

**OCTAVA™**

**4x1 HD Video Switch + ARC**

**PRO HD HOME THEATER SERIES**

**Model: UHD41-ARC**

**Installation Guide**

## Safety Information:



### Electrical safety

- Use only the power supplies and the AC power cord that were included with your product.  
Use of other power supplies could damage the product or cause shock, or other hazards
- For Indoor Use only
- Avoid excessive humidity, or temperature extremes
- Do not place the product in any area where it may become wet.
- Unplug the power supplies and the AC power cord before cleaning, or removing any panels for servicing.
- When adding or removing devices to or from the product, disconnect all power cables from the existing product before you add a device.

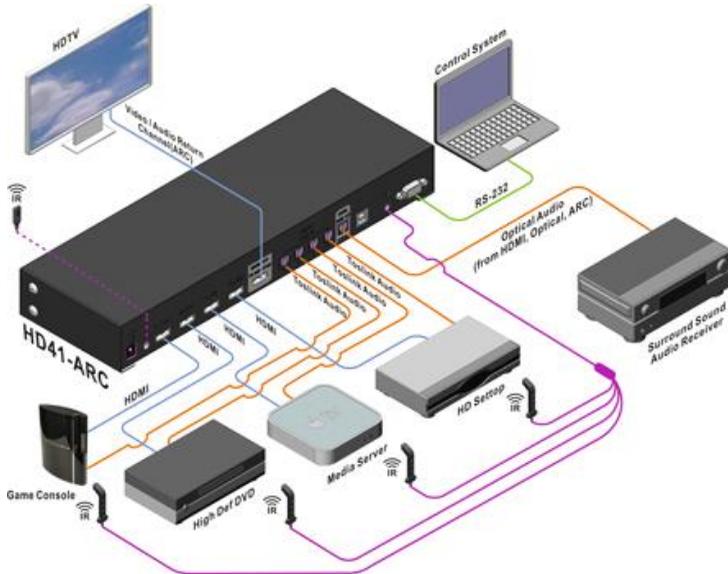
### Operation safety

- Install the product in a well ventilated location. Keep ventilation opening free of obstructions.
- Don't block any ventilation openings on the unit.
- Avoid dust, humidity, and temperature extremes.
- Do not place the product in any area where it may become wet.

If you are unsure, please contact your authorized service center.

## Contents

Safety Information.....	2
Application Diagram.....	4
Description.....	4
Features.....	5
Installation.....	5
LED Indicator.....	7
Remote Control Guide.....	8
IR Extension (optional):.....	9
RS232 Control Commands.....	10
USB Service Port.....	11
Smart Scan™.....	12
Customization.....	13
1 RU Rackmount.....	14
Disabling / Enabling IR Remote Control Receiver.....	14
Warranty.....	15
Disclaimers.....	15
Specifications.....	16



**Application Diagram**

**Description:**

The Octava UHD41-ARC HD video and audio switch is designed to enhance HD display system integration with optical audio based sound system for optimal viewing and listening experience.

Built in **EDID Management** is configured with **2Ch PCM, 5.1** audio fields ensuring that the connected sources can output 5.1 audio (when available) when your display does not supported it.

The Optical Audio Output can operate in 3 modes thus allow users total flexibility:

- 1) Convert HDMI Input source to Optical Audio Format
- 2) Convert HDMI ARC from HDTV to Optical Audio Format
- 3) Switch directly from 4 Optical inputs to the Optical Output

When used in the Optical switching mode, the Optical source can be independent from HDMI source selection. For example, you may view a video on the HDTV while listening to a different audio source via Optical Input.

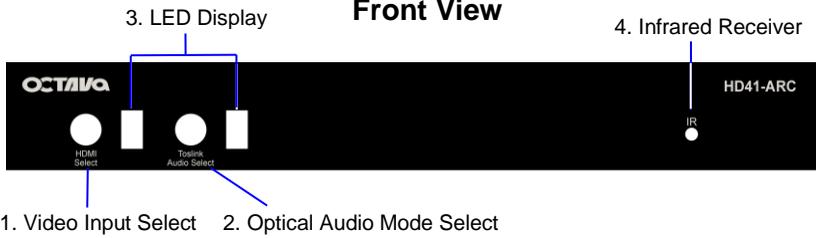
## **Features:**

- Switch 4 HDMI sources to 1 output
- 1080P, 4k UHD 3840x2160@ 60 Hz
- 4 Optical Audio Inputs
- 1 Optical Audio Output
  - Optical audio mode 1: convert HDMI audio to optical output
  - Optical audio mode 2: convert HDMI ARC from HDTV to Optical Audio Format
  - Optical audio mode 3: Switch directly from the 4 Optical inputs to the Optical Output
- Independent Optical source selection
- 1 RU mountable
- Supports high resolution video 480p, 720i/p, 1080i/p, 4k UHD 3840x2160@ 60 Hz
- Remote Control (IR) included. Discrete Code allows direct channel control.
- IR extension allows unit to be installed in hidden cabinet
- IR broadcast port for IR control of connected sources.

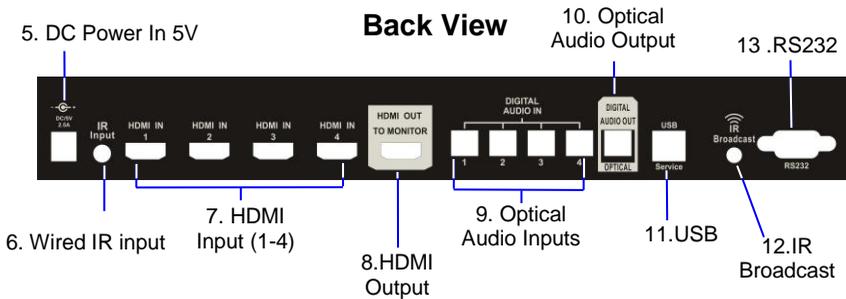
## **Installation:**

- 1)Connect the Monitor to the HDMI OUT
- 2)Connect the HDMI sources to the HDMI INPUTS
- 3)Turn On your HDTV and at least 1 HD source
- 4)Connect the DC power adapter.

## Front View



## Back View



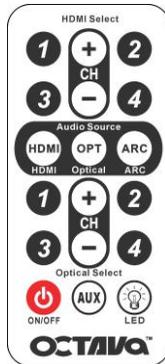
	Item	Description
1	Video Input Select	Press to switch video source
2	Optical Audio Mode Select	Press to switch Audio mode
3	LED Display	
4	IR Receiver	IR receiver
5	DC Power In 5V	
6	IR input	Connect Octava supplied IR Receiver Extension cable (optional) for hidden cabinet installs.
7	HDMI Input (1-4)	Connect High Speed HDMI cables to Source device.
8	HDMI Output	Connect High Speed HDMI cables to AVR or display device.
9	Optical Audio Inputs	Connect to Optical Audio sources ( Optional)
10	Optical Audio Output	Optical Audio Output. Connect to Audio System
11	USB	for custom EDID/ code updates
12	IR Broadcast Port.	Connect Octava supplied IR emitter cable (optional) for IR control of connected sources.
13	RS232 Port	For external control of via PC or 3rd party Control system.

## LED Indicator:



Examples	
	The HD41 LED will auto dim after 5 seconds. Press any button to display the LED indicator
	HDMI Out = Input 1 Digital Audio Output = HDMI Input 1
	HDMI Out = Input 1 Digital Audio Output = From ARC of HDTV
	HDMI Out = Input 1 Digital Audio Output = Optical In1
	HDMI Out = Input 2 Digital Audio Output = Optical In3

## Remote Control Guide:



	Function	
	<p><b>1-4</b> Switch HDMI input 1-4</p> <p><b>+/-</b> Switch HDMI input to next input</p>	
	<p><b>HDMI</b>-Optical Audio output will be converted from the HDMI Input selected.</p>	<p>LED will indicate H</p>
	<p><b>OPT</b>- Optical Audio is switched from Optical Input selected.</p> <p>Pressing <b>OPT</b> will automatically synchronize the Optical Input Port to the HDMI port # selected.</p> <p>For example: If HDMI = input 2. Press <b>OPT</b> will automatically switch Optical Audio Output to input #2</p>	<p>LED will indicate 2</p>
	<p><b>ARC</b>- Optical Audio will play audio from HDTV ARC Port</p> <p><i>Note: to use ARC feature. You may need to enable CEC control on your equipment.</i></p>	<p>LED will indicate A</p>
	<p>Press to directly switch optical input.</p> <p><b>1-4</b> Switch Optical input 1-4</p> <p><b>+/-</b> Switch Optical input to next input</p> <p>Hint: Press <b>OPT</b> to synchronize the Optical Input Port to the HDMI port # selected.</p>	
	<p>Turns ON/OFF the LED light.</p>	
	<p>Turns ON/OFF the HD41-ARC</p>	

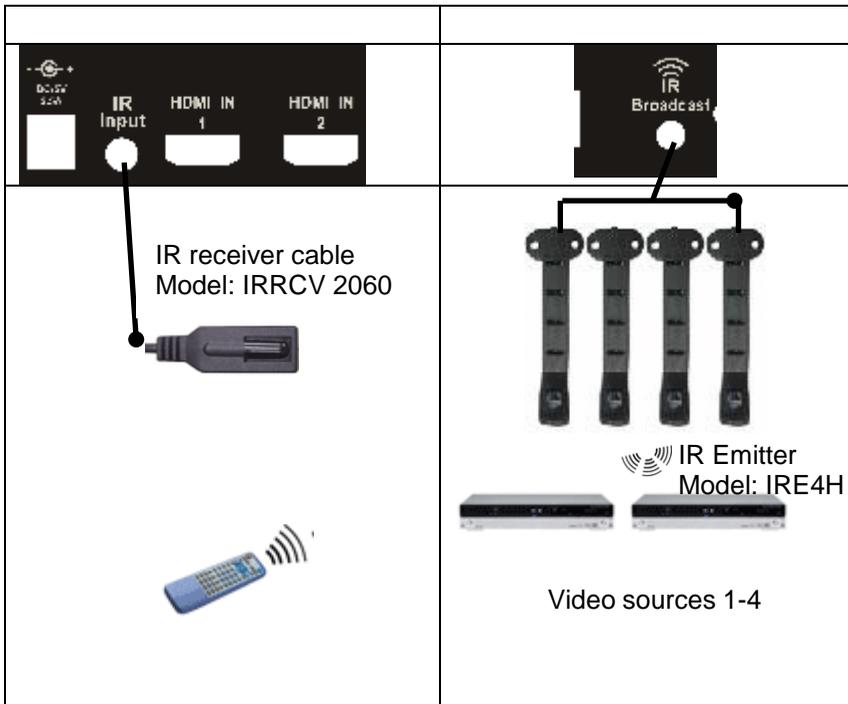
## IR Extension (optional):

The HD41 can extend IR signals for video switching and also control connected sources installed in hidden cabinet thus allowing a clean and streamline installation.

Only use Octava supplied IR Receiver and 4 emitter cables (both optional).

IR Receiver Cable: Model IRRCV 2060

IR Emitter Cable: Model IRE4H



Connect IR receiver cable (IRRCV 2060) and up to 4 infra-red emitters (: IRE4H) to the HD41-ARC as shown. Locate the IR receiver where there will be line of site from the remote control (you will aim your IR remote controls at the IR receiver). Place 1 emitter in front of each component you wish to control.

## RS232 Control Commands:

The Octava UHD41-ARC can be easily integrated with 3<sup>rd</sup> Party control systems via RS232 control. The following shows the control protocol:



RS-232 protocol	
Baud Rate	9600
Data Bits	8
Parity Check	none
Stop Bits	1
Flow control	none

Basic controls				
Note: The commands are in HEX. No spaces between HEX codes. "0x" denotes HEX and not part of command				
	HEX CODE			
Port Status	0x02	0x30	0x31	0x03
Turn ON LED	0x02	0x30	0x33	0x03
Turn OFF LED	0x02	0x30	0x34	0x03
Turn ON Power	0x02	0x30	0x35	0x03
Turn OFF Power	0x02	0x30	0x36	0x03
Turn ON Smart Scan	0x02	0x30	0x37	0x03
Turn OFF Smart Scan	0x02	0x30	0x38	0x03

For Example:

Turn OFF LED Send: 02 30 34 03 ( in hex, no space)

### Video Switching Commands

Note: The commands are in HEX. No spaces between HEX codes.  
"0x" denotes HEX and not part of command

Output A Switching Commands	HEX CODE			
Select OUT A to Input port 1	0x02	0x32	0x31	0x03
Select OUT A to Input port 2	0x02	0x32	0x32	0x03
Select OUT A to Input port 3	0x02	0x32	0x33	0x03
Select OUT A to Input port 4	0x02	0x32	0x34	0x03

### Audio Switching Commands

Note: The commands are in HEX. No spaces between HEX codes.  
"0x" denotes HEX and not part of command

Output A Switching Commands	HEX CODE			
HDMI Audio Input → Digital Audio Out	0x02	0x39	0x35	0x03
HDTV ARC port → Digital Audio Out	0x02	0x39	0x36	0x03
Optical In 1 → Digital Audio Out	0x02	0x39	0x31	0x03
Optical In 2 → Digital Audio Out	0x02	0x39	0x32	0x03
Optical In 3 → Digital Audio Out	0x02	0x39	0x33	0x03
Optical In 4 → Digital Audio Out	0x02	0x39	0x34	0x03

### USB Service Port:

The USB port is for service and updates if needed. Contact us if you need service.



## Smart Scan™:

**Smart Scan™** will automatically switch to the HDMI input source when the input source is turned on and detected. If no HDMI sources are detected, then the switch will go into standby mode. The Scan is ON as default.

**Note 1:** Some source devices are by design always ON and not able to shut off. Smart Scan may not work properly in systems with multiple sources that are by design always ON.

## SCAN Modes

		Notes
Mode 01	Smart Scan ON	
Mode 02	Smart Scan OFF	
Mode 03	Smart Scan OFF and Discrete ON / OFF for Remote control	ON/OFF button = ON “AUX” Button = OFF

1	Connect Power to the switch	
2	Press and hold down the HDMI select AND Toslink Audio Select Button for 5 seconds until LED display shows 01, 02 or 03.	
3	Repeat: Press and hold down the HDMI select AND Toslink Audio Select Button for 5 seconds until LED display the MODE you wish to set to.	
4	Repeat: Press and hold down the HDMI select AND Toslink Audio Select Button for 5 seconds until LED display the MODE you wish to set to.	
5	Done.	

**Customization:** The UHD41-ARC MCU Program enables you to customize the behavior of UHD41-ARC for your installation.

Contact us for more info.

## 1 RU Rackmount:

The Octava HD41-ARC can be installed in a 1 RU rack by simply installing the rack mounts included.



## Disabling Front Panel IR Remote Receiver:

To disable the front panel IR remote receiver-insert the plastic plug into the IR jack as shown.



**IR disabled**

**Warranty**

Octava warrants the equipment purchased to be free from defects in material and workmanship under normal use and service for a period of 1 year. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 1 year from the date of receipt. If Octava's equipment fails because of defects (1) year from the date of receipt, Octava will at its option, A) repair or replace the equipment, or B) request return of equipment for refund of the price paid for the product provided that the equipment has not been subjected to mechanical, electrical or other abuse or modifications. Proof of sale required to claim warranty.

**Disclaimers**

IN NO EVENT SHALL OCTAVA'S OR ITS SUPPLIER'S LIABILITY FOR ANY CLAIM WHATSOEVER EXCEED THE COST OF THE PRODUCTS GIVING RISE TO THE CLAIM, WHETHER BASED IN CONTRACT, WARRANTY, INDEMNITY OR TORT (INCLUDING, WITHOUT LIMITATION, NEGLIGENCE AND STRICT LIABILITY) OR OTHERWISE. IN NO EVENT SHALL OCTAVA INC. OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER INDIRECT DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF REVENUES, PROFITS OR OPPORTUNITIES), HOWEVER CAUSED, ON ANY THEORY OF LIABILITY, WHETHER OR NOT OCTAVA INC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

WHILE EVERY PRECAUTION HAS BEEN TAKEN IN THE PREPARATION OF THIS MANUAL, OCTAVA ASSUMES NO RESPONSIBILITY FOR ERRORS OR OMISSIONS. IN NO EVENT WILL OCTAVA ASSUME ANY LIABILITY FOR DAMAGES RESULTING FROM THE USE OF THE INFORMATION CONTAINED HEREIN. OCTAVA RESERVES THE RIGHT TO CHANGE THE SPECIFICATIONS, FUNCTIONS OR CIRCUITRY OF THE PRODUCT WITHOUT NOTICE.

<b>Description</b>	<b>Specifications</b>
Model	UHD41-ARC
HDMI Inputs	4
HDMI Display Output	1
Optical Audio Inputs	4
Optical Audio Output	1
IR Extension (optional)	<p>Extend IR signals for video switching and also control connected sources installed in hidden cabinet.</p> <p>Only use Octava supplied IR Receiver and 4 emitter cables (both optional).</p> <p>IR Receiver Cable: Model IRRCV 2060 IR Emitter Cable: Model IRE4H</p>
Display Selection	Remote, Manual, RS232
Single Link Range	480P, 720 I/P, 1080 i/P, 4k UHD 3840x2160@60 Hz
Dimension	12.70 x 4.1 x 1.67 inch (322.5 x 104.1 x 42.3mm)
DC adapter (included)	5VDC, 2.5A
Rackmount capable	1RU, Rack mounts included
Remote control (IR)	Infrared, discrete code.

For Questions and support:

Email: [info@octavainc.com](mailto:info@octavainc.com)

URL: [www.octavainc.com](http://www.octavainc.com)

Copyright© 2016 Octava Inc. All rights reserved.  
HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LL.C  
All trademarks are the sole property of their respective companies

Rev I