



# **ARCEX**

## **ARC Audio Extender Kit**

# User Manual

**VER 1.1**

# Thank you for purchasing the ARCEX

The Simplified MFG ARCEC was designed to provide years of reliable service. At Simplified MFG we want your experience with this device to be the best possible and are committed to helping achieve that experience. Please read and 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, lighting strikes, etc. Use of surge protection systems is highly recommended to protect and extend the life of your equipment. If connected to satellite or cable boxes, the HDSURGE is recommended to prevent surges through the HDMI cable.

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\*\*Please use 568b protocol when terminating the category cable.

## 1. Introduction

The ARCEX is an audio only extender designed to take the ARC audio of a display to an amplifier or other ARC enabled device and transmit it in full bandwidth up to 90m (295ft) over category cable. CEC transmission is supported so the display's remote can be used to control the volume of the amplifier. The EXARC also supports optical S/PDIF transmission up to 150m (492ft) at 96 kHz., and 90m at 192 kHz. The ARCEX is designed to be a simple plug and play device to get ARC from the display back to the ARC enabled amplifier or other ARC device that is too far away to use a traditional HDMI cable.

## 2. Features

- ARC Audio or Optical S/PDIF is extended over single category cable
- Audio formats include: PCM 2.0 or Dolby/DTS 5.1
- At the lower sampling rates of 96kHz. or below, the distance is increased to 150m (492ft)
- At the higher sampling rates of 172kHz. and 192kHz., the distance is 90m (295ft)
- Supports CEC for amplifier volume control, etc.
- Compact size
- DIP switch enables optical S/PDIF if ARC is not available (CEC is lost in this mode)
- Power input is designed to use Micro USB so that available USB ports can be used to power the RX, TX or both

### 3. Package Contents

Qty	Item
1	1 HDMI ARC Transmitter
1	1 HDMI ARC Receiver
2	Shielded Micro USB cables
2	5V/1A 85-230VAC to 5V USB Type-A power adapters
4	Mounting Ears
1	User Manual

### 4. Specifications

Technical	
Bit Rate /Distance	Up to 192kHz. – 90m (295ft.) Up to 96kHz. – 150m (492ft.)
Audio Formats	PCM 2.0 and Dolby/DTS 5.1
Supported Sampling Rates	<b>Optical/ARC</b> - 32kHz., 44.1kHz., 48kHz., 88.2kHz. & 96kHz. <b>ARC</b> - 32kHz., 44.1kHz., 48kHz., 88.2kHz., 96kHz., 176.4kHz. & 192kHz.
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connections	
Transmitter	Inputs: 1 x HDMI (ARC in) Type A [19-pin female] 1 x optical S/PDIF 1x Micro USB, power connection port Outputs: 1x CAT out [RJ45, 8-pin female]

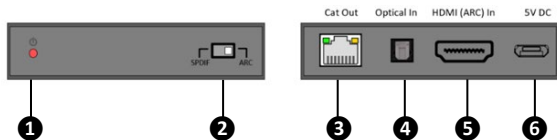
Receiver	<p>Inputs: 1x CAT in [RJ45, 8-pin female]</p> <p>1x Micro USB, power connection port</p> <p>Outputs: 1x HDMI (ARC out) Type A [19-pin female]</p> <p>1 x optical S/PDIF</p>
<b>Mechanical</b>	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 90mm/3.5" [W] x 72mm/2.823" [D] x 20mm/.79" [H]
Weight	175g/6.17oz.
Power Supply	Input: AC 85 - 230V 50/60Hz Output: DC 5V/2A (Locking connector)
Power Consumption	TX – 0.35W RX – 0.7W
Operating Temp	32 - 104°F / 0 - 40°C
Storage Temp	-4 - 140°F / -20 - 60°C
Relative Humidity	20 - 90% RH (no condensation)



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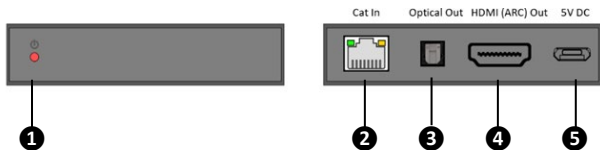
## 5. Operation Controls and Functions

### 5.1 Transmitter Panel



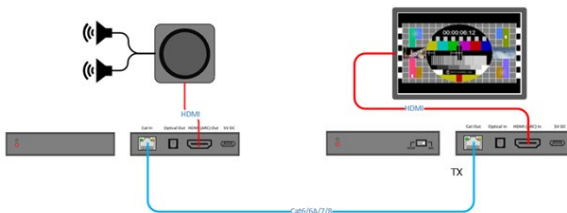
No.	Name	Function/Description
1	Power LED	LED indicates power status
2	Audio Selector Switch	Switch Mode: <b>S/PDIF</b> – The S/PDIF (optical) in at TX is sent to S/PDIF out (optical) at RX <b>ARC</b> – Audio from HDMI TX in (ARC) is sent to HDMI out at RX
3	CAT OUT	Connects TX to RX via Category cable
4	Optical In (S/PDIF)	Connects to S/PDIF out (optical) of display via Toslink cable. In this mode ARC is disabled
5	HDMI In	Connects to eARC/ARC port of display
6	5V Input	Connects to supplied power supplies or available USB port. Most USB ports on displays are capable, but this should be verified and the USB port settings may need to be modified in the display's menu

## 5.2 Receiver Panel



No.	Name	Function/Description
1	Power LED	LED indicates power status
2	CAT In	Connects to Cat Out port of TX via Category cable
3	Optical Out (S/PDIF)	Connect to Optical Input on amplifier via Toslink cable when the TX is set to S/PDIF mode
4	ARC Out (HDMI)	ARC Audio is output via the ARC audio function of HDMI from output of display connected to the TX via the HDMI port (switch set to ARC)
5	5V Input	Connect to supplied 5V USB Power supply

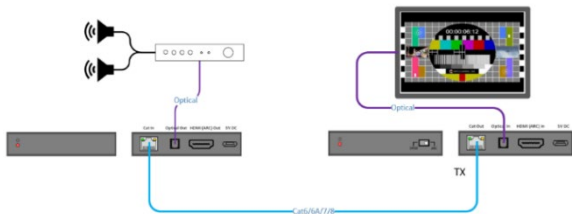
## 6. Application Example (ARC Mode)



\*\*\*The Switch on the TX should be set to ARC  
\*\*\*Also note that it many displays will have a port marked "eARC". eARC is backwards compatible with ARC. Some displays default to ARC when this is disabled, other may vary. It may become important to familiarize yourself with the display's functions.



## 7. Application Example (Optical)



\*\*\*The Switch on the TX should be set to "SPDIF"

## 8. Troubleshooting

No Power	<ul style="list-style-type: none"><li>- Verify power at both ends (make sure power LED) is illuminated. If you are using the display's USB port, it is possible that it does not have enough current to power the TX or there may be a setting in the display's menu that is affecting it</li><li>- Use the supplied USB Power supplies</li><li>- Verify that the USB Power supplies are operation by using a power bank or known USB supply</li></ul>
No Sound	<ul style="list-style-type: none"><li>- Verify power at both ends (see above)</li><li>- Verify that the switch setting is in the mode you are wishing to use</li><li>- If the ARC enabled amplifier does not have downmix capabilities, you must change the audio settings in the display's menu, to "PCM".</li><li>- When using optical (S/PDIF) the same rules apply to this format as well if the amp/audio device does not downmix</li></ul>

## 9. Warranty and Contact Information

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.

### Sales and Tech Support

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

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



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