G(General),V(Video),C(Capture)

Series Manual

GVC0430

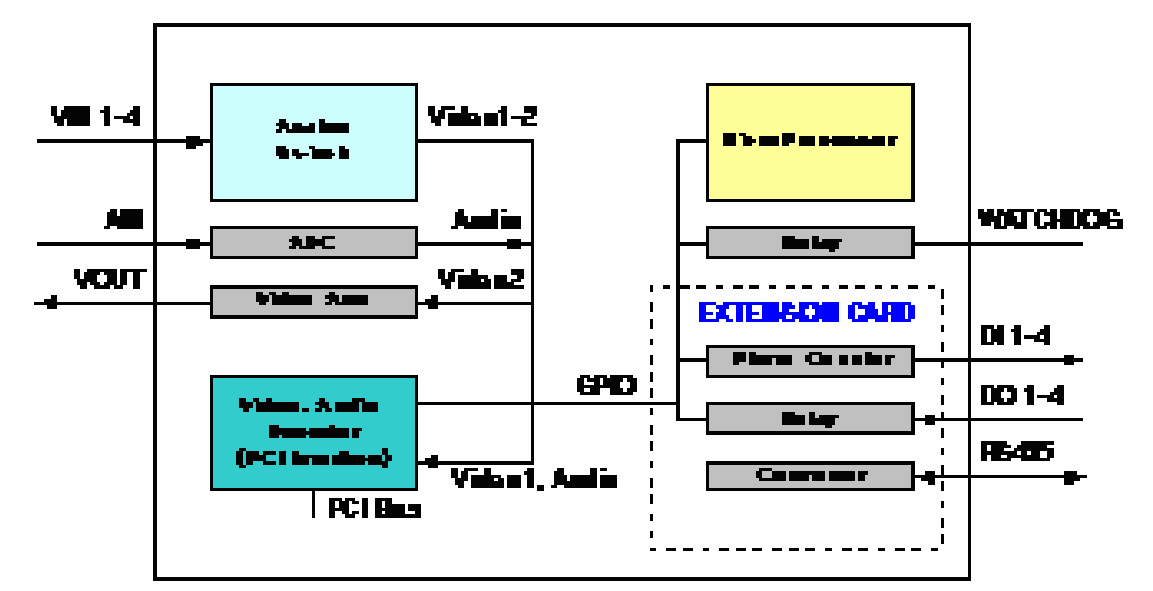
1. Product overview

1.1 Functional Overview

This product is, a PCI interface board, have the function about Video & Audio Capture and Digital I/O control. BT878A Chipset, one integrated circuit that includes Video decode, audio decode, GPIO, PCI Controller is inserted, and have a great performance against price. Because the decoding data is transmitted directly to the system memory through PCI BUS.

There are not only do not need the memory on board but also is not almost the load in CPU. The external Video signal support NTSC, PAL, SECAM, is able to capture the various resolutions. Also, The board is inserted he extra Micro Processor, not only assist to improve the system stability because of performing the Watch dog function but also prevent the outrage of reproduction as inserting the security code. As being able to use several boards (up to 4), can comprise as a high performance DVR up to 16 channel, 120 frames.

1.2 Block diagram



2. Functional description

2.1 Video

1) Video Input 4CH

2) Video input signal: NTSC, PAL(But, Not use to mix NTSC, PAL cameras)

3) Support monochrome, color

4) Capture resolution

- NTSC : 640*480, 640*240, 320*240

- PAL : 768*576, 768*288, 384*288

5) Total Capture frame

- NTSC : 30 fps(frames per second)

- PAL : 25 fps

6) Capture frame per Channel

- NTSC : 7.5-30 fps

- PAL : 6.25-25 fps

7) TV-out

- 1 channel(Switching)

2.2 Audio

1) Audio input 1 channel

2) Level : mono line, Mic

3) Quality

- 8, 16bit/sample A/D

- 4, 5.6, 8, 11.2, 16, 22.4, 32, 44.8kHz sampling

2.3 Control Extension&RS485 (Refer to ConExt2 Option board)

1) Digital Input 4 channels

2) Alarm Output 4 channels

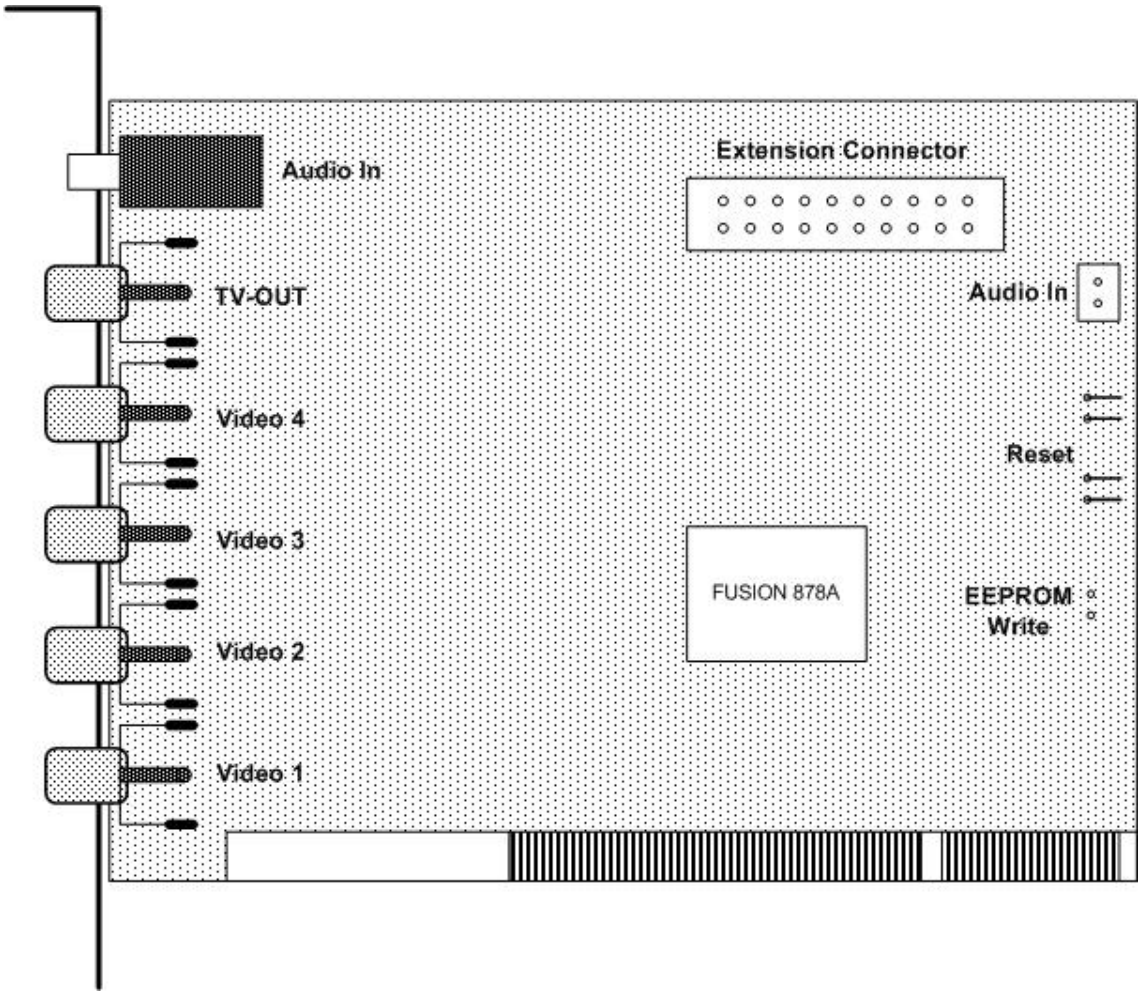
3) RS-232 to Rs-422/485 Port

2.4 Etc

1) Watch-Dog : Drive the relay

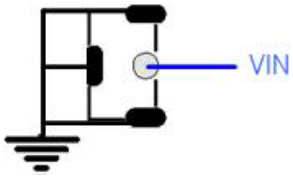
3. Hardware installation

3.1 installation of capture card

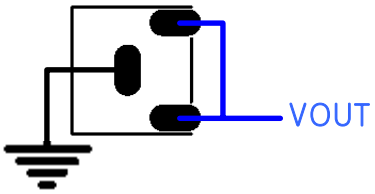


3.2 The pin-out of connector

1) Video Input(VIN)



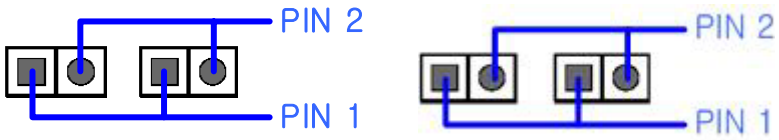
2) Video Output(VOUT): RCA, 2pin connector



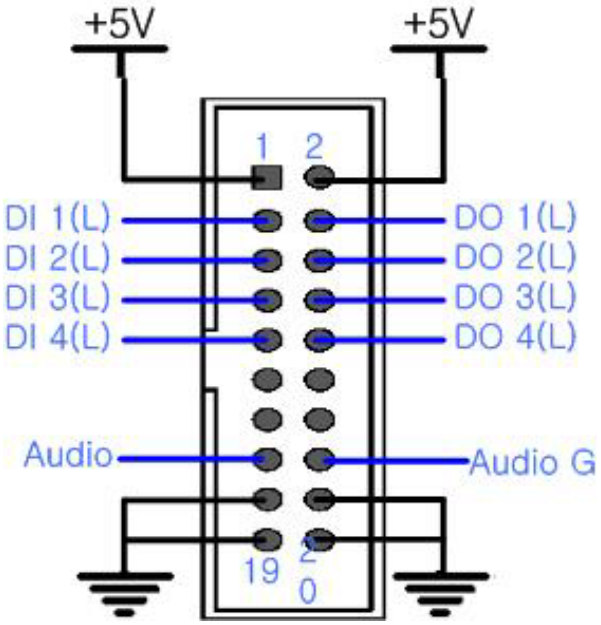
3) Audio Input(AIN)



4) Reset(WATCHDOG): 2 pin connector, one is a terminal of reset, the other One is a terminal of reset that is connected on main board. There are no polarity.



5) Extension connector : Extension card connects to 20 pin connector .



4. Electrical specifications

Recommended operating conditions

Parameter		Min	Type	Max	Units
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	VP-P
Ambient operating temperature		0		65	°C
Ambient operating humidity		0		90	%

Power supply current requirements		
Parameter	Max	Units
Power supply +5V	1,080	mA
Power supply -12V	55	mA

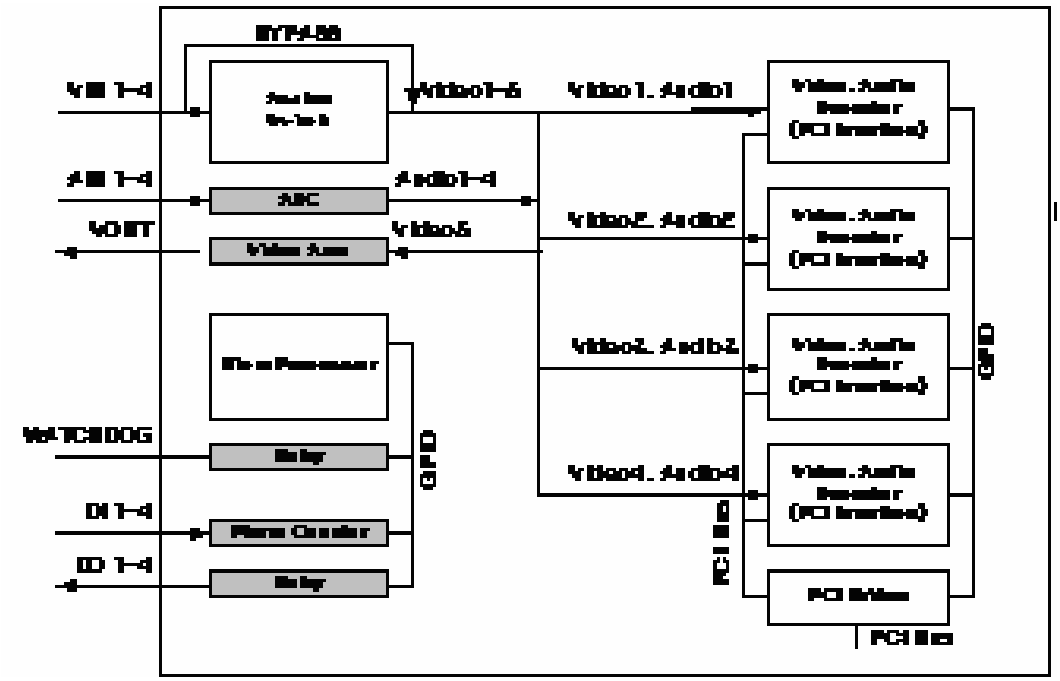
GVC4120

1. Product overview

1.1 Functional Overview

This product is, a PCI interface board, have the function about Video & Audio Capture, And Digital I/O control. BT878A Chipset, one integrated circuit that include Video decode, audio decode, GPIO, PCI Controller is inserted, have a great performance against price. Because the decoding data is transmitted directly to the system memory through PCI BUS, There are not only do not need the memory on board but also is not almost the load in CPU. The external Video signal support NTSC, PAL, SECAM, is able to capture the various resolution. Also, The board is inserted he extra Micro Processor, not only assist to improve the system stability because of performing the Watch dog function but also prevent the outrage of reproduction as inserting the security code. As being able to use 2 boards, can comprise as a high performance DVR up to 8 channel, 240 frames.

1.2 Block diagram



2. Functional description

2.1 Video

1) Video Input 4CH

2) Video input signal: NTSC, PAL(But, Not use to mix NTSC, PAL cameras)

3) Support monochrome, color

4) Capture resolution

- NTSC : 640*480, 640*240, 320*240
- PAL : 768*576, 768*288, 384*288

5) Total Capture frame

- NTSC : 120 fps(frames per second)
- PAL : 100 fps

6) Capture frame per Channel

- NTSC : 30 fps
- PAL : 25 fps

7) TV-out

- 1 channel(Switching)

2.2 Audio

1) Audio input 4 channels

2) Level : mono line, Mic

3) Quality

- 8, 16bit/sample A/D
- 4, 5.6, 8, 11.2, 16, 22.4, 32, 44.8kHz sampling

2.3 Control Extension&RS485 (Refer to ConExt1 Option board)

1) Digital Input 4 channels

2) Alarm Output 4 channels

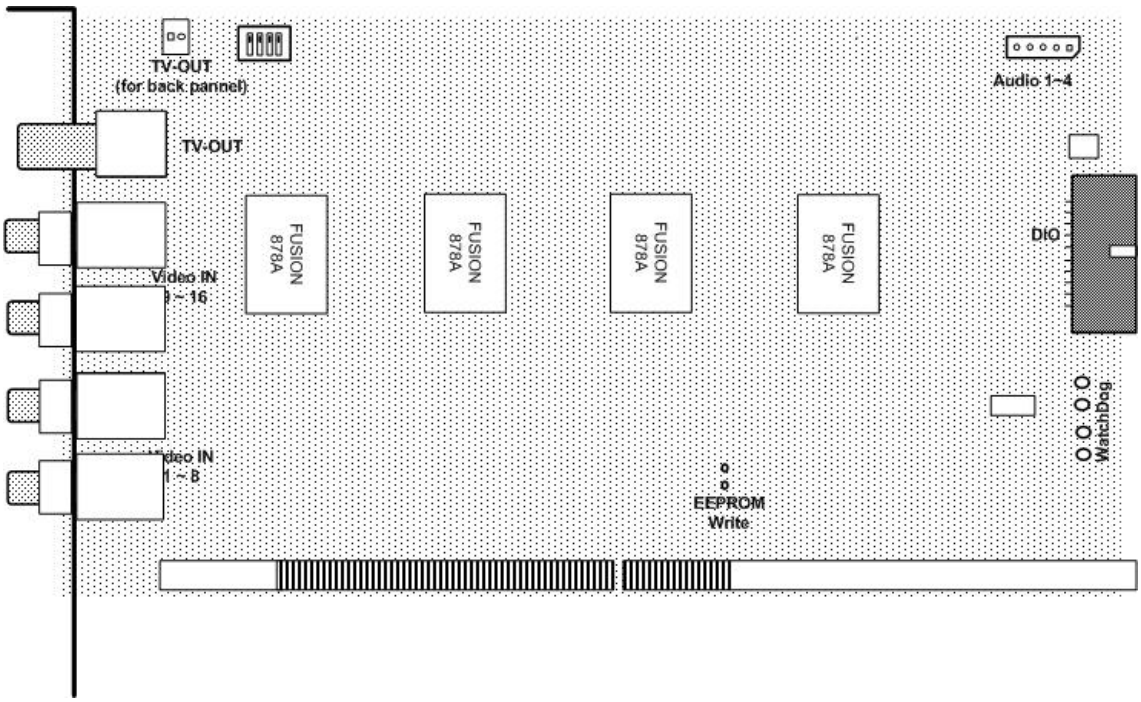
3) RS-232 to Rs-422/485 Port

2.4 Etc.

1) Watch-Dog : Drive by Relay

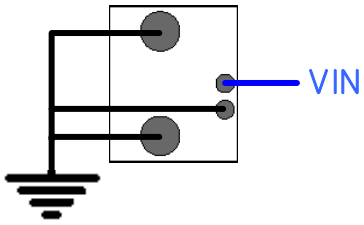
3. Hardware installation

3.1 installation of capture card

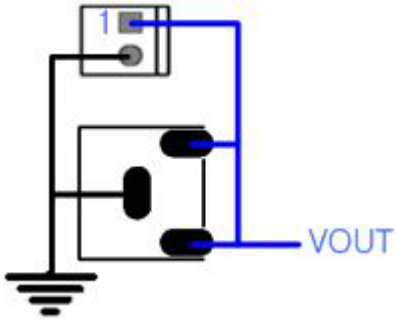


3.2 Connector pin-out

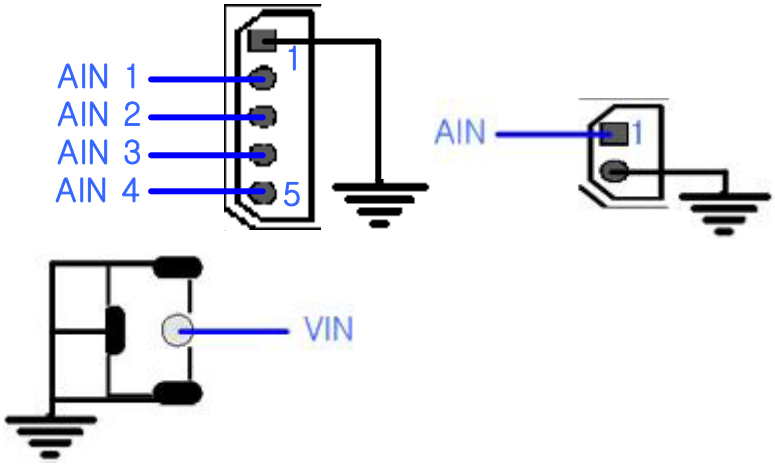
1) Video Input(VIN)



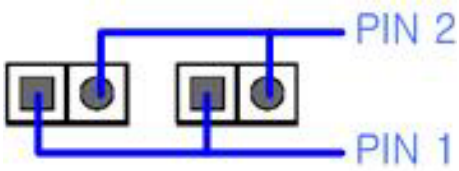
2) Video Output(VOUT): RCA, 2pin connector



3) Audio Input(AIN)



4) Reset(WATCHDOG): 2 pin connector, one is a terminal of reset, the other One is a terminal of reset that is connected on main board. There are no polarity.



5) Extension connector : Extension card connects to 20 pin connector .

4. Electrical specifications

Recommended operating conditions

Parameter		Min	Type	Max	Units
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	VP-P
Ambient operating temperature		0		65	°C
Ambient operating humidity		0		90	%

Power supply current requirements		
Parameter	Max	Units
Power supply +5V	1,080	mA
Power supply -12V	55	mA

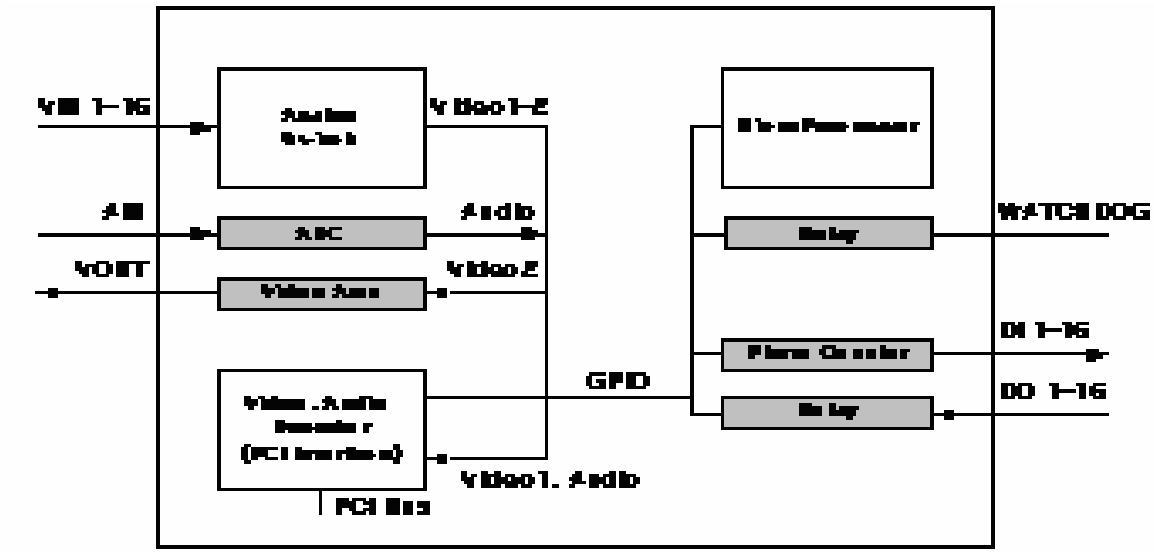
GVC1630

1. Product overview

1.1 Functional Overview

This product is, a PCI interface board, have the function about Video & Audio Capture, and Digital I/O control. BT878A Chipset, one integrated circuit that includes Video decode, audio decode, GPIO, PCI Controller is inserted, have a great performance against price. Because the decoding data is transmitted directly to the system memory through PCI BUS, There are not only do not need the memory on board but also is not almost the load in CPU. The external Video signal support NTSC, PAL, SECAM, is able to capture the various resolutions. Also, The board is inserted he extra Micro Processor, not only assist to improve the system stability because of performing the Watch dog function but also prevent the outrage of reproduction as inserting the security code.

1.2 block diagram



2. Functional description

2.1 Video

1) Video Input 16CH

2) Video input signal: NTSC, PAL(But, Not use to mix NTSC, PAL cameras)

3) Support monochrome, color

4) Capture resolution

- NTSC : 640*480, 640*240, 320*240
- PAL : 768*576, 768*288, 384*288

5) Total Capture frame

- NTSC : 30 fps(frames per second)
- PAL : 25 fps

6) Capture frame per Channel

- NTSC : 1.8 - 30 fps
- PAL : 1.5 - 25 fps

7) TV-out

- 1 channel(Switching)

2.2 Audio

1) Audio input 1 channel

2) Level : mono line, Mic

3) Quality

- 8, 16bit/sample A/D
- 4, 5.6, 8, 11.2, 16, 22.4, 32, 44.8kHz sampling

2.3 Control Extension & RS485 (Refer to ConExt1 , ConExt3, ConExt4 Option board)

1) Digital Input 16 channels

2) Alarm Output 4(16) channels

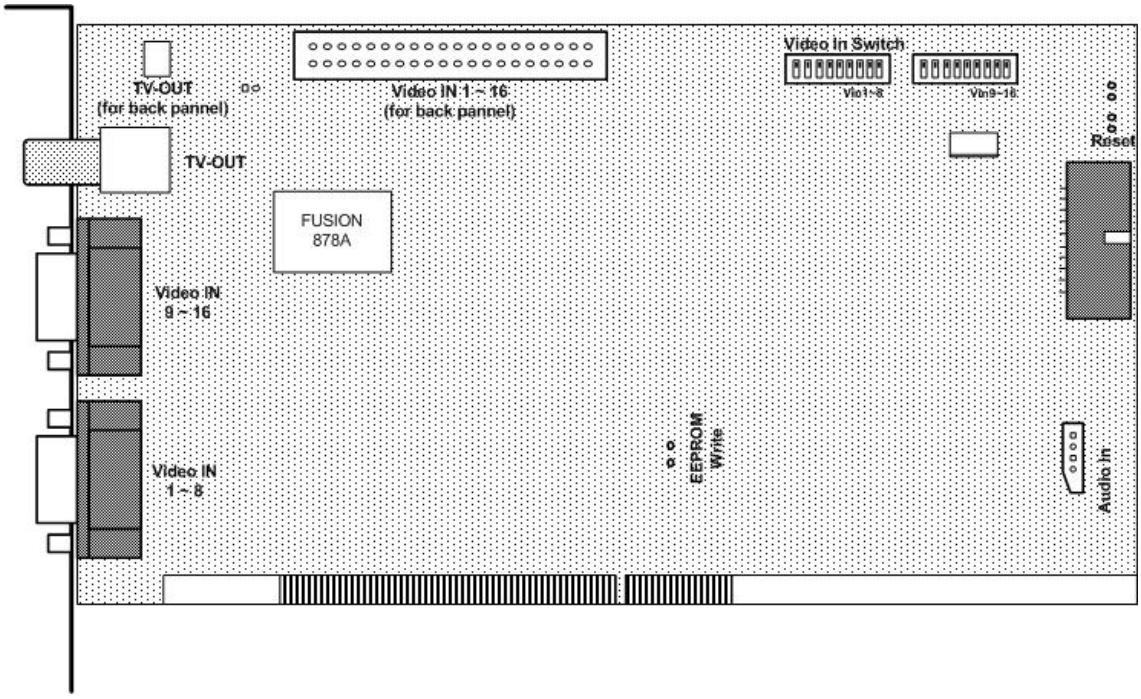
3) RS-232 to Rs-422/485 Port

2.4 Etc

1) Watch-Dog : Drive the relay

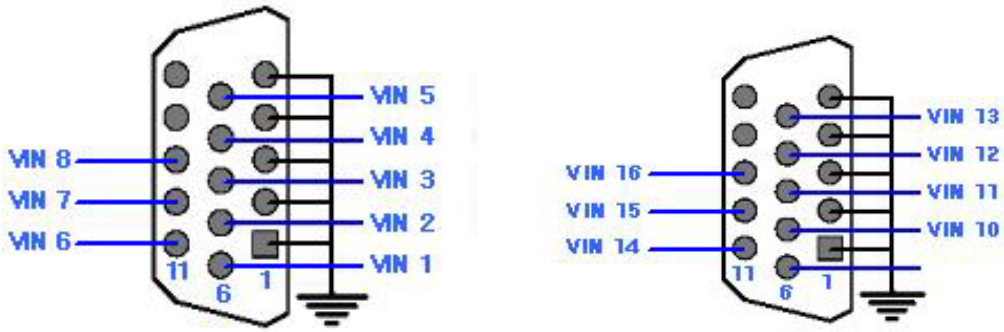
3. Hardware installation

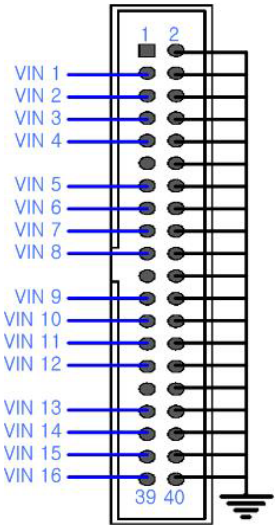
3.1 installation of capture card



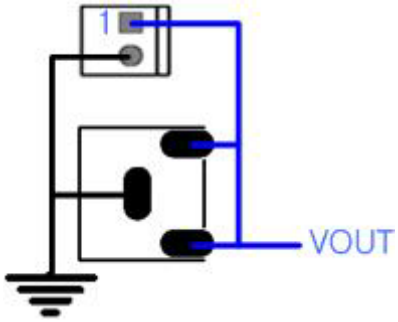
3.2 Connector Pin Assign

1) Video Input(VIN): Use the connector 15 pin DSUB female and 40 pin(for back panel). 15 DSUB female connect with 15pin DSUB male RCA or BNC Video extension cable.

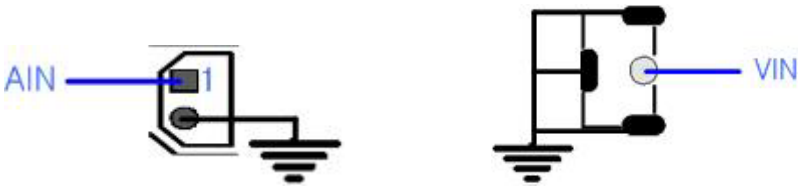




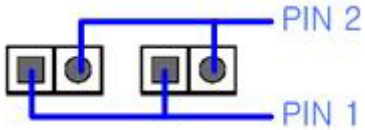
2) Video Output(VOUT): RCA, 2pin connector



3) Audio Input(AIN): Only use the AIN 4 of extension card.



4) Reset(WATCHDOG): 2 pin connector, one is a terminal of reset, the other one is a terminal of reset that is connected on the main board. There are no polarity.



5) Extension connector : Extension card connects to 20 pin connector .

DI 4CH, DO 4CH Connecting / enable to extend to DI 16CH with ConExt3 (DI 12CH)

/ enable to extend to DO 16CH with ConExt4 (DO 12CH)

4. Electrical specifications

Recommended operating conditions

Parameter		Min	Type	Max	Units
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	VP-P
Ambient operating temperature		0		65	°C
Ambient operating humidity		0		90	%

Power supply current requirements		
Parameter	Max	Units
Power supply +5V	1,080	mA
Power supply -12V	55	mA

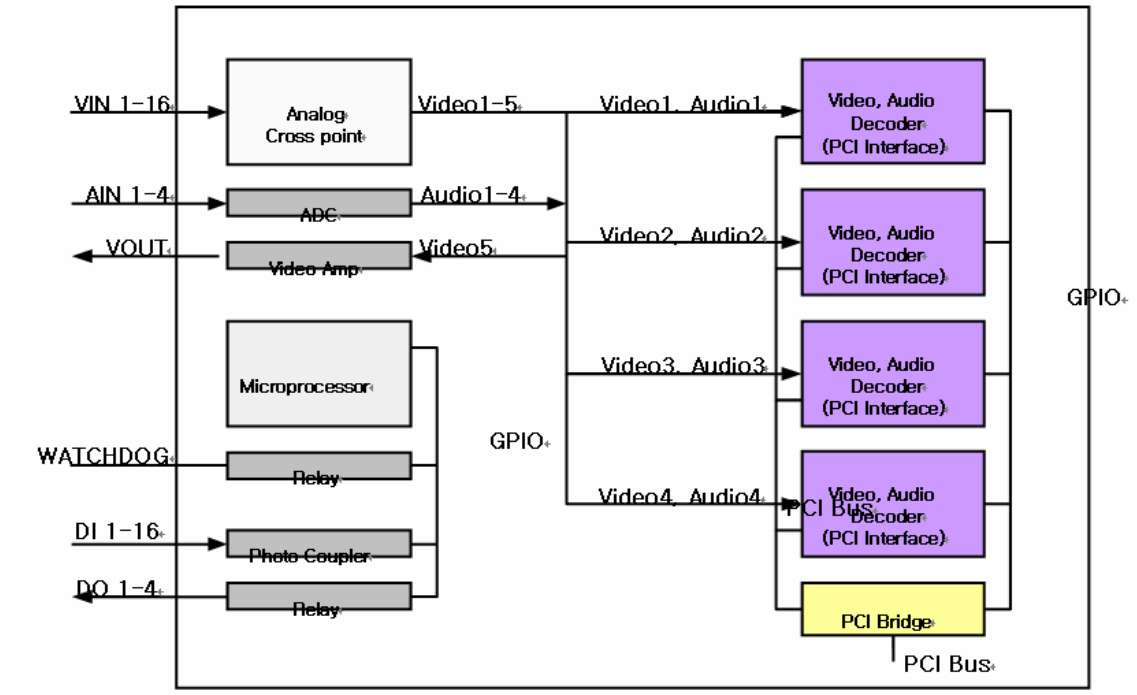
GVC1660

1. Product overview

1.1 Functional Overview

This product is, a PCI interface board, have the function about Video & Audio Capture, and Digital I/O control. BT878A Chipset, one integrated circuit that include Video decode, audio decode, GPIO, PCI Controller is inserted, have a great performance against price. Because the decoding data is transmitted directly to the system memory through PCI BUS, There are not only do not need the memory on board but also is not almost the load in CPU. The external Video signal support NTSC, PAL, SECAM, is able to capture the various resolution. You can use to combine the overlay card, so be composite a 480fps overlay, a 60 capture. Also, The board is inserted he extra Micro Processor, not only assist to improve the system stability because of performing the Watch dog function but also prevent the outrage of reproduction as inserting the security code.

1.2 Block Diagram



2. Functional description

2.1 Video

1) Video Input 16CH

2) Video input signal: NTSC, PAL(But, Not use to mix NTSC, PAL cameras)

3) Support monochrome, color

4) Capture resolution

- NTSC : 640*480, 640*240, 320*240

- PAL : 768*576, 768*288, 384*288

5) Total Capture frame

- NTSC : 60 fps(frames per second)

- PAL : 50 fps

6) Capture frame per Channel

- NTSC : 3.75 - 30 fps

- PAL : 3.1 - 25 fps

7) TV-out

- 1 channel(Switching)

2.2 Audio

1) Audio input 2 channel

2) Level : mono line, Mic

3) Quality

- 8, 16bit/sample A/D

- 4, 5.6, 8, 11.2, 16, 22.4, 32, 44.8kHz sampling

2.3 Control Extension & RS485 (Refer to ConExt1, ConExt3, ConExt4 Option board)

1) Digital Input 16 channel

2) Alarm Output 4(16) channel

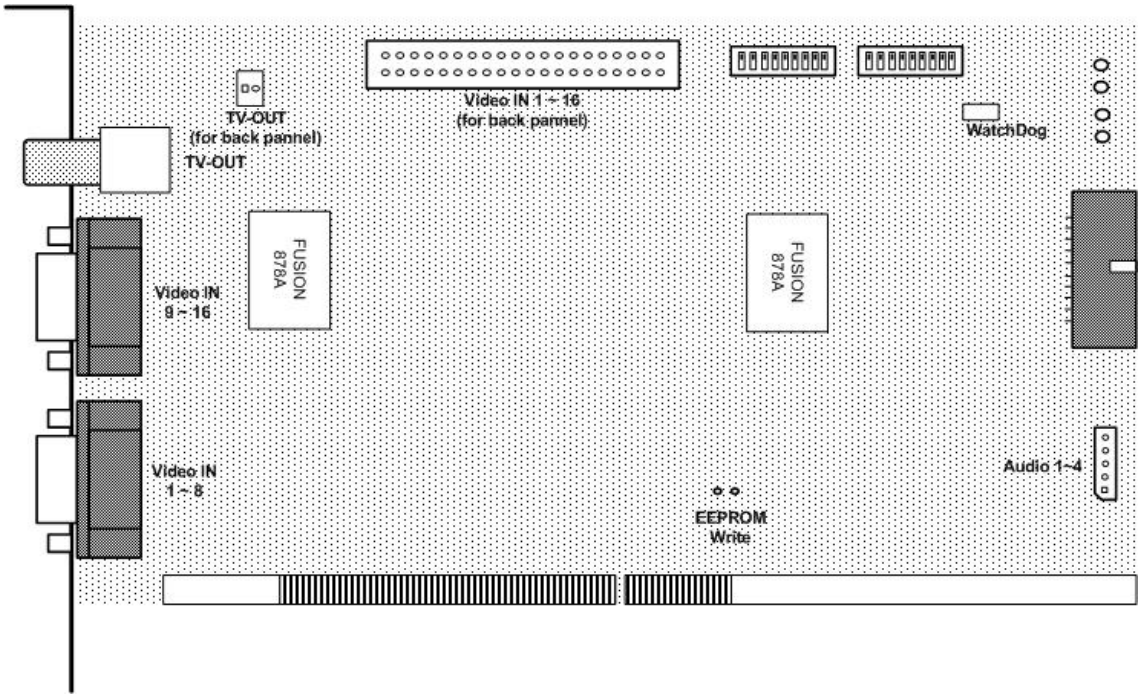
3) RS-232 to Rs-422/485 Port

2.4 Etc

- Watchdog : Drive the relay

3. Hardware installation

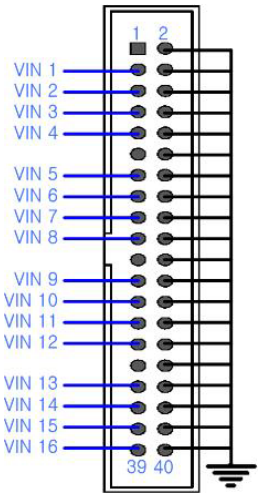
3.1 Installation of capture card



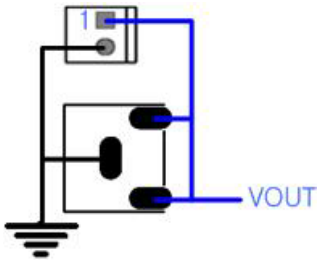
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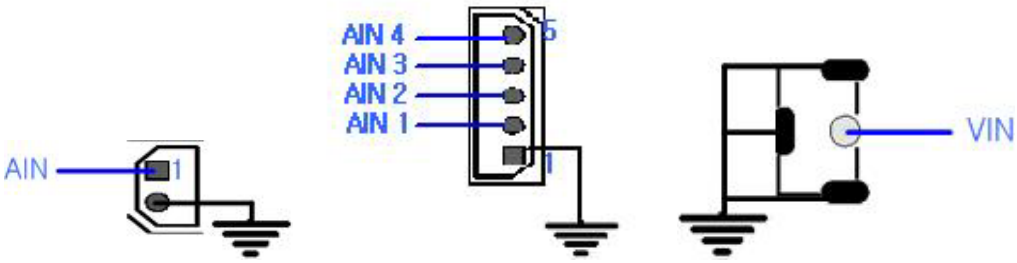




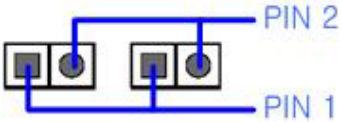
2) Video Output(VOUT): RCA, 2pin connector



3) Audio Input(AIN): Only use the AIN 4 of extension card.



4) Reset(Watch-Dog): 2 pin connector, one is a terminal of reset, the other one is a terminal of reset that is connected on the main board. There are no polarity.



5) Extension connector : Extension card connects to 20 pin connector .

DI 4CH, DO 4CH Connecting / enable to extend to DI 16CH with ConExt3 (DI 12CH)

/ enable to extend to DO 16CH with ConExt4 (DO12CH)

4. Electrical specifications

Recommended operating conditions

Parameter		Min	Type	Max	Units
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	VP-P
Ambient operating temperature		0		65	°C
Ambient operating humidity		0		90	%

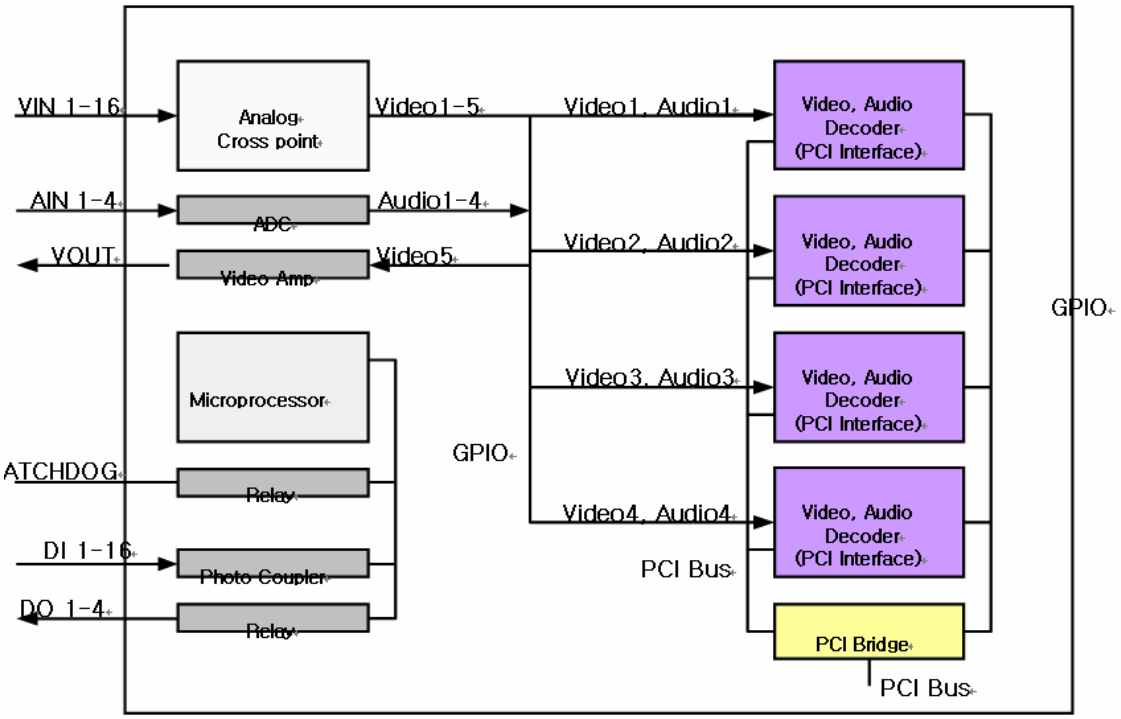
Power supply current requirements		
Parameter	Max	Units
Power supply +5V	1,080	mA
Power supply -12V	55	mA

1. Product overview

1.1 Functional Overview

This product is, a PCI interface board, have the function about Video & Audio Capture, and Digital I/O control. BT878A Chipset, one integrated circuit that include Video decode, audio decode, GPIO, PCI Controller is inserted, have a great performance against price. Because the decoding data is transmitted directly to the system memory through PCI BUS, There are not only do not need the memory on board but also is not almost the load in CPU. The external Video signal support NTSC, PAL, SECAM, is able to capture the various resolution. You can use to combine the overlay card, so be composite a 480fps overlay, a 120 capture. Also, The board is inserted he extra Micro Processor, not only assist to improve the system stability because of performing the Watch dog function but also prevent the outrage of reproduction as inserting the security code.

1.2 Block Diagram



2. Functional description

2.1 Video

1) Video Input 16CH

2) Video input signal: NTSC, PAL(But, Not use to mix NTSC, PAL cameras)

3) Support monochrome, color

4) Capture resolution

- NTSC : 640*480, 640*240, 320*240

- PAL : 768*576, 768*288, 384*288

5) Total Capture frame

- NTSC : 120 fps(frames per second)

- PAL : 100 fps

6) Capture frame per Channel

- NTSC : 7.5 - 30 fps

- PAL : 6.25 - 25 fps

7) TV-out

- 1 channel(Switching)

2.2 Audio

1) Audio input 4 channel

2) Level : mono line, Mic

3) Quality

- 8, 16bit/sample A/D

- 4, 5.6, 8, 11.2, 16, 22.4, 32, 44.8kHz sampling

2.3 Control Extension , RS485 (Refer to ConExt1 ,ConExt3 ,ConExt4 Option board)

1) Digital Input 16 channel

2) Alarm Output 4(16) channel

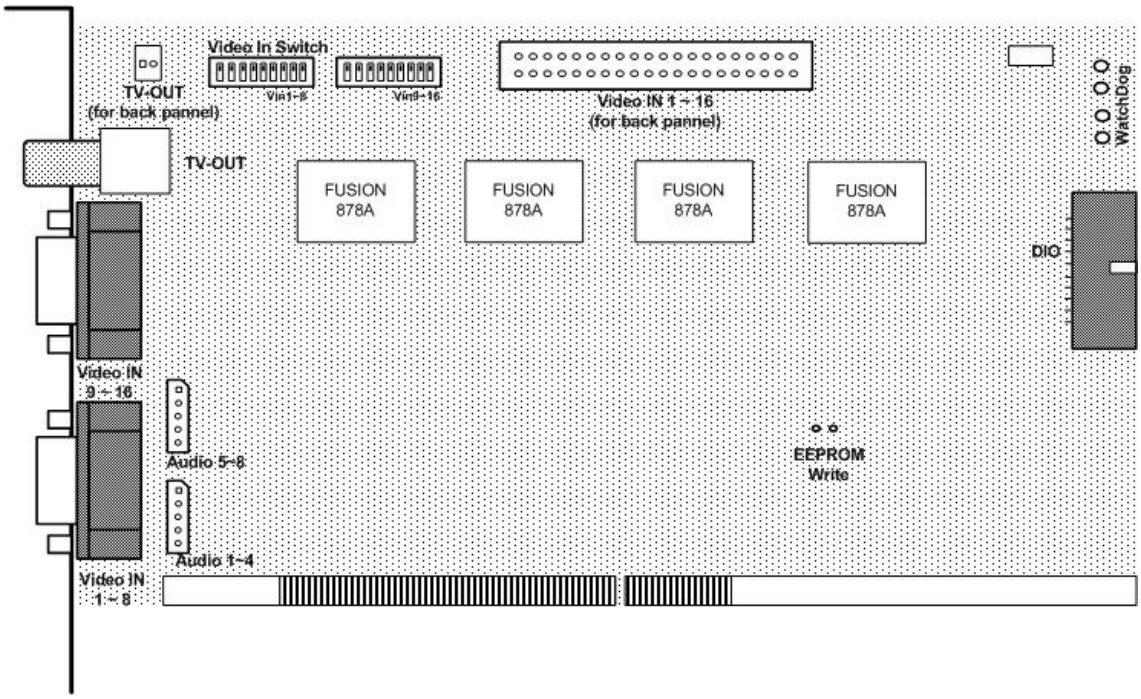
3) RS-232 to Rs-422/485 Port

2.4 Etc

- Watchdog : Drive the relay

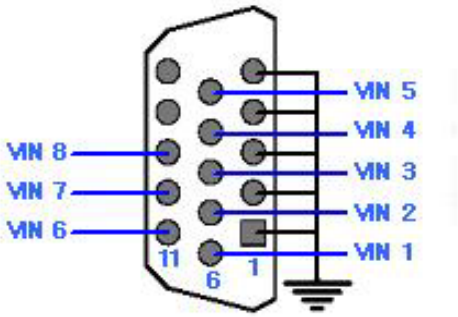
3. Hardware installation

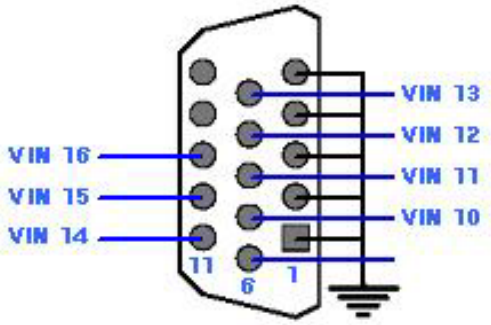
3.1 Installation of capture card

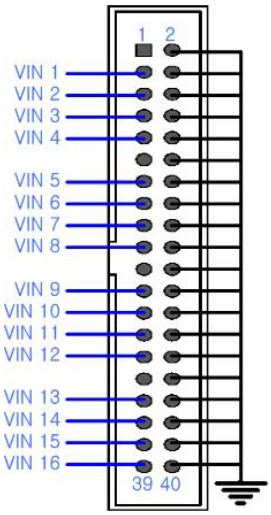


3.2 Connector Pin Assign

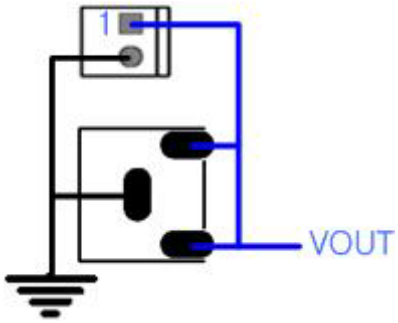
1) Video Input(VIN): Use the connector 15 pin DSUB female and 40 pin(for back panel). 15 DSUB female connect with 15pin DSUB male RCA or BNC video extension cable.



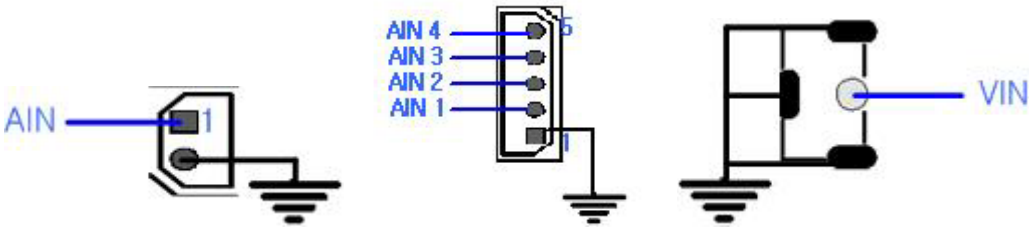




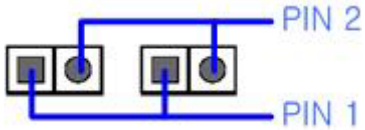
2) Video Output(VOUT): RCA, 2pin connector



3) Audio Input(AIN): Only use the AIN 4 of extension card.



4) Reset(WATCHDOG): 2 pin connector, one is a terminal of reset, the other one is a terminal of reset that is connected on the main board. There are no polarity.



5) Extension connector : Extension card connects to 20 pin connector .

DI 4CH, DO 4CH Connecting / enable to extend to DI 16CH with ConExt3 (DI 12CH)

/ enable to extend to DO 16CH with ConExt4 (DO 12CH)

4. Electrical specifications

Recommended operating conditions

Parameter		Min	Type	Max	Units
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	VP-P
Ambient operating temperature		0		65	°C
Ambient operating humidity		0		90	%

Power supply current requirements		
Parameter	Max	Units
Power supply +5V	1,080	mA
Power supply -12V	55	mA

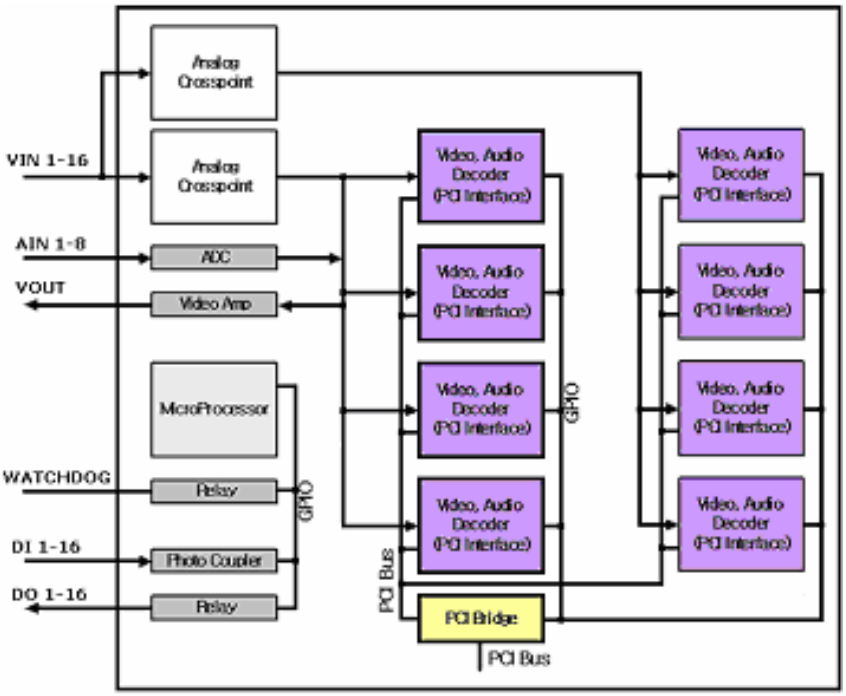
GVC16240

1. Product overview

1.1 Functional Overview

This product is, a PCI interface board, have the function about Video & Audio Capture, and Digital I/O control. BT878A Chipset, one integrated circuit that include Video decode, audio decode, GPIO, PCI Controller is inserted, have a great performance against price. Because the decoding data is transmitted directly to the system memory through PCI BUS, There are not only do not need the memory on board but also is not almost the load in CPU. The external Video signal support NTSC, PAL, SECAM, is able to capture the various resolution. You can use to combine the overlay card, so be composite a 480fps overlay, a 240 capture. Also, The board is inserted he extra Micro Processor, not only assist to improve the system stability because of performing the Watch dog function but also prevent the outrage of reproduction as inserting the security code.

1.2 Block Diagram



2. Functional description

2.1 Video

1) Video Input 16CH

2) Video input signal: NTSC, PAL(But, Not use to mix NTSC, PAL cameras)

3) Support monochrome, color

4) Capture resolution

- NTSC : 640*480, 640*240, 320*240

- PAL : 768*576, 768*288, 384*288

5) Total Capture frame

- NTSC : 240 fps(frames per second)

- PAL : 200 fps

6) Capture frame per Channel

- NTSC : 15 - 30 fps

- PAL : 12.5 - 25 fps

7) TV-out

- 1 channel(Switching)

2.2 Audio

1) Audio input 8 channel

2) Level : mono line, Mic

3) Quality

- 8, 16bit/sample A/D

- 4, 5.6, 8, 11.2, 16, 22.4, 32, 44.8kHz sampling

2.3 Control Extension & RS485 (Refer to ConExt1, ConExt3, ConExt4 Option board)

1) Digital Input 16 channel

2) Alarm Output 4(16) channel

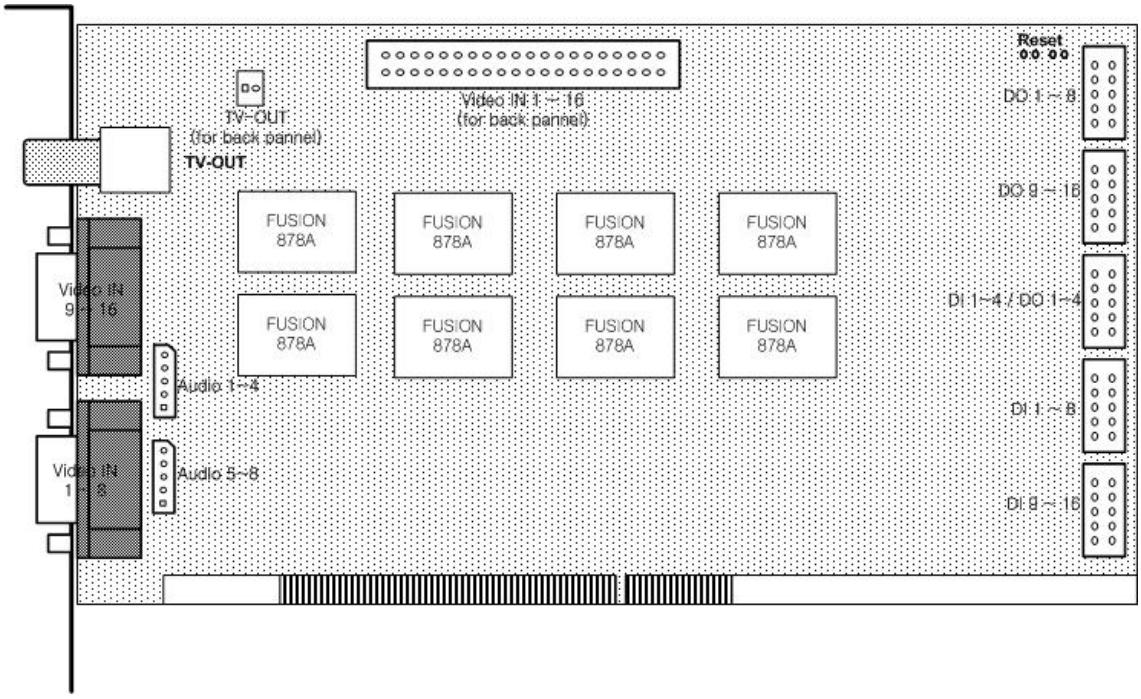
3) RS-232 to Rs-422/485 Port

2.4 Etc

- Watch-Dog : Drive the relay

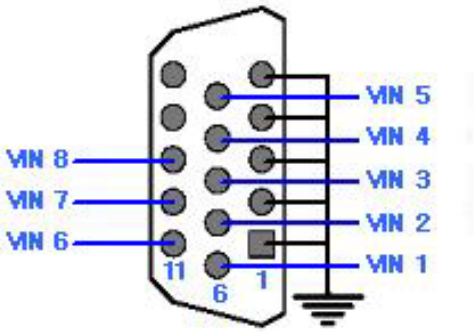
3. Hardware installation

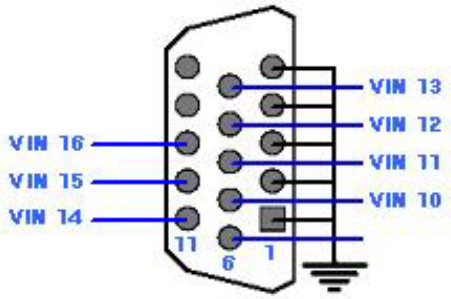
3.1 Installation of capture card

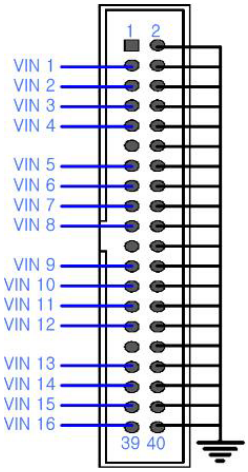


3.2 Connector Pin Assign

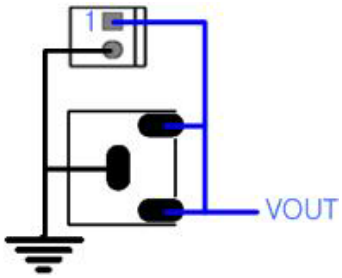
1) Video Input(VIN): Use the connector 15 pin DSUB female and 40 pin(for back panel). 15 DSUB female connect with 15pin DSUB male RCA or BNC video extension cable.



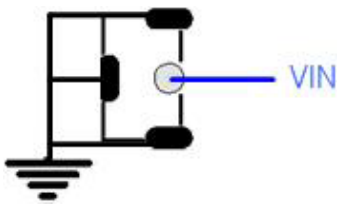


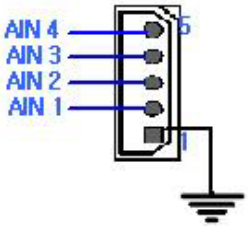


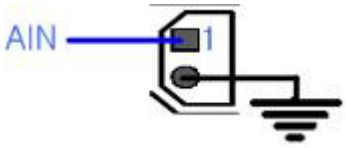
2) Video Output(VOUT): RCA, 2pin connector



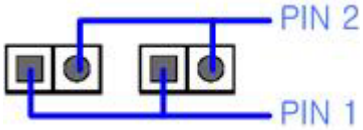
3) Audio Input(AIN): Only use the AIN 4 of extension card.







4) Reset(WATCHDOG): 2 pin connector, one is a terminal of reset, the other one is a terminal of reset that is connected on the main board. There are no polarity.



5) Extension connector : Extension card connects to 20 pin connector .

DI 4CH, DO 4CH Connecting / enable to extend to DI 16CH with ConExt3 (DI 12CH)

/ enable to extend to DO 16CH with ConExt4 (DO 12CH)

4. Electrical specifications

Recommended operating conditions

Parameter		Min	Type	Max	Units
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	VP-P
Ambient operating temperature		0		65	°C
Ambient operating humidity		0		90	%

Power supply current requirements		
Parameter	Max	Units
Power supply +5V	1,080	mA
Power supply -12V	55	mA

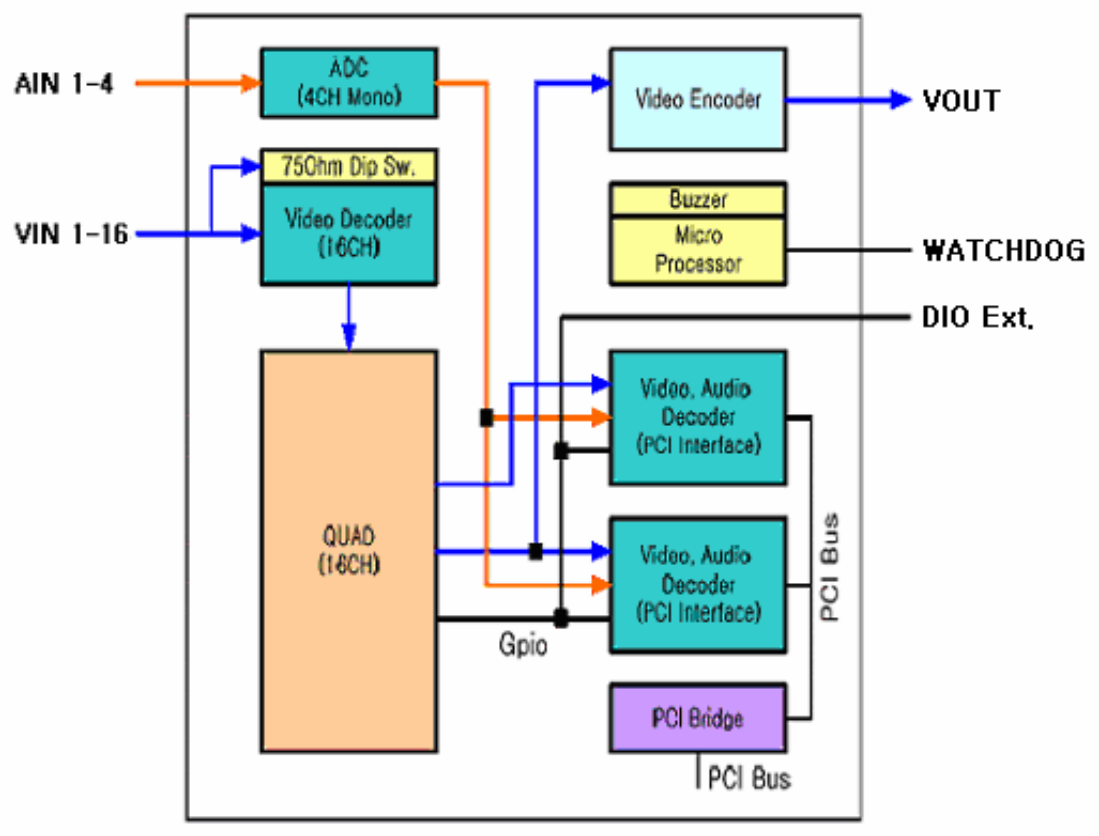
GVC16120R

1. Product Overview

1.1 Overview

16120R is a video capture card for PC based DVR and supports audio capture, real-time display, digital input, digital output, and watchdog function as well as video capture. Video/audio data which is input through **16120R** 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: 16

  Input : Color Camera (NTSC, PAL), Black and White Camera

(Connections : 15pin DSUB Cable 2EA, 40pin connector

(Recommended Signal Range: 0.25V ~ 1.4V (p-p)

(AGC function may not work when the signal range is above 1.4V.)

(Recommended Signal Range for Video Capture: 0.125V ~ 2.5V(p-p)

- Video Capture

Classification	NTSC	PAL
Capture Resolution	720*480, 720*240, 704*480, 704*240, 640*480, 640*240, 320*240, 352*240, 320*240	720*576, 720*288, 704*576, 704*288, 640*480, 640*240, 360*288, 352*288, 320*240
Capture Rate	Max 120 FPS	Max 100 FPS
Capture Rate per Channel	7 FPS ~ 8 FPS	6 FPS ~ 7 FPS

- Video Output

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

2.2 Audio

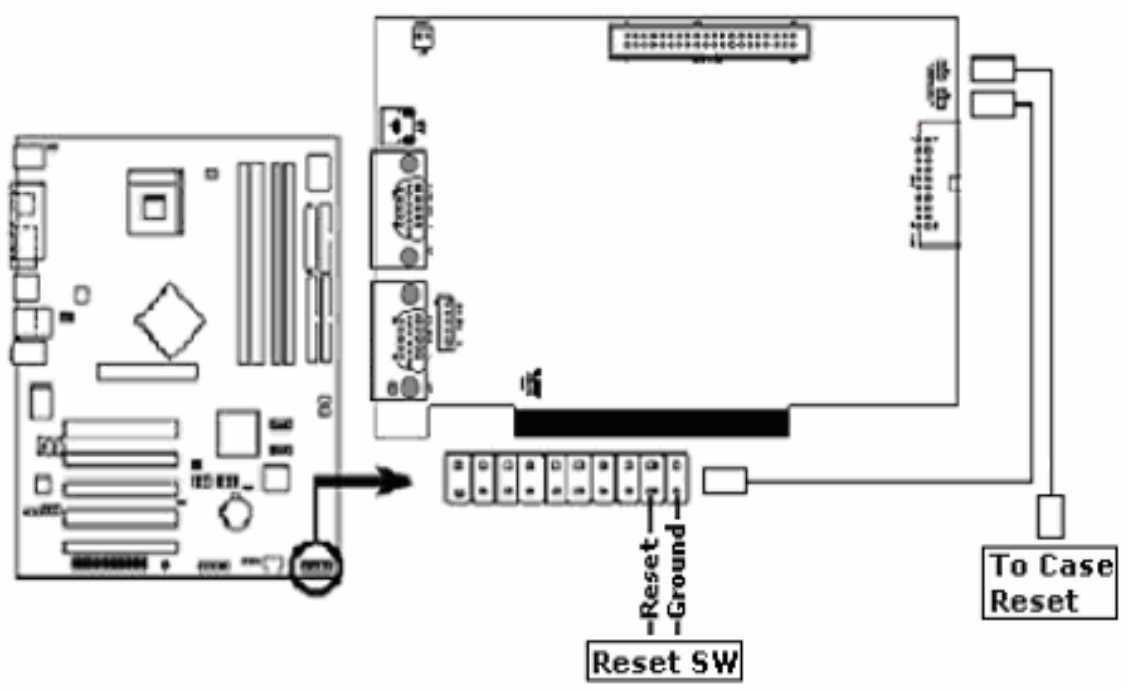
- Audio Input, Capture

- Number of Channel : 4
- Input Type : Microphone, Line(mono)
- Recommended Signal Range : 1V(p-p)
- Sampling Quality
  - ► 8, 16bit/sample (A/D Convert Sampling)
  - ► 4, 8, 16, 32 kHz Sampling

2.3 Watchdog

Watchdog works by relay switch and two connectors (J1, J2) are respectively a 2pin Pin-Header. 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.
The interval of watchdog operation is set by software.

2.3.1 Watchdog Connector Connection Diagram

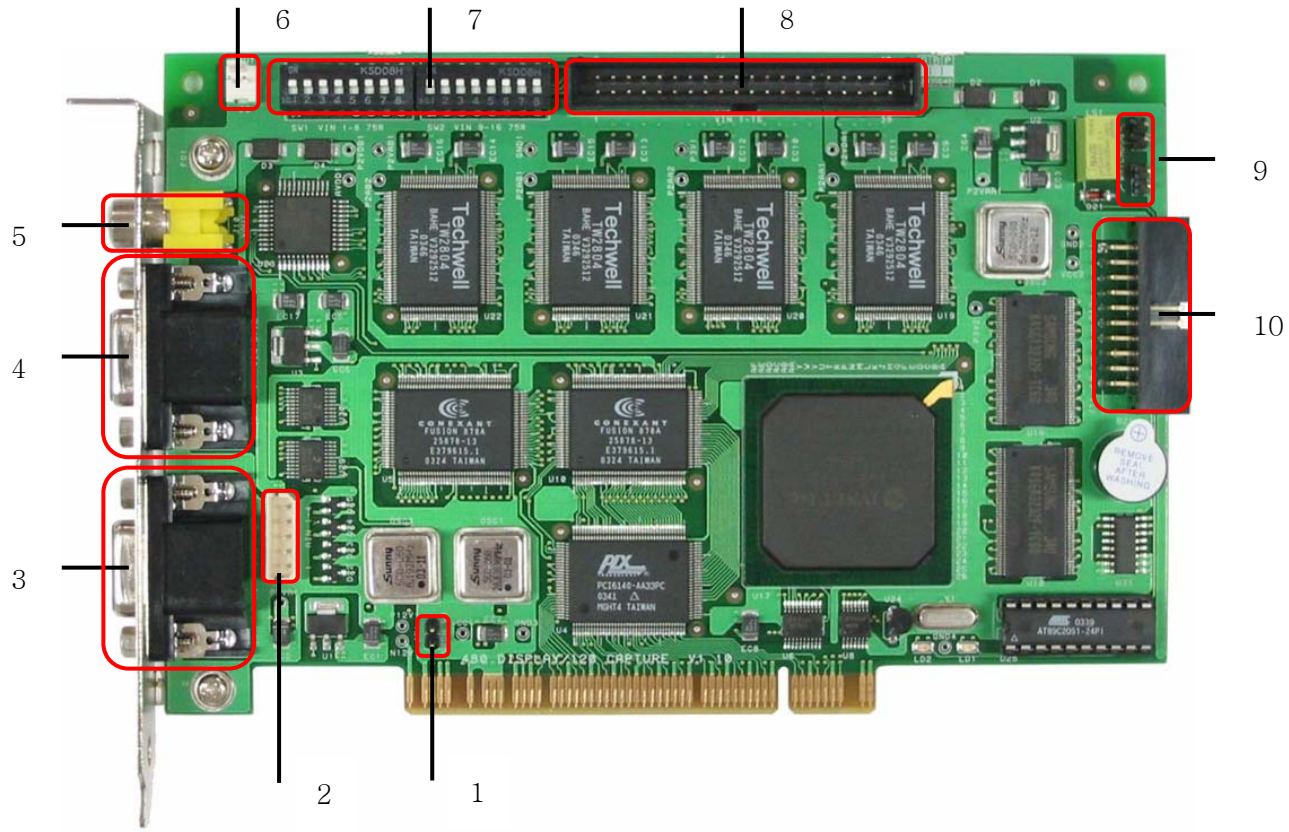


2.4 ETC

- PCB : 8-Layer, PCI

3. Hardware Installation

3.1 16120R Components

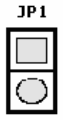


1. JP1 : 2Pin Pin-Header
2. AIN 1-4 (J5) : 5Pin Molex Box Connector for Audio Signal
3. VIN 1-8 (J7) : DSUB-15 Female Connector
4. VIN 9-16 (J8) : DSUB-15 Female Connector
5. VOUT (J10) : External Video Out RCA Jack
6. VOUT (J9) : External Video Out Molex 2Pin Connector
7. SW1, SW2 : 16Pin DIP Switch x 2
8. VIN 1-16 (J6) : 40Pin Box Connector for Video Signal
9. WATCHDOG (J1, J2) : 2Pin Pin-Header x 2
10. DIO (J11) : 20Pin Box Connector

3.2 Capture Card Component Description

1) 2Pin Pin-Header**(JP1)**

This is used to enable EEPROM writing. To do data writing on EEPROM, put jumper into Pin-Header. If user does not need to write data on EEPROM, set the jumper off before using the card.

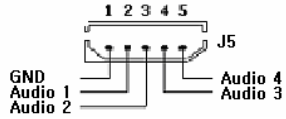


(**Jumper ON** : EPROM Writing Enable, **Jumper OFF** : EPROM Writing Disable)

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

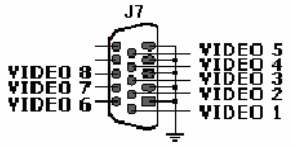
This is a connector for audio input 1-4 and connected to J5 of **AudExt2 Card**.

(AudExt2 Card is option.)



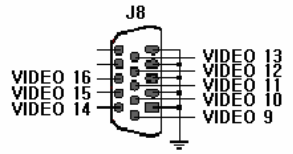
3) VIN 1-8 DSUB-15 Female Connector(J7)

This is a video input connector. Connect this to camera output port with the provided DSUB cable.



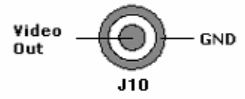
4) VIN 9-16 DSUB-15 Female Connector(J8)

This is a video input connector. Connect this to camera output port with the provided DSUB cable.



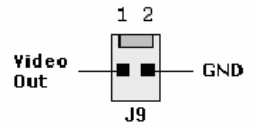
5)VOUT RCA Jack(J10)

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



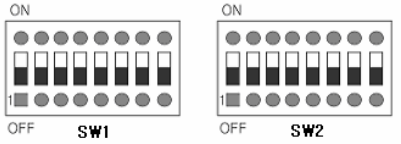
6) VOUT Molex 2Pin Connector(J9)

This is a video out Molex 2Pin Connector.



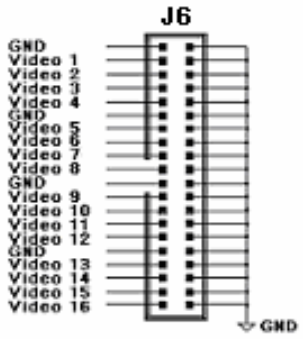
7)Termination Resistor 16Pin DIP Switch (SW1, SW2)

This switch is used to choose termination resistor. Please set switch 'ON' to set to the termination resistor before using the card.



8) VIN 1-16 40Pin Box Connector(J6)

This is a connector for video signal input. To prevent misconnection, the connector was grooved.



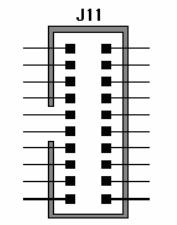
9) WATCHDOG 2Pin Pin-Header **x 2(J1, J2)**

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

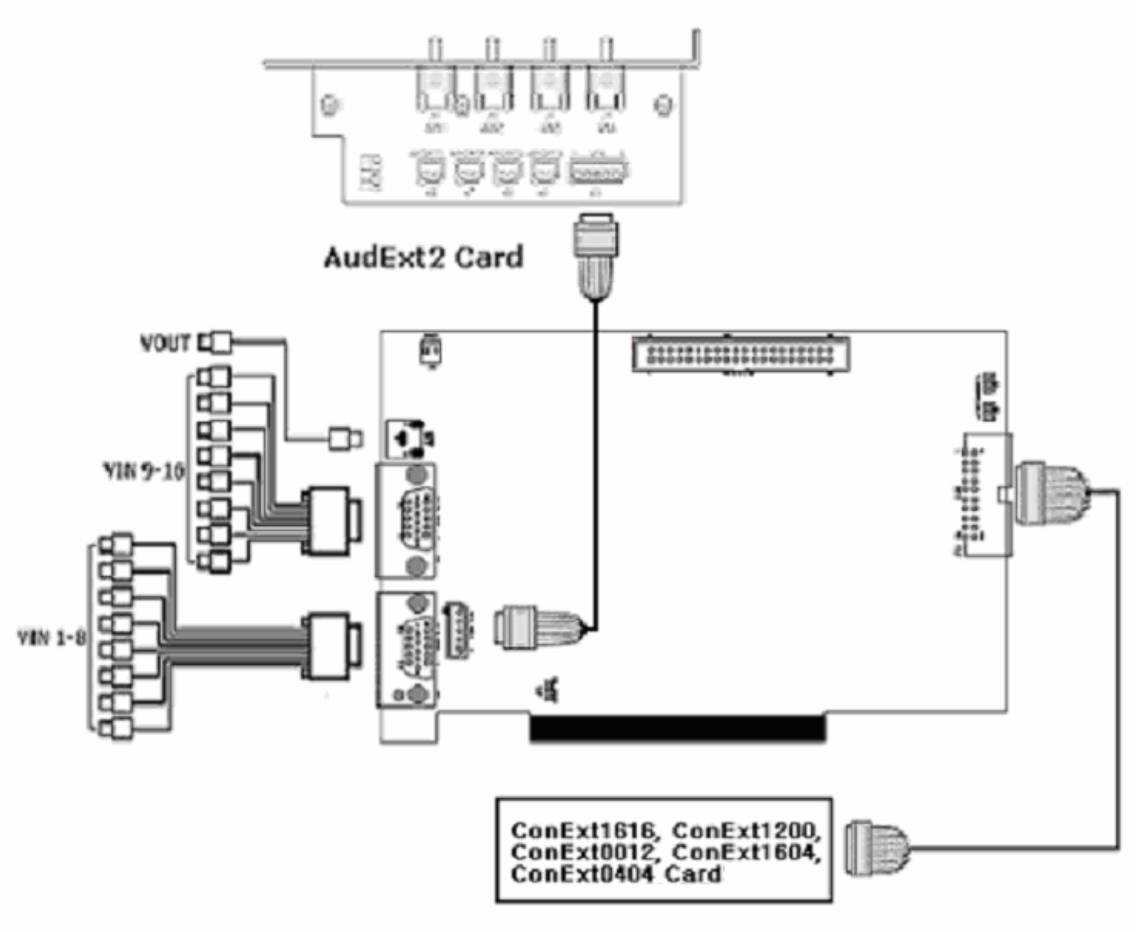


10)DIO 20Pin Box Connector(J11)

This connector is used to test DI/DO and connected to extension card. (Please refer to Extension Card Manual for more details.)



3.3 Connection with Peripheral



4. Electrical Specifications

4.1 Recommended Operating Conditions

Parameter		Min	Typ	Max	Units
Power supply +3.3V		3.15	3.3	3.45	V
Power supply +5V		4.75	5	5.25	V
Video Input Range	Peak to peak amplitude	0.25	1	2	V
	Sync Amplitude	72	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 +3.3V	1,755	mA
Power supply +5V	902	mA

5. 16120R Installation Guide

5.1. Components

- **16120R** Card
- 2PIN Cable (for watchdog)

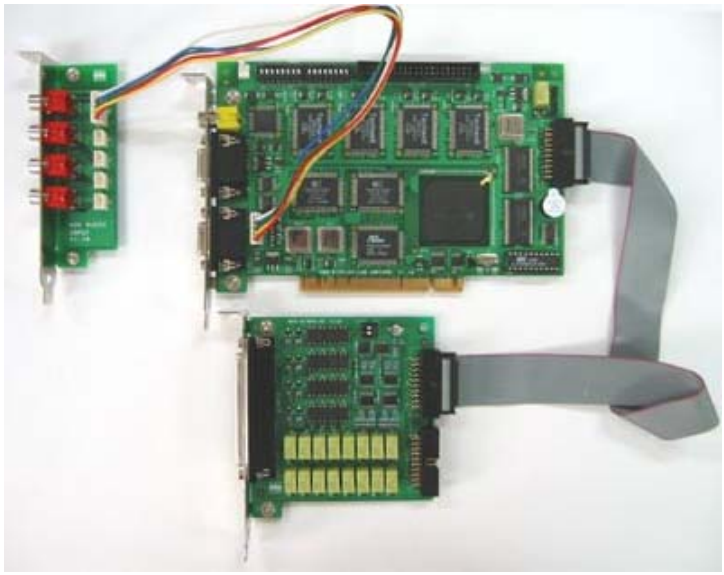
5.2. Option Components

- AudExt2 Card
- ConExt1 Card
- ConExt3 Card
- ConExt4 Card
- PTZExt2 Card

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

5.3. Hardware Installation

(1) As the below, connect **16120R** Card to AudExt2 and ConExt.1616



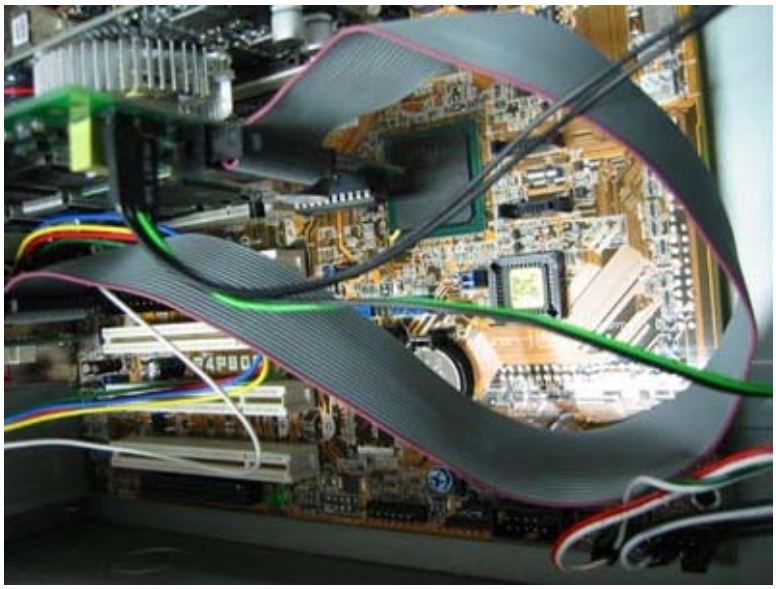
<AudExt2 and ConExt1616 Connected to 16120R>

(2) Insert **16120R** card 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.



<16120R, AudExt2 and ConExt1616 Inserted into PCI Slot>

(3) Connect a pin of watchdog 2pin connector of **16120R** 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 **16120R** card finished.



<Watchdog Pin Connected to Reset Pin of Mother Board>

5.4. Cable Connection

(1) DSUB 15pin Cable

DSUB 15pin Cable is used for video input (J7, J8) of **16120R** Card.

Connect it as the below picture.

VIN1~VIN8 Terminal(J7)

-Video In 1~8 Channel

VIN9~VIN16 Terminal(J8)

-Video In 9~16 Channel

(2) External Monitor Output Terminal (J10)

External monitor output port (RCA jack) is connected to external monitor.

Note

The video input port of DSUB 15pin is BNC type. To use RCA type, use a BNC to RCA Converter.

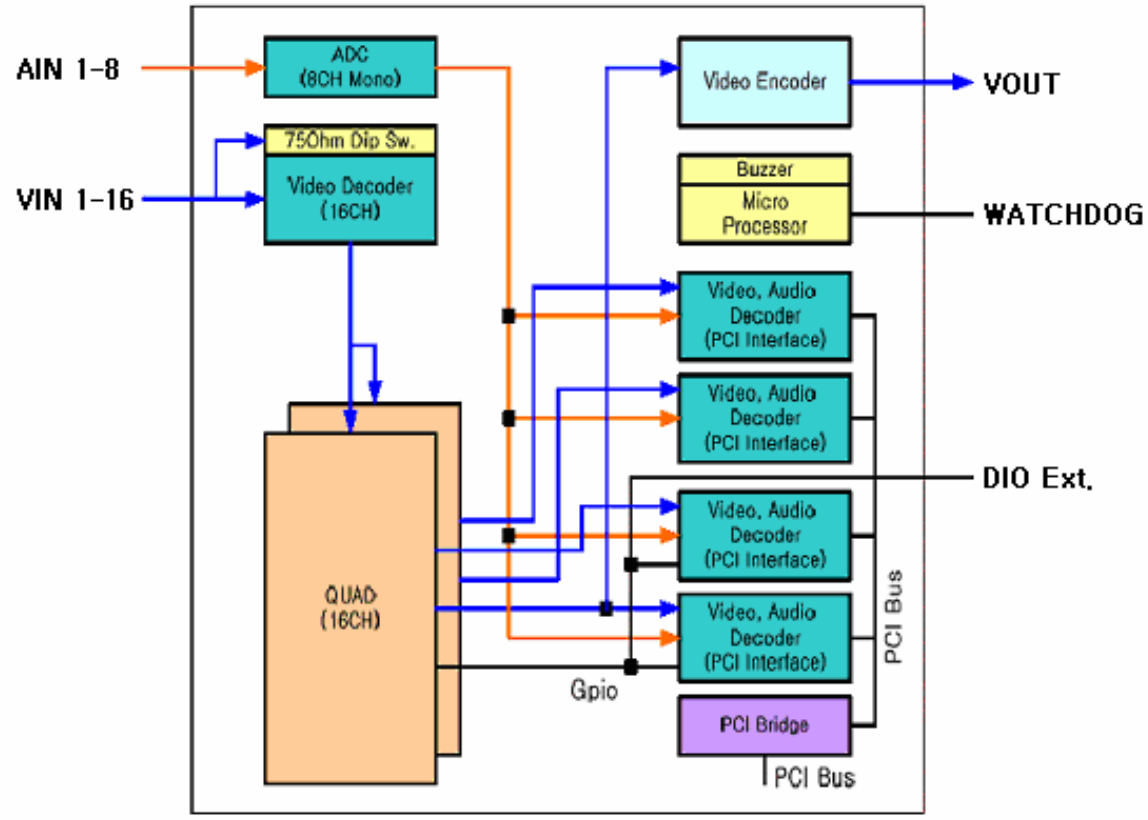
GVC16240R

1. Product Overview

1.1 Overview

16240R is a video capture card for PC based DVR and supports audio capture, real-time display, digital input, digital output, and watchdog function as well as video capture. Video/audio data which is input through 16240R 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: 16

  Input : Color Camera (NTSC, PAL), Black and White Camera

(Connections : 15pin DSUB Cable 2EA, 40pin connector

(Recommended Signal Range: 0.25V ~ 1.4V (p-p)

  (AGC function may not work when the signal range is above 1.4V.)

(Recommended Signal Range for Video Capture: 0.125V ~ 2.5V(p-p)

- Video Capture

Classification	**NTSC**	**PAL**
Capture Resolution	640*480, 640*240, 320*240	768*576, 768*288, 720*576, 720*288, 640*480, 640*240, 384*288, 360*288, 320*240
Capture Rate	Max 240 FPS	Max 200 FPS
Capture Rate per Channel	15 FPS ~ 30 FPS	12.5 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

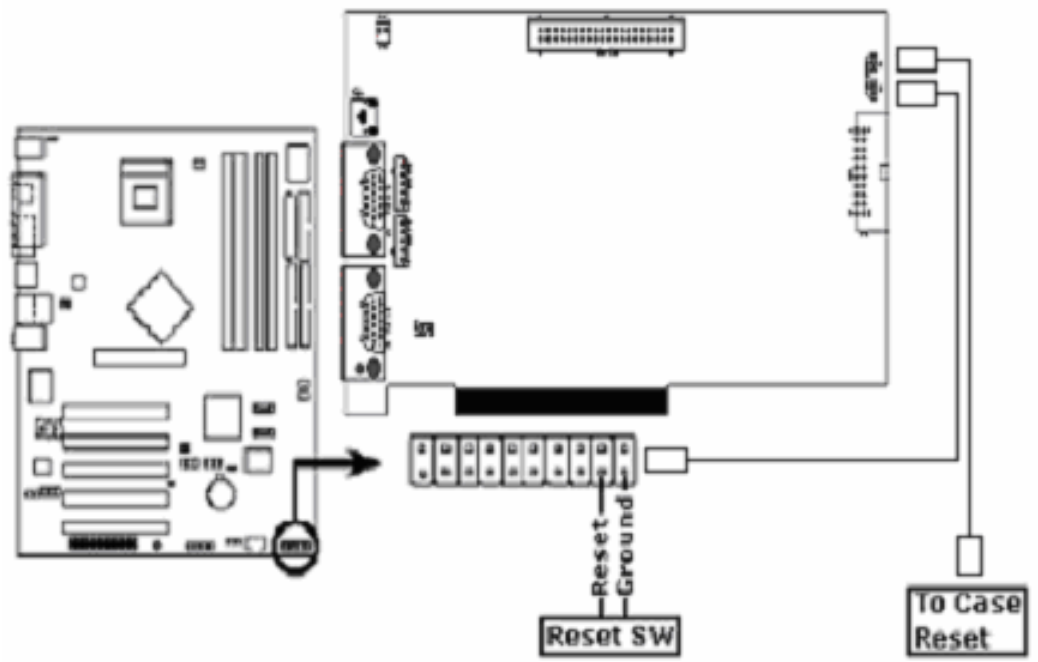
- Audio Input, Capture

- Number of Channel : 8
- Input Type : Microphone, Line(mono)
- Recommended Signal Range : 1V(p-p)
- Sampling Quality
  - ► 8, 16bit/sample (A/D Convert Sampling)
  - ► 4, 8, 16, 32 kHz Sampling

2.3 Watchdog

Watchdog works by relay switch and two connectors (J1, J2) are respectively a 2pin Pin-Header. 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 Diagram

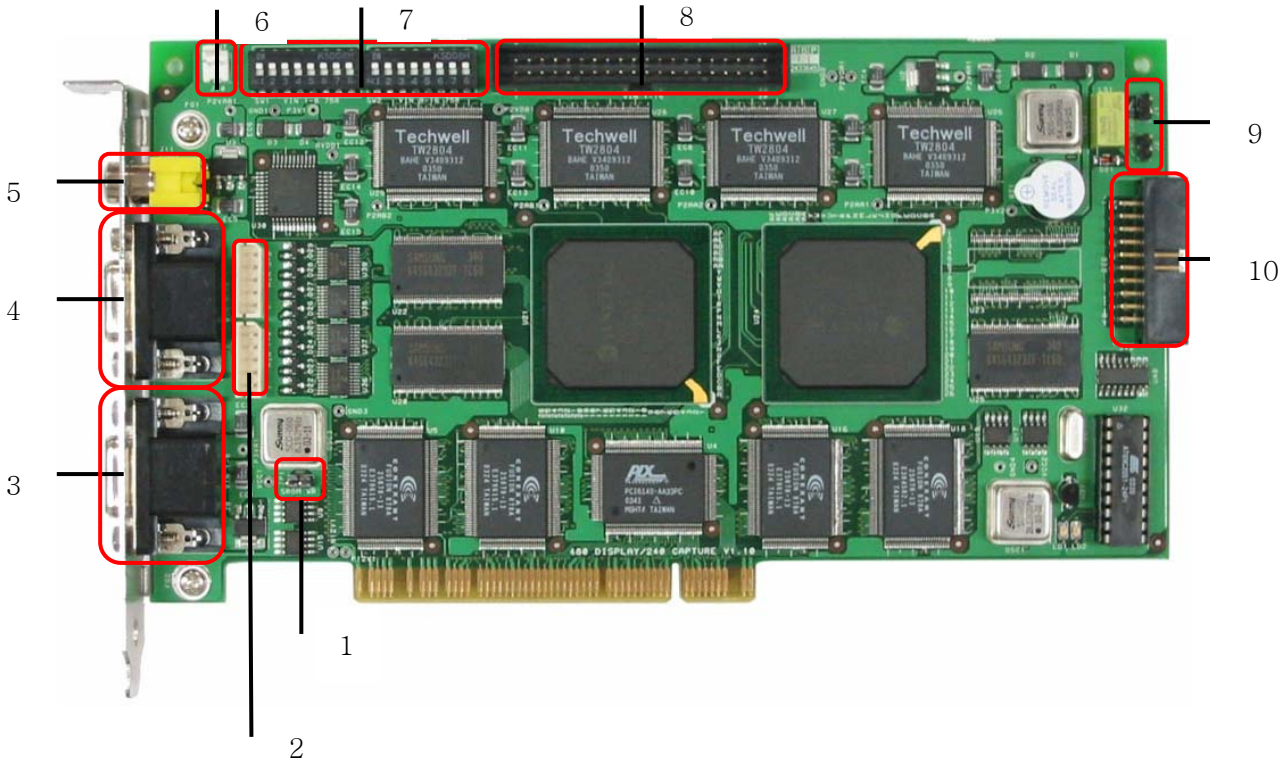


2.4 ETC

- PCB : 10-Layer, PCI

3. Hardware Installation

3.1 16240R Components



1. JP1 : 2Pin Pin-Header
2. AIN 1-4, AIN 5-8 (J5, J6) : 5Pin Molex Box Connector for Audio Signal
3. VIN 1-8 (J8) : DSUB-15 Female Connector
4. VIN 9-16 (J9) : DSUB-15 Female Connector
5. VOUT (J11) : External Video Out RCA Jack
6. VOUT (J10) : External Video Out Molex 2Pin Connector
7. SW1, SW2 : 10Pin Box Connector x 2
8. VIN 1-16 (J7) : 40Pin Box Connector x Video Signal
9. WATCHDOG (J1, J2) : 2Pin Pin-Header x 2
10. DIO (J12) : 20Pin Box Connector

3.2 Capture Card Component Description

1) 2Pin Pin-Header**(JP1)**

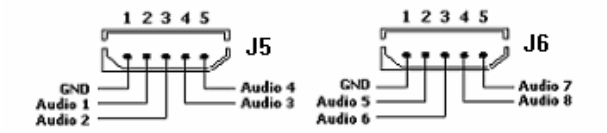
This is used to enable EEPROM writing. To do data writing on EEPROM, put jumper into Pin-Header. If user does not need to write data on EEPROM, set the jumper off before using the card.



(**Jumper ON** : EPROM Writing Enable, **Jumper OFF** : EPROM Writing Disable)

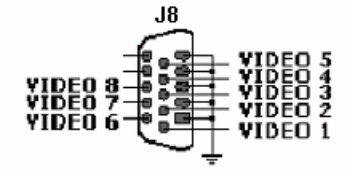
2) AIN 1-4, AIN 5-8 5Pin Molex Box Connector(J5, J6)

This is a connector for audio input 1-8.



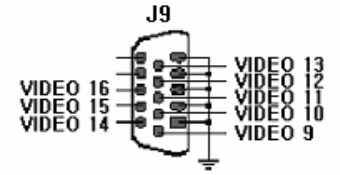
3) VIN 1-8 DSUB-15 Female Connector(J8)

This is a video input connector. Connect this to camera output port with the provided DSUB cable.



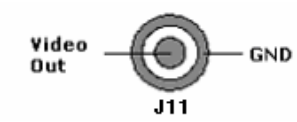
4) VIN 9-16 DSUB-15 Female Connector(J9)

This is a video input connector. Connect this to camera output port with the provided DSUB cable.



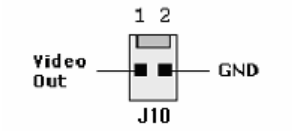
5) VOUT RCA Jack(J11)

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



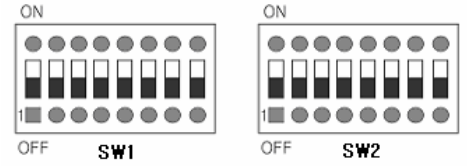
6) VOUT Molex 2Pin Connector(J10)

This is a video out Molex 2Pin Connector.



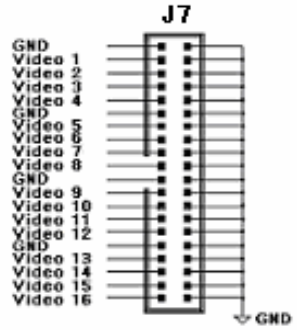
7) Termination Resistor 16Pin DIP Switch (SW1, SW2)

This switch is used to choose termination resistor. Please set switch 'ON' to set to the termination resistor.



8) VIN 1-16 40Pin Box Connector(J7)

This is a connector for video signal input. To prevent misconnection, the connector was grooved.



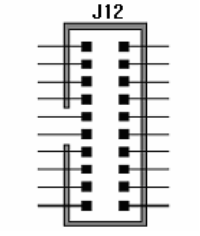
9) WATCHDOG 2Pin Pin-Header **x 2(J1, J2)**

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

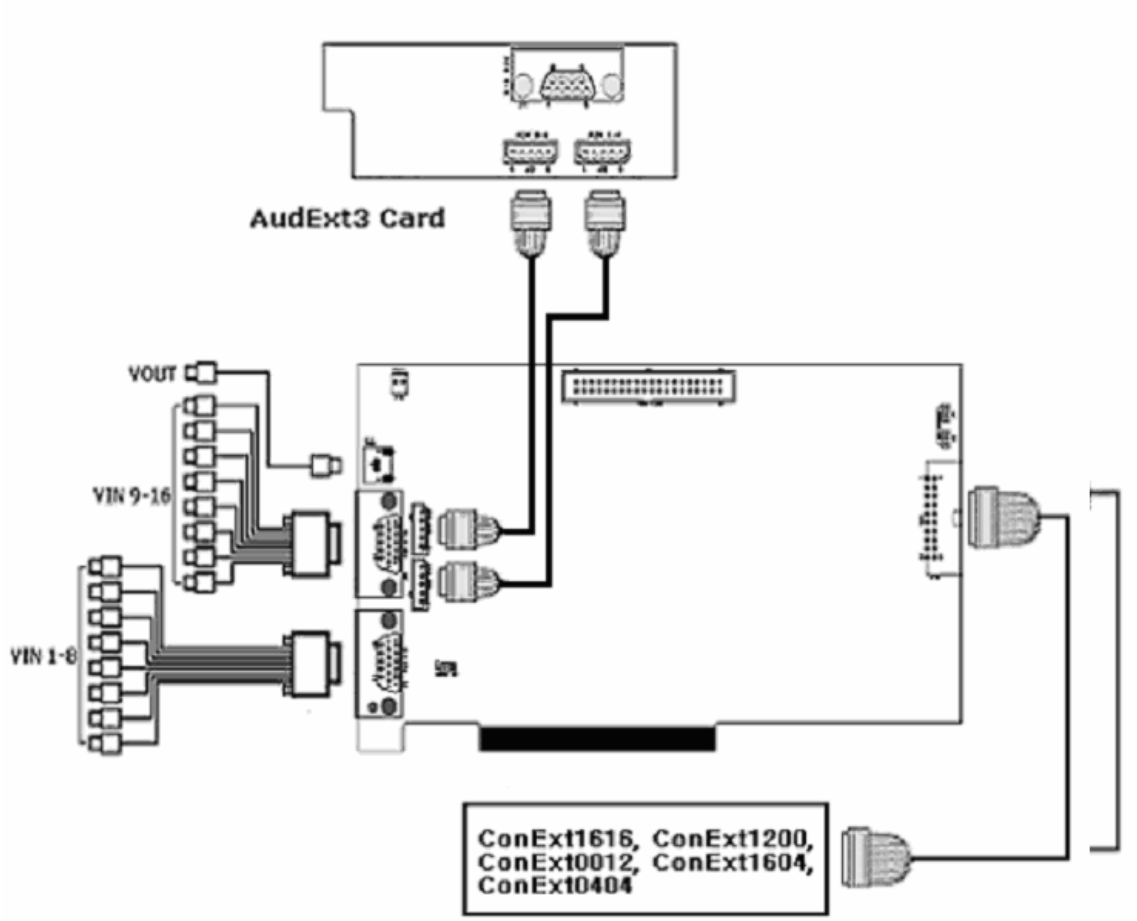


10) DIO 20Pin Box Connector(J12)

This connector is used to test DI/DO and connected to extension card. (Please refer to Extension Card Manual for more details.)



3.3 Connection with Peripheral



4. Electrical Specifications

4.1 Recommended Operating Conditions

Parameter		Min	Typ	Max	Units
Power supply +3.3V		3.15	3.3	3.45	V
Power supply +5V		4.75	5	5.25	V
Video Input Range	Peak to peak amplitude	0.25	1	2	V
	Sync Amplitude	72	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 +3.3V	2,208	mA
Power supply +5V	1,352	mA

5. 16240R Installation Guide

5.1. Components

- 16240R Card
- 2PIN Cable (for watchdog)

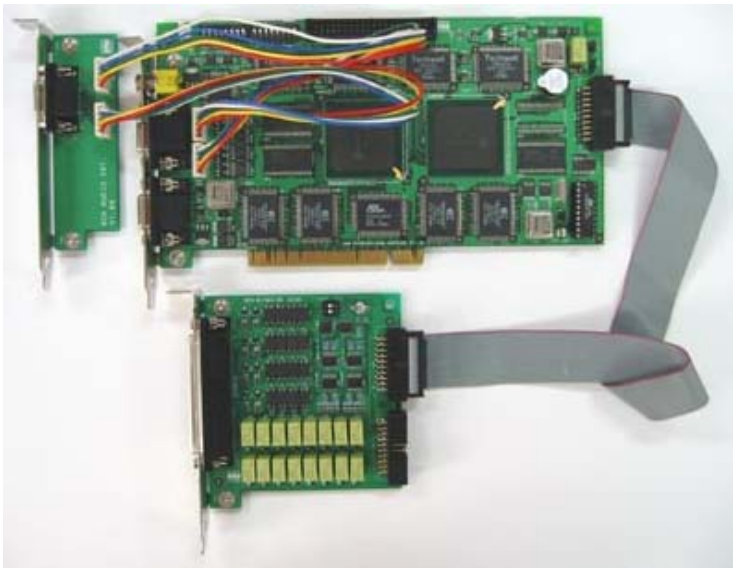
5.2. Option Components

- AudExt2(3) Card
- ConExt1 Card
- ConExt3 Card
- ConExt4 Card
- PTZExt2 Card

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

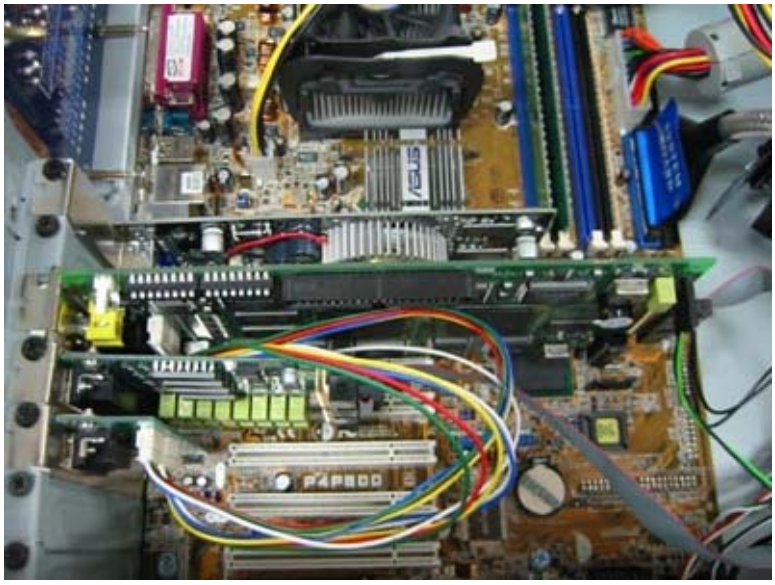
5.3. Hardware Installation

(1) As the below, connect 16240R Card to AudExt3 and ConExt1616.



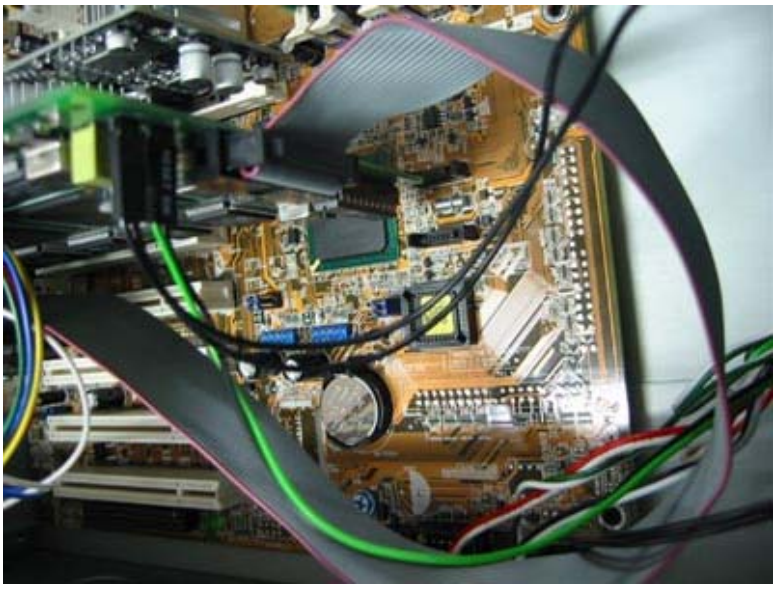
<AudExt3 and ConExt1616 Connected to 16240R>

(2) Insert 16240R card vertically into PCI slot from one side to the other and then insert AudExt3 and ConExt1616 in the same way. Check if the cards were well inserted into PCI slot.



<16240R, AudExt3 and ConExt1616 Inserted into PCI Slot>

(3) Connect a pin of watchdog 2pin connector of 16240R 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 16240R card finished.



<Watchdog Pin Connected to Reset Pin of Mother Board>

5.4. Cable Connection

(1) DSUB 15pin Cable

DSUB 15pin Cable is used for video input (J8, J9) of 16240R Card.

Connect it as the below picture.

VIN1~VIN8 Terminal(J8)

-Video In 1~8 Channel

VIN9~VIN16 Terminal(J9)

-Video In 9~16 Channel

(2) External Monitor Output Terminal (J11)

External monitor output port (RCA jack) is connected to external monitor.

Note

The video input port of DSUB 15pin is BNC type. To use RCA type, use a BNC to RCA Converter.

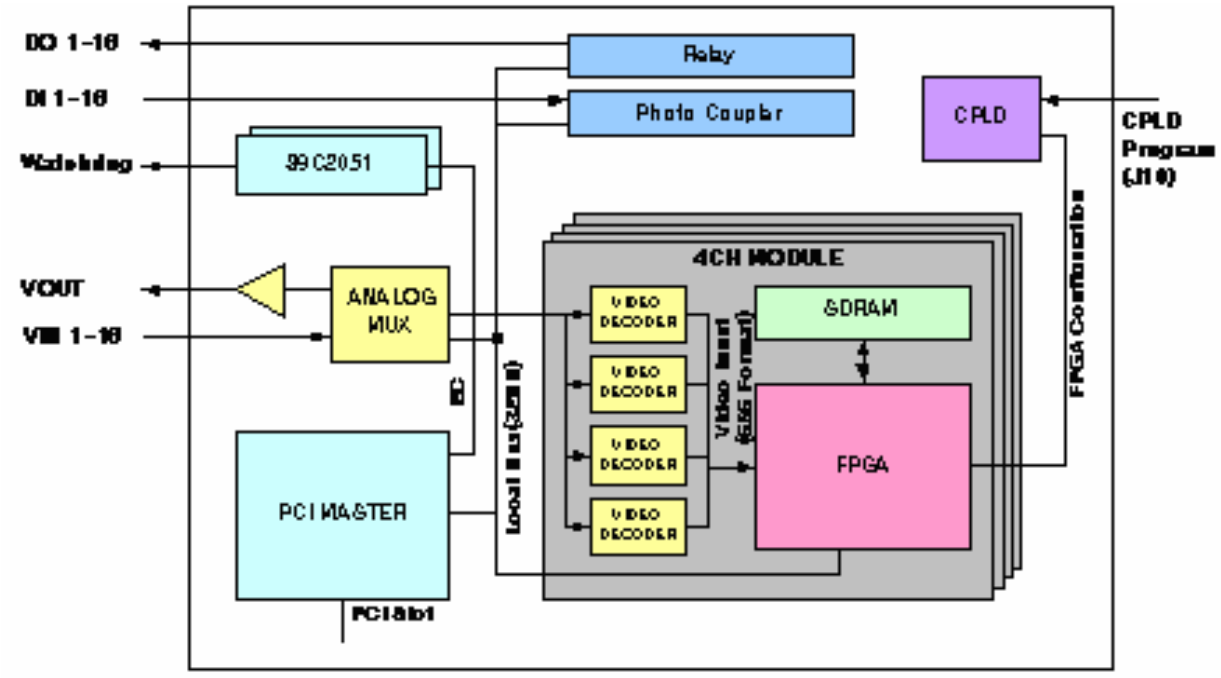
GVC16480

1. Product overview

1.1 Functional Overview

This product is, a PCI interface board, have the function about Video Capture, and Digital I/O control. The external Video signal support NTSC, PAL, SECAM, is able to capture the various resolution. Also, The board is inserted he extra Micro Processor, not only assist to improve the system stability because of performing the Watch dog function but also prevent the outrage of reproduction as inserting the security code.

1.2 Block Diagram



2. Functional description

2.1 Video

1) Video Input 16CH

2) Video input signal: NTSC, PAL(But, Not use to mix NTSC, PAL cameras)

3) Support monochrome, color

4) Capture resolution

- NTSC : 640*480, 640*240, 320*240

- PAL : 768*576, 768*288, 384*288

5) Total Capture frame

- NTSC : 480 fps(frames per second)

- PAL : 400 fps

6) Capture frame per Channel

- NTSC : 30 fps

- PAL : 25 fps

7) TV-out

- 1 channel(Switching)

2.2 Audio (Option Board)

1) Audio input 16 channel

2) Level : mono line, Mic

3) Quality

- 8, 16bit/sample A/D

- 4, 5.6, 8, 11.2, 16, 22.4, 32, 44.8kHz sampling

2.3 Control Extension & RS485 (Refer to ConExt1, ConExt3, ConExt4 Option board)

1) Digital Input 16 channel

2) Alarm Output 4(16) channel

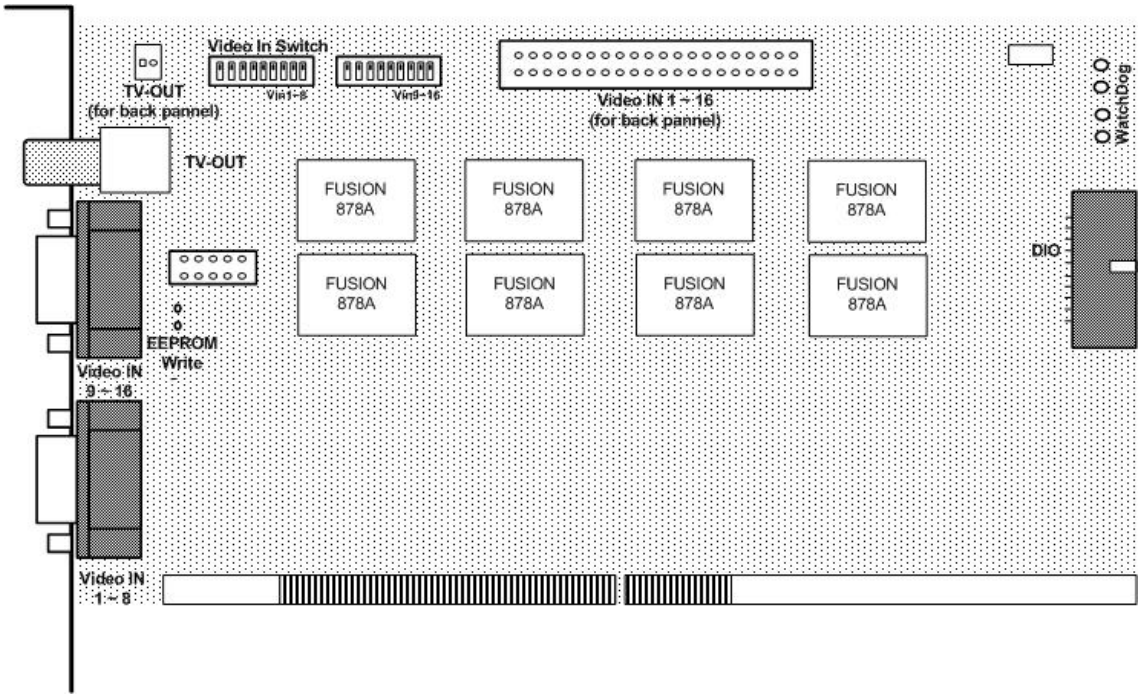
3) RS-232 to Rs-422/485 Port

2.4 Etc

- Watchdog : Drive the relay

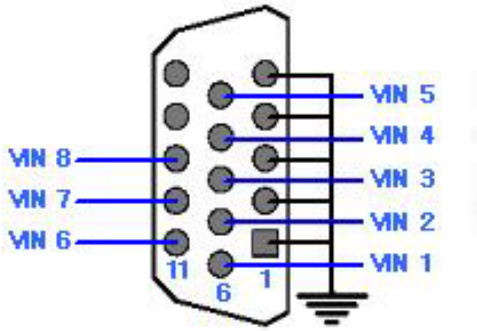
3. Hardware installation

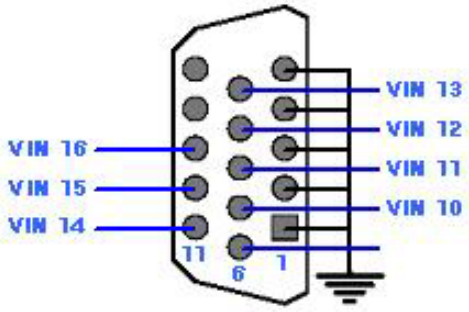
3.1 Installation of capture card

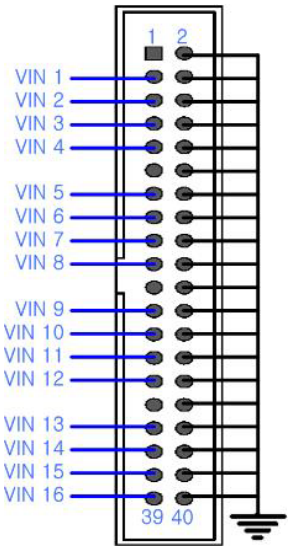


3.2 Connector Pin Assign

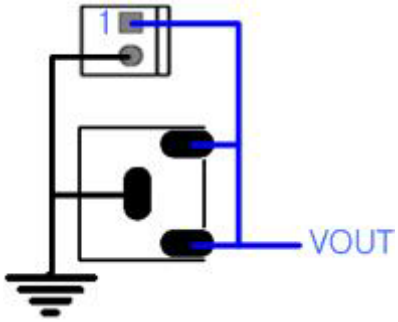
1) Video Input(VIN): Use the connector 15 pin DSUB female and 40 pin(for back panel). 15 DSUB female connect with 15pin DSUB male RCA or BNC video extension cable.



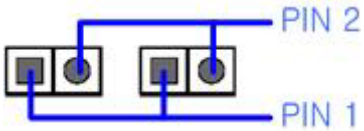




2) Video Output(VOUT): RCA, 2pin connector



3) Reset(WATCHDOG): 2 pin connector, one is a terminal of reset, the other one is a terminal of reset that is connected on the main board. There are no polarity.



5) Extension connector : Extension card connects to 20 pin connector .

DI 4CH, DO 4CH Connecting / enable to extend to DI 16CH with ConExt3 (DI 12CH)

/ enable to extend to DO 16CH with ConExt4 (DO 12CH)

4. Electrical specifications

Recommended operating conditions

Parameter		Min	Type	Max	Units
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	VP-P
Ambient operating temperature		0		65	°C
Ambient operating humidity		0		90	%

Power supply current requirements		
Parameter	Max	Units
Power supply +5V	1,080	mA
Power supply -12V	55	mA

ConExt1 Card

1 DI/DO Connector Function

1.1 Digital Input(DI)

Channel : 4EA

Type : Relay Type, Voltage Type

► Voltage Type : Min : 3V, Type : 5V, Max : 12V

► Relay Type : Normal Open, Normal Close by Programming

1.2 Digital Output(DO)

Channel : 4EA

Level : Relay Contact

Relay Rate : 125V, 0.5A, 30W

1.3 Operation Description

DI Circuit

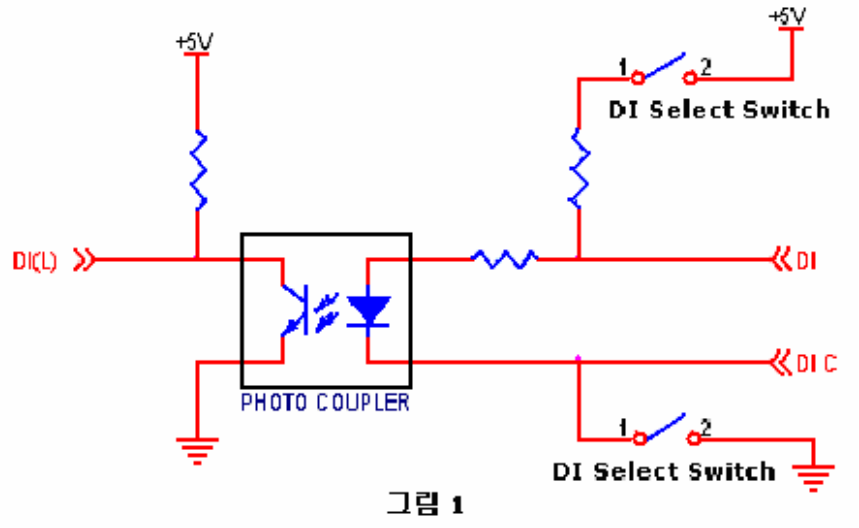
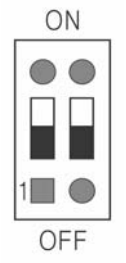


그림 1

DI Select Switch(S1)



SWITCH	TYPE
ON	Relay Type
OFF	Voltage Type

Relay Type

► contact Interface is On that means DI is short with DIC

(ref fig 1)

►Magnetic Switch or Button ,Relay

► Operation

DI	DI(L)
ON	H
OFF	L

Voltage Type

► Current come through DI port and make PHOTO COUPLER work

It's ON means current come through DI port.(Ref. fig1)

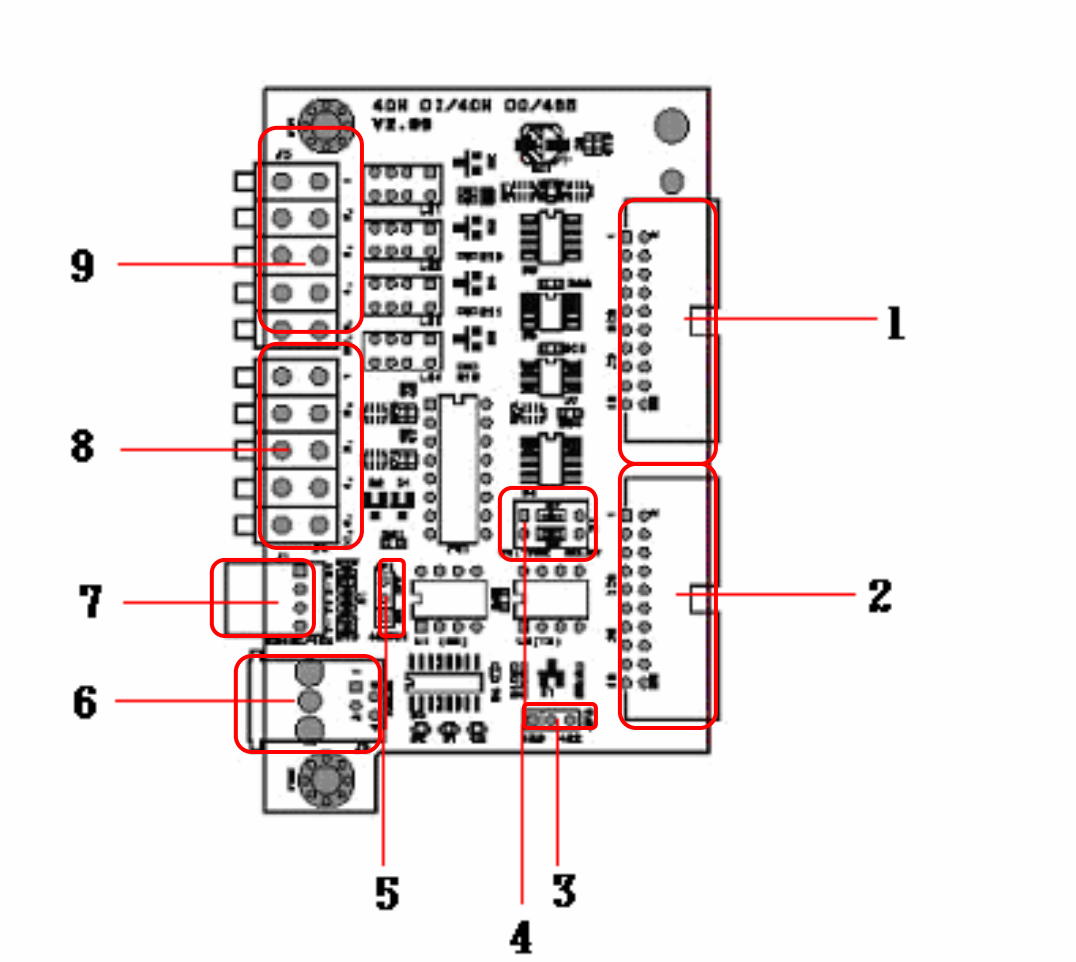
► PNP open collector output sensor

► Operation

SWITCH	TYPE
ON	L
OFF	H

2 Hardware Description

2.1 ConExt1 Card Diagram



1) DIO (J3) : 20Pin Box Connector
2) DIO (J6) : 20Pin Box Connector
3) JP3 : RS485/422 Select Jumper
4) S1 : DI Type Switch
5) JP1 : terminating resistance Select Jumper
6) J2 : RS232 Signal Cable Connector
7) J1 : RS485/422 signal 4 Pin Connector
8) J4 : Digital Input signal Terminal Block
9) J5 : Digital Output signal Terminal Block

2.2 ConExt1 Card configuration description

1) DIO 20Pin Box Connector (J3)

This Connector is connected Capture card when DI 1~4 and DO 1~4 is used.

2) DIO 20Pin Box Connector (J6)

This connector is as same as J3 and use extend card

3) RS485/422 Select Jumper(JP3)

This is RS485/422 Select Jumper

4) DI Select Switch(S1)

This switch is able to select Relay Type and Voltage Type about DI type by switch 1,2's On/Off

5) terminating resistance Select Jumper(JP1)

This is Select jumper about 120Ω terminating resistance connect

6) RS232 signal Cable Connector(J2)

This connector is used to connect with RS232 Cable.

7) RS485/422 4 Pin Connector(J1)

This connector is used to connect with RS485/422 Cable.

8) DI 1-4 Terminal Block(J4)

this connector is for input DI signal. Channel 1, 2, 3, 4 from upside of terminal are for DI input terminal, lowest terminal is common port.

It's possible to find out Sensor or switch is ON/OFF on program, if terminal of a specific channel is connected with common terminal by using Sensor or switch.

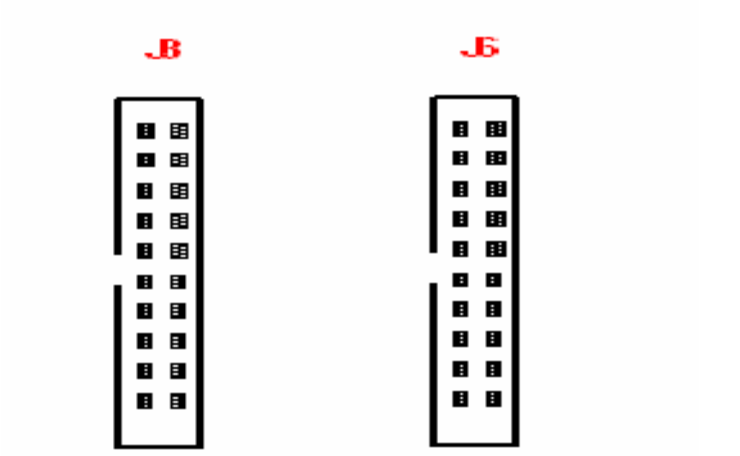
9) DO 1-4 Terminal Block(J5)

This connector is for DO signal output. Channel 1, 2, 3, 4 are terminal of DO signal output from upside , terminal of down side is common port. It's possible Do signal to control by programming, and if DO is ON, that make Common terminal be short with terminal of channel which is worked by relay switch on capture board

3 ConExt1 Card and Connect with External Device

3.1 Connect with Capture Card

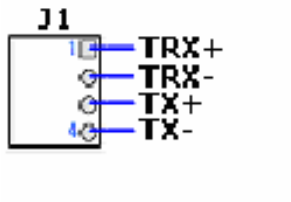
It's connected with capture card by 20pin connector of J3 or J6[ref capture card manual]



3.2 RS485/422

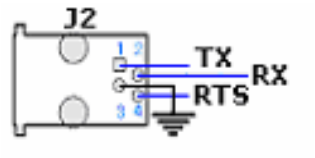
RS485/422 communicational function is used for Pan/Tilt/Zoom of camera control

RS485/422 is used 4Pin Connector and connect with J1



3.3 RS485/422 Signal Cable Connect

It's used to connect at other system's com port



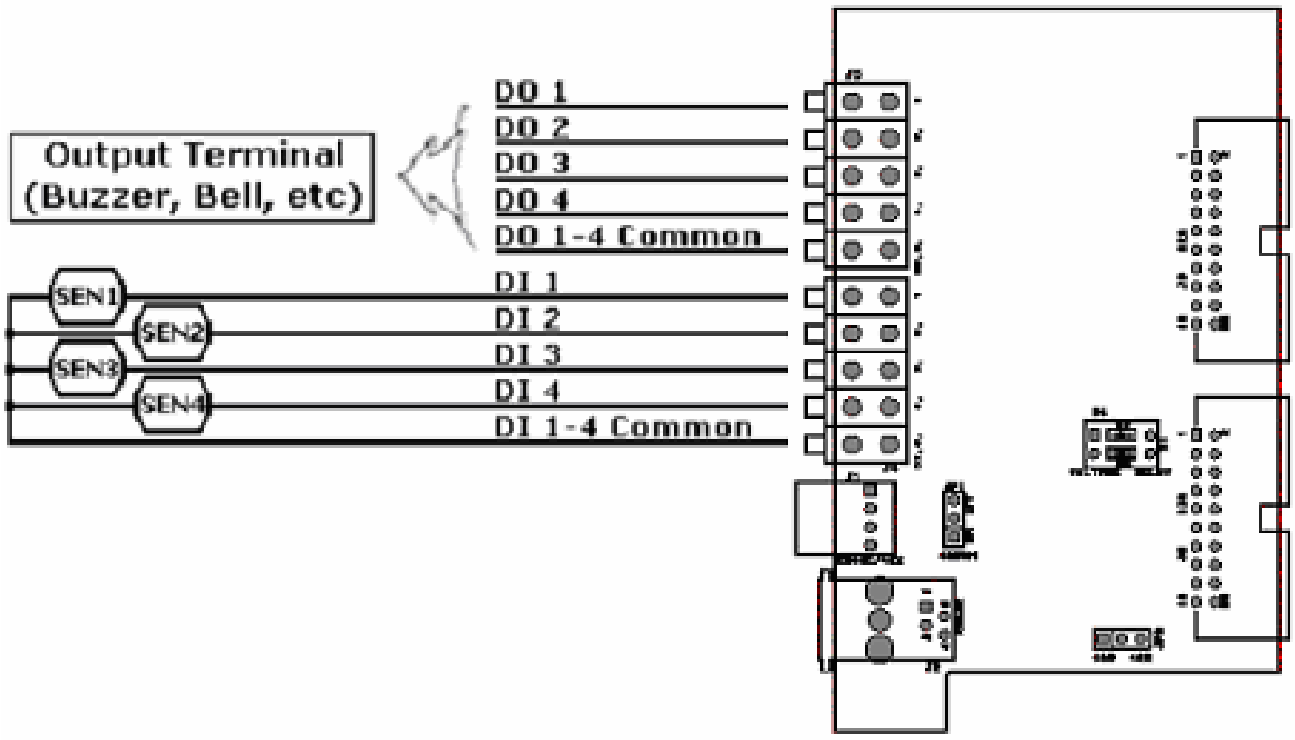
※Ref Capture Card Manual about ConExt1 Card connect with Capture Card

3.4 DI/DO Connect

DI is connected to external sensor or switch with J4 Connector

Do is used to connected with siren or warning signal. It's connected by J5 connector.

[ref fig]



ConExt2
(Only For GVC0430)

1 DI/DO Connector Function

1.1 Digital Input(DI)

Channel : 4EA

Type : Relay Type, Voltage Type

► Voltage Type : Min : 3V, Type : 5V, Max : 12V

► Relay Type : Normal Open, Normal Close by Programming

1.2 Digital Output(DO)

Channel : 4EA

Level : Relay Contact

Relay Rate : 125V, 0.5A, 30W

1.3 Operation Description

DI Circuit

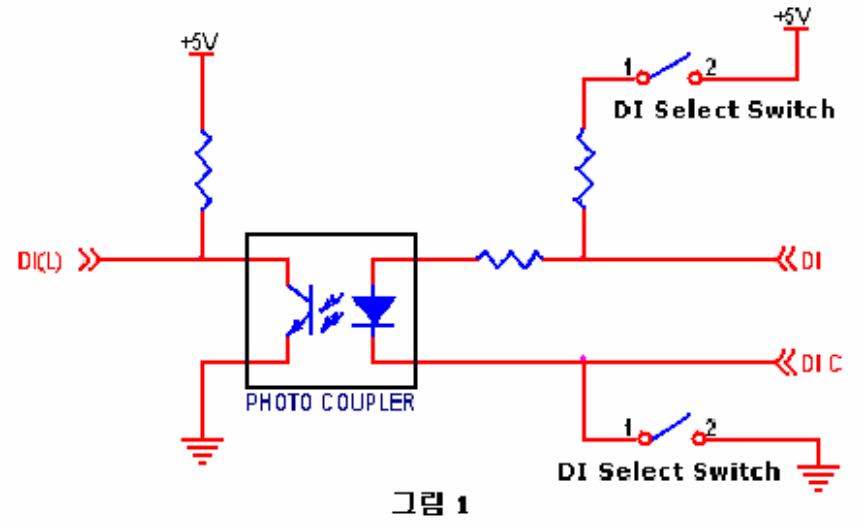
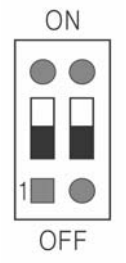


그림 1

DI Select Switch(S1)



SWITCH	TYPE
ON	Relay Type
OFF	Voltage Type

Relay Type

► contact Interface is On that means DI is short with DIC

(ref fig 1)

►Magnetic Switch or Button ,Relay

► Operation

DI	DI(L)
ON	H
OFF	L

Voltage Type

► Current come through DI port and make PHOTO COUPLER work

It's ON means current come through DI port.(Ref. fig1)

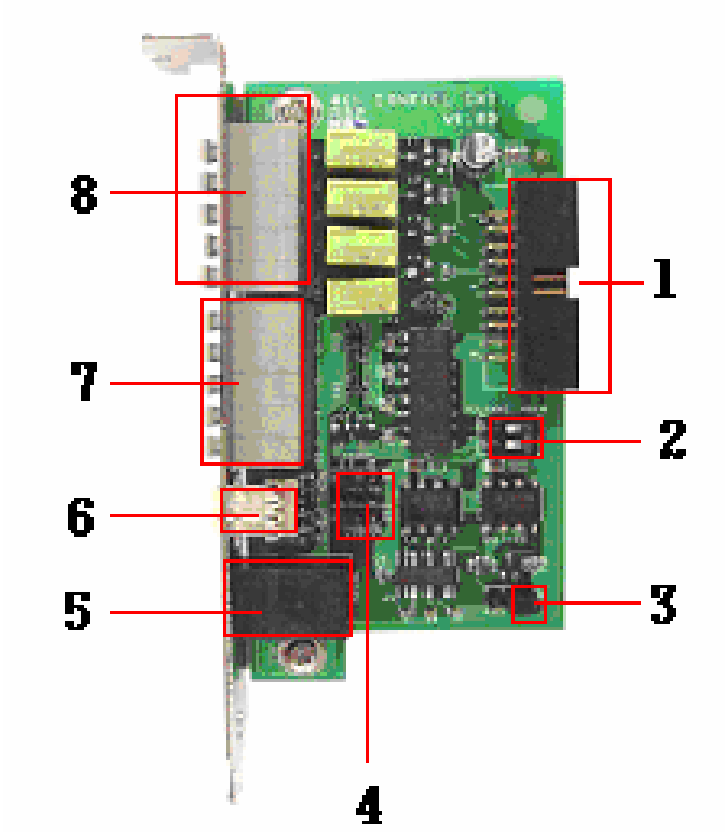
► PNP open collector output sensor

► Operation

SWITCH	TYPE
ON	L
OFF	H

2 Hardware Description

2.1 ConExt2 Card Diagram



1). J3 : 20Pin Box Connector

2). S1 : DI Method Select Switch(Relay or Voltage)

3). JP3 : RS485/422 Select Jumper

4). JP1 : Terminal resistor Select Jumper

5). J2 : RS232 Signal Cable Connector (To PC System)

6). J1 : RS485/422 4 Pin Connector (To PTZ)

7). J4 : Digital Input Terminal Block

8). J5 : Digital Output Terminal Block

2.2 ConExt2 Card configuration description

1) DIO 20Pin Box Connector (J3)
This Connector is connected Capture card when DI 1~4 and DO 1~4 is used.

2) RS485/422 Select Jumper(JP3)
This is RS485/422 Select Jumper

3) DI Select Switch(S1)
This switch is able to select Relay Type and Voltage Type about DI type by switch 1,2's On/Off

4) terminating resistance Select Jumper(JP1, JP2)
This is Select jumper about 120Ω terminating resistance connect

5) RS232 signal Cable Connector(J2)
This connector is used to connect with RS232 Cable.

6) RS485/422 4 Pin Connector(J1)
This connector is used to connect with RS485/422 Cable.

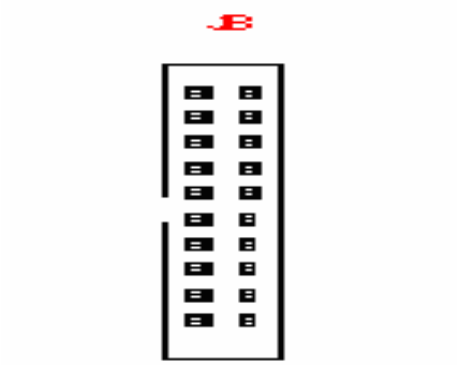
7) DI 1-4 Terminal Block(J4)
this connector is for input DI signal. Channel 1, 2, 3, 4 from upside of terminal are for DI input terminal, lowest terminal is common port.
It's possible to find out Sensor or switch is ON/OFF on program, if terminal of a specific channel is connected with common terminal by using Sensor or switch.

8) DO 1-4 Terminal Block(J5)
This connector is for DO signal output. Channel 1, 2, 3, 4 are terminal of DO signal output from upside , terminal of down side is common port. It's possible Do signal to control by programming, and if DO is ON, that make Common terminal be short with terminal of channel which is worked by relay switch on capture board

3 ConExt2 Card and Connect with External Device

3.1 Connect with Capture Card

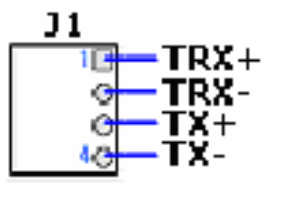
It's connected with capture card by 20pin connector of J3 [ref capture card manual]



3.2 RS485/422

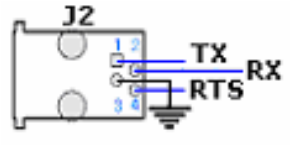
RS485/422 communicational function is used for Pan/Tilt/Zoom of camera control

RS485/422 is used 4Pin Connector and connect with J1



3.3 RS485/422 Signal Cable Connect

It's used to connect at other system's com port



※Ref Capture Card Manual about ConExt1 Card connect with Capture Card

3.4 DI/DO Connect

DI is connected to external sensor or switch with J4 Connector

Do is used to connected with siren or warning signal. It's connected by J5 connector.

[ref fig]

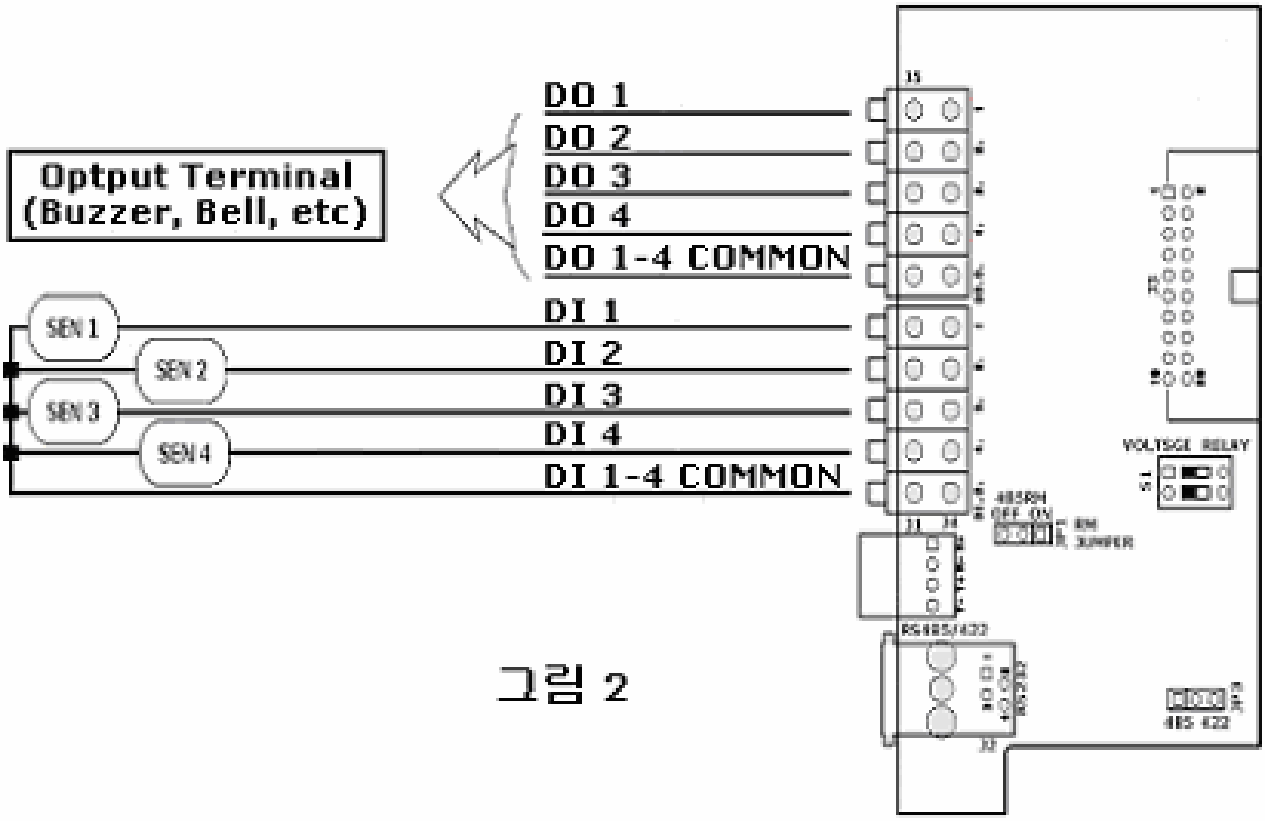


그림 2

ConExt3 Card

1 DI Connector Function

1.1 Digital Input(DI)

Channel : 12EA

Type: Relay Type, Voltage Type

► Voltage Type: Min: 3V, Type: 5V, Max: 12V

► Relay Type: Normal Open, Normal Close By programming

1.2 Operation Description

DI Circuit

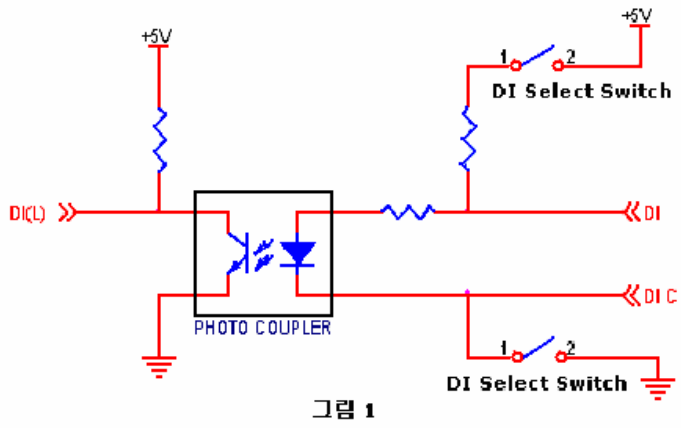
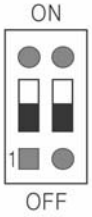


그림 1

DI Select Switch(S1)



SWITCH	TYPE
ON	Relay Type
OFF	Voltage Type

Relay Type

► If contact interface is on, DI is short with DI C

(Ref fig1)

► Magnetic switch button, relay

►Operation

DI	DI(L)
ON	H
OFF	L

Voltage Type

► Current come through DI port and make PHOTO COUPLER work

its ON means current come through DI port. (Ref. fig1)

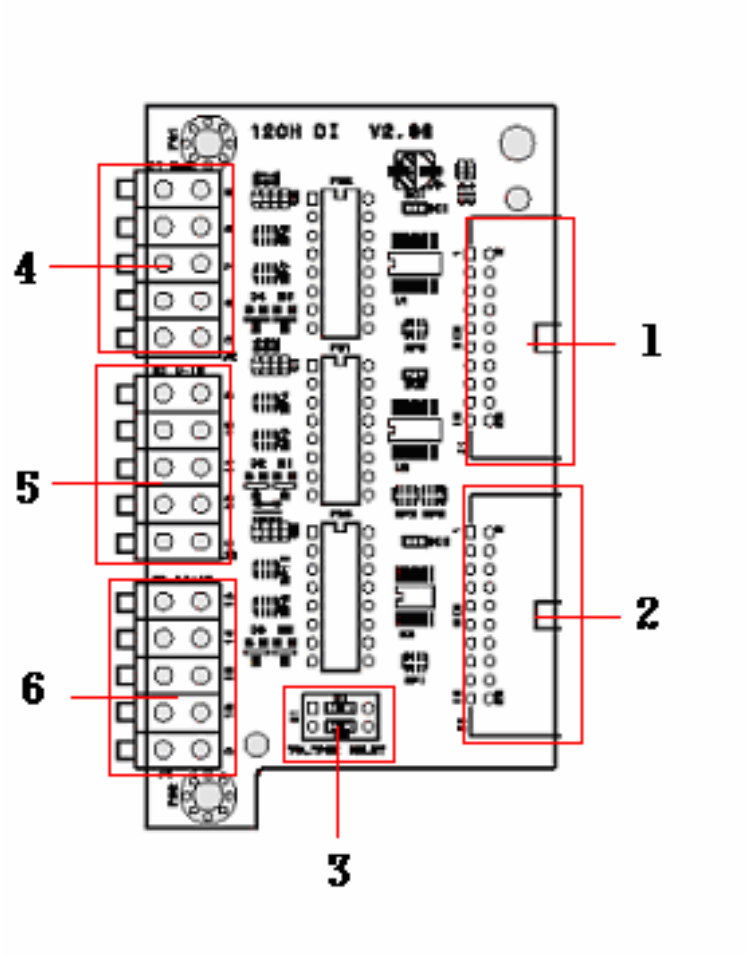
► PNP open collector output sensor

► Operation

SWITCH	TYPE
ON	L
OFF	H

2 HARDWARE Configuration

2.1 ConExt3 Card Diagram



1) DIO (J1): 20Pin Box Connector

2) DIO (J5): 20Pin Box Connector

3) S1: DI Type Switch

4) J2: Digital Input signal contact Terminal Block

5) J3: Digital Input signal contact Terminal Block

6) J4: Digital Input signal contact Terminal Block

2.2 ConExt3 Card Configuration description

1) DIO 20Pin Box Connector (J1)
This connector is for connecting with capture card

2) DIO 20Pin Box Connector (J5)
This connector is as same as J1 and use extend card

3) DI Select Switch (S1)
By Setting Switch1, 2 is ON/OFF, you make DI type change to relay type or Voltage Type.

4) DI 5-8 Terminal Block (J2)
This connector is for input DI signal. Channel 5,6,7,8 from upside of terminal are for DI input terminal, lowest terminal is common port.
It's possible to find out Sensor or switch is ON/OFF on program, if terminal of a specific channel is connected with common terminal by using Sensor or switch.

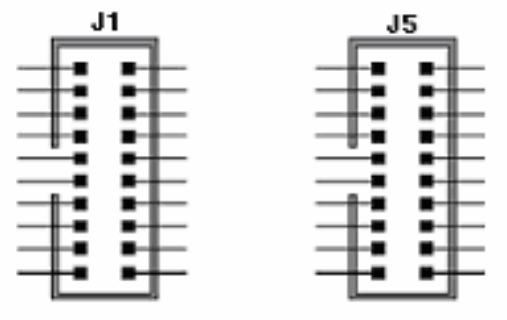
5) DI 9-12 Terminal Block (J3)
This connector is for input DI signal. Channel 9,10,11,12 from upside of terminal are for DI input terminal, lowest terminal is common port.
It's possible to find out Sensor or switch is ON/OFF on program, if terminal of a specific channel is connected with common terminal by using Sensor or switch.

6) DI 13-16 Terminal Block (J4)
This connector is for input DI signal. Channel 13,14,15,16 from upside of terminal are for DI input terminal, lowest terminal is common port.
It's possible to find out Sensor or switch is ON/OFF on program, if terminal of a specific channel is connected with common terminal by using Sensor or switch.

3. ConExt3 Card and connect with External Device

3.1 Connect Capture Card

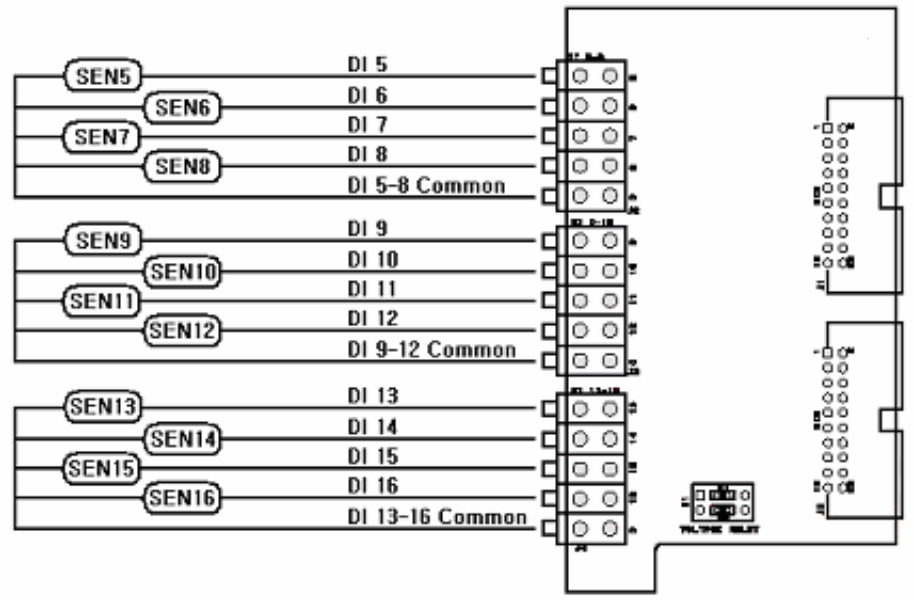
It's connected with ConExt31 card by using J1, J5's DIO 20pin Connector. [Ref. capture card manual]



3.2 Connect DI

DI's function is connect with external sensor or switch by J2, J3, J4 connector.

[Ref fig]



ConExt4 Card

1 DO Connector Function

1.1 Digital Output (DO)

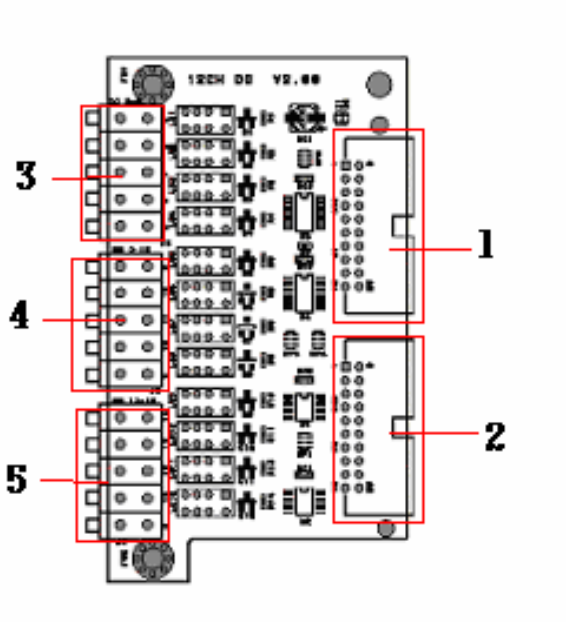
Channel : 12EA

Level : relay contact

Relay rate : 125V, 0.5A, 30W

2 Hardware configuration

2.1 ConExt4 Card Diagram



1) DIO (J1): 20Pin Box Connector

2) DIO (J5): 20Pin Box Connector

3) J2: Digital Output signal connect Terminal Block

4) J3: Digital Output signal connect Terminal Block

5) J4: Digital Output signal connect Terminal Block

2.2 ConExt4 Card Configuration Description

1) DIO 20Pin Box Connector (J1)

This connector is for connecting to ConExt3

2) DIO 20Pin Box Connector (J5)

This connector is as same as J1 and use Extension Card

3) DO 5-8 Terminal Block (J2)

This connector is for Digital Output signal. Channel 5,6,7,8 from upside of terminal are for DO Output terminal, lowest terminal is common port.

It's possible to find out Sensor or switch is ON/OFF on program, if terminal of a specific channel is connected with common terminal by using Sensor or switch.

4) DO 9-12 Terminal Block (J3)

This connector is for Digital Output signal. Channel 9,10,11,12 from upside of terminal are for DO Output terminal, lowest terminal is common port.

It's possible to find out Sensor or switch is ON/OFF on program, if terminal of a specific channel is connected with common terminal by using Sensor or switch.

5) DI 13-16 Terminal Block (J4)

This connector is for Digital Output signal. Channel 13,14,15,16 from upside of terminal are for DO Output terminal, lowest terminal is common port.

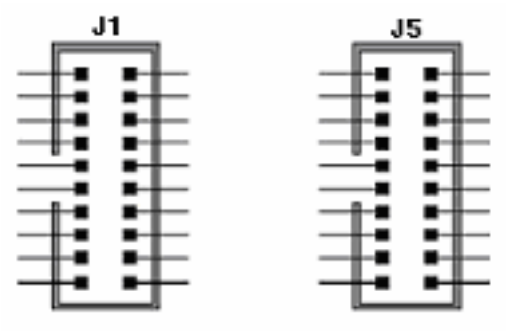
It's possible to find out Sensor or switch is ON/OFF on program, if terminal of a specific channel is connected with common terminal by using Sensor or switch.

If DO set "on ", channel terminal which Capture card's relay switch make to work, is short with common.

3. ConExt4 Card and connect with External Device

3.1 Connect Card

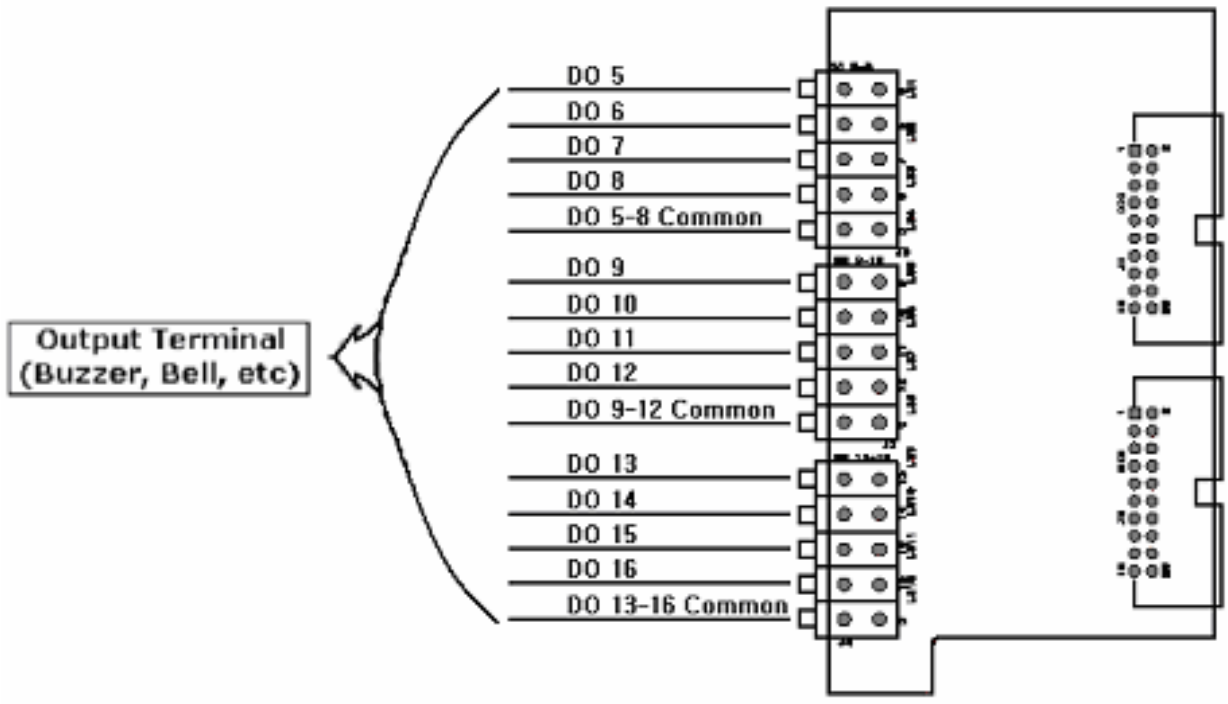
It's connected with ConExt3 card by using J1, J5's DIO 20pin Connector. [Ref. capture card manual]



3.2 DO Connect

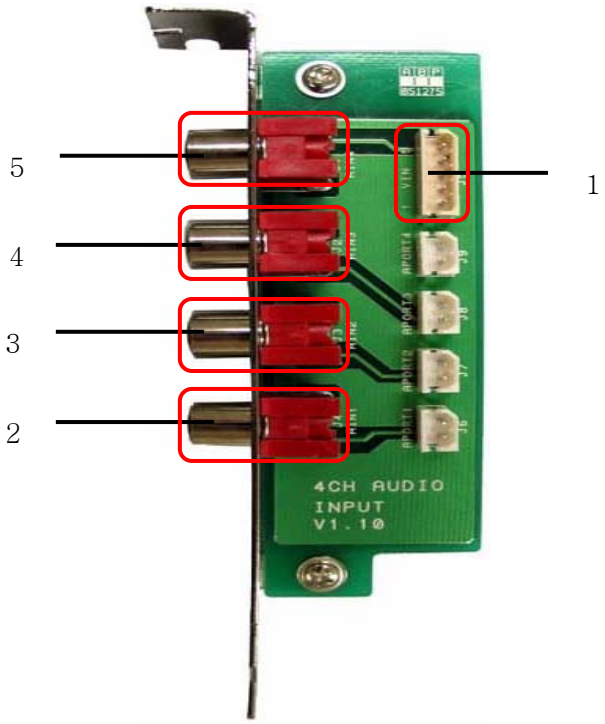
Do is connected with siren or warning signal. It's connected by J2, J3, and J4. Connector.

[Ref fig]



AudExt2 Card

1. AudExt2 Card Picture



2 . AudExt2 Card Components

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

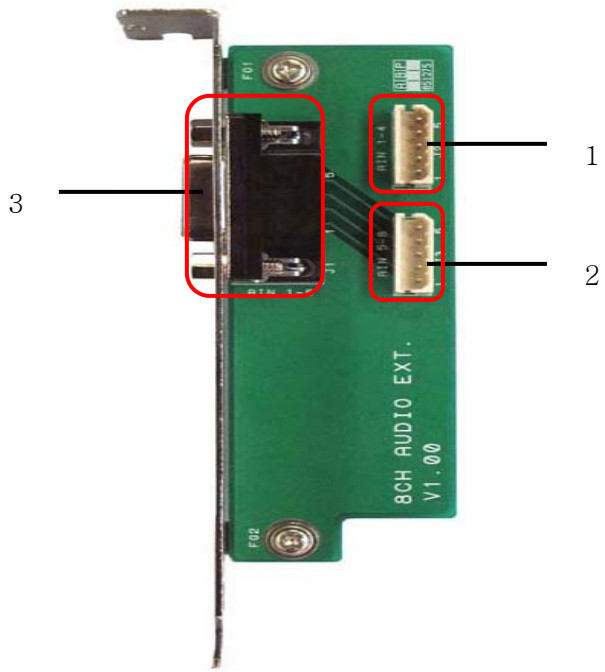
This connector is used to transmit the input Ch 1 to 4 audio signals to J5 of Capture Card.

2)~5) AIN 1-4

This connector was devised for RCA jack to input audio signals from external.

AudExt3 Card

1. AudExt3 Card Picture



2. AudExt3 Card Components

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

This connector is used to transmit the input Ch 1 to 4 audio signals to J5 of **16240R Card**.

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

This connector is used to transmit the input CH 5 to 8 audio signals to J6 of **16240R Card**.

3) AIN 1-8

This connector was devised for DSUB-9 female connector to input audio signals from external.

CAPA16

1. Product Overview

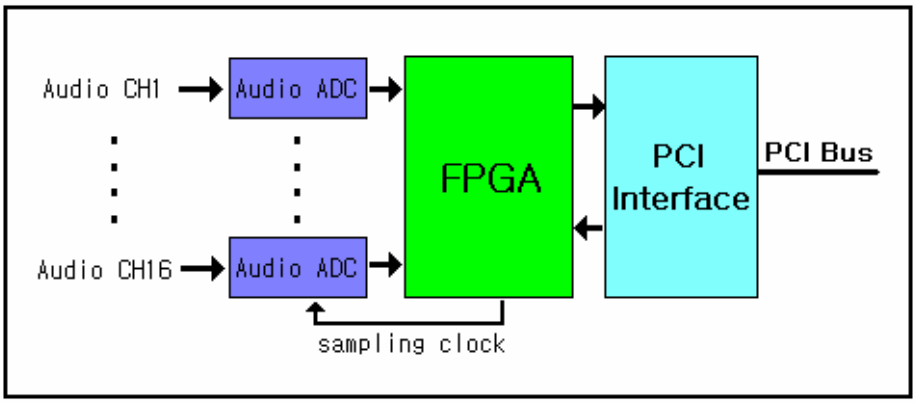
1.1 Functional Overview

This product is for PC Based DVR, Audio Capture Card.

Audio Data through CAPA16 capture card is not compressed raw data

CAPA16 capture card support 16ch audio input, controlling Sampling Rate, Gain function for weak audio signal.

1.2 Block Diagram



2. Functional Description

2.1 Audio

- Audio Input, Capture

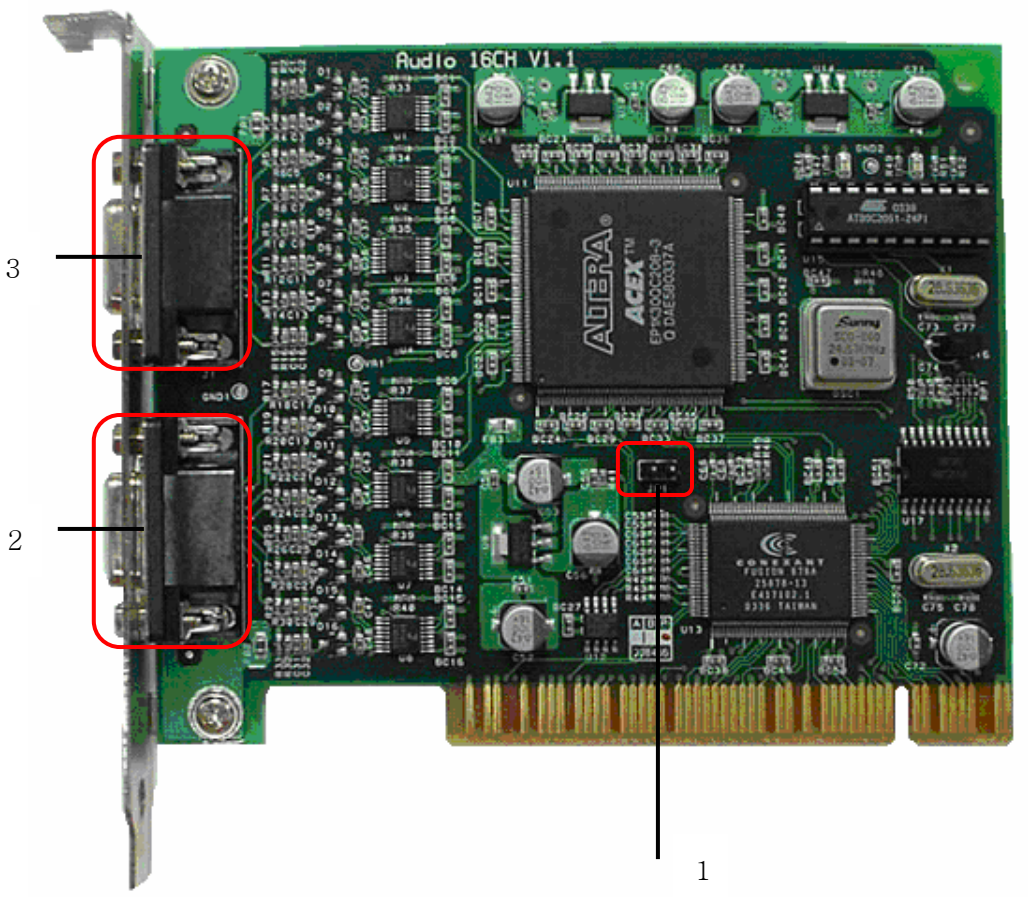
- Channel : 16ch
- Input type : Mic, Line(mono)
- Recommended Signal Arrange : 0.01 V ~ 3.3V(p-p)
- Sampling Quality
  - ► 8, 16bit/sample (A/D Convert Sampling)
  - ► 4, 6, 8, 12, 24 kHz Sampling

2.2 Etc

- PCB : 4-Layer, PCI

3. Hardware Installation

3.1 CAPA16 Configuration



1. JP1 : EEPROM Writable 2Pin Pinheader
2. AIN 9~16 (J2) : Audio Input Signal DSUB-9 Female Connector
3. AIN 1~8 (J1) : Audio Input Signal DSUB-9 Female Connector

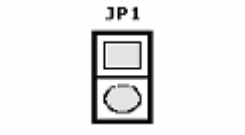
3.2 CAPA16 Card Configuration Description

1) 2Pin Pinheader(JP1)

This Pin-header is used when EEPRO writing function set “Enable”

When user recorded EEPROM data, put a jumper to pinheader.

If it isn’t writing EREPROM, set jumper off before this card used

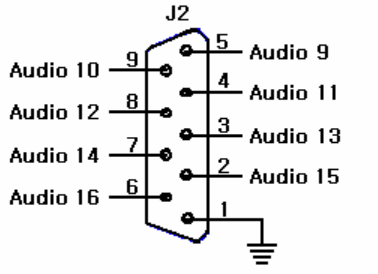


(**Jumper ON** : EPROM Writing Enable, **Jumper OFF** : EPROM Writing Disable)

2) AIN 9-16 DSUB-9 Female Connector(J2)

This Connector is Audio Input Connector.

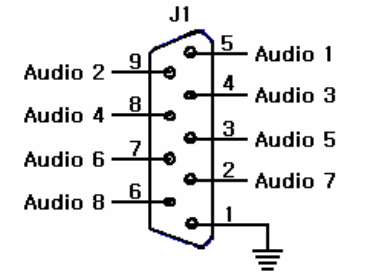
You can connect to Audio source with our DSUB Cable Audio



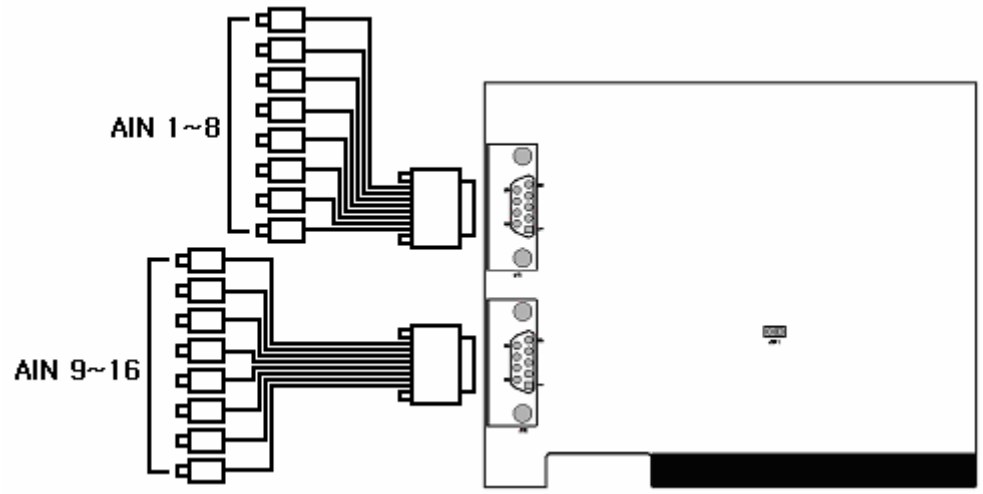
3) AIN 1-8 DSUB-9 Female Connector(J1)

This Connector is Audio Input Connector.

You can connect to Audio source with our DSUB Cable Audio



3.3 Connecting with External Device



※ notice : you can used with 16Channel Capture Card

4. Electrical specifications

4.1 Recommended operating conditions

Parameter		Min	Typ	Max	Units
Power supply +5V		4.75	5	5.25	V
Audio Input Range	Peak to peak amplitude	0.01	1	3.3	Vp-p
	Sync Amplitude	72	286	572	mV
	Horizontal Lock Range	-	-	±7	% of Line Length
	Color sub-carrier Lock-in Range	-	-	±800	Hz
Ambient operating temperature		0	-	65	˚C
Ambient operating humidity		0	-	90	%

4.2 Power supply current requirements

Parameter	Max	Units
Power supply +5V		mA

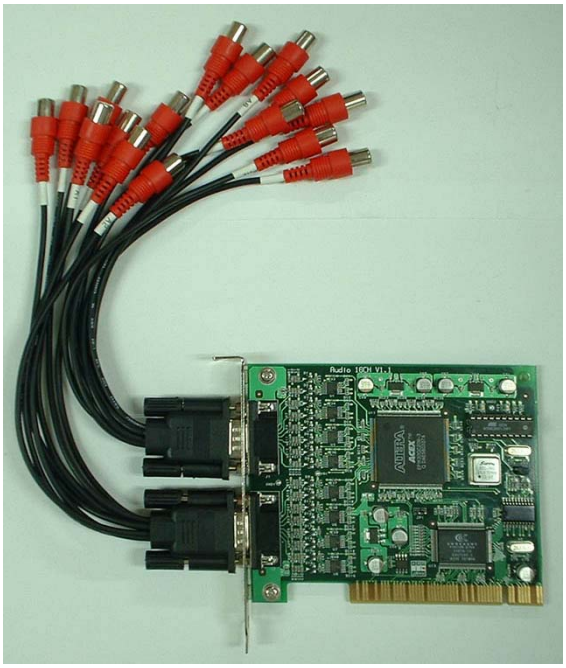
5. CAPA16 Install Guide

5.1. Components

- CAPA16 Capture Card
- D-SUB 9PIN Cable

5.2. Hardware Installation

(1) As the below, connect CAPA16 Card to D-SUB 9PIN Cable

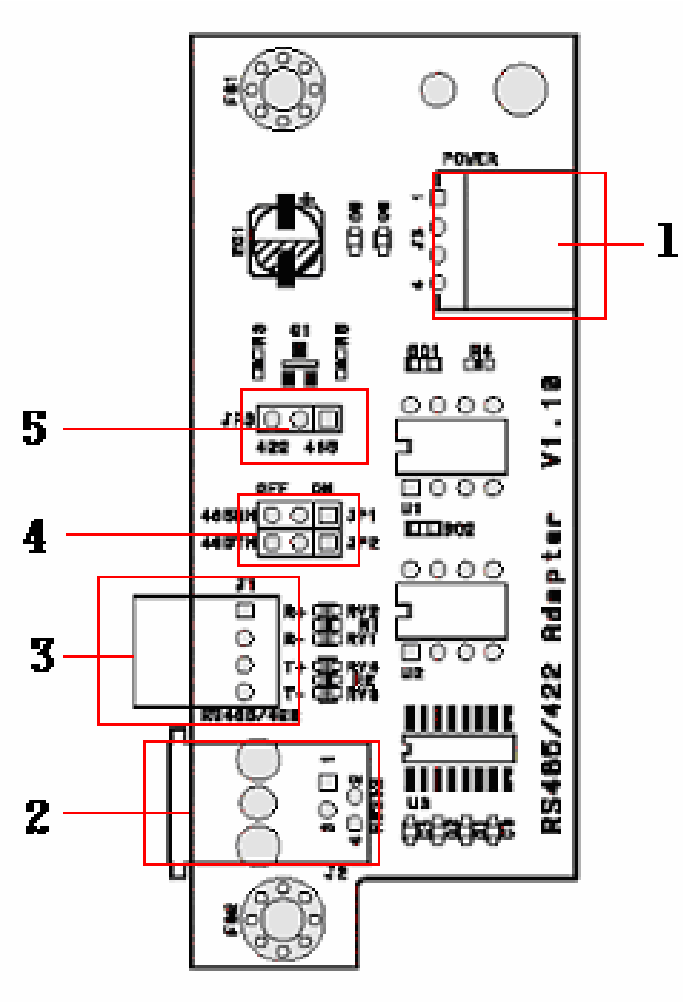


<CAPA16 Capture Card connected D-SUB 9PIN Cable>

PTZExt2 Card

1 Hardware Configuration

1.1 PTZExt2 Card Diagram



1) POWER(J3) : power supply 4 Pin Connector

2) J2 : RS232 Signal Cable Connector

3) J1 : RS485/422 4 Pin Connector

4) JP1, JP2 : Terminating Select Jumper

5) JP3 : RS485/422 Select Jumper

1.2 PTZExt2 Card Configuration Description

1) Power (J3)

This connector supply power when RS485/Rs422 used

2) RS232 Cable Connector(J2)

This connector is used with RS232 for external device

3) RS485/422 4Pin Connector(J1)

This connector is used with RS485/422 from external device

4) Terminating resistance Select Jumper (JP1, JP2)

This Select Jumper is for terminating resistance connect to select

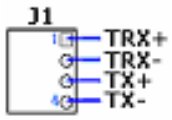
5) RS485/422 Select Jumper(JP3)

This Select jumper is for using RS485/422 to connect

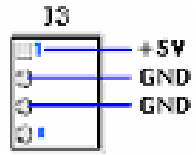
Connect PTZExt2 Card with External Device

RS485/422

RS485/422 is connected for camera control as like Pan/Tilt/Zoom , and is connected to J1 by 4Pin Connector.



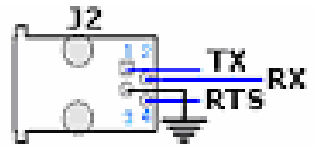
In this case, It needs to supply power, so using power connector for FDD supply power on PC



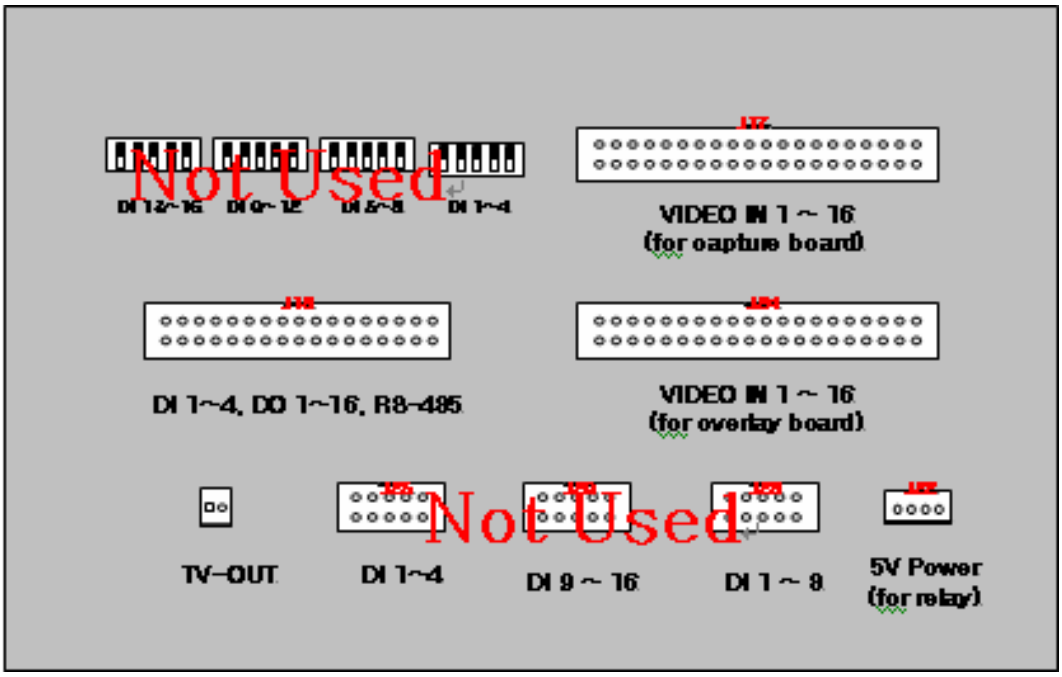
RS485/422 Signal Cable Connect

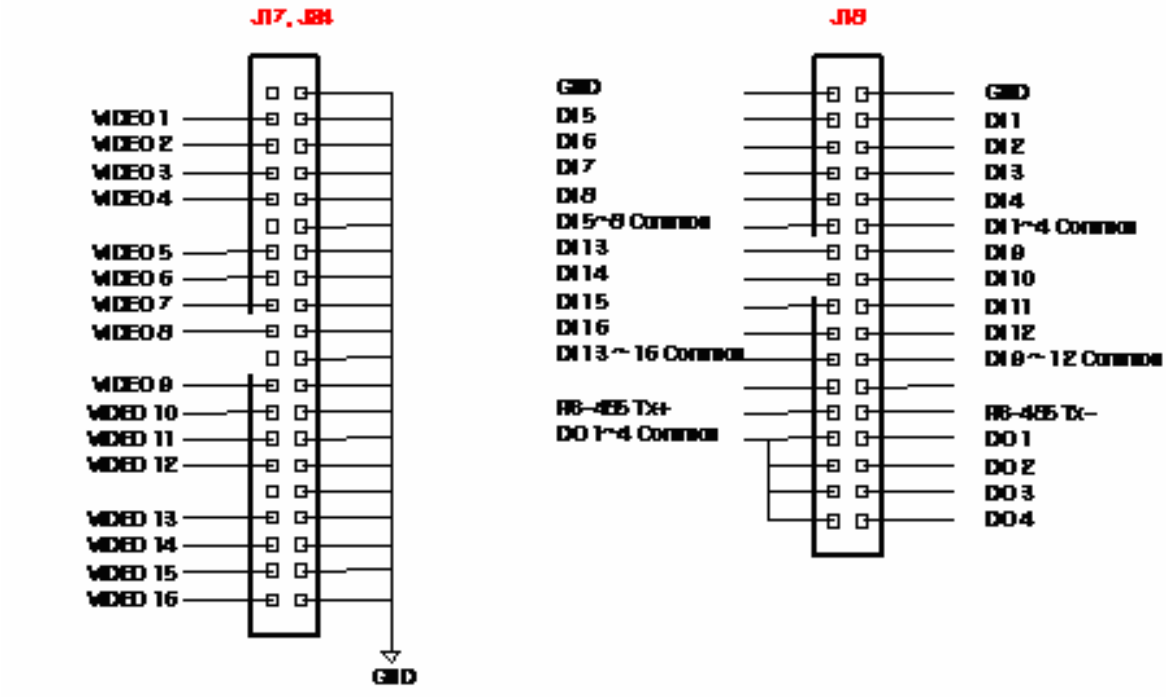
It's used when it connect at com port of other computer.

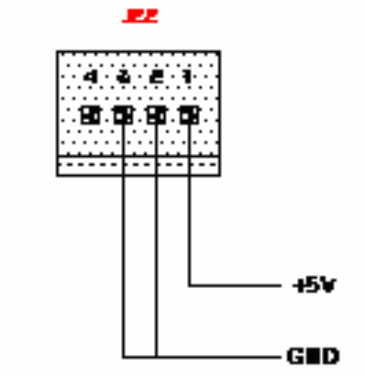
It is used RJ Connector, pin's configuration is Fig

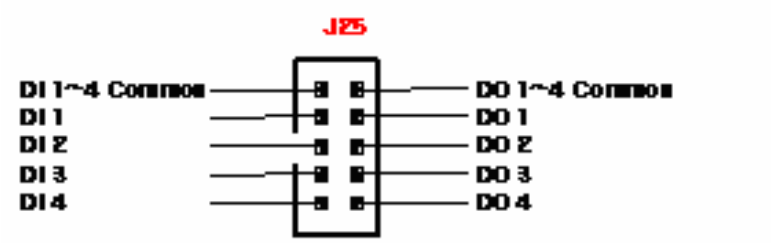


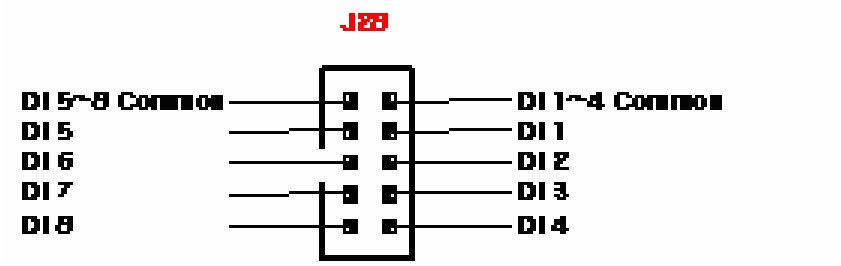
External Terminal Block

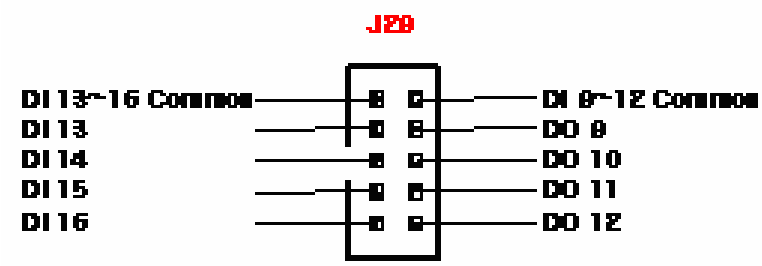





J22
+5V
GND

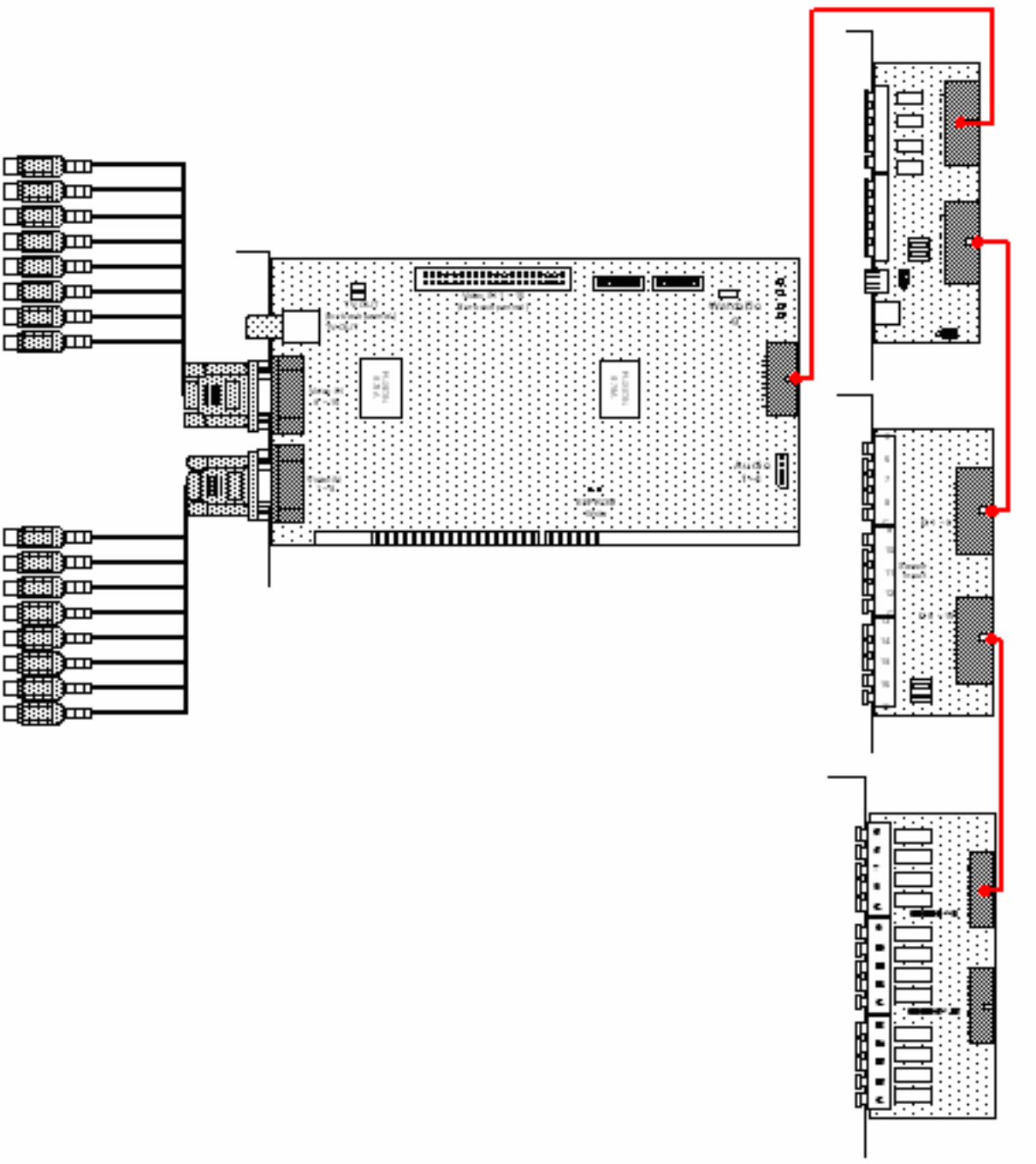

J25
DI 1~4 Common
DI 1
DI 2
DI 3
DI 4
DO 1~4 Common
DO 1
DO 2
DO 3
DO 4


J28
DI 5~8 Common
DI 5
DI 6
DI 7
DI 8
DI 1~4 Common
DI 1
DI 2
DI 3
DI 4


J29
DI 13~16 Common
DI 13
DI 14
DI 15
DI 16
DI 9~12 Common
DO 9
DO 10
DO 11
DO 12

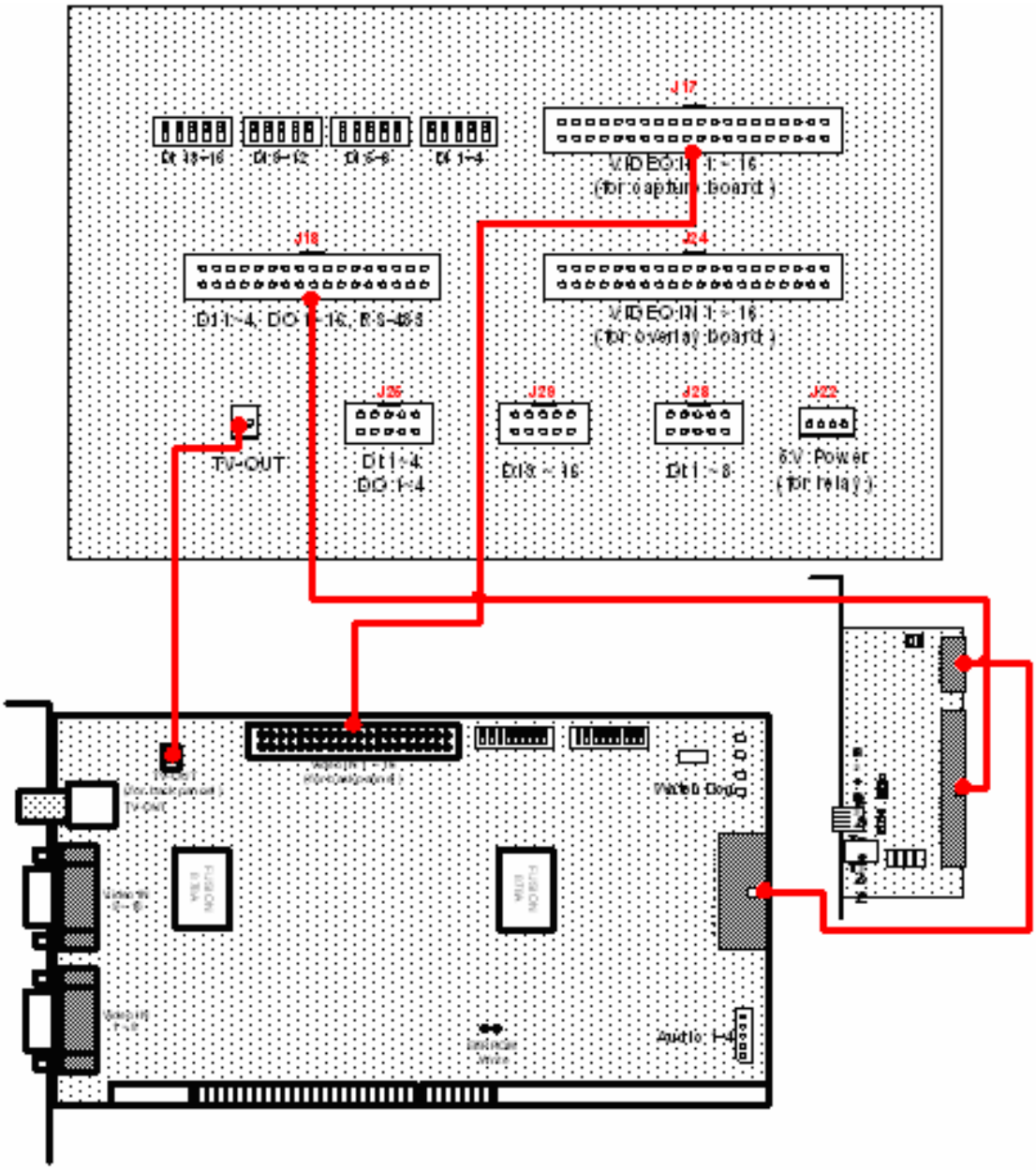
Cable Connection

1. 16Ch Capture + ConExt1 + ConExt3 + ConExt4
   (Video 16 + DI 16 + DO 4(16))



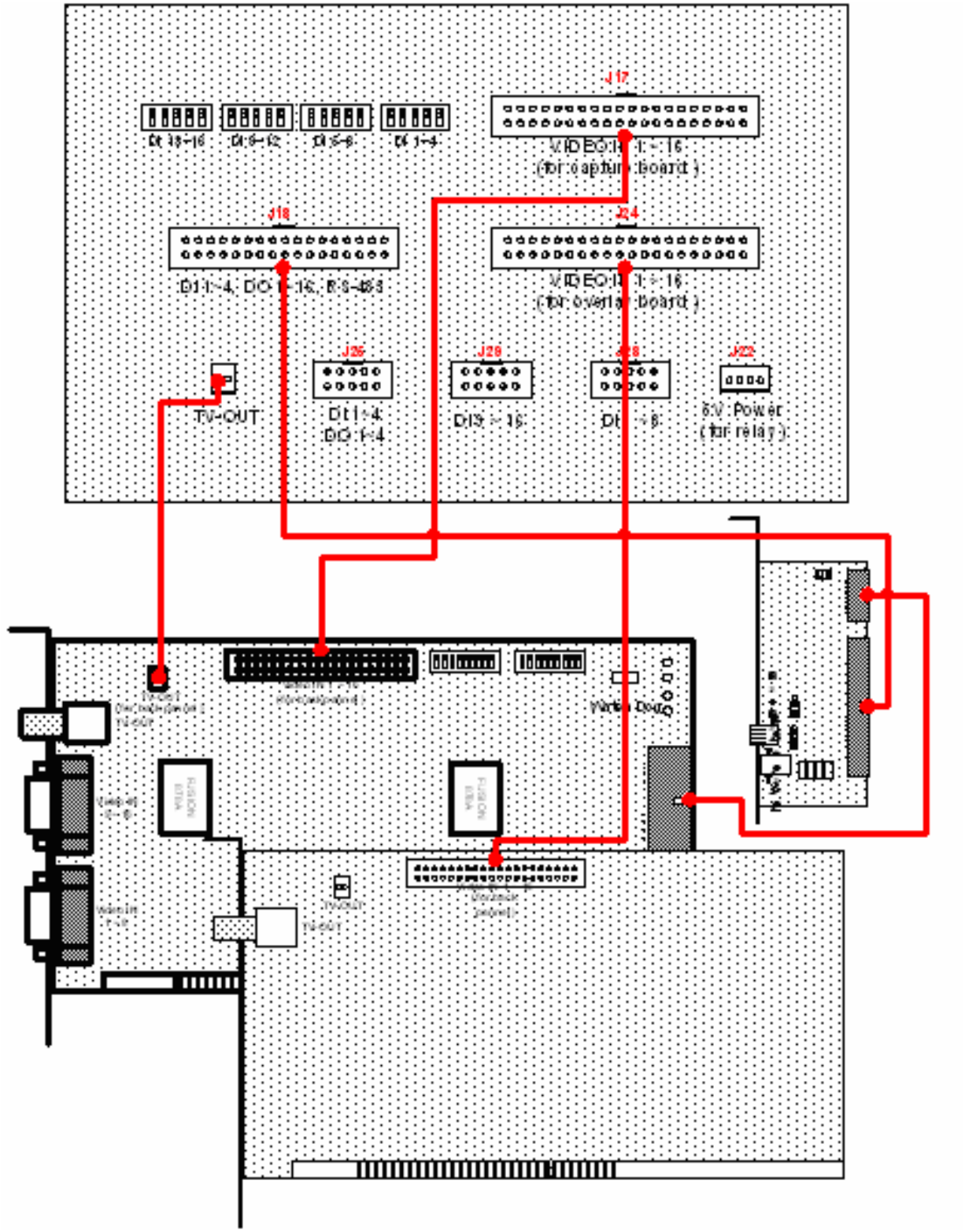
2. 16Ch Capture + Back Panel + Di/Do

(Video 16 + DI 16 + DO 4)



3. GVC16120(GVC1630, 1660) + GVC16R + Back Panel + Di/Do

(Video 16 + DI 16 + DO 4(16))



4. 16Ch Capture + Back Panel + ContExt4

(Video16 + DI 16 + Do 16)

