

SIMPLIFIED  
MFG

# EXARC



**HDMI 2.0b (18Gbps) 40m  
HDMI Extender with ARC and  
Optical audio return**

User Manual

VER 2.1

## Thank you for purchasing this product

The Simplified MFG EXARC is designed to provide years of reliable service. At Simplified MFG, we want the experience with this device to be the best possible and are committed to helping achieve that experience.

## 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 to protect and extend the life of your equipment. A HDSURGE is highly recommended on cable and satellite boxes.

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## 1. Introduction

The EXARC can extend an HDMI2.0b (18Gbps) high-definition audio and video signal and two-way IR up to 40 meters (132 feet) over a single Cat5e/6/7 cable, while simultaneously transmitting ARC or optical S/PDIF signals from the RX back to the TX. The EXARC supports resolutions up to 4K2K@60Hz 4:4:4, up to 18Gbps, and HDCP 2.2/1.4. In addition, the EXARC extender is equipped with two-way IR and RS232 which allows for source and display control.

The EXARC extender is a great way to bring audio back from the display to the TX end either through the HDMI (ARC) or via optical S/PDIF. This transmission is independent of the AV and control features.

## 2. Features

- HDMI 2.0b and HDCP 2.2 compliant
- Supports input and output video resolution up to 4k2k@60Hz 4:4:4 up to 18Gbps
- Supports HDR/HDR+/DolbyVision™
- Distance up to 131ft/40m @ 4k - 230ft/70m @1080p
- Brings ARC or optical S/PDIF from RX back to TX
- Outputs ARC audio through optical S/PDIF and/or HDMI
- Two-way 12V IR transmission and RS232 pass through
- Single power supply – can be powered from either the RX or TX

## 3. Package Contents

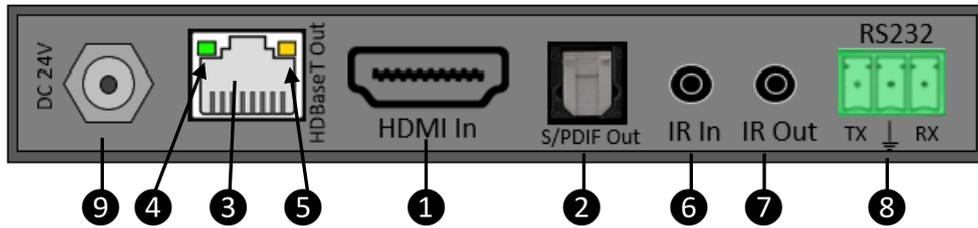
- 1× HDMI 18Gbps transmitter
- 1× HDMI 18Gbps receiver
- 1× IR Blaster (1.5m length)
- 1× 20~60KHz IR Receiver (1.5m length)
- 1× 24V/1A Locking Power supply
- 2 x 3 Conductor Phoenix connectors
- 4× Mounting Ears
- 1× User Manual

## 4. Specifications

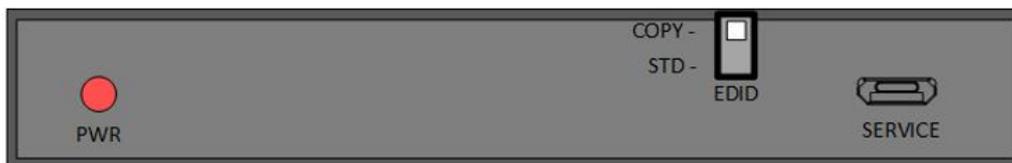
<b>Technical</b>	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 / HDCP 1.4
Video Bandwidth	18Gbps
HDR Formats	HDR/HDR10+/DolbyVision™
Video Resolution	Up to 4K60Hz 4:4:4
Color Space	RGB / YCbCr 4:4:4, YCbCr 4:2:2/4:2:0, YUV 4:4:4
Color Depth	8/10/12-bit (1080P60Hz, 4K30Hz, 4K60Hz YCbCr 4:2:2/4:2:0) 8-bit (4K60Hz 4:4:4)
HDMI Audio Formats	LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus (DD+), DTS-ES, DTS HD Master, DTS HD-HRA, DTS-X
ARC Audio Formats	Dolby Digital 5.1 and down, DTS 5.1, PCM 2.0
S/PDIF Audio Formats	Dolby Digital 5.1 and down, DTS 5.1, PCM 2.0
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
<b>Connections</b>	
Transmitter	<p>Inputs: 1x HDMI Type A [19-pin female] 1 x IR in [3.5mm Stereo mini jack] 1x SERVICE [Micro USB, update port]</p> <p>Outputs: 1x IR out [3.5mm stereo mini jack] 1 x Optical (S/PDIF) audio port 1x HDBaseT out [RJ45, 8-pin female]</p> <p>Control: 1x 3 Conductor Phoenix connector</p>
Receiver	<p>Inputs: 1x HDBaseT in [RJ45, 8-pin female] 1x IR in [3.5mm Stereo mini jack] 1 x Optical (S/PDIF) audio port 1x SERVICE [Micro USB, Update port]</p> <p>Outputs: 1x HDMI Type A [19-pin female] 1 x IR out [3.5mm Stereo mini jack]</p> <p>Control: 1x 3 Conductor Phoenix connector</p>
<b>Mechanical</b>	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 140mm/5.5" [W] x 65mm/2.56" [D] x 18mm/.70" [H]
Weight	Transmitter: 235g/8.3oz., Receiver: 239g/8.43oz.
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 24V/1A
Power Consumption	9.6W (Max)
Op. Temperature	32 - 104°F / 0 - 40°C
Storage Temperature	-4 - 140°F / -20 - 60°C
Relative Humidity	20 - 90% RH (no condensation)

## 5. Operation Controls and Functions

### 5.1 Transmitter Panel

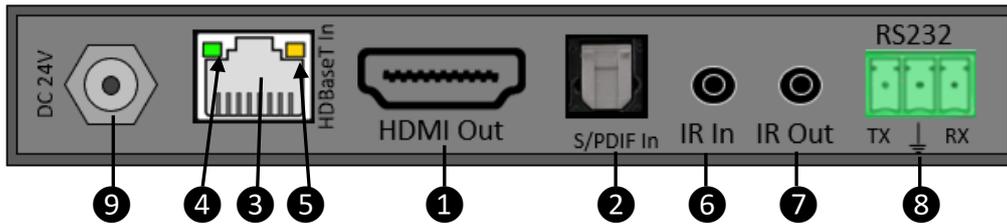


Number	Name	Function description
1	HDMI In	HDMI input port, connect to HDMI source device such as Media server or other 4K source
2	S/PDIF Out	Optical output from ARC or S/PDIF at RX
3	HDBaseT Out	Connect to HDBaseT In port on the receiving end with a CAT6 cable.
4	Power LED (Green)	The LED will illuminate when the transmitter is powered on.
5	Data signal LED (Orange)	The LED will illuminate when the transmitter and the receiver have signal transmission (link)
6	IR In	Connect to IR receiver (included). The IR signal is then sent to the IR Out to the IR Blaster at the receiver.
7	IR Out	Connect to wideband IR Blaster (included). The IR signal is from the IR In port of the receiver.
8	RS232 (3-PIN Phoenix)	Connect to third-party control system for 2-way RS232 communication with the RS232 connection at the RX
9	DC 24V	Plug DC 24V/1A power supply into the unit and connect the adapter to an AC outlet. <b>(Note:</b> The EXARC can be powered from either the RX or the TX by 24V/1A power adapter, only one supply is needed)

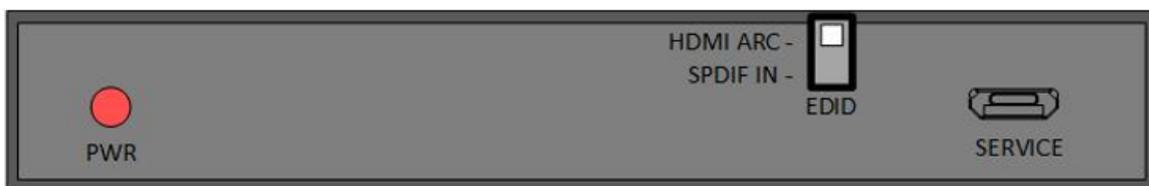


EDID Switch is set to copy the display's EDID. STD is a 1080p setting designed to help in troubleshooting

## 5.2 Receiver Panel

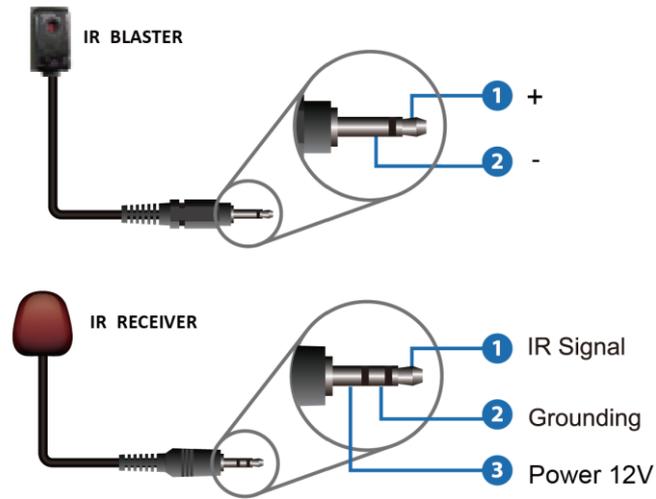


Number	Name	Function description
1	HDMI Out	HDMI output port, connect to HDMI display device such as TV or Projector with an HDMI cable.
2	S/PDIF In	Connect to optical output of display, the signal will output at the S/PDIF on the TX
3	HDBaseT In	Connects to the TX HDBaseT output via category cable
4	Power LED (Green)	The LED will illuminate when the receiver is powered on. It also indicates the connection from TX to RX
5	Data signal LED (Orange)	The LED will illuminate when the transmitter and the receiver have signal transmission (link).
6	IR In	Connect to wideband IR Receiver. The IR signal will be transmitted to the IR Out port of the transmitter.
7	IR Out	The IR from the TX IR In will be transmitted through the IR blaster connected here.
8	RS232 (3-PIN Phoenix)	Connect to third-party control system for 2-way RS232 communication with the RS232 connection at the RX
9	DC 24V	Plug DC 24V/1A power supply into the unit and connect the adapter to an AC outlet. <b>(Note:</b> The EXARC can be powered from either the RX or the TX by 24V/1A power adapter, only one supply is needed)

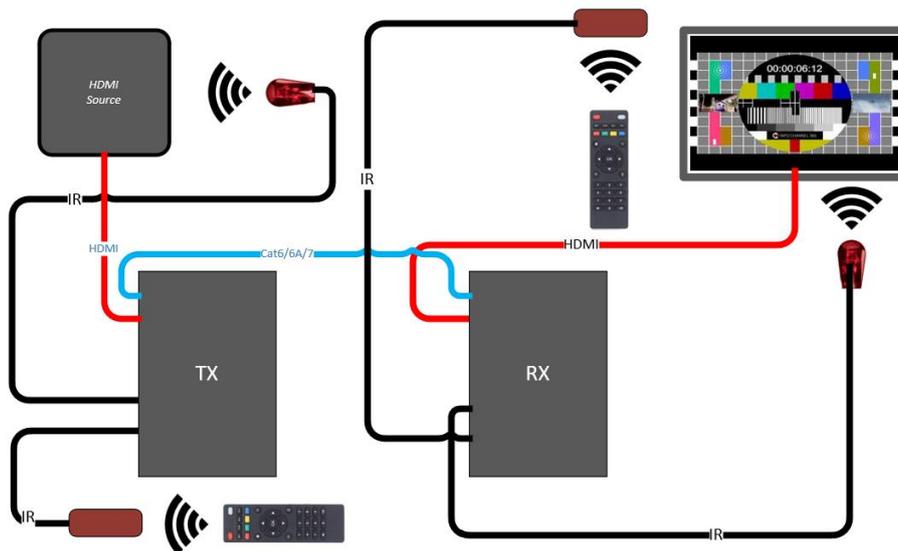


The audio selection switch is set to HDMI ARC, in this position, the audio from the eARC/ARC input on the display will be output via HDMI in or optical out on the TX. In SPDIF IN position, the ARC is disabled and the optical from the RX is sent to the TX instead of ARC.

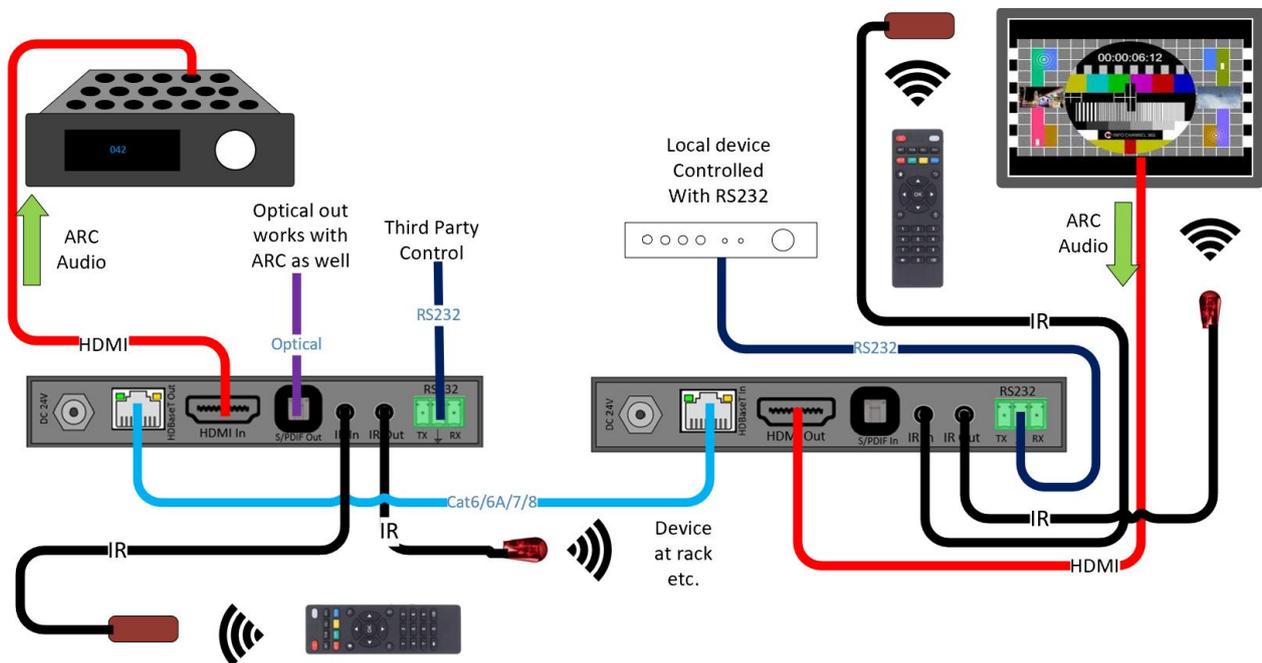
### 5.3 IR PIN Definition



IR Use Example:



## 6. Application Example



Note that the optical S/PDIF on the RX will output the ARC or the S/PDIF from the display. ARC audio has a higher bandwidth than optical however, CEC issues may necessitate the use of the optical instead of the ARC. Also, ARC is backwards compatible with eARC. On some displays, CEC may cause issues and ARC will not operate without CEC. Put the display in eARC mode and this should solve the issue and pass ARC without CEC.

## 7. Warranty

Should you feel that this product does not function adequately due to defects in materials or workmanship, we (referred to as "the warrantor") will, for the length of the period indicated below (starting from the original date of the purchase) either a) repair the product with new or refurbished parts. Or b) Replace the product with new or refurbished product. All Simplified MFG products are covered by a 3-year warranty. During this period there will be no charge for unit repair, replacement of unit components or replacement of the product if deemed necessary. The decision to repair or replace is made by the warrantor. The purchaser must mail in the product during the warranty period. This limited warranty only covers the product purchased as new and is extended to the original purchaser only. It is non-transferrable to subsequent owners, even during the warranty period. A purchase receipt or other proof of purchase date is required for the limited warranty service.

## 8. Contact Information

Sales and Tech Support

P. 833-HDMI-411 (833-436-4411)

E. [info@simplifiedmfg.com](mailto:info@simplifiedmfg.com)



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