

DVR - AMX Series

Hardware Installation Guide

Rev. 1.5

Digital Video Security System
Digital Video Recorder

www.cctvone.com

CCTVONE

*All contents of this document may change without prior notice, and actual product appearance may differ from depicted herein.

Preface

This is a guide book that explains the hardware components and provides a step-by-step installation of DVR board.

For the software explanation, please refer to “Installation and User’s Guide”.

This guide book is applicable to, among DVR products, 12004AMX, 24008AMX, 48016AMX and 96032AMX boards.

The pictures and the name of the products are subject to change; however, the usage may be similar.

For any questions you might have, please contact to the following address. When sending your concerned matter, please include your company name and phone number with detailed descriptions.

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1. Specification of DVR

- **1~32 Camera Inputs / Output**

Up to 32 camera inputs are available on screen for digital handling.

Normal input condition: 75 Ohm, 1 Volt (p-p)

- **1~32 Sensor Inputs**

Up to 32 sensors can be linked to the system

External DC 12 Volt power must be provided to the sensor input from outside.

- **1~8 Digital Outputs (Relay Outputs)**

Digital Outputs can be used to activate things like shutters and sirens, and activation can be linked to sensor and motion detection.

- **Sound Recording and Two-Way Communication Capabilities**

Sound can be recorded with video images. Two-way communication is possible between DVR Main and DVR Net.

- **Display Features (w/ Multi-Viewing)**

Up to 1, 4, 6, 9, 10, 16 or 32 different camera shots to be displayed onscreen at the same time.

Other display features include enlarging all displayed cameras or just one.

- **PAN/TILT/ZOOM/FOCUS Capabilities**

Each connected camera can be manipulated through the DVR main program as long as each camera supports such capabilities.

- **Auto Rebooting System**

When DVR detects an error or malfunction within the system, it will automatically reboot the system in order to correct it.

- **Motion Detection and Sensor Trigger**

Detection features make it possible to record images only when movement is detected, preserving volume space and maximizing the use of physical storage space.

- **Scheduled Recording**

Scheduling allows the administrator to record images only during designated time periods, if so desired.

Every combination of scheduling is available in the DVR program.

- **Data Backup and Auto Backup**

Data can be preserved through various formats (DAT, CD, or DVD) and data from specific cameras and/or time periods can be specifically isolated for backup as well. Much like scheduled recording, backup of data can be scheduled as well.

- **Digitalized Video Search**

Recorded data features digital playback for each camera simultaneously or one at a time. Playback features include advanced search features and image extracting, which allows portions of existing video to be extracted and saved as a separate file.

- **Network Support (PSTN, TCP/IP, LAN , Modem Protocol Support)**

DVR supports network access, which allows administrators to login to DVR main and remotely access all the features provided locally.

- **POS, Access Control, ATM Support**

Data from external devices (POS, Access Control, ATM, etc) can be recorded with DVR video images. Text Search allows to search data from external devices with DVR video image when event occurs. This will raise the level of integrity and security.

Feature	12004AMX	24008AMX	48016AMX	96032AMX
Camera Input	1~4Port(NTSC/PAL)	1~8Port(NTSC/PAL)	1~16 Port (NTSC/PAL)	1~32 Port (NTSC/PAL)
Sound Input	1~4Port	1~8Port	1~16 Port	1~32 Port
Sensor Input	1~4Port	1~16Port	1~16 Port	1~32 Port
Relay Output	1~4Port	1~4Port	1~4 Port	1~8 Port
Composite Output	1 Port (NTSC/PAL, Normal)			
Image Format	MPEG4			
Recording Mode	Watch, Normal, Motion Detection, Sensor, scheduled Recording			
Remote Control	Full remote control PSTN, ISDN,ADSL, LAN and TCP/IP			
Back-up	DAT, CD, DVD			
PAN/TILT/ZOOM/FOCUS	RS-232/422/485 Interface			

* Note: 96032AMX consists of one of 48016AMX and 96032AMX Slave

2. Product and Components

2-1. AMX Series Board



12004AMX



24008AMX



48016AMX



96032AMX Slave

2-2. Accessories



4ch Video & Audio Pigtail Cable



8ch Video Pigtail Cable



8ch Audio Pigtail Cable



16ch Video Pigtail Cable



16ch Audio Pigtail Cable



Reset Cable

2-3. Optional Accessories



RS-485 Board



RS-485 Board (for 32ch)



RS-232C Cable



I/O Board



Sensor & Relay Cable



Sensor Board



Video Cable



Back Panel



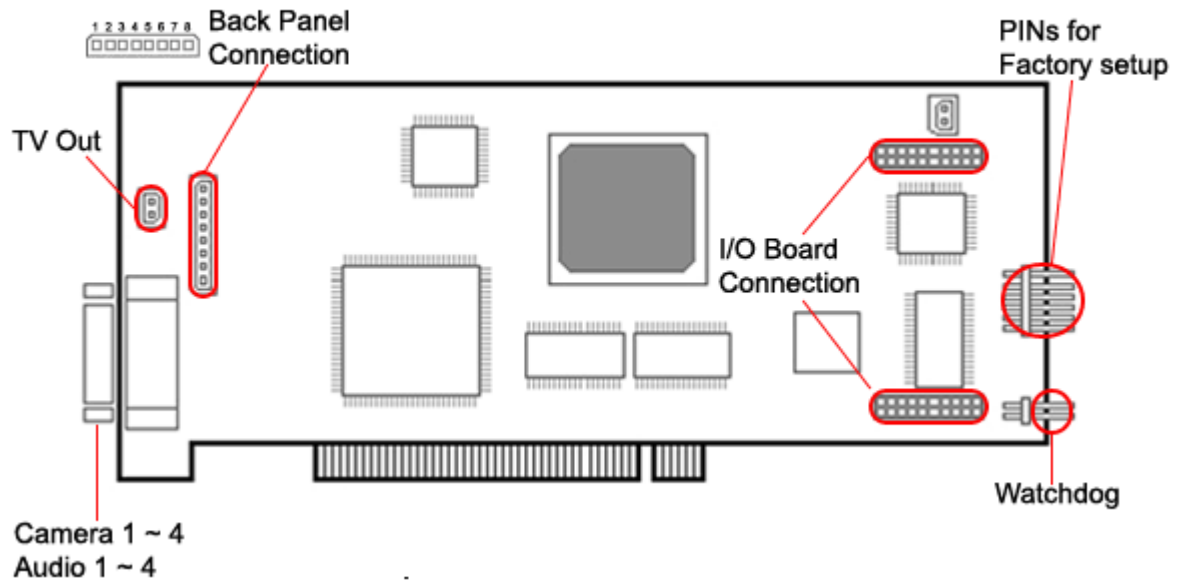
TV-OUT cable 1(for 32ch)



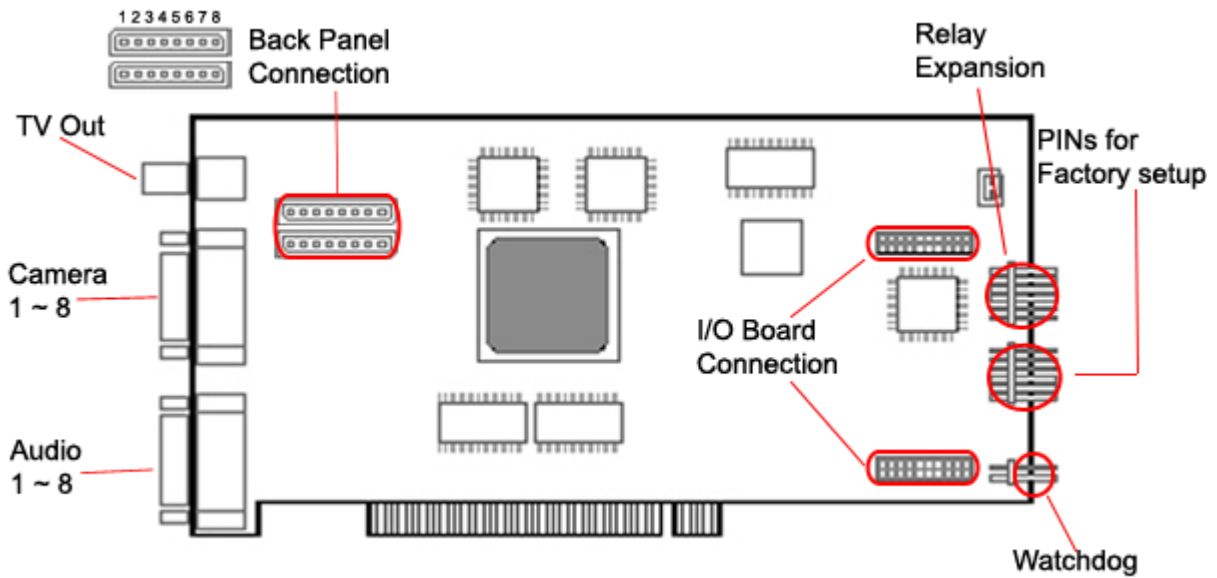
TV-OUT cable 2(for 32ch)

3. Board Description

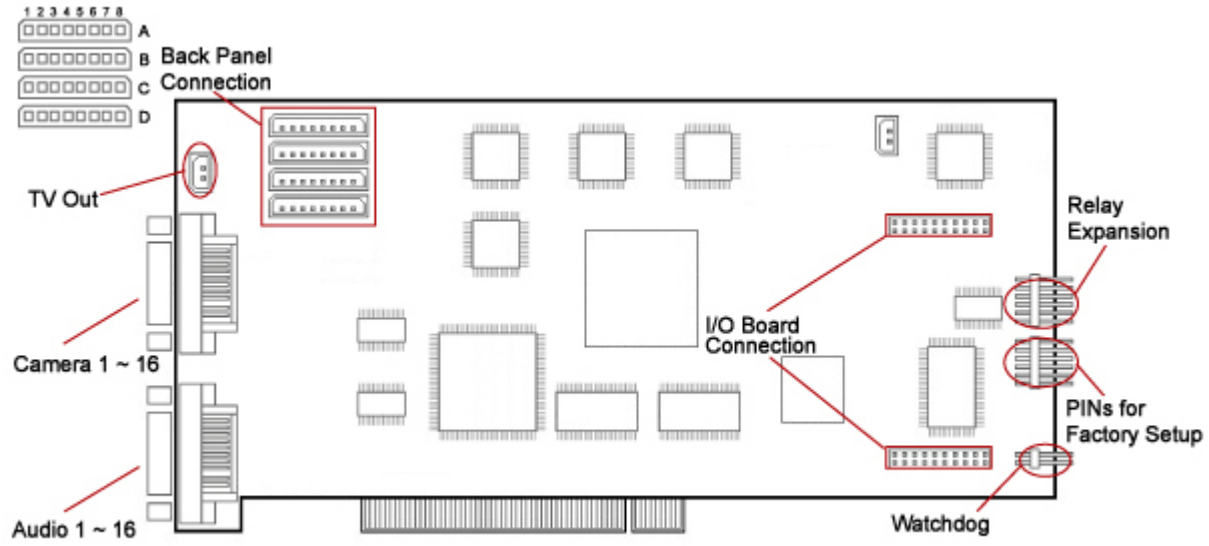
3-1. 12004AMX



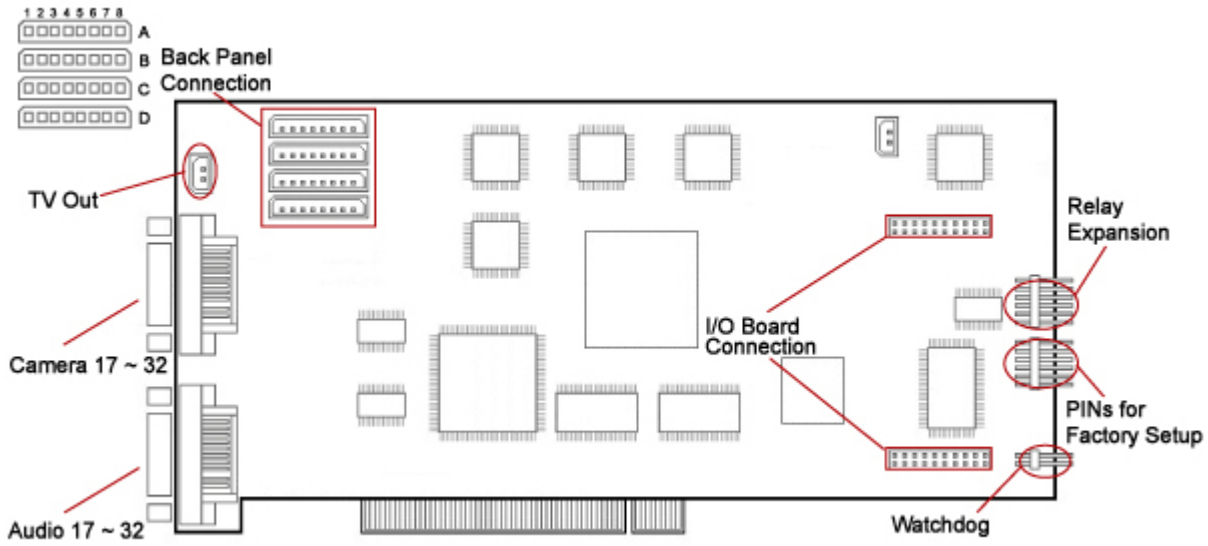
3-2. 24008AMX



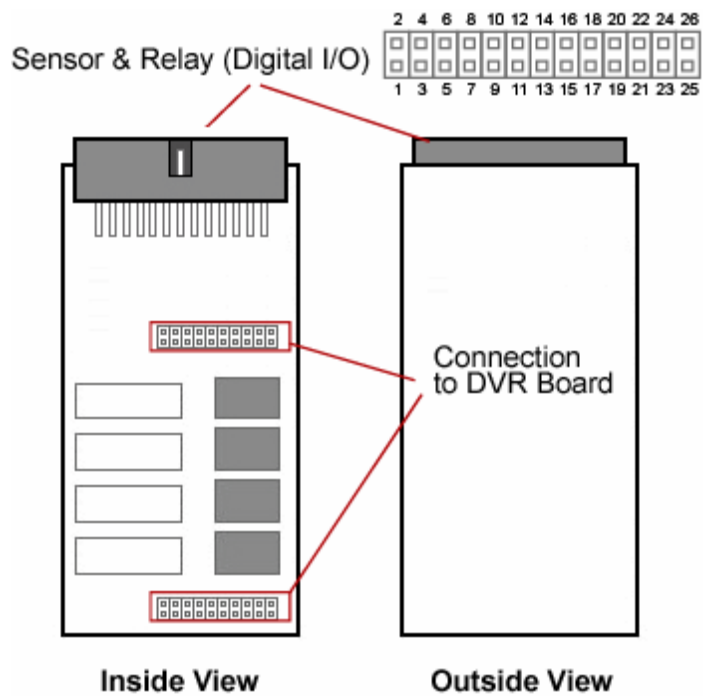
3-3. 48016AMX



3-4. 96032AMX Slave

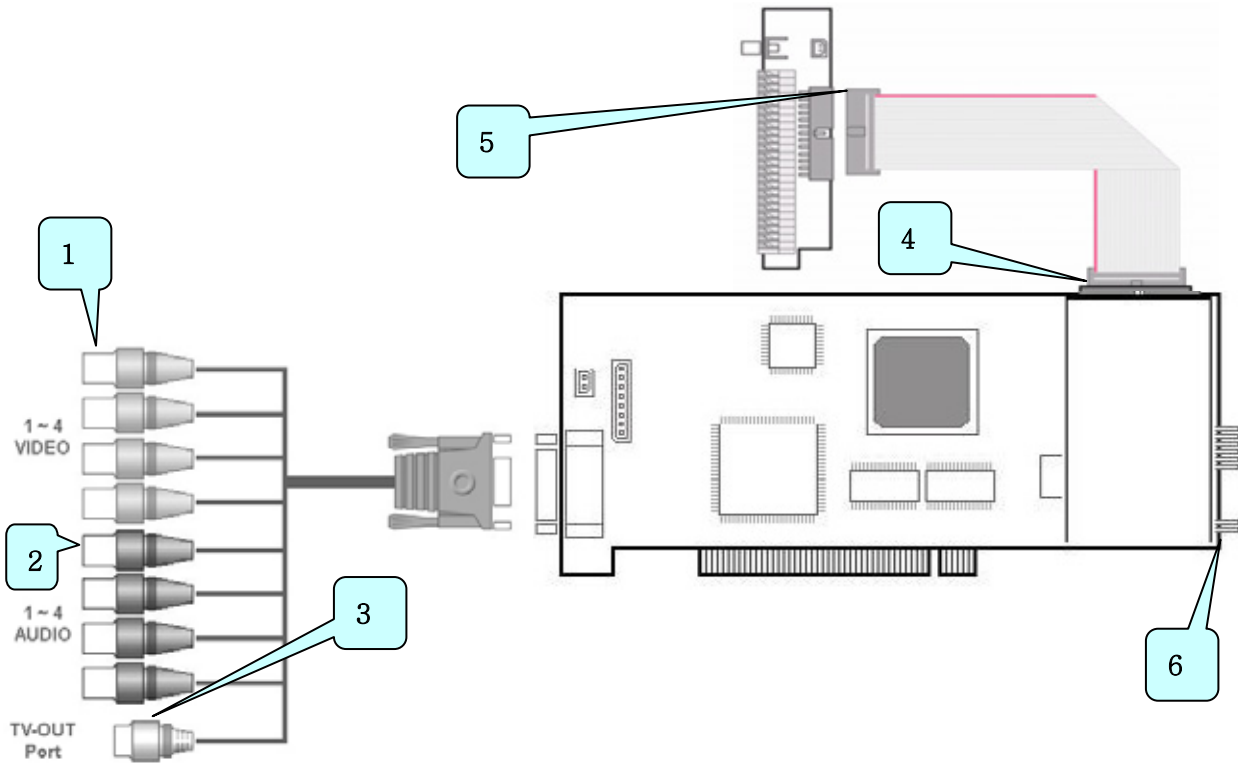


3-5. I/O Board

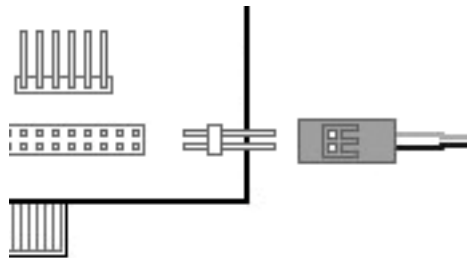


4. Installation

4-1. 12004AMX

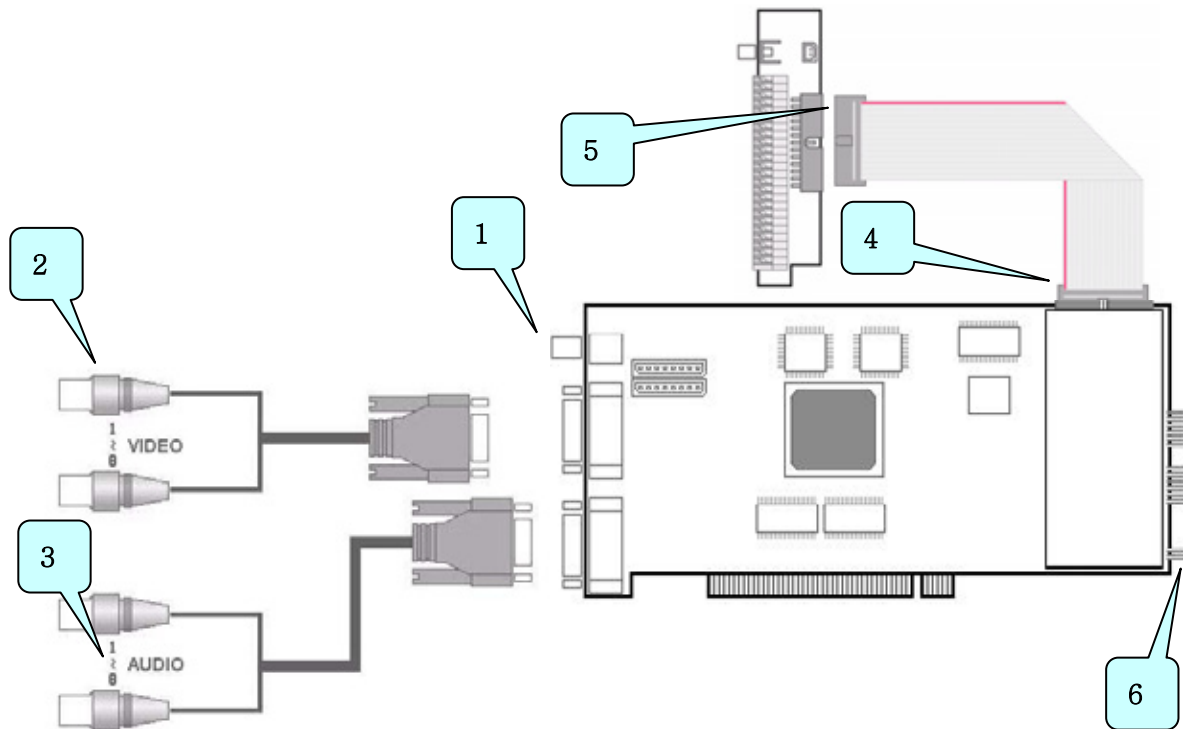


- 1) Connect 1~4 channel video pigtail cable to connector.
- 2) Connect 1~4 channel audio pigtail cable to connector.
- 3) Connect CCTV monitor.
- 4) Connect the other side of the I/O cable to the I/O connector.
- 5) Connect I/O cable to the sensor port.
- 6) Connect watchdog cable. (Black cable must go bottom of the connector)

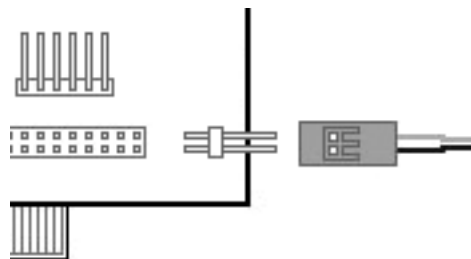


4-2. 24008AMX

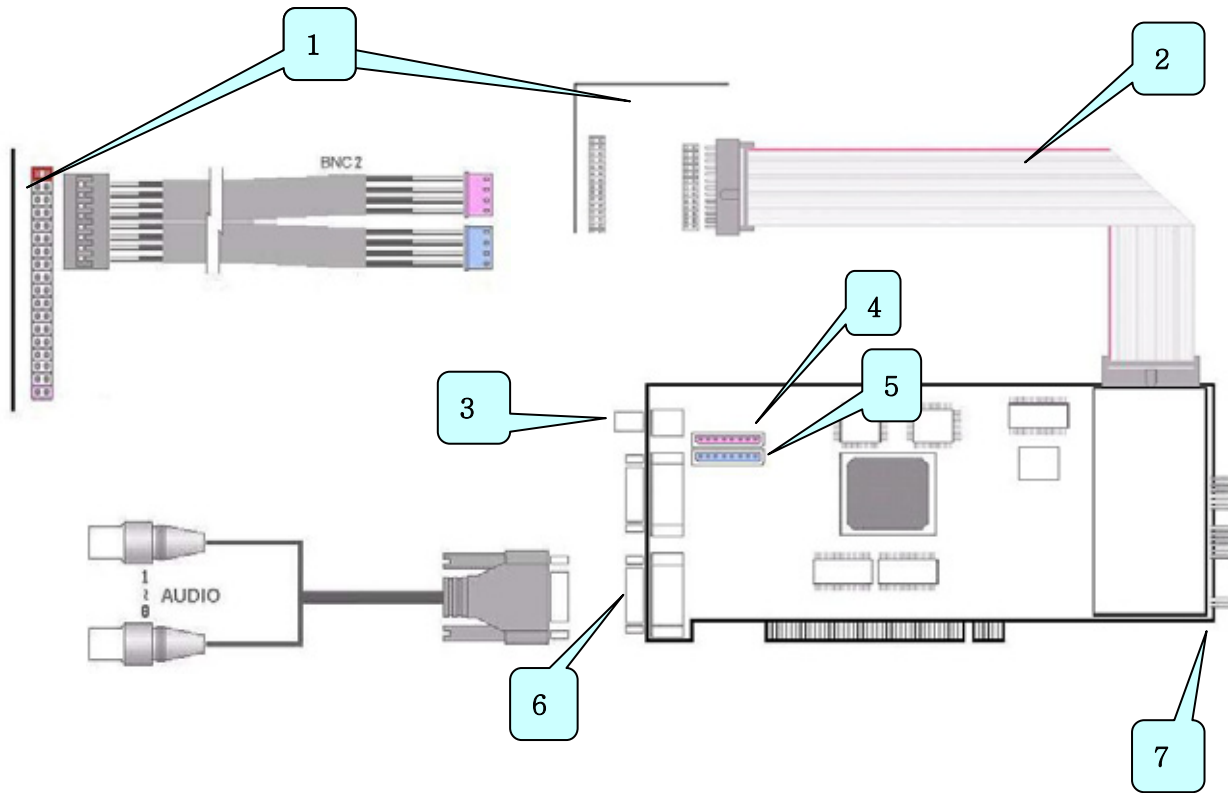
4-2-1. Pigtail type



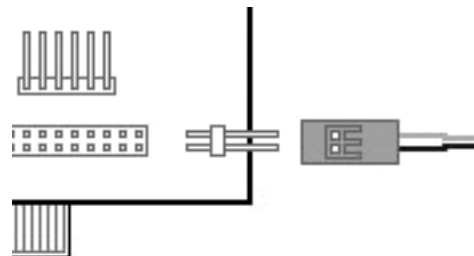
- 1) Connect CCTV monitor.
- 2) Connect 1~8 channel video pigtail cable the top connector.
- 3) Connect 1~8 channel audio pigtail cable to the bottom connector.
- 4) Connect the other side of the I/O cable to the I/O connector.
- 5) Connect I/O cable to the sensor port.
- 6) Connect watchdog cable. (Black cable must go bottom of the connector)



4-2-2. Back Panel Type

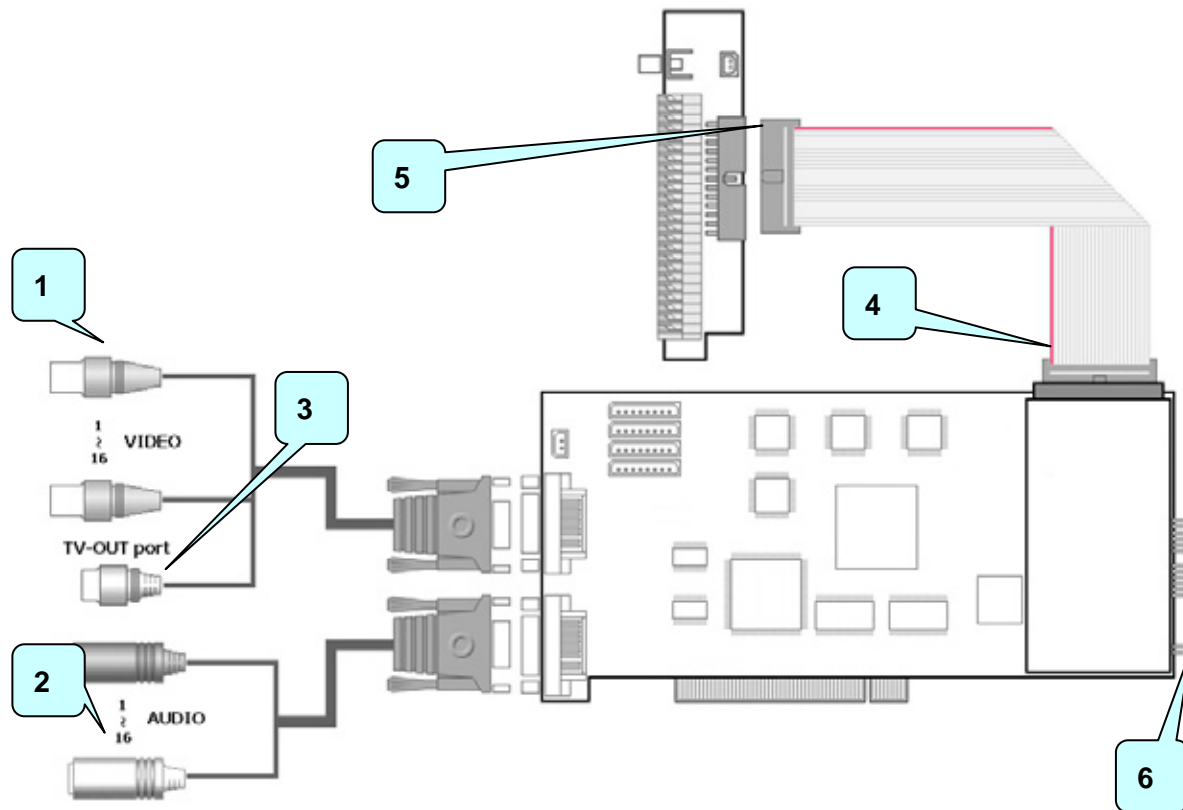


- 1) Back Panel.
- 2) Sensor Cable
- 3) Connect CCTV Monitor
- 4) Connect the video cable with BNC2 label.
- 5) Connect the remaining cable with BNC2 label.
- 6) Connect audio pigtail cable.
- 7) Connect watchdog cable.(Black cable must go bottom of the connector)

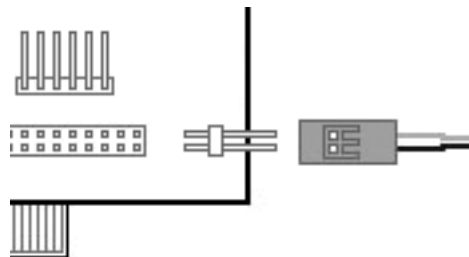


4-3. 48016AMX

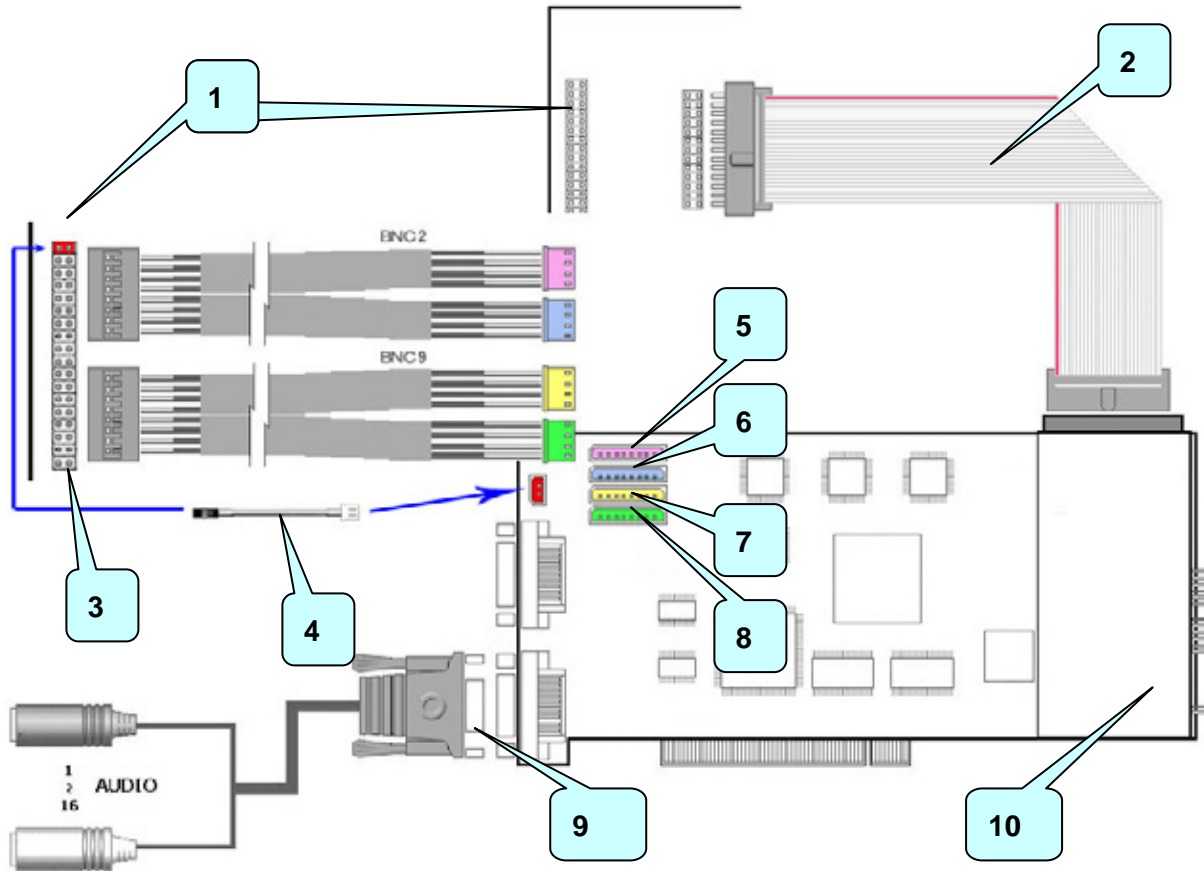
4-3-1. Pigtail type



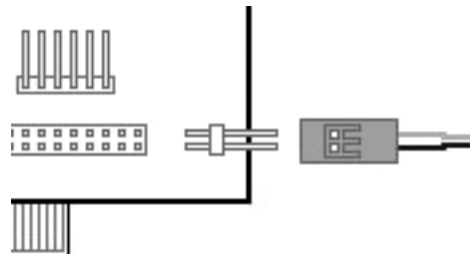
- 1) Connect 1~16 channel video pigtail cable to the top connector.
- 2) Connect 1~16 channel audio pigtail cable to the bottom connector.
- 3) Connect CCTV monitor.
- 4) Connect I/O cable to the sensor port.
- 5) Connect the other side of the I/O cable to the I/O connector.
- 6) Connect watchdog cable. (Black cable must go bottom of the connector)



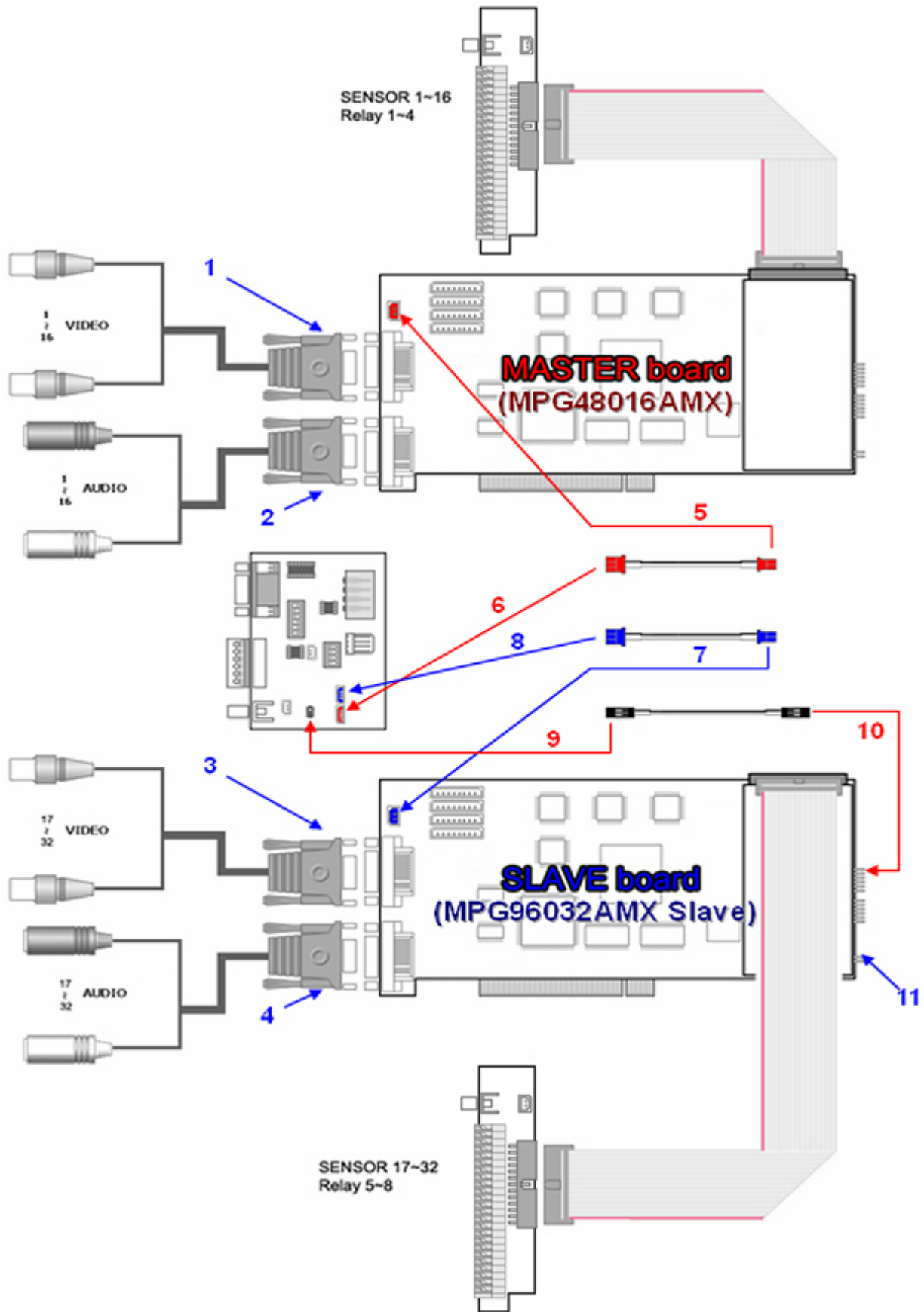
4-3-2. Back Panel Type



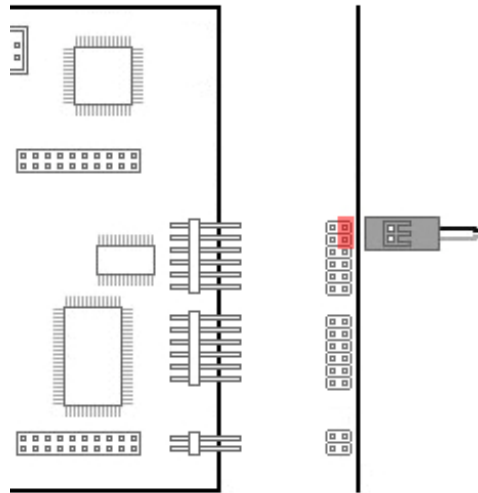
- 1) Back Panel.
- 2) Sensor Cable.
- 3) When connecting video cables to back panel, make sure to leave the bottom pin on the back panel and have white cables facing up.
- 4) Connect tv-out cable. (Make sure to have the white cable facing up)
- 5) Connect the video cable with BNC2 label.
- 6) Connect the remaining cable with BNC2 label.
- 7) Connect the video cable with BNC9 label.
- 8) Connect the remaining cable with BNC9 label.
- 9) Connect audio pigtail cable.
- 10) Connect watchdog cable. (Make sure to have the black cable facing down)



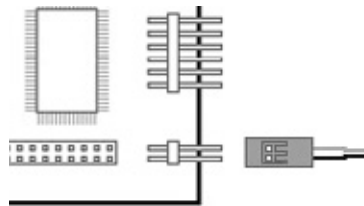
4-4. 96032AMX



- 1) Connect 1~16 channel video pigtail cable to the top connector of the master board.
- 2) Connect 1~16 channel audio pigtail cable to the bottom connector of the master board.
- 3) Connect 17~32 channel video pigtail cable to the top connector of the slave board.
- 4) Connect 17~32 channel audio pigtail cable to the bottom connector of the slave board.
- 5) Connect TV-out cable to the master board.
- 6) Connect the other side of the TV-out cable to the master connector on TV-Out board.
- 7) Connect TV-out cable to the slave board.
- 8) Connect the other side of the TV-out cable to the slave connector on TV-Out board.
- 9) Make sure to have the white cable of the TV-out cable facing up on the TV-Out board.
- 10) Make sure to have the white cable of the TV-out cable facing down on the Slave board.

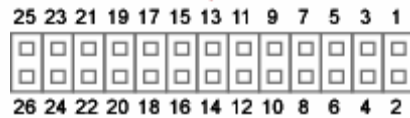
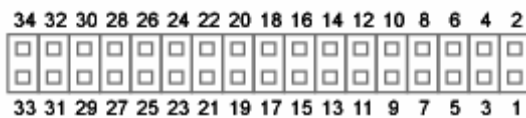
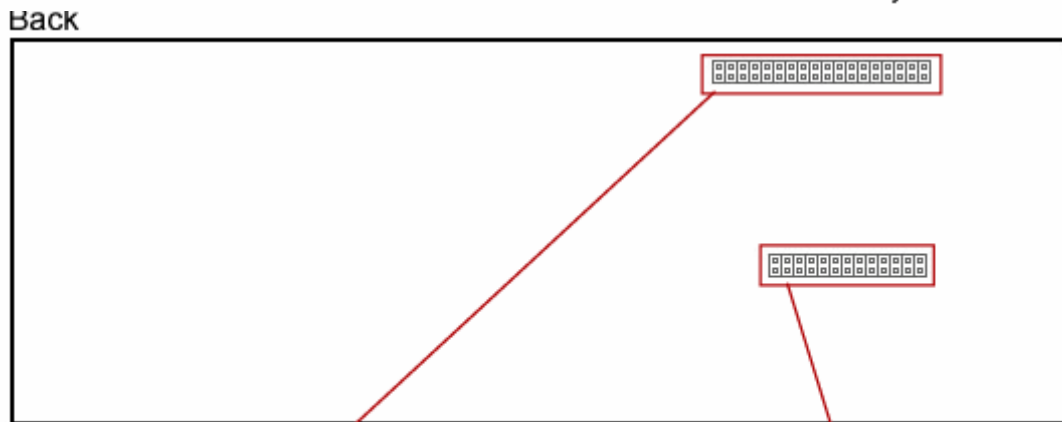
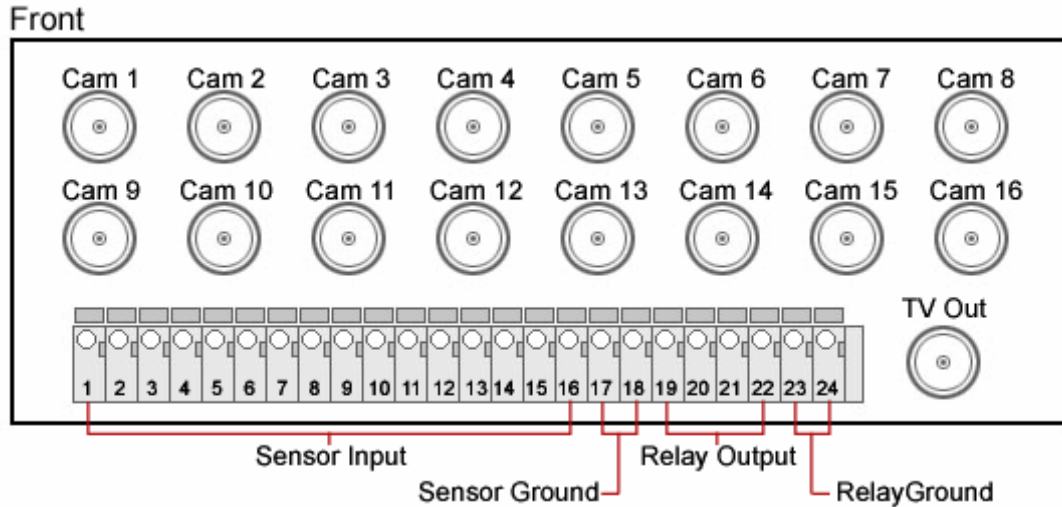


- 11) Connect the watchdog cable. Make sure to have the black cable facing down.



5. Accessories

5-1. Back Panel

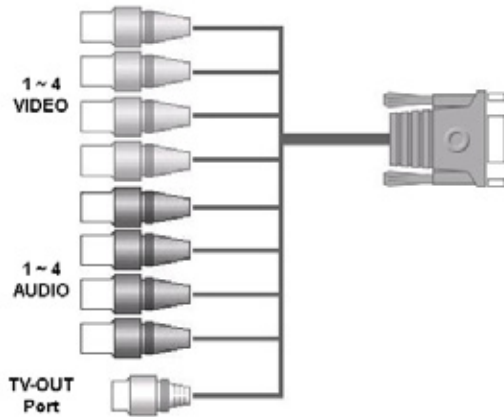


Camera I/O	
Camera Ground	3, 5, ~ 31, 33
Camera Signal	4, 6, ~ 32, 34
TV Out Ground	1
TV Out Signal	2

Sensor & Relay (Digital I/O)	
Sensor Input 0~15	1~16
Input Common 0~1	17, 18
Relay Output 0~3	19~22
Output Common 0~1	23, 24

5-2. Video and Audio Pigtail cable

5-2-1. Video and Audio Pigtail 4ch, 8ch cable

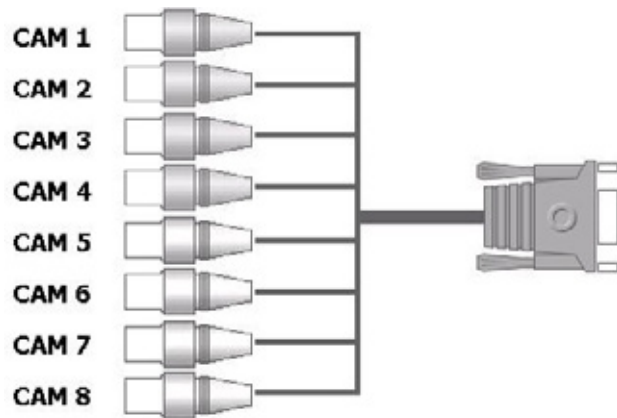


Video Pigtail cable

1~4 BNC : Black BNC

Audio Pigtail cable

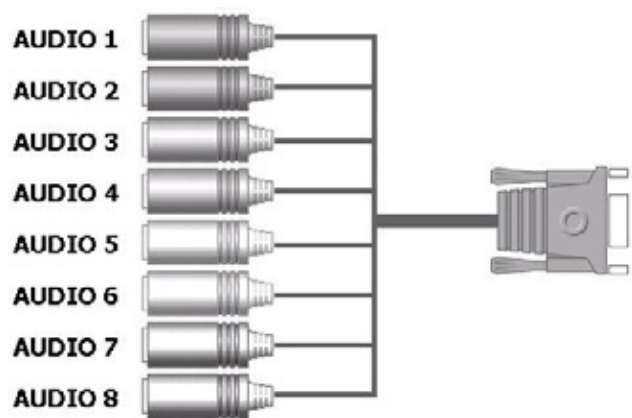
- 1 : Blue con
- 2 : Yellow con
- 3 : Green con
- 4 : Red con



Video Pigtail cable

1~4 BNC : Black BNC

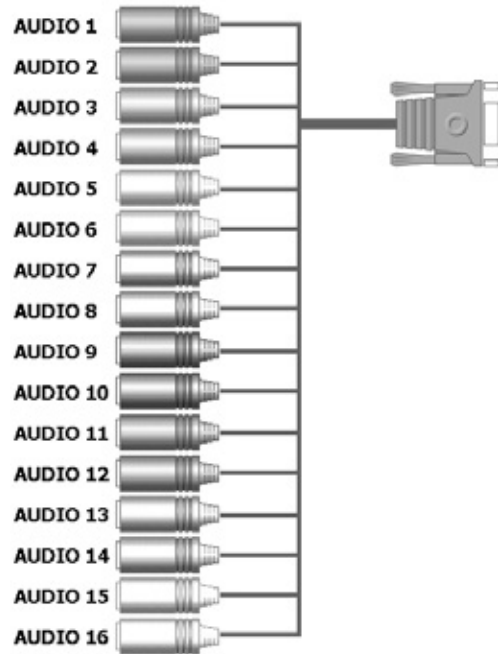
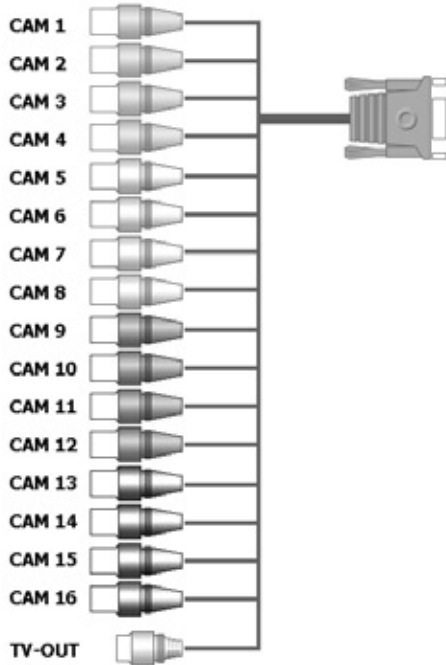
5~8 BNC : White BNC



Audio Pigtail cable

- | | |
|----------------|----------------|
| 1 : Blue con | 5 : Gray con |
| 2 : Yellow con | 6 : Purple con |
| 3 : Green con | 7 : White con |
| 4 : Red con | 8 : Orange con |

5-2-2. Video and Audio Pigtail 16ch cable



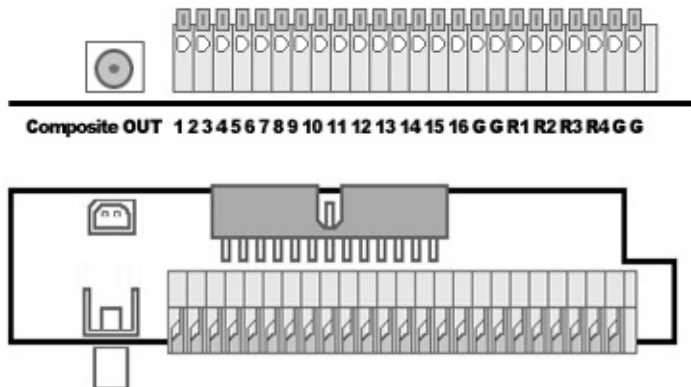
Video Pigtail cable

- 1 ~ 4 : Blue BNC
- 5 ~ 8 : Orange BNC
- 9 ~ 12 : Violet BNC
- 13 ~ 16 : Gray BNC

Audio Pigtail cable

- | | |
|--------------------|--------------------|
| 1, 9 : Red con | 5, 13 : Blue con |
| 2, 10 : Orange con | 6, 14 : Violet con |
| 3, 11 : Yellow con | 7, 15 : Gray con |
| 4, 12 : Green con | 8, 16 : White con |

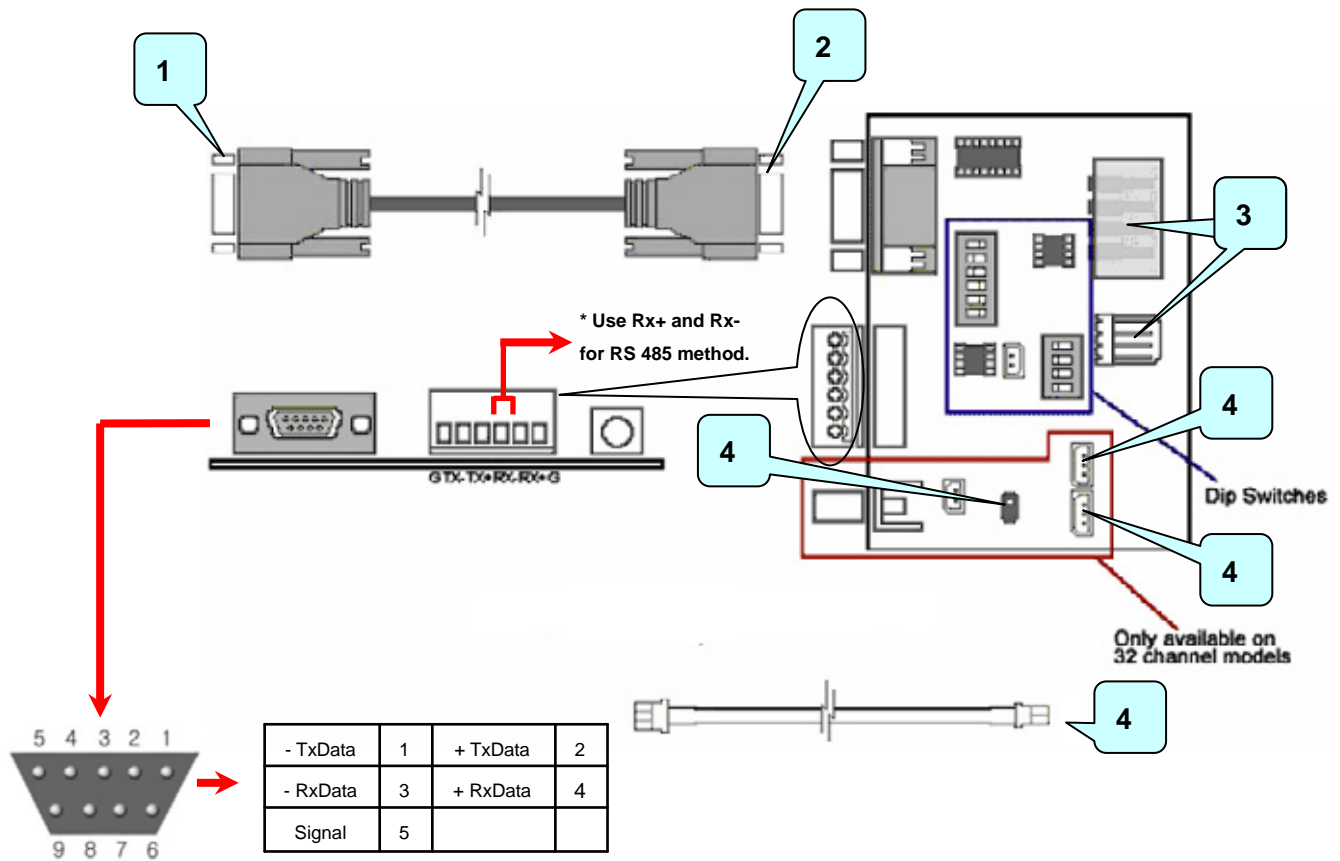
5-3. Sensor Port



Sensor port pin number

- 1 ~ 16 : Signal input
- G : Ground
- R1, R2, R3, R4 : Relay output

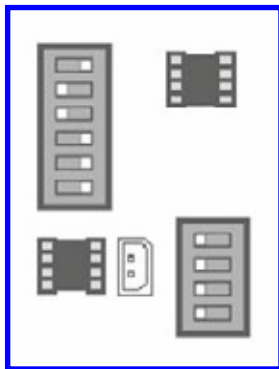
5-4. RS232 to RS422/485 Converter



- 1) Connect to system's Com port.
- 2) Connect to PTZ port converter RS-485 + TV-OUT board
- 3) Connect a power source to any one of these power sockets.
- 4) TV-Out Connection for 32 Channel board only. Refer to the installation diagram on Chapter 4-2

Dip Switches

RS-485 Mode



RS-422 Mode

