| Retrievable properties for settable data lists | Description |
|--|-----------------------|
| kEdsPropID_AEModeSelect | Shooting mode |
| kEdsPropID_MeteringMode | Metering mode |
| kEdsPropID_ISOSpeed | ISO speed |
| kEdsPropID_Av | Aperture value |
| kEdsPropID_Tv | Shutter speed |
| kEdsPropID_ExposureCompensation | Exposure compensation |
| kEdsPropID_ImageQuality | Image quality |
| kEdsPropID_WhiteBalance | White balance type |
| kEdsPropID_ColorTemperature | Color temperature |

| Revision History/Date | Corrections | Reviser | Remarks |
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| kEdsPropID_PictureStyle | PictureStyle type |
| kEdsPropID_DriveMode | Drive mode |
| kEdsPropID_Evf_WhiteBalance | White balance of Evf |
| kEdsPropID_Evf_ColorTemperature | Color temperature of Evf |
| kEdsPropID_Evf_AFMode | AF mode of Evf |
| kEdsPropID_DC_Strobe | Strobe mode for model of PowerShot Series |
| kEdsPropID_DC_Zoom | Zoom step for model of PowerShot Series |
| kEdsPropID_MovieParam | Movie recording image quality |
| kEdsPropID_TimeZone | Time zone |

Syntax

```
EdsError EdsGetPropertyDesc(
    EdsBaseRef      inRef,
    EdsPropertyID   inPropertyID,
    EdsPropertyDesc* outPropertyDesc )
```

Parameters

inRef

The target object. Designate EdsCameraRef.

inPropertyID

Designate a property ID.

outPropertyDesc

Specifies a pointer to the EdsPropertyDesc structure for getting a list of property data that can currently be set in the target object.

If the API return value is EDS_ERR_OK, a settable property data list of properties that can be set is specified, as retrieved from the target object.

The structure of the list of property data that can be set (**EdsPropertyDesc**) has the following constituent elements.

| EdsPropertyDesc constituent elements | Type | Description |
|--------------------------------------|------------|--|
| form | EdsInt32 | Reserved (currently, always 0) |
| access | EdsAccess | Reserved (currently, always 0) |
| numElements | EdsInt32 | Indicates the number of property data list elements stored in the PropDesc array. |
| propDesc | EdsInt32[] | A property data array. The meaning of PropDesc array elements varies depending on the property type. |

Return Values

EDS_ERR_INVALID_PARAMETER is returned if a property ID is designated in inPropertyID that cannot be used with GetPropertyDesc.

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsGetPropertySize, EdsGetPropertyData, EdsSetPropertyData, and EdsGetPropertyDesc
- For details on properties and the meaning of array elements that can be set in the data list, see the Properties

| Revision History/Date | Corrections | Reviser | Remarks |
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section.

- For information on data types of the EDSDK, see "Data Types Used by the APIs" in the Appendix.

Example

- See Sample 4.

3.1.21 EdsDeleteDirectoryItem

Description

Deletes a camera folder or file.

If folders with subdirectories are designated, all files are deleted except protected files.

EdsDirectoryItem objects deleted by means of this API are implicitly released by the EDSDK. Thus, there is no need to release them by means of EdsRelease.

Syntax

EdsError EdsDeleteDirectoryItem(EdsDirectoryItemRef inDirItemRef)

Parameters

inDirItemRef

Designate the folder or file to delete.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsSendCommand

Note

- Be careful when deleting files on the remote camera to avoid doing so when the camera is not in the right mode. Lock the UI, for example.

3.1.22 EdsFormatVolume

Description

Formats volumes of memory cards in a camera.

Syntax

EdsError EdsFormatVolume (EdsVolumeRef inVolumeRef)

Parameters

inVolumeRef

Designate the volume (memory card) to format.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs

| Revision History/Date | Corrections | Reviser | Remarks |
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`EdsGetVolumeInfo`

Note

- Be careful to avoid doing this when the camera is not in the right mode. Lock the UI, for example.

3.1.23 EdsGetAttribute

Description

Gets attributes of files on a camera.

Syntax

```
EdsError EdsGetAttribute ( EdsDirectoryItemRef inDirItemRef,
                           EdsFileAttributes *outFileAttribute );
```

Parameters

`inDirItemRef`

Designate the file object for which to get attributes.

`outFileAttribute`

Indicates the file attributes.

As for the file attributes, OR values of the value defined by enum `EdsFileAttributes` can be retrieved. Thus, when determining the file attributes, you must check if an attribute flag is set for target attributes.

Example: Determining the attribute value `fileAttr`, retrieved from a file object

```
if (kEdsFileAttribute_ReadOnly & fileAttr){
    // The file is read-only
}
```

Enum `EdsFileAttributes` <defined location>`EDSDKTypes.h`

| Value | Description |
|---|-------------------|
| <code>kEdsFileAttribute_Normal</code> | A standard file |
| <code>kEdsFileAttribute_ReadOnly</code> | Read-only |
| <code>kEdsFileAttribute_Hidden</code> | Hidden attribute |
| <code>kEdsFileAttribute_System</code> | System attribute |
| <code>kEdsFileAttribute_Archive</code> | Archive attribute |

Return Values

Returns `EDS_ERR_OK` if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
`EdsSetAttribute`

3.1.24 EdsSetAttribute

Description

Changes attributes of files on a camera.

Syntax

```
EdsError EdsSetAttribute ( EdsDirectoryItemRef inDirItemRef,
                           EdsFileAttributes inFileAttribute );
```

| Revision History/Date | Corrections | Reviser | Remarks |
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Parameters**inDirItemRef**

Designate the file object for which to change attributes.

outFileAttribute

Indicates the file attributes.

As for the file attributes, OR values of the value defined by enum EdsFileAttributes can be retrieved.

Enum EdsFileAttribtes <defined location>EDSDKTypes.h

| Value | Description |
|----------------------------|-------------------|
| kEdsFileAttribute_Normal | A standard file |
| kEdsFileAttribute_ReadOnly | Read-only |
| kEdsFileAttribute_Hidden | Hidden attribute |
| kEdsFileAttribute_System | System attribute |
| kEdsFileAttribute_Archive | Archive attribute |

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdGetAttribute

3.1.25 EdsDownload**Description**

Downloads a file on a remote camera (in the camera memory or on a memory card) to the host computer. The downloaded file is sent directly to a file stream created in advance.

When dividing the file being retrieved, call this API repeatedly. Also in this case, make the data block size a multiple of 512 (bytes), excluding the final block.

Syntax

```
EdsError EdsDownload(
    EdsDirectoryItemRef    inDirItemRef,
    EdsUInt64              inReadSize,
    EdsStreamRef           outStreamRef )
```

Parameters**inDirItemRef**

Designate the file object in the camera to download.

inReadSize

Designate the size in bytes to download.

outStreamRef

Specifies the destination stream. The stream for downloading is created by means of EdsCreateFileStream, EdsCreateMemoryStream, or the like.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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See Also

- Related APIs
EdsDownloadComplete, EdsDownloadCancel, EdsDownloadThumbnail, EdsCreateFileStream, EdsCreateMemoryStream, and EdsSetProgressCallback

Note

- EdsDownload is an API that may be checked with a progress callback. Using EdsSetProgressCallback to register the callback function enables the progress to be retrieved as an event during file transfer.
- Immediately after this API is called, the EdsDownloadComplete API must be called to notify the camera that the file transfer is complete. Similarly, if the download is canceled, EdsDownloadCancel must be called.
- If this API abends, a communication error between the camera and host computer occurs. If so, release the resources allocated by the application and restore the initial mode.

Example

- See Sample 6.

3.1.26 EdsDownloadComplete**Description**

Must be called when downloading of directory items is complete. Executing this API makes the camera recognize that file transmission is complete.

This operation need not be executed when using EdsDownloadThumbnail.

Syntax

```
EdsError EdsDownloadComplete( EdsDirectoryItemRef inDirItemRef )
```

Parameters

inDirItemRef

Designate the file for which to complete the downloading process.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsDownload and EdsDownloadCancel

Note

- If transfer of a file that was divided is canceled, call EdsDownloadCancel instead of this API to notify the camera that downloading of the directory item has been canceled.

Example

- See Sample 6.

3.1.27 EdsDownloadCancel**Description**

Must be executed when downloading of a directory item is canceled. Calling this API makes the camera cancel file transmission. It also releases resources.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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This operation need not be executed when using EdsDownloadThumbnail.

Syntax

EdsError EdsDownloadCancel (EdsDirectoryItemRef inDirItemRef)

Parameters

inDirItemRef

Designate the file for which to cancel downloading.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsDownload and EdsDownloadComplete

Note

- In applications that take locally released images on the camera and load them on host computer, if the application receives a file transfer request from the camera when the file is not needed (by means of kEdsObjectEvent_DirItemRequestTransfer or kEdsObjectEvent_DirItemRequestTransferDT), this API must be called to notify the camera that transmission has been canceled.
Normally, delete callback function registration at the moment an event is not needed.

3.1.28 EdsDownloadThumbnail

Description

Extracts and downloads thumbnail information from image files in a camera.

Thumbnail information in the camera's image files is downloaded to the host computer. Downloaded thumbnails are sent directly to a file stream created in advance.

Syntax

EdsError EdsDownloadThumbnail(
EdsDirectoryItemRef inDirItemRef,
EdsStreamRef outStreamRef)

Parameters

inDirItemRef

Designate the image file object with thumbnails to extract.

outStreamRef

Designate the stream for saving extracted thumbnails.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsDownload, EdsCreateFileStream, EdsCreateFileStreamEx, EdsCreateImageRef, and EdsGetImageInfo

| Revision History/Date | Corrections | Reviser | Remarks |
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3.1.29 EdsCreateEvfImageRef

Description

Creates an object used to get the live view image data set.

Syntax

```
EdsError EdsCreateEvfImageRef (EdsStream inStream,
                          EdsEvfImageRef* outEvfImage)
```

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateFileStream, EdsCreateFileStreamEx

Example

- See Sample 10

3.1.30 EdsDownloadEvfImage

Description

Downloads the live view image data set for a camera currently in live view mode.

Live view can be started by using the property ID:kEdsPropertyID_Evf_OutputDevice and data:EdsOutputDevice_PC to call EdsSetPropertyData.

In addition to image data, information such as zoom, focus position, and histogram data is included in the image data set. Image data is saved in a stream maintained by EdsEvfImageRef. EdsGetPropertyData can be used to get information such as the zoom, focus position, etc.

Although the information of the zoom and focus position can be obtained from EdsEvfImageRef, settings are applied to EdsCameraRef.

Syntax

```
EdsError EdsDownloadEvfImage (EdsCameraRef inCameraRef
                          EdsEvfImageRef outEvfImage)
```

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateEvfImageRef

Note

EDS_ERR_OBJECT_NOTREADY returns as an error when the image data set is not ready at the camera or when the image data set cannot be obtained.

Be sure to retry if EDS_ERR_OBJECT_NOTREADY is returned.

Example

- See Sample 10

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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3.1.31 EdsCreateFileStream

Description

Creates a new file on a host computer (or opens an existing file) and creates a file stream for access to the file. If a new file is designated before executing this API, the file is actually created following the timing of writing by means of EdsWrite or the like with respect to an open stream.

Syntax

```
EdsError EdsCreateFileStream (const EdsChar* inFileName,
                           EdsFileCreateDisposition inCreateDisposition,
                           EdsAccess inDesiredAccess, EdsStreamRef* outStream)
```

Parameters

inFileName

Designate the file name of a new file or a file to open.

You can designate a null-terminated string up to EDS_MAX_NAME characters long as the file name.

inCreateDisposition

Designate how the file is handled (that is, its disposition) if it exists or does not exist.

Designate a value defined in Enum EdsFileCreateDisposition.

Enum EdsFileCreateDisposition <defined location>EDSDKTypes.h

| Value | Description |
|--|--|
| kEdsFileCreateDisposition_CreateNew | Creates a new file. An error occurs if the designated file already exists. |
| kEdsFileCreateDisposition_CreateAlways | Creates a new file. If the designated file already exists, that file is overwritten and existing attributes is erased. |
| kEdsFileCreateDisposition_OpenExisting | Opens a file. An error occurs if the designated file does not exist. |
| kEdsFileCreateDisposition_OpenAlways | If the file exists, it is opened. If the designated file does not exist, a new file is created. |
| kEdsFileCreateDisposition_TruncateExisting | Opens a file and sets the file size to 0 bytes. |

inDesiredAccess

Values defined in Enum EdsAccess may be designated.

Enum EdsAccess <defined location>EDSDKTypes.h

| Value | Description |
|----------------------|----------------------------|
| kEdsAccess_Read | Open a read-only stream. |
| kEdsAccess_Write | Open a write-only stream. |
| kEdsAccess_ReadWrite | Allow reading and writing. |

outStreamRef

Returns a file stream to the open file.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

| Revision History/Date | Corrections | Reviser | Remarks |
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See Also

- Related APIs
EdsCreateFileStreamEx, EdsWrite, EdsRead, and EdsRelease

Note

- The maximum file name length is limited to EDS_MAX_NAME. To go beyond this limitation or enable support of Unicode file names, use the Unicode version, EdsCreateFileStreamEx.
- The stream you create must be released after use by means of EdsRelease.

Example

- See Sample 6.

3.1.32 EdsCreateFileStreamEx**Description**

An extended version of EdsCreateFileStream.

Use this function when working with Unicode file names.

Syntax

```
EdsError EdsCreateFileStream(
#define __MACOS__ const CFURLRef inURL,
#else const WCHAR* inFileNames,
#endif EdsFileCreateDisposition inCreateDisposition,
EdsAccess inDesiredAccess, EdsStreamRef* outStream)
```

Parameters

inURL (for Macintosh)

Designate CFURLRef.

inFileName (for Windows)

Designate the file name.

inDesiredAccess

See EdsCreateFileStream.

inCreateDisposition

See EdsCreateFileStream.

outStreamRef

Returns a file stream to the open file.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateFileStream, EdsWrite, EdsRead, and EdsRelease

Note

- This API is an extended version of EdsCreateStreamFromFile.
- The stream you create must be released after use by means of EdsRelease.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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3.1.33 EdsCreateMemoryStream

Description

Creates a stream in the memory of a host computer.

In the case of writing in excess of the allocated buffer size, the memory is automatically extended.

Syntax

```
EDSError EdsCreateMemoryStream ( EdsUInt64 inBufferSize,  
                                EdsStreamRef* outStreamRef )
```

Parameters

inBufferSize

Designate the buffer size to allocate. Because the size will be extended automatically as needed, designate 0 if the buffer size is unknown.

outStreamRef

On normal completion, a pointer is specified to the stream object that was created.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

[EdsCreateFileStream](#), [EdsWrite](#), [EdsRead](#), and [EdsRelease](#)

Note

- The stream you create must be released after use by means of EdsRelease.

3.1.34 EdsCreateMemoryStreamFromPointer

Description

Creates a stream from the memory buffer you prepare. Unlike the buffer size of streams created by means of EdsCreateMemoryStream, the buffer size you prepare for streams created this way does not expand.

Syntax

```
EdsError EDSAPI EdsCreateMemoryStreamFromPointer (  
                                EdsVoid          *inUserBuffer,  
                                EdsUInt64        inBufferSize,  
                                EdsStreamRef    *outStream  
);
```

Parameters

inUserBuffer

Pointer to the buffer you have prepared. Streams created by means of this API lead to this buffer.

inBufferSize

Designate the buffer size.

outStream

On normal completion, returns the stream to the designated buffer. Designate the reference to the EdsStreamRef type variable (that is, the address) as an argument.

| Revision History/Date | Corrections | Reviser | Remarks |
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Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateMemoryStream, EdsCreateFileStream, EdsCreateFileStreamEx, EdsWrite, and EdsRelease

Note

- The size of streams created by means of this API does not change. Be careful to ensure that access to the created stream does not exceed the available space.

3.1.35 EdsGetPointer**Description**

Gets the pointer to the start address of memory managed by the memory stream.

As the EDSDK automatically resizes the buffer, the memory stream provides you with the same access methods as for the file stream. If access is attempted that is excessive with regard to the buffer size for the stream, data before the required buffer size is allocated is copied internally, and new writing occurs. Thus, the buffer pointer might be switched on an unknown timing. Caution in use is therefore advised.

Syntax

```
EdsError EDSAPI EdsGetPointer(
    EdsStreamRef    inStream,
    EdsVoid        **outPointer
);
```

Parameters

inStream

Designate the memory stream for the pointer to retrieve.

outPointer

If successful, returns the pointer to the buffer written in the memory stream.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateMemoryStream, EdsCreateFileStream, EdsCreateFileStreamEx, EdsWrite, and EdsRelease

Note

- The buffer pointer may be switched on an unknown timing. Thus, some risk is posed by using this API so that saved pointers are saved and used in alternation. Caution in use is therefore advised.

3.1.36 EdsRead**Description**

Reads data the size of inReadSize into the outBuffer buffer, starting at the current read or write position of the stream. The size of data actually read can be designated in outReadSize.

Syntax

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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```
EdsError EdsRead(
    EdsStreamRef inStreamRef,
    EdsUInt64 inReadSize,
    EdsVoid* outBuffer,
    EdsUInt64* outReadSize )
```

Parameters**inStreamRef**

Designate the file or memory stream.

inReadSize

Designate the size of data to read.

outBuffer

On normal completion, specifies the buffer storing read data.

outReadSize

Specifies a pointer to the variable for receiving the size of data actually read.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateMemoryStream, EdsCreateFileStream, EdsCreateFileStreamEx, EdsWrite, and EdsRelease

Note

- If reading is successful, the read or write position in the stream is moved ahead an amount corresponding to the size of data read.

3.1.37 EdsWrite**Description**

Writes data of a designated buffer to the current read or write position of the stream.

Syntax

```
EdsError EdsWrite( EdsStreamRef inStreamRef, EdsUInt64 inWriteSize,
                    Const EdsVoid* inBuffer, EdsUInt64* outWrittenSize )
```

Parameters**inStreamRef**

Designate the destination stream for writing. The stream object must be retrieved in advance.

inWriteSize

Designate the size of data to write from the buffer.

inBuffer

Designate a pointer to the data to write.

outWrittenSize

Specifies a pointer to the variable for receiving the size of data actually written.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

| Revision History/Date | Corrections | Reviser | Remarks |
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- Related APIs
EdsCreateMemoryStream, EdsCreateFileStream, EdsCreateFileStreamEx, EdsRead, and EdsRelease

Note

- If writing is successful, the read or write position in the stream is moved ahead an amount corresponding to the size of data written.

3.1.38 EdsSeek**Description**

Moves the read or write position of the stream (that is, the file position indicator).

Syntax

```
EdsError EdsSeek( EdsStreamRef inStreamRef, EdsInt64 inSeekOffset,
                  EdsSeekOrigin inSeekOrigin )
```

Parameters

inStreamRef

Designate the stream object for this operation.

inSeekOffset

Designate the number of bytes to move the file position indicator.

inSeekOrigin

Designate the origin for moving from the read or write position. Designate any of the following, as defined in enum EdsSeekOrigin.

Enum EdsSeekOrigin <defined location>EDSDKTypes.h

| InSeekOrigin | Description |
|----------------|---|
| kEdsSeek_Begin | Moves the file position indicator from the beginning of the stream forward by inOffset bytes. |
| kEdsSeek_Cur | Moves the file position indicator from the current position in the stream forward by inOffset bytes. |
| kEdsSeek_End | Moves the file position indicator from the end of the stream by inOffset bytes. To move toward the beginning, designate a negative value. Positive values will move the indicator beyond the end of the file. |

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateMemoryStream, EdsCreateFileStream, EdsCreateFileStreamEx, EdsRead, and EdsWrite

3.1.39 EdsGetPosition**Description**

Gets the current read or write position of the stream (that is, the file position indicator).

Syntax

| Revision History/Date | Corrections | Reviser | Remarks |
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EdsError EdsGetPosition(EdsStreamRef inStreamRef, EdsUInt64* outPosition)**Parameters**

inStreamRef

Designate the destination stream for getting the position.

outPosition

On normal completion, specifies a pointer to the variable for receiving the current read or write position of the stream (that is, to the offset position from the beginning of the stream). (The beginning of the stream is 0.)

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateMemoryStream, EdsCreateFileStream, EdsCreateFileStreamEx, EdsRead, EdsWrite, and EdsSeek

Note

- The stream's initial read or write position is 0. If EdsWrite or EdsRead is used to write or read from the stream, the indicator is moved an amount corresponding to that size in the positive direction.
- When intentionally changing the read or write position of the stream, use EdsSeek.

3.1.40 EdsGetLength**Description**

Gets the stream size.

Syntax**EdsError EdsGetLength(EdsStreamRef inStreamRef, EdsUInt64 *outLength)****Parameters**

inStreamRef

Designate the stream object for this operation.

outLength

Specifies the pointer to the variable for receiving the number of bytes of the stream.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateMemoryStream, EdsCreateFileStream, and EdsCreateFileStreamEx

3.1.41 EdsCopyData**Description**

Copies data from the copy source stream to the copy destination stream.

The read or write position of the data to copy is determined from the current file read or write position of the respective stream.

| Revision History/Date | Corrections | Reviser | Remarks |
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After this API is executed, the read or write positions of the copy source and copy destination streams are moved an amount corresponding to inWriteSize in the positive direction.

Syntax

```
EdsError EdsCopyData(
    EdsStreamRef inStreamRef, EdsUInt64 inWriteSize,
    EdsStreamRef outStreamRef)
```

Parameters

inStreamRef

Designate the source stream for copying.

inWriteSize

Designate the number of bytes to copy .

outStreamRef

Designate the destination stream for copying.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateMemoryStream, EdsCreateFileStream, EdsCreateFileStreamEx, EdsRead, EdsWrite, EdsSeek, and EdsGetPosition

3.1.42 EdsCreateImageRef

Description

Creates an image object from an image file.

Without modification, stream objects cannot be worked with as images. Thus, when extracting images from image files, you must use this API to create image objects.

The image object created this way can be used to get image information (such as the height and width, number of color components, and resolution), thumbnail image data, and the image data itself.

Syntax

```
EdsError EdsCreateImageRef( EdsStreamRef inStreamRef,
                            EdsImageRef *outImageRef )
```

Parameters

inStreamRef

Designate the image file (or image data in the memory stream).

outImageRef

Specifies the pointer to the variable for receiving the image object.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateStream, EdsGetImageInfo, and EdsGetImage, EdsRelease

| Revision History/Date | Corrections | Reviser | Remarks |
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3.1.43 EdsGetImageInfo

Description

Gets image information from a designated image object.

Here, image information means the image width and height, number of color components, resolution, and effective image area.

Syntax

```
EdsError EdsGetImageInfo(
    EdsImageRef inImageRef, EdsImageSource inImageSource,
    EdsImageInfo* outImageInfo )
```

Parameters

inStreamRef

Designate the object for which to get image information.

inImageSource

Of the various image data items in the image file, designate the type of image data representing the information you want to get. Designate the image as defined in Enum EdsImageSource.

Enum EdsImageSource <defined location>EDSDKTypes.h

| Value | Description |
|------------------------|---------------------------------------|
| kEdsImageSrc_FullView | The image itself (a full-sized image) |
| kEdsImageSrc_Thumbnail | A thumbnail image |
| kEdsImageSrc_Preview | A preview image |

outImageInfo

Stores the image data information designated in inImageSource.

| EdsImageInfo constituent elements | Type | Description |
|-----------------------------------|-----------|---|
| width | EdsUInt32 | Width (in pixels) |
| height | EdsUInt32 | Height (in pixels) |
| numOfComponents | EdsUInt32 | Number of color components |
| componentDepth | EdsUInt32 | Resolution (8-bit or 16-bit) Note: Image files may contain image data of mixed resolutions. |
| effectiveRect | EdsRect | Effective image area (This means the area excluding the black bands on the top and bottom of the thumbnail image.) |
| Reserved | EdsUInt32 | Reserved |

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsCreateImageRef and EdsGetImage
- For information on data types of the EDSDK, see "Data Types Used by the APIs" in the Appendix.

| Revision History/Date | Corrections | Reviser | Remarks |
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3.1.44 EdsGetImage

Description

Gets designated image data from an image file, in the form of a designated rectangle.

Returns uncompressed results for JPEG compressed images and processed results in the designated pixel order (RGB, Top-down BGR, and so on) for RAW images. Additionally, by designating the input/output rectangle, it is possible to get reduced, enlarged, or partial images. However, because images corresponding to the designated output rectangle are always returned by the SDK, the SDK does not take the aspect ratio into account. To maintain the aspect ratio, you must keep the aspect ratio in mind when designating the rectangle.

Syntax

```
EdsError EdsGetImage(
    EdsImageRef           inImageRef,
    EdsImageSource         inImageSource,
    EdsTargetImageType     inImageType,
    EdsRect                inSrcRect,
    EdsSize                 inDstSize,
    EdsStreamRef            outStreamRef
);
```

Parameters

inImageRef

Designate the image object for which to get the image data.

inImageSource

Designate the type of image data to get from the image file (thumbnail, preview, and so on).

Designate values as defined in Enum EdsImageSource.

Enum EdsImageSource <defined location>EDSDKTypes.h

| Value | Description |
|------------------------|--|
| kEdsImageSrc_FullView | The image itself (a full-sized image) |
| kEdsImageSrc_Thumbnail | A thumbnail image |
| kEdsImageSrc_Preview | A preview image (displayed on the back screen of the camera) |

inImageType

Designate the output image type. Because the output format of EdsGetImage may only be RGB, only

kEdsTargetImageType_RGB or **kEdsTargetImageType_RGB16** can be designated.

However, image types exceeding the resolution of inImageSource cannot be designated.

Example: Suppose the source image resolution (componentDepth) retrieved by means of **EdsGetImageInfo()** is 8 bits

→ The resolution that can be retrieved by means of EdsGetImage () is also 8 bits

→ Thus, only **kEdsTargetImageType_RGB** is available.

EdsTargetImageType <defined location>EDSDKTypes.h

| Value | Description |
|---------------------------|---------------------------|
| kEdsTargetImageType_RGB | 8-bit RGB, chunky format |
| kEdsTargetImageType_RGB16 | 16-bit RGB, chunky format |

inSrcRect

Designate the coordinates and size of the rectangle to be retrieved (processed) from the source image.

| Revision History/Date | Corrections | Reviser | Remarks |
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inDstSize

Designate the rectangle size for output.

outStreamRef

Designate the memory or file stream for output of the image.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
[EdsCreateImageRef](#) and [EdsGetImageInfo](#)

Note

- To maintain the aspect ratio, you must keep the aspect ratio in mind when designating a rectangle.
- In calculating the data size of the output file, the original image data resolution is not used. Instead, the resolution of the image type designated by **inImageType** is used. For example, the calculation for **kEdsTargetImageType_RGB** is 3 (R, G, and B) x 8 (resolution) x width x height ÷ 8 (bytes). Similarly, **kEdsTargetImageType_RGB16** is calculated by 3 x 16 x width x height ÷ 8 (bytes).

3.1.45 EdsSetCameraAddedHandler**Description**

Registers a callback function for when a camera is detected.

Syntax

```
EdsError EdsSetCameraAddedHandler (
    EdsCameraAddedHandler inCameraAddedHandler,
    EdsVoid* inContext )
```

Parameters**inCameraAddedHandler**

Designate the pointer to the callback function called when a camera is detected.

You must implement the callback function registered this way following a prescribed type definition.

The callback function type is defined as follows.

Syntax

```
typedef EdsError
( EDSCALLBACK * EdsCameraAddedHandler)(EdsVoid *inContext )
```

Parameters**inContext**Passes data for the application designated by **EdsSetCameraAddedHandler**.**Return Values**

Returns EDS_ERR_OK if successful. Otherwise, ensure the implementation returns an appropriate error code. (See the EDS Error Lists).

inContext

Designate application information to be passed by means of the callback function. Any data needed for your application can be passed.

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In a multithreaded environment, use this pointer as appropriate to pass data to a thread in the UI. Designate a NULL pointer if it is not needed.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsSetPropertyEventHandler, EdsSetObjectEventHandler, EdsSetCameraStateEventHandler, and EdsSetProgressCallback

3.1.46 EdsSetObjectEventHandler

Description

Registers a callback function for receiving status change notification events for objects on a remote camera. Here, object means volumes representing memory cards, files and directories, and shot images stored in memory, in particular.

Syntax

```
EdsError EdsSetObjectEventHandler( EdsCameraRef inCameraRef,
                                EdsObjectEvent      inEvent,
                                EdsObjectEventHandler inObjectEventHandler,
                                EdsVoid            *inContext )
```

Parameters

inCameraRef

Designate the camera object.

inEvent

Designate one or all events to be supplemented. To designate all events, use kEdsObjectEvent_All.

For details on events that can be designated, refer to the section on object-related events in the event lists of Asynchronous Events.

inObjectEventHandler

Designate the pointer to the callback function for receiving object-related camera events. The callback function registered here is called by the EDSDK when the event is received.

To cancel supplementation of the event designated in the event type, designate NULL in this argument.

You must implement the callback function registered this way following a prescribed type definition.

The callback function type for object-related events is defined as follows.

Syntax

```
typedef EdsError ( EDSCALLBACK *EdsObjectEventHandler)(
                           EdsObjectEvent inEvent,
                           EdsBaseRef    inRef,
                           EdsVoid       *inContext);
```

Parameters

inEvent

Indicate the event type supplemented. Designate one of the event types for supplementation, as designated by EdsSetObjectEventHandler. Events that occur can be determined based on the event

| Revision History/Date | Corrections | Reviser | Remarks |
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type.

inRef

Returns a reference to objects created by the event.

inContext

Passes inContext without modification, as designated as an **EdsSetObjectEventHandler** argument.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

inContext

Designate application information to be passed by means of the callback function. Any data needed for your application can be passed.

In a multithreaded environment, use this pointer as appropriate to pass data to a thread in the UI. Designate a NULL pointer if it is not needed.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsSetCameraAddedHandler, EdsSetPropertyEventHandler, EdsSetCameraStateEventHandler, and EdsSetProgressCallback
- For details on asynchronous events, refer to "Overview" and "Asynchronous Events."

Note

- To release the event handler for events of the designated type, designate NULL in the argument of inObjectEventHandler. (The event will not occur.)

Example

- See Sample 1.

3.1.47 EdsSetPropertyEventHandler

Description

Registers a callback function for receiving status change notification events for property states on a camera.

Syntax

```
EdsError EdsSetPropertyEventHandler(
    EdsCameraRef inCameraRef,
    EdsPropertyEvent inEvent,
    EdsPropertyEventHandler inPropertyEventHandler,
    EdsVoid* inContext );
```

Parameters

inCameraRef

Designate the camera object.

inEvent

Designate one or all events to be supplemented. To designate all events, use kEdsPropertyEvent_All.

For details on events that can be designated, refer to the section on property-related events in the event lists of Asynchronous Events.

| Revision History/Date | Corrections | Reviser | Remarks |
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inPropertyEventHandler

Designate the pointer to the callback function for receiving property-related camera events. The callback function registered here is called by the EDSDK when the event is received.

To cancel supplementation of the event designated in the event type, designate NULL in this argument.

You must implement the callback function registered this way following a prescribed type definition.

The callback function type for property-related events is defined as follows.

Syntax

```
typedef EdsError ( EDSCALLBACK * EdsPropertyEventHandler )(
    EdsPropertyEvent           inEvent,
    EdsPropertyID            inPropertyID,
    EdsUInt32                inParam,
    EdsVoid                  *inContext );
```

Parameters**inEvent**

Indicate the event type supplemented. Designate one of the event types subject to supplementation, as designated by **EdsSetPropertyEventHandler**. Events that occur can be determined based on the event type.

inPropertyID

Returns the property ID created by the event.

inParam

Used to identify information created by the event for properties that have multiple items of information.

inContext

Passes **inContext** without modification, as designated as an **EdsSetPropertyEventHandler** argument.

Return Values

Returns **EDS_ERR_OK** if successful. In other cases, see the EDS Error Lists.

inContext

Designate application information to be passed by means of the callback function. Any data needed for your application can be passed.

In a multithreaded environment, use this pointer as appropriate to pass data to a thread in the UI. Designate a NULL pointer if it is not needed.

Return Values

Returns **EDS_ERR_OK** if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsSetCameraAddedHandler, **EdsObjectEventHandler**, **EdsSetCameraStateEventHandler**, and
EdsSetProgressCallback
- For details on asynchronous events, refer to "Overview" and "Asynchronous Events."

Note

- To release the event handler for events of the designated type, designate NULL in the argument of **inPropertyEventHandler**. (The event will not occur.)

Example

| Revision History/Date | Corrections | Reviser | Remarks |
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- See Sample 1.

3.1.48 EdsSetCameraStateEventHandler

Description

Registers a callback function for receiving status change notification events for camera objects.

Syntax

```
EdsError EdsSetCameraStateEventHandler(
    EdsCameraRef           inCameraRef,
    EdsStateEvent          inEvent,
    EdsStateEventHandler   inStateEventHandler,
    EdsVoid*              inContext );
```

Parameters

inCameraRef

Designate the camera object.

inEvent

Designate one or all events to be supplemented. To designate all events, use kEdsStateEvent_All.

For details on events that can be designated, refer to the section on events related to camera states in the event lists of Asynchronous Events.

inStateEventHandler

Designate the pointer to the callback function for receiving events related to camera object states. The callback function registered here is called by the EDSDK when the event is received.

To cancel supplementation of the event designated in the event type, designate NULL in this argument.

You must implement the callback function registered this way following a prescribed type definition.

The callback function type for events related to camera states is defined as follows.

Syntax

```
typedef EdsError ( EDSCALLBACK *EdsStateEventHandler )(
    EdsStateEvent   inEvent,
    EdsUInt32      inEventData,
    EdsVoid        *inContext );
```

Parameters

inEvent

Indicate the event type supplemented. Designate one of the event types subject to supplementation, as designated by EdsGetPropertyEventHandler. Events that occur can be determined based on the event type.

inEventData

Pointer to the event data. The content designated here varies depending on the property type. For details, see Property Details.

inContext

Passes inContext without modification, as designated as an **EdsSetCameraStateEventHandler** argument.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

| Revision History/Date | Corrections | Reviser | Remarks |
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inContext

Designate application information to be passed by means of the callback function. Any data needed for your application can be passed.

In a multithreaded environment, use this pointer as appropriate to pass data to a thread in the UI. Designate a NULL pointer if it is not needed.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsSetCameraAddedHandler, EdsObjectEventHandler, EdsSetObjectEventHandler, and
EdsSetProgressCallback
- For details on asynchronous events, refer to "Overview" and "Asynchronous Events."

Note

- To release the event handler for events of the designated type, designate NULL in the argument of inStateEventHandler. (The event will not occur.)

3.1.49 EdsSetProgressCallback**Description**

Register a progress callback function.

An event is received as notification of progress during processing that takes a relatively long time, such as downloading files from a remote camera. If you register the callback function, the EDSDK calls the callback function during execution or on completion of the following APIs. This timing can be used in updating on-screen progress bars, for example.

| |
|--|
| APIs for which the progress callback function is valid |
| EdsCopyData |
| EdsDownload |
| EdsGetImage |

Syntax

```
EdsError EdsSetProgressCallback(
    EdsBaseRef inRef,
    EdsProgressFunc inProgressCallback,
    EdsProgressOption inProgressOption,
    EdsVoid* inContext)
```

Parameters**inRef**

Designate the relevant object.

EdsImageRef or EdsStreamRef are the objects of APIs for which progress callback registration is valid.

inProgressCallback

Designate a pointer to the progress callback function.

The progress callback function type is defined as follows.

Syntax

| Revision History/Date | Corrections | Reviser | Remarks |
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```
typedef EdsError( EDSCALLBACK * EdsProgressCallback )(
    EdsUInt32      inPercent,
    EdsVoid        *inContext,
    EdsBool        *outCancel )
```

Parameters**inPercent**

Indicates the progress in a range of 0 –100%. Value range: 0 to 100

inContext

The application information designated by EdsSetProgressCallback.

outCancel

To cancel processing in progress, set this variable to TRUE.

For example, if this argument is set to TRUE during file transfer from the camera, the EDSDK notifies the camera that file transfer has been canceled, and transfer of those files is canceled.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

inProgressOption

Options when this callback function is called are defined in Enum EdsProgressOption.

Enum EdsProgressOption <defined location>EDSDKTypes.h

| Value | Description |
|---------------------------------|---|
| kEdsProgressOption_NoReport | Do not call a progress callback function. |
| kEdsProgressOption_Done | Call a progress callback function when the progress reaches 100%. |
| kEdsProgressOption_Periodically | Call a progress callback function periodically. |

inContext

Application information, passed in the argument when the callback function is called. Any information required for your program may be added.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

See Also

- Related APIs
EdsSetCameraAddedHandler and EdsSetObjectEventHandler

Note

- To release the event handler for events of the designated type, designate NULL in the argument of inStateEventHandler. (The event will not occur.)

3.1.50 EdsGetEvent**Description**

This function acquires an event from camera.

In console application, please call this function regularly to acquire the event from a camera.

Syntax

EdsError EdsGetEvent()

| Revision History/Date | Corrections | Reviser | Remarks |
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3.1.51 EdsSetFramePoint

Description

Specifies the camera's focus and zoom frame position in the LiveView state.

Syntax

```
EdsError EdsSetFramePoint ( EdsCameraRef inCameraRef,
                            EdsFramePoint inFramePoint,
                            bool inLockAfFrame )
```

Parameters

inCameraRef

Designate the camera object.

inFramePoint

Specifies the position coordinates of the zoom and AF frames of a LiveView image.

inLockAfFrame

Whether to lock the movement of the frame until the AF-related camera operation is executed.

Return Values

Returns EDS_ERR_OK if successful. In other cases, see the EDS Error Lists.

Note

The inFramePoint argument uses the LiveView image coordinate system from **kEdsPropID_Evf_CoordinateSystem**.

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera

- EOS Kiss M2 / EOS M50 Mark II
- EOS R5
- EOS R6
- EOS R
- EOS RP
- EOS 90D
- EOS M6 Mark II
- EOS Kiss M / EOS M50

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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3.2 EDS Error Lists

As return values, EDSDK APIs return error codes defined as follows.

For each API, the return values mainly used are identified based on API characteristics. However, the principal factors that actually caused the problems are specified as error codes. Thus, all error codes may be specified in return values.

3.2.1 General errors

| Error Type | Notes |
|-------------------------------|-------------------------|
| EDS_ERR_UNIMPLEMENTED | Not implemented |
| EDS_ERR_INTERNAL_ERROR | Internal error |
| EDS_ERR_MEM_ALLOC_FAILED | Memory allocation error |
| EDS_ERR_MEM_FREE_FAILED | Memory release error |
| EDS_ERR_OPERATION_CANCELLED | Operation canceled |
| EDS_ERR_INCOMPATIBLE_VERSION | Version error |
| EDS_ERR_NOT_SUPPORTED | Not supported |
| EDS_ERR_UNEXPECTED_EXCEPTION | Unexpected exception |
| EDS_ERR_PROTECTION_VIOLATION | Protection violation |
| EDS_ERR_MISSING_SUBCOMPONENT | Missing subcomponent |
| EDS_ERR_SELECTION_UNAVAILABLE | Selection unavailable |
| | |

3.2.2 File access errors

| Error Type | Notes |
|----------------------------------|---------------------|
| EDS_ERR_FILE_IO_ERROR | IO error |
| EDS_ERR_FILE_TOO_MANY_OPEN | Too many files open |
| EDS_ERR_FILE_NOT_FOUND | File does not exist |
| EDS_ERR_FILE_OPEN_ERROR | Open error |
| EDS_ERR_FILE_CLOSE_ERROR | Close error |
| EDS_ERR_FILE_SEEK_ERROR | Seek error |
| EDS_ERR_FILE_TELL_ERROR | Tell error |
| EDS_ERR_FILE_READ_ERROR | Read error |
| EDS_ERR_FILE_WRITE_ERROR | Write error |
| EDS_ERR_FILE_PERMISSION_ERROR | Permission error |
| EDS_ERR_FILE_DISK_FULL_ERROR | Disk full |
| EDS_ERR_FILE_ALREADY_EXISTS | File already exists |
| EDS_ERR_FILE_FORMAT_UNRECOGNIZED | Format error |
| EDS_ERR_FILE_DATA_CORRUPT | Invalid data |
| EDS_ERR_FILE_NAMING_NA | File naming error |
| | |

3.2.3 Directory errors

| Error Type | Notes |
|-----------------------------|--------------------------|
| EDS_ERR_DIR_NOT_FOUND | Directory does not exist |
| EDS_ERR_DIR_IO_ERROR | I/O error |
| EDS_ERR_DIR_ENTRY_NOT_FOUND | No file in directory |
| EDS_ERR_DIR_ENTRY_EXISTS | File in directory |
| EDS_ERR_DIR_NOT_EMPTY | Directory full |
| | |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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3.2.4 Property errors

| Error Type | Notes |
|--------------------------------|--|
| EDS_ERR_PROPERTIES_UNAVAILABLE | Property (and additional property information) unavailable |
| EDS_ERR_PROPERTIES_MISMATCH | Property mismatch |
| EDS_ERR_PROPERTIES_NOT_LOADED | Property not loaded |
| | |

3.2.5 Function parameter errors

| Error Type | Notes |
|----------------------------|----------------------------|
| EDS_ERR_INVALID_PARAMETER | Invalid function parameter |
| EDS_ERR_INVALID_HANDLE | Handle error |
| EDS_ERR_INVALID_POINTER | Pointer error |
| EDS_ERR_INVALID_INDEX | Index error |
| EDS_ERR_INVALID_LENGTH | Length error |
| EDS_ERR_INVALID_FN_POINTER | FN pointer error |
| EDS_ERR_INVALID_SORT_FN | Sort FN error |
| | |

3.2.6 Device errors

| Error Type | Notes |
|----------------------------------|---|
| EDS_ERR_DEVICE_NOT_FOUND | Device not found |
| EDS_ERR_DEVICE_BUSY | Device busy Note: If a device busy error occurs, reissue the command after a while. The camera will become unstable. |
| EDS_ERR_DEVICE_INVALID | Device error |
| EDS_ERR_DEVICE_EMERGENCY | Device emergency |
| EDS_ERR_DEVICE_MEMORY_FULL | Device memory full |
| EDS_ERR_DEVICE_INTERNAL_ERROR | Internal device error |
| EDS_ERR_DEVICE_INVALID_PARAMETER | Device parameter invalid |
| EDS_ERR_DEVICE_NO_DISK | No disk |
| EDS_ERR_DEVICE_DISK_ERROR | Disk error |
| EDS_ERR_DEVICE_CF_GATE_CHANGED | The CF gate has been changed |
| EDS_ERR_DEVICE_DIAL_CHANGED | The dial has been changed |
| EDS_ERR_DEVICE_NOT_INSTALLED | Device not installed |
| EDS_ERR_DEVICE_STAY_AWAKE | Device connected in awake mode |
| EDS_ERR_DEVICE_NOT_RELEASED | Device not released |
| | |

3.2.7 Stream errors

| Error Type | Notes |
|-----------------------------|---------------------|
| EDS_ERR_STREAM_IO_ERROR | Stream I/O error |
| EDS_ERR_STREAM_NOT_OPEN | Stream open error |
| EDS_ERR_STREAM_ALREADY_OPEN | Stream already open |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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|-------------------------------------|-----------------------------------|
| EDS_ERR_STREAM_OPEN_ERROR | Failed to open stream |
| EDS_ERR_STREAM_CLOSE_ERROR | Failed to close stream |
| EDS_ERR_STREAM_SEEK_ERROR | Stream seek error |
| EDS_ERR_STREAM_TELL_ERROR | Stream tell error |
| EDS_ERR_STREAM_READ_ERROR | Failed to read stream |
| EDS_ERR_STREAM_WRITE_ERROR | Failed to write stream |
| EDS_ERR_STREAM_PERMISSION_ERROR | Permission error |
| EDS_ERR_STREAM_COULDNT_BEGIN_THREAD | Could not start reading thumbnail |
| EDS_ERR_STREAM_BAD_OPTIONS | Invalid stream option |
| EDS_ERR_STREAM_END_OF_STREAM | Invalid stream termination |
| | |

3.2.8 Communication errors

| Error Type | Notes |
|----------------------------------|---------------------|
| EDS_ERR_COMM_PORT_IS_IN_USE | Port in use |
| EDS_ERR_COMM_DISCONNECTED | Port disconnected |
| EDS_ERR_COMM_DEVICE_INCOMPATIBLE | Incompatible device |
| EDS_ERR_COMM_BUFFER_FULL | Buffer full |
| EDS_ERR_COMM_USB_BUS_ERR | USB bus error |
| | |

3.2.9 Camera UI lock/unlock errors

| Error Type | Notes |
|---------------------------------|-------------------------|
| EDS_ERR_USB_DEVICE_LOCK_ERROR | Failed to lock the UI |
| EDS_ERR_USB_DEVICE_UNLOCK_ERROR | Failed to unlock the UI |
| | |

3.2.10 STI/WIA errors

| Error Type | Notes |
|----------------------------------|-----------------------|
| EDS_ERR_STI_UNKNOWN_ERROR | Unknown STI |
| EDS_ERR_STI_INTERNAL_ERROR | Internal STI error |
| EDS_ERR_STI_DEVICE_CREATE_ERROR | Device creation error |
| EDS_ERR_STI_DEVICE_RELEASE_ERROR | Device release error |
| EDS_ERR_DEVICE_NOT_LAUNCHED | Device startup failed |
| | |

3.2.11 Other general error

| Error Type | Notes |
|--------------------------------------|---|
| EDS_ERR_ENUM_NA | Enumeration terminated (there was no suitable enumeration item) |
| EDS_ERR_INVALID_FN_CALL | Called in a mode when the function could not be used |
| EDS_ERR_HANDLE_NOT_FOUND | Handle not found |
| EDS_ERR_INVALID_ID | Invalid ID |
| EDS_ERR_WAIT_TIMEOUT_ERROR | Timeout |
| EDS_ERR_LAST_GENERIC_ERROR_PLUS_NONE | Not used. |

| Revision History/Date | Corrections | Reviser | Remarks |
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3.2.12 PTP errors

| Error Type | Notes |
|--|--|
| EDS_ERR_SESSION_NOT_OPEN | Session open error |
| EDS_ERR_INVALID_TRANSACTIONID | Invalid transaction ID |
| EDS_ERR_INCOMPLETE_TRANSFER | Transfer problem |
| EDS_ERR_INVALID_STORAGEID | Storage error |
| EDS_ERR_DEVICEPROP_NOT_SUPPORTED | Unsupported device property |
| EDS_ERR_INVALID_OBJECTFORMATCODE | Invalid object format code |
| EDS_ERR_SELF_TEST_FAILED | Failed self-diagnosis |
| EDS_ERR_PARTIAL_DELETION | Failed in partial deletion |
| EDS_ERR_SPECIFICATION_BY_FORMAT_UNSUPPORTED | Unsupported format specification |
| EDS_ERR_NO_VALID_OBJECTINFO | Invalid object information |
| EDS_ERR_INVALID_CODE_FORMAT | Invalid code format |
| EDS_ERR_UNKNOWN_VENDOR_CODE | Unknown vendor code |
| EDS_ERR_CAPTURE_ALREADY_TERMINATED | Capture already terminated |
| EDS_ERR_INVALID_PARENTOBJECT | Invalid parent object |
| EDS_ERR_INVALID_DEVICEPROP_FORMAT | Invalid property format |
| EDS_ERR_INVALID_DEVICEPROP_VALUE | Invalid property value |
| EDS_ERR_SESSION_ALREADY_OPEN | Session already open |
| EDS_ERR_TRANSACTION_CANCELLED | Transaction canceled |
| EDS_ERR_SPECIFICATION_OF_DESTINATION_UNSUPPORTED | Unsupported destination specification |
| EDS_ERR_UNKNOWN_COMMAND | Unknown command |
| EDS_ERR_OPERATION_REFUSED | Operation refused |
| EDS_ERR_LENS_COVER_CLOSE | Lens cover closed |
| EDS_ERR_OBJECT_NOTREADY | Image data set not ready for live view |

3.2.13 TakePicture errors

| Error Type | Notes |
|---|--|
| EDS_ERR_TAKE_PICTURE_AF_NG | Focus failed |
| EDS_ERR_TAKE_PICTURE_RESERVED | Reserved |
| EDS_ERR_TAKE_PICTURE_MIRROR_UP_NG | Currently configuring mirror up |
| EDS_ERR_TAKE_PICTURE_SENSOR_CLEANING_NG | Currently cleaning sensor |
| EDS_ERR_TAKE_PICTURE_SILENCE_NG | Currently performing silent operations |
| EDS_ERR_TAKE_PICTURE_NO_CARD_NG | Card not installed |
| EDS_ERR_TAKE_PICTURE_CARD_NG | Error writing to card |
| EDS_ERR_TAKE_PICTURE_CARD_PROTECT_NG | Card write protected |

| Revision History/Date | Corrections | Reviser | Remarks |
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4. Asynchronous Events

In the case of asynchronous events, notify the host computer of changes, such as changes in the state of properties of remote cameras.

To enable an application to receive issued events, you must prepare callback functions for event reception and register them in the EDSDK by means of EdsSetPropertyEventHandler, EdsSetObjectEventHandler, EdsSetCameraStateEventHandler, EdsSetCameraAddedHandler, EdsSetProgressCallback, or other APIs for configuring callback functions.

For details on callback function types, see the parameters information of the APIs for callback function configuration.

This section describes events that can be retrieved by callback functions registered using EdsSetPropertyEventHandler, EdsSetObjectEventHandler, and EdsSetCameraStateEventHandler in particular.

4.1 Event Lists

4.1.1 Object-related events

| Events |
|--|
| Notification of file creation |
| Notification of file deletion |
| Notification of changes in file information |
| Notification of changes in the volume information of recording media |
| Notification of requests to update volume information |
| Notification of requests to update folder information |
| Notification of file transfer requests |
| Notification of direct transfer requests |
| Notification of requests to cancel direct transfer |

4.1.2 Property-related events

| Events |
|---|
| Notification of property state changes |
| Notification of state changes in configurable property values |

4.1.3 State-related events

| Events |
|---|
| Notification of camera disconnection |
| Notification of changes in job states |
| Notification of warnings when the camera will shut off |
| Notification that the camera will remain on for a longer period |
| Notification of remote release failure |
| Notification of internal SDK errors |
| Notification of inform condition of Power Zoom Adapter |

| Revision History/Date | Corrections | Reviser | Remarks |
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4.2 Event Details

Events are explained in the following format.

4.2.xx EventID

Event ID of the issued event. Used to distinguish event types in callback functions.

Description

Explains the event and cites related considerations.

Event Data

Event data passed as event callback function arguments.

| Event Data | Data Type | Argument Name in the Callback Function |
|---------------------------------------|---------------|--|
| The nature of the data that is passed | The data type | The value passed as an argument |

4.2.1 kEdsStateEvent_Shutdown (Notification of camera disconnection)

Description

Indicates that a camera is no longer connected to a computer, whether it was disconnected by unplugging a cord, opening the compact flash compartment, turning the camera off, auto shut-off, or by other means.

Event Data

| Event Data | Data Type | Value of inParameter |
|------------|-----------|----------------------|
| None | — | — |

4.2.2 kEdsPropertyEvent_PropertyChanged (Notification of property state changes)

Description

Notifies that a camera property value has been changed.

The changed property can be retrieved from event data.

The changed value can be retrieved by means of EdsGetPropertyData.

If the property type is 0x0000FFFF, the changed property cannot be identified. Thus, retrieve all required properties repeatedly.

Event Data

| Event Data | Data Type | Value of inPropertyID |
|-------------------|---------------|-----------------------|
| The property type | EdsPropertyID | A property ID |

See Also

- For details on property IDs, see the Property Lists.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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4.2.3 kEdsPropertyEvent_PropertyDescChanged (Notification of state changes in configurable property values)

Description

Notifies of changes in the list of camera properties with configurable values.

The list of configurable values for property IDs indicated in event data can be retrieved by means of EdsGetPropertyDesc.

Event Data

| Event Data | Data Type | Value of inPropertyID |
|---|---------------|--|
| Property type for which the list of configurable values has changed | EdsPropertyID | Of the capture-related properties, those properties that have configurable values that can be retrieved; otherwise, "Unknown" (0x0000FFFF) |

See Also

For details on property IDs, see the Property Lists.

4.2.4 kEdsObjectEvent_DirItemCreated (Notification of file creation)

Description

Notifies of the creation of objects such as new folders or files on a camera compact flash card or the like.

This event is generated if the camera has been set to store captured images simultaneously on the camera and a computer, for example, but not if the camera is set to store images on the computer alone.

Newly created objects are indicated by event data.

Event Data

| Event Data | Data Type | Value of inRef |
|------------------------------|---------------------|---|
| New directory or file object | EdsDirectoryItemRef | Pointer to the directory or file object |

4.2.5 kEdsObjectEvent_DirItemRemoved (Notification of file deletion)

Description

Notifies of the deletion of objects such as folders or files on a camera compact flash card or the like.

Deleted objects are indicated in event data.

Event Data

| Event Data | Data Type | Value of inRef |
|----------------------------------|---------------------|---|
| Deleted directory or file object | EdsDirectoryItemRef | Pointer to the directory or file object |

4.2.6 kEdsObjectEvent_DirItemInfoChanged (Notification of changes in file information)

Description

Notifies that information of DirItem objects has been changed.

Changed objects are indicated by event data.

The changed value can be retrieved by means of EdsGetDirectoryItemInfo.

Event Data

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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| Event Data | Data Type | Value of inRef |
|----------------------------------|---------------------|---|
| Changed directory or file object | EdsDirectoryItemRef | Pointer to the directory or file object |

4.2.7 kEdsObjectEvent_DirItemContentChanged

Description

Notifies that header information has been updated, as for rotation information of image files on the camera. If this event is received, get the file header information again, as needed.

Event Data

| Event Data | Data Type | Value of inRef |
|--------------|---------------------|--------------------------------------|
| Changed file | EdsDirectoryItemRef | Pointer to the directory item object |

Note

To retrieve image properties, you must obtain them from image objects after using DownloadImage or DownloadThumbnail.

4.2.8 kEdsObjectEvent_VolumeInfoChanged (Notification of changes in the volume information of recording media)

Description

Notifies that the volume object (memory card) state (VolumeInfo) has been changed.

Changed objects are indicated by event data.

The changed value can be retrieved by means of EdsGetVolumeInfo.

Event Data

| Event Data | Data Type | Value of inRef |
|-----------------------|--------------|------------------------------|
| Changed volume object | EdsVolumeRef | Pointer to the volume object |

4.2.9 kEdsObjectEvent_VolumeUpdateItems (Notification of requests to update volume information)

Description

Notifies if the designated volume on a camera has been formatted. If notification of this event is received, get sub-items of the designated volume again as needed.

Changed volume objects can be retrieved from event data.

Event Data

| Event Data | Data Type | Value of inRef |
|-----------------------|--------------|------------------------------|
| Changed volume object | EdsVolumeRef | Pointer to the volume object |

4.2.10 kEdsObjectEvent_FolderUpdateItems (Notification of requests to update folder information)

Description

Notifies if many images are deleted in a designated folder on a camera. If notification of this event is received, get sub-items of the designated folder again as needed.

| Revision History/Date | Corrections | Reviser | Remarks |
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Changed folders (specifically, directory item objects) can be retrieved from event data.

Event Data

| Event Data | Data Type | Value of inRef |
|----------------|---------------------|--------------------------------------|
| Changed folder | EdsDirectoryItemRef | Pointer to the directory item object |

4.2.11 kEdsStateEvent_JobStatusChanged (Notification of changes in job states)

Description

Notifies of whether or not there are objects waiting to be transferred to a host computer. This is useful when ensuring all shot images have been transferred when the application is closed.

Event Data

| Event Data | Data Type | Value of inParameter |
|--|-----------|---|
| Whether or not there are objects waiting to be transferred | EdsUInt32 | 1: There are objects to be transferred 0: There are no objects to be transferred |

4.2.12 kEdsObjectEvent_DirItemRequestTransfer (Notification of file transfer requests)

Description

Notifies that there are objects on a camera to be transferred to a computer. This event is generated after remote release from a computer or local release from a camera. If this event is received, objects indicated in the event data must be downloaded. Furthermore, if the application does not require the objects, instead of downloading them, execute EdsDownloadCancel and release resources held by the camera.

Event Data

| Event Data | Data Type | Value of inRef |
|--|---------------------|--------------------------|
| Array of directories or file objects to be transferred | EdsDirectoryItemRef | Directory or file object |

4.2.13 kEdsObjectEvent_DirItemRequestTransferDT (Notification of direct transfer requests)

Description

Notifies if the camera's direct transfer button is pressed. If this event is received, objects indicated in the event data must be downloaded. Furthermore, if the application does not require the objects, instead of downloading them, execute EdsDownloadCancel and release resources held by the camera.

Event Data

| Event Data | Data Type | Value of inRef |
|---|-----------------------|---------------------------------------|
| Array of directories or file objects to be transferred directly | EdsDirectoryItemRef[] | Array of directories and file objects |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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4.2.14 kEdsObjectEvent_DirItemCancelTransferDT (Notification of requests to cancel direct transfer)**Description**

Notifies of requests from a camera to cancel object transfer if the button to cancel direct transfer is pressed on the camera.

If the parameter is 0, it means that cancellation of transfer is requested for objects still not downloaded, with these objects indicated by kEdsObjectEvent_DirItemRequestTransferDT.

Event Data

| Event Data | Data Type | Value of inRef |
|---|------------------------|---------------------------------------|
| Array of directories or file objects for which to cancel transfer | EdsDirectoryItemRef [] | Array of directories and file objects |

4.2.15 kEdsStateEvent_WillSoonShutDown (Notification of warnings when the camera will shut off)**Description**

Notifies that the camera will shut down after a specific period.

Generated only if auto shut-off is set.

Exactly when notification is issued (that is, the number of seconds until shutdown) varies depending on the camera model.

To continue operation without having the camera shut down, use EdsSendCommand to extend the auto shut-off timer. The time in seconds until the camera shuts down is returned as the initial value.

Event Data

| Event Data | Data Type | Value of inParameter |
|---|-----------|----------------------|
| Number of seconds until the camera shuts down | EdsUInt32 | Number of seconds |

4.2.16 kEdsStateEvent_ShutDownTimerUpdate (Notification that the camera will remain on for a longer period)**Description**

As the counterpart event to kEdsStateEvent_WillSoonShutDown, this event notifies of updates to the number of seconds until a camera shuts down. After the update, the period until shutdown is model-dependent.

Event Data

| Event Data | Data Type | Value of inParameter |
|------------|-----------|----------------------|
| None | — | — |

4.2.17 kEdsStateEvent_CaptureError (Notification of remote release failure)**Description**

Notifies that a requested release has failed, due to focus failure or similar factors.

Event Data

| Event Data | Data Type | Value of inParameter |
|------------|-----------|----------------------|
| Error code | EdsUInt32 | Error code |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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Error codes received in the event data are as follows.

| Error Code | Description |
|------------|--|
| 0x00000001 | Shooting failure |
| 0x00000002 | The lens was closed |
| 0x00000003 | General errors from the shooting mode, such as errors from the bulb or mirror-up mechanism |
| 0x00000004 | Sensor cleaning |
| 0x00000005 | Error because the camera was set for silent operation |
| 0x00000006 | Card not inserted |
| 0x00000007 | Card error (including CARD-FULL/No.-FULL) |
| 0x00000008 | Write-protected |

4.2.18 kEdsStateEvent_InternalError (Notification of internal SDK errors)

Description

Notifies of internal SDK errors.

If this error event is received, the issuing device will probably not be able to continue working properly, so cancel the remote connection.

Event Data

| Event Data | Data Type | Value of inParameter |
|------------|-----------|----------------------|
| — | EdsUInt32 | Unspecified value |

4.2.19 kEdsStateEvent_PowerZoomInfoChanged (Notification of inform condition of Power Zoom Adapter)

Description

Inform condition of Power Zoom Adapter

This event inform is guaranteed during Live View mode.

Event Data

| Event Data | Data Type | Value of inParameter |
|------------|-----------|---|
| Error code | EdsUInt32 | Condition of Power Zoom Adapter (this is shown as bit assign. Please refer below information.) |

Detail of Value of inParameter

| Bit number | Description | Value |
|------------|--|---|
| 0 | controllable yes/no | 1: enable to control zoom position of Power Zoom Adapter 0: disable to control zoom position of Power Zoom Adapter |
| 1 | PZ/MZ switch condition | 1: switch position is PZ (Power Zoom) 0: switch position is MZ (Manual Zoom) |
| 2 | condition of zoom drive condition | 1: drive lens by Power Zoom Adapter 0: not drive lens |
| 4~3 | Lens zoom position is tele position yes / no | 01: zoom position is TELE position 11: zoom position is WIDE position 10: zoom position is other position |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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|-------|---|--|
| 5 | attached condition | 1: Power Zoom Adapter is attached correctly 0: others |
| 6 | Battery Life | 1: battery life is enough 0: battery life isn't enough / less, or not attached battery |
| 7 | condition of lens zoom lock | 1: lens zoom ring isn't fixed/locked. 0: lens zoom ring is fixed/locked. |
| 8 | Condition of zoom speed change switch of body | 1: switch condition is SLOW 0: switch condition is FAST Note: this switch condition isn't affected to zoom speed control by SDK. |
| 9 | notification of internal temperature increases | 1: increase Power Zoom Adapter body internal temperature is increasing 0: others |
| 10 | notification body internal temperature (stop drive) | 1: internal temperature of Power Zoom Adapter is high. At this moment, zoom drive control is stopped. 0: others |
| 32~17 | zoom drive speed level | Current speed of zoom drive. “0” position means stopped (no movement) |

| Revision History/Date | Corrections | Reviser | Remarks |
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5. Properties

Properties of camera and images objects can be retrieved and set by means of **EdsGetPropertyData**, **EdsSetPropertyData**, and other APIs.

For certain properties, if the target object is a camera, you can use the **EdsGetPropertyDesc** API to get the properties that can currently be set. For details, see the description of **EdsGetPropertyDesc**.

For the various properties there are, this section explains the objects they describe and what the properties mean.

5.1 Property Lists

Property IDs are listed below. <defined location>EDSDKTypes.h

■ Camera Setting Properties

| Value | Define | Description |
|------------|----------------------------|---|
| 0x00000002 | kEdsPropID_ProductName | Product name |
| 0x00000004 | kEdsPropID_OwnerName | Owner |
| 0x00000005 | kEdsPropID_MakerName | Manufacturer |
| 0x00000006 | kEdsPropID_DateTime | For cameras, the system time; for images, the shooting time |
| 0x00000007 | kEdsPropID_FirmwareVersion | Firmware version |
| 0x00000008 | kEdsPropID_BatteryLevel | Battery state: 0–100% or "AC" |
| 0x0000000b | kEdsPropID_SaveTo | Destination where image was saved |
| 0x0000000c | kEdsPropID_CurrentStorage | Current Storage |
| 0x0000000d | kEdsPropID_CurrentFolder | Current Folder |
| 0x00000015 | kEdsPropID_BodyIDEx | Extension Body ID |

■ Image Properties

| Value | Define | Description |
|------------|--------------------------------|---|
| 0x00000100 | kEdsPropID_ImageQuality | Stored image |
| 0x00000102 | kEdsPropID_Orientation | Image orientation |
| 0x00000103 | kEdsPropID_ICCProfile | ICC Profile data |
| 0x00000104 | kEdsPropID.FocusInfo | Focus information |
| 0x00000106 | kEdsPropID.WhiteBalance | White balance (light source) |
| 0x00000107 | kEdsPropID.ColorTemperature | Color temperature setting value |
| 0x00000108 | kEdsPropID.WhiteBalanceShift | White balance shift compensation |
| 0x0000010d | kEdsPropID_ColorSpace | Color space setting |
| 0x00000114 | kEdsPropID_PictureStyle | Picture style |
| 0x00000115 | kEdsPropID_PictureStyleDesc | Picture style setting details |
| 0x00000200 | kEdsPropID_PictureStyleCaption | Computer settings caption for the picture style at the time of shooting |

■ Image GPS Properties

| Value | Define | Description |
|------------|---------------------------|--|
| 0x00000800 | kEdsPropID_GPSVersionID | Version of GPSInfoIFD |
| 0x00000801 | kEdsPropID_GPSLatitudeRef | Whether the latitude is north or south |
| 0x00000802 | kEdsPropID_GPSLatitude | Latitude |

| Revision History/Date | Corrections | Reviser | Remarks |
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|------------|----------------------------|---|
| 0x00000803 | kEdsPropID_GPSLongitudeRef | Whether the longitude is east or west |
| 0x00000804 | kEdsPropID_GPSLongitude | Longitude |
| 0x00000805 | kEdsPropID_GPSAltitudeRef | Reference altitude |
| 0x00000806 | kEdsPropID_GPSAltitude | Altitude |
| 0x00000807 | kEdsPropID_GPSTimeStamp | GPS Time stamp |
| 0x00000808 | kEdsPropID_GPSSatellites | GPS satellites |
| 0x00000809 | kEdsPropID_GPSStatus | GPS status |
| 0x00000812 | kEdsPropID_GPSMapDatum | Geodetic survey data used by the GPS receiver |
| 0x0000081D | kEdsPropID_GPSDateStamp | GPS date stamp |

■ Capture Properties

| Value | Define | Description |
|------------|----------------------------|---|
| 0x00000400 | kEdsPropID_AEMode | Shooting mode |
| 0x00000401 | kEdsPropID_DriveMode | Drive mode |
| 0x00000402 | kEdsPropID_ISOSpeed | ISO sensitivity setting value |
| 0x00000403 | kEdsPropID_MeteringMode | Metering mode |
| 0x00000404 | kEdsPropID_AFMode | AF mode |
| 0x00000405 | kEdsPropID_Av | Aperture value at the time of shooting |
| 0x00000406 | kEdsPropID_Tv | Shutter speed setting value |
| 0x00000407 | kEdsPropID_ExposureCompens | Exposure compensation |
| 0x00000409 | kEdsPropID_FocalLength | Lens focal length information at the time of shooting |
| 0x0000040a | kEdsPropID_AvailableShots | Number of available shots |
| 0x0000040b | kEdsPropID_Bracket | ISO, auto exposure or flash exposure bracket |
| 0x0000040c | kEdsPropID_WhiteBalanceBra | White balance bracket |
| 0x0000040d | kEdsPropID_LensName | String representing the lens name |
| 0x0000040e | kEdsPropID_AEBracket | Auto exposure bracket value |
| 0x0000040f | kEdsPropID_FEBracket | Flash exposure bracket value |
| 0x00000410 | kEdsPropID_ISOBracket | ISO bracket value |
| 0x00000411 | kEdsPropID_NoiseReduction | Noise reduction |
| 0x00000412 | kEdsPropID_FlashOn | Use of the flash (activated or not) |
| 0x00000413 | kEdsPropID_RedEye | Red-eye reduction |
| 0x00000414 | kEdsPropID_FlashMode | Flash type |
| 0x00000416 | kEdsPropID_LensStatus | Lens state: attached or none |
| 0x00000418 | kEdsPropID_Artist | Artist |
| 0x00000419 | kEdsPropID_Copyright | Copyright |
| 0x00000436 | kEdsPropID_AEModeSelect | Shooting mode (Selectable) |
| 0x00000444 | kEdsPropID_PowerZoom_Speed | Zoom speed level setting (Power Zoom Adapter) |

■ EVF Properties

| Value | Define | Description |
|------------|------------------------------------|--------------------------------------|
| 0x00000500 | kEdsPropID_Evf_OutputDevice | Output device for live view |
| 0x00000501 | kEdsPropID_Evf_Mode | Status of live view |
| 0x00000502 | kEdsPropID_Evf_WhiteBalance | White balance of live view image. |
| 0x00000503 | kEdsPropID_Evf_ColorTemperature | Color temperature of live view image |
| 0x00000504 | kEdsPropID_Evf_DepthOfFieldPreview | Depth of field during preview mode |
| 0x00000507 | kEdsPropID_Evf_Zoom | Zoom ratio for live view |

| Revision History/Date | Corrections | Reviser | Remarks |
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|------------|--------------------------------------|---|
| 0x00000508 | kEdsPropID_Evf_ZoomPosition | Focus and zoom border position for live view |
| 0x0000050B | kEdsPropID_Evf_ImagePosition | Cropping position of the enlarged live view image |
| 0x0000050C | kEdsPropID_Evf_HistogramStatus | Display status of histogram |
| 0x0000050E | kEdsPropID_Evf_AFMode | AF mode for live view |
| 0x00000515 | kEdsPropID_Evf_HistogramY | HistogramY for live view image |
| 0x00000516 | kEdsPropID_Evf_HistogramR | HistogramR for live view image |
| 0x00000517 | kEdsPropID_Evf_HistogramG | HistogramG for live view image |
| 0x00000518 | kEdsPropID_Evf_HistogramB | HistogramB for live view image |
| 0x00000540 | kEdsPropID_Evf_CoordinateSystem | Coordinate system of live view image |
| 0x00000541 | kEdsPropID_Evf_ZoomRect | Focus and zoom border rectangle for live view |
| 0x00000550 | kEdsPropID_Evf_PowerZoom_CurPosition | Lens zoom position (Power Zoom Adapter) |
| 0x00000551 | kEdsPropID_Evf_PowerZoom_MaxPosition | The maximum zoom (tele) position of lens (Power Zoom Adapter) |
| 0x00000552 | kEdsPropID_Evf_PowerZoom_MinPosition | The minimum zoom (wide) position of lens (Power Zoom Adapter) |

■ For PowerShot Properties

| Value | Define | Description |
|------------|-----------------------------|-----------------------|
| 0x00000600 | kEdsPropID_DC_Zoom | Zoom step |
| 0x00000601 | kEdsPropID_DC_Strobe | Strobe mode type |
| 0x00000605 | kEdsPropID_LensBarrelStatus | Status of lens barrel |

■ Limited Properties(*1)

| Value | Define | Description |
|------------|--------------------------------|--|
| 0x01000016 | kEdsPropID_UTCTime | UTC time and date |
| 0x01000017 | kEdsPropID_TimeZone | Time zone setting |
| 0x01000018 | kEdsPropID_SummerTimeSetting | Daylight savings time setting |
| 0x01000415 | kEdsPropID_TempStatus | Temperature warning information |
| 0x01000421 | kEdsPropID_MirrorLockUpState | Status of mirror up shooting |
| 0x01000422 | kEdsPropID_FixedMovie | Movie mode status. |
| 0x01000423 | kEdsPropID_MovieParam | Setting the Movie Recording Image Quality. |
| 0x01000438 | kEdsPropID_MirrorUpSetting | Mirror Up Settings. |
| 0x01000544 | kEdsPropID_EVF_RollingPitching | Posture and angle information |
| 0x0100045e | kEdsPropID_AutoPowerOffSetting | Auto Power Off setting |
| 0x01000431 | kEdsPropID_Aspect | Set still crop/aspect ratio |
| 0x01000546 | kEdsPropID_Evf_VisibleRect | Crop/aspect position for live view image |

(*1)

A property group that has limitations on the camera models and usage.

Please refer to chapter **6. Appendix** when using it.

■ Other

| Value | Define | Description |
|------------|-------------------|--------------------------|
| 0x00000510 | kEdsPropID_Record | Status of movie shooting |
| 0x0000FFFF | - | Unknown |

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2 Property Details

Properties are explained in the following format.

5.2.xx PropertyID

The property ID.

Description

Explains the role of the property and how to work with it.

Target Object

Indicates the "target object" that the property describes and which is subject to operations involving the property.

Properties for which "Access Type" is [Read] can be read by means of objects subject to operations, such as remote cameras. Similarly, an access type of [Write] means the property can be set by means of operations on objects subject to operations.

"Data type number" indicates the enumeration name for data types that can be retrieved by means of **EdsGetPropertySize**.

"Data type" indicates the data type of property data that can be retrieved or set by means of an **EdsVoid** pointer, which is a dummy argument for **EdsGetPropertyData** or **EdsSetPropertyData**.

Value

Indicates possible values for the property.

Values are expressed as decimals unless otherwise noted.

Note

Considerations when using the property.

5.2.1 kEdsPropID_ProductName

Description

A string representing the product name.

If the target object is EdsCameraRef, this property indicates the name of the remote camera.

If the target object is EdsImageRef, this property indicates the name of the camera used to shoot the image.

Data Type

| | |
|---------------------|-----------|
| Data type number | Data type |
| kEdsDataType_String | EdsChar[] |

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_String | EdsChar[] |
| EdsImageRef | | | |

Value

ASCII text strings up to 32 characters, including null-terminated strings.

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.2 kEdsPropID_BodyIDEx

Description

Indicates the product serial number.

If the target object is EdsCameraRef, this property indicates the serial number of the remote camera.

If the target object is EdsImageRef, this property indicates the serial number of the camera used to shoot the image.

Data Type

| | |
|---------------------|-----------|
| Data type number | Data type |
| kEdsDataType_String | EdsChar[] |

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_String | EdsChar[] |
| EdsImageRef | | | |

Value

Integer values.

5.2.3 kEdsPropID_OwnerName

Description

Indicates a string identifying the owner as registered on the camera.

If the target object is EdsCameraRef, this property indicates the owner name for the remote camera.

If the target object is EdsImageRef, this property indicates the owner name for the camera used to shoot the image.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_String | EdsChar[] |
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

Value

ASCII text strings up to 32 characters, including null-terminated strings.

Note

Be sure to perform the following procedure before setting this property.

Execute UI lock using EdsSendStatusCommand (with designate 1 in inParam).

5.2.4 kEdsPropID_Artist

Description

Indicates a string identifying the photographer as registered on the camera.

If the target object is EdsCameraRef, this property indicates the owner name for the remote camera.

If the target object is EdsImageRef, this property indicates the owner name for the camera used to shoot the image.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_String | EdsChar[] |
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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Value

ASCII text strings up to 64 characters, including null-terminated strings.

Note

Be sure to perform the following procedure before setting this property.
Execute UI lock using EdsSendStatusCommand (with designate 1 in inParam).

5.2.5 kEdsPropID_Copyright**Description**

Indicates a string identifying the copyright information as registered on the camera.
If the target object is EdsCameraRef, this property indicates the owner name for the remote camera.
If the target object is EdsImageRef, this property indicates the owner name for the camera used to shoot the image.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_String | EdsChar[] |
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

Value

ASCII text strings up to 64 characters, including null-terminated strings.

Note

Be sure to perform the following procedure before setting this property.
Execute UI lock using EdsSendStatusCommand (with designate 1 in inParam).

5.2.6 kEdsPropID_MakerName**Description**

Indicates a string identifying the manufacturer.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

Value

ASCII strings, including null-terminated strings. For our purposes: "Canon".

5.2.7 kEdsPropID_DateTime**Description**

Indicates the time and date set on the camera or the shooting date and time of images.
If the target object is EdsCameraRef, this property indicates the camera system time.
If the target object is EdsImageRef, this property indicates the time and date of shooting.

Target Object

| Target object | Access type |
|---------------|-------------|
| EdsCameraRef | Read |
| EdsImageRef | Read |

Value

The time and date as an EdsTime type.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.8 kEdsPropID_UTCTime

Description

Indicates the time and date set on the camera.

Target Object

| Target object | Access type |
|---------------|-------------|
| EdsCameraRef | Read/Write |

Value

The time and date as an EdsTime type.

Note

This property is only supported for models with the following menus:
 [Date / Time / Zone]

Refer to the following chapters for detailed instructions.

6.6 Steps to Use Date/Time/Zone Properties

5.2.9 kEdsPropID_TimeZone

Description

Indicates the time zone setting for the camera.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Bit number | Description | Value |
|------------|-----------------|------------------------------------|
| 16-31 | time zone | Values defined in Enum EdsTimeZone |
| 0-15 | time difference | Time difference in minutes |

Enum EdsTimeZone

| Value | Description |
|--------|-----------------|
| 0x0000 | None |
| 0x0001 | Chatham Islands |
| 0x0002 | Wellington |
| 0x0003 | Solomon Island |
| 0x0004 | Sydney |
| 0x0005 | Adeladie |
| 0x0006 | Tokyo |
| 0x0007 | Hong Kong |
| 0x0008 | Bangkok |
| 0x0009 | Yangon |
| 0x000A | Dacca |
| 0x000B | Kathmandu |
| 0x000C | Delhi |
| 0x000D | Karachi |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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|--------|---------------------|
| 0x000E | Kabul |
| 0x000F | Dubai |
| 0x0010 | Tehran |
| 0x0011 | Moscow |
| 0x0012 | Cairo |
| 0x0013 | Paris |
| 0x0014 | London |
| 0x0015 | Azores |
| 0x0016 | Fernando de Noronha |
| 0x0017 | São Paulo |
| 0x0018 | Newfoundland |
| 0x0019 | Santiago |
| 0x001A | Caracas |
| 0x001B | New York |
| 0x001C | Chicago |
| 0x001D | Denver |
| 0x001E | Los Angeles |
| 0x001F | Anchorage |
| 0x0020 | Honolulu |
| 0x0021 | Samoa |
| 0x0022 | Riyadh |
| 0x0023 | Manaus |
| 0x0100 | UTC |

Note

This property is only supported for models with the following menus:

[Date / Time / Zone]

Refer to the following chapters for detailed instructions.

6.6 Steps to Use Date/Time/Zone Properties

5.2.10 kEdsPropID_SummerTimeSetting

Description

Indicates the camera's daylight savings time setting.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Value | Description |
|-------|-------------|
| 0 | OFF |
| 1 | ON |

Note

This property is only supported for models with the following menus:

[Date / Time / Zone]

Refer to the following chapters for detailed instructions.

6.6 Steps to Use Date/Time/Zone Properties

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.11 kEdsPropID_FirmwareVersion**Description**

Indicates the camera's firmware version.

Data Type

| | |
|---------------------|-----------|
| Data type number | Data type |
| kEdsDataType_String | EdsChar[] |

Target Object

| | |
|---------------|-------------|
| Target object | Access type |
| EdsCameraRef | Read |
| EdsImageRef | Read |

Value

ASCII text strings up to 32 characters, including null-terminated strings.

5.2.12 kEdsPropID_BatteryLevel**Description**

Indicates the camera battery level.

When the battery reaches a particular level, a kEdsPropertyEvent_PropertyChanged event is generated.
The battery level that triggers the event is model-dependent.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_UInt32 | EdsUInt32 |

Value

| | |
|------------|-------------------|
| Value | Description |
| 0–100 | Battery level (%) |
| 0xffffffff | AC power |

5.2.13 kEdsPropID_BatteryQuality**Description**

Gets the level of degradation of the battery.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_UInt32 | EdsUInt32 |

Value

| | |
|---------------------------|--------------------|
| Value | Description |
| 3:kEdsBatteryQuality_Full | No degradation |
| 2:kEdsBatteryQuality_HI | Slight degradation |
| 1:kEdsBatteryQuality_Half | Degraded |
| 0:kEdsBatteryQuality_Low | Degraded |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.14 kEdsPropID_SaveTo

Description

Indicates the destination of images after shooting.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |

Value

Values defined in Enum EdsSaveTo.

Enum EdsSaveTo <defined location>EDSDKTypes.h

| Value | Description |
|-------|--|
| 1 | Save on a memory card of a remote camera |
| 2 | Save by downloading to a host computer |
| 3 | Save both ways |

Note

- If kEdsSaveTo_Host or kEdsSaveTo_Both is used, the camera caches the image data to be transferred until DownloadComplete or CancelDownload APIs are executed on the host computer (by an application). The application creates a callback function to receive camera events. If kEdsObjectEvent_DirItemRequestTransfer or kEdsObjectEvent_DirItemRequestTransferDT events are received, the application must execute DownloadComplete (after downloading) or CancelDownload (if images are not needed) for the camera.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.15 kEdsPropID_FocusInfo

Description

Indicates focus information for image data at the time of shooting.

AF frames in focus are indicated by JustFocus, even during manual shooting.

| | |
|----------------|---|
| Live View | AF Frame |
| When operating | The AF frame depending on the AF mode during live view set for the camera |
| When stopped | The AF frame during Quick Mode |

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|------------------------|--------------|
| EdsCameraRef | Read | kEdsDataType_FocusInfo | EdsFocusInfo |
| EdsImageRef | Read | kEdsDataType_FocusInfo | EdsFocusInfo |

Value

| Element | Value |
|-------------|--|
| imageRect | The upper-left coordinates of the image, as well as the width and height |
| pointNumber | AF frame number |
| focusPoint | valid 0x00 : Invalid AF frame 0x01 : Valid AF frame Note: There are as many valid AF frames as the number in FrameNumber. Usually, AF frames are recorded consecutively, starting with 0. Note: AF frame coordinates and the array number for storage vary by model. |
| Selected | 0x00 : Unselected AF Frame 0x01 : Selected AF Frame |
| justFocus | 0x00 : Standby 0x01 : Focusing success 0x02 : Focusing failure 0x03 : Servo AF stopping 0x04 : Servo AF running |
| rect | Upper-left and lower-right coordinates of the AF frame |
| reserved | Reserved |

5.2.16 kEdsPropID_ICCProfile

Description

Indicates the ICC profile data embedded in an image.

An error is returned if you use EdsGetPropertyData to attempt to get the ICC profile of an image without an embedded ICC profile.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------|-----------|
| EdsImageRef | Read | kEdsDataType_BytBlock | EdsInt8[] |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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Value

Returns ICC profile data as ByteBlock data.

5.2.17 kEdsPropID_ImageQuality**Description**

Indicates the image quality.

If you designate EdsCameraRef as the target object, this property indicates the current image quality set on the camera.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Bit number | Description | Value |
|------------|---|--|
| 24-31 | Image Size of the main image | Values defined in enum EdsImageSize |
| 20-23 | Image Format of the main image | Values defined in enum EdsImageType |
| 16-19 | Image Compress Quality of the main image | Values defined in enum EdsImageCompressQuality |
| 12-15 | reserved | |
| 8-11 | Image Size of the secondary image | Values defined in enum EdsImageSize |
| 4-7 | Image Format of the secondary image | Values defined in enum EdsImageType |
| 0-3 | Image Compress Quality of the secondary image | Values defined in enum EdsImageCompressQuality |

EdsImageType <defined location>EDSDKTypes.h

| Value | Description |
|------------|-------------|
| 0x00000000 | Unknown |
| 0x00000001 | Jpeg |
| 0x00000002 | CRW |
| 0x00000004 | RAW |
| 0x00000006 | CR2 |
| 0x00000008 | HEIF |

EdsImageSize <defined location>EDSDKTypes.h

| Value | Description |
|-------|-------------|
| 0 | Large |
| 1 | Medium |
| 2 | Small |
| 5 | Medium 1 |
| 6 | Medium 2 |
| 14 | Small1 |
| 15 | Small2 |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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|------------|---------|
| 16 | Small3 |
| 0xFFFFFFFF | Unknown |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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EdsCompressQuality <defined location>EDSDKTypes.h

| Value | Description |
|------------|-------------|
| 2 | Normal |
| 3 | Fine |
| 4 | Lossless |
| 5 | Superfine |
| 0xFFFFFFFF | Unknown |

Note

- These appropriate values are enumerated in “EDSDKTypes.h”.

5.2.18 kEdsPropID_Orientation

Description

Indicates image rotation information.

This property can be read or written, regardless of the image compression format (RAW, JPEG, and so on); the access type is Read/Write.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Value | Description | U: Up D: Down L: Left R: Right |
|-------|---|---|
| 1 | The 0th row is at the visual top of the image, and the 0th column is on the visual left-hand side | U L + R D |
| 3 | The 0th row is at the visual bottom of the image, and the 0th column is on the visual right-hand side | D R + L U |
| 6 | The 0th row is on the visual right-hand side of the image, and the 0th column is at the visual top | L D + U R |
| 8 | The 0th row is on the visual left-hand side of the image, and the 0th column is at the visual bottom | R U + D L |
| Other | Reserved | |

Note

Rotation information is retrieved from images' Exif information. Thus, images rotated by means of a software tool of computer may be displayed differently from how they would appear using the actual rotation information.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.19 kEdsPropID_AEMode

Description

Indicates settings values of the camera in shooting mode.

When the AE Mode Dial is set to camera user settings, you will get the AE mode which is been registered to the selected camera user setting.

For the camera which AE Mode is settable, you can change the AE Mode by using kEdsPropID_AEModeSelect.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_UInt32 | EdsUInt32 |
| EdsImageRef | Read | | |

Value

Values defined in Enum EdsAEMode.

Enum EdsAEMode

| Value | Description |
|-------|--|
| 0x00 | Program AE |
| 0x01 | Shutter-Speed Priority AE |
| 0x02 | Aperture Priority AE |
| 0x03 | Manual Exposure |
| 0x04 | Bulb |
| 0x05 | Auto Depth-of-Field AE |
| 0x06 | Depth-of-Field AE |
| 0x07 | Camera settings registered |
| 0x08 | Lock |
| 0x09 | Auto |
| 0x0A | Night Scene Portrait |
| 0x0B | Sports |
| 0x0C | Portrait |
| 0x0D | Landscape |
| 0x0E | Close-Up |
| 0x0F | Flash Off |
| 0x13 | Creative Auto |
| 0x16 | Scene Intelligent Auto |
| 0x17 | Night Scenes |
| 0x18 | Backlit Scenes |
| 0x1A | Kids |
| 0x1B | Food |
| 0x1C | Candlelight |
| 0x1E | Grainy B/W |
| 0x1F | Soft focus |
| 0x20 | Toy camera effect |
| 0x21 | Fish-eye effect |
| 0x22 | Water painting effect |
| 0x23 | Miniature effect |
| 0x14 | Movies |
| 0x15 | Photo In Movie (This value is valid for only Image.) |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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|------------|--------------------------------|
| 0x24 | HDR art standard |
| 0x25 | HDR art vivid |
| 0x26 | HDR art bold |
| 0x27 | HDR art embossed |
| 0x28 | Dream |
| 0x29 | Old Movies |
| 0x2A | Memory |
| 0x2B | Dramatic B&W |
| 0x2C | Miniature effect movie |
| 0x2D | Panning |
| 0x2E | Group Photo |
| 0x32 | Myself (Self Portrait) |
| 0x33 | Plus Movie Auto |
| 0x34 | SmoothSkin |
| 0x36 | Silent Mode |
| 0x37 | Flexible-priority AE |
| 0x38 | Oil painting (Art bold effect) |
| 0x39 | Fireworks |
| 0x3A | Star portrait |
| 0x3B | Star nightscape |
| 0x3C | Star trails |
| 0x3D | Star time-lapse movie |
| 0x3E | Background blur |
| 0x3F | VideoBlog |
| 0xFFFFFFFF | Not valid/no settings changes |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.20 kEdsPropID_AEModeSelect

Description

Indicates settings values of the camera in shooting mode.

You cannot set (that is, Write) this property on cameras with a mode dial.

If the target object is EdsCameraRef, you can use GetPropertyDesc to access this property and get a list of property values that can currently be set.

However, you cannot get a list of settable values from models featuring a dial. The GetPropertyDesc return value will be EDS_ERR_OK, and no items will be listed as values you can set.

The shooting mode is in either an applied or simple shooting zone. When a camera is in a shooting mode of the simple shooting zone, a variety of capture-related properties (such as for auto focus, drive mode, and metering mode) are automatically set to the optimal values. Thus, when the camera is in a shooting mode of a simple shooting zone, capture-related properties cannot be set on the camera.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|--------------|---------------------|-----------|
| EdsCameraRef | Read/(Write) | kEdsDataType_UInt32 | EdsUInt32 |

Value

Values defined in Enum EdsAEMode.

Enum EdsAEModeSelect

| Value | Description |
|-------|-------------------|
| 0x07 | Custom1 |
| 0x10 | Custom2 |
| 0x11 | Custom3 |
| 0x19 | SCN Special scene |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.21 kEdsPropID_DriveMode

Description

Indicates settings values of the camera in drive mode.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_Uint32 | EdsUInt32 |
| EdsImageRef | Read | | |

Value

| Value | Description |
|------------|------------------------|
| 0x00000000 | Single shooting |
| 0x00000001 | Continuous Shooting |
| 0x00000002 | Video |
| 0x00000004 | High speed continuous |
| 0x00000005 | Low speed continuous |
| 0x00000006 | Single Silent shooting |
| 0x00000007 | Self-timer:Continuous |
| 0x00000010 | Self-timer:10 sec |
| 0x00000011 | Self-timer:2 sec |
| 0x00000012 | 14fps super high speed |
| 0x00000013 | Silent single shooting |
| 0x00000014 | Silent contin shooting |
| 0x00000015 | Silent HS continuous |
| 0x00000016 | Silent LS continuous |

5.2.22 kEdsPropID_ISOSpeed

Description

Indicates ISO sensitivity settings values.

Caution is advised because it is possible to retrieve different values by means of EdsCameraRef and EdsImageRef. If the target object is EdsCameraRef, you can use GetPropertyDesc to access this property and get a list of property values that can currently be set.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_Uint32 | EdsUInt32 |
| EdsImageRef | Read | | |

Value (EdsCameraRef)

| Value | Description |
|------------|-------------|
| 0x00000000 | ISO Auto |
| 0x00000028 | ISO 6 |
| 0x00000030 | ISO 12 |
| 0x00000038 | ISO 25 |
| 0x00000040 | ISO 50 |
| 0x00000048 | ISO 100 |
| 0x0000004b | ISO 125 |
| 0x0000004d | ISO 160 |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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|------------|-------------------------------|
| 0x00000050 | ISO 200 |
| 0x00000053 | ISO 250 |
| 0x00000055 | ISO 320 |
| 0x00000058 | ISO 400 |
| 0x0000005b | ISO 500 |
| 0x0000005d | ISO 640 |
| 0x00000060 | ISO 800 |
| 0x00000063 | ISO 1000 |
| 0x00000065 | ISO 1250 |
| 0x00000068 | ISO 1600 |
| 0x0000006b | ISO 2000 |
| 0x0000006d | ISO 2500 |
| 0x00000070 | ISO 3200 |
| 0x00000073 | ISO 4000 |
| 0x00000075 | ISO 5000 |
| 0x00000078 | ISO 6400 |
| 0x0000007b | ISO 8000 |
| 0x0000007d | ISO 10000 |
| 0x00000080 | ISO 12800 |
| 0x00000083 | ISO 16000 |
| 0x00000085 | ISO 20000 |
| 0x00000088 | ISO 25600 |
| 0x0000008b | ISO 32000 |
| 0x0000008d | ISO 40000 |
| 0x00000090 | ISO 51200 |
| 0x00000093 | ISO 64000 |
| 0x00000095 | ISO 80000 |
| 0x00000098 | ISO 102400 |
| 0x000000a0 | ISO 204800 |
| 0x000000a8 | ISO 409600 |
| 0x000000b0 | ISO 819200 |
| 0xffffffff | Not valid/no settings changes |

Value (EdsImageRef)

| Value | Description |
|--------|-------------|
| 50 | ISO 50 |
| 100 | ISO 100 |
| 200 | ISO 200 |
| 400 | ISO 400 |
| 800 | ISO 800 |
| 1600 | ISO 1600 |
| 3200 | ISO 3200 |
| 6400 | ISO 6400 |
| 12800 | ISO 12800 |
| 25600 | ISO 25600 |
| 51200 | ISO 51200 |
| 102400 | ISO 102400 |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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The value you can retrieve from the image data, indicated by EdsImageRef, represents the ISO value itself.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.23 kEdsPropID_MeteringMode

Description

Indicates the metering mode.

If the target object is EdsCameraRef, you can use GetPropertyDesc to access this property and get a list of property values that can currently be set.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_Uint32 | EdsUInt32 |
| EdsImageRef | Read | | |

Value

| Value | Description |
|------------|------------------------------------|
| 1 | Spot metering |
| 3 | Evaluative metering |
| 4 | Partial metering |
| 5 | Center-weighted averaging metering |
| 0xFFFFFFFF | Not valid/no settings changes |

Note

For details on various metering modes, see the camera user's manual.

5.2.24 kEdsPropID_AFMode

Description

Indicates AF mode settings values.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_Uint32 | EdsUInt32 |
| EdsImageRef | | | |

Value

| Value | Description |
|------------|-------------------------------|
| 0 | One-Shot AF |
| 1 | AI Servo AF |
| 2 | AI Focus AF |
| 3 | Manual Focus |
| 0xffffffff | Not valid/no settings changes |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.25 kEdsPropID_Av

Description

Indicates the camera's aperture value.

Caution is advised because EdsCameraRef and EdsImageRef yield different data types and values.

If the target object is EdsCameraRef, you can use GetPropertyDesc to access this property and get a list of property values that can currently be set.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-------------|
| EdsCameraRef | Read/Write | kEdsDataType_Uint32 | EdsUInt32 |
| EdsImageRef | Read | kEdsType_Rational | EdsRational |

Value (EdsCameraRef)

| Value | Aperture value |
|-------|----------------|
| 0x08 | 1 |
| 0x0B | 1.1 |
| 0x0C | 1.2 |
| 0x0D | 1.2 (1/3) |
| 0x10 | 1.4 |
| 0x13 | 1.6 |
| 0x14 | 1.8 |
| 0x15 | 1.8 (1/3) |
| 0x18 | 2 |
| 0x1B | 2.2 |
| 0x1C | 2.5 |
| 0x1D | 2.5 (1/3) |
| 0x20 | 2.8 |
| 0x23 | 3.2 |
| 0x85 | 3.4 |
| 0x24 | 3.5 |
| 0x25 | 3.5 (1/3) |
| 0x28 | 4 |
| 0x2B | 4.5 |
| 0x2C | 4.5 |
| 0x2D | 5.0 |
| 0x30 | 5.6 |
| 0x33 | 6.3 |
| 0x34 | 6.7 |
| 0x35 | 7.1 |
| 0x38 | 8 |
| 0x3B | 9 |
| 0x3C | 9.5 |

| Value | Aperture value |
|------------|-------------------------------|
| 0x3D | 10 |
| 0x40 | 11 |
| 0x43 | 13 (1/3) |
| 0x44 | 13 |
| 0x45 | 14 |
| 0x48 | 16 |
| 0x4B | 18 |
| 0x4C | 19 |
| 0x4D | 20 |
| 0x50 | 22 |
| 0x53 | 25 |
| 0x54 | 27 |
| 0x55 | 29 |
| 0x58 | 32 |
| 0x5B | 36 |
| 0x5C | 38 |
| 0x5D | 40 |
| 0x60 | 45 |
| 0x63 | 51 |
| 0x64 | 54 |
| 0x65 | 57 |
| 0x68 | 64 |
| 0x6B | 72 |
| 0x6C | 76 |
| 0x6D | 80 |
| 0x70 | 91 |
| 0xffffffff | Not valid/no settings changes |

Note: Values labeled "(1/3)" represent property values when the step set in the Custom Function is 1/3.

Value (EdsImageRef)

Returns the aperture value as an EdsRational type.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.26 kEdsPropID_Tv

Description

Indicates the shutter speed.

Caution is advised because EdsCameraRef and EdsImageRef yield different values.

If the target object is EdsCameraRef, you can use GetPropertyDesc to access this property and get a list of property values that can currently be set.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-------------|
| EdsCameraRef | Read/Write | kEdsDataType_Uint32 | EdsUInt32 |
| EdsImageRef | Read | kEdsType_Rational | EdsRational |

Value (EdsCameraRef)

| Value | Shutter speed |
|-------|---------------|
| 0x0C | Bulb |
| 0x10 | 30" |
| 0x13 | 25" |
| 0x14 | 20" |
| 0x15 | 20" (1/3) |
| 0x18 | 15" |
| 0x1B | 13" |
| 0x1C | 10" |
| 0x1D | 10" (1/3) |
| 0x20 | 8" |
| 0x23 | 6" (1/3) |
| 0x24 | 6" |
| 0x25 | 5" |
| 0x28 | 4" |
| 0x2B | 3"2 |
| 0x2C | 3" |
| 0x2D | 2"5 |
| 0x30 | 2" |
| 0x33 | 1"6 |
| 0x34 | 1"5 |
| 0x35 | 1"3 |
| 0x38 | 1" |
| 0x3B | 0"8 |
| 0x3C | 0"7 |
| 0x3D | 0"6 |
| 0x40 | 0"5 |
| 0x43 | 0"4 |
| 0x44 | 0"3 |
| 0x45 | 0"3 (1/3) |
| 0x48 | 1/4 |
| 0x4B | 1/5 |
| 0x4C | 1/6 |
| 0x4D | 1/6 (1/3) |
| 0x50 | 1/8 |

| Value | Shutter speed |
|-------|---------------|
| 0x5D | 1/25 |
| 0x60 | 1/30 |
| 0x63 | 1/40 |
| 0x64 | 1/45 |
| 0x65 | 1/50 |
| 0x68 | 1/60 |
| 0x6B | 1/80 |
| 0x6C | 1/90 |
| 0x6D | 1/100 |
| 0x70 | 1/125 |
| 0x73 | 1/160 |
| 0x74 | 1/180 |
| 0x75 | 1/200 |
| 0x78 | 1/250 |
| 0x7B | 1/320 |
| 0x7C | 1/350 |
| 0x7D | 1/400 |
| 0x80 | 1/500 |
| 0x83 | 1/640 |
| 0x84 | 1/750 |
| 0x85 | 1/800 |
| 0x88 | 1/1000 |
| 0x8B | 1/1250 |
| 0x8C | 1/1500 |
| 0x8D | 1/1600 |
| 0x90 | 1/2000 |
| 0x93 | 1/2500 |
| 0x94 | 1/3000 |
| 0x95 | 1/3200 |
| 0x98 | 1/4000 |
| 0x9B | 1/5000 |
| 0x9C | 1/6000 |
| 0x9D | 1/6400 |
| 0xA0 | 1/8000 |

| Revision History/Date | Corrections | Reviser | Remarks |
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|------|------------|
| 0x53 | 1/10 (1/3) |
| 0x54 | 1/10 |
| 0x55 | 1/13 |
| 0x58 | 1/15 |
| 0x5B | 1/20 (1/3) |
| 0x5C | 1/20 |

| | |
|------------|-------------------------------|
| 0xA3 | 1/10000 |
| 0xA5 | 1/12800 |
| 0xA8 | 1/16000 |
| 0xffffffff | Not valid/no settings changes |
| | |

Note: Values labeled "(1/3)" represent property values when the step set in the Custom Function is 1/3.

Value (EdsImageRef)

Returns the shutter speed value as a kEdsType_Rational type.

Note

- Bulb is designed so that it cannot be set on cameras from a computer by means of SetPropertyData. (It cannot even be retrieved by means of GetPropertyDesc as a value that can be set.) This is because incorrect handling of Bulb would prevent shutter control from a computer.

5.2.27 kEdsPropID_FocalLength

Description

Indicates the focal length of the lens.

When a single-focus lens is used, the same value is returned for the Wide and Tele focal length.

You can obtain three items of information at once by using EdsGetPropertyData to get this property: the focal length at the time of shooting, the focal length of Wide, and the focal length of Tele. In this case, the buffer storing this property data is passed in three parts. However, if you prefer to get only the focal length at the time of shooting, you can get only that single part of the buffer.

Example: To get only the focal length at the time of shooting

```
EdsRatioal ratVal ;
err = EdsGetPropertyData( ref, kEdsPropID_FocalLength, 0, sizeof( EdsRational ), &ratVal );
```

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------------|---------------|
| EdsImageRef | Read | kEdsDataType_Rational_Array | EdsRational[] |

Value

| Array number | Description | Value |
|--------------|--------------------------------------|--------------------|
| 0 | Focal length at the time of shooting | |
| 1 | Wide focal length | Focal length value |
| 2 | Tele focal length | |

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.28 kEdsPropID_ExposureCompensation

Description

Indicates the exposure compensation.

Exposure compensation refers to compensation relative to the position of the standard exposure mark (in the center of the exposure gauge).

Caution is advised because EdsCameraRef and EdsImageRef yield different values.

If the target object is EdsCameraRef, you can use GetPropertyDesc to access this property and get a list of property values that can currently be set.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-------------|
| EdsCameraRef | Read/Write | kEdsDataType_Uint32 | EdsUInt32 |
| EdsImageRef | Read | kEdsType_Rational | EdsRational |

Value (EdsCameraRef)

| Value | Exposure compensation |
|-------|-----------------------|
| 0x28 | +5 |
| 0x25 | +4 2/3 |
| 0x24 | +4 1/2 |
| 0x23 | +4 1/3 |
| 0x20 | +4 |
| 0x1D | +3 2/3 |
| 0x1C | +3 1/2 |
| 0x1B | +3 1/3 |
| 0x18 | +3 |
| 0x15 | +2 2/3 |
| 0x14 | +2 1/2 |
| 0x13 | +2 1/3 |
| 0x10 | +2 |
| 0x0D | +1 2/3 |
| 0x0C | +1 1/2 |
| 0x0B | +1 1/3 |
| 0x08 | +1 |
| 0x05 | +2/3 |
| 0x04 | +1/2 |
| 0x03 | +1/3 |
| 0x00 | 0 |

| Value | Exposure compensation |
|------------|-------------------------------|
| 0xFD | -1/3 |
| 0xFC | -1/2 |
| 0xFB | -2/3 |
| 0xF8 | -1 |
| 0xF5 | -1 1/3 |
| 0xF4 | -1 1/2 |
| 0xF3 | -1 2/3 |
| 0xF0 | -2 |
| 0xED | -2 1/3 |
| 0xEC | -2 1/2 |
| 0xEB | -2 2/3 |
| 0xE8 | -3 |
| 0xE5 | -3 1/3 |
| 0xE4 | -3 1/2 |
| 0xE3 | -3 2/3 |
| 0xE0 | -4 |
| 0xDD | -4 1/3 |
| 0xDC | -4 1/2 |
| 0xDB | -4 2/3 |
| 0xD8 | -5 |
| 0xffffffff | Not valid/no settings changes |

Value (EdsImageRef)

Returns the exposure compensation as a kEdsType_Rational type.

Note

- Exposure compensation is not available if the camera is in manual exposure mode. Thus, the exposure compensation property is invalid.

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.29 kEdsPropID_AvailableShots**Description**

Indicates the number of shots available on a camera.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_Uint32 | EdsUInt32 |

Value

Integer values.

Note

- Cameras return the number of shots left on the camera based on the available disk capacity of the host computer they are connected to.

5.2.30 kEdsPropID_Bracket**Description**

Indicates the current bracket type.

If multiple brackets have been set on the camera, you can get the bracket type as a logical sum.

This property cannot be used to get bracket compensation. Compensation is collected separately because there are separate properties for each bracket type.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_Uint32 | EdsUInt32 |
| EdsImageRef | | | |

Value

Values defined in Enum EdsBracket.

Enum EdsBracket <defined location>EDSDKType.h

| Value | Description |
|------------|-------------|
| 0x01 | AE bracket |
| 0x02 | ISO bracket |
| 0x04 | WB bracket |
| 0x08 | FE bracket |
| 0xFFFFFFFF | Bracket off |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.31 kEdsPropID_AEBRACKET**Description**

Indicates the AE bracket compensation of image data.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------|-------------|
| EdsImageRef | Read | kEdsDataType_Rational | EdsRational |

Value

Returns the AE bracket compensation. For details on the compensation range and number of steps, see the camera user's manual.

5.2.32 kEdsPropID_FEBRACKET**Description**

Indicates the FE bracket compensation at the time of shooting of image data.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------|-------------|
| EdsImageRef | Read | kEdsDataType_Rational | EdsRational |

Value

Returns the FE bracket compensation. For details on the compensation range and number of steps, see the camera user's manual.

5.2.33 kEdsPropID_ISOBRACKET**Description**

Indicates the ISO bracket compensation at the time of shooting of image data.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------|-------------|
| EdsImageRef | Read | kEdsDataType_Rational | EdsRational |

Value

Returns the ISO bracket compensation. For details on the compensation range and number of steps, see the camera user's manual.

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.34 kEdsPropID_WhiteBalanceBracket

Description

Indicates the white balance bracket amount.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|--------------------------|------------|
| EdsCameraRef | Read | kEdsDataType_Int32_Array | EdsInt32[] |
| EdsImageRef | | | |

Value(EdsCameraRef)

| Array number | Description | Value |
|--------------|--|---|
| 0 | BracketMode The bracket amount from the WhiteBalanceShift position toward AB | 0 = OFF 1 = Mode AB 2 = Mode GM 0xFFFFFFFF = Not Supported |
| 1 | BracketValueAB The bracket amount from the WhiteBalanceShift position toward AB | 0 to +9 |
| 2 | BracketValueGM The bracket amount from the WhiteBalanceShift position toward GM | 0 to +9 |

Note: "AB" means the bracket toward amber-blue and "GM" toward green-magenta.

Note

- Under the camera specifications, AB and GM modes cannot be set at the same time.
- Depending on the model, it may not be possible to get an accurate value.

Value (EdsImageRef)

| Array number | Description | Value |
|--------------|--|---|
| 0 | BracketMode The bracket amount from the WhiteBalanceShift position toward AB | 0 = OFF 1 = Mode AB 2 = Mode GM 0xFFFFFFFF = Not Supported |
| 1 | BracketValueAB The bracket amount from the WhiteBalanceShift position toward AB | -9 to +9 (B direction–A direction) |
| 2 | BracketValueGM The bracket amount from the WhiteBalanceShift position toward GM | -9 to +9 (G direction–M direction) |

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.35 kEdsPropID_WhiteBalance**Description**

Indicates the white balance type.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|--------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_Int32 | EdsInt32 |
| EdsImageRef | Read | | |

Value

Values defined in Enum EdsWhiteBalance.

Enum EdsWhiteBalance <defined location>EDSDKType.h

| Value | Description |
|-------|--|
| 0 | Auto: Ambience priority |
| 1 | Daylight |
| 2 | Cloudy |
| 3 | Tungsten |
| 4 | Fluorescent |
| 5 | Flash |
| 6 | Manual (set by shooting a white card or paper) |
| 8 | Shade |
| 9 | Color temperature |
| 10 | Custom white balance: PC-1 |
| 11 | Custom white balance: PC-2 |
| 12 | Custom white balance: PC-3 |
| 15 | Manual 2 |
| 16 | Manual 3 |
| 18 | Manual 4 |
| 19 | Manual 5 |
| 20 | Custom white balance: PC-4 |
| 21 | Custom white balance: PC-5 |
| 23 | Auto: White priority |

Note

- If the white balance type is "Color Temperature," to know the actual color temperature you must reference another property (kEdsPropID_ColorTemperature).

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.36 kEdsPropID_ColorTemperature

Description

Indicates the color temperature setting value. (Units: Kelvin)

Valid only when the white balance is set to Color Temperature.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |
| EdsImageRef | Read | | |

Value

2800–10000, in 100-Kelvin increments.
5200 represents a color temperature of 5200 K.

Note

- To know if the white balance is set to color temperature, refer to another property (kEdsPropID_WhiteBalance).

5.2.37 kEdsPropID_WhiteBalanceShift

Description

Indicates the white balance compensation.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|--------------------------|------------|
| EdsCameraRef | Read/Write | kEdsDataType_Int32_Array | EdsInt32[] |
| EdsImageRef | Read | | |

Value

| Array number | Description | Value |
|--------------|-------------|--|
| 0 | ValueAB | –9 to +9 0x7FFFFFFF = invalid value Note: 0 means no compensation, (–) means compensation toward blue, and (+) means compensation toward amber. |
| 1 | ValueGM | –9 to +9 0x7FFFFFFF = invalid value Note: 0 means no compensation, (–) means compensation toward green, and (+) means compensation toward magenta. |

Note: "AB" means compensation toward amber-blue and "GM" toward green-magenta.

5.2.38 kEdsPropID_ColorSpace

Description

Indicates the color space.

If the target object is EdsCameraRef and you designate ColorMatrix in inParam, this property corresponds to the color space setting value of ColorMatrix. Similarly, if you designate the processing parameter in inParam, it indicates that setting value. By using inParam = 0, you can designate the current color space.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |
| EdsImageRef | Read | | |

Value

Values of Enum EdsColorSpace.

Enum EdsColorSpace <defined location>EDSDKTypes.h

| Value | Description |
|------------|-------------|
| 1 | sRGB |
| 2 | Adobe RGB |
| 0xFFFFFFFF | Unknown |

5.2.39 kEdsPropID_PictureStyle**Description**

Indicates the picture style.

This property is valid only for models supporting picture styles.

To get or set the picture style registered in "User Setting," designate user setting 1–(kEdsPictureStyle_User1–) in inParam. By using inParam = 0, you can designate the current picture style.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |
| EdsImageRef | Read | | |

Value

Values defined in Enum EdsPictureStyle.

However, kEdsPictureStyle_UserX in Enum EdsPictureStyle is not used here.

Enum EdsPictureStyle <defined location>EDSDKTypes.h

| Value | Picture style |
|--------|--|
| 0x0081 | Standard |
| 0x0082 | Portrait |
| 0x0083 | Landscape |
| 0x0084 | Neutral |
| 0x0085 | Faithful |
| 0x0086 | Monochrome |
| 0x0087 | Auto (only for supported models). |
| 0x0088 | Fine Detail(only for supported models). |
| 0x0041 | Computer Setting 1 (base picture style only) |
| 0x0042 | Computer Setting 2 (base picture style only) |
| 0x0043 | Computer Setting 3 (base picture style only) |

| Revision History/Date | Corrections | Reviser | Remarks |
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Note

- Computer settings (1 and so on) refers to data that was set by designating a picture style file to upload to the camera from a host computer. Computer setting data is registered in the corresponding user setting. (For example, computer setting 1 corresponds to user setting 1). As a user setting, it represents a picture style that users can select.
- Picture styles registered in computer settings always have a base picture style. As for picture styles other than presets, only base picture styles can be retrieved by means of this property value.

5.2.40 kEdsPropID_PictureStyleDesc**Description**

Indicates settings for each picture style.

This property is valid only for models supporting picture styles.

With **EdsGetPropertyData** or **EdsSetPropertyData**, you can designate a picture style in inParam to set that picture style setting item. By using inParam = 0, you can designate the current picture style.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-------------------------------|---------------------|
| EdsCameraRef | Read/Write | kEdsDataType_PictureStyleDesc | EdsPictureStyleDesc |

Value

| Element | Value | Description |
|----------------|--|--------------------------|
| contrast | An integer from -4 to 4 | Contrast |
| sharpness | An integer from 0 to 7 | Sharpness Strength |
| saturation | An integer from -4 to 4 | Saturation |
| colorTone | An integer from -4 to 4 | Color tone |
| filterEffect | 0: None 1: Yellow 2: Orange 3: Red 4: Green 0xFFFFFFFF: Unknown | Monochrome filter effect |
| toningEffect | 0: None 1: Sepia 2: Blue 3: Violet 4: Green 0xFFFFFFFF: Unknown | Monochrome tone |
| sharpFineness | An integer from 1 to 5 | Sharpness Fineness |
| sharpThreshold | An integer from 1 to 5 | Sharpness Threshold |

5.2.41 kEdsPropID_FlashOn**Description**

Indicates if the flash was on at the time of shooting.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_Uint32 | EdsUInt32 |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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Value

| Value | Description |
|-------|-------------|
| 0 | No flash |
| 1 | Flash |

5.2.42 kEdsPropID_FlashMode**Description**

Indicates the flash type at the time of shooting.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------------|-------------|
| EdsImageRef | Read | kEdsDataType_Uint32_Array | EdsUInt32[] |

Value

| Array number | Description | Value |
|--------------|----------------|--|
| 0 | Flash type | 0 = None (the "flash type" item itself is not displayed) 1 = Internal 2 = external E-TTL 3 = external A-TTL 0xFFFFFFFF = Invalid value |
| 1 | Synchro timing | 0 = 1st Curtain Synchro 1 = 2nd Curtain Synchro 0xFFFFFFFF = Invalid value |

5.2.43 kEdsPropID_RedEye**Description**

Indicates red-eye reduction.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_Uint32 | EdsUInt32 |

Value

| Value | Description |
|------------|---------------|
| 0 | Off |
| 1 | On |
| 0xFFFFFFFF | Invalid value |

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.44 kEdsPropID_NoiseReduction**Description**

Indicates noise reduction.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_Uint32 | EdsUInt32 |

Value

| Value | Description |
|-------|-------------|
| 0 | Off |
| 1 | On 1 |
| 2 | On 2 |
| 3 | On |
| 4 | Auto |

Note

- Values 1–3 vary depending on the camera model.

5.2.45 kEdsPropID_PictureStyleCaption**Description**

Returns the user-specified picture style caption name at the time of shooting.

This property is valid only for models supporting picture styles.

User-specified picture styles refer to picture styles for which picture style files are read on a host computer and set on a camera.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

Value

ASCII text strings up to 32 characters, including null-terminated strings.

5.2.46 kEdsPropID_CurrentStorage**Description**

Gets the current storage media for the camera.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_String | EdsChar[] |

Value

Current media name (“CF”, “SD”, “HDD”)

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.47 kEdsPropID_CurrentFolder**Description**

Gets the current folder for the camera.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_String | EdsChar[] |

Value

Current folder name

5.2.48 kEdsPropID_LensStatus**Description**

Returns the camera state of whether the lens attached to the camera.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|------------------|-----------|
| EdsCameraRef | Read | kEds_EdsUInt32 | EdsUInt32 |

Value

Returns the lens name as an EdsUInt32 value.

| Value | Description |
|-------|---------------------------|
| 0 | The lens is not attached. |
| 1 | The lens is attached |

Note

This property is supported only for model of EOS Series..

5.2.49 kEdsPropID_LensName**Description**

Returns the lens name.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_String | EdsChar[] |
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

Value

Returns the lens name as an ASCII string.

Note

This property is supported only for model of EOS Series.

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.50 kEdsPropID_DC_Zoom**Description**

Indicates the zoom step.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|------------------|-----------|
| EdsCameraRef | Read/Write | kEds_EdsUInt32 | EdsUInt32 |

Value

Depends on the model of the camera. See the value of EdsGetPropertyDesc.

Example Settings : If the value of EdsGetPropertyDesc is 101

The number of zoom steps is 101. Possible values are:

| Value | Description |
|-------|---|
| 0 | Minimum zoom step value that can be set |
| 100 | Maximum zoom step value that can be set |

Note

This property is supported only for model of PowerShot Series.

5.2.51 kEdsPropID_DC_Strobe**Description**

Indicates the strobe mode type for PowerShot Series.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|------------------|-----------|
| EdsCameraRef | Read/Write | kEds_EdsUInt32 | EdsUInt32 |

Value

Values defined in Enum DcStrobe.

| Value | Description |
|-------|--------------|
| 0 | Auto |
| 1 | On |
| 2 | Slow Synchro |
| 3 | Off |

Note

This property is supported only for model of PowerShot Series.

5.2.52 kEdsPropID_LensBarrelStatus**Description**

Indicates the lens barrel status.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|------------------|-----------|
| EdsCameraRef | Read/Write | kEds_EdsUInt32 | EdsUInt32 |

| Revision History/Date | Corrections | Reviser | Remarks |
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Value

Values defined in Enum DcLensBarrelState.

| Value | Description |
|-------|-------------|
| 0 | Inner |
| 1 | Outer |

Note

This property is supported only for model of PowerShot Series.

5.2.53 kEdsPropID_PowerZoom_Speed**Description**

Zoom speed level setting by Power Zoom Adapter zoom drive.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|------------------|-----------|
| EdsCameraRef | Read/Write | kEds_EdsUInt32 | EdsUInt32 |

Value

Integral value.

Note

This property is supported only when using Power Zoom Adapter.

5.2.54 kEdsPropID_Evf_OutputDevice**Description**

Starts/ends live view.

The camera TFT and PC to be used as the output device for live view can be specified.

If a PC only is set for the output device, UILock status will be set for the camera except for the SET button.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|--------------|---------------------|-----------|
| EdsCameraRef | Read / Write | kEdsDataType_Uint32 | EdsUInt32 |

Value

| Value | Description |
|-------------------------------------|--|
| 0x01 : kEdsEvfOutputDevice_TFT | Live view is displayed on the camera's TFT |
| 0x02 : kEdsEvfOutputDevice_PC | The live view image can be transferred to the PC |
| 0x08 : kEdsEvfOutputDevice_PC_Small | The small live view image can be transferred to the PC |

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.55 kEdsPropID_Evf_Mode**Description**

Gets/sets live view function settings.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|--------------|---------------------|-----------|
| EdsCameraRef | Read / Write | kEdsDataType_Uint32 | EdsUInt32 |

Value

| Value | Description |
|-------|-------------|
| 0 | Disable |
| 1 | Enable |

5.2.56 kEdsPropID_Evf_WhiteBalance**Description**

Gets/sets the white balance of the live view image.

The white balance for the live view image can be set separately from that for the image being shot.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|--------------|---------------------|-----------|
| EdsCameraRef | Read / Write | kEdsDataType_Uint32 | EdsUInt32 |

Value

This is the same as kEdsPropID_WhiteBalance.

5.2.57 kEdsPropID_Evf_ColorTemperature**Description**

Gets/sets the color temperature of the live view image.

Just as with the white balance setting for the live view image, the color temperature for the live view image can also be set separately from that for the image being shot.

This is applied to the image only when the live view white balance is set to Color temperature.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|--------------|---------------------|-----------|
| EdsCameraRef | Read / Write | kEdsDataType_Uint32 | EdsUInt32 |

Value

This is the same as kEdsPropID_ColorTemperature.

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.58 kEdsPropID_Evf_DepthOfFieldPreview**Description**

Turns the depth of field ON/OFF during Preview mode.

If kEdsEvfOutputDevice is set to KEdsEvfOutputDevice_PC and depth of field is being used, the camera will be put in UI Lock status.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|--------------|---------------------|-----------|
| EdsCameraRef | Read / Write | kEdsDataType_Uint32 | EdsUInt32 |

Value

| Value | Description |
|-------|-------------|
| 0 | OFF |
| 1 | ON |

Note

This property is supported only for model of EOS Series.

5.2.59 kEdsPropID_Evf_Zoom**Description**

Gets/sets the zoom ratio for the live view.

The zoom ratio is set using EdsCameraRef, but obtained using live view image data, in other words, by using EdsEvfImageRef.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|---------------------|-----------|
| EdsCameraRef | Write | kEdsDataType_UInt32 | EdsUInt32 |
| EdsEvfImageRef | Read | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Value | Description |
|----------------------|---------------|
| 1 : kEdsEvfZoom_Fit | Entire screen |
| 5 : kEdsEvfZoom_x5 | 5 times |
| 10 : kEdsEvfZoom_x10 | 10 times |

Note

This property is supported only for model of EOS Series.

If the value of kEdsPropID_Evf_Zoom is set to 10 times, the live view image obtained with EdsDownloadEvfImage will be an image with a magnification of 5 times.

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.60 kEdsPropID_Evf_ZoomPosition

Description

Gets/sets the focus and zoom border position for live view.

The focus and zoom border is set using EdsCameraRef, but obtained using live view image data, in otherwords, by using EdsEvfImageRef.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|--------------------|-----------|
| EdsCameraRef | Write | kEdsDataType_Point | EdsPoint |
| EdsEvfImageRef | Read | kEdsDataType_Point | EdsPoint |

Value

The coordinates are the upper left coordinates of the focus and zoom border. These values expressed in a coordinate system of kEdsPropID_Evf_CoordinateSystem.

Note

The size of the focus and zoom border is one fifth the size of kEdsPropID_Evf_CoordinateSystem when 5x zoom or the entire screen is used, and one tenth the size of kEdsPropID_Evf_CoordinateSystem when 10x zoom is used. The coordinate set through this property will be rounded to the nearest amount that is available in the camera.

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.61 kEdsPropID_Evf_ZoomRect

Description

Gets the focus and zoom border rectangle for live view.

The focus and zoom border is obtained using EdsEvfImageRef.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|-------------------|-----------|
| EdsEvfImageRef | Read | kEdsDataType_Rect | EdsRect |

Value

The “point” member is the upper left coordinates of the focus and zoom border. And the “size” member is the rectangle of focus border size. These values expressed in a coordinate system of kEdsPropID_Evf_CoordinateSystem.

5.2.62 kEdsPropID_Evf_ImagePosition

Description

Gets the cropping position of the enlarged live view image.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|--------------------|-----------|
| EdsEvfImageRef | Read | kEdsDataType_Point | EdsPoint |

Value

The coordinates used are the upper left coordinates of the enlarged image. These values expressed in a coordinate system of kEdsPropID_Evf_CoordinateSystem.

5.2.63 kEdsPropID_Evf_CoordinateSystem

Description

Get the coordinate system of the live view image.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|--------------------|-----------|
| EdsEvfImageRef | Read | kEdsDataType_Point | EdsSize |

Value

The coordinate system is used to express each value of the live view image.

The area information uses a coordinate system in which upper left corner of still image L size is origin (0, 0), horizontal line that is positive in right direction from origin is x-axis, and vertical line that is positive in down direction is y-axis. The coordinate units are both x and y, Pixel.

See Also

[kEdsPropID_Evf_ZoomPosition](#)
[kEdsPropID_Evf_ZoomRect](#)
[kEdsPropID_Evf_ImagePosition](#)
[kEdsPropID_Evf_VisibleRect](#)
[EdsSetFramePoint](#)

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.64 kEdsPropID_Evf_HistogramY**Description**

Gets the histogram for live view image data.

The histogram can be used to obtain Y.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|------------------------|-------------|
| EdsEvfImageRef | Read | kEdsDataType_ByteBlock | EdsUInt32[] |

Value

The histogram stores data in the form Y(0)...Y(n) (0<=n<=255).

Cumulative values in the histogram differ from the total number of pixels in the image data.

5.2.65 kEdsPropID_Evf_HistogramR**Description**

Gets the histogram for live view image data.

The histogram can be used to obtain R.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|------------------------|-------------|
| EdsEvfImageRef | Read | kEdsDataType_ByteBlock | EdsUInt32[] |

Value

The histogram stores data in the form R(0)...R(n) (0<=n<=255).

Cumulative values in the histogram differ from the total number of pixels in the image data.

5.2.66 kEdsPropID_Evf_HistogramG**Description**

Gets the histogram for live view image data.

The histogram can be used to obtain G.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|------------------------|-------------|
| EdsEvfImageRef | Read | kEdsDataType_ByteBlock | EdsUInt32[] |

Value

The histogram stores data in the form G(0)...G(n) (0<=n<=255).

Cumulative values in the histogram differ from the total number of pixels in the image data.

5.2.67 kEdsPropID_Evf_HistogramB**Description**

Gets the histogram for live view image data.

The histogram can be used to obtain B.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|------------------------|-------------|
| EdsEvfImageRef | Read | kEdsDataType_ByteBlock | EdsUInt32[] |

| Revision History/Date | Corrections | Reviser | Remarks |
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Value

The histogram stores data in the form B(0)...B(n) (0<=n<=255).

Cumulative values in the histogram differ from the total number of pixels in the image data.

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.68 kEdsPropID_Evf_HistogramStatus**Description**

Gets the display status of the histogram.

The display status of the histogram varies depending on settings such as whether live view exposure simulation is ON/OFF, whether strobe shooting is used, whether bulb shooting is used, etc.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|---------------------|-----------|
| EdsEvfImageRef | Read | kEdsDataType_Uint32 | EdsUInt32 |

Value

| Value | Description |
|-----------------------------------|-----------------------|
| 0 : kEdsEvfHistogramStatus_Hide | Hide the histogram |
| 1 : kEdsEvfHistogramStatus_Normal | Display the histogram |
| 2: kEdsEvfHistogramStatus_Grayout | Grayout the histogram |

5.2.69 kEdsPropID_Evf_AFMode**Description**

Set/Get the AF mode for the live view.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|--------------|---------------------|-----------|
| EdsCameraRef | Read / Write | kEdsDataType_Uint32 | EdsUInt32 |

Value

| Value | Description |
|---|--------------------------------|
| 0 : Evf_AFMode_Quick | Quick Mode |
| 1 : Evf_AFMode_Live | 1-point AF (Live Mode) |
| 2 : Evf_AFMode_LiveFace | Face+Tracking (Live Face Mode) |
| 3 : Evf_AFMode_LiveMulti | FlexiZone - Multi |
| 4 : Evf_AFMode_LiveZone | Zone AF |
| 5 : Evf_AFMode_LiveSingleExpandCross | Expand AF area |
| 6 : Evf_AFMode_LiveSingleExpandSurround | Expand AF area:Around |
| 7 : Evf_AFMode_LiveZoneLargeH | Large Zone AF: Horizontal |
| 8 : Evf_AFMode_LiveZoneLargeV | Large Zone AF: Vertical |
| 9 : Evf_AFMode_Catch | Tracking AF *1 |
| 10 : Evf_AFMode_Spot | Spot AF |

Notes: *1 Remote capture functions are not supported.

5.2.70 kEdsPropID_Evf_PowerZoom_CurPosition**Description**

Lens zoom position which Power Zoom Adapter is attached.

Target Object

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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| Target object | Access type | Data type number | Data type |
|-----------------|-------------|---------------------|-----------|
| EdsEvflImageRef | Read | kEdsDataType_Uint32 | EdsUInt32 |

Value

Integral value.

Note

This property is supported only when using Power Zoom Adapter.

5.2.71 kEdsPropID_Evf_PowerZoom_MaxPosition**Description**

The maximum zoom (tele) position of lens that is attached Power Zoom Adapter (equivalent tele position).

Target Object

| Target object | Access type | Data type number | Data type |
|-----------------|-------------|---------------------|-----------|
| EdsEvflImageRef | Read | kEdsDataType_Uint32 | EdsUInt32 |

Value

Integral value.

Note

This property is supported only when using Power Zoom Adapter.

5.2.72 kEdsPropID_Evf_PowerZoom_MinPosition**Description**

The minimum zoom (wide) position of lens that is attached Power Zoom Adapter (equivalent wide position).

Target Object

| Target object | Access type | Data type number | Data type |
|-----------------|-------------|---------------------|-----------|
| EdsEvflImageRef | Read | kEdsDataType_Uint32 | EdsUInt32 |

Value

Integral value.

Note

This property is supported only when using Power Zoom Adapter.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.73 kEdsPropID_Record**Description**

You can begin/end movie shooting.

There are steps you need to follow to control movie shooting remotely. For details, please refer to the Appendix 6.4.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|--------------|---------------------|-----------|
| EdsCameraRef | Read / Write | kEdsDataType_Uint32 | EdsUInt32 |

Value

| Value | Description |
|-------|----------------------|
| 0 | End movie shooting |
| 4 | Begin movie shooting |

5.2.74 kEdsPropID_GPSVersionID**Description**

Indicates the version of GPSInfoIFD.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|--------------------|-----------|
| EdsImageRef | Read | kEdsDataType_Uint8 | EdsUInt8 |

5.2.75 kEdsPropID_GPSLatitudeRef**Description**

Indicates whether the latitude is north or south latitude. The value 'N' indicates north latitude, and 'S' is south latitude.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

Value

| Value | Description |
|-------|----------------|
| 'N' | North latitude |
| 'S' | South latitude |

5.2.76 kEdsPropID_GPSLatitude**Description**

Indicates the latitude. The latitude is expressed as three RATIONAL values giving the degrees, minutes, and seconds, respectively.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------------|---------------|
| EdsImageRef | Read | kEdsDataType_Rational_Array | EdsRational[] |

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.77 kEdsPropID_GPSLongitudeRef**Description**

Indicates whether the longitude is east or west longitude. 'E' indicates east longitude, and 'W' is west longitude.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

Value

| Value | Description |
|-------|----------------|
| 'E' | East longitude |
| 'W' | West longitude |

5.2.78 kEdsPropID_GPSLongitude**Description**

Indicates the longitude. The longitude is expressed as three RATIONAL values giving the degrees, minutes, and seconds, respectively.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------------|---------------|
| EdsImageRef | Read | kEdsDataType_Rational_Array | EdsRational[] |

5.2.79 kEdsPropID_GPSAltitudeRef**Description**

Indicates the altitude used as the reference altitude. If the reference is sea level and the altitude is above sea level, 0 is given. If the altitude is below sea level, a value of 1 is given and the altitude is indicated as an absolute value in the GPSAltitude. The reference unit is meters.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|--------------------|-----------|
| EdsImageRef | Read | kEdsDataType_UInt8 | EdsUInt8 |

Value

| Value | Description |
|-------|--------------------------------------|
| 0 | Sea level |
| 1 | Sea level reference (negative value) |

5.2.80 kEdsPropID_GPSAltitude**Description**

Indicates the altitude based on the reference in GPSAltitudeRef. Altitude is expressed as one RATIONAL value. The reference unit is meters.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------|-------------|
| EdsImageRef | Read | kEdsDataType_Rational | EdsRational |

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.81 kEdsPropID_GPSTimeStamp**Description**

Indicates the time as UTC (Coordinated Universal Time). TimeStamp is expressed as three RATIONAL values giving the hour, minute, and second.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|-----------------------------|---------------|
| EdsImageRef | Read | kEdsDataType_Rational_Array | EdsRational[] |

5.2.82 kEdsPropID_GPSSatellites**Description**

Indicates the GPS satellites used for measurements.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

5.2.83 kEdsPropID_GPSMapDatum**Description**

Indicates the geodetic survey data used by the GPS receiver.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

5.2.84 kEdsPropID_GPSDateStamp**Description**

A character string recording date and time information relative to UTC (Coordinated Universal Time). The format is "YYYY:MM:DD." The length of the string is 11 bytes including NULL.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

5.2.85 kEdsPropID_GPSStatus**Description**

Indicates the status of the GPS receiver when the image is recorded. 'A' means measurement is in progress, and 'V' means the measurement is Interoperability.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsImageRef | Read | kEdsDataType_String | EdsChar[] |

Value

| Value | Description |
|-------|---------------------------------|
| 'A' | Measurement is in progress |
| 'W' | Measurement is Interoperability |

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.86 kEdsPropID_MirrorUpSetting

Description

Mirror Up Settings.

Use this function to reduce camera shake caused by mirror movement.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Value (Hex) | Description |
|-------------|------------------------|
| 0x00 | Mirror up shooting OFF |
| 0x01 | Mirror up shooting ON |

Note

This property is only supported for models matched with optical viewfinder.

Refer to the following chapters for detailed instructions.

6.8 Steps to use MirrorLockUpControl Properties

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.87 kEdsPropID_MirrorLockUpState**Description**

Status of mirror up shooting.

Use this function to reduce camera shake caused by mirror movement.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Value (Hex) | Description |
|-------------|-----------------------------|
| 0x00 | Mirror Up Settings Disabled |
| 0x01 | Mirror Up Settings Enabled |
| 0x02 | During mirror up shooting |

Note

This property is only supported for models matched with optical viewfinder.

Refer to the following chapters for detailed instructions.

6.8 Steps to use MirrorLockUpControl Properties**5.2.88 kEdsPropID_FixedMovie****Description**

Movie mode status.

Available in any of the following cases:

- When the camera's hardware is set to Movie mode
- Movie mode is set from the application.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Value (Hex) | Description |
|-------------|---------------------|
| 0x00 | Movie mode Disabled |
| 0x01 | Movie mode Enabled |

Note

Refer to the following chapters for detailed instructions.

6.9 Steps to use Switching still image and movie mode API

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.89 kEdsPropID_MovieParam**Description**

Setting the Movie Recording Image Quality.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Value (Hex) | Description |
|-------------|---------------------------------------|
| 0x00000200 | 1920x1080 23.98fps |
| 0x00000210 | 1920x1080 23.98fps For editing(ALL-I) |
| 0x00000230 | 1920x1080 23.98fps Standard(IPB) |
| 0x00000300 | 1920x1080 24.00fps |
| 0x00000310 | 1920x1080 24.00fps For editing(ALL-I) |
| 0x00000330 | 1920x1080 24.00fps Standard(IPB) |
| 0x00000400 | 1920x1080 25.00fps |
| 0x00000410 | 1920x1080 25.00fps For editing(ALL-I) |
| 0x00000430 | 1920x1080 25.00fps Standard(IPB) |
| 0x00000500 | 1920x1080 29.97fps |
| 0x00000510 | 1920x1080 29.97fps For editing(ALL-I) |
| 0x00000530 | 1920x1080 29.97fps Standard(IPB) |
| 0x00000610 | 1920x1080 50.00fps For editing(ALL-I) |
| 0x00000630 | 1920x1080 50.00fps Standard(IPB) |
| 0x00000710 | 1920x1080 59.94fps For editing(ALL-I) |
| 0x00000730 | 1920x1080 59.94fps Standard(IPB) |
| 0x00001210 | 1920x1080 23.98fps For editing(ALL-I) |
| 0x00001230 | 1920x1080 23.98fps Standard(IPB) |
| 0x00001231 | 1920x1080 23.98fps Light(IPB) |
| 0x00001310 | 1920x1080 24.00fps For editing(ALL-I) |
| 0x00001330 | 1920x1080 24.00fps Standard(IPB) |
| 0x00001331 | 1920x1080 24.00fps Light(IPB) |
| 0x00001410 | 1920x1080 25.00fps For editing(ALL-I) |
| 0x00001430 | 1920x1080 25.00fps Standard(IPB) |
| 0x00001431 | 1920x1080 25.00fps Light(IPB) |
| 0x00001510 | 1920x1080 29.97fps For editing(ALL-I) |
| 0x00001530 | 1920x1080 29.97fps Standard(IPB) |
| 0x00001531 | 1920x1080 29.97fps Light(IPB) |
| 0x00001610 | 1920x1080 50.00fps For editing(ALL-I) |
| 0x00001630 | 1920x1080 50.00fps Standard(IPB) |
| 0x00001631 | 1920x1080 50.00fps Light(IPB) |
| 0x00001710 | 1920x1080 59.94fps For editing(ALL-I) |
| 0x00001730 | 1920x1080 59.94fps Standard(IPB) |
| 0x00001810 | 1920x1080 100.0fps For editing(ALL-I) |
| 0x00001731 | 1920x1080 59.94fps Light(IPB) |
| 0x00001910 | 1920x1080 119.9fps For editing(ALL-I) |
| 0x00010600 | 1280x720 50.00fps |
| 0x00010700 | 1280x720 59.94fps |

| Revision History/Date | Corrections | Reviser | Remarks |
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| 0x00010810 | 1280x720 100.0fps For editing(ALL-I) |
| 0x00010910 | 1280x720 119.9fps For editing(ALL-I) |
| 0x00011430 | 1280x720 25.00fps Standard(IPB) |
| 0x00011431 | 1280x720 50.00fps Standard(IPB) |
| 0x00011530 | 1280x720 29.97fps Standard(IPB) |
| 0x00011531 | 1280x720 29.97fps Light(IPB) |
| 0x00011610 | 1280x720 50.00fps For editing(ALL-I) |
| 0x00011630 | 1280x720 50.00fps Standard(IPB) |
| 0x00011710 | 1280x720 59.94fps For editing(ALL-I) |
| 0x00011730 | 1280x720 59.94fps Standard(IPB) |
| 0x00011810 | 1280x720 100.0fps For editing(ALL-I) |
| 0x00011830 | 1280x720 100.0fps Standard(IPB) |
| 0x00011910 | 1280x720 119.9fps For editing(ALL-I) |
| 0x00011930 | 1280x720 119.9fps Standard(IPB) |
| 0x00020400 | 640x480 25.00fps |
| 0x00020500 | 640x480 29.97fps |
| 0x00030240 | 4096x2160 23.98fps Motion JPEG |
| 0x00030340 | 4096x2160 24.00fps Motion JPEG |
| 0x00030440 | 4096x2160 25.00fps Motion JPEG |
| 0x00030540 | 4096x2160 29.97fps Motion JPEG |
| 0x00031210 | 4096x2160 23.98fps For editing(ALL-I) |
| 0x00031230 | 4096x2160 23.98fps Standard(IPB) |
| 0x00031231 | 4096x2160 23.98fps Light(IPB) |
| 0x00031310 | 4096x2160 24.00fps For editing(ALL-I) |
| 0x00031330 | 4096x2160 24.00fps Standard(IPB) |
| 0x00031331 | 4096x2160 24.00fps Light(IPB) |
| 0x00031410 | 4096x2160 25.00fps For editing(ALL-I) |
| 0x00031430 | 4096x2160 25.00fps Standard(IPB) |
| 0x00031431 | 4096x2160 25.00fps Light(IPB) |
| 0x00031510 | 4096x2160 29.97fps For editing(ALL-I) |
| 0x00031530 | 4096x2160 29.97fps Standard(IPB) |
| 0x00031531 | 4096x2160 29.97fps Light(IPB) |
| 0x00031610 | 4096x2160 50.00fps For editing(ALL-I) |
| 0x00031630 | 4096x2160 50.00fps Standard(IPB) |
| 0x00031631 | 4096x2160 50.00fps Light(IPB) |
| 0x00031710 | 4096x2160 59.94fps For editing(ALL-I) |
| 0x00031730 | 4096x2160 59.94fps Standard(IPB) |
| 0x00031731 | 4096x2160 59.94fps Light(IPB) |
| 0x00031810 | 4096x2160 100.0fps For editing(ALL-I) |
| 0x00031910 | 4096x2160 119.9fps For editing(ALL-I) |
| 0x00051210 | 3840x2160 23.98fps For editing(ALL-I) |
| 0x00051230 | 3840x2160 23.98fps Standard(IPB) |
| 0x00051231 | 3840x2160 23.98fps Light(IPB) |
| 0x00051310 | 3840x2160 24.00fps For editing(ALL-I) |
| 0x00051330 | 3840x2160 24.00fps Standard(IPB) |
| 0x00051331 | 3840x2160 24.00fps Light (IPB) |
| 0x00051410 | 3840x2160 25.00fps For editing(ALL-I) |
| 0x00051430 | 3840x2160 25.00fps Standard(IPB) |
| 0x00051431 | 3840x2160 25.00fps Light(IPB) |

| Revision History/Date | Corrections | Reviser | Remarks |
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| 0x00051510 | 3840x2160 29.97fps For editing(ALL-I) |
| 0x00051530 | 3840x2160 29.97fps Standard(IPB) |
| 0x00051531 | 3840x2160 29.97fps Light(IPB) |
| 0x00051610 | 3840x2160 50.00fps For editing(ALL-I) |
| 0x00051630 | 3840x2160 50.00fps Standard(IPB) |
| 0x00051631 | 3840x2160 50.00fps Light(IPB) |
| 0x00051710 | 3840x2160 59.94fps For editing(ALL-I) |
| 0x00051730 | 3840x2160 59.94fps Standard(IPB) |
| 0x00051731 | 3840x2160 59.94fps Light(IPB) |
| 0x00051810 | 3840x2160 100.0fps For editing(ALL-I) |
| 0x00051910 | 3840x2160 119.9fps For editing(ALL-I) |
| 0x00081210 | 8192x4320 23.98fps For editing(ALL-I) |
| 0x00081230 | 8192x4320 23.98fps Standard(IPB) |
| 0x00081231 | 8192x4320 23.98fps Light(IPB) |
| 0x00081310 | 8192x4320 24.00fps For editing(ALL-I) |
| 0x00081330 | 8192x4320 24.00fps Standard(IPB) |
| 0x00081331 | 8192x4320 24.00fps Light(IPB) |
| 0x00081410 | 8192x4320 25.00fps For editing(ALL-I) |
| 0x00081430 | 8192x4320 25.00fps Standard(IPB) |
| 0x00081431 | 8192x4320 25.00fps Light(IPB) |
| 0x00081510 | 8192x4320 29.97fps For editing(ALL-I) |
| 0x00081530 | 8192x4320 29.97fps Standard(IPB) |
| 0x00081531 | 8192x4320 29.97fps Light(IPB) |
| 0x00091210 | 7680x4320 23.98fps For editing(ALL-I) |
| 0x00091230 | 7680x4320 23.98fps Standard(IPB) |
| 0x00091231 | 7680x4320 23.98fps Light(IPB) |
| 0x00091330 | 7680x4320 24.00fps Standard(IPB) |
| 0x00091331 | 7680x4320 24.00fps Light(IPB) |
| 0x00091410 | 7680x4320 25.00fps For editing(ALL-I) |
| 0x00091430 | 7680x4320 25.00fps Standard(IPB) |
| 0x00091431 | 7680x4320 25.00fps Light(IPB) |
| 0x00091510 | 7680x4320 29.97fps For editing(ALL-I) |
| 0x00091530 | 7680x4320 29.97fps Standard(IPB) |
| 0x00091531 | 7680x4320 29.97fps Light(IPB) |
| 0x000a3270 | 23.98fps (RAW) |
| 0x000a3271 | 23.98fps Light(RAW) |
| 0x000a3370 | 24.00fps (RAW) |
| 0x000a3371 | 24.00fps Light(RAW) |
| 0x000a3470 | 25.00fps (RAW) |
| 0x000a3471 | 25.00fps Light(RAW) |
| 0x000a3570 | 29.97fps (RAW) |
| 0x000a3571 | 29.97fps Light(RAW) |
| 0x000a3670 | 50.00fps (RAW) |
| 0x000a3770 | 59.94fps (RAW) |
| 0x08001210 | 1920x1080 23.98fps For editing(ALL-I)Crop |
| 0x08001230 | 1920x1080 23.98fps Standard(IPB)Crop |
| 0x08001231 | 1920x1080 23.98fps Light(IPB)Crop |
| 0x08001410 | 1920x1080 24.00fps For editing(ALL-I)Crop |
| 0x08001430 | 1920x1080 24.00fps Standard(IPB)Crop |

| Revision History/Date | Corrections | Reviser | Remarks |
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| 0x08001431 | 1920x1080 25.00fps For editing(ALL-I)Crop |
| 0x08001510 | 1920x1080 25.00fps Standard(IPB)Crop |
| 0x08001530 | 1920x1080 29.97fps For editing(ALL-I)Crop |
| 0x08001531 | 1920x1080 29.94fps Standard(IPB)Crop |
| 0x08001610 | 1920x1080 50.00fps For editing(ALL-I)Crop |
| 0x08001630 | 1920x1080 50.00fps Standard(IPB)Crop |
| 0x08001631 | 1920x1080 50.00fps Light(IPB)Crop |
| 0x08001710 | 1920x1080 59.94fps For editing(ALL-I)Crop |
| 0x08001730 | 1920x1080 59.94fps Standard(IPB)Crop |
| 0x08001731 | 1920x1080 59.94fps Light(IPB)Crop |
| 0x08001810 | 1920x1080 100.0fps For editing(ALL-I)Crop |
| 0x08001910 | 1920x1080 119.9fps For editing(ALL-I)Crop |
| 0x08031210 | 4096x2160 23.98fps For editing(ALL-I) Crop |
| 0x08031230 | 4096x2160 23.98fps Standard(IPB)Crop |
| 0x08031231 | 4096x2160 23.98fps Light(IPB)Crop |
| 0x08031310 | 4096x2160 24.00fps For editing(ALL-I)Crop |
| 0x08031330 | 4096x2160 24.00fps Standard(IPB)Crop |
| 0x08031331 | 4096x2160 24.00fps Light(IPB)Crop |
| 0x08031410 | 4096x2160 25.00fps For editing(ALL-I)Crop |
| 0x08031430 | 4096x2160 25.00fps Standard(IPB)Crop |
| 0x08031431 | 4096x2160 25.00fps Light(IPB)Crop |
| 0x08031510 | 4096x2160 29.97fps For editing(ALL-I)Crop |
| 0x08031530 | 4096x2160 29.94fps Standard(IPB)Crop |
| 0x08031531 | 4096x2160 29.94fps Light(IPB)Crop |
| 0x08031610 | 4096x2160 50.00fps For editing(ALL-I)Crop |
| 0x08031630 | 4096x2160 50.00fps Standard(IPB)Crop |
| 0x08031631 | 4096x2160 50.00fps Light(IPB)Crop |
| 0x08031710 | 4096x2160 59.94fps For editing(ALL-I)Crop |
| 0x08031730 | 4096x2160 59.94fps Standard(IPB)Crop |
| 0x08031731 | 4096x2160 59.94fps Light(IPB)Crop |
| 0x08051210 | 3840x2160 23.98fps For editing(ALL-I) |
| 0x08051230 | 3840x2160 23.98fps Standard(IPB) |
| 0x08051231 | 3840x2160 23.98fps Light(IPB) |
| 0x08051410 | 3840x2160 25.00fps For editing(ALL-I) |
| 0x08051430 | 3840x2160 25.00fps Standard(IPB) |
| 0x08051431 | 3840x2160 25.00fps Light (IPB) |
| 0x08051510 | 3840x2160 29.97fps For editing(ALL-I) |
| 0x08051530 | 3840x2160 29.97fps Standard(IPB) |
| 0x08051531 | 3840x2160 29.97fps Light(IPB) |
| 0x08051610 | 3840x2160 50.00fps For editing(ALL-I) |
| 0x08051630 | 3840x2160 50.00fps Standard(IPB) |
| 0x08051631 | 3840x2160 50.00fps Light (IPB) |
| 0x08051710 | 3840x2160 59.94fps For editing(ALL-I) |
| 0x08051730 | 3840x2160 59.94fps Standard(IPB) |
| 0x08051731 | 3840x2160 59.94fps Light (IPB) |

Note

Refer to the following chapters for detailed instructions.

6.10 Steps to use MovieRecordingImageQuality Properties

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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5.2.90 kEdsPropID_TempStatus**Description**

The Canon camera restriction information based on the internal temperature of the Canon camera. Restrictions apply to Canon camera functions according to the internal temperature, so it is recommended to change the Canon camera control based on the acquired information.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Bit number | Value | |
|------------|-------------|--------------------------------------|
| | Value (Hex) | Description |
| 16-31 | 0x0000 | Normal status |
| | 0x0002 | Restriction movie recording status |
| 0-15 | 0x0000 | Normal status |
| | 0x0001 | Warning indication status |
| | 0x0002 | Reduced frame rate |
| | 0x0003 | Live View prohibited status |
| | 0x0004 | Shooting prohibited status |
| | 0x0005 | Degraded still image quality warning |
| | | |

Note

Refer to the following chapters for detailed instructions.

6.11 Steps to use TemperatureWarningInformation Properties

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.91 kEdsPropID_Evf_RollingPitching

Description

Posture and angle information of the camera body.

You can retrieve angle information from the EdsEvfImageRef in EdsCameraPos format when in Live view state.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|------------------|-----------|
| EdsEvfImageRef | Read | EdsCameraPos | EdsUInt32 |

Value

| Element | Description | |
|----------|--|---|
| status | angle information display status | |
| | Value (Hex) | Description |
| | 0x00 | Starting angle information display |
| | 0x01 | Stopping angle information display |
| | 0x02 | Angle Information Detection |
| position | Camera posture | |
| | Value (Hex) | Description |
| | 0x00 | Horizontal position |
| | 0x01 | Grip on bottom |
| | 0x02 | Grip on top |
| | 0x03 | Unable to determine posture |
| | 0x04 | Pentaprism facing downward (upside-down) |
| rolling | Rolling (inclination) angle (1/100 deg) (*1)(*2) | |
| pitching | Pitching (tilt) angle (1/100 deg) (*1)(*2) | |

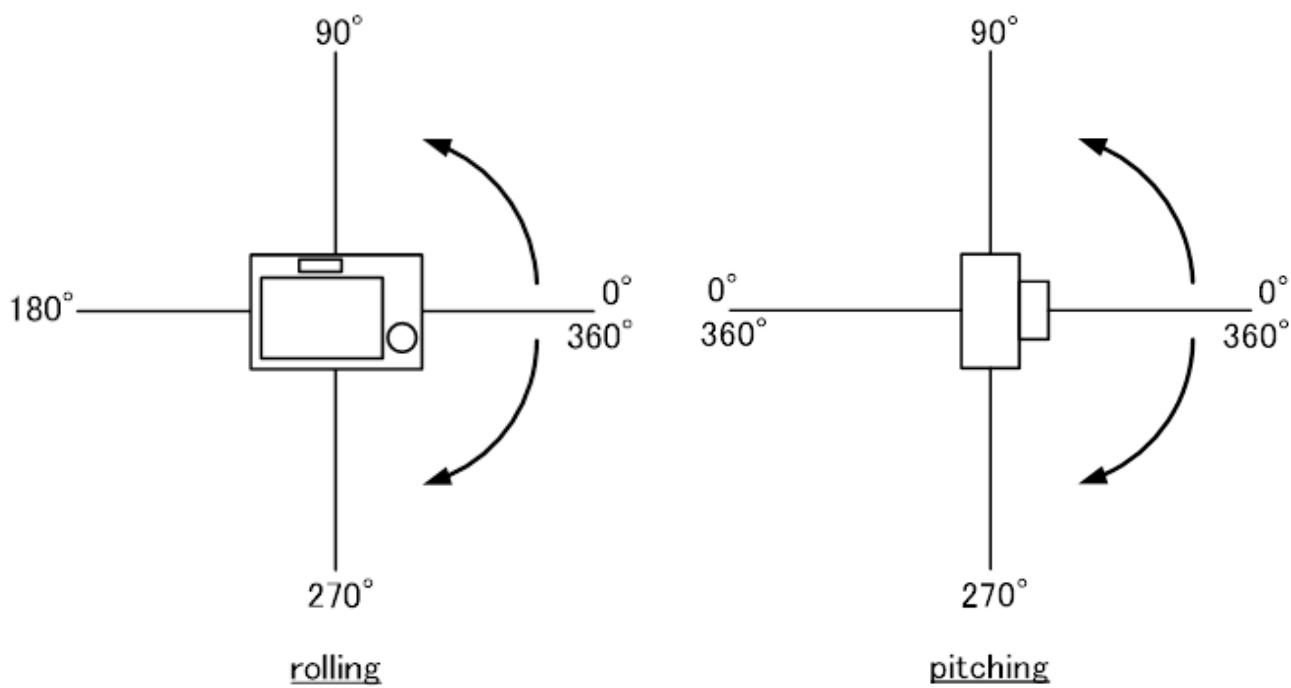
(*1)

The rolling and pitching angle information change as shown in the following figures. The rolling figure shows a Canon camera with the camera display facing the viewer, and the pitching figure shows a Canon camera with the lens facing right.

(*2)

The rolling and pitching angle information does not guarantee a close point of view. Please use this information for a reference value..

| Revision History/Date | Corrections | Reviser | Remarks |
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**Note**

Refer to the following chapters for detailed instructions..

6.12 Steps to use GetAngleInformation API

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.92 kEdsPropID_AutoPowerOffSetting

Description

Indicates the number of seconds before auto power-off.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |

Value

The number of seconds before auto power-off.

Possible values vary depending on the model.

| Value (Hex) | Description |
|-------------|------------------------|
| 0x00 | Auto power-off Disable |
| 0xffffffff | Power Off Now (*1) |

(*1)

Setting this value for a camera causes the camera to transition to the shutdown state.

Note

Refer to the following chapters for detailed instructions..

6.13 Steps to use AutoPowerOffSettings Properties

5.2.93 kEdsPropID_Aspect

Description

Indicates the Set still crop/aspect ratio.

"Cropping/aspect ratio" on camera UI.

Target Object

| Target object | Access type | Data type number | Data type |
|---------------|-------------|---------------------|-----------|
| EdsCameraRef | Read/Write | kEdsDataType_UInt32 | EdsUInt32 |

Value

| Value (Hex) | Description |
|-------------|---------------------|
| 0x00000000 | Full-frame |
| 0x00000001 | 1:1 (aspect ratio) |
| 0x00000002 | 4:3 (aspect ratio) |
| 0x00000007 | 16:9 (aspect ratio) |
| 0x0000000d | 1.6x (crop) |

Note

Refer to the following chapters for detailed instructions.

6.14 Steps to use Set still crop/aspect ratio Properties

| Revision History/Date | Corrections | Reviser | Remarks |
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5.2.94 kEdsPropID_Evf_VisibleRect

Description

This is visible area information according to Canon camera aspect settings. 3:2 live view image is provided regardless of aspect setting of camera, so if application displays live view image according to aspect setting, cut or blacken image area other than area shown in Dataset.

The area information uses a coordinate system in which upper left corner of still image L size is origin (0, 0), horizontal line that is positive in right direction from origin is x-axis, and vertical line that is positive in down direction is y-axis. The coordinate units are both x and y, Pixel.

Target Object

| Target object | Access type | Data type number | Data type |
|----------------|-------------|-------------------|-----------|
| EdsEvfImageRef | Read | kEdsDataType_Rect | EdsRect |

Value

| Element | Description | |
|---------|--|---|
| point | Coordinates of the upper-left corner of the visible area | |
| | Element | Description |
| | PositionX | X-coordinate point of the upper-left corner of the visible area |
| size | PositionY | Y-coordinate point of the upper-left corner of the visible area |
| | frame size of the visible area | |
| | Element | Description |
| | FrameWidth | Frame width of the visible area |
| | FrameHeight | Frame height of the visible area |

Note

Refer to the following chapters for detailed instructions.

6.14 Steps to use Set still crop/aspect ratio Properties

| Revision History/Date | Corrections | Reviser | Remarks |
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6. Appendix

6.1 Using the EDSDK

In order to install an application built using EDSDK on a computer where it will be executed, that computer must be set up as an environment that can execute EDSDK for the application installer.

Windows version

Be sure to copy all EDSDK modules into the application sub folder.

Note1:

Be absolutely sure when you overwrite the old version of the library whenever a new version of EDSDK becomes available. We recommend that you copy files while comparing file versions of the library.

Note2:

Do not copy the EDSDK module to the Windows System folder or Windows folder.

Note3:

In order to connect to an Canon digital camera, the correct device driver software must be installed and a connection between the camera and the host PC must be established. (Driver software is not needed when using a camera model that performs PTP communications.) For details, see the installation method for drivers in the software installation guide included with your Canon digital camera.

Macintosh version

Be sure to copy EDSDK.framework into the application folder.

`${AppFolder}/Contents/frameworks/`

*Do not individually change or delete files in the EDSDK.framework folder.

Note1:

Be absolutely sure when you overwrite the old version of the library whenever a new version of EDSDK becomes available. We recommend that you copy files while comparing file versions of the library.

Note2:

Do not copy the EDSDK module to extention folders in addition to system folders.

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6.2 Data Types Used by the APIs

Data types defined under EDSDK are listed in EDSDKTypes.h in C language format. This section introduces data types unique to EDSDK that are used by EDSDK APIs.

*For the most recent type definitions, see the header file EDSDKTypes.h.

6.2.1 EdsDirectoryItemInfo

This structure represents directory item information for the memory card in the camera. It is specified as an argument to EdsGetDirectoryItemInfo.

```
typedef struct tagEdsDirectoryItemInfo {
    EdsUInt64 size;
    EdsBool isFolder;
    EdsUInt32 groupID;
    EdsUInt32 option;
    EdsChar szFileName[ EDS_MAX_NAME ];
    EdsUInt32 format;
    EdsUInt32 dateTIme;
} EdsDirectoryItemInfo;
```

6.2.2 EdsPropertyDesc

This structure represents a list of settable property data. It is specified as an argument to EdsGetPropertyDesc.

```
typedef struct tagEdsPropertyDesc {
    EdsInt32 form;
    EdsAccess access;
    EdsInt32 numElements;
    EdsInt32 propDesc[128];
} EdsPropertyDesc;
```

6.2.3 EdsPoint

This structure is generally used to represent a set of coordinates.

```
typedef struct tagEdsPoint {
    EdsInt32 x;
    EdsInt32 y;
} EdsPoint;
```

6.2.4 EdsSize

This structure generally represents the width and height of a rectangle.

```
typedef struct tagEdsSize {
    EdsInt32 width;
    EdsInt32 height;
} EdsSize;
```

| Revision History/Date | Corrections | Reviser | Remarks |
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6.2.5 EdsRect

This structure is generally used to indicate the coordinates of a rectangle.

```
typedef struct tagEdsRect {
    EdsPoint point;
    EdsSize size;
} EdsRect;
```

6.2.6 EdsImageInfo

This structure represents various information found in image data.

It is specified as an argument to EdsGetImageInfo.

```
typedef struct tagEdsImageInfo{
    EdsUInt32 width;           // image width
    EdsUInt32 height;          // image height

    EdsUInt32 numComponents;   // number of color components in image.
    EdsUInt32 componentDepth;  // bits per sample. 8 or 16.

    EdsRect effectiveRect;     // Effective rectangles except
                               // a black line of the image.
                               // A black line might be in the top and bottom
                               // of the thumbnail image.

    EdsUInt32 reserved1;       // Reserved 1
    EdsUInt32 reserved2;       // Reserved 2
} EdsImageInfo;
```

6.2.7 EdsTime

This structure represents the camera time or the shooting date of an image.

It is used to store kEdsPropID_DateTime property data.

```
typedef struct tagEdsTime{
    EdsUInt32 year;           // year
    EdsUInt32 month;          // month 1=January, 2=February, ...
    EdsUInt32 day;            // day
    EdsUInt32 hour;           // hour
    EdsUInt32 minute;         // minute
    EdsUInt32 second;          // second
    EdsUInt32 milliseconds;    // reserved
} EdsTime;
```

| Revision History/Date | Corrections | Reviser | Remarks |
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6.2.8 EdsFocusPoint

This structure represents the AF frame information of focus information.
It stores AF frame information of the kEdsPropID_FocusInfo property.

```
typedef struct tagEdsFrameDesc{
    EdsUInt32           valid;           // if the frame is valid.
    EdsUInt32           justFocus;        // if the frame is just focus.
    EdsRect             rect;            // rectangle of the frame.
    EdsUInt32           reserved;         // reserved
} EdsFocusPoint;
```

6.2.9 EdsFocusInfo

This structure represents focus information.
It stores kEdsPropID_FocusInfo property data.

```
typedef struct tagEdsFocusInfo {
    EdsRect             imageRect;        // rectangle of the image.
    EdsUInt32           pointNumber;      // number of frames.
    EdsFocusPoint       focusPoint[1053];   // each frame's description.
    EdsUInt32           executeMode;      // execute mode
} EdsFocusInfo;
```

6.2.10 EdsRational

This structure is generally used to represent fractions.
It is used with many properties such as kEdsPropID_Av and kEdsPropID_Tv.

```
typedef struct tagEdsRational {
    EdsInt32           numerator;
    EdsUInt32          denominator;
} EdsRational;
```

6.2.11 EdsPictureStyleDesc

Use this structure when retrieving picture styles.

```
typedef struct tagEdsPictureStyleDesc {
    EdsInt32           contrast;
    EdsUInt32          sharpness;
    EdsInt32           saturation;
    EdsInt32           colorTone;
    EdsUInt32          filterEffect;
    EdsUInt32          toningEffect;
    EdsUInt32          sharpFineness;
    EdsUInt32          sharpThreshold;
} EdsPictureStyleDesc;
```

| Revision History/Date | Corrections | Reviser | Remarks |
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6.2.12 EdsCameraPos

Used to get angle information.

```
typedef struct EdsCameraPos {  
    EdsInt32     status;  
    EdsInt32     position;  
    EdsInt32     rolling;  
    EdsInt32     pitching;  
} EdsCameraPos;
```

| Revision History/Date | Corrections | Reviser | Remarks |
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6.3 Sample Code

This sample code is written in C++.

6.3.1 SAMPLE1 From initializing to finalizing

```
void applicationRun()
{
    EdsError err = EDS_ERR_OK;
    EdsCameraRef camera = NULL;
    bool isSDKLoaded = false;

    // Initialize SDK
    err = EdsInitializeSDK();
    if(err == EDS_ERR_OK)
    {
        isSDKLoaded = true;
    }

    // Get first camera
    if(err == EDS_ERR_OK)
    {
        // See Sample 2.
        err = getFirstCamera (&camera);
    }

    // Set Object event handler
    if(err == EDS_ERR_OK)
    {
        err = EdsSetObjectEventHandler(camera, kEdsObejctEvent_All,
                                       handleObjectEvent, NULL);
    }

    // Set Property event handler
    if(err == EDS_ERR_OK)
    {
        err = EdsSetPropertyEventHandler(camera, kEdsPropertyEvent_All,
                                         handlePropertyEvent, NULL);
    }

    // Set State event handler
    if(err == EDS_ERR_OK)
    {
        err = EdsSetCameraStateEventHandler(camera, kEdsStateEvent_All,
                                            handleStateEvent, NULL);
    }

    // Open session with camera
}
```

| Revision History/Date | Corrections | Reviser | Remarks |
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```

if(err == EDS_ERR_OK)
{
    err = EdsOpenSession(camera);
}

/////
// do something
////

// Close session with camera
if(err == EDS_ERR_OK)
{
    err = EdsCloseSession(camera);
}

// Release camera
if(camera != NULL)
{
    EdsRelease(camera);
}

// Terminate SDK
if(isSDKLoaded)
{
    EdsTerminateSDK();
}

}

EdsError EDSCALLBACK handleObjectEvent( EdsObjectEvent event,
                                         EdsBaseRef object,
                                         EdsVoid * context)
{
    // do something

    /*
    switch(event)
    {
        case kEdsObjectEvent_DirItemRequestTransfer:
            downloadImage(object);
            break;

        default:
            break;
    }
    */
}

// Object must be released
if(object)

```

| Revision History/Date | Corrections | Reviser | Remarks |
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```

    {
        EdsRelease(object);
    }
}

EdsError EDSCALLBACK handlePropertyEvent (EdsPropertyEvent event,
                                         EdsPropertyID  property,
                                         EdsVoid * context)
{
    // do something
}

EdsError EDSCALLBACK handleStateEvent (EdsCameraStateEvent event,
                                       EdsUInt32 parameter,
                                       EdsVoid * context)
{
    // do something
}

```

6.3.2 SAMPLE2 Getting a camera object

```

EdsError getFirstCamera(EdsCameraRef *camera)
{
    EdsError err = EDS_ERR_OK;
    EdsCameraListRef cameraList = NULL;
    EdsUInt32 count = 0;

    // Get camera list
    err = EdsGetCameraList(&cameraList);

    // Get number of cameras
    if(err == EDS_ERR_OK)
    {
        err = EdsGetChildCount(cameraList, &count);
        if(count == 0)
        {
            err = EDS_ERR_DEVICE_NOT_FOUND;
        }
    }
    // Get first camera retrieved
    if(err == EDS_ERR_OK)
    {
        err = EdsGetChildAtIndex(cameraList, 0, camera);
    }

    // Release camera list
    if(cameraList != NULL)
    {

```

| Revision History/Date | Corrections | Reviser | Remarks |
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```

        EdsRelease(cameraList);
        cameraList = NULL;
    }
    return err;
}

```

6.3.3 SAMPLE3 Getting a property

```

EdsError getTv(EdsCameraRef camera, EdsUInt32 *Tv)
{
    EdsError err = EDS_ERR_OK;
    EdsDataType dataType;
    EdsUInt32 dataSize;

    err = EdsGetPropertySize(camera, kEdsPropID_Tv, 0, &dataType, &dataSize);

    if(err == EDS_ERR_OK)
    {
        err = EdsGetPropertyData(camera, kEdsPropID_Tv, 0, dataSize, Tv);
    }

    return err;
}

```

6.3.4 SAMPLE4 Getting a propertydesc

```

EdsError getTvDesc(EdsCameraRef camera, EdsPropertyDesc *TvDesc)
{
    EdsError err = EDS_ERR_OK;

    err = EdsGetPropertyDesc(camera, kEdsPropID_Tv, TvDesc);

    return err;
}

```

6.3.5 SAMPLE5 Setting a property

```

EdsError setTv(EdsCameraRef camera, EdsUInt32 TvValue)
{
    err = EdsSetPropertyData(camera, kEdsPropID_Tv, 0, sizeof(TvValue), &TvValue);

    return err;
}

```

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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6.3.6 SAMPLE6 Downloading an image

```
EdsError downloadImage(EdsDirectoryItemRef directoryItem)
{
    EdsError err = EDS_ERR_OK;
    EdsStreamRef stream = NULL;

    // Get directory item information
    EdsDirectoryItemInfo dirItemInfo;
    err = EdsGetDirectoryItemInfo(directoryItem, &dirItemInfo);

    // Create file stream for transfer destination
    if(err == EDS_ERR_OK)
    {
        err = EdsCreateFileStream( dirItemInfo.szFileName,
                                  kEdsFile_CreateAlways,
                                  kEdsAccess_ReadWrite, &stream);
    }

    // Download image
    if(err == EDS_ERR_OK)
    {
        err = EdsDownload( directoryItem, dirItemInfo.size, stream);
    }

    // Issue notification that download is complete
    if(err == EDS_ERR_OK)
    {
        err = EdsDownloadComplete(directoryItem);
    }

    // Release stream
    if( stream != NULL)
    {
        EdsRelease(stream);
        stream = NULL;
    }

    return err;
}
```

6.3.7 SAMPLE7 Getting a file object

```
EdsError getVolume(EdsCameraRef camera, EdsVolumeRef * volume)
{
    EdsError err = EDS_ERR_OK;
    EdsUInt32 count = 0;
```

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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```

// Get the number of camera volumes
err = EdsGetChildCount(camera, &count);
if(err == EDS_ERR_OK && count == 0)
{
    err = EDS_ERR_DIR_NOT_FOUND;
}

// Get initial volume
if(err == EDS_ERR_OK)
{
    err = EdsGetChildAtIndex(camera, 0, &volume);
}

return err;
}

```

6.3.8 SAMPLE8 Getting DCIM Folder

```

EdsError getDCIMFolder(EdsVolumeRef volume, EdsDirectoryItemRef * directoryItem)
{
    EdsError err = EDS_ERR_OK;
    EdsDirectoryItemRef dirItem = NULL;
    EdsDirectoryItemInfo dirItemInfo;
    EdsUInt32 count = 0;

    // Get number of items under the volume
    err = EdsGetChildCount(volume, &count);
    if(err == EDS_ERR_OK && count == 0)
    {
        err = EDS_ERR_DIR_NOT_FOUND;
    }

    // Get DCIM folder
    for(int i = 0 ; i < count && err == EDS_ERR_OK; i++)
    {
        // Get the ith item under the specified volume
        if(err == EDS_ERR_OK)
        {
            err = EdsGetChildAtIndex(volume, i, &dirItem);
        }

        // Get retrieved item information
        if(err == EDS_ERR_OK)
        {
            err = EdsGetDirectoryItemInfo(dirItem, &dirItemInfo);
        }

        // Indicates whether or not the retrieved item is a DCIM folder.
        if(err == EDS_ERR_OK)
        {
            if(_strcmp (dirItemInfo.szFileName, "DCIM") == 0 &&
               dirItemInfo.isFolder == true)
            {
                directoryItem = &dirItem;
            }
        }
    }
}

```

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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```

        break;
    }

    // Release retrieved item
    if(dirItem)
    {
        EdsRelease(dirItem);
        dirItem = NULL;
    }
}

return err;
}

```

6.3.9 SAMPLE9 Taking a picture

```

EdsError takePicture(EdsCameraRef camera)
{
    EdsError err;

    err = EdsSendCommand(camera , kEdsCameraCommand_PressShutterButton
                         , kEdsCameraCommand_ShutterButton_Completely);

    err = EdsSendCommand(camera, kEdsCameraCommand_PressShutterButton
                         , kEdsCameraCommand_ShutterButton_OFF);
    return err;
}

```

6.3.10 SAMPLE10 Live view

```

EdsError startLiveview(EdsCameraRef camera)
{
    EdsError err = EDS_ERR_OK;

    // Get the output device for the live view image
    EdsUInt32 device;
    err = EdsGetPropertyData(camera, kEdsPropID_Evf_OutputDevice, 0, sizeof(device), &device);

    // PC live view starts by setting the PC as the output device for the live view image.
    if(err == EDS_ERR_OK)
    {
        device |= kEdsEvfOutputDevice_PC;

        err = EdsSetPropertyParams(camera, kEdsPropID_Evf_OutputDevice, 0, sizeof(device), &device);
    }

    // A property change event notification is issued from the camera if property settings are made successfully.
    // Start downloading of the live view image once the property change notification arrives.

    return err;
}

```

EdsError downloadEvfData(EdsCameraRef camera)

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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```

{
    EdsError err = EDS_ERR_OK;

    EdsStreamRef stream = NULL;
    EdsEvflImageRef evflImage = NULL;

    // Create memory stream.
    err = EdsCreateMemoryStream( 0, &stream);

    // Create EvflImageRef.
    if(err == EDS_ERR_OK)
    {
        err = EdsCreateEvflImageRef(stream, &evflImage);
    }

    // Download live view image data.
    if(err == EDS_ERR_OK)
    {
        err = EdsDownloadEvflImage(camera, evflImage);
    }

    // Get the incidental data of the image.
    if(err == EDS_ERR_OK)
    {
        // Get the zoom ratio
        EdsUInt32 zoom;
        EdsGetPropertyData(evflImage, kEdsPropID_Evf_ZoomPosition, 0 , sizeof(zoom), &zoom);

        // Get the focus and zoom border position
        EdsPoint point;
        EdsGetPropertyData(evflImage, kEdsPropID_Evf_ZoomPosition, 0 , sizeof(point), &point);

    }

    //
    // Display image
    //

    // Release stream
    if(stream != NULL)
    {
        EdsRelease(stream);
        stream = NULL;
    }

    // Release evflImage
    if(evflImage != NULL)
    {
        EdsRelease(evflImage);
        evflImage = NULL;
    }
    return err;
}

EdsError endLiveview(EdsCameraRef camera)
{
    EdsError err = EDS_ERR_OK;
}

```

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
| | | | |
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```
// Get the output device for the live view image
EdsUInt32 device;
err = EdsGetPropertyData(camera, kEdsPropID_Evf_OutputDevice, 0, sizeof(device), &device);

// PC live view ends if the PC is disconnected from the live view image output device.
if(err == EDS_ERR_OK)
{
    device &= ~kEdsEvfOutputDevice_PC;

    err = EdsSetPropertyData(camera, kEdsPropID_Evf_OutputDevice, 0, sizeof(device), &device);
}
return err;
```

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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6.4 Steps to begin/end movie shooting remotely

Unlike in the case of still image shooting, we cannot transfer a movie file stored on camera's memory directly to PC. The movie file will be recorded to the inserted memory card in the camera. So memory card must be inserted to the camera to shoot a movie.

Please follow the following steps to be ready to begin/end movie shooting remotely.

6.4.1 Set camera as the destination to save file

To prepare to shoot movie, you must set camera as the destination to save file.

```
EdsUInt32 saveTo = kEdsSaveTo_Camera;
err = EdsSetPropertyData(cameraRef, kEdsPropID_SaveTo, 0, sizeof(saveTo), &saveTo);
```

6.4.2 Set the camera to movie shooting mode

<Movie shooting switch supported camera>

Camera which has Movie shooting switch or Movie shooting mode in the mode dial, set the switch or dial to the movie shooting mode. Then the Live View will automatically start and the camera will be ready to shoot movie.

<Movie shooting switch unsupported camera>

Camera which doesn't have Movie shooting switch or Movie shooting mode in the mode dial, enable movie recording in the Live View settings. Then if you start remote Live View like in the case of still image shooting the Live View will start in movie shooting mode.

6.4.3 Begin/End movie shooting

You can begin/end movie shooting with the following operations.

```
EdsUInt32 record_start = 4; // Begin movie shooting
err = EdsSetPropertyData(cameraRef, kEdsPropID_Record, 0, sizeof(record_start),
&record_start);
```

```
EdsUInt32 record_stop = 0; // End movie shooting
err = EdsSetPropertyData(cameraRef, kEdsPropID_Record, 0, sizeof(record_stop),
&record_stop);
```

6.4.4 To get movie file

Once the movie file is created in the memory card, the kEdsObjectEvent_DirItemCreated event will be published and the EdsDirectoryItemRef of the movie file will be noticed from the camera.

After you end movie shooting mode, you can download the movie file to your PC using EdsDirectoryItemRef, which has been noticed by the camera, by following the steps written in "6.3.6 SAMPLE6 Downloading an image."

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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6.5 About Power Zoom Control

In this paragraph of this doc explains information how to control Power Zoom of Canon EOS Digital Camera SDK. This explanation is information on Power Zoom Adapter and specific cinema lenses target model only. Please don't apply this information to any other camera.

6.5.1 Supported Cameras

| Supported Cameras | SDK Control |
|---|-------------|
| EOS Kiss X10i / EOS Rebel T8i / EOS 850D | ✓ |
| EOS 90D | ✓ |
| EOS 80D | ✓ |
| EOS Kiss X9i / EOS Rebel T7i / EOS 800D | ✓ |
| EOS 9000D / EOS 77D | ✓ |
| EOS Kiss X9 / EOS Rebel SL2 / EOS 200D | ✓ |
| EOS Kiss X10 / EOS Rebel SL3 / EOS 250D / EOS 200D II | ✓ |

6.5.2 Supported Cinema Lenses

| Supported Cameras | Supported Cinema Lenses |
|-------------------|---|
| EOS R5 (*1) | CN-E18-80mm T4.4 L IS KAS S CN-E70-200mm T4.4 L IS KAS S |

(*1) Firmware version 1.4.0 or later

6.5.3 Property Explanation

See the following property sections for more information about properties.

kEdsPropID_PowerZoom_Speed
kEdsPropID_Evf_PowerZoom_CurPosition
kEdsPropID_Evf_PowerZoom_MaxPosition
kEdsPropID_Evf_PowerZoom_MinPosition

6.5.4 Command Explanation

For further information on commands, see EdsSendCommand.

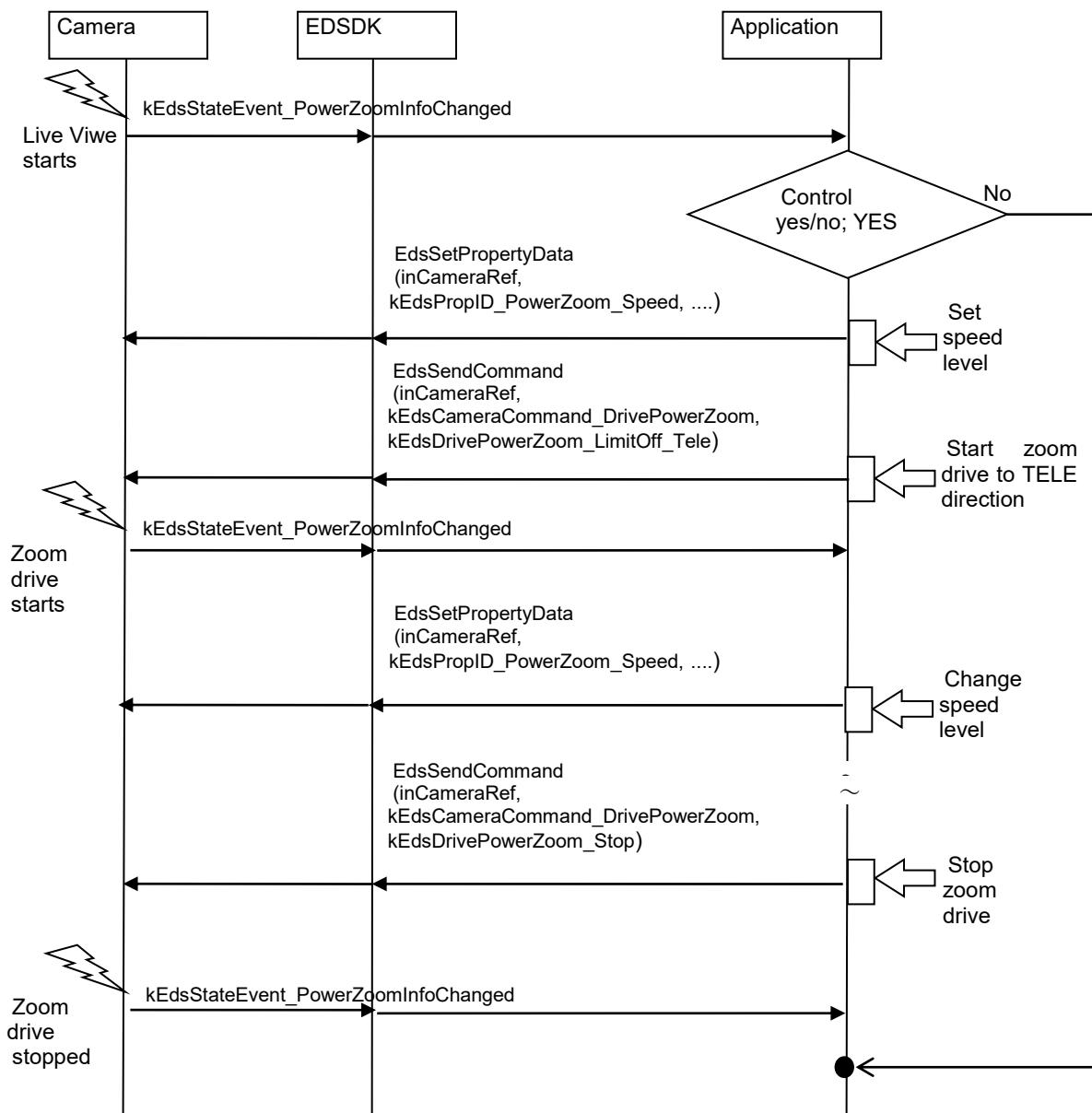
6.5.5 Event Explantion

For further information on events, see Events.

kEdsStateEvent_PowerZoomInfoChanged

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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6.5.6 Sequence



| Revision History/Date | Corrections | Reviser | Remarks |
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6.6 Steps to use Date/Time/Zone Properties

Describes how to use properties of Date/Time/Zone.

6.6.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera.

- EOS Kiss M2 / EOS M50 Mark II
- EOS R5
- EOS R6
- EOS Kiss X10i / EOS Rebel T8i / EOS 850D
- EOS-1D X Mark III
- EOS 5D Mark IV
- EOS R
- EOS RP
- EOS 80D
- EOS Kiss M / EOS M50
- EOS Kiss X90 / EOS REBEL T7 / EOS 2000D / EOS 1500D

6.6.2 Enable Target Properties

Describes the preliminary steps required to use the Date/Time/Zone Properties.

Define

| | |
|--------------------------------------|------------|
| #define kEdsPropID_UTCTime | 0x01000016 |
| #define kEdsPropID_TimeZone | 0x01000017 |
| #define kEdsPropID_SummerTimeSetting | 0x01000018 |

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```
EdsUInt32 id;
id = kEdsPropID_UTCTime;
EdsSetPropertyData( cameraRef , 0x01000000 , 0x51DD2696 , sizeof(id) , &id );

id = kEdsPropID_TimeZone;
EdsSetPropertyData( cameraRef , 0x01000000 , 0xFA71F7 , sizeof(id) , &id );

id = kEdsPropID_SummerTimeSetting;
EdsSetPropertyData( cameraRef , 0x01000000 , 0x9780670 , sizeof(id) , &id );
```

6.6.3 Property Explanation

See the following property sections for more information about properties

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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kEdsPropID_UTCTime
kEdsPropID_TimeZone
kEdsPropID_SummerTimeSetting

6.7 Steps to use EvfClickWhiteBalance API

Describes how to use EvfClickWhiteBalance API.

6.7.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera

- EOS R5
- EOS R6
- EOS-1D X Mark III.
- EOS 5D Mark IV
- EOS R
- EOS RP

6.7.2 Enable Target Properties

Describes the preliminary steps required to use the EvfClickWhiteBalance API.

Define

```
#define kEdsPropID_Evf_ClickWBCoeffs          0x01000506
#define kEdsPropID_ManualWhiteBalanceData       0x01000204
```

```
typedef struct EdsManualWBData
{
    EdsUInt32      valid;
    EdsUInt32      dataSize;
    EdsChar        szCaption[32];
    EdsUInt8       data[8];
} EdsManualWBData;
```

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```
EdsUInt32 id;
id = kEdsPropID_Evf_ClickWBCoeffs;
EdsSetPropertyData( cameraRef , 0x01000000 , 0x653048A9 , sizeof(id) , &id );
id = kEdsPropID_ManualWhiteBalanceData ;
EdsSetPropertyData( cameraRef , 0x01000000 , 0x20DD3609 , sizeof(id) , &id );
```

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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6.7.3 API Usage Steps

Describes how to use EvfClickWB.

1. Execution of EVFClickWB

1. Start Live view

EvfClickWB is available when the camera is in live view.

2. Inform the camera of specified coordinates on live view images

Coordinates will be the value converted to JPEG L size.

```
EdsUInt32 clickPoint;
EdsUInt32 err;
clickPoint = (x<<16) | y ;
err = EdsSendCommand(cameraRef, kEdsCameraCommand_DoClickWB_Evf, clickPoint);
```

Based on the notification coordinates, the camera calculates of WB and the live view image is switched to the corrected image. At this time, the corrected WB is applied to the live view, but it is not applied to the shot image.

If EdsPropID_Evf_ClickWBCoeffs enable is done, update of EdsPropID_Evf_ClickWBCoeffs is notified in the kEdsPropertyEvent_PropertyChanged event. After that, you can acquire the WB coefficient by acquiring the property of kEdsPropID_Evf_ClickWBCoeffs.

```
EdsUInt32 cwbSize;
EdsDataType type;
EdsManualWBData *cwbCoefs;

err = EdsGetPropertySize(cameraRef, kEdsPropID_Evf_ClickWBCoeffs, 0, &type, &cwbSize);
cwbCoefs = (EdsManualWBData*)malloc(cwbSize);
err = EdsGetPropertyData(cameraRef, kEdsPropID_Evf_ClickWBCoeffs, 0, cwbSize, cwbCoefs);
```

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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2. Registration to manual WB

If you want to reflect ClickWB in the shot image, you need to register the acquired WB coefficient in the manual white balance. Therefore, you need to convert the WB coefficient to the manual white balance data structure by the following procedure.

```
cwbCoefs = (EdsManualWBData*)malloc(cwbSize);
err = EdsGetPropertyData(cameraRef, kEdsPropID_Evf_ClickWBCoeffs, 0, cwbSize, cwbCoefs);
EdsManualWBData *mwbCoefs;
EdsUInt32 mwbSize = cwbSize + 12;
mwbCoefs = (EdsManualWBData*)malloc(mwbSize);
mwbCoefs->valid = 1;
mwbCoefs->dataSize = cwbCoefs->dataSize + 12;
for (int i = 0; i < sizeof(cwbCoefs->szCaption); i++)
    mwbCoefs->szCaption[i] = cwbCoefs->szCaption[i];
for (int j = 0; j < cwbCoefs->dataSize; j++)
    mwbCoefs->data[j] = cwbCoefs->data[j];

EdsChar *mwbBuff;
mwbBuff = (EdsChar*)malloc(mwbSize);
memcpy(mwbBuff, mwbCoefs, 40);
memset(mwbBuff + 40 , 0 , 12);

for (int k = 0 ; k < cwbCoefs->dataSize; k++)
    memset(mwbBuff + 52 + k, mwbCoefs->data[k], 1);
```

Set the WB coefficient converted to the manual white balance data structure to manual white balance.

```
err = EdsSetPropertyParams(cameraRef, kEdsPropID_ManualWhiteBalanceData, 0, mwbSize,
(EdsVoid*)mwbBuff);
```

3. Changing the white balance setting

Finally, change the camera's white balance setting to manual white balance.

```
EdsUInt32 wb = kEdsWhiteBalance_WhitePaper;
err = EdsSetPropertyParams(cameraRef, kEdsPropID_WhiteBalance, 0, sizeof(wb), &wb);
```

If the property value established in the above procedure is correctly updated and informed from camera in the event of kEdsPropertyEvent_PropertyChanged, the selected click white balance is applied to the later shooting image.

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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6.8 Steps to use MirrorLockUpControl Properties

Describes how to use properties of MirrorLockUpControl.

6.8.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera.

- EOS-1D X Mark III
- EOS 5D Mark IV
- EOS 80D

6.8.2 Enable Target Properties

Describes the preliminary steps required to use the MirrorLockUpControl Properties.

Define

| | |
|---|-------------------------|
| <code>#define kEdsPropID_MirrorUpSetting</code> | <code>0x01000438</code> |
| <code>#define kEdsPropID_MirrorLockUpState</code> | <code>0x01000421</code> |

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```

EdsUInt32 id;

id = kEdsPropID_MirrorUpSetting;
EdsSetPropertyData( cameraRef , 0x01000000 , 0x517F095D , sizeof(id) , &id );

id = kEdsPropID_MirrorLockUpState;
EdsSetPropertyData( cameraRef , 0x01000000 , 0x00E13499 , sizeof(id) , &id );

```

6.8.3 Property Explanation

See the following property sections for more information about properties

kEdsPropID_MirrorUpSetting

kEdsPropID_MirrorLockUpState

| Revision History/Date | Corrections | Reviser | Remarks |
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6.9 Steps to use Switching still image and movie mode API

Describes how to use the Switching still image and movie mode API.

6.9.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera.

- EOS Kiss M2 / EOS M50 Mark II
- EOS R5
- EOS R6
- EOS Kiss X10i / EOS Rebel T8i / EOS 850D
- EOS-1D X Mark III
- EOS 5D Mark IV
- EOS R
- EOS RP
- EOS 80D
- EOS Kiss M / EOS M50
- EOS Kiss X90 / EOS REBEL T7 / EOS 2000D / EOS 1500D

6.9.2 Enable Target Properties

Describes the preliminary steps required to use the Switching still image and movie mode API.

Define

| | |
|--|-------------|
| #define kEdsCameraCommand_MovieSelectSwON | 0x000000107 |
| #define kEdsCameraCommand_MovieSelectSwOFF | 0x000000108 |
| #define kEdsPropID_FixedMovie | 0x01000422 |

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```
EdsUInt32 id;
id = kEdsPropID_FixedMovie;
EdsSetPropertyParams( cameraRef , 0x01000000 , 0x17AF25B1 , sizeof(id) , &id );
```

6.9.3 Property Explanation

See the following property sections for more information about properties

kEdsPropID_FixedMovie

Example

```
// movieMode 0 : Disable , 1 : Enable
```

| Revision History/Date | Corrections | Reviser | Remarks |
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```

EdsUInt32 movieMode;

// Get movie mode.
EdsGetPropertyData(cameraRef, kEdsPropID_FixedMovie, 0, sizeof(movieMode), &movieMode);
-----
```

6.9.4 Command Explanation

This section describes commands for switching between still image and video modes.

CAUTION: Be sure to observe the following conditions on the camera and application.

1. Make sure that the camera hardware is set to still image shooting mode.
2. Set the kEdsPropID_SaveTo property to kEdsSaveTo_Camera before changing the movie mode to ON.
3. Be sure to switch the movie mode to OFF when shooting ends. Change the movie mode to OFF when the live view ends.

For further information on commands, see EdsSendCommand.

CommandID

| inCommand | inParam | Description |
|------------------------------------|---------|----------------------------|
| kEdsCameraCommand_MovieSelectSwON | N/A | Change to Movie Mode |
| kEdsCameraCommand_MovieSelectSwOFF | N/A | Change to Still Image Mode |

Example

```

// Preservation ahead is set to Camera.
EdsUInt32 saveTo = kEdsSaveTo_Camera;
EdsSetPropertyParams(cameraRef, kEdsPropID_SaveTo, 0, sizeof(saveTo) , &saveTo);

// movieMode 0 : Disable , 1 : Enable
EdsUInt32 movieMode;

// Get movie mode.
EdsGetPropertyData(cameraRef, kEdsPropID_FixedMovie, 0, sizeof(movieMode), &movieMode);

if (movieMode == 0){ // movieMode 0 : Disable , 1 : Enable
    // Set movie mode ON.
    EdsSendCommand(cameraRef, kEdsCameraCommand_MovieSelectSwON, 0);
}

/////
// do something
/////

// Get movie mode.
EdsGetPropertyData(cameraRef, kEdsPropID_FixedMovie, 0, sizeof(movieMode), &movieMode);

if (movieMode == 1){ // movieMode 0 : Disable , 1 : Enable
    // Set movie mode OFF.
    EdsSendCommand(cameraRef, kEdsCameraCommand_MovieSelectSwOFF, 0);
}
```

| Revision History/Date | Corrections | Reviser | Remarks |
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| Revision History/Date | Corrections | Reviser | Remarks |
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6.10 Steps to use MovieRecordingImageQuality Properties

Describes how to use properties of MovieRecordingImageQuality.

6.10.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera.

- EOS Kiss M2 / EOS M50 Mark II
- EOS R5
- EOS R6
- EOS Kiss X10i / EOS Rebel T8i / EOS 850D
- EOS-1D X Mark III
- EOS 5D Mark IV
- EOS R
- EOS RP
- EOS 80D
- EOS Kiss M / EOS M50
- EOS Kiss X90 / EOS REBEL T7 / EOS 2000D / EOS 1500D

6.10.2 Enable Target Properties

Describes the preliminary steps required to use the MovieRecordingImageQuality Properties.

Define

```
#define kEdsPropID_MovieParam 0x01000423
```

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```
EdsUInt32 id;
id = kEdsPropID_MovieParam;
EdsSetPropertyData(cameraRef, 0x01000000, 0x2A0C1274, sizeof(id), &id);
```

| Revision History/Date | Corrections | Reviser | Remarks |
|-----------------------|-------------|---------|---------|
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6.10.3 Property Explanation

See the following property sections for more information about properties

kEdsPropID_MovieParam

Note

You can change the setting only when the camera is in movie mode.

The available MovieRecordingImageQuality parameters depend on the model and state of the camera.

Be sure to follow the steps below when setting properties (EdsSetPropertyData)

1. Getting the List of Currently Settable Parameters with EdsGetPropertyDesc
2. Run EdsSetPropertyData with the values in the retrieved currently settable list

Example

```
EdsUInt32 movieParam;
EdsPropertyDesc movieParamDesc = {0};
// getMovieParam
EdsGetPropertyData(cameraRef, kEdsPropID_MovieParam, 0, sizeof(movieParam), &movieParam);

// getPropertyDesc
EdsGetPropertyDesc(cameraRef, kEdsPropID_MovieParam, &movieParamDesc);
// setMovieParam
EdsSetPropertyParams(cameraRef, kEdsPropID_MovieParam, 0, sizeof(movieParam),
&movieParamDesc(i));
```

| Revision History/Date | Corrections | Reviser | Remarks |
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6.11 Steps to use TemperatureWarningInformation Properties

Describes how to use properties of TemperatureWarningInformation.

6.11.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera

- EOS Kiss M2 / EOS M50 Mark II
- EOS R5
- EOS R6
- EOS Kiss X10i / EOS Rebel T8i / EOS 850D
- EOS-1D X Mark III.
- EOS 5D Mark IV
- EOS R
- EOS RP
- EOS 80D
- EOS Kiss M / EOS M50
- EOS Kiss X90 / EOS REBEL T7 / EOS 2000D / EOS 1500D

6.11.2 Enable Target Properties

Describes the preliminary steps required to use the TemperatureWarningInformation Properties.

Define

```
#define kEdsPropID_TempStatus      0x01000415
```

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```
EdsUInt32 id;
id = kEdsPropID_TempStatus;
EdsSetPropertyData(cameraRef, 0x01000000, 0x14840DF1, sizeof(id), &id);
```

6.11.3 Property Explanation

See the following property sections for more information about properties

kEdsPropID_TempStatus

| Revision History/Date | Corrections | Reviser | Remarks |
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6.12 Steps to use GetAngleInformation API

Describes how to use GetAngleInformation API.

6.12.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera

- EOS Kiss M2 / EOS M50 Mark II
- EOS R5
- EOS R6
- EOS Kiss X10i / EOS Rebel T8i / EOS 850D
- EOS-1D X Mark III.
- EOS 5D Mark IV
- EOS R
- EOS RP
- EOS 80D
- EOS Kiss M / EOS M50

6.12.2 Enable Target Properties

Describes the preliminary steps required to use the GetAngleInformation API.

Define

```
#define kEdsCameraCommand_RequestRollPitchLevel 0x000000109
#define kEdsPropID_Evf_RollingPitching          0x01000544
```

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```
EdsUInt32 id;
id = kEdsPropID_Evf_RollingPitching ;
EdsSetPropertyData(cameraRef, 0x01000000, 0x5B3740D, sizeof(id), &id );
```

6.12.3 Property Explanation

See the following property sections for more information about properties

kEdsPropID_Evf_RollingPitching

| Revision History/Date | Corrections | Reviser | Remarks |
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6.12.4 Command Explanation

This section describes commands for GetAngleInformation API.

CAUTION: Be sure to run in live view mode.

For further information on commands, see EdsSendCommand.

CommandID

| inCommand | inParam | Description |
|---|---------|--------------------------------|
| kEdsCameraCommand_RequestRollPitchLevel | 0 | Start angle information output |
| kEdsCameraCommand_RequestRollPitchLevel | 1 | Stop angle information output |

Example

```
/////
// start Liveview
////

// Start angle information output
EdsSendCommand(cameraRef, kEdsCameraCommand_RequestRollPitchLevel, 0);

EdsEvfImageRef evfImage = NULL;
EdsStreamRef stream = NULL;
EdsUInt32 bufferSize = 2 * 1024 * 1024;
EdsCameraPos cameraPos;

// Create memory stream.
EdsCreateMemoryStream(bufferSize, &stream);

// Create EvfImageRef.
EdsCreateEvfImageRef(stream, &evfImage);

// Download live view image data.
EdsDownloadEvfImage(cameraRef, evfImage);

// Get Evf_RollingPitching data.
EdsGetPropertyData(evfImage, kEdsPropID_Evf_RollingPitching, 0, sizeof(cameraPos), &cameraPos);

// Convert to floating point
double roll = cameraPos.rolling * 0.01;
double pitc = cameraPos.pitching * 0.01;

// Stop angle information output
// EdsSendCommand(cameraRef, kEdsCameraCommand_RequestRollPitchLevel, 1);
```

| Revision History/Date | Corrections | Reviser | Remarks |
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6.13 Steps to use AutoPowerOffSettings Properties

Describes how to use properties of AutoPowerOffSettings.

6.13.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera.

- EOS Kiss M2 / EOS M50 Mark II
- EOS R5
- EOS R6

6.13.2 Enable Target Properties

Describes the preliminary steps required to use the AutoPowerOffSettings Properties.

Define

```
#define kEdsPropID_AutoPowerOffSetting 0x0100045e
```

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```
EdsUInt32 id;
id = kEdsPropID_AutoPowerOffSetting;
EdsSetPropertyData(cameraRef, 0x01000000, 0x1C31565B, sizeof(id), &id);
```

6.13.3 Property Explanation

See the following property sections for more information about properties

kEdsPropID_AutoPowerOffSetting

Note

The kEdsPropID_AutoPowerOffSetting parameters that can be set depend on the camera model and state. Be sure to follow these steps when running EdsSetPropertyData:

1. First, we get the parameter list currently settable by EdsGetPropertyDesc.
2. Run EdsSetPropertyData. Note: Use the value in the parameter list obtained by EdsGetPropertyDesc

| Revision History/Date | Corrections | Reviser | Remarks |
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Example

```

EdsUInt32 propData;
EdsPropertyDesc desc= {0};
// getAutoPowerOffSetting
EdsGetPropertyData(cameraRef, kEdsPropID_AutoPowerOffSetting, 0, sizeof(propData), &
propData);

// getPropertyDesc
EdsGetPropertyDesc(cameraRef, kEdsPropID_AutoPowerOffSetting, &desc);
// setAutoPowerOffSetting
EdsSetPropertyParams(cameraRef, kEdsPropID_AutoPowerOffSetting, 0, sizeof(propData), &desc
(i));

// setAutoPowerOffSetting : Disable
EdsSetPropertyParams(cameraRef, kEdsPropID_AutoPowerOffSetting, 0, sizeof(propData), 0);

// setAutoPowerOffSetting : Power Off Now
EdsSetPropertyParams(cameraRef, kEdsPropID_AutoPowerOffSetting, 0, sizeof(propData),
0xffffffff);

```

| Revision History/Date | Corrections | Reviser | Remarks |
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6.14 Steps to use Set still crop/aspect ratio Properties

Describes how to use properties of still crop/aspect ratio.

6.14.1 Models with confirmed operation

The operation of the following Canon cameras has been checked. Some kind of camera trouble may occur when control other Canon camera.

- EOS Kiss M2 / EOS M50 Mark II
- EOS R5
- EOS R6

6.14.2 Enable Target Properties

Describes the preliminary steps required to use the still crop/aspect ratio Properties.

Define

```
#define kEdsPropID_Aspect          0x01000431
#define kEdsPropID_Evf_VisibleRect  0x01000546
```

Enable Property

Description of how to use target properties.

If you do the following before an open session, the properties are enabled:

```
EdsUInt32 id;
id = kEdsPropID_Aspect;
EdsSetPropertyParams(cameraRef, 0x01000000, 0x3FB1718B, sizeof(id), &id);

id = kEdsPropID_Evf_VisibleRect;
EdsSetPropertyParams(cameraRef, 0x01000000, 0x4D2879F3, sizeof(id), &id);
```

6.14.3 Property Explanation

See the following property sections for more information about properties

kEdsPropID_Aspect
kEdsPropID_Evf_VisibleRect

Note

The kEdsPropID_AutoPowerOffSetting parameters that can be set depend on the camera model and state. Be sure to follow these steps when running EdsSetPropertyParams:

1. First, we get the parameter list currently settable by EdsGetPropertyDesc.
2. Run EdsSetPropertyParams. Note: Use the value in the parameter list obtained by EdsGetPropertyDesc

| Revision History/Date | Corrections | Reviser | Remarks |
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Example

```

EdsUInt32 propData;
EdsPropertyDesc desc= {0};
// get
EdsGetPropertyData(cameraRef, kEdsPropID_Aspect, 0, sizeof(propData), &propData);

// getPropertyDesc
EdsGetPropertyDesc(cameraRef, kEdsPropID_Aspect, &desc);

// set Aspect
EdsSetPropertyData(cameraRef, kEdsPropID_Aspect, 0, sizeof(propData), &desc (i));

/////
// start Liveview
////
EdsEvfImageRef evfImage = NULL;
EdsStreamRef stream = NULL;
EdsUInt32 bufferSize = 2 * 1024 * 1024;
EdsRect VisibleRect;

// Create memory stream.
EdsCreateMemoryStream(bufferSize, &stream);

// Create EvfImageRef.
EdsCreateEvfImageRef(stream, &evfImage);

// getPropertyDate Evf_VisibleRect
EdsGetPropertyData(evfImage, kEdsPropID_Evf_VisibleRect, 0, sizeof(VisibleRect), &VisibleRect);

/////
// Depict LV images according to the acquired visibleRect
/////

```

| Revision History/Date | Corrections | Reviser | Remarks |
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6.15 Past History

| Version | Date | Reason and content of revision |
|---------|------------|---|
| 1.0 | 9/14/2006 | <p>First release</p> <ul style="list-style-type: none"> Added support for Windows Vista. Added support for the EOS-1D Mark III. Added operations and properties related to PC live view (only for supported models). <p>Objects EdsEvfImageRef API. EdsCreateEvfImageRef EdsDownloadEvfImage Commands kEdsCameraCommand_DriveLensEvf kEdsCameraCommand_DoClickWBEvf Properties kEdsPropID_Evf_OutputDevice kEdsPropID_Evf_Mode kEdsPropID_Evf_WhiteBalance kEdsPropID_Evf_ColorTemperature kEdsPropID_Evf_DepthOfFieldPreview kEdsPropID_Evf_Sharpness kEdsPropID_Evf_ClickWBCoeffs kEdsPropID_Evf_Zoom kEdsPropID_Evf_ZoomPosition kEdsPropID_Evf_Histogram kEdsPropID_Evf_ImagePosition kEdsPropID_Evf_HistogramStatus </p> |
| 2.0 | 5/28/2007 | <ul style="list-style-type: none"> Added commands and events for bulb shooting (only for supported models). <p>Commands kEdsCameraCommand_BulbStart kEdsCameraCommand_BulbEnd Events kEdsStateEvent_BulbExposureTime </p> <ul style="list-style-type: none"> Changed shooting error codes. Changed the data type of KpropID_ImageQuality. Added properties for getting GPS information from image files. <p>kEdsPropID_GPSVersionID kEdsPropID_GPSLatitudeRef kEdsPropID_GPSLatitude kEdsPropID_GPSLongitudeRef kEdsPropID_GPSLongitude kEdsPropID_GPSAltitudeRef kEdsPropID_GPSAltitude kEdsPropID_GPSTimeStamp kEdsPropID_GPSSatellites kEdsPropID_GPSMapDatum kEdsPropID_GPSDateStamp</p> |
| 2.1 | 8/30/2007 | <ul style="list-style-type: none"> Added support for the EOS 40D. Changed the target object supporting ImageQuality property to be a camera object only. |
| 2.2 | 11/12/2007 | <ul style="list-style-type: none"> Added support for the EOS-1Ds Mark III. Added sample code for bulb shooting. |
| 2.3 | 1/8/2008 | <ul style="list-style-type: none"> Added support for the EOS DIGITAL REBEL XSi/ EOS 450D/ EOS Kiss X2. |

| Revision History/Date | Corrections | Reviser | Remarks |
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| 2.4 | 5/20/2008 | <ul style="list-style-type: none"> Added support for the EOS DIGITAL REBEL XS/ EOS 1000D/ EOS Kiss F. Added support for Mac OSX 10.5. |
| 2.5 | 10/01/2008 | <ul style="list-style-type: none"> Added support for the EOS 50D / EOS 5D Mark II Added properties for getting GPS information from image files. <p>kEdsPropID_GPSStatus</p> <ul style="list-style-type: none"> Added commands and properties related to PC live view (only for supported models). <p>Commands</p> <p>kEdsCameraCommand_ShutterButton kEdsCameraCommand_DoAfEvf</p> <p>Properties</p> <p>kEdsPropID_Evf_AFMode</p> <ul style="list-style-type: none"> Added properties. <p>kEdsPropID_LensStatus kEdsPropID_Artist kEdsPropID_Copyright</p> <ul style="list-style-type: none"> Stopping support API and properties <p>API</p> <p>EdsReflectImageProperty</p> <p>Properties</p> <p>kEdsPropID_Evf_ClickWBCoeffs kEdsPropID_Evf_Sharpness kEdsPropID_BracketValue kEdsPropID_UserWhiteBalanceData kEdsPropID_UserToneCurveData kEdsPropID_UserPictureStyleData kEdsPropID_UserManualWhiteBalanceData kEdsPropID_PFn</p> |
| 2.5.1 | 12/9/2008 | <ul style="list-style-type: none"> Revised the following properties. <p>kEdsPropID_Sharpness kEdsPropID_ColorMatrix kEdsPropID_ColorSaturation kEdsPropID_Contrast kEdsPropID_ColorTone kEdsPropID_PhotoEffect kEdsPropID_FilterEffect kEdsPropID_ToningEffect</p> <ul style="list-style-type: none"> Revised table at Section 5.3(Support Status for RAW Properties). |
| 2.5.2 | 01/23/2009 | Supports EOS 5D Mark II firmware Version 1.0.7 (for the vertical banding noise phenomenon) |
| 2.6 | 04/22/2009 | <ul style="list-style-type: none"> Added support for the EOS Kiss X3/EOS REBEL T1i/EOS 500D . Remove the limit of the file size of ICC in EdsSaveImage. |
| 2.7 | 11/05/2009 | <ul style="list-style-type: none"> Added support for the EOS 7D / EOS-1D Mark IV |
| 2.8 | 2/15/2010 | <ul style="list-style-type: none"> Added support for the EOS Kiss X4/EOS REBEL T2i/EOS 550D Stopping support OS Mac OS 10.3 Added property related to PC live view (only for supported models). <p>kEdsPropID_EVF_ZoomRect kEdsPropID_EVF_CoordinateSystem</p> <ul style="list-style-type: none"> Revised the following properties. <p>kEdsPropID_Evf_ZoomPosition kEdsPropID_Evf_ZoomRect kEdsPropID_Evf_ImagePosition</p> <ul style="list-style-type: none"> Reviewed support for the following models (see 1.3 Supported Cameras). EOS-1D Mark II/EOS-1Ds Mark II/EOS-1D Mark II N EOS 5D/EOS 20D/EOS 30D EOS Kiss Digital N (DIGITAL REBEL XT/350D DIGITAL) EOS Kiss Digital X(400D/REBEL Xti) |

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| 2.8.1 | 3/15/2010 | <ul style="list-style-type: none"> Reviewed support for the following models (see 1.3 Supported Cameras). EOS-1D Mark II/EOS-1Ds Mark II/EOS-1D Mark II N EOS 5D/EOS 20D/EOS 30D EOS Kiss Digital N (DIGITAL REBEL XT/350D DIGITAL) EOS Kiss Digital X(400D/REBEL Xti) |
| 2.9 | 8/18/2010 | <ul style="list-style-type: none"> Added support for the EOS 60D Stopping support OS Windows 2000 |
| 2.10 | 3/7/2011 | <ul style="list-style-type: none"> Added support for the EOS Kiss X5/EOS REBEL T3i/EOS 600D and EOS Kiss X50/EOS REBEL T3/EOS 1100D Stopping support OS Mac OS 10.4 Deleted the description of the older model out of support and revised the following properties. kEdsPropID_Sharpness kEdsPropID_ColorMatrix kEdsPropID_ColorSaturation kEdsPropID_Contrast kEdsPropID_ColorTone kEdsPropID_PhotoEffect kEdsPropID_FilterEffect kEdsPropID_ToningEffect • Deleted the following properties. kEdsPropID_BodyID • Added the following properties. kEdsPropID_BodyIDEx kEdsPropID_PictureStyle (type Auto added) |
| 2.11 | 5/9/2012 | <ul style="list-style-type: none"> Added support for the EOS 5D MarkIII/EOS 1D X/EOS Kiss X6i/EOS 650D/EOS REBEL T4i Added support for Mac OSX 10.7 Stopping support OS Mac OS 10.5 Added the following properties. kEdsPropID_AEModeSelect kEdsPropID_Record • Changed following properties to be read only kEdsPropID_AEMode • All of the modules in the DLL folder must be copied into the same folder where the EDSDK client application is in. Deleted the following chapter. 1.3.2 Connected Cameras |
| 2.11 | 6/18/2012 | <ul style="list-style-type: none"> Deleted the following properties. kEdsPropID_Evf_Histogram Added the following properties. kEdsPropID_Evf_HistogramY kEdsPropID_Evf_HistogramG kEdsPropID_Evf_HistogramB |
| 2.12 | 8/22/2012 | <ul style="list-style-type: none"> Added support for the EOS M Please note: Remote capture functions are not supported for the EOS M. |
| 2.12 | 12/11/2012 | <ul style="list-style-type: none"> Added support for the EOS 6D / EOS-1D C |
| 2.13 | 5/9/2013 | <ul style="list-style-type: none"> Added support for the EOS Kiss X7i/EOS 700D /EOS REBEL T5i, EOS Kiss X7/EOS 100D/EOS REBEL SL1 Added support for Mac OSX 10.8,Windows8 |

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| 2.13 | 8/19/2013 | <ul style="list-style-type: none"> Added support for the EOS 70D |
| 2.14 | 2/18/2014 | <ul style="list-style-type: none"> Added support for the EOS Kiss X70 / EOS 1200D / EOS REBEL T5 / EOS Hi / EOS M2 Please note: Remote capture functions are not supported for the EOS M2 |
| 2.15 | 9/19/2014 | <ul style="list-style-type: none"> Added support for the EOS 7D Mark II Added support for Mac OSX 10.9,Windows8.1 Stopping support OS Mac OS 10.6 / 10.7 , Windows XP / Vista |
| 3.2 | 5/13/2015 | <ul style="list-style-type: none"> Added support for the EOS 5DS / EOS 5DS R / EOS REBEL T6s / EOS 760D / EOS 8000D / EOS REBEL T6i / EOS 750D / EOS Kiss X8i / EOS M3 Please note: Remote capture functions are not supported for the EOS M3 Deleted RAW development functionality. API. EdsSaveImage EdsCacheImage EdsReflectImageProperty Enum. kEdsImageSrc_RAWThumbnail kEdsImageSrc_RAWFullView Struct. EdsSaveImageSetting • Stopping support properties with EdsImageRef. |
| 3.2.1 | 8/6/2015 | <ul style="list-style-type: none"> Added support for RAW development functionality. Added support for RAW development functionality for the beta version of 64-bit module. Please note:Supported cameras are limited as below for the image hadling functions in 64-Bit module. EOS 5DS / EOS 5DS R / EOS REBEL T6s / EOS 760D / EOS 8000D / EOS REBEL T6i / EOS 750D / EOS Kiss X8i / EOS M3 |
| 3.4 | 4/1/2016 | <ul style="list-style-type: none"> Added support for the EOS-1D X Mark II / EOS 80D / EOS Rebel T6 / EOS 1300D / EOS Kiss X80 / EOS M10 Please note: Remote capture functions are not supported for the EOS M10 Changed the following interfaces from the previous version to support 64bit data size. EdsDownload EdsCreateMemoryStream EdsCreateMemoryStreamFromPointer EdsRead EdsWrite EdsSeek EdsGetPosition EdsGetLength EdsCopyData |
| 3.5 | 9/2/2016 | <ul style="list-style-type: none"> Added support for the EOS 5D Mark IV |
| 3.6 | 5/19/2017 | <ul style="list-style-type: none"> Added support for the EOS Kiss X9i / EOS Rebel T7i / EOS 800D / EOS 9000D / EOS 77D / EOS M5 / EOS M6 Please note: Remote capture functions are not supported for the EOS M5 EOS M6 |
| 3.6.1 | 7/24/2017 | <ul style="list-style-type: none"> Added support for the EOS 6D Mark II / EOS Kiss X9 / EOS Rebel SL2 / EOS 200D |
| 3.8 | 3/1/2018 | <ul style="list-style-type: none"> Added support for the EOS M100 / EOS Kiss M / EOS M50 / EOS Kiss X90 / EOS REBEL T7 / EOS 2000D / EOS 1500D / EOS REBEL T100 / EOS 4000D / EOS 3000D Please note: Remote capture functions are not supported for the EOS M100 |

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| 3.9 | 9/25/2018 | <ul style="list-style-type: none">• Added support for the EOS R• Deleted the description of the older model out of support and deleted the following properties. kEdsPropID_ParameterSet kEdsPropID_ColorMatrix kEdsPropID_Sharpness kEdsPropID_ColorSaturation kEdsPropID_Contrast kEdsPropID_ColorTone kEdsPropID_PhotoEffect kEdsPropID_FilterEffect kEdsPropID_ToningEffect |
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