

ANI-HDFLIP

2x4 4K60Hz 18Gbps HDMI Video Wall w/ 180 Degree Rotation





SAFETY INFORMATION



1. To ensure the best results from this product, please read this manual and all other documentation before operating your equipment. Retain all documentation for future reference.
2. Follow all instructions printed on unit chassis for proper operation.
3. To reduce the risk of fire, do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.
4. Make sure power outlets conform to the power requirements listed on the back of the unit. Keep unit protected from rain, water and excessive moisture.
5. Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Dust with a clean dry cloth.
6. Do not use the unit if the electrical power cord is frayed or broken. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
7. Do not force switched or external connections in any way. They should all connect easily, without needing to be forced.
8. Always operate the unit with the AC ground wire connected to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.
9. AC voltage must be correct and the same as that printed on the rear of the unit. Damage caused by connection to improper AC voltage is not covered by any warranty.
10. Turn power off and disconnect unit from AC current before making connections.
11. Never hold a power switch in the "ON" position.
12. This unit should be installed in a cool dry place, away from sources of excessive heat, vibration, dust, moisture and cold. Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.
13. Do not block fan intake or exhaust ports. Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically "blown free" of foreign dust and matter.
14. To reduce the risk of electric shock, do not remove the cover. There are no user serviceable parts inside. Refer all servicing to qualified service personnel. There are no user serviceable parts inside.
15. When moving the unit, disconnect input ports first, then remove the power cable; finally, disconnect the interconnecting cables to other devices.
16. Do not drive the inputs with a signal level greater than that required to drive equipment to full output.
17. The equipment power cord should be unplugged from the outlet when left unused for a long period of time.
18. Save the carton and packing material even if the equipment has arrived in good condition. Should you ever need to ship the unit, use only the original factory packing.
19. Service Information Equipment should be serviced by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged.
 - B. Objects have fallen, or liquid has been spilled into the equipment.
 - C. The equipment has been exposed to rain.
 - D. The equipment does not appear to operate normally, or exhibits a marked change in performance.
 - E. The equipment has been dropped, or the enclosure damaged.

THIS SAFETY INFORMATION IS OF A GENERAL NATURE AND MAY BE SUPERSEDED BY INSTRUCTIONS CONTAINED WITHIN THIS MANUAL.



▶ CONTENTS

INTRODUCTION & CONTENTS	1
FEATURES & SPECIFICATIONS	2
FRONT & BACK PANEL	3
USING THE ANI-HDFLIP / PC TOOL	4
APPLICATION EXAMPLE	9
RS-232 ASII PROTOCOL	10

INTRODUCTION

The ANI-HDFLIP is a HDMI 2.0 Video Wall controller with (2) HDMI input, (2) HDMI loop out and (4) HDMI scaling out for video wall processing. The Toslink jack terminal provides analogue L/R audio and digital SPDIF audio output. 5-way phoenix jacket provide balanced LR audio output. This product has a 3 year warranty.

PACKAGE CONTENTS

Before attempting to use this unit, please check the packaging and make sure the following items are contained in the shipping carton:

- ANI-HDFLIP
- 12V/3A power adapter
- Power Cord NEMA 1-15P to C7
- 5-pin phoenix (speaker output)
- 3-pin phoenix (RS-232)
- CAT5e patch cable
- USB to RS-232 cable
- RS-232 to 3-pin phoenix assembly cable
- Users Guide

SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

DISCLAIMERS

The information in this manual has been carefully checked and is believed to be accurate. We assume no responsibility for any infringements of patents or other rights of third parties which may result from its use.

We assume no responsibility for any inaccuracies that may be contained in this document. We make no commitment to update or to keep current the information contained in this document.

We reserve the right to make improvements to this document and/ or product at any time and without notice.

COPYRIGHT NOTICE

No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or any of its part translated into any language or computer file, in any form or by any means — electronic, mechanical, magnetic, optical, chemical, manual, or otherwise — without the express written permission and consent.

© Copyright 2020. All Rights Reserved.
Version 1.4 JUNE 2021

TRADEMARK ACKNOWLEDGMENTS

All products or service names mentioned in this document may be trademarks of the companies with which they are associated.



FEATURES

- Supports Bezel Compensation with two modes
- Supports 180° rotation
- Supports PIP on video wall
- Supports HDMI 2.0, HDCP2.2
- Supports 2x HDMI loop out
- Supports multi-resolution up to 3840x2160@60Hz video output for video wall
- RS-232 control
- Supports CEC control with displayer by PC Tool or commands

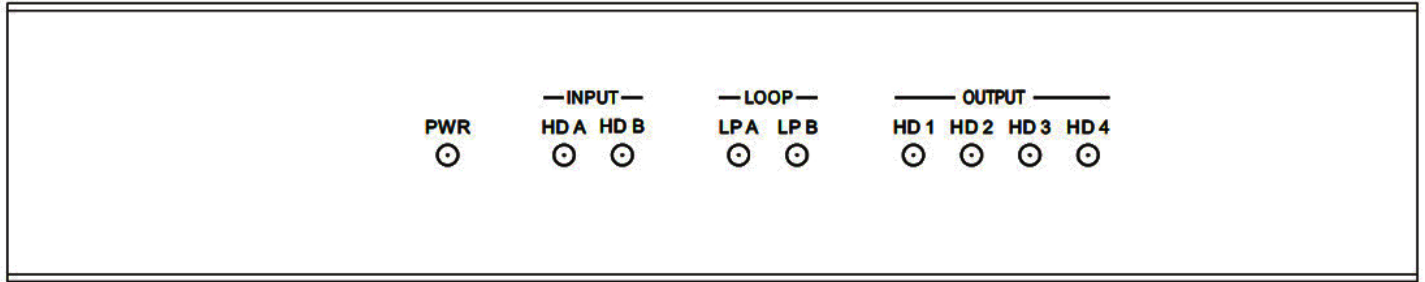
SPECIFICATIONS

- **HDCP Compliance:** HDCP 2.2 and HDCP 1.4
- **RS-232:** 57600 baud rate, 8 data bits, 1 stop bit, no parity
- **Input Video Formats Supported:** 4096x2160p@24/25/30/50/60Hz, 3840x2160p@24/25/30/50/60Hz, 1080p @24/25/30/50/60Hz, 1080i@50/60Hz 1920x1200@60Hz, 1680x1050@60Hz, 1600x1200@60Hz, 1440x900@60Hz, 1400x1050@60Hz, 1366x768@60Hz, 1360x768@60Hz, 1280x1024@60Hz, 1280x960@60Hz, 1280x800@60Hz, 1024x768@60Hz, 1280x720p@50/60Hz
- **Audio Format:** 2.0 channel, 5.1 channel, LPCM, Dolby, AC3, DTS
- **Power Consumption:** 25W max
- **Power Supply:** Input: 100-240VAC 50/60Hz 1.0A Output: 12.0VDC 3.0A with NON-POLAR IEC C8 socket
- **Operating Temperature Range:** 0 to +40°C (+32 to +104 °F)
- **Operating Humidity Range:** 10 to 50 % RH (non-condensing)
- **Dimensions (LxWxH):** 8.6 x 5.75 x 1.7 in (218x146x43mm)
- **Weight:** 4.4 lbs / 2kg

As product improvements are continuous, specifications are subject to change without notice.

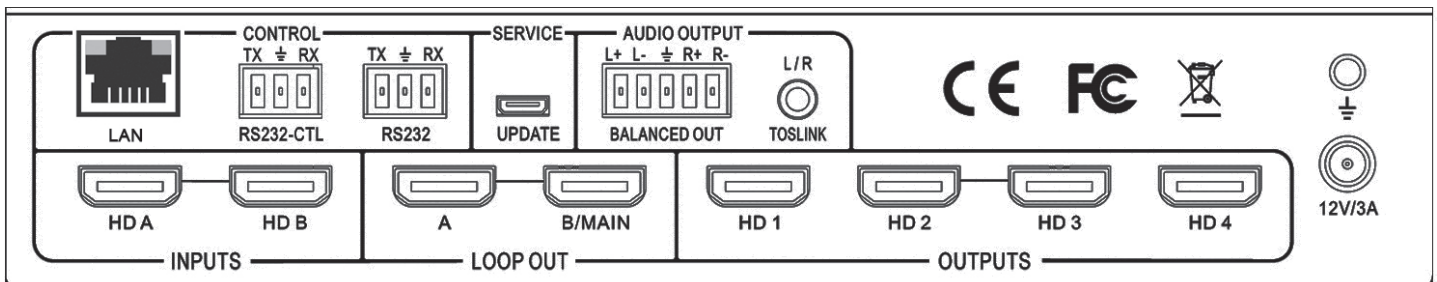


FRONT PANEL



- ❶ **PWR-LED:** Lit when the unit is powered
- ❷ **HD A-LED:** Lit when HDMI A input is connected
- ❸ **HD B-LED:** Lit when HDMI B input is connected
- ❹ **LP A-LED:** Lit when Loop out A is connected
- ❺ **LP B-LED:** Lit when Loop out B connected
- ❻ **HD 1...4-LED:** Lit when the corresponding HDMI out is connected

BACK PANEL



- ❶ **12V/3A:** ANI-HDFLIP DC jacket
- ❷ **RS-232 CONTROL:**
 - Device Control; RS-232
 - Baud Rate: 57600, Data Bits: 8, Parity: None Stop Bits:1
- ❸ **RS-232:** Loop out RS232-CTL
- ❹ **UPDATE:** Firmware upgrade
- ❺ **BALANCED AUDIO OUT:** 5-way phoenix Jacket, 20Hz ~ 20kHz, 1.5Vrms max
- ❻ **MINI TOSLINK:**
 - L+R Audio Output 3.5mm Stereo Jack. 20Hz ~ 20kHz, 1.5Vrms max
 - Optical SPDIF Audio Output
- ❼ **HD A:** HDMI A input
- ❽ **HD B:** HDMI B input
- ❾ **LOOP OUT A:** Loop out HDMI A signal to downstream
- ❿ **LOOP OUT B/MAIN:** Loop out HDMI B signal to downstream
- ⓫ **HD 1...HD 4:** HDMI scaling output for video wall

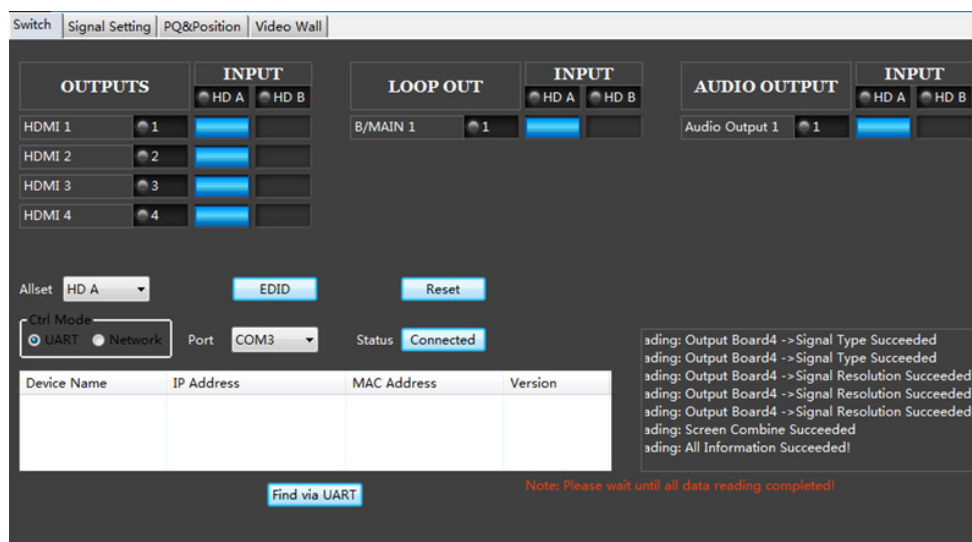
USING THE ANI-HDFLIP

Connect the desired video source to ANI-HDFLIP input HD A or HD B connector and the desired output video wall display devices to HD 1...HD4 HDMI output connector. Use the PC Tool (PC Tool Software.zip) download available on our website or RS-232 commands to control the unit for different wall displays.

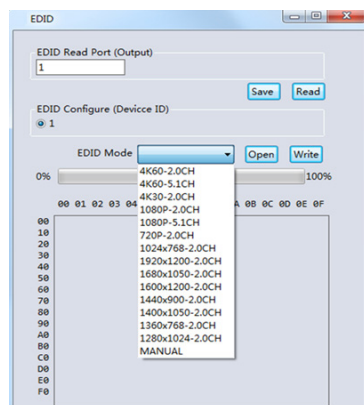
PC TOOL

SWITCH TAB ON THE PC TOOL

1. PC tool connects with UART (RS-232) or Network (IP)
2. Select input source for each scaling output port
3. All Set function, select HD A or B to all the scaling output
4. Select input source for B/MAIN output port
5. Select audio source for balanced audio output and Mini Toslink output
6. EDID configure
7. Reset



EDID MANAGEMENT



User can read each scaling output port downstream EDID and save as a BIN file.

User can open an existing EDID file and write to the HDMI A and B input port as Manual EDID.

User can select predefined EDID and write to HDMI A and B input ports.

Predefined EDID option like below:

4K60-2.0CH	4K30-5.1CH	1920x1200-2.0CH	1440x900-2.0CH	1280x1024-2.0CH	Manual
4K60-5.1CH	1080P-2.0CH	1680x1050-2.0CH	1400x1050-2.0CH	1024x768-2.0CH	
4K30-2.0CH	1080P-5.1CH	1600x1200-2.0CH	1360x768-2.0CH	720P-2.0CH	

SIGNAL SETTING TAB ON THE PC TOOL

User can read each input port resolution and set each scaling output resolution here

Switch | Signal Setting | PQ&Position | Video Wall

Input Board Read All

Label	Input Type	Input Format	
1 HD A	HDMI	3840x2160p60	Read
HD B	DVI	No Signal	Read

Output Board Read All

Label	Output Type	Output Format	
1	UHD-HDMI	3840x2160@60	Read
2	UHD-HDMI	3840x2160@60	Read
3	UHD-HDMI	3840x2160@60	Read
4	UHD-HDMI	3840x2160@60	Read

Available output resolutions:

Number	Output Resolution Setting	Number	Output Resolution Setting
1	3840x2160p 60Hz	9	1440x1050 60Hz
2	3840x2160p 50Hz	10	1366x768 60Hz
3	3840x2160p 30Hz	11	1360x768 60Hz
4	3840x2160p 25Hz	12	1280x1024 60Hz
5	1920x1200 60Hz	13	1280x768 60Hz
6	1920x1080p 60Hz	14	1280x720p 60Hz
7	1920x1080p 50Hz	15	1280x720p 50Hz
8	1600x1200 60Hz	16	1024x768 60Hz

Please note, 3840x2160 25/30Hz can only be used for standalone display, not for video wall.

PQ TAB ON THE PC TOOL

Video Wall PC tool V1.0.000

Switch | Signal Setting | PQ&Position | Video Wall

Select PQ FineTune Port: Output1

Brightness	50	Read Reset
Contrast	50	
Saturation	50	
Sharpness	50	

Suggest always use the default setting 50/50/50/50

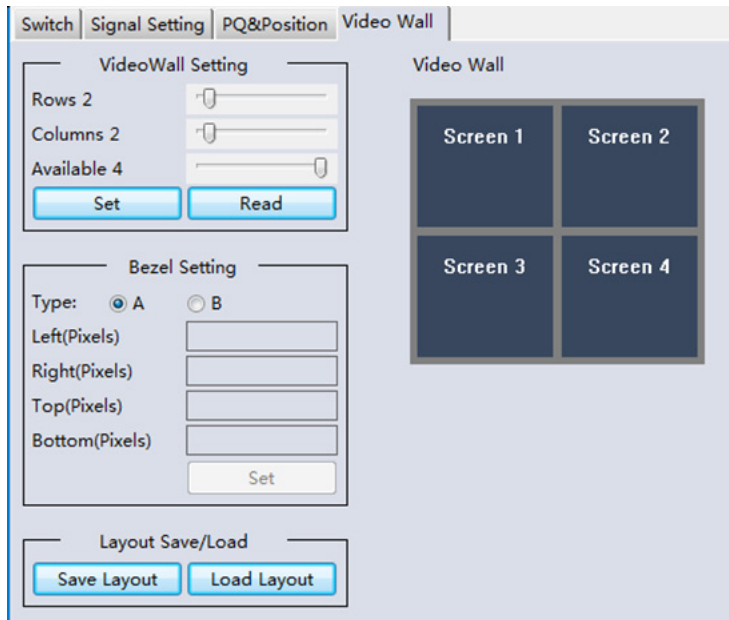
CEC TAB ON THE PC TOOL

Auto Power ON

	Output				
Output 1	Power ON	Power OFF	Volume+	Volume-	Mute/Unmute
Output 2	Power ON	Power OFF	Volume+	Volume-	Mute/Unmute
Output 3	Power ON	Power OFF	Volume+	Volume-	Mute/Unmute
Output 4	Power ON	Power OFF	Volume+	Volume-	Mute/Unmute

VIDEO WALL TAB ON THE PC TOOL

The Video Wall tab is used to configure a group of outputs to function as a video wall.



1. Use the Video Wall Setting controls to change how the displays are arranged on the Video Wall tab:

- Adjust the Rows and Columns sliders to change the displayed screen arrangement to permit proper Drag-and-Select of the desired screens for the video wall.
- Change the Available slider to set how many outputs will be used for the Video
- Click the Set button to change the Screen configuration on the Video Wall tab.

2. Use the left mouse button to drag-select the screens that will be set for video wall mode. The selected screens will be shown as bright blue.

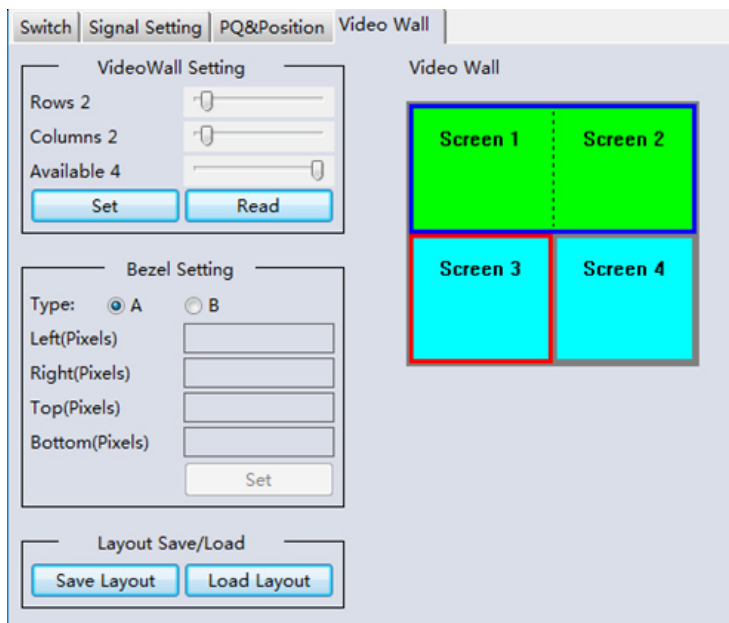
3. Use the right mouse button to open a menu.

4. Select Screen Stitching from the menu to program the video wall mode. The selected screens will now be shown as bright green.

5. To change the displayed image: either use the methods

detailed in the section Controlling the Matrix Switcher, or right-click to open the pop-up menu and select the desired input from the Input Select menu option.

6. Repeating steps 2 to 5 above with a different set of outputs allows the creation of a second video wall. However, changing the Rows, Columns and Available sliders will automatically delete the current video wall set up when the Set button is clicked. The following example shows a more unusual video wall set-up of two video walls with two 2x1 configurations:



VIDEO WALL CONTEXT MENU

Right clicking on any of the screen icons will display the following context menu:

Screen Splicing	
Cancel Splicing	
Screen 2 - Cancel Splicing	
Input Select	▶
Output Select	▶
Output Type	▶
Output Format	▶
Mirror	▶
Test Pattern	▶

Screen Stitching: This option connects the selected screens into a video wall configuration.

Cancel Stitching: Return the Video Wall configuration to normal outputs.

Screen x – Cancel Stitching: Removes the single screen x from the video wall to allow the displaying another full frame image within the video wall configuration, as shown in this example:



Video Wall Display with bezel compensation and different full frame image on display 3



MIRROR

Input Select: Use the sub-menu to select the input to display on the video wall or the secondary input image shown in the above example.

Output Select: This option is only available for any screen that is not assigned to a video wall mode.

Output Type: This option is only available for any screen that is not assigned to a video wall mode. It allows setting of the selected screen output mode as described in the Output Board section.

Output Format: This option is only available for any screen that is not assigned to a video wall mode. It allows setting of the output resolution for the selected screen output.

Mirror: Two sub options: OFF (default), ON (H+V Mirror). When select ON, you can make 180° rotation with the selected screen.

Test Pattern: When enable Test Pattern, the output will display Color Bar pattern.

Bezel Setting

The Bezel Setting section allows the entry of values to compensate for the display bezel thickness. These values may be entered either as pixels (Type A) or as millimeter (Type B).

Type A Bezel Settings

The image size will be adjusted to allow for the number of pixels entered in each of the entry boxes. Click the Set button view the effect of the new values.

Type B Bezel Settings

The image size will be adjusted to allow for the Inner and Outer display dimensions as entered in each of the entry boxes. Click the Set button view the effect of the new values.

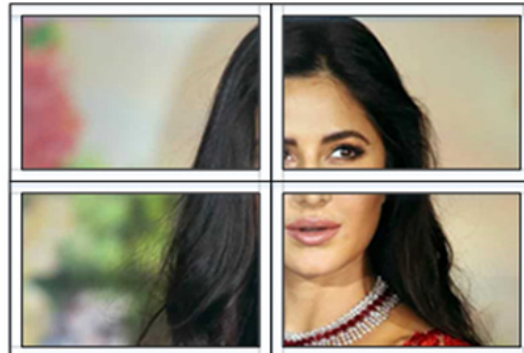


Bezel Compensation

The following images demonstrate the effect of not having bezel compensation and what a correctly configured bezel compensation settings should produce:



No Bezel Compensation



Correct Bezel Compensation

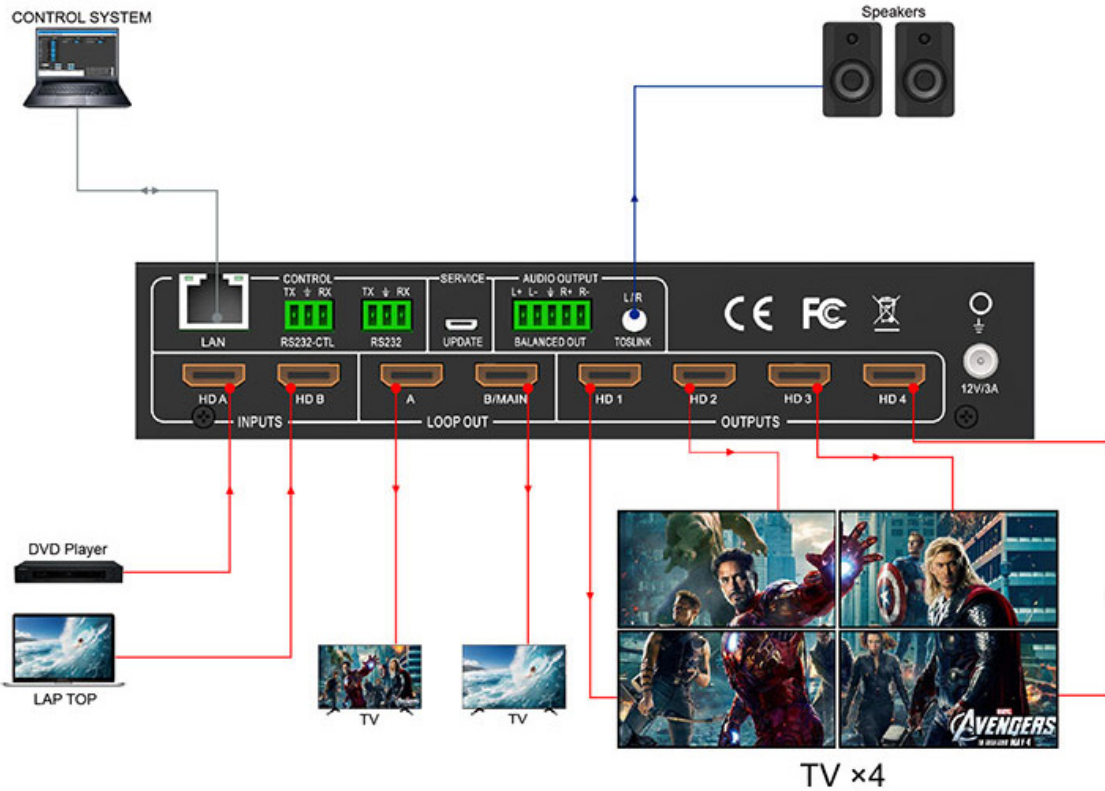
Layout Save/Load

The Save Scene/Layout and Load Scene/Layout buttons allow a video wall configuration to be saved or recalled at any time. Up to 10 configurations, each with their own name can be saved or recalled. When saving, each Scene can optionally be given a name to identify that video wall scene setup.



CONNECTION DIAGRAM

- HDMI
- AUDIO
- CAT



SERIAL COMMUNICATION PROTOCOL FORMAT**Baud Rate:** 57600**Data bits:** 8**Parity:** None**Stop bits:** 1

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	The target that handles this command.	Space	Command type	[Parameter1] [Parameter2]	↵ This is ASCII carriage return 0x0d

NOTES:

Space is the ASCII character 0x20

↵ Represents the ASCII character 0x0d

All Return messages are always terminated by CR/LF, the ASCII characters 0x0d 0x0a

All items shown in square brackets, [], are optional.

Any SET command that contains leading zeroes should not include the leading zeros in any response message.

The value ranges for certain commands are not given, please state and minimum and maximum values for each command that uses a numerical value range.

SOFTWARE VERSION (READ ONLY)

Get the software version of input/output channels:

Send: GET OUT1 VERSION ↵

Receive: OUT1 VERSION 2019/01/01-12:00:00

Send: GET SYS VERSION ↵

Receive: SYS VERSION 2019/01/01-12:00:00

INPUT CHANNEL COMMAND**INPUT SIGNAL FORMAT (READ ONLY)**

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
GET	Space	INx x is the input port number	Space	IN-SIGNAL	Send: Null (0 byte)	↵

GET input signal format of input board:

Send: GET IN1 IN-SIGNAL ↵

Receive: IN1 IN-SIGNAL HDMI@3840x2160p60

IN1= INPUT A port

IN2= INPUT B port



OUTPUT CHANNEL COMMAND

OUTPUT TYPE

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
GET/SET	Space	INx x is the output port number	Space	OUT-TYPE		↵

A. GET output type of output board:

Send: GET OUT1 OUT-TYPE ↵

Receive: OUT1 OUT-TYPE UHD-HDMI ↵

Send: GET OUT2 OUT-TYPE ↵

Receive: OUT2 OUT-TYPE UHD-DVI ↵

B. SET output type of output board:

Send: SET OUT1 OUT-TYPE UHD-HDMI ↵

Receive: OUT1 OUT-TYPE UHD-HDMI ↵

Send: SET OUT2 OUT-TYPE UHD-DVI ↵

Receive: OUT01 OUT-TYPE UHD-DVI ↵

NOTES:**Support Types:**

UHD-HDMI: HDMI without HDCP

UHD-DVI: DVI without HDCP

UHD-HDMI-1.4: HDMI, HDCP1.4

UHD-HDMI-2.2: HDMI, HDCP2.2

OUTPUT SIGNAL FORMAT

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
GET/SET	Space	OUTx	Space	OUT-SIGNAL		↵

A. GET output signal format of output board:

Send: GET OUT1 OUT-SIGNAL ↵

Receive: OUT1 OUT-SIGNAL UHD-HDMI@4K2Kp60 ↵

B. SET output signal format of output channel:

Send: SET OUT1 OUT-SIGNAL 1920x1080p60 ↵

Receive: OUT1 OUT-SIGNAL UHD-HDMI @1920x1080p60 ↵

NOTES:**1. Supported output resolution:**

3840x2160p60, 3840x2160p50, 1920x1200p60, 1920x1080p60, 1920x1080p50, 1600x1200p60, 1400x1050p60, 1366x768p60, 1360x768p60, 1280x1024p60, 1280x768p60, 1280x720p50, 1280x720p60, 1024x768p60



BRIGHTNESS SETTING

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	OUTx	Space	BRIGHTNESS		↵

A. GET brightness of output board:

Send: GET OUT1 BRIGHTNESS ↵

Receive: OUT1 BRIGHTNESS 50

B. SET brightness of output board:

Send: SET OUT1 BRIGHTNESS 50 ↵

Receive: OUT1 BRIGHTNESS 50

CONTRAST SETTING

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	OUTx	Space	CONTRAST		↵

A. GET contrast of output board:

Send: GET OUT1 CONTRAST ↵

Receive: OUT1 CONTRAST 50

B. SET contrast of input board:

Send: SET OUT1 CONTRAST 50 ↵

Receive: OUT1 CONTRAST 50

SATURATION SETTING

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	OUTx	Space	SATURATION		↵

A. GET saturation of output board:

Send: GET OUT1 SATURATION ↵

Receive: OUT1 SATURATION 50

B. SET saturation of output board:

Send: SET OUT1 SATURATION 50 ↵

Receive: OUT1 SATURATION 50



PICTURE QUALITY RESET

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET	Space	OUTx	Space	PQ-RESET	Null (0 byte)	↵

A. Reset the picture quality of output board:

Send: SET OUT1 PQ-RESET ↵

Receive: OUT1 PQ-RESET ↵

TEST PATTERN

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
GET/SET	Space	OUTx	Space	TSP		↵

Send: GET OUT1 TSP ↵

Receive: OUT1 TSP ON ↵

Send: SET OUT1 TSP OFF ↵

Receive: OUT1 TSP OFF ↵

MIRROR

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
GET/SET	Space	OUTx	Space	MIRROR		↵

Send: GET OUT1 MIRROR ↵

Receive: OUT1 MIRROR ON ↵

Send: SET OUT1 MIRROR OFF ↵

Receive: OUT1 MIRROR OFF ↵

ROUTING COMMAND

VIDEO ROUTING

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET	Space	INx	Space	VIDEO	OUTx or ALL	↵

A. Set video route: Input port-x/xx/xxx switch to output port-a/b/c... , or all output ports

For example, SET video route: Input port 1 switch to output port 1

Send: SET IN1 VIDEO OUT1 ↵

Receive: IN1 VIDEO OUT1 ↵



For example, SET video route: Input port 1 switch to all output ports

Send: SET IN1 VIDEO ALL ↵

Receive: IN1 VIDEO ALL ↵

Here IN1= INPUT A port

IN2= INPUT B port

LR AND TOSLINK AUDIO OUT

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET	Space	IN1 Or IN2	Space	AUDIO-ROUTE	LR	↵

Send: SET IN1 AUDIO-ROUTE LR ↵

Receive: IN1 AUDIO-ROUTE LR ↵

Send: SET IN2 AUDIO-ROUTE LR ↵

Receive: IN2 AUDIO-ROUTE LR ↵

Here IN1= INPUT A port

IN2= INPUT B port

LR = LR and TOSLINK out

B/MAIN LOOP OUT

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET	Space	IN1 or IN2	Space	LOOP-OUT	MAIN	↵

Send: SET IN1 LOOP-OUT MAIN ↵

Receive: IN1 LOOP-OUT MAIN ↵

Here IN1= INPUT A port

IN2= INPUT B port

MAIN = MAIN/B loop out

RECALL/SAVE MODE OF ROUTE

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	SYS	Space	ROUTE-MODE	xx - xx is the mode value	↵

Send: GET SYS ROUTE-MODE 1 ↵

Receive: SYS ROUTE-MODE 1 ↵

Send: SET SYS ROUTE-MODE 1 ↵

Receive: SYS ROUTE-MODE 1 ↵



TV-WALL

SET TV-WALL

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET	Space	OUTx	Space	TVWALL	Line, Column, P, Q, Margin-Left, Margin-Right, Margin-Top, Margin-Bottom, Input:	↵

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Picture-1 for example: The entire TV wall consists of 16 screens, placed in 4 rows and 4 columns. Screens 6/7/10/11 make up a 2x2 splice.

The parameter of the splice which make up by Screens 6/7/10/11:

Line: How many rows of the Digital Information Display, picture-1 for example, 2

Column: How many columns of the Digital Information Display left picture for example, 2

P: The row number of the current output connected: Screen 6: 1, Screen 7: 1, Screen 10: 2, Screen 11: 2

Q: The column number of the current output connected: Screen 6: 1, Screen 7: 2, Screen 10: 1, Screen 11: 2

The border of each screen is 20 pixels for example:

Margin-Left: The width of the left margin (pixels): Screen 6: 0, Screen 7: 20, Screen 10: 0, Screen 11: 20

Margin-Right: The width of the right margin (pixels): Screen 6: 20, Screen 7: 0, Screen 10: 20, Screen 11: 0

Margin-Top: The width of the top margin (pixels): Screen 6: 0, Screen 7: 0, Screen 10: 20, Screen 11: 20

Margin-Bottom: The width of the bottom margin (pixels): Screen 6: 20, Screen 7: 20, Screen 10: 0, Screen 11: 0

Input: Which input route to the current panel

A. SET TV-WALL mode of one output port

Picture-1 Screen 6/7/10/11, and the source input is input 1 **For example,**

Send: SET OUT6 TVWALL 2 2 1 1 0 20 0 20 1 ↵

Receive: OUT6 TVWALL 2 2 1 1 0 20 0 20 1

Send: SET OUT7 TVWALL 2 2 1 2 20 0 0 20 1 ↵

Receive: OUT7 TVWALL 2 2 1 2 20 0 0 20 1

Send: SET OUT10 TVWALL 2 2 2 1 0 20 20 0 1 ↵

Receive: OUT10 TVWALL 2 2 2 1 0 20 20 0 1

Send: SET OUT11 TVWALL 2 2 2 2 20 0 20 0 1 ↵

Receive: OUT11 TVWALL 2 2 2 2 20 0 20 0 1

Sending these four commands will create a 2x2 splice

B. How to Exit TV wall mode:

For example, Exit TV-WALL combination of output port 6,7,10,11

Send: SET OUT6 TVWALL 1 1 1 1 0 00 0 00 1 ↵

Receive: OUT6 TVWALL 1 1 1 1 0 00 0 00 1 ↵

Send: SET OUT7 TVWALL 1 1 1 1 0 00 0 00 1 ↵

Receive: OUT7 TVWALL 1 1 1 1 0 00 0 00 1 ↵

Send: SET OUT10 TVWALL 1 1 1 1 0 00 0 00 1 ↵

Receive: OUT10 TVWALL 1 1 1 1 0 00 0 00 1 ↵

Send: SET OUT11 TVWALL 1 1 1 1 0 00 0 00 1 ↵

Receive: OUT11 TVWALL 1 1 1 1 0 00 0 00 1 ↵

SYSTEM COMMAND

DEVICE IP

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	SYS	Space	IP	AT+WANN= mode, address, mask, gateway	↵

A. GET the device IP:

For example, GET the device IP (MAC: D8B04CB947DF)

Send: GET SYS IP↵

Receive: SYS IP D8B04CB947DF DHCP,192.168.0.119,255.255.255.0,192.168.0.1↵

Send: GET SYS IP↵

Receive: SYS IP D8B04CB947DF STATIC,192.168.0.222,255.255.255.0,192.168.0.24↵

B. SET the device IP:

For example, Set the device IP to STATIC 192.168.1.1

Send: SET SYS IP STATIC,192.168.0.222,255.255.255.0,192.168.0.1↵

Receive: SYS IP STATIC,192.168.0.222,255.255.255.0,192.168.0.1↵

C. Set the device STATIC/DHCP

For example, Set the device IP to DHCP (auto obtain)

Send: SET SYS IP DHCP↵

Receive: SYS IP DHCP↵

SYSTEM RESET

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET	Space	SYS	Space	RESET	ALL	↵

A. SET (Reset) the device :

For example, Set (Reset) the device

Send: SET SYS RESET ALL↵

Receive: SYS RESET ALL↵

DEVICE ID (ONLY USED ON SPECIAL CONDITION)

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	SYS	Space	ID		↵

Set the device ID, when in cascade mode or chain mode, need to set each device ID, default ID is 1.

For example, Two VW4K24 work in cascade mode, then the first unit device ID is 1, the first unit's first output port index is 1, the second unit device ID is 2, the second unit's first output port index is 5. Need to set the device ID before installation alone.

Send: SET SYS ID 2↵

Receive: SYS ID 2↵

Send: GET SYS ID↵

Receive: SYS ID 2↵



FIRST OUTPUT PORT INDEX (ONLY USED ON SPECIAL CONDITION)

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	SYS	Space	FPI		↵

Set the first output port index, when in cascade mode or chain mode, need to set each device first output port index. The default first output port index is 1.

For example, Two VW4K24 work in cascade mode, then the first unit device ID is 1, the first unit's first output port index is 1, the second unit device ID is 2, the second unit's first output port index is 5. Need to set the device ID of each unit before installation alone.

Send: SET SYS FPI 1↵

Receive: SYS FPI 1↵

Send: GET SYS FPI ↵

Receive: SYS FPI 1 ↵

CEC COMMANDS

AUTO POWER ON BY CEC

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET/GET	Space	SYS	Space	AUTO-POWER-ON	ON, OFF	↵

This command to Enable/Disable Auto Power function to control sources and displayers by CEC

Send: SET SYS AUTO-POWERON ON↵

Receive: SYS AUTO-POWERON ON↵

Send: GET SYS AUTO-POWERON↵

Receive: SYS AUTO-POWERON ON↵

POWER ON/OFF DISPLAYER BY CEC

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET	Space	OUTx	Space	POWER	ON/OFF	↵

Send: SET OUT1 POWER ON↵

Receive: OUT1 POWER ON↵



VOLUME +/VOLUME-/MUTE/UNMUTE WITH DISPLAYER

Operation Type (3 byte)	Spacer (1 byte)	Target (N bytes)	Spacer (1 byte)	Command Type (N bytes)	Command Parameters (N bytes)	Command Tail (1 byte)
SET	Space	OUTx	Space	AUDIO	VOLUME+, VOLUME-, MUTE	↵

For example,

Send: SET OUT1 AUDIO VOLUME+↵

Receive: OUT1 AUDIO VOLUME+↵

Send: SET OUT1 AUDIO VOLUME-↵

Receive: OUT1 AUDIO VOLUME-↵

Send: SET OUT1 AUDIO MUTE↵

Receive: OUT1 AUDIO MUTE//This command will toggle mute/unmue↵



THIS PAGE IS INTENTIONALLY LEFT BLANK.



THIS PAGE IS INTENTIONALLY LEFT BLANK.



THIS PAGE IS INTENTIONALLY LEFT BLANK.



PLEASE READ THE FOLLOWING TERMS AND CONDITIONS CAREFULLY BEFORE USING THIS HARDWARE, COMPONENTS AND SOFTWARE PROVIDED BY, THROUGH OR UNDER A-NeuVideo, INC (COLLECTIVELY, THE "PRODUCT"). By using installing or using the Product, you unconditionally signify your agreement to these Terms and Conditions. If you do not agree to these Terms and Conditions, do not use the Product and return the Product to A-NeuVideo, Inc. at the return address set forth on the Product's packing label at your expense. A-NeuVideo, Inc. may modify these Terms and Conditions at anytime, without notice to you. This unit comes with a 3 Year Warranty.

RESTRICTIONS ON USE OF THE PRODUCT

It is your responsibility to read and understand the installation and operation instructions, both verbal and in writing, provided to you with respect to the Product. You are authorized to use the Product solely in connection with such instructions. Any use of the Product not in accordance with such instructions shall void any warranty pertaining to the Product. Any and all damages that may occur in the use of the Product that is not strictly in accordance with such instructions shall be borne by you and you agree to indemnify and hold harmless A-NeuVideo, Inc. from and against any such damage.

The Product is protected by certain intellectual property rights owned by or licensed to A-NeuVideo. Any intellectual property rights pertaining to the Product are licensed to you by A-NeuVideo, Inc. and/or its affiliates, including any manufacturers or distributors of the Product (collectively, "A-NeuVideo") for your personal use only, provided that you do not change or delete any proprietary notices that may be provided with respect to the Product.

The Product is sold to you and any use of any associated intellectual property is deemed to be licensed to you by A-NeuVideo for your personal use only. A-NeuVideo does not transfer either the title or the intellectual property rights to the Product and A-NeuVideo retains full and complete title to the intellectual property rights therein. All trademarks and logos are owned by A-NeuVideo or its licensors and providers of the Product, and you may not copy or use them in any manner without the prior written consent of A-NeuVideo, which consent may be withheld at the sole discretion of A-NeuVideo.

The functionality and usability of the Product is controlled by A-NeuVideo, Inc. from its offices within the State of Texas, United States of America. A-NeuVideo makes no representation that materials pertaining to the Product are appropriate or available for use in other locations other than the shipping address you provided with respect thereto. You are advised that the Product may be subject to U.S. export controls.

DISCLAIMERS AND LIMITATION OF LIABILITY

A-NeuVideo may change or modify the Product at any time, from time to time.

THE PRODUCT IS PROVIDED "AS IS" AND WITHOUT WARRANTIES OF ANY KIND EITHER EXPRESS OR IMPLIED. A-NEUVIDEO DOES NOT WARRANT OR MAKE ANY REPRESENTATIONS REGARDING THE USE OR THE RESULTS OF THE USE OF THE PRODUCT'S CORRECTNESS, ACCURACY, RELIABILITY, OR OTHERWISE.

A-NeuVideo has no duty or policy to update any information or statements pertaining to the Product and, therefore, such information or statements should not be relied upon as being current as of the date you use the Product. Moreover, any portion of the materials pertaining to the Product may include technical inaccuracies or typographical errors. Changes may be made from time to time without notice with respect to the Product.

TO THE FULLEST EXTENT PERMISSIBLE PURSUANT TO APPLICABLE LAW, A-NEUVIDEO DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. A-NEUVIDEO DOES NOT WARRANT THE ACCURACY, COMPLETENESS OR USEFULNESS OF ANY INFORMATION WITH RESPECT TO THE PRODUCT. A-NEUVIDEO DOES NOT WARRANT THAT THE FUNCTIONS PERTAINING TO THE PRODUCT WILL BE ERROR-FREE, THAT DEFECTS WITH RESPECT TO THE PRODUCT WILL BE CORRECTED, OR THAT THE MATERIALS PERTAINING THERETO ARE FREE OF DEFECTS OR OTHER HARMFUL COMPONENTS. A-NEUVIDEO WILL USE ITS REASONABLE EFFORTS TO CORRECT ANY DEFECTS IN THE PRODUCT UPON TIMELY WRITTEN NOTICE FROM YOU NOT TO EXCEED 10 BUSINESS DAYS AFTER RECEIPT BY YOU OF THE PRODUCT, BUT YOU (AND NOT A-NEUVIDEO) ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR AND CORRECTION THAT WAS CAUSED BY YOU UNLESS OTHERWISE AGREED TO IN A SEPARATE WRITING BY A-NEUVIDEO.

UNDER NO CIRCUMSTANCES, INCLUDING, BUT NOT LIMITED TO, NEGLIGENCE, SHALL A-NEUVIDEO BE LIABLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES THAT RESULT FROM THE USE OF, OR THE INABILITY TO USE THE PRODUCT IN ACCORDANCE WITH ITS SPECIFICATIONS, EVEN IF A-NEUVIDEO OR ITS REPRESENTATIVES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL A-NEUVIDEO'S TOTAL LIABILITY TO YOU FROM ALL DAMAGES, LOSSES, AND CAUSES OF ACTION (WHETHER IN CONTRACT, OR OTHERWISE) EXCEED THE AMOUNT YOU PAID TO A-NEUVIDEO, IF ANY, FOR THE PRODUCT.

