

# User Manual

## AR-40-110

### HDMI 2.0 3x1 Switcher with Auto-switching



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Version: AR-40-110\_2020V1.0

## Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till November, 2020. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

## FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



## SAFETY PRECAUTIONS

To ensure the best performance from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- 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.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

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## 1. Product Introduction

Thanks for choosing the AR-40-110 HDMI 2.0 3x1 Switcher. It is an auto switcher with three HDMI video inputs and one HDMI output. It supports HDMI video resolution up to 4Kx2K@60Hz 4:4:4 HDR, Dolby Vision and multichannel audio.

In auto-switching mode, it switches to an HDMI input as soon as a new source is connected. When the active input is removed, the switcher will select the first source on the lowest numbered input. The switcher can be controlled via IR with the remote, or from the source button on the front panel of the switcher.

### 1.1 Features

- Switches any one of three HDMI inputs to one HDMI output.
- Supports video resolution up to 4Kx2K@60Hz 4:4:4 and 1080P.
- Supports HDR 10 and Dolby Vision.
- 18Gbps high bandwidth.
- Fully compliant with the HDMI 2.0 and HDCP 2.2 specifications.
- Controlled by IR remote.
- Powered by the HDMI input source and no need of any external power supply, simplifying the installation and operation.
- Supports CEC pass-through.
- Provides four LEDs to indicate the current operating status.
- Cost efficiency.
- Metal design.

### 1.2 Package List

- 1x HDMI 2.0 3x1 Switcher
- 1x IR Remote
- 1x User Manual

**Note:** Please contact your distributor immediately if any damage or defect in the components is found.

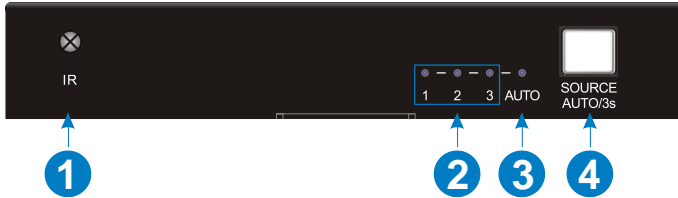
## 2. Technical Specification

<b>Video Input</b>	
Input	(3) HDMI
Input Connector	(4) Female type-A HDMI
HDMI Input Resolution	Up to 4Kx2K@60Hz 4:4:4
<b>Video Output</b>	
Output	(1) HDMI
Output Connector	(1) Female type-A HDMI
HDMI Output Resolution	Up to 4Kx2K@60Hz 4:4:4
<b>General</b>	
HDMI Standard	2.0
HDCP Version	2.2
HDR	Supported
Dolby Vision	Supported
CEC Pass-through	Supported
HDCP Pass-through	Supported
EDID Pass-through	Supported
Hot-plug	Supported
HDMI Audio Format	Supports LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.
HDMI Cable Length	From source to display device: 1080p@60Hz ≤ 20m, 4K@60Hz(4:2:0) ≤ 10m, 4K@60Hz(4:4:4) ≤ 4m
Bandwidth	18Gbps
Operation Temperature	-5°C ~ +55°C
Storage Temperature	-25°C ~ +70°C
Relative Humidity	10%-90%
Power Supply	Powered by HDMI input source.
Power Consumption	0.1W (Max)
Dimension (W*H*D)	105mm x 55mm x 18mm
Net Weight	150g

**Note:** Please adopt high-qualified HDMI cable fully compliant with HDMI 2.0 for reliable transmission and connection.

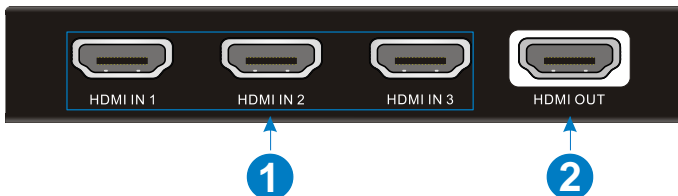
### 3. Panel Description

#### 3.1 Front Panel



- ① **IR:** Built-in IR sensor to receive IR signal from IR remote to control the switcher.
- ② **INPUT 1~3 LED:**
  - The LED illuminates blue when the corresponding input channel is selected and there is HDMI signal input.
  - The LED blinks blue when the corresponding input channel is selected but no signal input.
- ③ **AUTO LED:**
  - The LED illuminates blue in automatic switching mode.
  - The LED is off in manual switching mode.
- ④ **SOURCE AUTO/3S Button:**
  - Press to switch to next input source.
  - Press and hold at least three seconds to switch between manual switching mode and automatic switching mode.

#### 3.2 Rear Panel



- ① **HDMI IN 1~3:** Three type-A female HDMI input ports to connect HDMI sources.
- ② **HDMI OUT:** Type-A female HDMI output port to connect HDMI display.

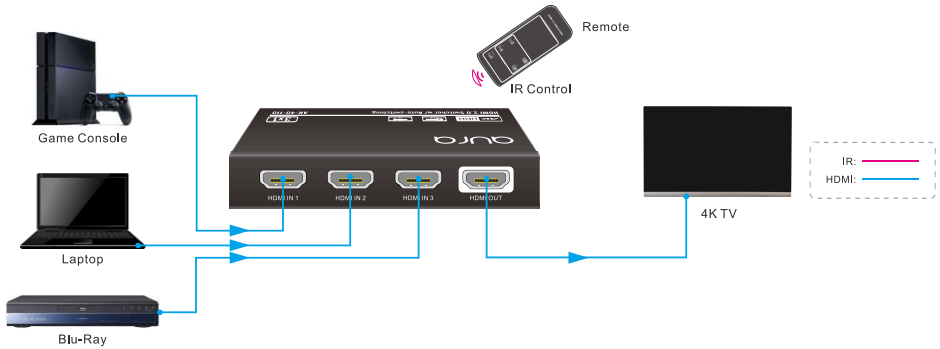
## 4. System Connection

### 4.1 Usage Precaution

- Make sure all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets, and power cords should be insulated and safe.
- All devices should be connected before power on.

### 4.2 System Diagram

The following diagram illustrates typical input and output connections that can be utilized with this switcher:





## 5. Operation of Switcher

### 5.1 Button Control

#### 5.1.1 Manual Switching

When the switcher is in manual switching mode, the **AUTO** LED is off, and please press **SOURCE AUTO/3S** button to switch to the next input.

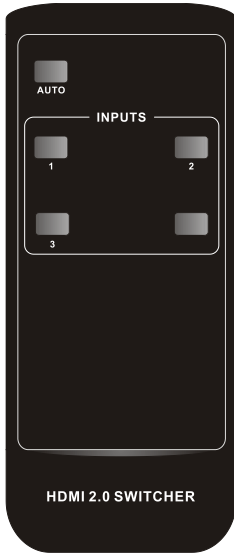
#### 5.1.2 Automatic Switching

Press and hold the **SOURCE AUTO/3S** button at least three seconds to enable automatic switching mode. The **AUTO** LED will turn to blue.

When in the AUTO mode, the switcher will switch according to the following rules:

- Press and hold the **SOURCE AUTO/3S** button at least three seconds again can exit AUTO mode, but the input source will not be changed.
- Press the **SOURCE AUTO/3S** button also can forcibly change the input source.
- **New Input:** Upon detecting a new input, the switcher will automatically select the new input.
- **Reboot:** Once power is restored to the switcher, if the last selected source is still available, the switcher will still output this signal, otherwise, the switcher will switch to the first available active input starting at HDMI IN 1.
- **Source Removed:** When an active source is removed, the switcher will switch to the first available active input starting at the next input channel.

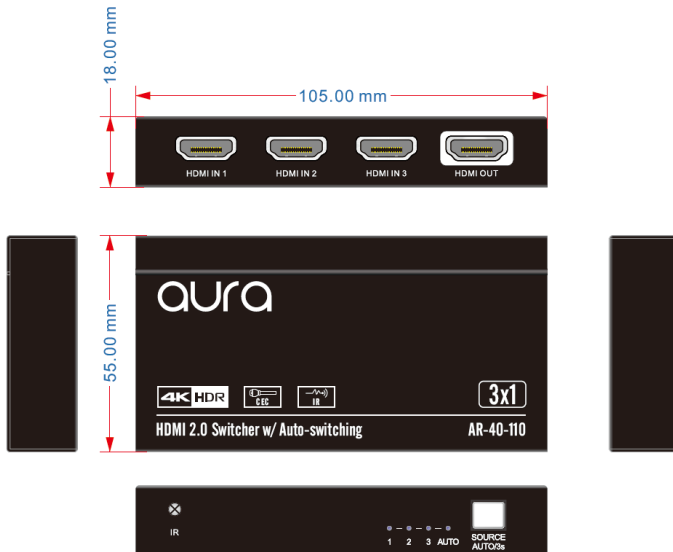
## 5.2 IR Remote Control



**AUTO:** Enable or disable automatic switching mode.

**INPUTS:** Press 1~3 to select the corresponding HDMI input source.

## 6. Panel Drawing



## 7. Troubleshooting & Maintenance

Problems	Potential Causes	Solutions
Colour losing or no video signal output in HDMI display.	The connecting cables may not be connected correctly or it may be broken.	Check whether the cables are connected correctly and in working condition.
No HDMI signal output in this switcher while local HDMI input is in normal working state.		
Splash screen in output devices.	Poor quality of the connecting cable.	Change for another cable of good quality.
Static becomes stronger when connecting the video connectors.	Bad grounding.	Check the grounding and make sure it is connected well.

**Note:** If your problem still remaining after following the above troubleshooting steps, please contact your local dealer or distributor for further assistance.

### 8. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. These terms and conditions may be changed without prior notice.

#### 1) Warranty

The limited warranty period of the product is fixed three years.

#### 2) Scope

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

#### 3) Warranty Exclusion:

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
  - ✓ Normal wear and tear.
  - ✓ Use of supplies or parts not meeting our specifications.
  - ✓ No certificate or invoice as the proof of warranty.
  - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
  - ✓ Damage caused by force majeure.
  - ✓ Servicing not authorized by distributor.
  - ✓ Any other causes which does not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

#### 4) Documentation:

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defect has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

**Remarks:** Please contact your local distributor for further assistance or solutions.



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