

ANI-3AUTOHDMI

UHD+ 3x1 HDMI Switcher





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.

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.

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INTRODUCTION

The ANI-3AUTOHDMI UHD+ 3x1 HDMI Switcher features (3) HDMI inputs and one HDMI output with manual or automatic source switching. Every input and output supports full bandwidth 4K@60Hz (4:4:4, 8-bit) HDMI 2.0 with HDCP 2.2 signals. Automatic source management allows for hands-free switching based on input signal and hot plug detection with a “Last Memory” switching feature upon signal loss. This switch is an ideal addition to any conference room, lecture hall or home entertainment setup with its portable and easy to install design. Control is via a top panel button and RS-232. These products have 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-3AUTOHDMI 3x1 HDMI Switcher
- Micro USB cable
- Users Guide

APPLICATIONS

- Conference rooms and boardrooms
- Lecture halls, auditoriums and classrooms
- Household entertainment sharing and control

SYSTEM REQUIREMENTS

- HDMI source equipment such as media players, video game consoles or set-top boxes.
- HDMI receiving equipment such as an HDTV, monitor or audio amplifier.
- The use of Premium High Speed HDMI cables is highly recommended.

FEATURES

FEATURES

- HDMI 2.0 and DVI 1.0 compatible
- HDCP 1.x and HDCP 2.2 compliant
- (3) HDMI inputs, 1 HDMI output
- Supports up to 4K UHD (18Gbps, 4K@50/60Hz 4:4:4, 8-bit) video input and output
- Supports Deep Color input and output up to 12-bit
- Supports 10-bit and 12-bit HDR (High Dynamic Range) input/output
- Supports pass-through of many audio formats including 8 channel LPCM, Bitstream, and HD Bitstream
- Supports manual input selection or automatic input selection with hot plug detection and “**Last Memory**” feature
- Sophisticated EDID management ensures optimal compatibility
- LED indicators provide input selection as well as automatic switch status information
- Small and portable switch box design
- Can be powered via the Micro USB port (1A minimum) or an optional external power supply
- Control via top panel button, RS-232, and IR (requires optional IR remote)

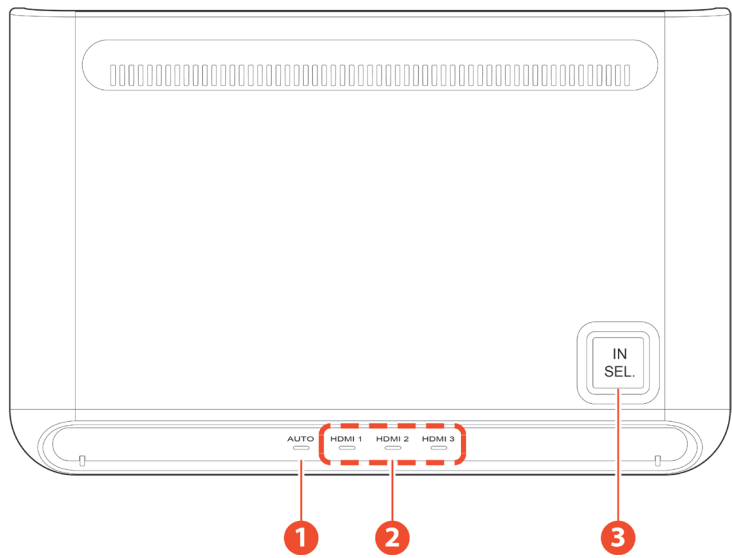
SPECIFICATIONS

- **HDMI Bandwidth:** 18Gbps
- **Input Ports:** (3) HDMI (Type-A)
- **Output Ports:** HDMI (Type-A)
- **Control Ports:** RS-232 (3.5mm)
- **Service/Power Port:** USB 2.0 (Micro B)
- **IR Frequency:** 38kHz
- **Baud Rate:** 19200
- **Power Supply (Optional):** 5V/1A DC (US/EU standards, CE/FCC/UL certified)
- **ESD Protection Human Body Model:**
 - $\pm 8\text{kV}$ (air-gap discharge)
 - $\pm 6\text{kV}$ (contact discharge)
- **Dimensions (WxDxH):** 6.2 x 1.2 x 4 in (157x30x102mm)
- **Chassis Material:** Plastic (ABS)
- **Weight:** 6.7 oz / 190g
- **Chassis Color:** Black
- **Operating Temperature:** 0°C – 40°C/32°F – 104°F
- **Storage Temperature:** -20°C – 60°C/-4°F – 140°F
- **Relative Humidity:** 20 – 90% RH (Non-condensing)
- **Power Consumption:** 3.2W

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

OPERATION CONTROLS & FUNCTIONS

TOP PANEL



1 AUTO LED: This LED will illuminate when the auto switch function is active. While active, the input source will be selected based on the most recently connected live source.

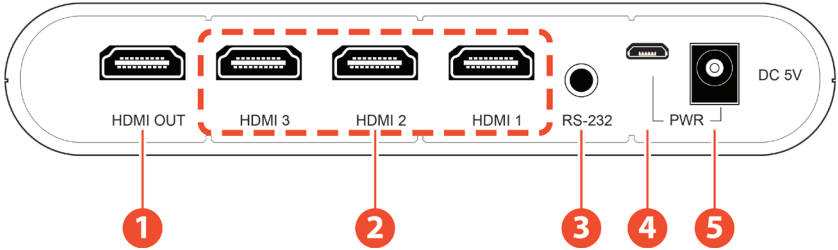
2 HDMI 1~3 LEDs: The LED of the currently selected input will illuminate green. When an input has an active source, but is not currently selected, it will illuminate red. When no source is detected the LED will remain off.

3 IN SEL. BUTTON: Press this button to sequentially switch through the available inputs or select auto switch.

Note: The sequence is: HDMI 1 > HDMI 2 > HDMI 3 > Auto > HDMI 1

OPERATION CONTROLS & FUNCTIONS

RECEIVER



1 HDMI OUT PORT: Connect to an HDMI TV, monitor, or amplifier for digital video and audio output.

2 HDMI 1~3 PORTS: Connect to HDMI source equipment such as media players, game consoles or set-top boxes.

3 RS-232 PORT: Connect directly to your PC/laptop to send RS-232 commands to control the unit.

Note: Requires the use of a 3.5mm to DE-9 adapter.

4 MICRO USB PWR PORT: Connect the provided micro USB cable to this port and connect the other end to a USB power source for power.

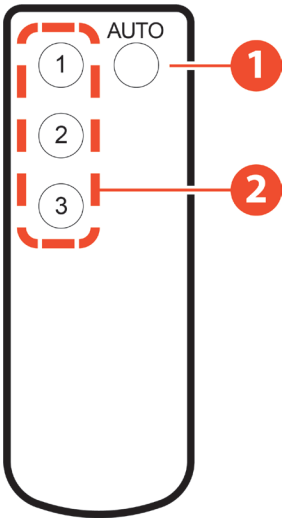
Note: USB power source must provide a minimum of 1 Amp.

5 DC 5V PWR PORT: Plug a 5V DC power adapter into this port and connect it to an AC wall outlet for power. (Optional accessory)

REMOTE CONTROL / RS-232 PINOUT

REMOTE CONTROL (OPTIONAL)

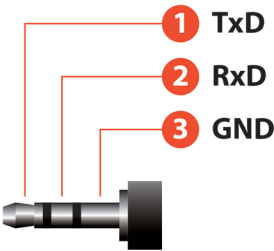
- 1 **AUTO BUTTON:** Press this button to enable the unit's auto switch functionality.
- 2 **1~3 BUTTONS:** Press any of these buttons to switch immediately to the corresponding input.



RS-232 PINOUT AND DEFAULTS

SERIAL PORT DEFAULT SETTINGS	
Baud Rate	19200
Data Bits	8
Parity Bits	None
Stop Bits	1
Flow Control	None

3.5mm to DE-9
Adapter Cable



SERIAL COMMANDS

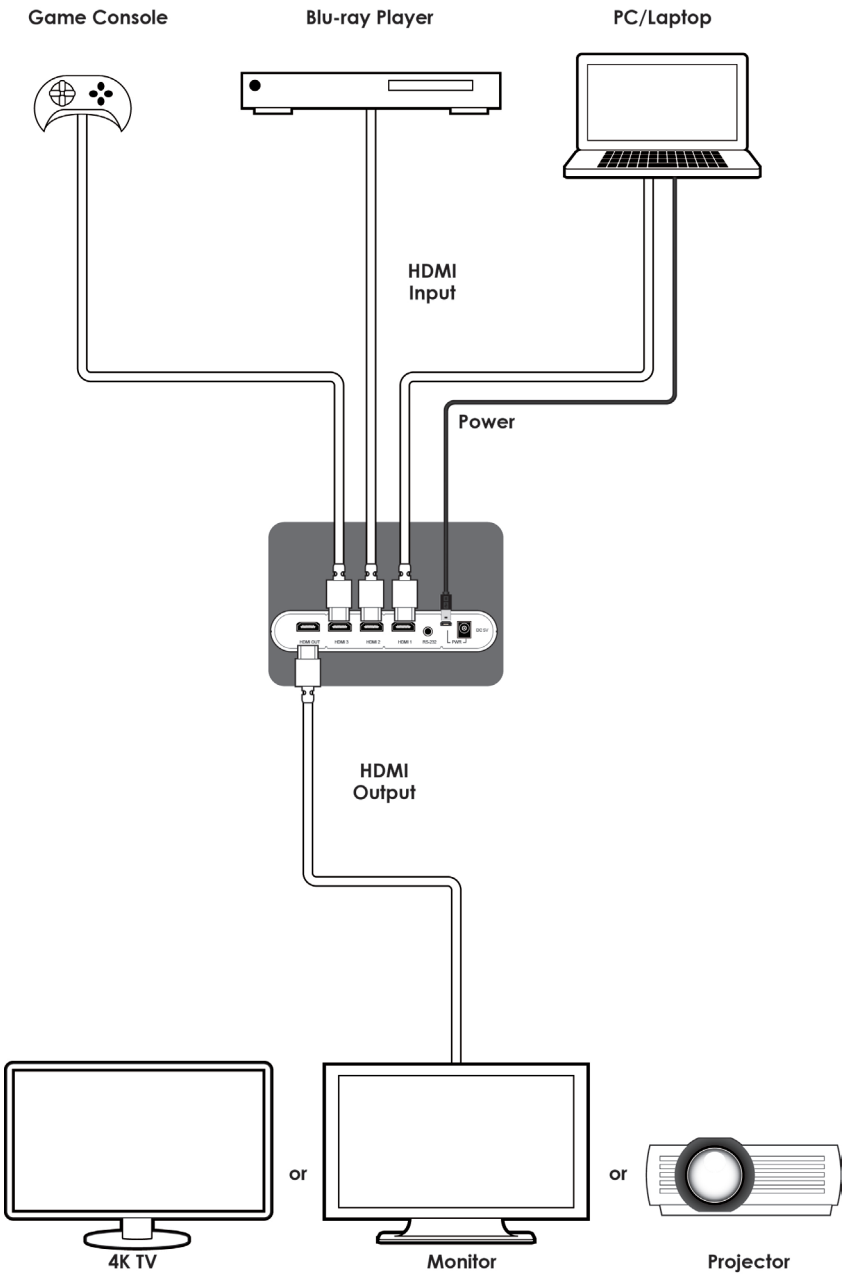
COMMAND	DESCRIPTION AND PARAMETERS
?↵	Show the full command list.
HELP↵	Show the full command list.
SET FACTORY DEFAULT↵	Reset the unit to the factory defaults.
GET COMMAND VER↵	Show the unit's current command version.
GET FW VER↵	Show the unit's current firmware version.
GET MODEL NAME↵	Show the unit's model name.
GET MODEL TYPE↵	Show the unit's product type.
SET OUT A ROUTE N1↵	Route the specified input to the HDMI output. N1 = 1~3 [HDMI input number]
GET OUT A ROUTE↵	Show which input is currently routed to the HDMI output.
SET OUT AUTO MODE N1↵	Set the auto switching/scanning behavior of the unit. Available values for N1 : 0 [Off] 1 [Auto switch]
GET OUT AUTO MODE↵	Show the current auto switching/scanning mode of the unit.
GET IN TYPE LIST↵	List the port type of all inputs on the unit.
GET OUT TYPE LIST↵	List the port type of all outputs on the unit.
GET IN PORT NUMBER↵	Show the total number of inputs on the unit.
GET OUT PORT NUMBER↵	Show the total number of outputs on the unit.
SET IN N1 EDID N2↵	Set the EDID to use on the specified input. N1 = 1~3 [HDMI input number] Available values for N2 : 1 [Internal FHD, 2 channel audio] 2 [Internal FHD, multi-channel audio] 3 [Internal UHD, 2 channel audio] 4 [Internal UHD, multi-channel audio] 5 [Internal UHD+, 2 channel audio] 6 [Internal UHD+, multi-channel audio] 7 [User EDID 1] 8 [User EDID 2] 9 [User EDID 3] 10 [Copy output's EDID]

SERIAL COMMANDS

COMMAND	DESCRIPTION AND PARAMETERS
GET IN N1 EDID↵	Show the EDID currently being used on the specified input. N1 = 1~3 [HDMI input number]
GET IN EDID LIST↵	List all available EDID selections.
SET USER N1 EDID DATA N2↵	Upload a new EDID (in ASCII hex format) for use as the specified User EDID. N1 = 1~3 [User EDID number] N2 = {Comma delimited hex pairs} [EDID data]
GET USER N1 EDID DATA↵	Show the current contents of the specified User EDID as HEX data. N1 = 1~3 [User EDID number]

Note: Commands will not be executed unless followed by a carriage return. Commands are not case-sensitive.

CONNECTION DIAGRAM



VIDEO SPECIFICATIONS

SUPPORTED RESOLUTIONS (HZ)	INPUT	OUTPUT
	HDMI	HDMI
720x400p@70/85	✓	✓
640x480p@60/72/75/85	✓	✓
720x480i@60	✓	✓
720x480p@60	✓	✓
720x576i@50	✓	✓
720x576p@50	✓	✓
800x600p@56/60/72/75/85	✓	✓
848x480p@60	✓	✓
1024x768p@60/70/75/85	✓	✓
1152x864p@75	✓	✓
1280x720p@50/60	✓	✓
1280x768p@60/75/85	✓	✓
1280x800p@60/75/85	✓	✓
1280x960p@60/85	✓	✓
1280x1024p@60/75/85	✓	✓
1360x768p@60	✓	✓
1366x768p@60	✓	✓
1400x1050p@60	✓	✓
1440x900p@60/75	✓	✓
1600x900p@60RB	✓	✓
1600x1200p@60	✓	✓
1680x1050p@60	✓	✓
1920x1080i@50/60	✓	✓
1920x1080p@24/25/30	✓	✓
1920x1080p@50/60	✓	✓
1920x1200p@60RB	✓	✓
2560x1440p@60RB	✓	✓

VIDEO SPECIFICATIONS

SUPPORTED RESOLUTIONS (HZ)	INPUT	OUTPUT
	HDMI	HDMI
2560x1600p@60RB	✓	✓
2048x1080p@24/25/30	✓	✓
2048x1080p@50/60	✓	✓
3840x2160p@24/25/30	✓	✓
3840x2160p@50/60 (4:2:0)	✓	✓
3840x2160p@24, HDR10	✓	✓
3840x2160p@50/60 (4:2:0), HDR10	✓	✓
3840x2160p@50/60	✓	✓
4096x2160p@24/25/30	✓	✓
4096x2160p@50/60 (4:2:0)	✓	✓
4096x2160p@24, HDR10	✓	✓
4096x2160p@50/60 (4:2:0), HDR10	✓	✓
4096x2160p@50/60	✓	✓

AUDIO / CABLE SPECIFICATIONS

AUDIO SPECIFICATIONS

DIGITAL AUDIO

HDMI INPUT/OUTPUT	
LPCM	
Max Channels	8 Channels
Sampling Rate (kHz)	32, 44.1, 48, 88.2, 96, 176.4, 192
BITSTREAM	
Supported Formats	Standard & High-Definition

CABLE SPECIFICATIONS

CABLE LENGTH	1080p		4K30	4K60
	8-bit	12-bit	(4:4:4) 8-bit	(4:4:4) 8-bit
High Speed HDMI Cable				
HDMI Input	49 ft / 15M	~33 ft / 10M	16 ft / 5M	~10 ft / 3M
HDMI Output	49 ft / 15M	~33 ft / 10M	16 ft / 5M	~10 ft / 3M

Bandwidth Category Examples:

- **1080p (FHD Video)**
 - Up to 1080p@60Hz, 12-bit color
 - Data rates lower than 5.3Gbps or below 225MHz TMDS clock
- **4K30 (UHD Video)**
 - 4K@24/25/30Hz & 4K@50/60Hz (4:2:0), 8-bit color
 - Data rates higher than 5.3Gbps or above 225MHz TMDS clock but below 10.2Gbps
- **4K60 (UHD+ Video)**
 - 4K@50/60Hz (4:4:4, 8-bit)
 - 4K@50/60Hz (4:2:0, 10-bit HDR)
 - Data rates higher than 10.2Gbps

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