



BK-21A

**8K HDMI
2x1 Switcher**
USER MANUAL

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Thank you for purchasing this product

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the service life of your equipment.

Please Activate your warranty by registering our product through the link below - www.orei.com/register

Technical Support

Need Help?

Our experienced Technical Support Team is here for you to answer your questions, give technical advice or help troubleshoot your project to get you installed on time and on budget. Call, email or chat with us now.

OREI Live Technical Support Hours

US team (US/Canada/Mexico): Monday-Friday, 9 a.m. - 6 p.m. Central Time

Support Email - info@orei.com | **Support Number** - 877-290-5530

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Introduction

This 8K HDMI 2x1 Switcher can switch any of the two HDMI source signals to one HDMI display. It supports video resolution up to 8K@60Hz 4:2:0. It supports advanced EDID management and audio de-embedding function (output through the optical and analog port). This multi-functional product can be widely applied in scenarios of demonstration, video conference, multimedia teaching and other occasions requiring for big-screen demonstration.



1. HDMI 2.1 and HDCP 2.3 compliant
2. Support 40Gbps video bandwidth
3. Support video resolution up to 8K@60Hz 4:2:0 10bit, 8K@30Hz 4:4:4 10bit, 4K@120Hz 4:4:4 10bit
4. VRR, FVA, ALLM supported
5. Support HDR, HDR10, HDR10+, Dolby Vision, HLG pass through
6. Support HDMI audio formats: LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
7. Built-in Equalizer, Retiming and Driver
8. Advanced EDID management
9. Support audio de-embedding function (output through the optical and analog port)
10. Support IR remote control and front panel button switching
11. Compact design for easy and flexible installation

Package Contents

| | | |
|----|----------------------------------|-------|
| 1. | 8K HDMI 2x1 Switcher | 1 pcs |
| 2. | IR Remote | 1 pcs |
| 3. | 5V/2A Multinational Power Supply | 1 pcs |
| 4. | User Manual | 1 pcs |

Specifications

| Technical | |
|------------------|---|
| HDMI Compliance | HDMI 2.1 |
| HDCP Compliance | HDCP 2.3 |
| Video Bandwidth | 40Gbps |
| Video Resolution | Up to 8K@60Hz 4:2:0 10bit, 8K@30Hz 4:4:4 10bit, 4K@120Hz 4:4:4 10bit |
| Color Depth | 8-bit, 10-bit, 12-bit |
| Color Space | RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0 |
| HDR | HDR, HDR10, HDR10+, Dolby Vision, HLG pass through |
| Audio Formats | HDMI input/output: LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD Auido de-embedding output: Optical: LPCM 2/5.1 CH, Dolby Digital 2/5.1 CH, DTS 2/5.1 CH Analog: PCM 2.0 |
| ESD Protection | Human body model – ±8kV (Air-gap discharge) &±4kV (Contact discharge) |
| Connection | |
| Input | 2 × HDMI IN [Type A, 19-pin female] |
| Output | 1 × HDMI OUT [Type A, 19-pin female] 1 × OPTICAL [S/PDIF] 1 × L/R [3.5mm Stereo Mini-jack] |
| Control | 1 × SERVICE [Micro USB, Update port] |

Specifications

Mechanical

| | |
|-------------------------|--|
| Housing | Metal Enclosure |
| Silkscreen Color | Black |
| Dimensions | 145mm (W) × 68mm (D) × 17mm (H) |
| Weight | 268 g |
| 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 (Max) | 5.25W (Max) |
| Power Supply | Input: AC100 - 240V 50/60Hz, Output: DC 5V/2A (US/EU standards, CE/FCC/UL certified) |

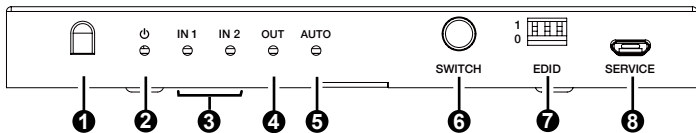
Recommended HDMI Cable

| Video Resolution | 8K | 4K60 | 4K24 | 1080P |
|--------------------------------------|----------------|----------|----------|----------|
| HDMI Cable Type | Ultra HDMI 2.1 | HDMI 2.0 | HDMI 1.4 | HDMI 1.4 |
| HDMI Cable Length (HDMI IN / OUT) | 3m/10ft | 8m/26ft | 12m/39ft | 15m/49ft |

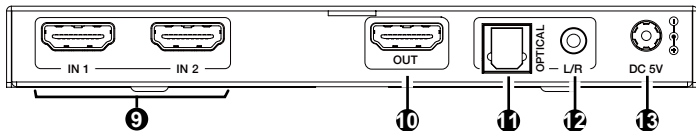
The use of "Premium High Speed HDMI" cable is highly recommended.

Operation Controls and Functions

Front Panel



Rear Panel

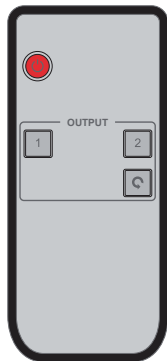



| No. | Name | Function Description |
|-----|---------------|--|
| 1. | IR Window | IR input signal receiving window. |
| 2. | POWER LED | The power LED lights in green when the device is working, and red when the device is in standby. |
| 3. | IN LED (1-2) | When the HDMI IN 1/2 port is selected as the signal source input channel, the corresponding green LED will be on. |
| 4. | OUT LED | When the HDMI OUT port connects a display device and outputs signal, the green LED will be on. |
| 5. | AUTO LED | When the auto switching function (switch to the corresponding signal input channel when the signal source is connected.) is turned on, the green AUTO LED will be on. |
| 6. | SWITCH button | Used to select signal source. Pressing this button will allow the device to switch any of the two HDMI input signals and distribute it to two displays simultaneously. |

Operation Controls and Functions

| No. | Name | Function Description |
|-----|-----------------|---|
| 7. | EDID DIP switch | Use the DIP switch to set EDID. 111 - Copy OUT port sink EDID (as factory default) 110 - HDMI 1080p@60Hz, Audio 2ch PCM 101 - HDMI 4K@60Hz 4:4:4, Audio 2ch PCM, HDR 100 - HDMI 4K@60Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY, HDR 011 - HDMI 4K@60Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD, HDR 010 - HDMI 8K@60Hz 4:2:0 + 8K@30Hz 4:4:4, 4K@120Hz 4:4:4, Audio 2ch PCM, HDR 001 - HDMI 8K@60Hz 4:2:0 + 8K@30Hz 4:4:4, 4K@120Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY, HDR 000 - HDMI 8K@60Hz 4:2:0 + 8K@30Hz 4:4:4, 4K@120Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD, HDR |
| 8. | SERVICE | Firmware update and debug port. |
| 9. | IN port (1-2) | HDMI signal input port, connecting to HDMI source device such as DVD or PS5 with an HDMI cable. |
| 10. | OUT port | HDMI signal output port, connecting to HDMI display device such as TV or Monitor with an HDMI cable. |
| 11. | OPTICAL | Optical fiber audio output port. |
| 12. | L/R | Analog audio output port. |
| 13. | DC 5V | DC 5V/2A Power input port. |

IR Remote

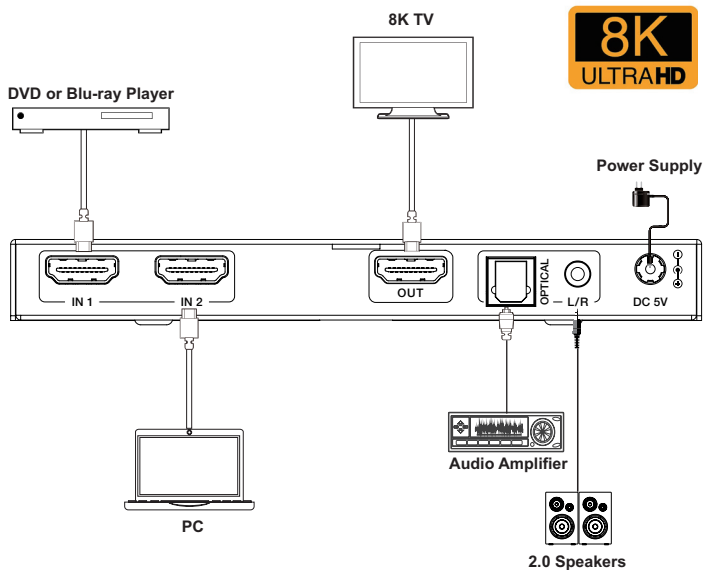


: Power on the product or set it to standby mode.

1/2: Press 1/2 button to select HDMI signal source IN 1/2 to the OUT port.

: Press this button to cyclically switch HDMI signal source IN 1/2 to the OUT port.

Application Example





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