



DS-43xx Series Audio/Video Compression Card User Manual

Version 6.4
2012-11-01

Model

DS-4316HFVI-E
DS-4316HCVI-E
DS-4308HFVI-E
DS-4308HCVI-E

DS-4304HFHI-E

DS-4308HWI-E
DS-4316HWI-E

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Chapter 1 Product Description

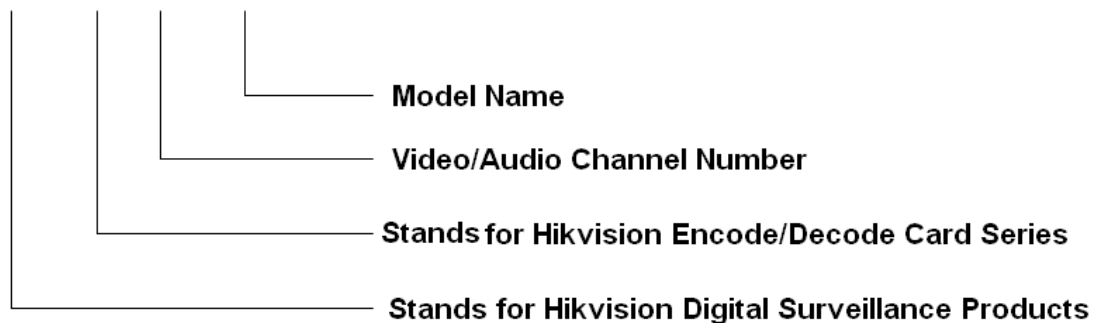
1.1. Product Description

HIKVISION DS-43xx series compression card adopts high performance video processing chip with low power consumption, and is highly-efficient in real time audio & video capturing and encoding. It can be plugged onto a PC motherboard and construct a PC-DVR system together with video streaming and storage software.

The DS-43xx series card includes 7 product models: DS-4316HFVI-E, DS-4316HCVI-E, DS-4308HFVI-E, DS-4308HCVI-E, DS-4304HFHI-E, DS-4316HWI-E and DS-4308HWI-E; among which the DS-43xxHFVI-E and DS-43xxHCVI-E series models support up to 4CIF encoding, and the DS-43xxHWI-E series models support up to WD1 encoding while the DS-4304HFHI-E card supports up to 1920 x 1080 encoding from HD-SDI video input source.

Card Model Description

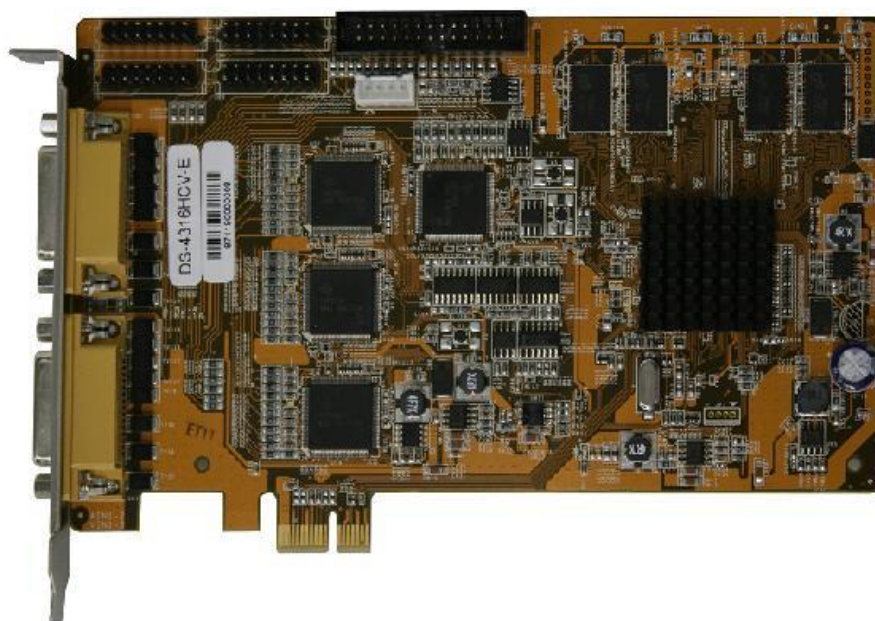
DS - 43 ww XYZ



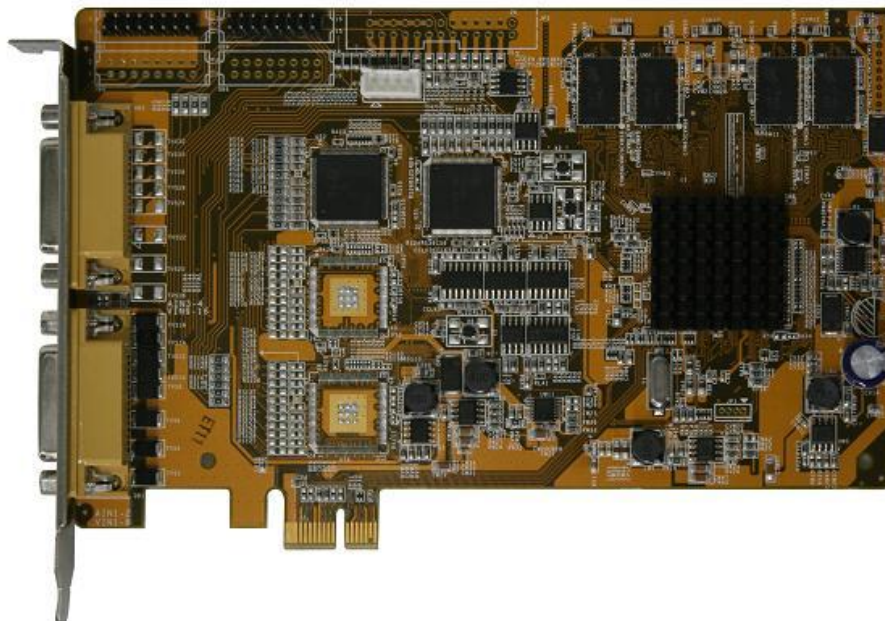
Product Snapshot



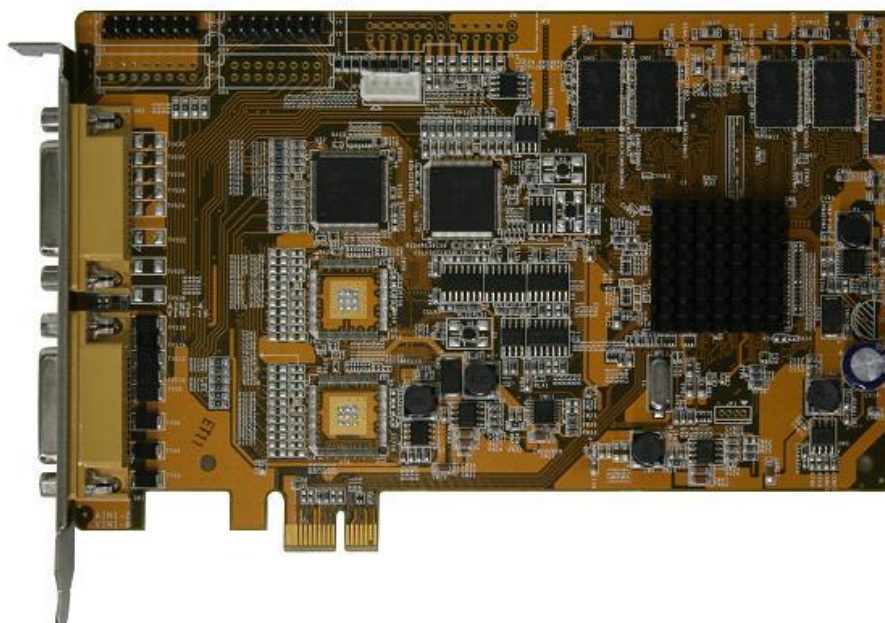
DS-4316HFVI-E



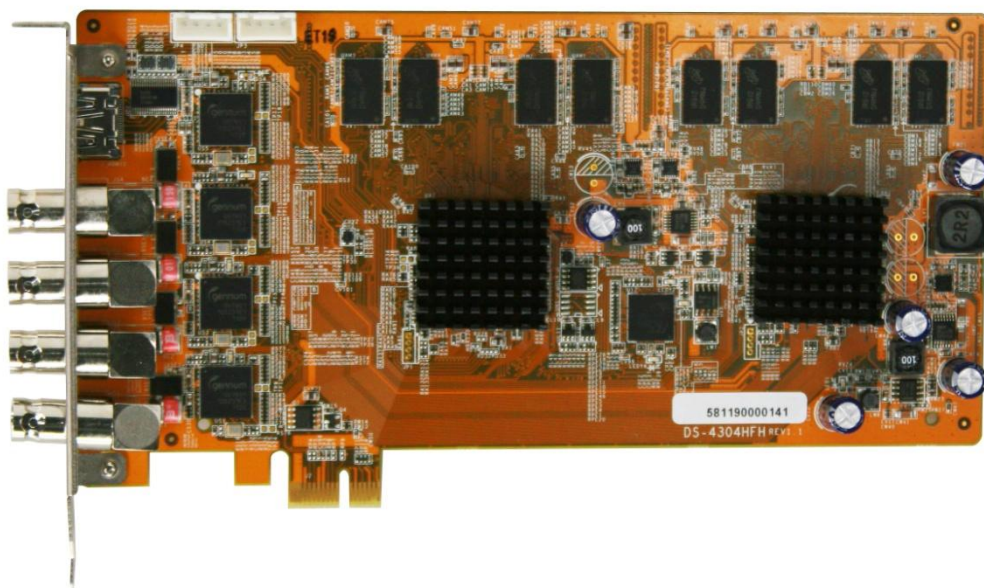
DS-4316HCVI-E



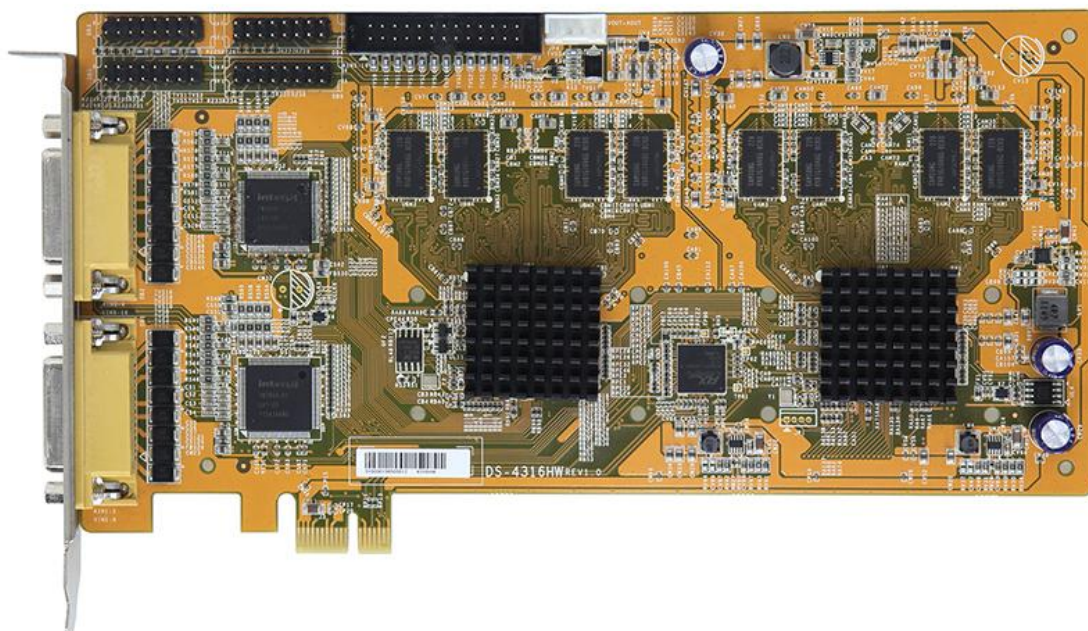
DS-4308HFVI-E



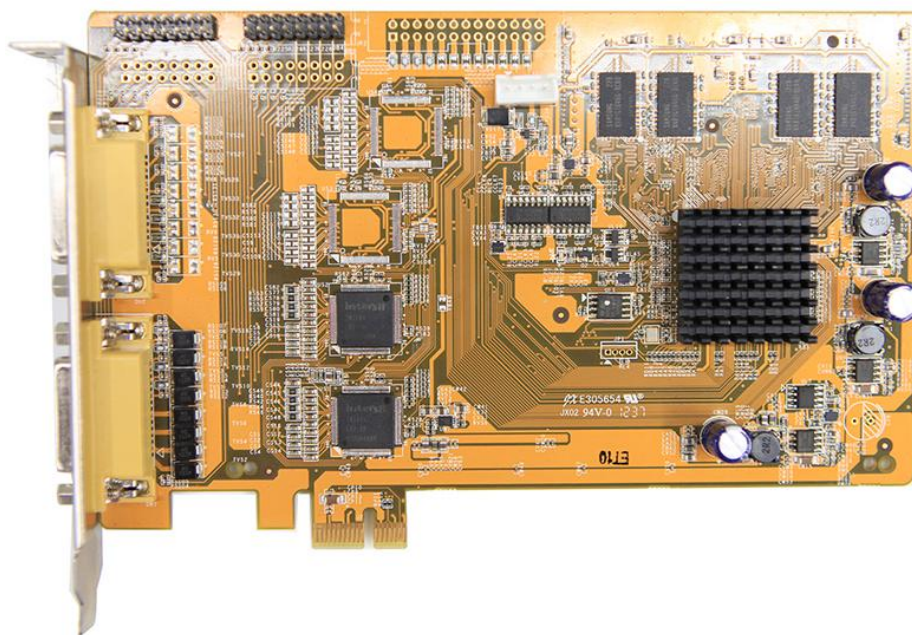
DS-4308HCVI-E



DS-4304HFHI-E



DS-4316HWI-E



DS-4308HWI-E

1.2. Technical Specification

Model	DS-4308HCVI-E	DS-4316HCVI-E	DS-4308HFVI-E	DS-4316HFVI-E
Video Compression	H.264 (MPEG-4/part10), PAL/NTSC adaptive			
Video Input	8-ch	16-ch	8-ch	16-ch
Video Input Interface	BNC (1.0Vp-p, 75Ω)			
Live View Resolution	Up to 4CIF			
Playback Resolution	4CIF/2CIF/CIF/QCIF			
Frame Rate	1~25 fps (PAL), 1~30 fps (NTSC)			
Video Recording Bit Rate	32K ~ 2M (CIF), 70K ~ 4M (4CIF) (Unit: bps)			
Video Output Interface	1, BNC			
Audio Compression	OggVorbis			
Audio Input	8, mono	16, mono	8, mono	16, mono
Audio Input Interface	BNC (2.0 Vp-p, 1kΩ, volume adjusting range: 83dB)			
Audio Output Interface	1, BNC			
Sampling Rate	16KHz			
Audio Recording Bit Rate	16Kbps			
PCI Standard	PCI-Ex1 2.0			
Dimensions (mm)	175 × 102	175 × 102	175 × 102	213 × 102
Power Consumption	< 7.4 w	< 9.4 w	< 8.0 w	< 13.6 w

Model	DS-4304HFHI-E	
Video Compression	H.264 (MPEG-4/part10)	
Video Input	720P_25Hz, 720P_30Hz, 720P_50Hz, 720P_60Hz	1080I_50Hz, 1080I_60Hz, 1080P_25Hz, 1080P_30Hz
Video Input Interface	4-ch HD-SDI (1.0Vp-p, 75Ω)	
Live View Resolution	Up to 1920 x 1080	
Playback Resolution	1280 x 720, 1280 x 360, 640 x 360, WD1, 4CIF, 2CIF, CIF, QCIF	1920 x 1080, 1920 x 540, 960 x 540, WD1, 4CIF, 2CIF, CIF, QCIF
Frame Rate	1~30 fps	
Video Recording Bit Rate	32K ~ 16M (Unit: bps)	
Video Output Interface	1, HDMI (combination interface with audio output)	
Video Output Resolution	1080P_50Hz, 1080P_60Hz, 720P_50Hz, 720P_60Hz, XGA_60Hz, SXGA_960_60Hz	
Audio Compression	OggVorbis	
Audio Input	4, mono	
Audio Input Interface	BNC (2.0 Vp-p, 1kΩ, volume adjusting range: 83dB)	
Audio Output Interface	1, HDMI (combination interface with audio output)	
Sampling Rate	16KHz	
Audio Recording Bit Rate	16Kbps	
PCI Standard	PCI-Ex1 2.0	
Dimensions (mm)	199 x 96	
Power Consumption	< 15.5 w	

Model	DS-4308HWI-E	DS-4316HWI-E
Video Compression	H.264 (MPEG-4/part10), PAL/NTSC adaptive	
Video Input	8-ch	16-ch
Video Input Interface	BNC (1.0Vp-p, 75Ω)	
Live View Resolution	Up to WD1 (PAL: 960 x 576; NTSC: 960 x 480)	
Playback Resolution	WD1/4CIF/2CIF/CIF/QCIF	
Frame Rate	1~25 fps (PAL), 1~30 fps (NTSC)	
Video Recording Bit Rate	32K ~ 2M (CIF), 70K ~ 4M (4CIF) User adjustable, up to 8M (Unit: bps)	
Video Output Interface	1, BNC	
Audio Compression	OggVorbis	
Audio Input	8, mono	16, mono
Audio Input Interface	BNC (2.0 Vp-p, 1kΩ, volume adjusting range: 83dB)	
Audio Output Interface	1, BNC	
Sampling Rate	16KHz	
Audio Recording Bit Rate	16Kbps	
PCI Standard	PCI-Ex1 2.0	
Dimensions (mm)	175 x 102	213 x 102
Power Consumption	< 9.0 w	< 14.0 w

1.3. Product Features

- PCI Express interface
- Up to 64ch installation per PC for DS-43xxHWI-E, DS-43xxHFVI-E and DS-43xxHCVI-E series
- Up to 20ch installation per PC for DS-4304HFHI-E
- HD-SDI video input for DS-4304HFHI-E
- 1-ch HDMI output for DS-4304HFHI-E with up to 16 screen-split display
- Up to WD1 video encoding for DS-43xxHWI-E Series
- 1-ch video & 1-ch audio output for DS-43xxHWI-E, DS-43xxHFVI-E and DS-43xxHCVI-E series
- User-adjustable video brightness/hue/contrast/saturation for DS-43xxHWI-E, DS-43xxHFVI-E and DS-43xxHCVI-E series
- Clear and vivid live view/playback
- Real time video & audio dual stream encoding
- Built-in motion detect
- Extra-low power consumption and high stability
- User-adjustable I/P frame structure
- Dual stream
- User-adjustable image quality and bit rate
- Built-in motion detection
- OSD, LOGO and privacy mask settings
- Stable and reliable performance
- Low power consumption

Chapter 2 Product Performance

Model	Encoding Resolution	Max. Performance
DS-4308HCVI-E	4CIF/ 2CIF/ CIF/ QCIF	Up to 8ch CIF real time (main stream) +8ch QCIF real time (sub stream) encoding under dual stream mode
DS-4316HCVI-E	4CIF/ 2CIF/ CIF/ QCIF	Up to 16ch CIF real time (main stream) +16ch QCIF real time (sub stream) encoding under dual stream mode
DS-4308HFVI-E	4CIF/ 2CIF/ CIF/ QCIF	Up to 8ch 4CIF real time (main stream) + 8ch CIF real time (sub stream) encoding under dual stream mode
DS-4316HFVI-E	4CIF/ 2CIF/ CIF/ QCIF	Up to 16ch 4CIF real time (main stream) + 16ch CIF real time (sub stream) encoding under dual stream mode
DS-4308HWI-E	WD1/ 4CIF/ 2CIF/ CIF/ QCIF	Up to 8ch WD1 real time (main stream) + 8ch CIF real time (sub stream) encoding under dual stream mode
DS-4316HWI-E	WD1/ 4CIF/ 2CIF/ CIF/ QCIF	Up to 16ch WD1 real time (main stream) + 16ch CIF real time (sub stream) encoding under dual stream mode

- **DS-4304HFHI-E**

4ch 1920 x 1080, 1920 x 540, 960 x 540, 1280 x 720, 1280 x 360, 640 x 360, WD1, 4CIF, 2CIF, CIF and QCIF real time encoding

*Up to 4ch 1080p real time (main stream) + 4ch CIF real time (sub stream) encoding under dual stream mode

1ch HDMI video & audio output with selectable 1080P/50Hz, 1080P/60 Hz, 720P/50 Hz, 720P/60Hz, XGA/60 Hz, SXGA(960)/60 Hz output resolution, and up to 4 x 4 screen-split display.

Notice

1. All the recording performance testing is done under normal office scene with color camera input, and the recording performance may differ according to the surveillance scene.
2. Please kindly refer to <http://www.hikvision.com> or contact HIKVISION technical support for the latest update of card performance.
3. Recording performance may be slightly different according to the card number and hard disk read/write efficiency of the system.

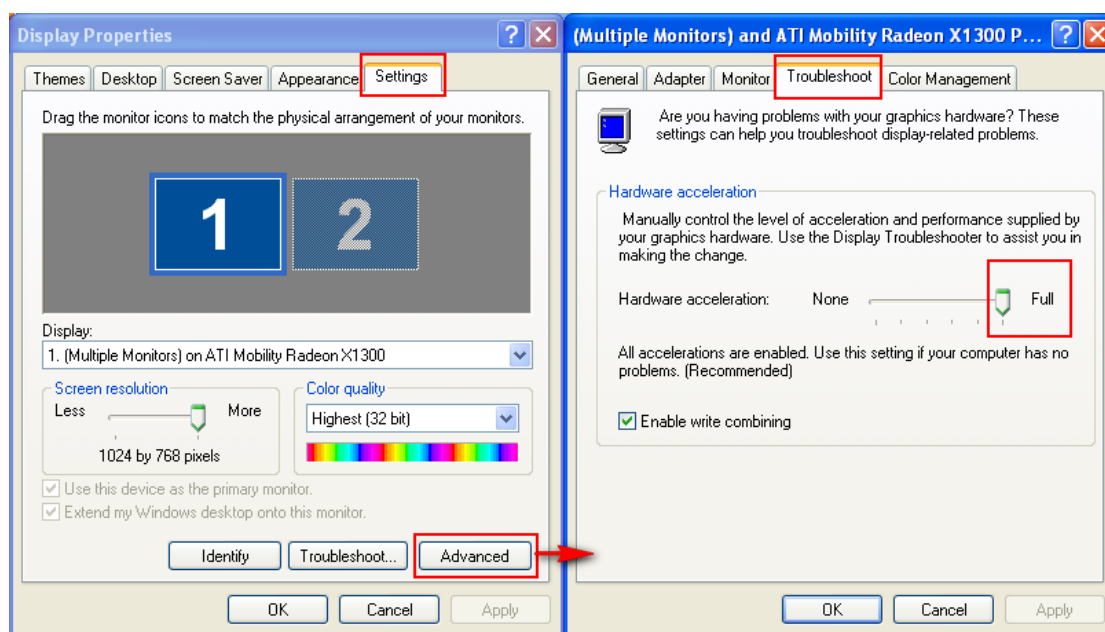
Chapter 3 Compatible Software/ Hardware Configuration

3.1. Operating System

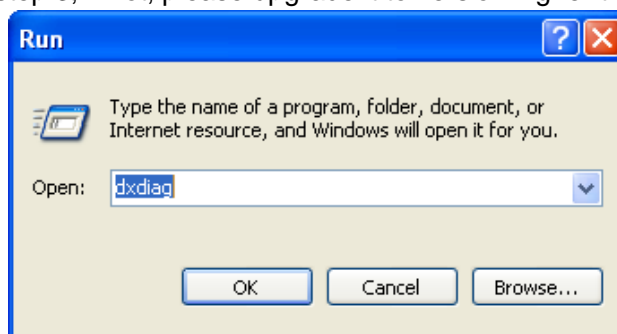
It is suggested to use Windows 2000 Pro + SP4, Windows XP + SP2, Windows Vista, Windows 7 or Windows Server 2008 with DirectX version 8.1 or higher version. Card driver and SDK compatible with Linux OS will be released in future.

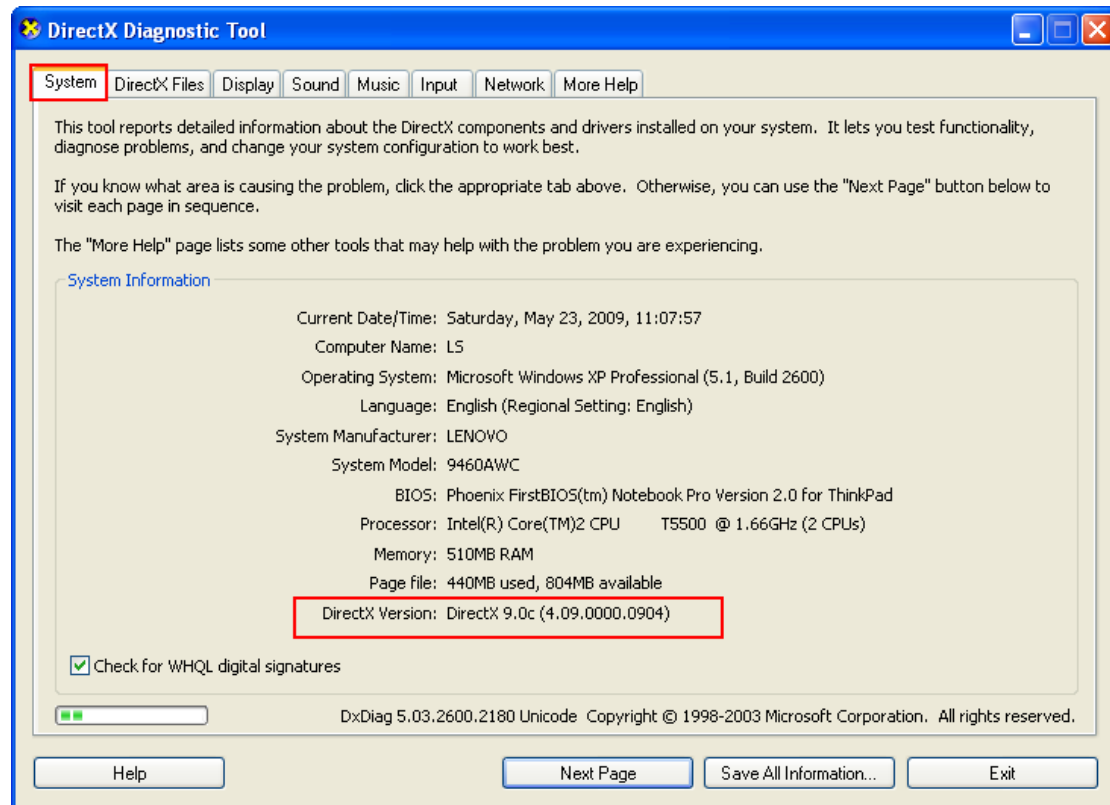
For Windows 2003 OS, please kindly follow the operation steps below.

1. Right click on Windows Desktop-> Select "Properties" ->Settings-> Advanced-> Troubleshoot->and drag "Hardware Acceleration" to "Full".

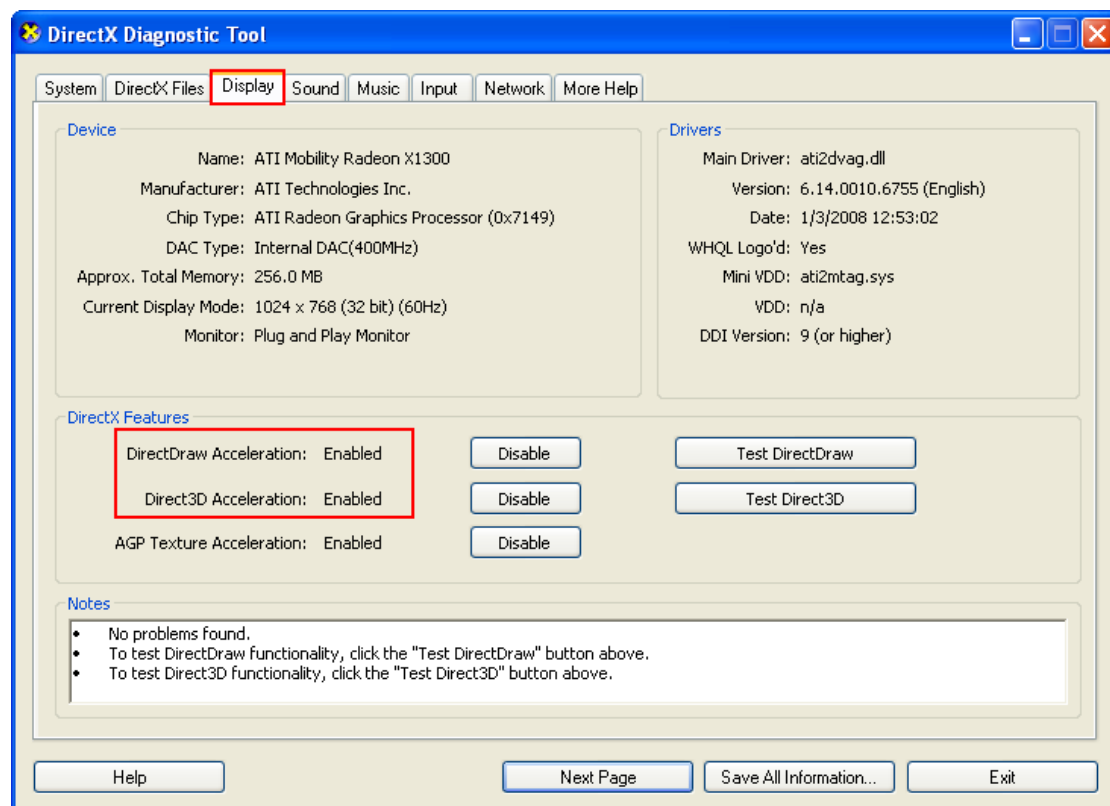


2. Click "Start"-> "Run" of Windows task bar, input "dxdiag" and enter DirectX diagnosing program. Please check if DirectX version is above 8.1. If yes, please kindly refer to step 3; if not, please upgrade it to version higher than 8.1 first.





3. Enable "DirectDraw" and "Direct3D" options in the "Display" column.



3.2. CPU and Motherboard

It is suggested to use motherboard with Intel Core2, Core4, i3, i5 or i7 CPU.

And it is suggested to use motherboard from reliable manufactures such as Intel, Asus, Gigabyte, Microstar, etc.

Tested motherboard models compatible with DS-43xx series card are listed as following.

ASUS P8H61
ASUS P8P67 LE
ECS H67H2-M
ASUS P8H61 PLUS
Etc.

Note:

Please refer to HIKVISION website (<http://www.hikvision.com>) for up-to-date compatibility information

3.3. System Memory

1G or more

Note:

Larger memory size is required when the card number installed in the PC increases.

3.4. Display Adapter

To support high resolution live view/ record function of the card, it is suggested to use a high performance display adapter. Please kindly refer to the list below for tested models of compatible display adapters. Please notice that the driver of these display adapters must support BLT function.

Nvidia GeForce GTX 560
AMD Radeon HD 6700 / Radon HD 6900
ATI Radeon HD 4800 / Radeon X1600 Pro / Radeon HD3450
Nvidia GeForce GTS 250 / GeForce GTS 450
GeForce 8600GT
Sapphire HD6950
Yeston R2400PRO-HM256GD3

3.5. Power Supply

400W or above

Chapter 4 Driver Installation

To install the card to your PC, please kindly follow these steps below:

1. Insert the card into an empty PCI-E slot.
2. Turn on the PC and start Windows.
3. Windows Hardware Wizard detects the card and is populated automatically. Please ignore the wizard window.
4. Locate to the folder of DS-43xx Driver, and run "Driver Install.exe". The Driver Install dialog box will be displayed on screen.



5. Click "Install or Update Driver" to install/update the driver, and a Windows dialog box will be displayed on screen.

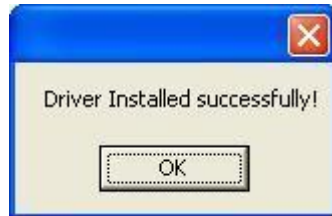


6. Click "Continue Anyway" to continue the hardware installation.

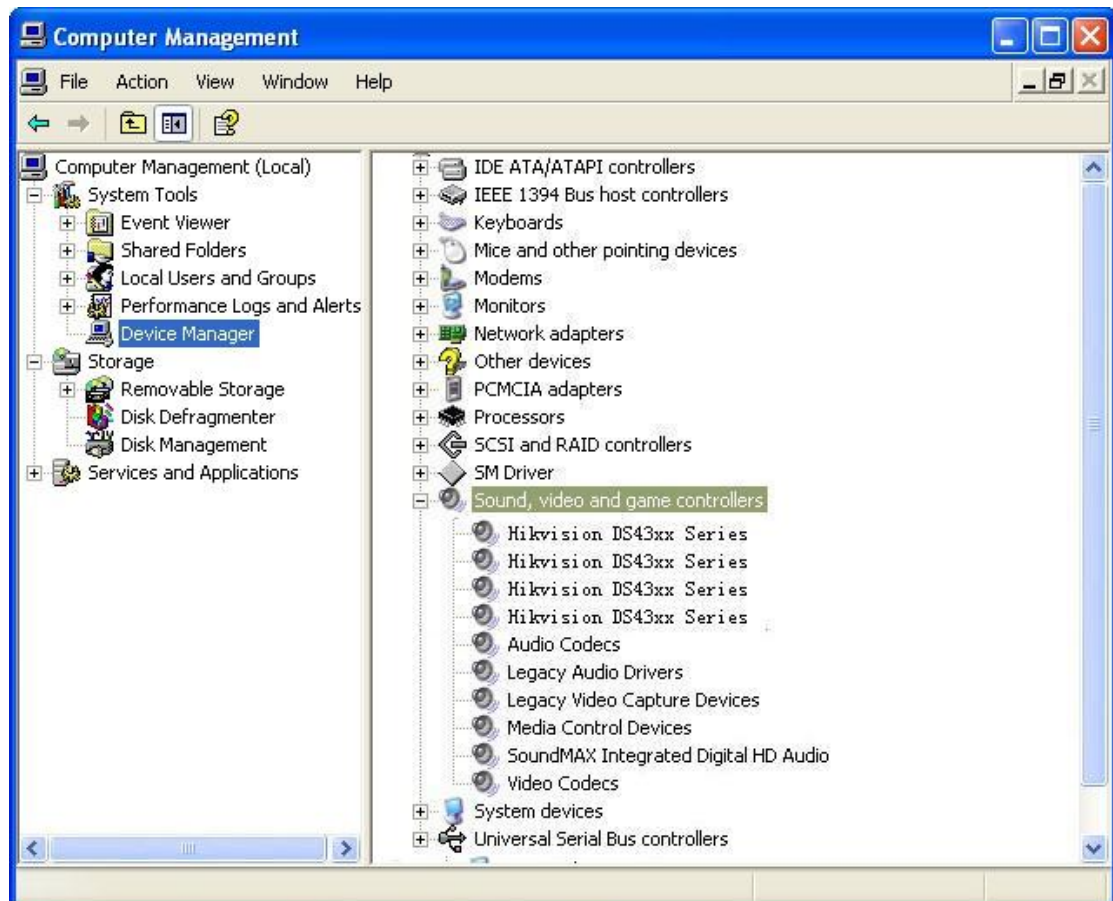
Note:

If there is more than 1 card installed in the PC or more than 1 DSP in one card, users may need to repeat step 5 & Step 6.

7. When the installation is done, this message will appear: Driver Installed Successfully!



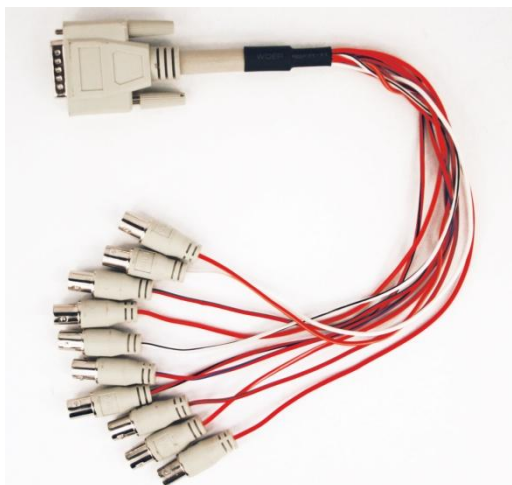
8. After "Driver install success" message popup during driver installation, there will be "Hikvision DS43xx Series" displayed in the list "Sound, Video and Game Controller" of Windows Device Manager as below. The total number of this item is equal to the total DSP number on the cards installed inside the PC.



Chapter 5 Cable Connection & Pin Definition

5.1.DS-4316HFVI-E Accessory and Connection

8ch video + 2ch audio connection cable (2 units for each card)

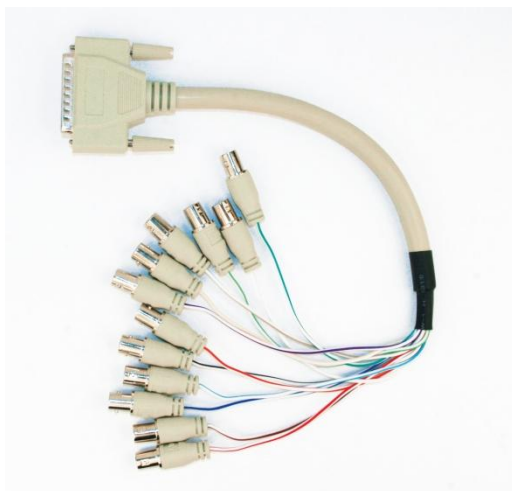


Description:

VID1~VID8 stand for “video 1 ~ video 8” when connected to DB1, or “video 9~video 16” when connected to DB2;

AID1, AID2 stand for “audio 1~audio 2” when connected to DB1, or “audio 3~audio 4” when connected to DB2.

12ch audio connection cable (1 unit for each card)



Description:

AID5~AID16 stand for “audio 5~audio 16”

Analog Video & Audio output cable and installation adapter (1 unit for each card)

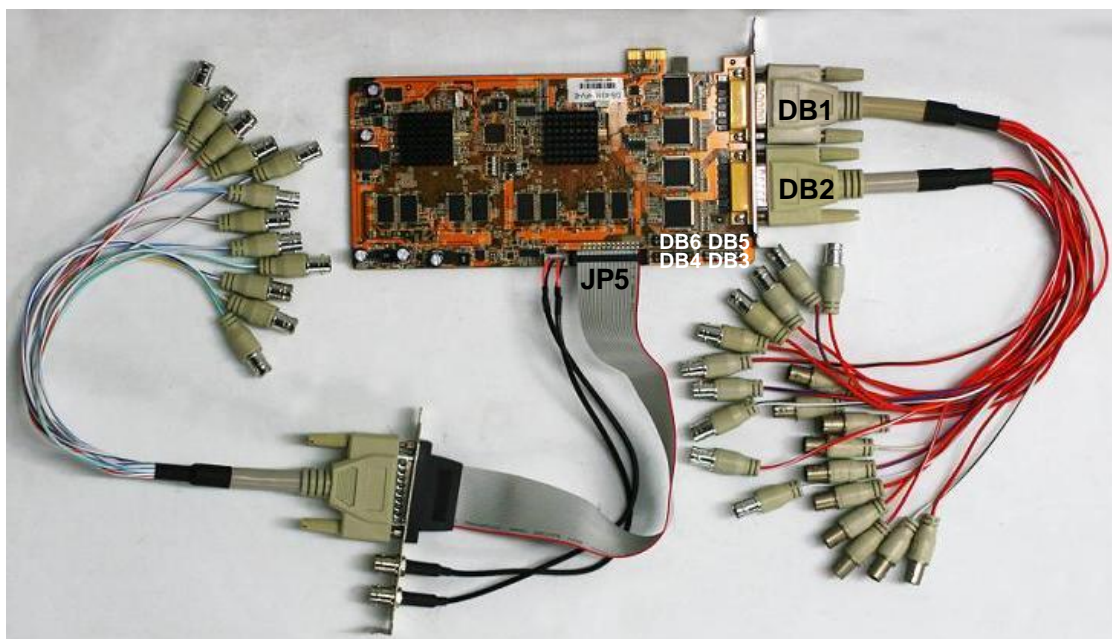


Description:

This installation adapter contains 1 connection interface for the 12ch audio connection cable, 1 BNC video output and 1 BNC Audio output interface. The video & audio output interfaces are designed for local output.

Note: This installation adapter will occupy 1 additional bracket slot on the rear panel of PC chassis.

DS-4316HFVI-E Connection



DB1	video 1~video 8; audio 1, audio 2
DB2	video 9~video 16; audio 3, audio 4
JP5	audio 5~audio 16, video output, audio output

5.2. DS-4316HFVI-E Video/Audio Input Pin Definition

Each DS-4316HFVI-E card is with 2 DB 15-pin female connectors (labeled DB1 and DB2), and each DB15 connector supports 8ch video input and 2ch audio input.



DB1

DB2

On the card there is also a connector labeled JP5 for an extra 12ch audio input via an audio connection cable.

Pin 2, 4, 626 (JP5)



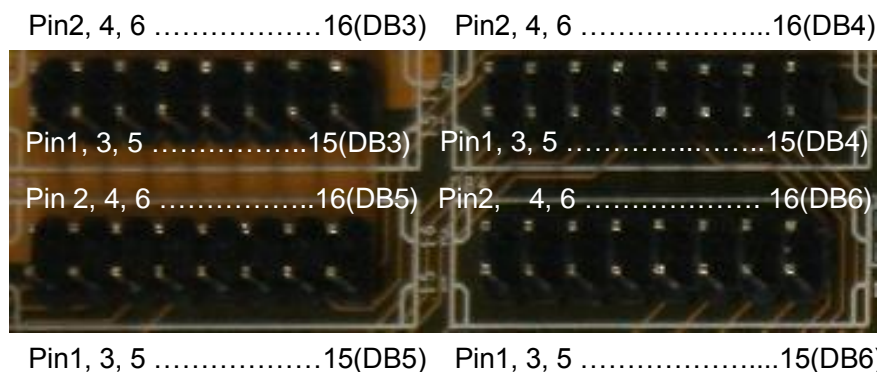
Pin 1, 3, 525 (JP5)

Please refer to the Pin Definition Table next page for detail description.

Pin Definition for DB1, DB2, JP5

DB1		DB2		JP5	
1	Video1	1	Video9	1	Audio5
2	Video2	2	Video10	2	GND
3	Video3	3	Video11	3	Audio6
4	Video4	4	Video12	4	GND
5	Video5	5	Video13	5	Audio7
6	Video6	6	Video14	6	GND
7	Video7	7	Video15	7	Audio8
8	Video8	8	Video16	8	GND
9	Audio1	9	Audio3	9	Audio9
10	GND	10	GND	10	GND
11	GND	11	GND	11	Audio10
12	GND	12	GND	12	GND
13	GND	13	GND	13	Audio11
14	GND	14	GND	14	GND
15	Audio 2	15	Audio 4	15	Audio12
				16	GND
				17	Audio13
				18	GND
				19	Audio14
				20	GND
				21	Audio15
				22	GND
				23	Audio16
				24	GND
				25	GND
				26	GND

Users can also input video/audio via the on-board pins DB3, DB4, DB5 and DB6.

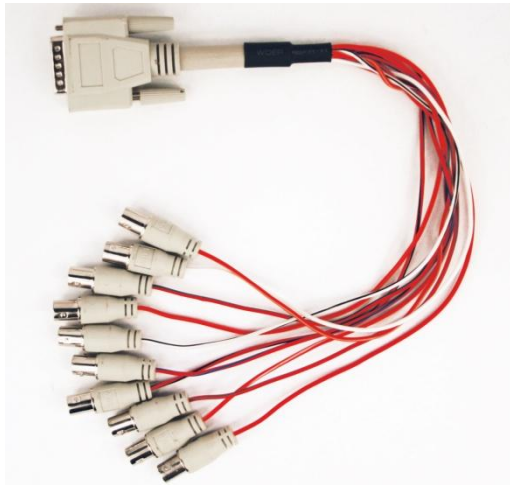


Pin Definition for DB3, DB4, DB5, DB6

DB3		DB4		DB5		DB6	
1	Video1	1	Video5	1	Video9	1	Video13
2	GND	2	GND	2	GND	2	GND
3	Video2	3	Video6	3	Video10	3	Video14
4	GND	4	GND	4	GND	4	GND
5	Video3	5	Video7	5	Video11	5	Video15
6	GND	6	GND	6	GND	6	GND
7	Video4	7	Video8	7	Video12	7	Video16
8	GND	8	GND	8	GND	8	GND
9	Audio1	9	Audio5	9	Audio9	9	Audio13
10	GND	10	GND	10	GND	10	GND
11	Audio2	11	Audio6	11	Audio10	11	Audio14
12	GND	12	GND	12	GND	12	GND
13	Audio3	13	Audio7	13	Audio11	13	Audio15
14	GND	14	GND	14	GND	14	GND
15	Audio4	15	Audio8	15	Audio12	15	Audio16
16	GND	16	GND	16	GND	16	GND

5.3. DS-4316HCVI-E Accessory and Connection

8ch video + 2ch audio connection cable (2 units for each card)

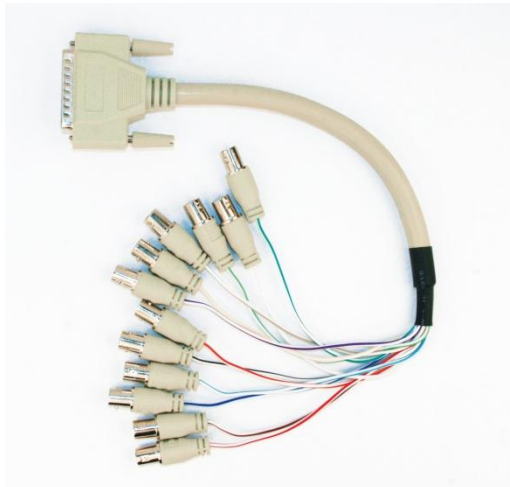


Description:

VID1~VID8 stand for “video 1 ~ video 8” when connected to DB1, or “video 9~video 16” when connected to DB2;

AID1, AID2 stand for “audio 1~audio 2” when connected to DB1, or “audio 3~audio 4” when connected to DB2.

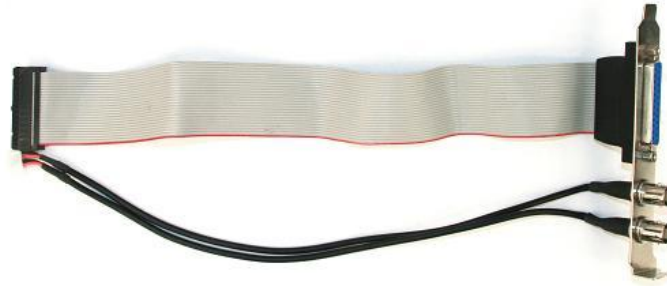
12ch audio connection cable (1 unit for each card)



Description:

AID5~AID16 stand for “audio 5~audio 16”

Analog Video & Audio output cable and installation adapter (1 unit for each card)

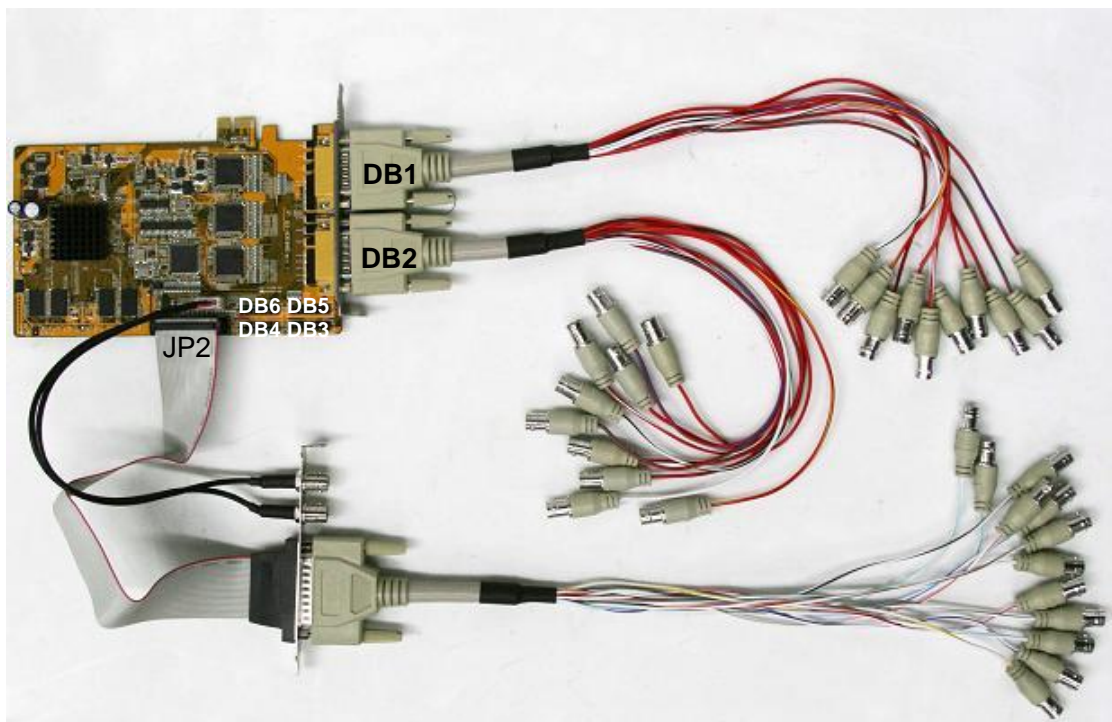


Description:

This installation adapter contains 1 connection interface for the 12ch audio connection cable, 1 BNC video output and 1 BNC Audio output interface. The video & audio output interfaces are designed for local output.

Note: This installation adapter will occupy 1 additional bracket slot on the rear panel of PC chassis.

DS-4316HCVI-E Connection



DB1	video 1~video 8; audio 1, audio 2
DB2	video 9~video 16; audio 3, audio 4
JP2	audio 5~audio 16, video output, audio output

5.4. DS-4316HCVI-E Video/Audio Input Pin Definition

Each DS-4316HCVI-E card is with 2 DB 15-pin female connectors (labeled DB1 and DB2), and each DB15 connector supports 8ch video input and 2ch audio input.



DB1

DB2

On the card there is also a connector labeled JP2 for an extra 12ch audio input via an audio connection cable.

Pin 2, 4, 626 (JP2)



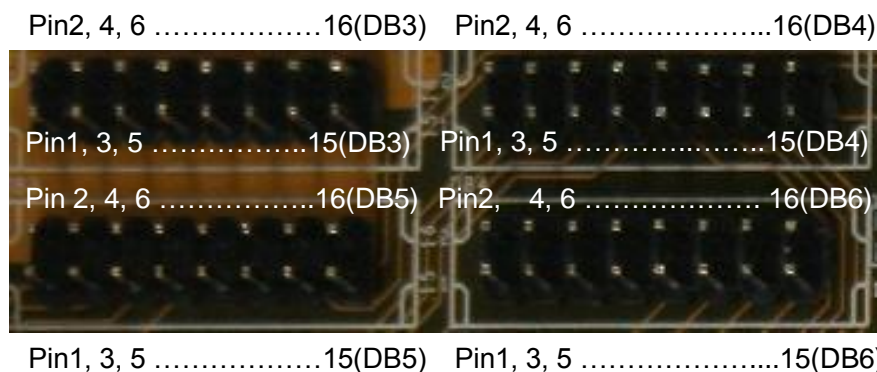
Pin 1, 3, 525 (JP2)

Please refer to the Pin Definition Table next page for detail description.

Pin Definition for DB1, DB2, JP2

DB1		DB2		JP2	
1	Video1	1	Video9	1	Audio5
2	Video2	2	Video10	2	GND
3	Video3	3	Video11	3	Audio6
4	Video4	4	Video12	4	GND
5	Video5	5	Video13	5	Audio7
6	Video6	6	Video14	6	GND
7	Video7	7	Video15	7	Audio8
8	Video8	8	Video16	8	GND
9	Audio1	9	Audio3	9	Audio9
10	GND	10	GND	10	GND
11	GND	11	GND	11	Audio10
12	GND	12	GND	12	GND
13	GND	13	GND	13	Audio11
14	GND	14	GND	14	GND
15	Audio 2	15	Audio 4	15	Audio12
				16	GND
				17	Audio13
				18	GND
				19	Audio14
				20	GND
				21	Audio15
				22	GND
				23	Audio16
				24	GND
				25	GND
				26	GND

Users can also input video/audio via the on-board pins DB3, DB4, DB5 and DB6.

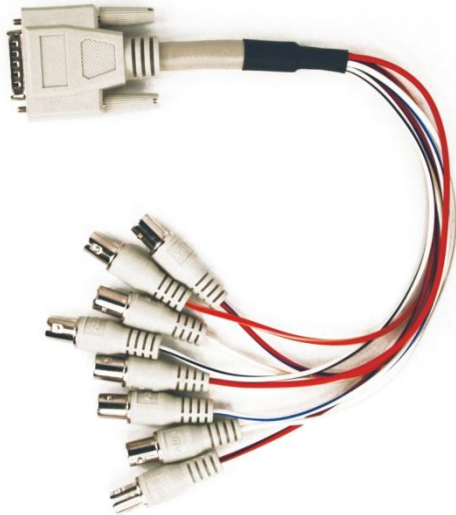


Pin Definition for DB3, DB4, DB5, DB6

DB3		DB4		DB5		DB6	
1	Video1	1	Video5	1	Video9	1	Video13
2	GND	2	GND	2	GND	2	GND
3	Video2	3	Video6	3	Video10	3	Video14
4	GND	4	GND	4	GND	4	GND
5	Video3	5	Video7	5	Video11	5	Video15
6	GND	6	GND	6	GND	6	GND
7	Video4	7	Video8	7	Video12	7	Video16
8	GND	8	GND	8	GND	8	GND
9	Audio1	9	Audio5	9	Audio9	9	Audio13
10	GND	10	GND	10	GND	10	GND
11	Audio2	11	Audio6	11	Audio10	11	Audio14
12	GND	12	GND	12	GND	12	GND
13	Audio3	13	Audio7	13	Audio11	13	Audio15
14	GND	14	GND	14	GND	14	GND
15	Audio4	15	Audio8	15	Audio12	15	Audio16
16	GND	16	GND	16	GND	16	GND

5.5. DS-4308HFVI-E Accessory and Connection

4ch video + 4ch audio connection cable (2 units for each card)



Description:

VID1~VID4 stand for “video 1~video 4” when connected to DB1, and “video 5~video 8” when connected to DB2;

AID1~AID4 stand for “audio 1~audio 4” when connected to DB1, and “audio 5~audio 8” when connected to DB2.

Analog Video & Audio output cable and installation adapter (1 unit for each card)



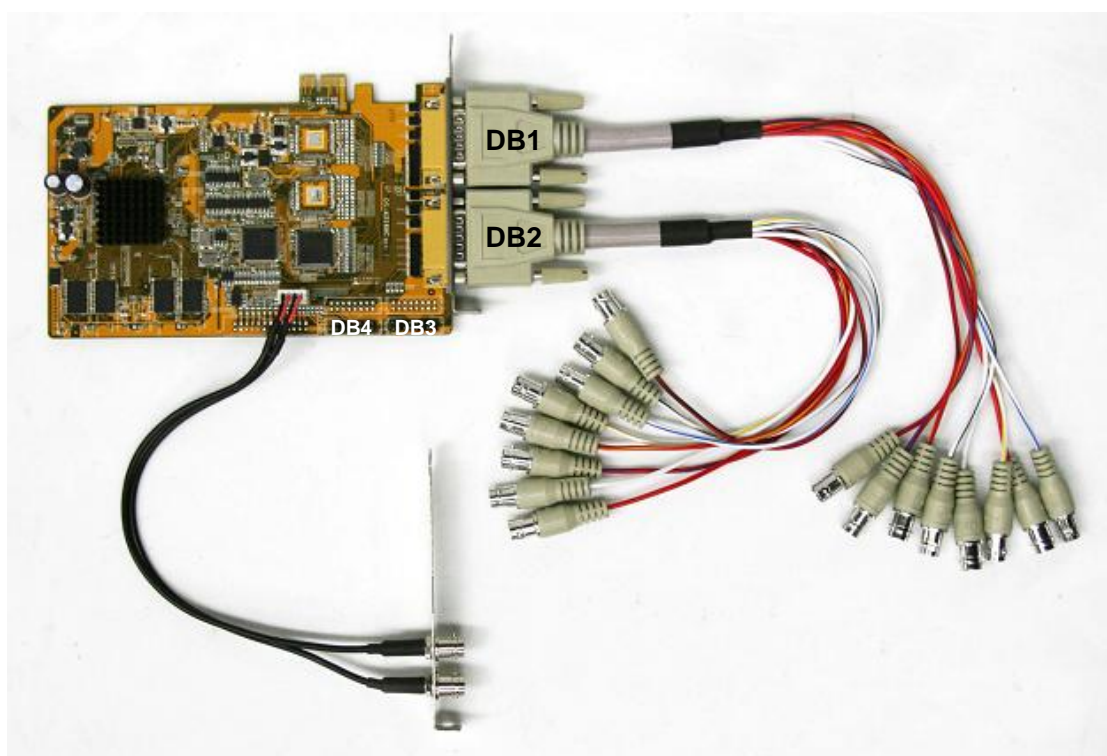
Description:

This installation adapter contains 1 BNC video output and 1 BNC Audio output interface.

The video & audio output interfaces are designed for local output.

Note: This installation adapter will occupy 1 additional bracket slot on the rear panel of PC chassis.

DS-4308HFVI-E Connection



DB1	video 1~video 4; audio 1~audio 4
DB2	video 5~video 8; audio 5~audio 8

5.6. DS-4308HFVI-E Video/Audio Input Pin Definition

Each DS-4308HFVI-E card is with 2 DB 15-pin female connectors (labeled DB1 and DB2), and each DB15 connector supports 4ch video input and 4ch audio input.



DB1

DB2

Pin Definition for DB1& DB2

DB1		DB2	
1	Video1	1	Video5
2	Video2	2	Video6
3	Video3	3	Video7
4	Video4	4	Video8
5	Audio1	5	Audio5
6	Audio2	6	Audio6
7	Audio3	7	Audio7
8	Audio4	8	Audio8
9	GND	9	GND
10	GND	10	GND
11	GND	11	GND
12	GND	12	GND
13	GND	13	GND
14	GND	14	GND
15	GND	15	GND

Users can also input video/audio via the on-board pins DB3 and DB4.

Pin2, 4, 616 (DB3) Pin2, 4, 616 (DB4)



Pin1, 3, 515 (DB3) Pin1, 3, 515 (DB4)

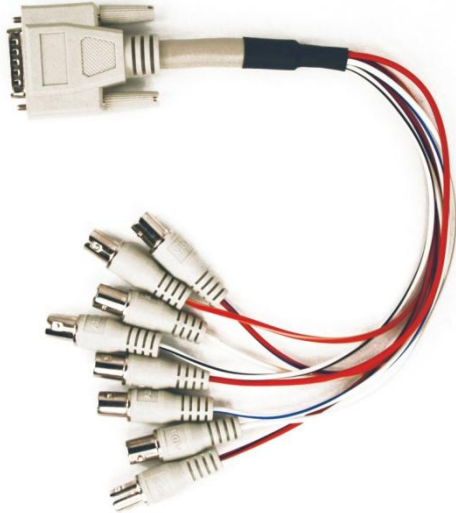
Please refer to the Pin Definition Table next page for detail description.

Pin Definition for DB3& DB4

DB3		DB4	
1	Video1	1	Video5
2	GND	2	GND
3	Video2	3	Video6
4	GND	4	GND
5	Video3	5	Video7
6	GND	6	GND
7	Video4	7	Video8
8	GND	8	GND
9	Audio1	9	Audio5
10	GND	10	GND
11	Audio2	11	Audio6
12	GND	12	GND
13	Audio3	13	Audio7
14	GND	14	GND
15	Audio4	15	Audio8
16	GND	16	GND

5.7. DS-4308HCVI-E Accessories and Connection

4ch video + 4ch audio connection cable (2 units for each card)



Description:

VID1~VID4 stand for “video 1~video 4” when connected to DB1, and “video 5~video 8” when connected to DB2;

AID1~AID4 stand for “audio 1~audio 4” when connected to DB1, and “audio 5~audio 8” when connected to DB2.

Analog Video & Audio output cable and installation adapter (1 unit for each card)

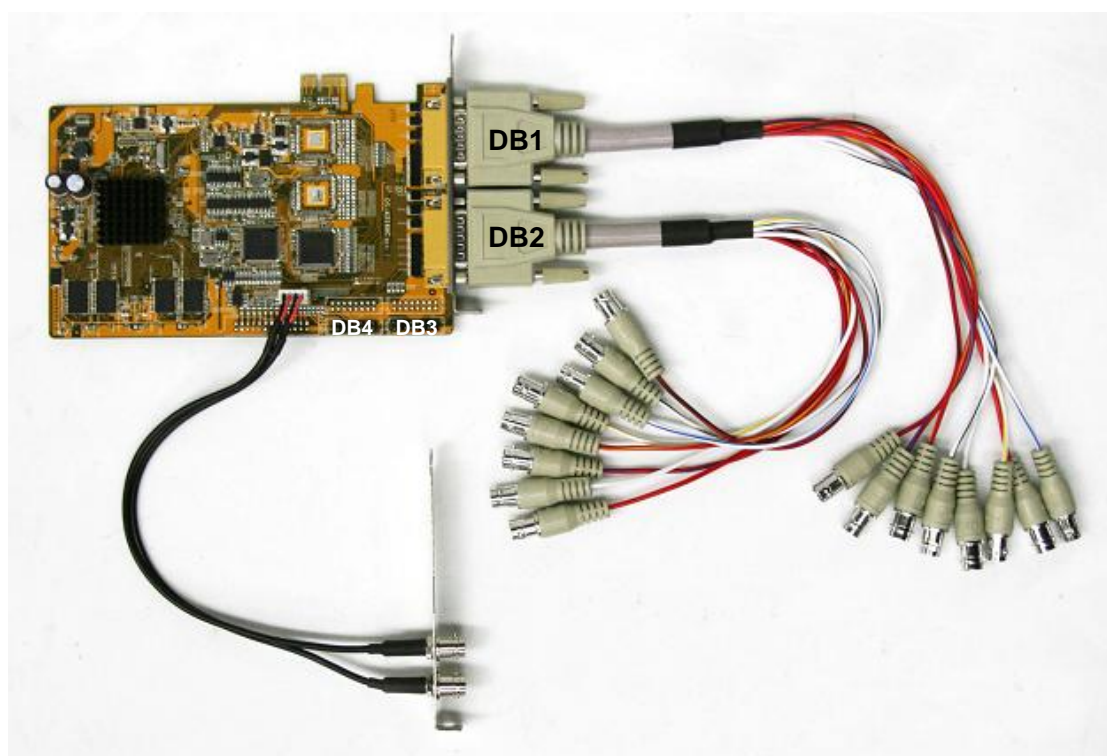


Description:

This installation adapter contains 1 BNC video output and 1 BNC Audio output interface. The video & audio output interfaces are designed for local output.

Note: This installation adapter will occupy 1 additional bracket slot on the rear panel of PC chassis.

DS-4308HCVI-E Connection



DB1	video 1~video 4; audio 1~audio 4
DB2	video 5~video 8; audio 5~audio 8

5.8. DS-4308HCVI-E Video/Audio Input Pin Definition

Each DS-4308HCVI-E card is with 2 DB 15-pin female connectors (labeled DB1 and DB2), and each DB15 connector supports 4ch video input and 4ch audio input.



DB1

DB2

Pin Definition for DB1& DB2

DB1		DB2	
1	Video1	1	Video5
2	Video2	2	Video6
3	Video3	3	Video7
4	Video4	4	Video8
5	Audio1	5	Audio5
6	Audio2	6	Audio6
7	Audio3	7	Audio7
8	Audio4	8	Audio8
9	GND	9	GND
10	GND	10	GND
11	GND	11	GND
12	GND	12	GND
13	GND	13	GND
14	GND	14	GND
15	GND	15	GND

Users can also input video/audio via the on-board pins DB3 and DB4.

Pin2, 4, 616 (DB3) Pin2, 4, 616 (DB4)



Pin1, 3, 515 (DB3) Pin1, 3, 515 (DB4)

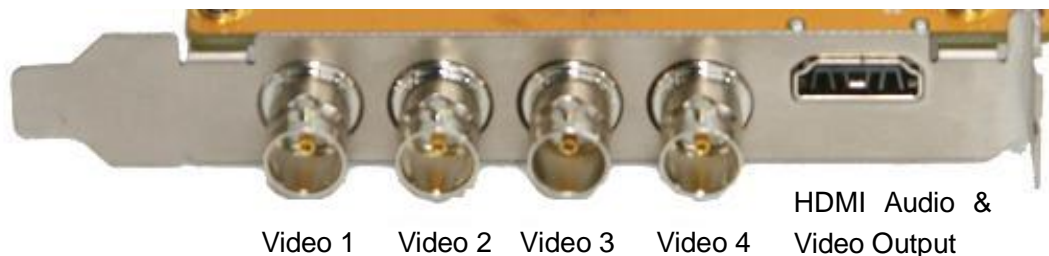
Please refer to the Pin Definition Table next page for detail description.

Pin Definition for DB3& DB4

DB3		DB4	
1	Video1	1	Video5
2	GND	2	GND
3	Video2	3	Video6
4	GND	4	GND
5	Video3	5	Video7
6	GND	6	GND
7	Video4	7	Video8
8	GND	8	GND
9	Audio1	9	Audio5
10	GND	10	GND
11	Audio2	11	Audio6
12	GND	12	GND
13	Audio3	13	Audio7
14	GND	14	GND
15	Audio4	15	Audio8
16	GND	16	GND

5.9. DS-4304HFHI-E Accessories and Connection

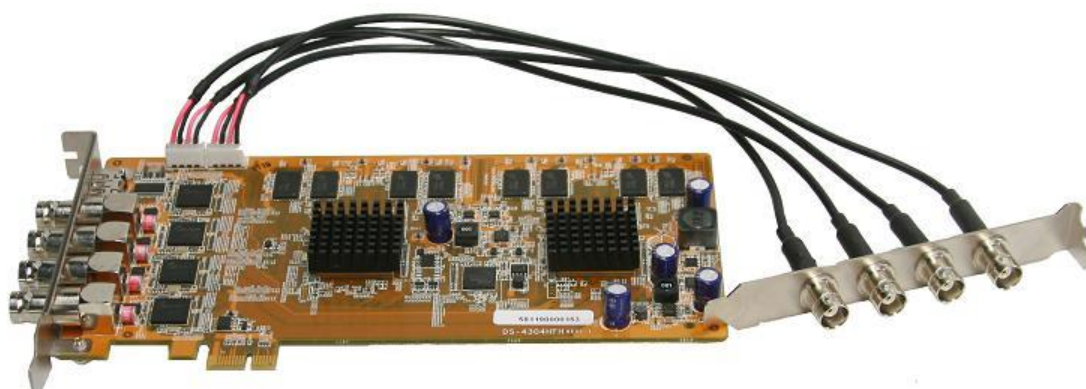
Each DS-4304HFHI-E card is with 4ch HD-SDI video input, 4ch audio input and 1ch HDMI audio & video output. The HD-SDI video input interfaces and the HDMI interface are located on the bracket of the card, while the audio input interfaces shall be connected to JP3 and JP4 interface on the card via an adapter.



JP4 and JP3 Interface on the Card



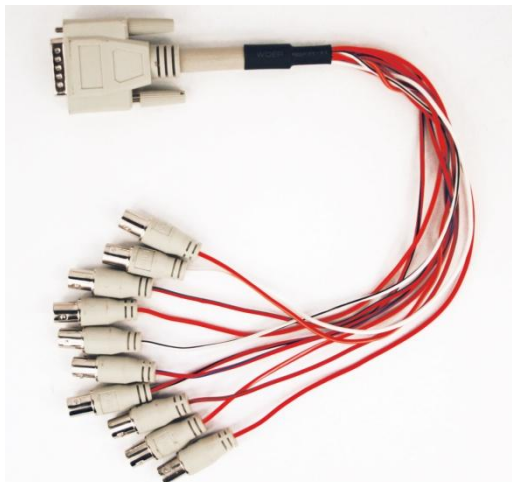
Adapter for Audio Input



Audio Input Connection

5.10. DS-4316HWI-E Accessory and Connection

8ch video + 2ch audio connection cable (2 units for each card)

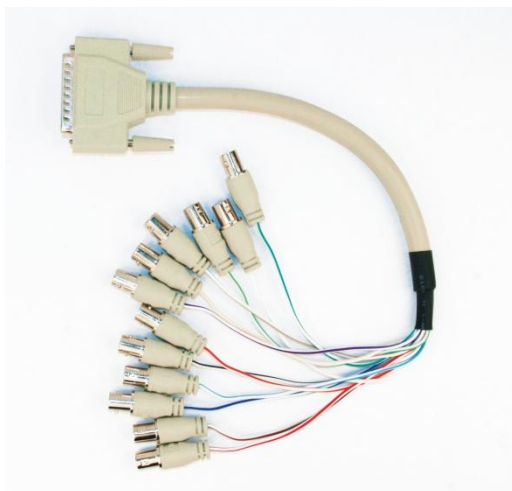


Description:

VID1~VID8 stand for “video 1 ~ video 8” when connected to DB1, or “video 9~video 16” when connected to DB2;

AID1, AID2 stand for “audio 1~audio 2” when connected to DB1, or “audio 3~audio 4” when connected to DB2.

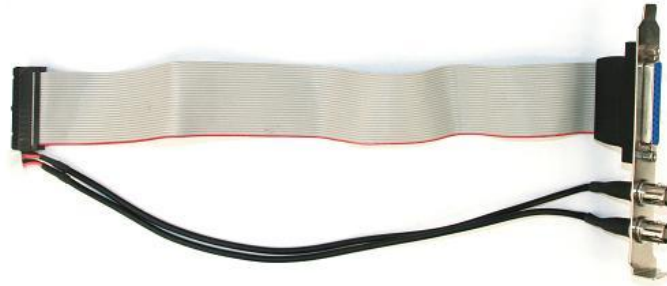
12ch audio connection cable (1 unit for each card)



Description:

AID5~AID16 stand for “audio 5~audio 16”

Analog Video & Audio output cable and installation adapter (1 unit for each card)

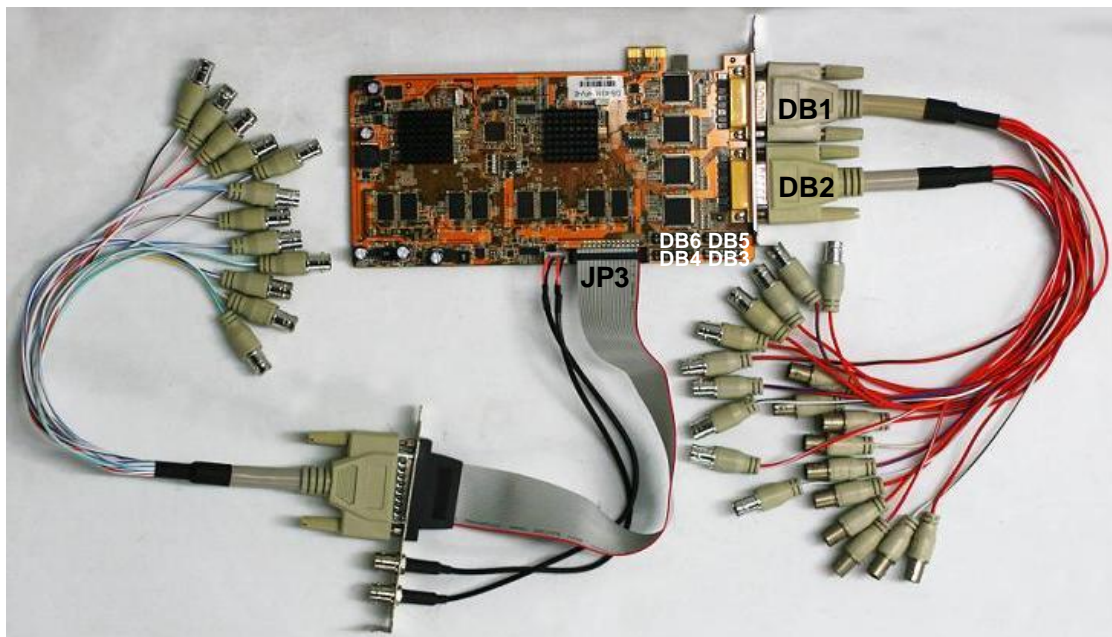


Description:

This installation adapter contains 1 connection interface for the 12ch audio connection cable, 1 BNC video output and 1 BNC Audio output interface. The video & audio output interfaces are designed for local output.

Note: This installation adapter will occupy 1 additional bracket slot on the rear panel of PC chassis.

DS-4316HWI-E Connection



DB1	video 1~video 8; audio 1, audio 2
DB2	video 9~video 16; audio 3, audio 4
JP3	audio 5~audio 16, video output, audio output

5.11. DS-4316HWI-E Video/Audio Input Pin Definition

Each DS-4316HWI-E card is with 2 DB 15-pin female connectors (labeled DB1 and DB2), and each DB15 connector supports 8ch video input and 2ch audio input.



DB1

DB2

On the card there is also a connector labeled JP3 for an extra 12ch audio input via an audio connection cable.

Pin 2, 4, 626 (JP3)



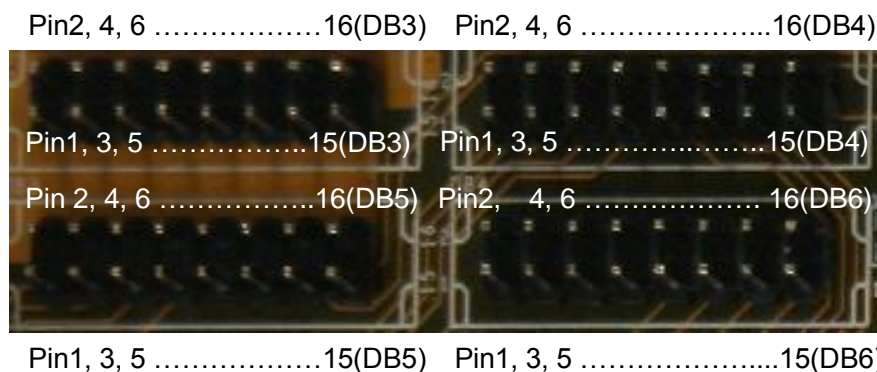
Pin 1, 3, 525 (JP3)

Please refer to the Pin Definition Table next page for detail description.

Pin Definition for DB1, DB2, JP3

DB1		DB2		JP3	
1	Video1	1	Video9	1	Audio5
2	Video2	2	Video10	2	GND
3	Video3	3	Video11	3	Audio6
4	Video4	4	Video12	4	GND
5	Video5	5	Video13	5	Audio7
6	Video6	6	Video14	6	GND
7	Video7	7	Video15	7	Audio8
8	Video8	8	Video16	8	GND
9	Audio1	9	Audio3	9	Audio9
10	GND	10	GND	10	GND
11	GND	11	GND	11	Audio10
12	GND	12	GND	12	GND
13	GND	13	GND	13	Audio11
14	GND	14	GND	14	GND
15	Audio 2	15	Audio 4	15	Audio12
				16	GND
				17	Audio13
				18	GND
				19	Audio14
				20	GND
				21	Audio15
				22	GND
				23	Audio16
				24	GND
				25	GND
				26	GND

Users can also input video/audio via the on-board pins DB3, DB4, DB5 and DB6.

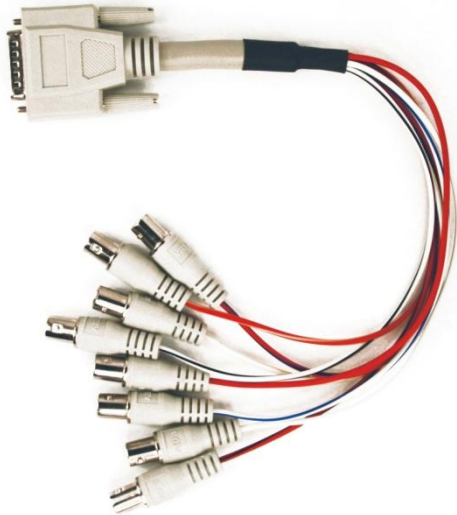


Pin Definition for DB3, DB4, DB5, DB6

DB3		DB4		DB5		DB6	
1	Video1	1	Video5	1	Video9	1	Video13
2	GND	2	GND	2	GND	2	GND
3	Video2	3	Video6	3	Video10	3	Video14
4	GND	4	GND	4	GND	4	GND
5	Video3	5	Video7	5	Video11	5	Video15
6	GND	6	GND	6	GND	6	GND
7	Video4	7	Video8	7	Video12	7	Video16
8	GND	8	GND	8	GND	8	GND
9	Audio1	9	Audio5	9	Audio9	9	Audio13
10	GND	10	GND	10	GND	10	GND
11	Audio2	11	Audio6	11	Audio10	11	Audio14
12	GND	12	GND	12	GND	12	GND
13	Audio3	13	Audio7	13	Audio11	13	Audio15
14	GND	14	GND	14	GND	14	GND
15	Audio4	15	Audio8	15	Audio12	15	Audio16
16	GND	16	GND	16	GND	16	GND

5.12. DS-4308HWI-E Accessory and Connection

4ch video + 4ch audio connection cable (2 units for each card)



Description:

VID1~VID4 stand for “video 1~video 4” when connected to DB1, and “video 5~video 8” when connected to DB2;

AID1~AID4 stand for “audio 1~audio 4” when connected to DB1, and “audio 5~audio 8” when connected to DB2.

Analog Video & Audio output cable and installation adapter (1 unit for each card)



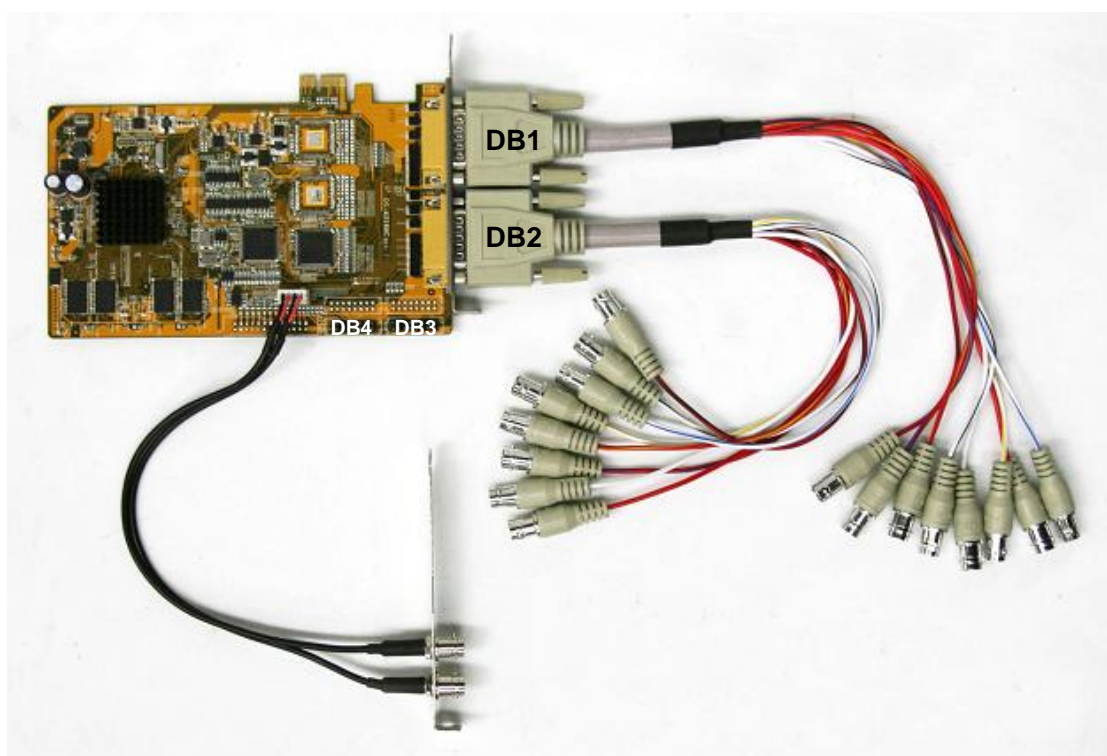
Description:

This installation adapter contains 1 BNC video output and 1 BNC Audio output interface.

The video & audio output interfaces are designed for local output.

Note: This installation adapter will occupy 1 additional bracket slot on the rear panel of PC chassis.

DS-4308HWI-E Connection



DB1	video 1~video 4; audio 1~audio 4
DB2	video 5~video 8; audio 5~audio 8

5.13. DS-4308HWI-E Video/Audio Input Pin Definition

Each DS-4308HWI-E card is with 2 DB 15-pin female connectors (labeled DB1 and DB2), and each DB15 connector supports 4ch video input and 4ch audio input.



DB1

DB2

Pin Definition for DB1& DB2

DB1		DB2	
1	Video1	1	Video5
2	Video2	2	Video6
3	Video3	3	Video7
4	Video4	4	Video8
5	Audio1	5	Audio5
6	Audio2	6	Audio6
7	Audio3	7	Audio7
8	Audio4	8	Audio8
9	GND	9	GND
10	GND	10	GND
11	GND	11	GND
12	GND	12	GND
13	GND	13	GND
14	GND	14	GND
15	GND	15	GND

Users can also input video/audio via the on-board pins DB3 and DB4.

Pin2, 4, 616 (DB3) Pin2, 4, 616 (DB4)



Pin1, 3, 515 (DB3) Pin1, 3, 515 (DB4)

Please refer to the Pin Definition Table next page for detail description.

Pin Definition for DB3& DB4

DB3		DB4	
1	Video1	1	Video5
2	GND	2	GND
3	Video2	3	Video6
4	GND	4	GND
5	Video3	5	Video7
6	GND	6	GND
7	Video4	7	Video8
8	GND	8	GND
9	Audio1	9	Audio5
10	GND	10	GND
11	Audio2	11	Audio6
12	GND	12	GND
13	Audio3	13	Audio7
14	GND	14	GND
15	Audio4	15	Audio8
16	GND	16	GND