DVP-7010A

1 Channel PCI-bus Video Capture 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-7010A, 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. 20620000A0 1st Edition
Printed in Taiwan June. 2004
Rev. 0.1c

Contents

CHAPTER 1

General Information

Chapter 1 General Information

DVP-7010A is 1 channel input, PCI-bus video capture card. It supports up to 4 channel input by share-frame technology and captures up to D1 resolution at 30/25 fps frame rate. DVP-7010A allows up to 4 cards to be installed on one PC system by an onboard DIP switch setting and identifies card ID by LED indicators. DVP-7010A supports NTSC/PAL composite video input through BNC connectors and digitizes the data to PC through PCI bus.

DVP-7010A has an Auto wake-up function which provides 10 sets of indicated times to wake up system from an off state. This function can be also be triggered from an outer signal by 2 digital trigger pins. It also has a built-in Watch dog timer to reset the system when any unknown error or system crash occurs. DVP-7010A is also designed with a programmable software protection key function for software copy protection.

1.1 Hardware Requirement

- Intel Pentium III 1GHz or above (CPU speed depends on video frame rate, channels and resolution)
- 256 MB RAM or above
- Free PCI slot(s)
- CD-ROM
- Hard disk with 1G free space

1.2 Software Requirement

- Microsoft Windows 2000/XP with DirectX 8.1 or above

1.3 Block Diagram

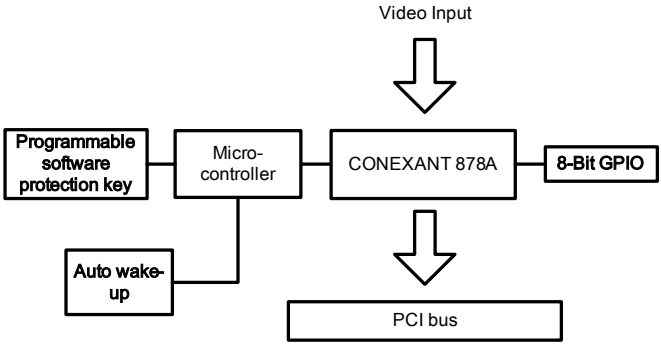


Figure 1.1 System diagram

1.4 Packing List

DVP-7010A PCI capture card	X 1
Utility CD (SDK, Manual, Datasheet)	X 1
Standby power cable (DVP-7010AX-S001)	X 1
Connection cable for WDT	X 1
Connection cable for power switch (DVP-7010AX-S001)	X 1

1.5 Dimensions

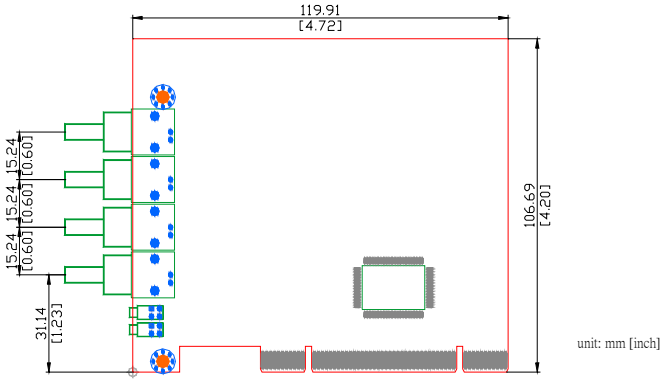


Figure 1.2 Dimensions

1.6 Jumper/ connector location

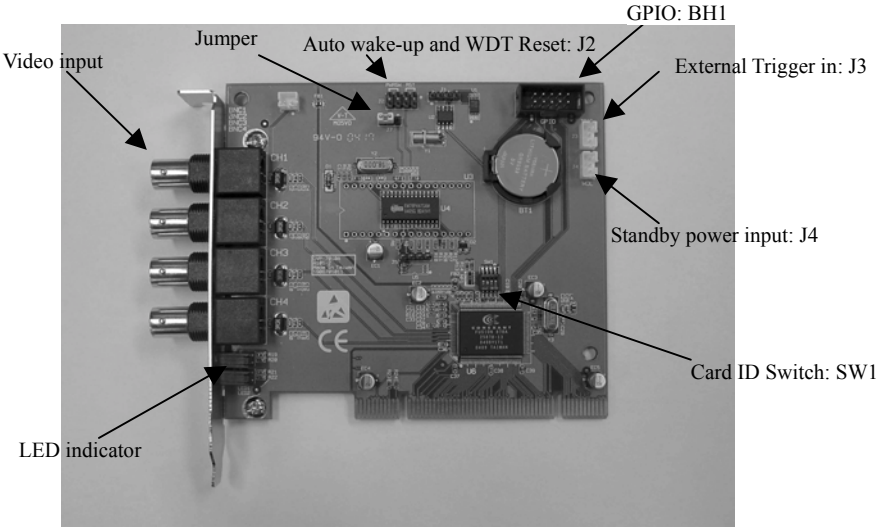


Figure 1.3 Jumper & connector location

1.7 Card ID selection & Pin definition

1.7.1 Card ID selection(SW1) & LED indicator

DVP-7010A provides the probability for 16 cards on one board. The **SW1** is for Card ID selection and LED indicator is for corresponding expression which as follows

	SW1; LED indicator (OFF: 0, ON: 1)			
	1	2	3	4
Card 1	0	0	0	0
Card 2	0	0	0	1
Card 3	0	0	1	0
Card 4	0	0	1	1
Card 5	0	1	0	0
Card 6	0	1	0	1
Card 7	0	1	1	0
Card 8	0	1	1	1
Card 9	1	0	0	0
Card 10	1	0	0	1
Card 11	1	0	1	0
Card 12	1	0	1	1
Card 13	1	1	0	0
Card 14	1	1	0	1
Card 15	1	1	1	0
Card 16	1	1	1	1

Table 1.1 Card ID

Figure 1.4 LED indicator location

1.7.2 GPIO: BH1

- 8 bit TTL/CMOS level Digital I/O.

GPIO (BH1) Pin define	
Pin no.	**Description**
Pin 1	GPIO Pin 0
Pin 2	GPIO Pin 4
Pin 3	GPIO Pin 1
Pin 4	GPIO Pin 5
Pin 5	GPIO Pin 2
Pin 6	GPIO Pin 6
Pin 7	GPIO Pin 3
Pin 8	GPIO Pin 7
Pin 9	GND
Pin 10	GND

Table 1.2 GPIO pin definition

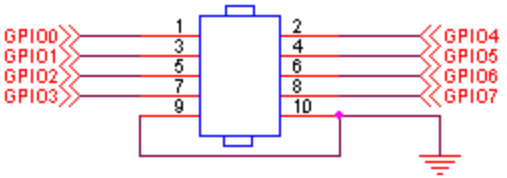


Figure 1.5 GPIO(BH1) pin definition

1.7.3 Auto wake-up & WDT reset function: J2

Auto wake-up and WDT reset function are set by J2 with 8 pins. The pins of 5,6,7,8 are for auto wake-up function (DVP-7010AX) and 1,2,3,4 are for WDT function. Its definitions are shown in Table 1.3, Figure 1.6 and 1.7. Auto wake-up function needs ATX motherboard and power.

Auto wake-up & reset(J2) Pin define	
Pin no.	**Description**
Pin 1	GND
Pin 2	GND
Pin 3	Reset Pin on Motherboard
Pin 4	Reset Pin on Panel
Pin 5	GND
Pin 6	GND
Pin 7	Power SW on Motherboard
Pin 8	Power SW on Panel

Table 1.3 Auto wake-up & reset(J2) Pin definition

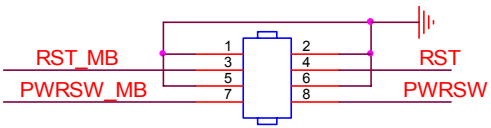


Figure 1.6 Auto wake-up & reset(J2) Pin def (1)

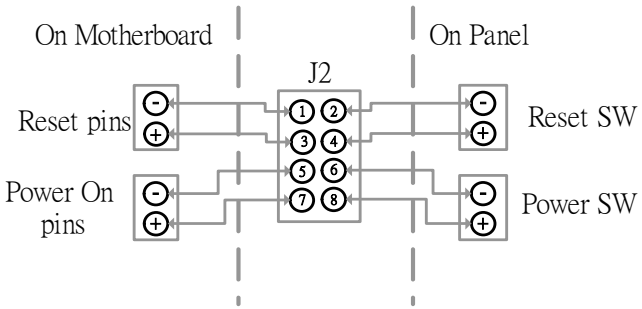


Figure 1.7 Auto wake-up & reset(J2) Pin def (2)

1.7.4 External trigger: J3

DVP-7010A provides 2 pins to receive outer triggers to wake up system. These external triggers are set by J3 and its pin definitions are shown in Table 1.4 and Figure 1.8. The outer triggers can be sent through pin1 or 2 and the signals must be low-actived. (Figure 1.9)

External Trigger(J3) Pin define	
Pin no.	**Description**
Pin 1	Trigger Pin 0
Pin 2	Trigger Pin 1
Pin 3	GND

Table 1.4 External trigger(J3)Pin definition

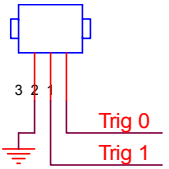


Figure 1.8 External trigger(J3)Pin def (1)

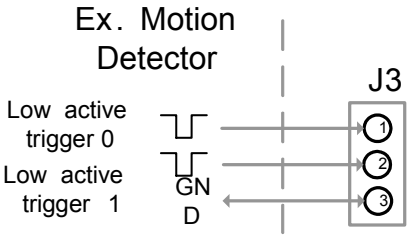


Figure 1.9 The description for active triggers of J3

1.7.5 Standby power input : J4

This pin should be connected to 5V standby power when user wants to enable the auto wake-up function.

Standby power input(J4) pin define	
Pin no.	**Description**
Pin 1	5V/100mA standby voltage
Pin 2	GND
Pin 3	Not connected

Table 1.5 Standby power input(J4)Pin definition

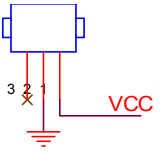


Figure 1.10 Standby power input(J4)Pin def (1)

1.7.6 Jumper: J7

Auto wake-up function need to set up the Jumper which is as follow table:

Jumper (J7) pin defininitions	
Pin status.	**Description**
Pin1-Pin2	Enable Auto wake up
Pin2-Pin3	Disable Auto wake up

Table 1.6 Jumper (J7)Pin definition

1.8 Battery

DVP-7010A has a lithium battery for the Real Time Clock (RTC) function to keep the time running precisely. This battery is wildly used and its specifications are as follows;

Battery Spec.	
Item	**Description**
Model name	CR2032
Normal Voltage	3.0V
Standard capacity	220 mA (on continuous discharge at 20^0C under 15KΩ load to 2.5V end-voltage)
Standard weight	3.1g
Terminals	Materials of Positive electrode: Nickel-plated stainless steel
	Materials of Negative electrode: Nickel-plated stainless steel

Table 1.7 Battery Spec.

1.9 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 SW1 (Card ID) while you want.

5 Place the DVP-7010A into Mother Board PCI slot.

6 Connect appropriate accessories (Video cable to camera. if necessary) to the DVP-7010A.

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.

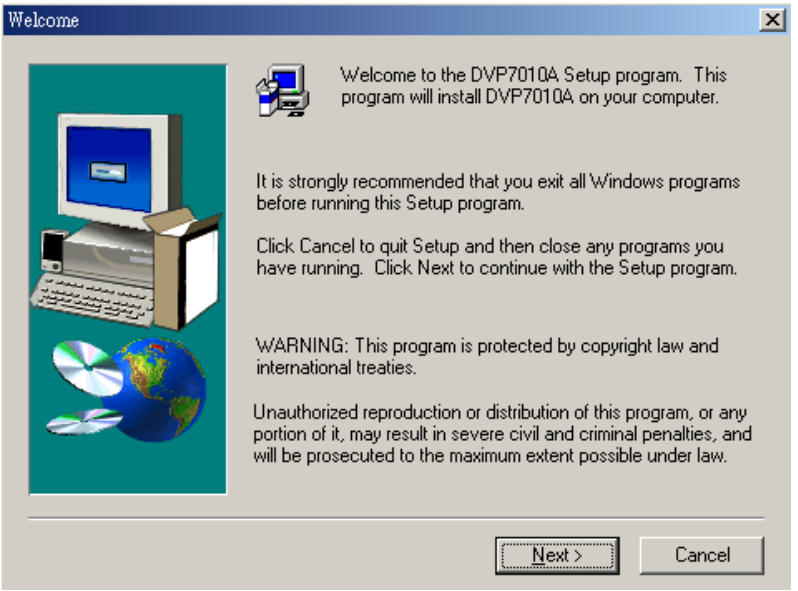
1.10 Software / Driver Installation

Before you begin

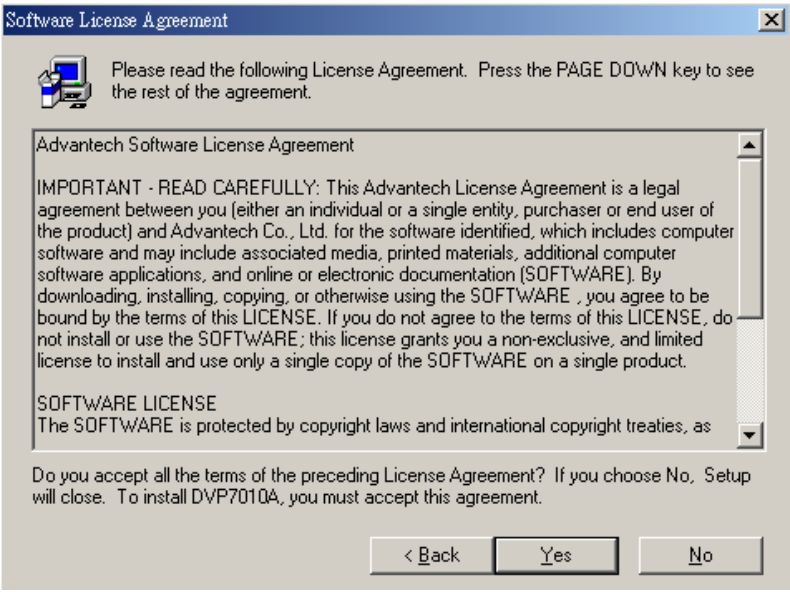
To facilitate the installation of the enhanced display device drivers and utility software, you should read the instructions in this chapter carefully before you attempt installation. The device drivers for the DVP-7010A board are located on the software installation CD. The auto-run function of the 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

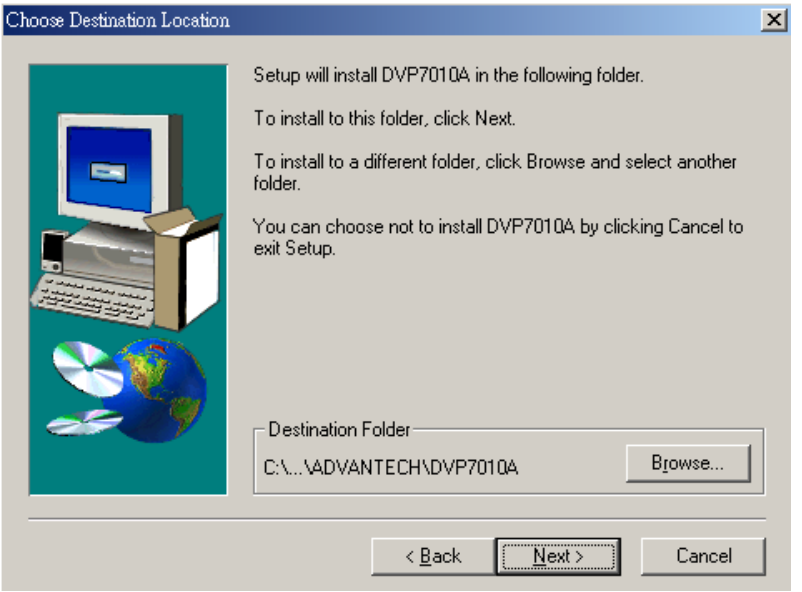
1. Insert the driver CD into your system's CD-ROM drive. In a few seconds, the software installation main menu appears. Move the mouse cursor over the "Manual" button under the "SETUP" heading, a message pops up telling you to start the installation.



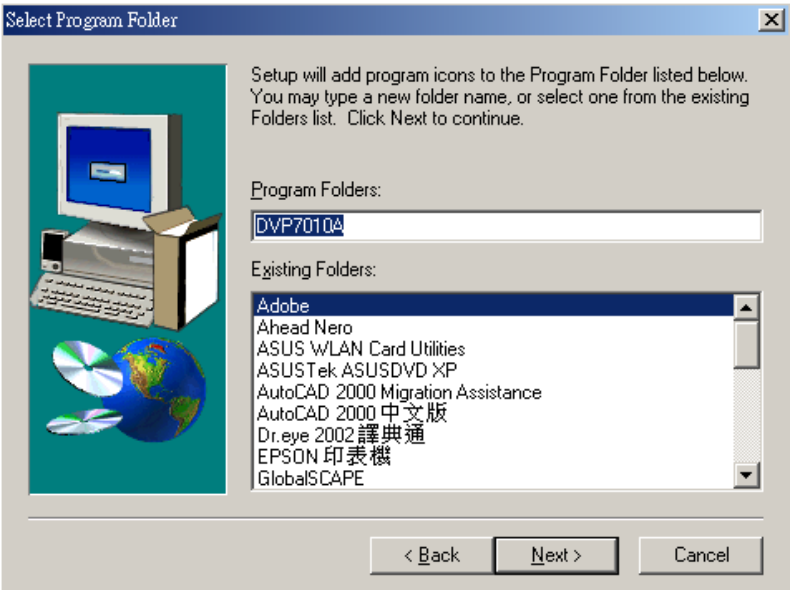
2. Please read the following License Agreement. Press the PAGE DOWN key to see the rest of the agreement and Click "Yes" to continue the installation.



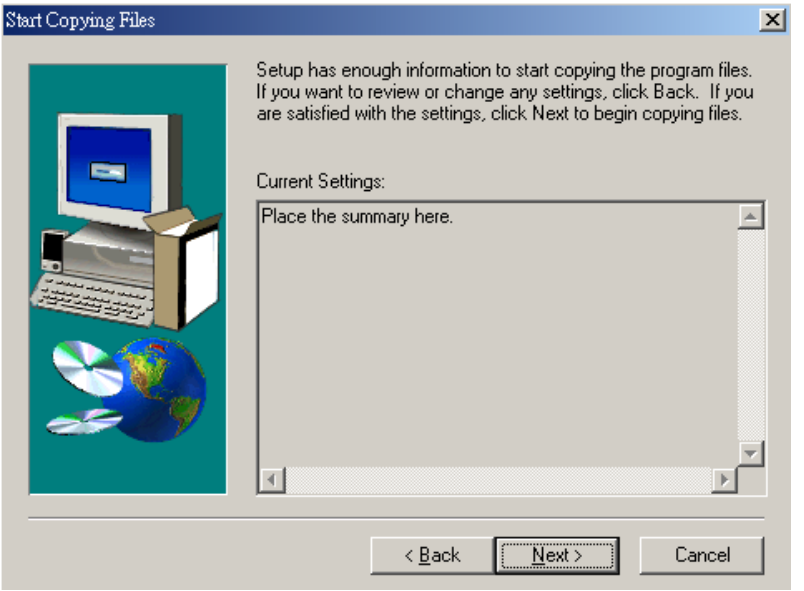
3. Choose destination location on your system disc then click "Next" when you see the following message.



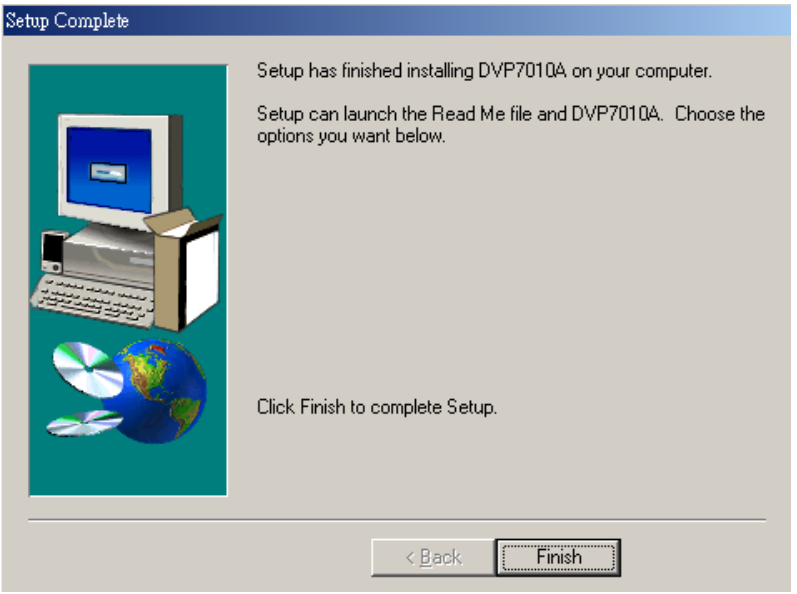
4. Click "Next" when you see the following message.



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



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



CHAPTER 2

Functions Library

Chapter 2 DVP-7010A Functions Library

SDK Initialize and close
- Adv_DVPAPI_CreateSDKInstence
- Adv_DVPAPI_GetNoOfDevices
- Adv_DVPAPI_InitSDK
- Adv_DVPAPI_CloseSDK

Capture control
- Adv_DVPAPI_Start
- Adv_DVPAPI_Stop
- Adv_DVPAPI_GetCapState
- Adv_DVPAPI_SetNewFrameCallback
- Adv_DVPAPI_GetCurFrameBuffer

Capture setting
- Adv_DVPAPI_GetVideoFormat
- Adv_DVPAPI_SetVideoFormat
- Adv_DVPAPI_GetFrameRate
- Adv_DVPAPI_SetFrameRate
- Adv_DVPAPI_GetResolution
- Adv_DVPAPI_SetResolution
- Adv_DVPAPI_GetVideoInput
- Adv_DVPAPI_SetVideoInput

Sensor Control
- Adv_DVPAPI_GetBrightness
- Adv_DVPAPI_SetBrightness
- Adv_DVPAPI_GetContrast
- Adv_DVPAPI_SetContrast
- Adv_DVPAPI_GetHue
- Adv_DVPAPI_SetHue
- Adv_DVPAPI_GetSaturation
- Adv_DVPAPI_SetSaturation

GPIO

- Adv_DVPAPI_GPIOGetData
- Adv_DVPAPI_GPIOSetData

Micro Controller

- Adv_DVPAPI_GetWDTTimeout
- Adv_DVPAPI_SetWDTTimeout
- Adv_DVPAPI_GetUCFlag
- Adv_DVPAPI_SetUCFlag
- Adv_DVPAPI_GetPoweronEvent
- Adv_DVPAPI_GetAlarm
- Adv_DVPAPI_SetAlarm
- Adv_DVPAPI_GetChecksum
- Adv_DVPAPI_GetEEData
- Adv_DVPAPI_SetEEData
- Adv_DVPAPI_GetRTCData
- Adv_DVPAPI_SetRTCData

2.1 Functions Reference

Struct

TimeStruct

```
typedef struct{
BYTE second;
BYTE minute;
BYTE hour;
BYTE day;
BYTE date;
BYTE month;
BYTE year;
} TimeStruct;
```

Description

A stuct stores time setting.

AlarmStruct

```
typedef struct{
BOOL enable;
BYTE type;
TimeStruct AlarmT;
} AlarmStruct;
```

Parameters

enable:	Enable or disable alarm setting.
type:	Type of alarm: HOURLY_ALARM DAILY_ALARM WEEKLY_ALARM MONTHLY_ALARM YEARLY_ALARM ONCE_ALARM
AlarmT:	Time setting for this alarm.

Description

A stucrt stores alarm time setting.

UCFlag

```
typedef struct{
bool EnableWDT;
bool EnableAlarm;
bool EnableTrigger0;
bool EnableTrigger1;
} UCFlag;
```

Parameters

EnableWDT: Enable or disable watch dog timer.
EnableAlarm: Enable or disable alarm.
EnableTrigger0: Enable or disable trigger0 on board to boot the system.
EnableTrigger1: Enable or disable trigger1 on board to boot the system.

Description

A stucrt stores system boot setting.

Method
Adv_DVPAPI_CreateSDKInstence

Syntax

int Adv_DVPAPI_CreateSDKInstence(void **pp)

Parameters

pp:	A pointer to the SDK.

Return Value

SUCCEEDED:	Function succeeded.
PARAMERROR:	Parameter error.
SDKINITFAILED:	Failed to initialize SDK.

Description

This function creates SDK instance.

Adv_DVPAPI_GetNumberOfDevices

Syntax
int Adv_DVPAPI_GetNoOfDevices(void)

Parameters
None

Return Value
Number of DVP7010A Capture Devices

Description
This function gets number of DVP7010A Capture Devices in the system. At most 16 channels are available in a DVP7010A integrated system.

Adv_DVPAPI_InitSDK

Syntax

int Adv_DVPAPI_InitSDK(int NoOfDevs, int* IDList)

Parameters

NoOfDevs:	Number of devices.
IDs:	An array pointer stores all board IDs. Negative value indentifys inactive channel.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Failed to get board ID or duplicate board ID.
NODEVICES:	No devices found.

Description

This function initializes all DVP7010A capture devices in the system and gets all board IDs. After initializing each device, the capture status would be set as "STOPPED".

See Also

Adv_DVPAPI_GetNoOfDevices
Adv_DVPAPI_GetCapState
Adv_DVPAPI_CloseSDK

Adv_DVPAPI_CloseSDK

Syntax
int Adv_DVPAPI_CloseSDK(void)

Parameters
None

Return Value

SUCCEEDED:	Function succeeded.
PARAMERROR:	Parameter error.
SDKINITFAILED:	SDK not initialized.

Description
This function cleans all instances of capture devices and closes up the SDK.

See Also
Adv_DVPAPI_InitSDK

Adv_DVPAPI_Start

Syntax

int Adv_DVPAPI_Start(int BoardID, int SwitchingChans, HWND Main, HWND hwndPreview)

Parameters

BoardID:	Specifies the board ID number(0~15).
SwitchingChans:	Single video input or switching between video muxes. 0 single channel. 2 channels (mux0, mux1). 3 channels (mux0, mux1, mux2). 4 channels (mux0, mux1, mux2, mux3).
Main:	A main window handle.
hwndPreview:	A windows handle for display area.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
SDKINITFAILED:	SDK not initialized.

Description

This function starts video capturing on a specified capture board. The capture state would be set as "RUNNING" after a successful start.

See Also

Adv_DVPAPI_Stop
Adv_DVPAPI_GetCapState

Adv_DVPAPI_Stop

Syntax
int Adv_DVPAPI_Stop(int BoardID)

Parameters

BoardID:	Specifies the board ID number(0~15).

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
SDKINITFAILED:	SDK not initialized.

Description
This function stops video capturing on a specified capture board. The capture state would be set as "STOPPED" after a successful stop.

See Also
Adv_DVPAPI_Start
Adv_DVPAPI_GetCapState

Adv_DVPAPI_GetCapState

Syntax

int Adv_DVPAPI_GetCapState(int BoardID)

Parameters

BoardID: Specifies the board ID number(0~15).

Return Value

BOARDIDERROR: Invalid board ID.
SDKINITFAILED: SDK not initialized.

Description

This function gets capture state of a specified capture board.

STOPPED = 1,
RUNNING = 2,
UNINITIALIZED = -1,
UNKNOWNSTATE = -2

See Also

Adv_DVPAPI_InitSDK
Adv_DVPAPI_Start
Adv_DVPAPI_Stop

Adv_DVPAPI_GetCurFrameBuffer

Syntax

int Adv_DVPAPI_GetCurFrameBuffer(int BoardID, long* bufSize, BYTE* buf, int VMux)

Parameters

BoardID:	Specifies the board ID number(0~15).
bufSize:	Frame buffer size.
buf:	Frame buffer.
VMux:	Video mux.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.
NOSAMPLE:	No buffer sample.

Description

This function gets current frame buffer of a specified capture board. Start capturing before the function is called.

See Also

Adv_DVPAPI_Start

Adv_DVPAPI_SetNewFrameCallback

Syntax

int Adv_DVPAPI_SetNewFrameCallback(int BoardID, int callback)

Parameters

BoardID: Specifies the board ID number(0~15).

callback: Callback function.

Callback fumction type:

int (int lParam, int nID, int BoardID, int VMux, int bufsize, BYTE* buf);

Return Value

SUCCEEDED: Function succeeded.

BOARDIDERROR: Invalid board ID.

SDKINITFAILED: SDK not initialized.

Description

This function sets a callback function to SDK. When new frame arrived, messages and frame information will be sent to callback function.

See Also

Adv_DVPAPI_GetVideoFormat

Syntax

int Adv_DVPAPI_GetVideoFormat(int BoardID, AnalogVideoFormat* vFormat)

Parameters

BoardID:	Specifies the board ID number(0~15).
Vformat:	A pointer to get video format. Video_None, Video_NTSC_M, Video_NTSC_M_J, Video_PAL_B, Video_PAL_M, Video_PAL_N, Video_SECAM_B

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets video input format of a specified capture board.

See Also

Adv_DVPAPI_SetVideoFormat

Adv_DVPAPI_SetVideoFormat

Syntax

int Adv_DVPAPI_SetVideoFormat(int BoardID, AnalogVideoFormat* vFormat)

Parameters

BoardID:	Specifies the board ID number(0~15).
Vformat:	video format: Video_None, Video_NTSC_M, Video_NTSC_M_J, Video_PAL_B, Video_PAL_M, Video_PAL_N, Video_SECAM_B

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
SDKINITFAILED:	SDK not initialized.

Description

This function sets video input format a specified capture board. This function should be called before "Adv_DVPAPI_Start".

See Also

Adv_DVPAPI_GetVideoFormat

Adv_DVPAPI_GetFrameRate

Syntax

int Adv_DVPAPI_GetFrameRate(int BoardID, double *FrameRate)

Parameters

BoardID:	Specifies the board ID number(0~15).
FrameRate:	A pointer to get video frame rate.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets frame rate of a specified capture board.

See Also

Adv_DVPAPI_SetFrameRate

Adv_DVPAPI_SetFrameRate

Syntax

int Adv_DVPAPI_SetFrameRate(int BoardID, double FrameRate)

Parameters

BoardID:	Specifies the board ID number(0~15).
FrameRate:	A value to set frame rate. (0.0<FrameRate<=30.0, Default value is 30.0)

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets frame rate of a specified capture board.
This function should be called before "Adv_DVPAPI_Start".

See Also

Adv_DVPAPI_GetFrameRate

Adv_DVPAPI_GetVideoResolution

Syntax

int Adv_DVPAPI_GetResolution(int BoardID, VideoSize *Size)

Parameters

BoardID: Specifies the board ID number(0~15).

Size: A pointer to get video resolution.
SIZED1 (NTSC: 720x480, PAL: 720x576),
SIZEVGA (640x480),
SIZEQVGA (320x240),
SIZESUBQVGA (160x120),

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets video resolution of a specified capture board.

See Also

Adv_DVPAPI_SetResolution

Adv_DVPAPI_SetVideoResolution

Syntax

int Adv_DVPAPI_SetResolution(int BoardID, VideoSize Size)

Parameters

BoardID: Specifies the board ID number(0~15).

Size: A value to set video resolution.
SIZED1 (NTSC: 720x480, PAL: 720x576),
SIZEVGA (640x480),
SIZEQVGA (320x240),
SIZESUBQVGA (160x120),

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
SDKINITFAILED:	SDK not initialized.

Description

This function sets video resolution of a specified capture board. This function should be called before "Adv_DVPAPI_Start".

See Also

Adv_DVPAPI_GetResolution

Adv_DVPAPI_ GetVideoInput

Syntax

int Adv_DVPAPI_GetVideoInput(int BoardID, int* input)

Parameters

BoardID:	Specifies the board ID number(0~15).
input:	A pointer to get video input mux.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets video input mux of a specified capture board.
It returns "FAILED" when argument "SwitchingChans" of Adv_DVPAPI_Start was not set to 0. (This function works for no video mux automatically switching.)

See Also

Adv_DVPAPI_Start
Adv_DVPAPI_SetVideoInput

Adv_DVPAPI_SetVideoVideoInput

Syntax

int Adv_DVPAPI_SetVideoInput(int BoardID, int input)

Parameters

BoardID:	Specifies the board ID number(0~15).
input:	A value to set video input mux(0~3).

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets video input mux of a specified capture board.

It returns "FAILED" when argument "SwitchingChans " of Adv_DVPAPI_Start was not set to 0. (This function works for no video mux automatically switching.)

See Also

Adv_DVPAPI_Start

Adv_DVPAPI_GetVideoInput

Adv_DVPAPI_GetBrightness

Syntax

int Adv_DVPAPI_GetBrightness(int BoardID, long *pnValue)

Parameters

BoardID:	Specifies the board ID number(0~15).
pnValue:	A long pointer to get brightness value.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets brightness value of a specified capture board.

See Also

Adv_DVPAPI_SetBrightness

Adv_DVPAPI_SetBrightness

Syntax

int Adv_DVPAPI_SetBrightness(int BoardID, long nValue)

Parameters

BoardID:	Specifies the board ID number(0~15).
nValue:	A value to set brightness(0~100).

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets brightness value of a specified capture board.

See Also

Adv_DVPAPI_GetBrightness

Adv_DVPAPI_GetContrast

Syntax

int Adv_DVPAPI_GetContrast(int BoardID, long *pnValue)

Parameters

BoardID:	Specifies the board ID number(0~15).
pnValue:	A long pointer to get contrast value.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets contrast value of a specified capture board.

See Also

Adv_DVPAPI_SetContrast

Adv_DVPAPI_SetContrast

Syntax

int Adv_DVPAPI_SetContrast(int BoardID, long nValue)

Parameters

BoardID:	Specifies the board ID number(0~15).
nValue:	A value to set contrast(0~100).

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets contrast value of a specified capture board.

See Also

Adv_DVPAPI_GetContrast

Adv_DVPAPI_GetHue

Syntax

int Adv_DVPAPI_GetHue(int BoardID, long *pnValue)

Parameters

BoardID:	Specifies the board ID number(0~15).
pnValue:	A long pointer to get hue value.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets hue value of a specified capture board.

See Also

Adv_DVPAPI_SetHue

Adv_DVPAPI_SetHue

Syntax

int Adv_DVPAPI_SetHue(int BoardID, long nValue)

Parameters

BoardID:	Specifies the board ID number(0~15).
nValue:	A value to set hue(0~100).

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets hue value of a specified capture board.

See Also

Adv_DVPAPI_GetHue

Adv_DVPAPI_GetSaturation

Syntax

int Adv_DVPAPI_GetSaturation(int BoardID, long *pnValue)

Parameters

BoardID:	Specifies the board ID number(0~15).
pnValue:	A long pointer to get saturation value.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets saturation value of a specified capture board.

See Also

Adv_DVPAPI_SetSaturation

Adv_DVPAPI_SetSaturation

Syntax

int Adv_DVPAPI_SetSaturation(int BoardID, long nValue)

Parameters

BoardID:	Specifies the board ID number(0~15).
nValue:	A value to set saturation(0~100).

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets saturation value of a specified capture board.

See Also

Adv_DVPAPI_GetSaturation

Adv_DVPAPI_GPIOGetData

Syntax

int Adv_DVPAPI_GPIOGetData(int BoardID, int Pin, BOOL* value)

Parameters

BoardID:	Specifies the board ID number(0~15).
Pin:	GPIO pin.
value:	A pointer to get specified pin value.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets value of specified GPIO pin on a selected board.

See Also

Adv_DVPAPI_GPIOSetData

Adv_DVPAPI_GPIOSetData

Syntax

int Adv_DVPAPI_GPIOSetData(int BoardID, int Pin, BOOL value)

Parameters

BoardID:	Specifies the board ID number(0~15).
Pin:	GPIO pin.
nValue:	A value to set specified pin value.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets value of specified GPIO pin on a selected board .

See Also

Adv_DVPAPI_GPIOGetData

Adv_DVPAPI_GetWDTTimeout

Syntax

int Adv_DVPAPI_GetWDTTimeout(int BoardID, BOOL *EnableWDT, int *timeout)

Parameters

BoardID:	Specifies the board ID number(0~15).
EnableWDT:	A pointer to get watch dog timer state.
timeout:	A pointer to get watch dog timer.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets state and value of watch dog timer on a selected board.

See Also

Adv_DVPAPI_SetWDTTimeout

Adv_DVPAPI_SetWDTTimeout

Syntax

int Adv_DVPAPI_SetWDTTimeout(int BoardID, BOOL EnableWDT, int timeout)

Parameters

BoardID:	Specifies the board ID number(0~15).
EnableWDT:	Enable or disable. Watch dog timer.
timeout:	A pointer to get watch dog timer.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets state and value of watch dog timer on a selected board .

See Also

Adv_DVPAPI_GetWDTTimeout

Adv_DVPAPI_GetUCFlag

Syntax

int Adv_DVPAPI_GetUCFlag(int BoardID, BOOL *enableAlarm, BOOL *enableTrig0, BOOL *enableTrig1)

Parameters

BoardID: Specifies the board ID number(0~15).
EnableWDT: A pointer to get watch dog timer(enable or disable).
EnableAlarm: A pointer to get alarm(enable or disable).
EnableTrigger0: A pointer to get trigger0(enable or disable).
EnableTrigger1: A pointer to get trigger1(enable or disable).

Return Value

SUCCEEDED: Function succeeded.
FAILED: Function failed.
BOARDIDERROR: Invalid board ID.
PARAMERROR: Invalid parameter.
SDKINITFAILED: SDK not initialized.

Description

This function gets settings (enable or disable) of WDT, alarm, and triggers on a selected board.

See Also

Adv_DVPAPI_SetUCFlag
UCFlag

Adv_DVPAPI_SetUCFlag

Syntax

int Adv_DVPAPI_SetUCFlag(int BoardID, BOOL enableAlarm, BOOL enableTrig0, BOOL enableTrig1)

Parameters

BoardID: Specifies the board ID number(0~15).
EnableWDT: A value to enable or disable watch dog timer.
EnableAlarm: A value to enable or disable alarm.
EnableTrigger0: A value to enable or disable trigger0.
EnableTrigger1: A value to enable or disable trigger1.

Return Value

SUCCEEDED: Function succeeded.
FAILED: Function failed.
BOARDIDERROR: Invalid board ID.
PARAMERROR: Invalid parameter.
SDKINITFAILED: SDK not initialized.

Description

This function enables or disables WDT, alarm, and triggers on a selected board.

See Also

Adv_DVPAPI_GetUCFlag
UCFlag

Adv_DVPAPI_GetPoweronEvent

Syntax

int Adv_DVPAPI_GetPoweronEvent(int BoardID, POWERON_EVENT *powerEvent)

Parameters

BoardID:	Specifies the board ID number(0~15).
powerEvent:	A pointer to get system current boot type. BY_USER, BY_ALARM, BY_TRIGGER0, BY_TRIGGER1

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets the type of system boot after setting.

See Also

Adv_DVPAPI_GetAlarm

Syntax

int Adv_DVPAPI_GetAlarm(int BoardID, int index, AlarmStruct* alarm)

Parameters

BoardID: Specifies the board ID number(0~15).
index: Specifies the alarm number(0~9).
alarm: A AlarmStruct pointer to get alarm setting.

Return Value

SUCCEEDED: Function succeeded.
FAILED: Function failed.
BOARDIDERROR: Invalid board ID.
PARAMERROR: Invalid parameter.
SDKINITFAILED: SDK not initialized.

Description

This function gets setting of specified alarm on a selected board.

See Also

Adv_DVPAPI_SetAlarm
AlarmStruct

Adv_DVPAPI_SetAlarm

Syntax

int Adv_DVPAPI_SetAlarm(int BoardID, int index, AlarmStruct* alarm)

Parameters

BoardID:	Specifies the board ID number(0~15).
index:	Specifies the alarm number(0~9).
alarm:	Alarm setting.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets setting of specified alarm on a selected board.

See Also

Adv_DVPAPI_GetAlarm
AlarmStruct

Adv_DVPAPI_GetChecksum

Syntax

int Adv_DVPAPI_GetChecksum(int BoardID, BYTE* key, BYTE *checksum)

Parameters

BoardID:	Specifies the board ID number(0~15).
key:	Input key for check sum value.
checksum:	A pointer to get check sum value.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets check sum value with a "KEY" input on a selected board.

See Also

Adv_DVPAPI_GetEEData

Syntax

int Adv_DVPAPI_GetEEData(int BoardID, BYTE wordAddr, BYTE* pData)

Parameters

BoardID:	Specifies the board ID number(0~15).
wordAddr:	Specifies the word address(0~127).
pData:	A pointer to get byte value stored in EE.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function read the value at specified EE word address on a selected board.

See Also

Adv_DVPAPI_SetEEData

Adv_DVPAPI_SetEEData

Syntax

int Adv_DVPAPI_SetEEData(int BoardID, BYTE wordAddr, BYTE* pData)

Parameters

BoardID:	Specifies the board ID number(0~15).
wordAddr:	Specifies the word address(0~127).
pData:	A value to set the byte value in EE.

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function writes the value at specified EE word address on a selected board.

See Also

Adv_DVPAPI_GetEEData

Adv_DVPAPI_GetRTCData

Syntax

int Adv_DVPAPI_GetRTCData(int BoardID, TimeStruct* time)

Parameters

BoardID:	Specifies the board ID number(0~15).
time:	A TimeStruct pointer to get RTC

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function gets RTC settings on a selected board.

See Also

Adv_DVPAPI_SetRTCData
TimeStruct

Adv_DVPAPI_SetRTCData

Syntax

int Adv_DVPAPI_SetRTCData(int BoardID, TimeStruct* time)

Parameters

BoardID:	Specifies the board ID number(0~15).
time:	A TimeStruct pointer to set RTC

Return Value

SUCCEEDED:	Function succeeded.
FAILED:	Function failed.
BOARDIDERROR:	Invalid board ID.
PARAMERROR:	Invalid parameter.
SDKINITFAILED:	SDK not initialized.

Description

This function sets RTC settings on a selected board.

See Also

Adv_DVPAPI_GetRTCData
TimeStruct