Touchboards

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4X2 DVI Matrix Switch

User's Guide

Models

SW-DVI-4X2

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Section 1: Getting Started

1.1   Important Safeguards

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
    - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
    - Repair or attempted repair by anyone not authorized by us.
    - Any damage of the product due to shipment.
    - Removal or installation of the product.
    - Causes external to the product, such as electric power fluctuation or failure.
    - Use of supplies or parts not meeting our specifications.
    - Normal wear and tear.
    - Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

1.2   Safety Instructions

- Do not dismantle the housing or modify the module.
- Dismantling the housing or modifying the module may result in electrical shock or burn.
- Refer all servicing to qualified service personnel.
- Do not attempt to service this product yourself as opening or removing housing may expose you to dangerous voltage or other hazards
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Have the module checked by a qualified service engineer before using it again.

1.3   Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

1.4   Introduction

Avenview SW-DVI-4X2 Matrix Switch enables you to switch and scan DVI source from up to 4 DVI signals of host computers by RS485 communication. It can output to 2 DVI source monitors or TV. SW-DVI-4X2 also supports HDCP compliant device. User can control input and output connection easily by manual or automatic mode by using RS-485 communication.

- Select a DVI graphic source from multi sources by data communication software.
- Multi Input and Multi Output
- Auto and Manual mode select
- Uses standard DVI-I connection
- Flexibly increase number of channel by multi step connection
- HDCP compliant

1.5   Before Installation

- Put the product in an even and stable location. If the product falls down or drops, it may cause an injury or malfunction.
- Don't place the product in too high temperature (over 50°C), too low temperature (under 0°C) or high humidity.
- Use the DC power adapter with correct specifications. If inappropriate power supply is used then it may cause a fire.

Section 2: Installation

Avenview SW-DVI-4X2 is designed to self detect the resolution of the monitor and change the resolution accordingly. Follow these steps for connecting to a device:

1. Power on your display
2. Connect Input and Output Sources to the DVI Port of SW-DVI-4X2 Matrix Switch
3. Plug the DC power of Matrix Switch
4. Power on DVI 4X2 Matrix Switch
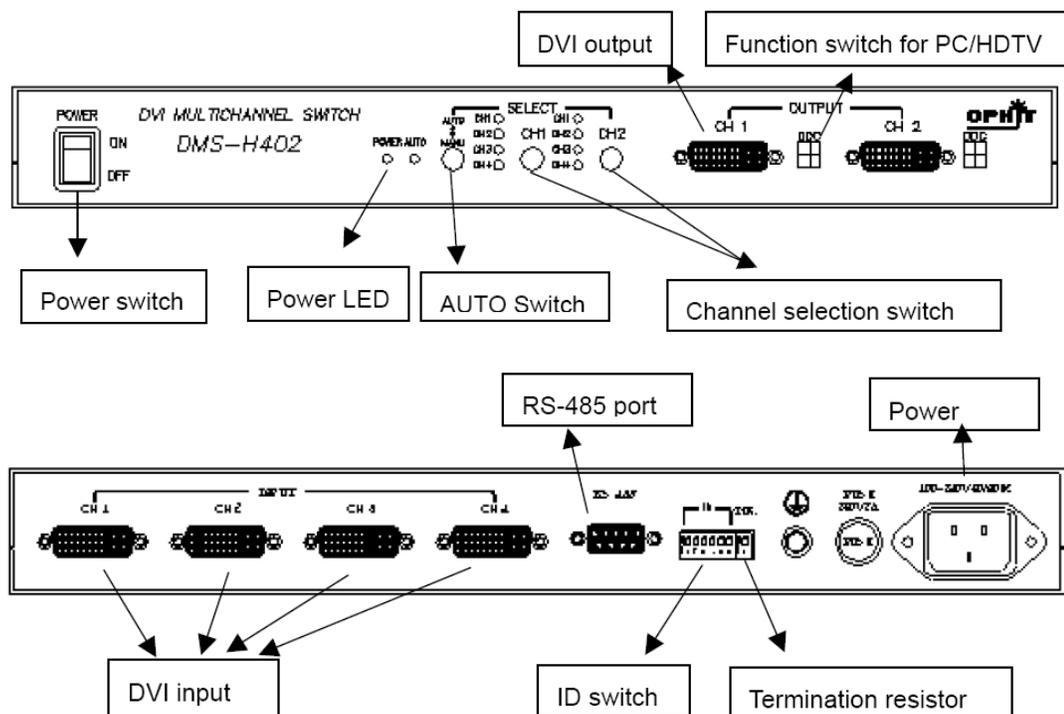
Connection diagram of SW-DVI-4X2

2.1   Auto / Manual Mode Setting

Avenview SW-DVI-4X2 set to Auto Mode when it is started the first time. Auto/Manual mode can be changed by mode selection switch. In manual mode, each corresponding output to channel (CH1, CH2, CH3, CH4) can be setup by DIP Switch. e.g: CH1➔CH2➔CH3➔CH4➔NONE➔CH1, by DIP Switch

2.2   Termination Resister

You can switch ON or OFF terminal resister from the back of the Matrix Switch as shown above.

ON   ➔   Setting the Termination Resister

OFF   ➔   Remove the Termination Resister

2.3   ID Address Settings

SW-DVI-4X2 Matrix switch can address up to 64ID (0 ~ 63) by Dip Switch.

↓ ON :   Set by 1

↑ OFF :   Set by 0
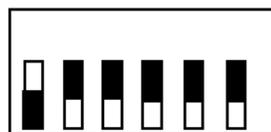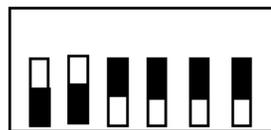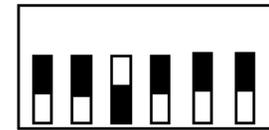
2.4   Function Switch for PC/HDTV

It is possible to select HDTV by function switch as shown below:
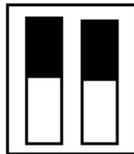
< For HDTV >   < For PC >

Section 3: RS485 Communication

3.1   RS485 Connector Configuration

The Pin assignment of SW-DVI-4X2 is as follow:
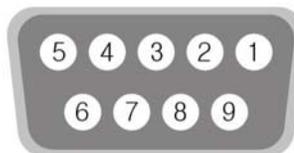
Pin Number	Pin Name
1	NC
2	A(+)
3	B(-)
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

3.2   Communication Protocol

3.2.1   Request Signal from Host to Matrix Switch

Head	Address	Output 1	Output 2	Output 3	Tail
1 byte	2 byte	1 byte	1 byte	1byte	1 byte

3.2.2   Reply Signal from Matrix Switch to Host

Head	Address	Tail
1 byte	2 byte	1 byte

3.2.3   Data of Each Signal

Name	(HEX)	Note
HEAD	0x21('!')	Request: Request from main computer
	0x24('$')	Reply: Reply from SW-DVI-4X2
ID1	0x30 ~ 0x39	2 Byte HEX ASCII
ID2	Ox30 ~ 0x39	
OUT1	0x31 ~ 0x34	Output 1 Select 0: Current Output Port OFF 1 ~ 4: Connect each Channel with Output No.1 Channel
OUT2	0x31 ~ 0x34	Output 2 Select 0: Current Output Port OFF 1 ~ 4: Connect Each Channel with Output No. 1 Channel
TAIL	0x2A(*)	Frame End Mast

e.g. 1: In case of digital switcher address 3,
Output Port 1 →Input Port #4, Output #2 →Input Port #3, Output Port #3 →Input Port #6,
Request Frame: 0x21, 0x30, 0x33, 0x34, 0x33, 0x36, 0x2a
Replay Frame: 0x24, 0x30, 0x33, 0x2a

3.2.4   Communication Protocol
- Baud Rate: 9600bps
- Data Bit: 8 bit
- Stop Bit: none
• For RS485 communication, please use RS232 to RS485 converter

Section 4: General Troubleshooting

Problem	Possible Solution
No Image	• Check the power cable connection • Turn the Power button off and on again. • Check the video input on input connector • Ensure that cables are connected securely • Check the Auto/Manual LED is ON or OFF, especially when Auto/Manual DIP Switch is changed
RS485 Communication Doesn't Work	• Check the cable connection • Check RS485 communication protocol • Ensure that distance is not more than 1Km.

Section 5: Specifications

Item	Description
Video Bandwidth	1.65Gbps (Single Link)
Connector	DVI-I 24Pin Receptacle
Input Channels	4
Output Channels	2
Power Consumption	4.0 Watt (max)
Supported Resolution	SXGA 1280 x 1024

Environmental

Operation	0˚ to 50˚C Degree
Storage	-20˚ to 70˚C Degree

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