DVP-7420

4 Channel MPEG 1/2/4 PCI-bus Digital Video Encoder Card

Acknowledgments
IBM and PC are trademarks of International Business Machines Corporation. MS-DOS, Windows, Microsoft Visual C++ and Visual BASIC are trade-marks of Microsoft Corporation. Intel and Pentium are trademarks of Intel Corporation. Delphi and C++ Builder are trademarks of Inprise Corporation.

CE notification
The DVP-7420, developed by ADVANTECH CO., LTD., has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from Advantech. Please contact your local supplier for ordering information

On-line Technical Support
For technical support and service, please visit our support website at:
http://www.advantech.com/support

Part No. 2062000090 1st Edition
Printed in Taiwan April. 2004
Rev. 0.1c

Contents

CHAPTER 1

General Information

Chapter 1 General Information

DVP-7420 is a high-end, hardware encoding PCI-bus based MPEG4 video capture card with onboard MPEG1/2/4 video encoder chip that supports up to D1 resolution and 120/100 fps performance. The DVP-7420 has 4 NTSC/PAL video inputs and allows up to 4 cards to be connected in one PC system through a DIP switch setting, it also displays the card ID on LED indicators. The hardware MPEG 1/2/4 video encoding engine can reduce the main CPU's workload and the programmer's coding time. The dynamically adjustable bit and frame rate can accommodate variable bandwidths, thereby optimizing the quality and bandwidth for better results. Through the onboard 128 Byte EEPROM space, the programmer can place the protection code or system parameters via our complete SDK, which comes with sample source code for programming reference.

1.1 Hardware Requirement

- Intel Pentium III 800MHz or above (The CPU speed is depends on the video frame rate, channels and resolution)
- 256 MB RAM or above
- CD-ROM
- Hard disk with 128MB free space

1.2 Software Requirement

- Microsoft Windows 98/ME/2000/XP with DirectX 8.1 or above

1.3 Block Diagram

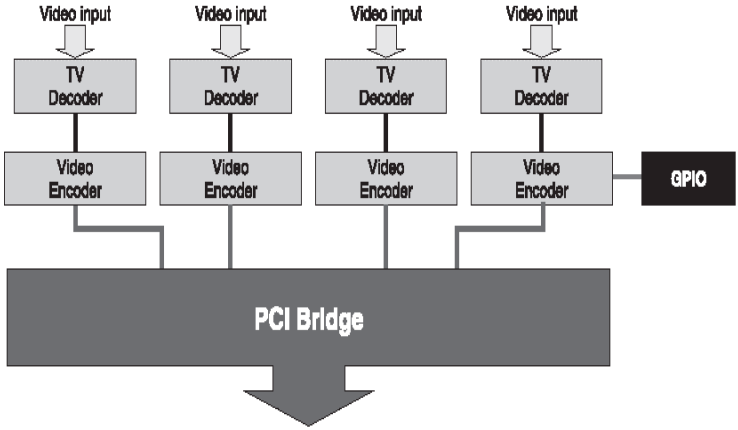


Figure 1.1 System Filter

1.4 Packing List

- DVP-7420 Video encoder card
- CD Disk for manual / driver / SDK
- User's Manual

1.5 Dimensions

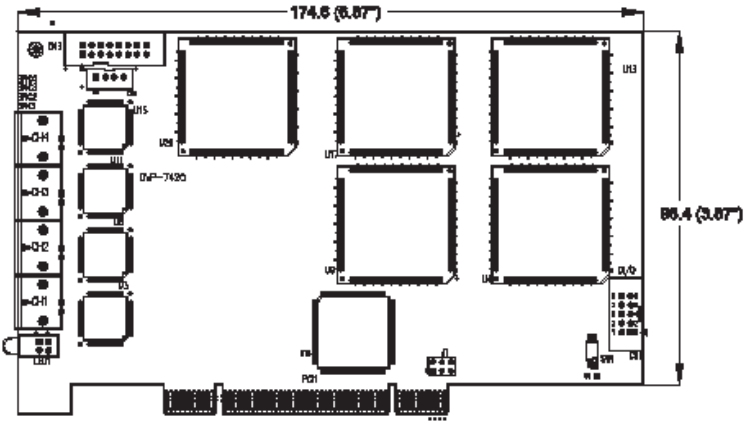


Figure 1.3 Dimensions

1.6 Channel/Card ID selection switch

The channel switch (***SW1***) is a DIP switch which can set the channel/card ID before installation.

Channel/Card ID selection table

Channel	1	2	3	4
SW1	OFF	OFF	ON	ON
SW2	OFF	ON	OFF	ON

1.7 Pin-definition description

Table 1.1: Internal Video Input	
Pin no.	**Description**
1	Composite video input
2	Composite video output
3	Composite video input
4	Composite video output
5	Composite video input
6	Composite video output
7	Composite video input
8	Composite video output
9	Signal GND
10	Signal GND

1.8 Hardware Installation

1 Turn off your computer and unplug the power cord.

2 Remove the cover of your computer.

3 Touch the metal part on the surface of your computer to neutralize the static electricity that might be on your body.

4 Setting the channel/module ID switch (***SW1***) while you want.

5 Place the DVP-7420 into Mother Board PCI slot.

6 Connect appropriate accessories (Video cable to camera. if necessary) to the DVP-7420.

7 Replace the cover of your computer chassis.

8 Plug in the power cord and turn on the computer.

Note: Keep the anti-static bag for future use. You might need the original bag to store the card if you have to remove the card from the PC or transport it elsewhere.

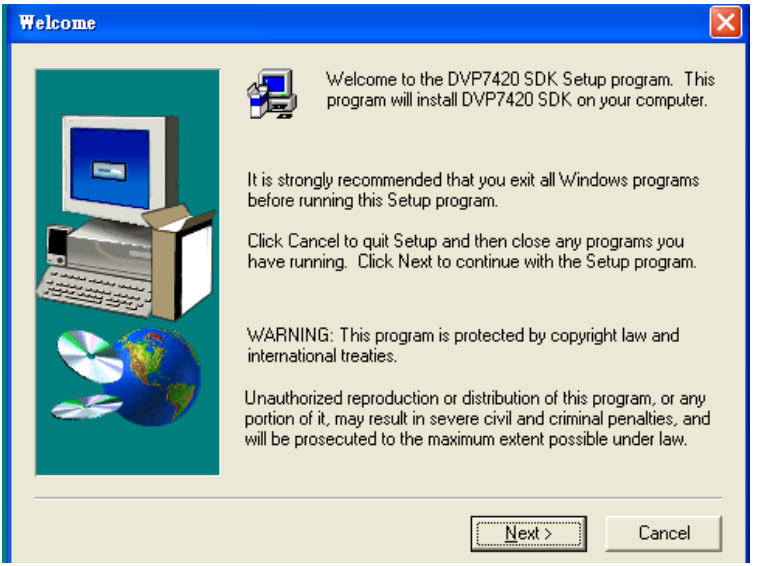
1.9 Software / Driver Installation

Before you begin

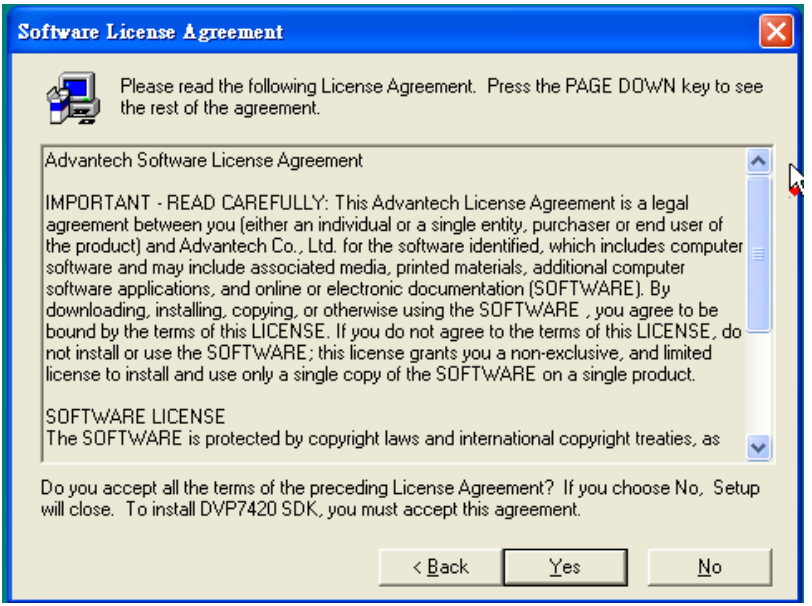
To facilitate the installation of the enhanced display device drivers and utility software, you should read the instructions in this chapter carefully before you attempt installation. The device drivers for the DVP-7420 board are located on the software installation CD. The auto-run function of the driver CD will guide and link you to the utilities and device drivers under Windows system. Before you begin, it is important to note that most display drivers need to have the relevant software application already installed in the system prior to installing the enhanced display drivers. In addition, many of the installation procedures assume that you are familiar with both the relevant software applications and operating system commands. Review the relevant operating system commands and the pertinent sections of your application software user's manual before performing the installation.

Installing

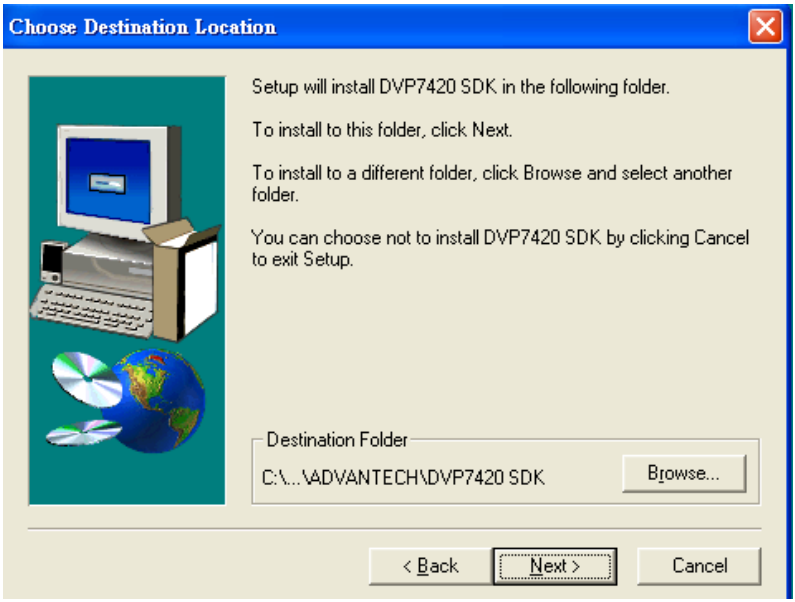
1. Insert the driver CD into your system's CD-ROM drive. In a few seconds, the software installation main menu appears. Move the mouse cursor over the "Manual" button under the "SETUP" heading, a message pops up telling you to start the installation.



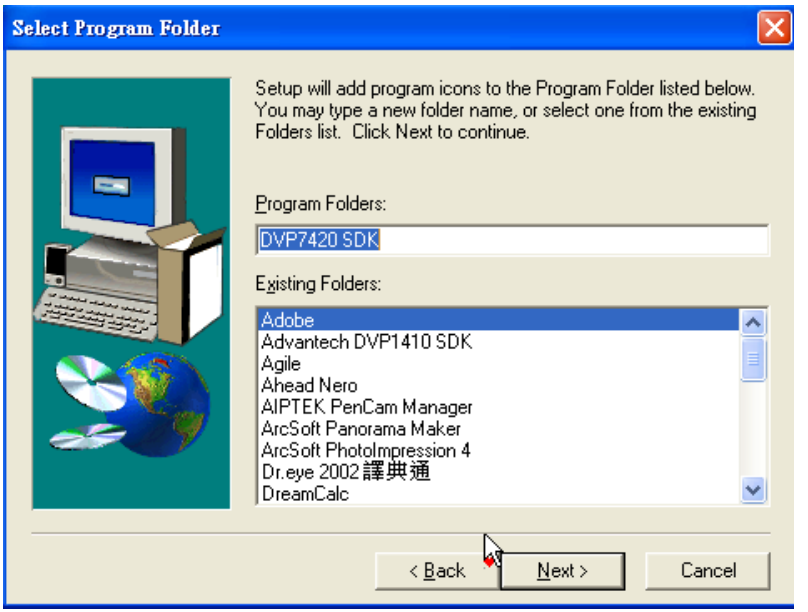
2. Please read the following License Agreement. Press the PAGE DOWN key to see the rest of the agreement and Click "Yes" to continue the installation.



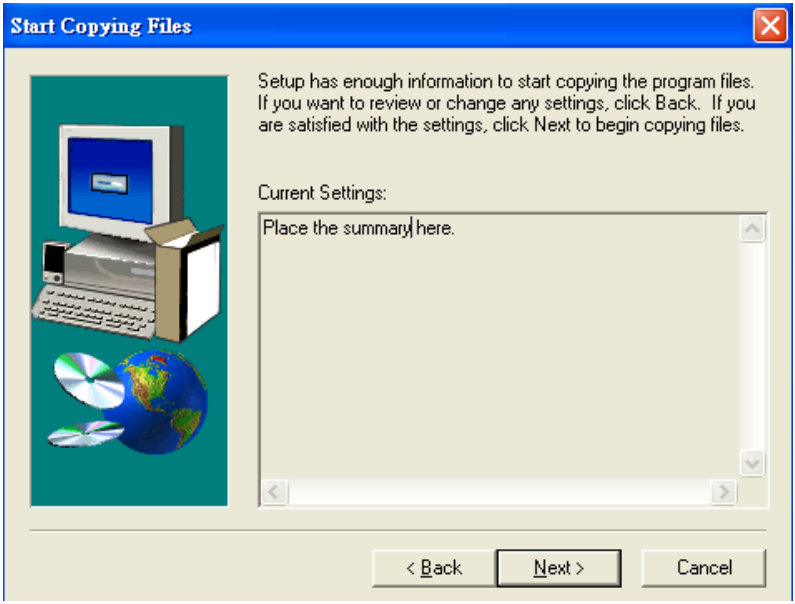
3. Choose destination location on your system disc then click "Next" when you see the following message.



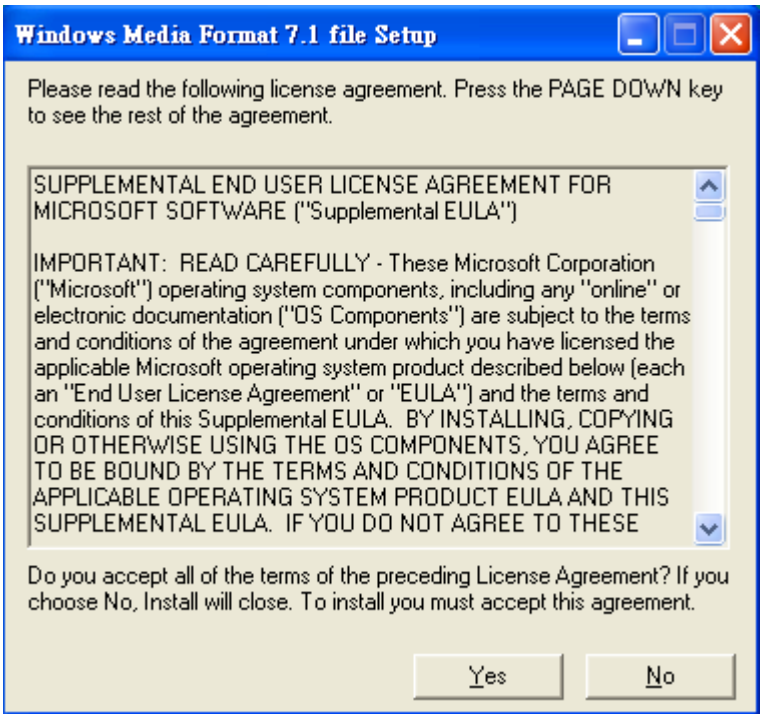
4. Click "Next" when you see the following message.



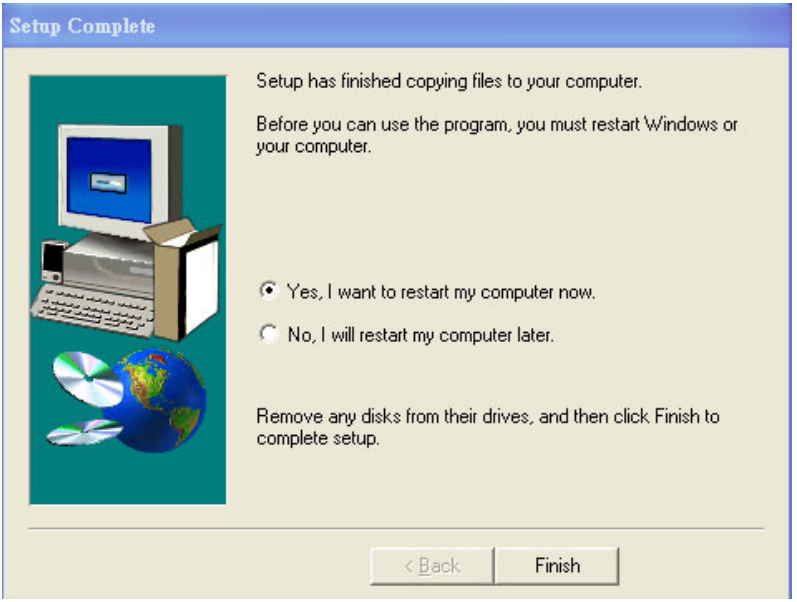
5. Please fill in the information and Click "Next".



6. Please read the following license agreement. Press the PAGE DOWN key to see the rest of the agreement and Click "Yes" to continue the installation.



7. When the following message appears, click "Finish" to complete the installation and restart Windows or your computer.



CHAPTER 2

Functions Library

Chapter 2 Functions Library

DVP Initialize and close
- Adv_DVPAPI_CreateSDKInstence
- Adv_DVPAPI_GetNumberOfChannel
- Adv_DVPAPI_InitDVP
- Adv_DVPAPI_CloseDVP

Channel encoding control
- Adv_DVPAPI_StartEncoding
- Adv_DVPAPI_StopEncoding
- Adv_DVPAPI_SnapShot
- Adv_DVPAPI_GetLiveInfo

Information and channel setting
- Adv_DVPAPI_GetEncodingStatus
- Adv_DVPAPI_GetEncodeInfo
- Adv_DVPAPI_SetVideoFormat
- Adv _DVPAPI_SetRecord
- Adv_DVPAPI_SetDisplay
- Adv_DVPAPI_SetVideoResolution
- Adv_DVPAPI_SetSequenceMode
- Adv_DVPAPI_SetGOPSize
- Adv_DVPAPI_SetFrameRate
- Adv_DVPAPI_SetBitRate
- Adv_DVPAPI_SetOSD

EE Control
- Adv_DVPAPI_ReadEE
- Adv_DVPAPI_WriteEE

GPIO Control

- Adv_DVPAPI_ReadGPIO
- Adv_DVPAPI_WriteGPIO

Sensor Control

- Adv_DVPAPI_SensorGetBrightness
- Adv_DVPAPI_SensorGetHue
- Adv_DVPAPI_SensorGetSaturation
- Adv_DVPAPI_SensorGetExposureTime
- Adv_DVPAPI_SensorGetContrast
- Adv_DVPAPI_SensorSetBrightness
- Adv_DVPAPI_SensorSetHue
- Adv_DVPAPI_SensorSetSaturation
- Adv_DVPAPI_SensorSetExposureTime
- Adv_DVPAPI_SensorSetContrast

Functions Reference

struct EncodeInfo

```
struct EncodeInfo
{
    int     CurVideoRes;
    int     MaxVideoRes;
    int     VideoFormat;
    int     VideoSubmode;
    int     SequenceMode;
    int     GOPSize;
    double  FrameRate;
    int     BitRate;
    int     DisplayMode;
    bool ToRecord;
    bool Snapshot;
};
```

Parameters

CurVideoRes: Current video resolution.
MaxVideoRes: Maximum video resolution.
VideoFormat: Video encoding format.
VideoSubmode: Video encoding sub-mode.
SequenceMode: Video sequence mode.
GOPSize: Group of picture size
FrameRate: Frame rate.
BitRate: Bit Rate.
DisplayMode: Current display mode.
ToRecord: Current video record setting.
Snapshot: Current video snapshot setting.

Description

A stucrt stores current video encoding settings.

Syntax

int _stdcall Adv_DVPAPI_CreateSDKInstence(void **pp)

Parameters

pp: A pointer to the SDK.

Return Value

SUCCEEDED: Function succeeded
FAILED: Function failed

Description

This function creates SDK instance.

Syntax
int Adv_DVPAPI_GetNumberOfChannel(void)

Parameters
None

Return Value
Number of Channels

Description
This function gets number of channels in the system. At most 4 boards and 16 channels are available in a DVP7420 integrated system.

Syntax

int Adv_DVPAPI_InitDVP(int** IDs, int NOChannels, int sourceType, HWND* hwnd)

Parameters

IDs:	An array pointer stores all channel IDs. First index stands for Board ID. Second index is the channel ID. Negative value means inactive channel.
NOChannels:	Number of Channels.
sourceType:	Video source Type, NTSC or PAL.
hwnd:	Main application Window's handle for DVP.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
BINFILELOST:	BIN file not found
PRFFILELOST:	PRF file not found
DEVICEERROR:	EE error
SETUPFAIL:	ID setup failed
SENSORFAIL:	Sensor control error
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found

Description

This function initializes all channels in the system and gets all channel IDs. After initializing each channel, the Encoding Status would be set as "STOPPED".

See Also

Adv_DVPAPI_GetNumberOfChannel
Adv_DVPAPI_GetEncodingStatus
Adv_DVPAPI_CloseDVP

Syntax
int Adv_DVPAPI_CloseDVP(void)

Parameters
None

Return Value
SUCCEEDED: Function succeeded
FAILED: Function failed
NODEVICE: No devices found
SDKINITFAILED: SDK uninitialized

Description
This function cleans all instances of video channels and closes up the SDK.

See Also
Adv_DVPAPI_InitDVP

Syntax

int Adv_DVPAPI_StartEncoding(int BoardID, int ChannelID, bool Snapshot, int DisplayMode, HWND* hwnd=NULL, int left=0, int top=0, int width=0)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
Snapshot:	To do snapshot or not.
DisplayMode:	0: no display 1: each channel would be displayed in separated window. 2: displayed in a window specified by a set of window handle, size, and position.
hwnd:	A windows handle pointer for display area. When DisplayMode=2.
left:	left position of display area when DisplayMode=2.
top:	top position of display area when DisplayMode=2.
width:	width of display area when DisplayMode=2.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error

UNINITIALIZED: Channel uninitialized

Description

This function starts encoding on a specified video channel. The Encoding Status would be set as “RUNNING” after successfully starting encoding.

See Also

Adv_DVPAPI_StopEncoding
Adv_DVPAPI_GetEncodingStatus

Syntax

int Adv_DVPAPI_StopEncoding(int BoardID, int ChannelID)

Parameters

BoardID: Specifies the board ID number(0~3).

ChannelID: Specifies the video channel ID number(0~3).

Return Value

SUCCEEDED: Function succeeded
FAILED: Function failed
SDKINITFAILED: SDK uninitialized
NODEVICE: No devices found
CHANNELERROR: Channel error
UNINITIALIZED: Channel uninitialized

Description

This function stops encoding on a specified video channel. The Encoding Status would be set as "STOPPED" after successfully stopping encoding.

See Also

Adv_DVPAPI_StartEncoding
Adv_DVPAPI_GetEncodingStatus

Syntax

int Adv_DVPAPI_SnapShot(int BoardID, int ChannelID, char* snapshotfilename)

Parameters

BoardID: Specifies the board ID number(0~3).

ChannelID: Specifies the video channel ID number(0~3).

snapshotfilename: Specifies a bitmap file name to store snapshot.

Return Value

SUCCEEDED: Function succeeded

FAILED: Function failed

SDKINITFAILED: SDK uninitialized

SENSORFAIL: Sensor control error

NODEVICE: No devices found

CHANNELERROR: Channel error

UNINITIALIZED: Channel uninitialized

Description

This function catches and saves snapshot into a bitmap file while a specified video channel is encoding. To use this function with parameter “Snapshot” of Adv_DVPAPI_StartEncoding must set to “true”.

See Also

Adv_DVPAPI_StartEncoding

Syntax

int Adv_DVPAPI_GetLiveInfo(int BoardID, int ChannelID, int* FrameRate, int* BitRate)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
FrameRate:	An integer pointer to store the returned frame rate of specified video channel.
BitRate:	An integer pointer to store the returned bit rate of specified video channel.

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
VIDEOLOST:	Video source lost
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function gets real time frame rate and bit rate of a specified encoding channel.

See Also

Syntax

int Adv_DVPAPI_GetEncodingStatus(int BoardID, int ChannelID)

Parameters

BoardID: Specifies the board ID number(0~3).

ChannelID: Specifies the video channel ID number(0~3).

Return Value

UNINITIALIZED: Channel is uninitialized.

STOPPED: Channel is stopped.

RUNNING: Channel is encoding

UNKNOWNSTATE: Channel status unknown

Description

This function gets encoding status of a specified video channel.

See Also

Adv_DVPAPI_InitDVP
Adv_DVPAPI_StartEncoding
Adv_DVPAPI_StopEncoding

Syntax

int Adv_DVPAPI_GetEncodeInfo(int BoardID, int ChannelID, EncodeInfo *EInfo)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
EncodeInfo:	A struct of EncodeInfo pointer to store the encoding setting of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function gets encoding setting of a specified video channel.

See Also

struct EncodeInfo

Syntax

int Adv_DVPAPI_SetVideoFormat(int BoardID, int ChannelID, int Vformat = Mode_MPEG4, int SubMode = MICROSOFT)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
Vformat:	A value for video format. (Default value is Mode_MPEG4) Mode_MPEG1, Mode_MPEG2, Mode_MPEG4,
SubMode:	A value for MPEG4 video sub-mode. (Default value is MICROSOFT) WIS, MICROSOFT, DIVX, SIGMADESIGN,

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding video format and video

sub-mode properties for MPEG4 of a specified video channel. SubMode will be used while Vformat is Mode_MPEG4. This function should be called before “Adv_DVPAPI_StartEncoding”.

See Also

Syntax

int Adv_DVPAPI_SetRecord(int BoardID, int ChannelID, bool toRecord, char* videoFileName)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
toRecord:	set record on or off.
videoFileName:	A file name for recording video stream.

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding record properties of a specified video channel. The video file name should be “*.avi” for Mode_MPEG4 video mode, while “*.mpg” for Mode_MPEG1 and Mode_MPEG2. This function should be called before “Adv_DVPAPI_StartEncoding”.

See Also

Adv_DVPAPI_SetVideoFormat

Syntax

int Adv_DVPAPI_SetDisplay(int BoardID, int ChannelID, int DisplayMode, HWND* hwnd=NULL, int left=0, int top=0, int width=0)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
DisplayMode:	0: no display 1: each channel would be displayed in separated window. 2: displayed in a window specified by a set of window handle, size, and position.
hwnd:	A windows handle pointer for display area (DisplayMode=2).
left:	left position of display area (DisplayMode=2).
top:	top position of display area (DisplayMode=2).
width:	width of display area (DisplayMode=2).

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding display properties of a specified video channel. Use display mode 1 to display each channel in separated windows. Use display mode 2 to create a display area in the specified window. This function should be called before “Adv_DVPAPI_StartEncoding”.

See Also

Syntax

int Adv_DVPAPI_SetVideoResolution(int BoardID, int ChannelID, int VRes)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
VRes:	A value to set encoding video resolution corresponds to video source of the specified video channel.
NTSC	SUBQCIFNTSC, QCIFNTSC, QVGANTSC, CIFNTSC, VGANTSC, D1NTSC,
PAL	SUBQCIFPAL, QCIFPAL, QVGAPAL, CIFPAL, VGAPAL, D1PAL,

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding video resolution of a specified video channel. This function should be called before “Adv_DVPAPI_StartEncoding”

See Also

Syntax

int Adv_DVPAPI_SetSequenceMode(int BoardID, int ChannelID, int SMode = IPBframe)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
SMode:	A value to set encoding sequence mode of specified video channel. (Default value is IPBframe) IframeOnly, IPframeOnly, IPBframe,

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets sequence mode of a specified video channel. This function should be called before “Adv_DVPAPI_StartEncoding”

See Also

Syntax

int Adv_DVPAPI_SetGOPSize(int BoardID, int ChannelID, int gop = 30)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
gop:	A value to set GOP size of specified video channel. (Default value is 30)

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets GOP size of specified video channel. This function should be called before “Adv_DVPAPI_StartEncoding”

See Also

Syntax

int Adv_DVPAPI_SetFrameRate(int BoardID, int ChannelID, double frameRate = 30.0)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
frameRate:	A value to set encoding frame rate of specified video channel. (Default value is 30.0)

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding frame rate of a specified video channel. This function should be called before "Adv_DVPAPI_StartEncoding"

See Also

Syntax

int Adv_DVPAPI_SetBitRate(int BoardID, int ChannelID, int bitRate = TBR1M)

Parameters

BoardID: Specifies the board ID number(0~3).

ChannelID: Specifies the video channel ID number(0~3).

bitRate: A value to set encoding bit rate of specified video channel. (Default value is TBR1M)

TBR128K,
TBR500K,
TBR1M,
TBR1M500K,
TBR2M,
TBR3M

Return Value

SUCCEEDED: Function succeeded
SDKINITFAILED: SDK uninitialized
NODEVICE: No devices found
CHANNELERROR: Channel error
UNINITIALIZED: Channel uninitialized

Description

This function sets encoding bit rate of specified video channel. This function should be called before “Adv_DVPAPI_StartEncoding”

See Also

Syntax

int Adv_DVPAPI_SetOSD(int BoardID, int ChannelID, char* Text, bool IsOn = true)
(Only works with Vformat = Mode_MPEG4, SubMode = WIS)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
Text:	A string for on screen display.
IsOn:	set OSD on or off. (Default value is true)

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets OSD while encoding of a specified video channel. This function only works with video format setting = Mode_MPEG4 and video sub-mode setting = WIS. Should be called before “Adv_DVPAPI_StartEncoding”

See Also

Adv_DVPAPI_SetVideoFormat

Syntax

int Adv_DVPAPI_ReadEE(int BoardID, int ChannelID, int addr, BYTE* rBytes)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
Addr:	Address to read a value from EE.
rBytes:	A BYTE pointer to the byte value stored in EE of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function read the value at specified address from EE on a selected channel.

See Also

Adv_DVPAPI_WriteEE

Syntax

int Adv_DVPAPI_WriteEE(int BoardID, int ChannelID, int addr, BYTE wBytes)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
Addr:	Address to write a value to EE.
wBytes:	A byte value being written to EE of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function writes the value at specified address to EE on a selected channel.

See Also

Adv_DVPAPI_ReadEE

Syntax

int Adv_DVPAPI_ReadGPIO(int BoardID, int *bit0, int *bit1, int *bit2, int *bit3)

Parameters

BoardID:	Specifies the board ID number(0~3).
bit4:	GPIO bit 0 value.
Bit5:	GPIO bit 1 value.
Bit6:	GPIO bit 2 value.
Bit7:	GPIO bit 3 value.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function read the value of GPIO bit0 to bit3 on a selected board.

See Also

Adv_DVPAPI_WriteGPIO

Syntax

int Adv_DVPAPI_WriteGPIO(int BoardID, int bit4, int bit5, int bit6, int bit7)

Parameters

BoardID:	Specifies the board ID number(0~3).
bit4:	GPIO bit 4 value.
Bit5:	GPIO bit 5 value.
Bit6:	GPIO bit 6 value.
Bit7:	GPIO bit 7 value.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function write the value of GPIO bit4 to bit5 on a selected board.

See Also

Adv_DVPAPI_ReadGPIO

Syntax

int Adv_DVPAPI_SensorGetBrightness(int BoardID, int ChannelID, int *brightness)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
Brightness:	An integer pointer to store the returned sensor brightness value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the brightness value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetBrightness

Syntax

int Adv_DVPAPI_SensorGetHue(int BoardID, int ChannelID, int *hue)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
hue:	An integer pointer to store the returned sensor hue value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the hue value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetHue

Syntax

int Adv_DVPAPI_SensorGetSaturation(int BoardID, int ChannelID, int *saturation)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
saturation:	An integer pointer to store the returned sensor saturation value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the saturation value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetSaturation

Syntax

int Adv_DVPAPI_SensorGetExposureTime(int BoardID, int ChannelID, int *exposureTime)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
ExposureTime:	An integer pointer to store the returned sensor Exposure Time value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the Exposure Time value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetExposureTime

Syntax

int Adv_DVPAPI_SensorGetContrast(int BoardID, int ChannelID, int *contrast)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
contrast:	An integer pointer to store the returned sensor contrast value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the contrast value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetContrast

Syntax

int Adv_DVPAPI_SensorSetBrightness(int BoardID, int ChannelID, int brightness)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
brightness:	A value to set the sensor brightness of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the brightness value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetBrightness

Syntax

int Adv_DVPAPI_SensorSetHue(int BoardID, int ChannelID, int hue)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
hue:	A value to set the sensor hue of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the hue value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetHue

Syntax

int Adv_DVPAPI_SensorSetSaturation(int BoardID, int ChannelID, int saturation)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
saturation:	A value to set the sensor saturation of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the saturation value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetSaturation

Syntax

int Adv_DVPAPI_SensorSetExposureTime(int BoardID, int ChannelID, int exposureTime)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
exposureTime:	A value to set the sensor exposure time of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the exposure time value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetExposureTime

Syntax

int Adv_DVPAPI_SensorSetContrast(int BoardID, int ChannelID, int contrast)

Parameters

BoardID:	Specifies the board ID number(0~3).
ChannelID:	Specifies the video channel ID number(0~3).
contrast:	A value to set the sensor contrast of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the contrast value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetContrast

Summary Tables

The following table summaries the functions that belong to Advantech VAPI (Video Application Program Interface) library. Functions are grouped by tasks you might wish to perform.

Notes: There is no board ID on DVP-1410. BoardID parameter for DVP-1410 must be set as -1.

Summary tables

Table 2.1: DVP Library initialize and close	
Name	**Description**
Adv_DVPAPI_CreateSDKInstence	Creates SDK instance
Adv_DVPAPI_GetNumberOfChannel	Gets number of channels in the system
Adv_DVPAPI_InitDVP	Initializes all channels in the system and gets all channel IDs
Adv_DVPAPI_CloseDVP	Cleans all instances of video channels and closes up the SDK

Table 2.2: Channel encoding control	
Name	**Description**
Adv_DVPAPI_StartEncoding	Starts encoding on a specified video channel
Adv_DVPAPI_StopEncoding	Stops encoding on a specified video channel
Adv_DVPAPI_SnapShot	Catches and saves snapshot into a bitmap file while a specified video channel is encoding
Adv_DVPAPI_GetLiveInfo	Gets real time frame rate and bit rate of a specified encoding channel

Table 2.3: Channel encoding control	
Name	**Description**
Adv_DVPAPI_GetEncodingStatus	Gets encoding status of a

	specified video channel
Adv_DVPAPI_GetEncodeInfo	Gets encoding setting of a specified video channel
Adv_DVPAPI_SetVideoFormat	Sets encoding video format and video sub-mode
Adv _DVPAPI_SetRecord	Sets encoding record properties of a specified video channel
Adv_DVPAPI_SetDisplay	Sets encoding display properties of a specified video channel
Adv_DVPAPI_SetVideoResolution	Sets encoding video resolution of a specified video channel
Adv_DVPAPI_SetSequenceMode	Sets sequence mode of a specified video channel
Adv_DVPAPI_SetGOPSize	Sets GOP size of specified video channel
Adv_DVPAPI_SetFrameRate	Sets encoding frame rate of a specified video channel
Adv_DVPAPI_SetBitRate	Sets encoding bit rate of specified video channel
Adv_DVPAPI_SetOSD	Sets OSD while encoding of a specified video channel

Table 2.4: EEPROM control

Name	Description
Adv_DVPAPI_ReadEE	Read the value at specified address from EEPROM on a selected channel
Adv_DVPAPI_WriteEE	Writes the value at specified address to EEPROM on a selected channel

Table 2.5: Sensor control	
Name	**Description**
Adv_DVPAPI_SensorGetBrightness	Returns the brightness value of a specified video channel
Adv_DVPAPI_SensorGetHue	Returns the hue value of a specified video channel
Adv_DVPAPI_SensorGetSaturation	Returns the saturation value of a specified video channel
Adv_DVPAPI_SensorGetExposureTime	Returns the Exposure Time value of a specified video channel
Adv_DVPAPI_SensorGetContrast	Returns the contrast value of a specified video channel
Adv_DVPAPI_SensorGetAnalogGain	Returns the analog gain value of a specified video channel
Adv_DVPAPI_SensorGetDigitalGain	Returns the digital gain value of a specified video channel
Adv_DVPAPI_SensorGetChannelGainBlue	Returns the blue gain value of a specified video channel
Adv_DVPAPI_SensorGetChannelGainRed	Returns the red gain value of a specified video channel
Adv_DVPAPI_SensorSetBrightness	Sets the brightness value of a specified video channel
Adv_DVPAPI_SensorSetHue	Sets the hue value of a specified video

	channel
Adv_DVPAPI_SensorSetSaturation	Sets the saturation value of a specified video channel
Adv_DVPAPI_SensorSetExposureTime	Sets the exposure time value of a specified video channel
Adv_DVPAPI_SensorSetContrast	Sets the contrast value of a specified video channel
Adv_DVPAPI_SensorSetAnalogGain	Sets the analog gain value of a specified video channel
Adv_DVPAPI_SensorSetDigitalGain	Sets the digital gain value of a specified video channel
Adv_DVPAPI_SensorSetChannelGainBlue	Sets the blue gain value of a specified video channel
Adv_DVPAPI_SensorSetChannelGainRed	Sets the red gain value of a specified video channel

Functions Reference

struct EncodeInfo

```
struct EncodeInfo
{
    int         CurVideoRes;
    int         MaxVideoRes;
    int         VideoFormat;
    int         VideoSubmode;
    int         SequenceMode;
    int         GOPSize;
    double      FrameRate;
    int         BitRate;
    int         DisplayMode;
    bool  ToRecord;
    bool  Snapshot;
};
```

Parameters

CurVideoRes:	Current video resolution.
MaxVideoRes:	Maximum video resolution of current sensor.
VideoFormat:	Video encoding format.
VideoSubmode:	Video encoding sub-mode.
SequenceMode:	Video sequence mode.
GOPSize:	Group of picture size
FrameRate:	Frame rate.
BitRate:	Bit Rate.
DisplayMode:	Current display mode.
ToRecord:	Current video record setting.
Snapshot:	Current video snapshot setting.

Description

struct stores current video encoding settings.

Adv_DVPAPI_CreateSDKInstence

Syntax

int _stdcall Adv_DVPAPI_CreateSDKInstence(void **pp)

Parameters

pp:	A pointer to the SDK.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed

Description

This function creates SDK instance.

Adv_DVPAPI_GetNumberOfChannel

Syntax
int Adv_DVPAPI_GetNumberOfChannel(void)

Parameters
None

Return Value
Number of Channels

Description
This function gets number of channels in the system. At most 4 channels are available in a DVP1410 integrated system.

Adv_DVPAPI_InitDVP

Syntax

int Adv_DVPAPI_InitDVP(int* IDs, int size, int sourceType, HWND* hwnd)

Parameters

IDs:	An array pointer stores all channel IDs.
size:	Size of the IDs array. (Number of Channels)
sourceType:	Video source Type, NTSC or PAL.
hwnd:	Main application Window's handle for DVP.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
BINFILELOST:	BIN file not found
PRFFILELOST:	PRF file not found
DEVICEERROR:	EE error
SETUPFAIL:	ID setup failed
SENSORFAIL:	Sensor control error
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found

Description

This function initializes all channels in the system and gets all channel IDs. After initializing each channel, the Encoding Status would be set as "STOPPED".

See Also

Adv_DVPAPI_GetNumberOfChannel
Adv_DVPAPI_GetEncodingStatus
Adv_DVPAPI_CloseDVP

Adv_DVPAPI_CloseDVP

Syntax
int Adv_DVPAPI_CloseDVP(void)

Parameters
None

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
NODEVICE:	No devices found
SDKINITFAILED:	SDK uninitialized

Description
This function cleans all instances of video channels and closes up the SDK.

See Also
Adv_DVPAPI_InitDVP

Adv_DVPAPI_StartEncoding

Syntax

int Adv_DVPAPI_StartEncoding(int BoardID, int ChannelID, bool Snapshot, int DisplayMode, HWND* hwnd=NULL, int left=0, int top=0, int width=0)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
Snapshot:	To do snapshot or not.
DisplayMode:	0: no display 1: each channel would be displayed in separated window. 2: displayed in a window specified by a set of window handle, size, and position.
hwnd:	A windows handle pointer for display area. When DisplayMode=2.
left:	left position of display area when DisplayMode=2.
top:	top position of display area when DisplayMode=2.
width:	width of display area when DisplayMode=2.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function starts encoding on a specified video channel. The Encoding Status would be set as “RUNNING” after successfully starting encoding.

See Also

Adv_DVPAPI_StopEncoding
Adv_DVPAPI_GetEncodingStatus

Adv_DVPAPI_StopEncoding

Syntax

int Adv_DVPAPI_StopEncoding(int BoardID, int ChannelID)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function stops encoding on a specified video channel. The Encoding Status would be set as “STOPPED” after successfully stopping encoding.

See Also

Adv_DVPAPI_StartEncoding
Adv_DVPAPI_GetEncodingStatus

Adv_DVPAPI_SnapShot

Syntax

int Adv_DVPAPI_SnapShot(int BoardID, int ChannelID, char* snapshotfilename)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
snapshotfilename:	Specifies a bitmap file name to store snapshot.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function catches and saves snapshot into a bitmap file while a specified video channel is encoding. To use this function with parameter “Snapshot” of Adv_DVPAPI_StartEncoding must set to “true”.

See Also

Adv_DVPAPI_StartEncoding

Adv_DVPAPI_GetLiveInfo

Syntax

int Adv_DVPAPI_GetLiveInfo(int BoardID, int ChannelID, int* FrameRate, int* BitRate)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
FrameRate:	An integer pointer to store the returned frame rate of specified video channel.
BitRate:	An integer pointer to store the returned bit rate of specified video channel.

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
VIDEOLOST:	Video source lost
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function gets real time frame rate and bit rate of a specified encoding channel.

See Also

Adv_DVPAPI_GetEncodingStatus

Syntax

int Adv_DVPAPI_GetEncodingStatus(int BoardID, int ChannelID)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.

Return Value

UNINITIALIZED:	Channel is uninitialized.
STOPPED:	Channel is stopped.
RUNNING:	Channel is encoding
UNKNOWNSTATE:	Channel status unknown

Description

This function gets encoding status of a specified video channel.

See Also

Adv_DVPAPI_InitDVP
Adv_DVPAPI_StartEncoding
Adv_DVPAPI_StopEncoding

Adv_DVPAPI_GetEncodeInfo

Syntax

int Adv_DVPAPI_GetEncodeInfo(int BoardID, int ChannelID, EncodeInfo *EInfo)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
EncodeInfo:	A struct of EncodeInfo pointer to store the encoding setting of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function gets encoding setting of a specified video channel.

See Also

struct EncodeInfo

Adv_DVPAPI_SetVideoFormat

Syntax

int Adv_DVPAPI_SetVideoFormat(int BoardID, int ChannelID, int Vformat = Mode_MPEG4, int SubMode = MICROSOFT)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
Vformat:	A value for video format. (Default value is Mode_MPEG4) Mode_MPEG1, Mode_MPEG2, Mode_MPEG4,
SubMode:	A value for MPEG4 video sub-mode. (Default value is MICROSOFT) WIS, Microsoft, DivX, SigmaDesign,

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding video format and video sub-mode properties for MPEG4 of a specified video channel. SubMode will be used while Vformat is Mode_MPEG4. This function should be called before "Adv_DVPAPI_StartEncoding".

See Also

Adv_DVPAPI_SetRecord

Syntax

int Adv_DVPAPI_SetRecord(int BoardID, int ChannelID, bool toRecord, char* videoFileName)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
toRecord:	set record on or off.
videoFileName:	A file name for recording video stream.

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding record properties of a specified video channel. The video file name should be "*.avi" for Mode_MPEG4 video mode, while "*.mpg" for Mode_MPEG1 and Mode_MPEG2. This function should be called before "Adv_DVPAPI_StartEncoding".

See Also

Adv_DVPAPI_SetVideoFormat

Adv_DVPAPI_SetDisplay

Syntax

int Adv_DVPAPI_SetDisplay(int BoardID, int ChannelID, int DisplayMode, HWND* hwnd=NULL, int left=0, int top=0, int width=0)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
DisplayMode:	0: no display 1: each channel would be displayed in separated window. 2: displayed in a window specified by a set of window handle, size, and position.
hwnd:	A windows handle pointer for display area (DisplayMode=2).
left:	left position of display area (DisplayMode=2).
top:	top position of display area (DisplayMode=2).
width:	width of display area (DisplayMode=2).

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding display properties of a specified video channel. Use display mode 1 to display each channel in separated windows. Use display mode 2 to create a display area in the specified window. This function should be called before "Adv_DVPAPI_StartEncoding".

See Also

Adv_DVPAPI_SetVideoResolution

Syntax

int Adv_DVPAPI_SetVideoResolution(int BoardID, int ChannelID, int VRes)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
VRes:	A value to set encoding video resolution corresponds to video source of the specified video channel.
NTSC	SUBQCIFNTSC, QCIFNTSC, QVGANTSC, CIFNTSC, VGANTSC, D1NTSC,
PAL	SUBQCIFPAL, QCIFPAL, QVGAPAL, CIFPAL, VGAPAL , D1PAL,

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding video resolution of a specified video channel. This function should be called before "Adv_DVPAPI_StartEncoding"

See Also

Adv_DVPAPI_SetSequenceMode

Syntax

int Adv_DVPAPI_SetSequenceMode(int BoardID, int ChannelID, int SMode = IPBframe)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
SMode:	A value to set encoding sequence mode of specified video channel. (Default value is IPBframe) IframeOnly, IPframeOnly, IPBframe,

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets sequence mode of a specified video channel. This function should be called before "Adv_DVPAPI_StartEncoding"

See Also

Adv_DVPAPI_SetGOPSize

Syntax

int Adv_DVPAPI_SetGOPSize(int BoardID, int ChannelID, int gop = 30)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
gop:	A value to set GOP size of specified video channel. (Default value is 30)

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets GOP size of specified video channel. This function should be called before "Adv_DVPAPI_StartEncoding"

See Also

Adv_DVPAPI_SetFrameRate

Syntax

int Adv_DVPAPI_SetFrameRate(int BoardID, int ChannelID, double frameRate = 30.0)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
frameRate:	A value to set encoding frame rate of specified video channel. (Default value is 30.0)

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets encoding frame rate of a specified video channel. This function should be called before "Adv_DVPAPI_StartEncoding"

See Also

Adv_DVPAPI_SetBitRate

Syntax

int Adv_DVPAPI_SetBitRate(int BoardID, int ChannelID, int bitRate = TBR1M)

Parameters

BoardID: Specifies the board ID number.

ChannelID: Specifies the video channel ID number. Its range is 0~3.

bitRate: A value to set encoding bit rate of specified video channel. (Default value is TBR1M)

TBR128K,
TBR500K,
TBR1M,
TBR1M500K,
TBR2M,
TBR3M

Return Value

SUCCEEDED: Function succeeded
SDKINITFAILED: SDK uninitialized
NODEVICE: No devices found
CHANNELERROR: Channel error
UNINITIALIZED: Channel uninitialized

Description

This function sets encoding bit rate of specified video channel. This function should be called before "Adv_DVPAPI_StartEncoding"

See Also

Adv_DVPAPI_SetOSD

Syntax

int Adv_DVPAPI_SetOSD(int BoardID, int ChannelID, char* Text, bool IsOn = true)
(Only works with Vformat = Mode_MPEG4, SubMode = WIS)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
Text:	A string for on screen display.
IsOn:	set OSD on or off. (Default value is true)

Return Value

SUCCEEDED:	Function succeeded
SDKINITFAILED:	SDK uninitialized
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets OSD while encoding of a specified video channel. This function only works with video format setting = Mode_MPEG4 and video sub-mode setting = WIS. Should be called before "Adv_DVPAPI_StartEncoding"

See Also

Adv_DVPAPI_SetVideoFormat

Adv_DVPAPI_ReadEE

Syntax

int Adv_DVPAPI_ReadEE(int BoardID, int ChannelID, int addr, BYTE* rBytes)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
Addr:	Address to read a value from EEPROM.
rBytes:	A BYTE pointer to the byte value stored in EEPROM of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function read the value at specified address from EEPROM on a selected channel.

See Also

Adv_DVPAPI_WriteEE

Adv_DVPAPI_WriteEE

Syntax

int Adv_DVPAPI_WriteEE(int BoardID, int ChannelID, int addr, BYTE wBytes)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
Addr:	Address to write a value to EEPROM.
wBytes:	A byte value being written to EEPROM of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function writes the value at specified address to EEPROM on a selected channel.

See Also

Adv_DVPAPI_ReadEE

Adv_DVPAPI_SensorGetBrightness

Syntax

int Adv_DVPAPI_SensorGetBrightness(int BoardID, int ChannelID, int *brightness)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
Brightness:	An integer pointer to store the returned sensor brightness value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the brightness value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetBrightness

Adv_DVPAPI_SensorGetHue

Syntax

int Adv_DVPAPI_SensorGetHue(int BoardID, int ChannelID, int *hue)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
hue:	An integer pointer to store the returned sensor hue value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the hue value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetHue

Adv_DVPAPI_SensorGetSaturation

Syntax

int Adv_DVPAPI_SensorGetSaturation(int BoardID, int ChannelID, int *saturation)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
saturation:	An integer pointer to store the returned sensor saturation value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the saturation value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetSaturation

Adv_DVPAPI_SensorGetExposureTime

Syntax

int Adv_DVPAPI_SensorGetExposureTime(int BoardID, int ChannelID, int *exposureTime)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
ExposureTime:	An integer pointer to store the returned sensor Exposure Time value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the Exposure Time value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetExposureTime

Adv_DVPAPI_SensorGetContrast

Syntax

int Adv_DVPAPI_SensorGetContrast(int BoardID, int ChannelID, int *contrast)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
contrast:	An integer pointer to store the returned sensor contrast value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the contrast value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetContrast

Adv_DVPAPI_SensorGetAnalogGain

Syntax

int Adv_DVPAPI_SensorGetAnalogGain(int BoardID, int ChannelID, int *analogGain)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
analogGain:	An integer pointer to store the returned sensor analog gain value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the analog gain value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetAnalogGain

Adv_DVPAPI_SensorGetDigitalGain

Syntax

int Adv_DVPAPI_SensorGetDigitalGain(int BoardID, int ChannelID, int *digitalGain)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
digitalGain:	An integer pointer to store the returned sensor digital gain value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the digital gain value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetDigitalGain

Adv_DVPAPI_SensorGetChannelGainBlue

Syntax

int Adv_DVPAPI_SensorGetChannelGainBlue(int BoardID, int ChannelID, int *channelGainBlue)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
channelGainBlue:	An integer pointer to store the returned sensor blue gain value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the blue gain value of a specified video channel.

See Also

Adv_DVPAPI_SensorSetChannelGainBlue

Adv_DVPAPI_SensorGetChannelGainRed

Syntax

int Adv_DVPAPI_SensorGetChannelGainRed(int BoardID, int ChannelID, int *channelGainRed)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
channelGainRed:	An integer pointer to store the returned sensor red gain value of a specified video channel.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function returns the red gain value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetChannelGainRed

Adv_DVPAPI_SensorSetBrightness

Syntax

int Adv_DVPAPI_SensorSetBrightness(int BoardID, int ChannelID, int brightness)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
brightness:	A value to set the sensor brightness of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the brightness value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetBrightness

Adv_DVPAPI_SensorSetHue

Syntax

int Adv_DVPAPI_SensorSetHue(int BoardID, int ChannelID, int hue)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
hue:	A value to set the sensor hue of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the hue value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetHue

Adv_DVPAPI_SensorSetSaturation

Syntax

int Adv_DVPAPI_SensorSetSaturation(int BoardID, int ChannelID, int saturation)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
saturation:	A value to set the sensor saturation of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the saturation value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetSaturation

Adv_DVPAPI_SensorSetExposureTime

Syntax

int Adv_DVPAPI_SensorSetExposureTime(int BoardID, int ChannelID, int exposureTime)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
exposureTime:	A value to set the sensor exposure time of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the exposure time value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetExposureTime

Adv_DVPAPI_SensorSetContrast

Syntax

int Adv_DVPAPI_SensorSetContrast(int BoardID, int ChannelID, int contrast)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
contrast:	A value to set the sensor contrast of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the contrast value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetContrast

Adv_DVPAPI_SensorSetAnalogGain

Syntax

int Adv_DVPAPI_SensorSetAnalogGain(int BoardID, int ChannelID, int analogGain)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
analogGain:	A value to set the sensor analog gain of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the analog gain value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetAnalogGain

Adv_DVPAPI_SensorSetDigitalGain

Syntax

int Adv_DVPAPI_SensorSetDigitalGain(int BoardID, int ChannelID, int digitalGain)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
digitalGain:	A value to set the sensor digital gain of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the digital gain value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetDigitalGain

Adv_DVPAPI_SensorSetChannelGainBlue

Syntax

int Adv_DVPAPI_SensorSetChannelGainBlue(int BoardID, int ChannelID, int channelGainBlue)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
channelGainBlue:	A value to set the sensor blue gain of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the blue gain value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetChannelGainBlue

Adv_DVPAPI_SensorSetChannelGainRed

Syntax

int Adv_DVPAPI_SensorSetChannelGainRed(int BoardID, int ChannelID, int channelGainRed)

Parameters

BoardID:	Specifies the board ID number.
ChannelID:	Specifies the video channel ID number. Its range is 0~3.
channelGainRed:	A value to set the sensor red gain of a specified video channel. The range is 0~100.

Return Value

SUCCEEDED:	Function succeeded
FAILED:	Function failed
SDKINITFAILED:	SDK uninitialized
SENSORFAIL:	Sensor control error
NODEVICE:	No devices found
CHANNELERROR:	Channel error
UNINITIALIZED:	Channel uninitialized

Description

This function sets the red gain value of a specified video channel.

See Also

Adv_DVPAPI_SensorGetChannelGainRed