

AS2000V2

Hardware Manual



Manual History

Date	Revision
December 3, 2003	First Edition
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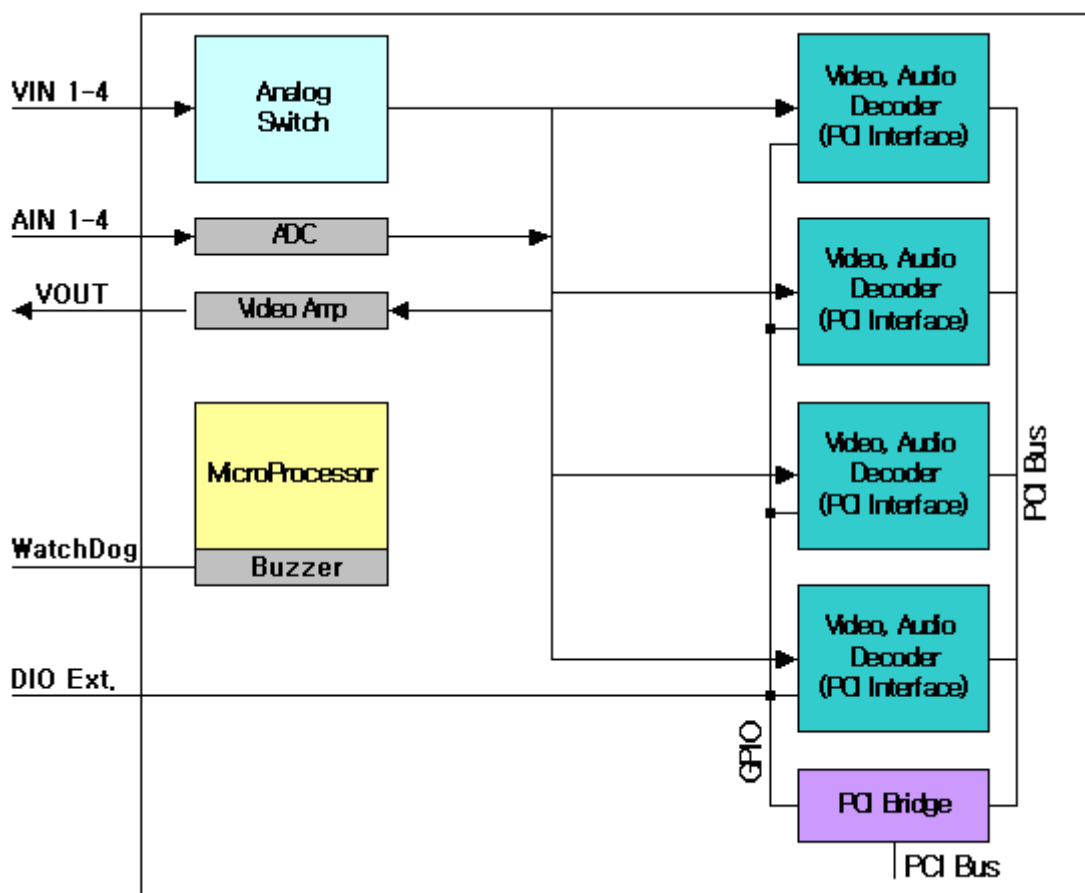
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1. Product Overview

1.1 Overview

AS2000V2/ AS2002V2 solution is video capture card(s) for PC based DVR and supports audio capture, digital input, digital output, and watchdog function as well as video capture. Video/audio data which is input through AS2000V2/ AS2002V2 solution is uncompressed raw data of which compression and recording should be done by software on PC.

1.2 Block Diagram



2. Functional Description

2.1 Video

- Video Input

- Number of Channel : 4
Input : Color Camera (PAL, NTSC), Black and White Camera
- Connection: Video Signal Input BNC Jack 4
- Recommended Signal Range : 0.5V ~ 2V (p-p)
- **AS2002V2 solution supports 8channel 200/240FPS.**

- Video Capture

Section	NTSC	PAL
Capture Resolution	640*480, 640*240, 320*240, 240*160, 160*120	768*576, 768*288, 720*576, 720*288, 640*480, 640*240, 384*288, 360*288, 320*240
Capture Rate	Max 120 FPS(240FPS)	Max 100 FPS(200FPS)
Capture Rate per Channel	1.9 FPS ~ 30 FPS	1.6 FPS ~ 25 FPS

- Video Output

- Number of channel : 1 (channel selection possible, controlled by software)
- Connection : RCA Jack or Molex 2Pin Connector

2.2 Audio

- Audio Input, Capture

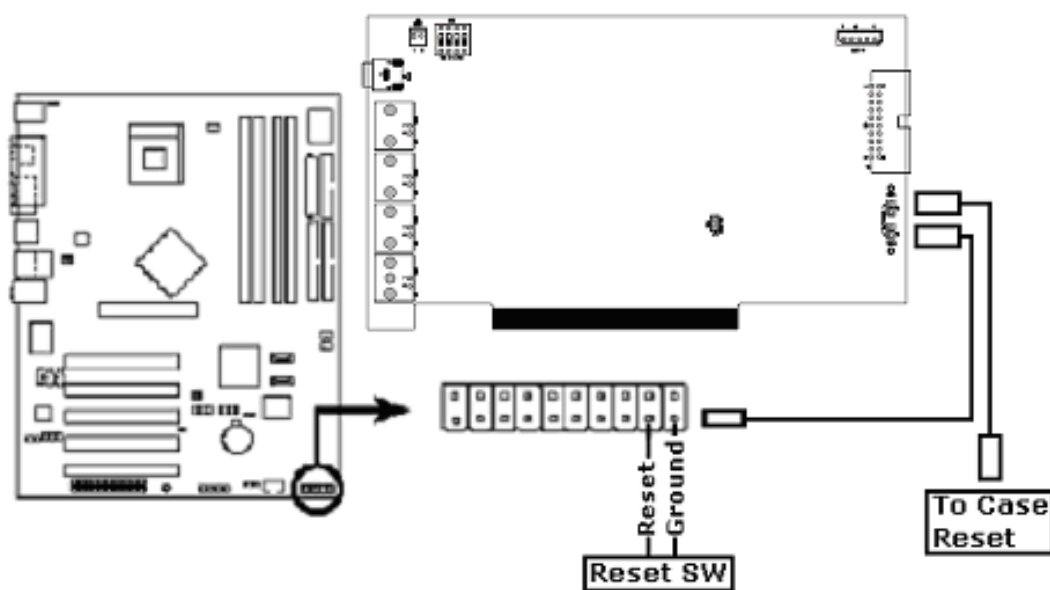
- Number of Channel : 4
- Input Type : Microphone, Line(mono)
- Recommended Signal Range : 1V(p-p)
- Sampling Quality
 - ▶ 8, 16 bit/sample (A/D Convert Sampling)
 - ▶ 4, 8, 16, 32 kHz Sampling
- **AS2002V2 solution supports 8channel Audio Input.**

2.3 Watchdog

Watchdog works by relay switch and two connectors (J1, J2) are respectively a 2pin pinheader. J1 and J2 physically do the same operation; one is connected to reset connector of mother board and the other to reset connector of the case. Or the vice versa.

The interval of watchdog operation is set by software.

2.3.1 Watchdog Connector Connection in Details

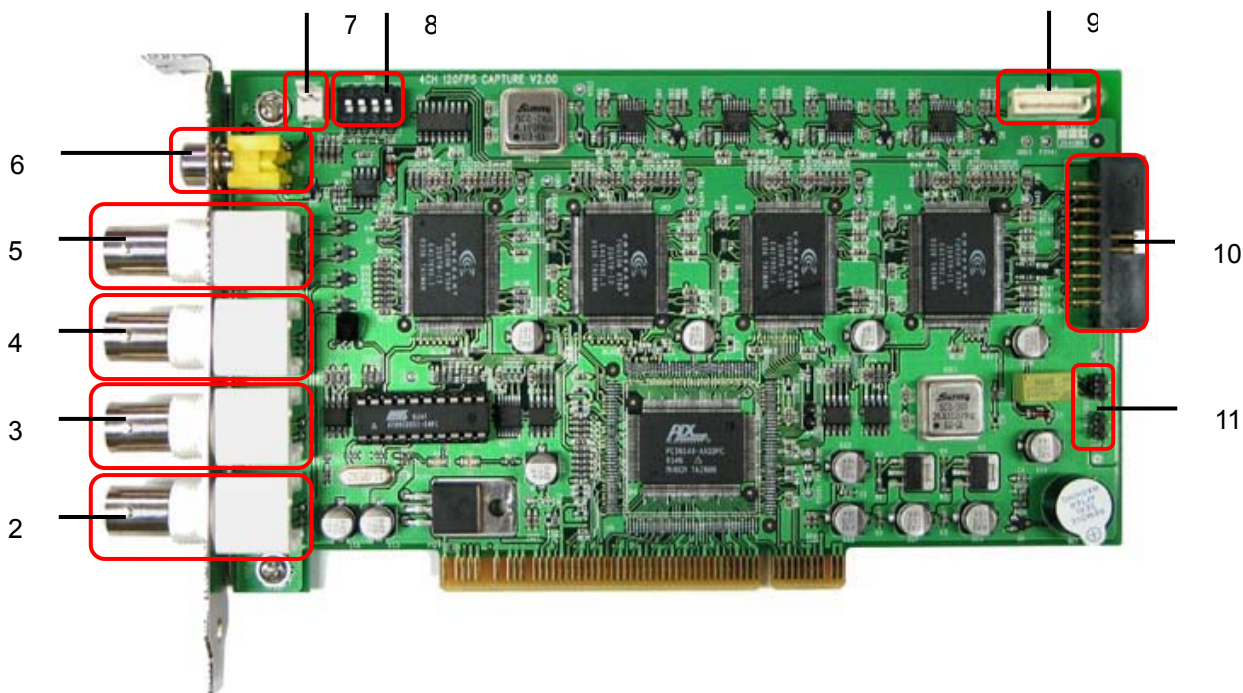


2.4 Etc.

- PCB : 4-Layer, PCI

3. Hardware Installation

3.1 AS2000V2 Components



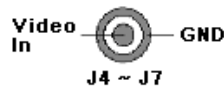
□ **AS2002V2 solution consists of 2 pcs of AS2000V2 Capture Cards.**

- 2. VIN 1 (J4) : Video Signal Input BNC Jack
- 3. VIN 2 (J5) : Video Signal Input BNC Jack
- 4. VIN 3 (J6) : Video Signal Input BNC Jack
- 5. VIN 4 (J7) : Video Signal Input BNC Jack
- 6. VOUT(J8) : External Video Out RCA Jack
- 7. VOUT(J10) : External Video Out Molex 2Pin Connector
- 8. SW1 : 8Pin DIP Switch
- 9. AIN 1-4(J3) : Audio Signal Input 5Pin Molex Box Connector
- 10. DIO(J9) : 10Pin Box Connector
- 11. WATCHDOG(J1, J2) : 2Pin Pinheader x 2

3.2 Capture Card Components Description

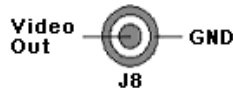
2 - 5 VIN 1-4 BNC Jack (J4) ~ (J7)

This is a video input connector. This is connected to camera output power terminal.



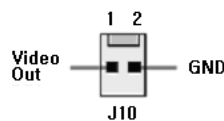
6 VOUT RCA Jack(J8)

This is a RCA jack for external video out. This is connected to Video In of TV monitor.



7 VOUT Molex 2Pin Connector(J10)

This is a video out Molex 2pin connector.



8 Termination Register(75Ω) 8Pin DIP Switch(SW1)

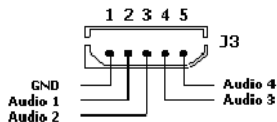
This switch is used to choose termination resistor (75Ω) in VIN1-4(SW1).

Please set the switch 'ON' to choose the termination resistor.



9 AIN 1-4 5Pin Molex Box Connector(J3)

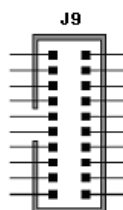
This is a connector for Audio Input 1-4 which is connected to j5 of **AudExt2 Card**. (AudExt2 Card is provided as option.)



For AS2002V2 solution, AudExt3 Card is provided.

10 DIO 20Pin Box Connector(J9)

This connector is used to test DI/DO, which is connected to extension cards. (Please refer to 'Extension Card Manual.')

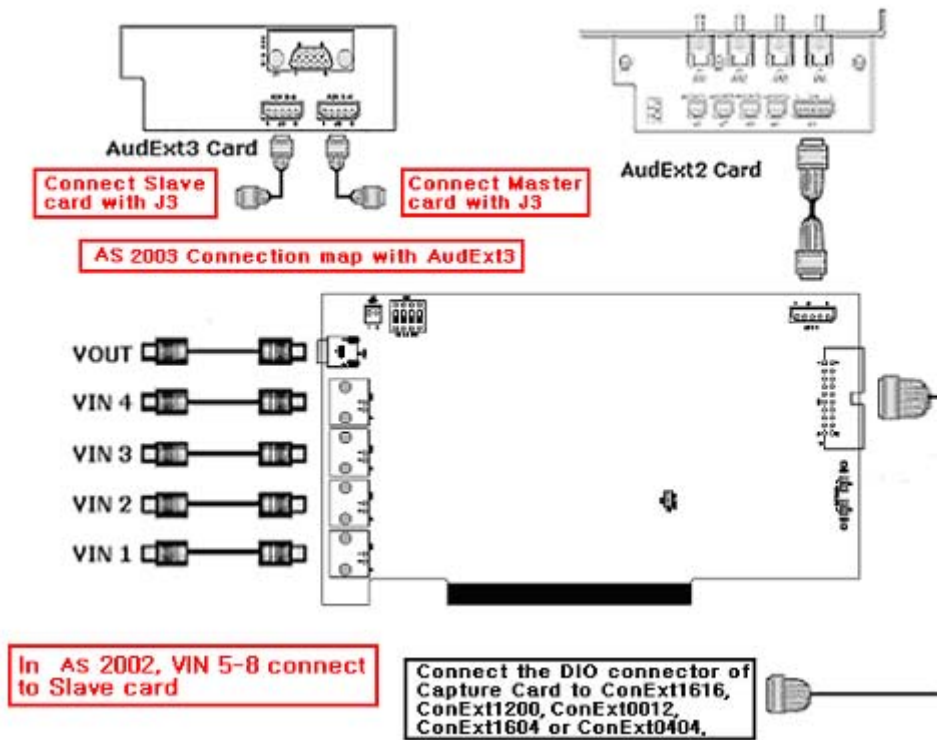


11 WATCHDOG 2Pin Pinheader x 2(J1, J2)

Two watchdog 2pin pinheaders are respectively connected to the reset connector of mother board and the reset connector of system case. The pin has no polarity.



3.3 Connection with Peripheral



4. Electrical Specifications

4.1 Recommended Operating Conditions

Parameter		Min	Typ		
Power supply +5V		4.75	5	5.25	V
Power supply +12V		11	12	13	V
Power supply -12V		-11	-12	-13	V
Video Input Range	Peak to peak amplitude	0.5	1	2	V
	Sync Amplitude	143	286	572	mV
	Horizontal Lock Range	-	-	±7	% of Line Length
	Color sub-carrier Lock-in Range	-	-	±800	Hz
Audio Input Range		0.01	2.593	3.3	V _{p-p}
Ambient Operating Temperature		0		65	°C
Ambient Operating Humidity		0		90	%

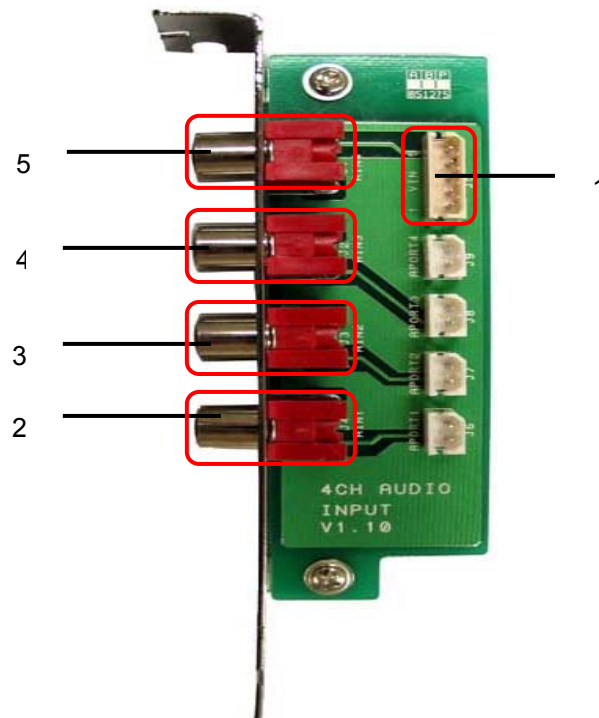
4.2 Power Supply Current Requirements

Parameter	Max	Units
Power supply +5V	858	mA
Power supply -12V	12	mA

5. Option Card

5.1 AudExt2 Card

5.1.1 AudExt2 Card Picture



5.1.2 AudExt2 Card Components

1 AIN 1-4 5Pin Molex Box Connector(J5)

This connector is used to transfer the input CH1 to 4 audio signals to capture card.

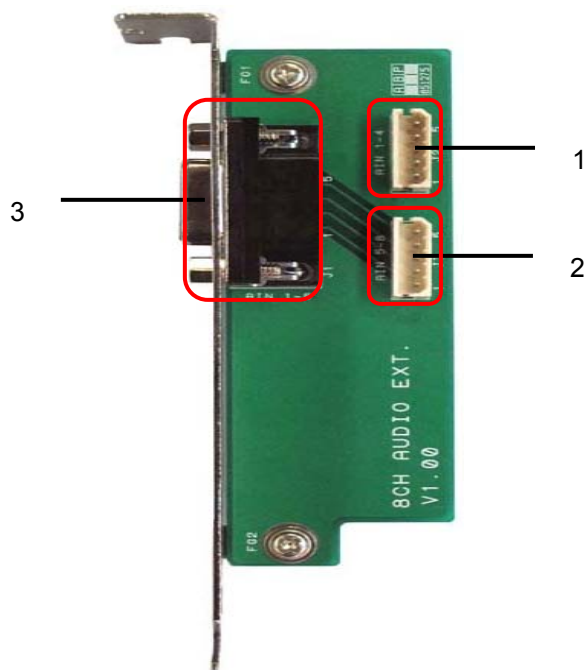
2 ~ 5 AIN 1-4

This connector is used to input audio signals from external and connected by RCA Jack.

For AS2002V2 solution, AudExt3 card is provided as option.

5.2 AudExt3 Card (For AS2002V2 Solution)

5.2.1 AudExt3 Card Picture



5.2.2 AudExt3 Card Components

1 AIN 1-4 5Pin Molex Box Connector(J2)

This is used to transfer the input CH. 1 to 4 audio signals to J3 of an AS2000V2.

2 AIN 5-8 5Pin Molex Box Connector(J3)

This is used to transfer the input Ch. 5 to 8 audio signals to J3 of the other AS2000V2.

3 AIN 1-8

This is used to input audio signals from external. Connect it with 9pin DSUB to 8RCA cable.

6. AS2000V2/2002V2 Installation Guide

□. Components

- AS2000V2 Capture Card **(For AS2002V2 solution, 2 pcs of AS2000V2)**
- 2PIN Cable (For Watchdog)

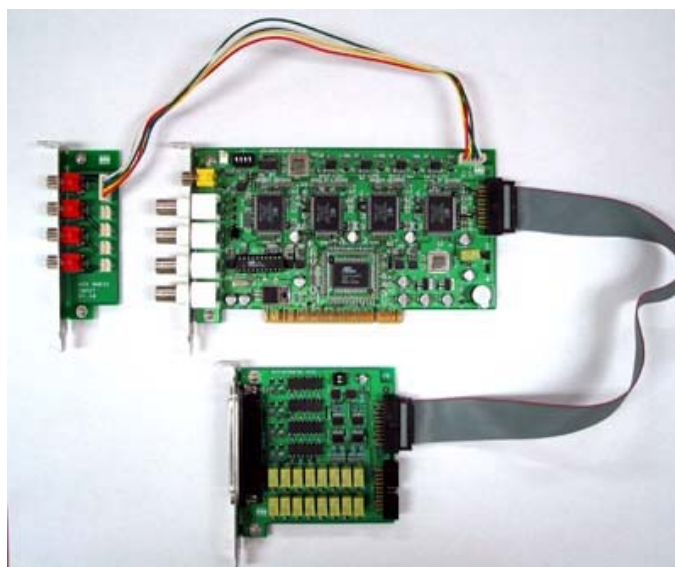
□. Option Components

- AudExt2 Card **(AudExt3 Card for AS2002V2 solution)**
- ConExt1616 Card
- ConExt1200 Card
- ConExt0012 Card
- ConExt1604 Card
- ConExt0404 Card
- PTZExt2 Card

- **Option Components are optional. User can select DI/DO extension cards among the above. Cables are provided with the selected DI/DO ext cards.**

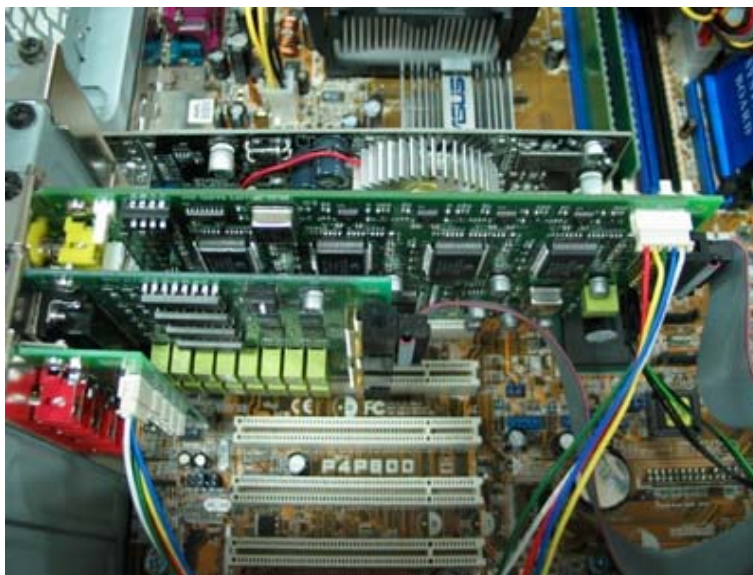
□. Hardware Installation (For AS2000V2)

- (1) As the below, connect AS2000V2 Capture Card to AudExt2 and ConExt1616.



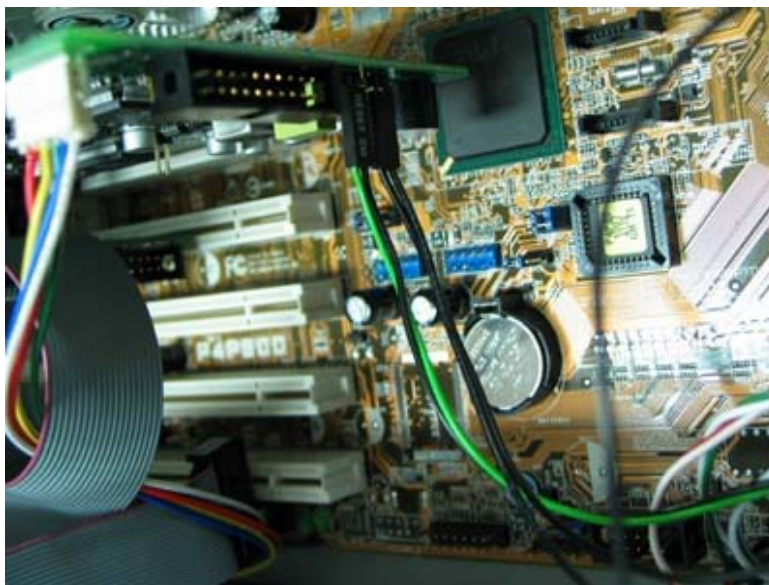
<AudExt2 and ConExt1616 Connected to AS2000V2>

- (2) Insert the AS2000V2 vertically into PCI slot from one side to the other and then insert AudExt2 and ConExt1616 in the same way. Check if the cards were well inserted into PCI slot.



<AS2000V2, AudExt2 and ConExt1616 Inserted into PCI Slot>

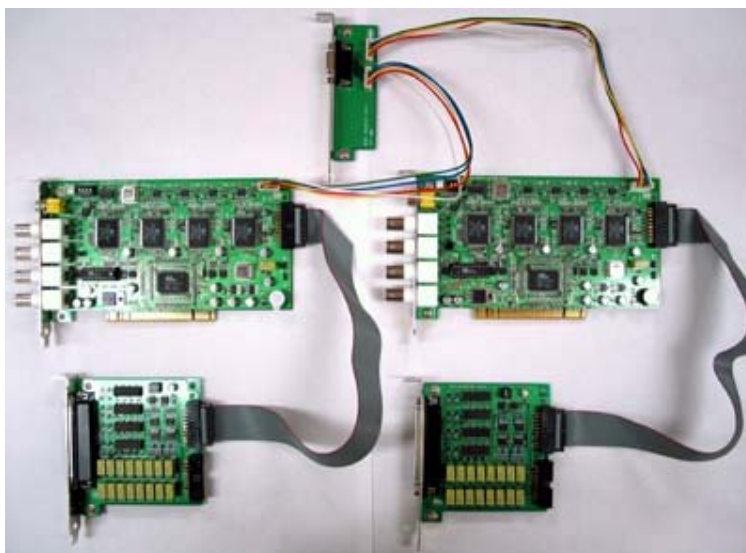
- (3) Connect a pin of watchdog 2pin connector of AS2000V2 to the reset switch of mother board by 2pin cable. And then connect the other pin of watchdog 2pin connector to the reset cable of PC case. Hardware installation of capture card finished.



<Watchdog Pin Connected to Reset Pin of Mother Board>

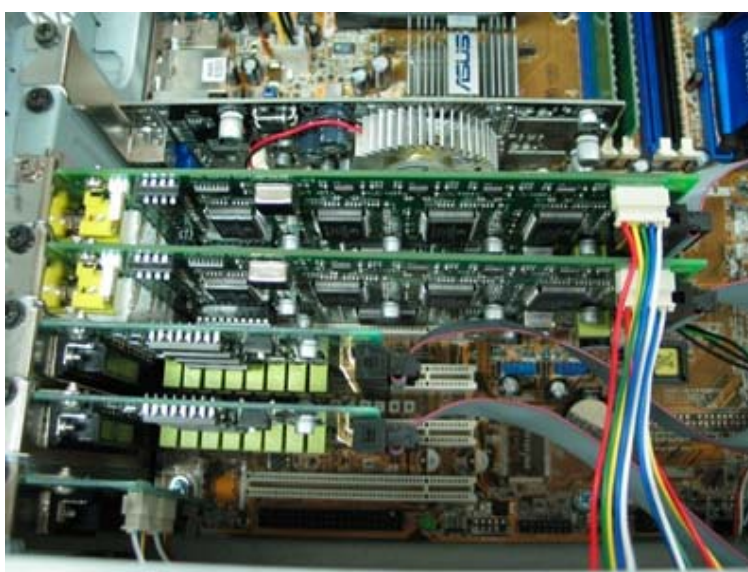
□. Hardware Installation (For AS2002V2 Solution)

(1) As the below, connect AS2000V2 Capture Cards to AudExt3 and ConExt1616 Card.



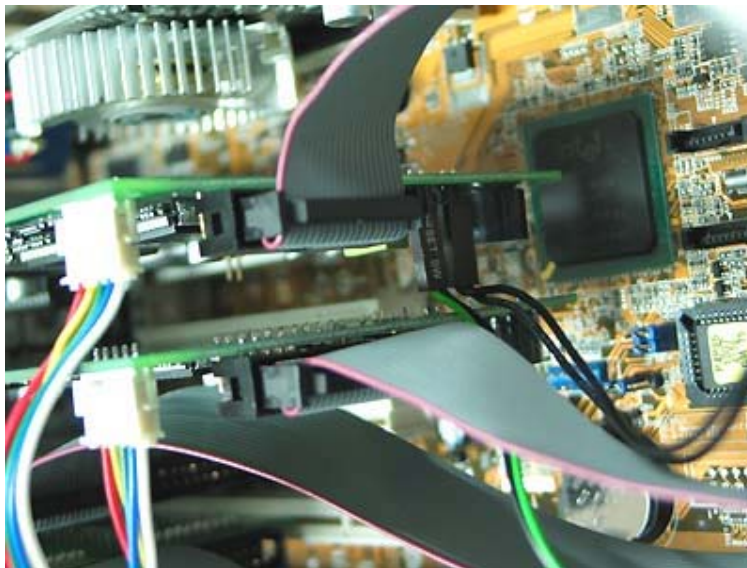
<AudExt3 and ConExt1616 Connected to AS2002 Cards>

(2) Insert AS2000V2 cards vertically into PCI slot from one side to the other and then insert AudExt3 and ConExt1616 in the same way. Check if the cards are well inserted into PCI slot.



<AS2000V2 cards, AudExt3 and ConExt1616 Inserted into PCI Slot>

- (3) Connect a pin of watchdog 2pin connector of one AS2000V2 cards to the reset switch of mother board by 2pin cable. And then connect the other pin of watchdog 2pin connector to reset cable of PC case. Hardware installation of capture card finished.



<Watchdog Pin Connected to Reset Pin of Mother Board>

□. Cable Connection

(1) External Monitor Output Terminal (J8)

External monitor output terminal (RCA Jack) is connected to external monitor.