

HDMI® 4 x 1 Switcher  
with ARC and Audio Extraction  
Cat. No. 41920-SW4



SAFETY INFORMATION

- **WARNING: TO AVOID DEATH OR SERIOUS INJURY**, never push objects of any kind into this product through openings, as they may touch dangerous voltages.
- **WARNING: TO AVOID DEATH OR SERIOUS INJURY**, never touch uninsulated wires or terminals unless the wiring has been disconnected at the network interface.
- Read and understand all instructions. Follow all warnings and instructions marked on the product.
- Do not use this product near water - e.g., near a tub, wash basin, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.

- Never install communications wiring or components during a lightning storm.
- Never install communications components in wet locations unless the components are designed specifically for use in wet locations.
- Use caution when installing or modifying communications wiring or components.

• **SAVE THESE INSTRUCTIONS.**

DI-090-41920-05A

INSTALLATION INSTRUCTIONS

ENGLISH

Product Information

The Leviton HDMI 4 x 1 Switcher is an ultra thin automatic switcher with four HDMI video inputs and one HDMI output. This switcher supports HDMI video resolution up to 4K x 2K@60Hz 4.4.4 HDR and multichannel audio. EDID information (describing signal formats your display supports) can be passed through from the display, or there are multiple built-in settings and user defined settings to simplify installation. The switcher will extract digital stereo audio to provide an analog source for an audio system. The switcher also supports audio return channel (ARC) for transmitting audio back to the HDMI input port from the connected display.

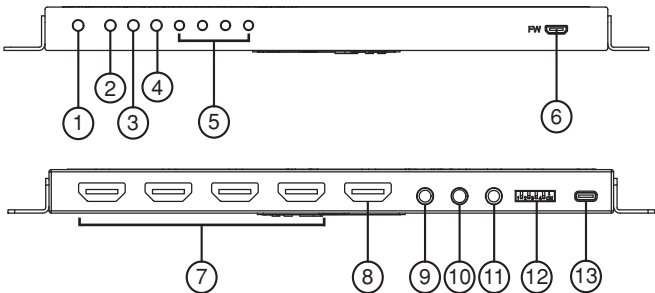
Features

- Switches any one of four HDMI inputs to one HDMI output.
- Automatically switches as a new HDMI input signal is added. Manual switching is enabled by using the front panel button.
- Supports video resolution up to 4Kx2K@60Hz 4:4:4 HDR.
- 18Gbps high bandwidth.
- Fully compliant with HDCP2.2 specifications and features of HDMI 2.0.
- Supports audio return channel (ARC).
- Advanced EDID management: multiple presets or user defined.
- Controllable via RS232 and IR.
- Supports CEC.
- Audio extraction for connection to an audio amplifier.

What's Included

- (1) HDMI 4 x 1 switcher
  - (2) Mounting Brackets
  - (4) Mounting Screws
  - (4) Non-skid Pads
  - (1) RS232 Cable (3.5mm to DB9)
- (1) IR Remote
  - (1) IR Receiver/Target
  - (1) Power Adapter (5V DC 1A) USB
  - (1) Instruction Sheet
  - (1) USB Type A to C Cable

Panel Description



1. Auto/Source push button.

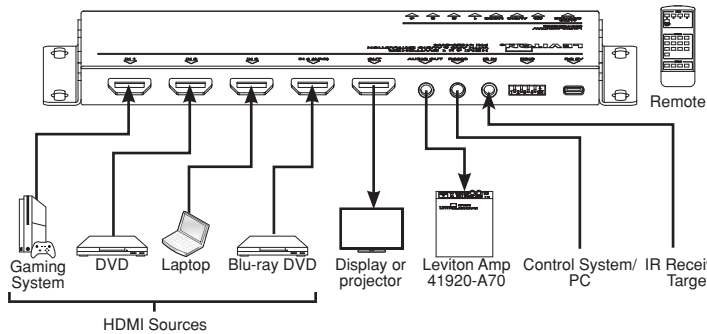
  - For manual switching, indicator 4 will illuminate green. Press to switch to next input source.
  - For automatic switching, press and hold at least three seconds. Indicator 4 will illuminate amber. Auto switching produces the following actions:
    - a. When a new input is added, switcher will automatically select the new source.
    - b. When an active source is removed, the switcher will select the first available active input starting at HDMI Input 1.
    - c. When power is restored after reboot, the last selected source will be selected. If last source is not available, the switcher will select the first active input starting at HDMI Input 1.
2. Power indicator illuminates red when switcher is powered on.
3. Audio mode indicator.

  - Illuminates green when de-embedding audio.
  - Illuminates amber when in ARC mode.
4. Switching mode indicator.

  - Illuminates green when in manual switch mode.
  - Illuminates amber in auto-switch mode.
5. Input 1-4 indicators. Illuminate green when there is HDMI input on the corresponding channel.
6. FW: Used for user-defined EDID settings.
7. 4x IN: HDMI input ports (input 4 supports ARC).
8. OUT: HDMI output port for HDMI display connection.
9. AUDIO: Analog audio output 3.5mm mini jack.
10. RS232: 3.5mm mini jack for connecting a control device (e.g., PC).
11. IR IN: IR receiver/target input 3.5mm mini jack for use with remote control.
12. EDID: 4 position DIP switch for setting EDID.
13. 5VDC: Connect to 5V USB-C power adapter.

System Diagram

NOTE: Diagram for reference only.



RS232 Control

Connect the switcher to the control device (e.g., a PC) with the RS232 cable and set the parameters as below to send RS232 commands. **NOTE:** All commands must end with <CR> (Carriage Return) and <LF> (Line Feed).

Baud rate: 9600  
Stop bit: 1

Data bits: 8  
Parity bits: none

Signal Switching

FUNCTION	COMMAND	FEEDBACK EXAMPLE
Switch to HDMI input 1	>>HDMI1	<<HDMI1
Switch to HDMI input 2	>>HDMI2	<<HDMI2
Switch to HDMI input 3	>>HDMI3	<<HDMI3
Switch to HDMI input 4	>>HDMI4	<<HDMI4
Enable auto-switching mode	>>AUTO	<<AUTO Switch
Enable manual switching mode	>>MANUAL	<<MANUAL Switch

Source Device Control

NOTE: Source device must support CEC.

FUNCTION	COMMAND	FEEDBACK EXAMPLE
Turn on the input source device, e.g., Blu-ray DVD	>>SRCOn	<<SRCOn
Turn off the input source device, e.g., Blu-ray DVD	>>SRCOff	<<SRCOff
Play	>>SRCPlay	<<SRCPlay
Pause	>>SRCPause	<<SRCPause
Stop	>>SRCStop	<<SRCStop
Fast Forward x 1	>>SRCForward	<<SRCForward
Fast Rewind x 1	>>SRCBackward	<<SRCBackward
Next Section	>>SRCSkipForward	<<SRCSkipForward
Previous Section	>>SRCSkipBackward	<<SRCSkipBackward
Open the menu	>>SRCMenu	<<SRCMenu
Go back	>>SRCBack	<<SRCBack
Confirm (OK)	>>SRCOk	<<SRCOk
Exit	>>SRCExit	<<SRCExit
Scroll Up	>>SRCUp	<<SRCUp
Scroll Down	>>SRCDown	<<SRCDown
Scroll Left	>>SRCLeft	<<SRCLeft
Scroll Right	>>SRCRight	<<SRCRight

## Display Device Control

**NOTE:** Display device must support CEC.

FUNCTION	COMMAND	FEEDBACK EXAMPLE
Turn on the display device, e.g., HDTV	>>TVOn	<<TVOn
Turn off the display device, e.g., HDTV	>>TVOff	<<TVOff
Volume Up	>>TVVOL+	<<TVVOL+
Volume Down	>>TVVOL-	<<TVVOL-
Mute, ON/OFF	>>TVMUTE	<<TVMUTE&UNMUTE

### Audio Selection

FUNCTION	COMMAND	FEEDBACK EXAMPLE
Select ARC audio channel	>>AUDExternal	<<AUDExternal
Select the HDMI audio input channel	>>AUDInternal	<<AUDInternal


### System Control

FUNCTION	COMMAND	FEEDBACK EXAMPLE
System reset	>>RESET	<<RESET
Get system information	>>SYSInfo	<<Leviton 41920-SW4 <<VER X.X.X <<----- <<HDMI1 <<AUTOSwitch <<AUDInternal <<EDID0 <<HDCP:Active

## EDID Management

### Predefined EDID Settings

The 4-pin DIP switch on the rear panel is used to select the predefined EDID settings. The ten options are shown below.

 When in ON position, switch represents 1. In raised position, switch represents 0.	ID	SWITCH STATUS	VIDEO	AUDIO
	0	0000	Pass through	Pass through
	1	0001	1920x1080p@60Hz 4:4.4 RGB 8bit	Stereo
	2	0010	1920x1080p@60Hz 4:4.4 RGB 8bit	High Definition
	3	0011	1920x1080p@60Hz 4:2:0 RGB 12bit	Stereo
	4	0100	1920x1080p@60Hz 4:2:0 RGB 12bit	High Definition
	5	0101	3840x2160p@60Hz 4:2:0 RGB 8bit	Stereo
	6	0110	3840x2160p@60Hz 4:2:0 RGB 8bit	High Definition
	7	0111	3840x2160p@60Hz 4:4.4 RGB 10bit	Stereo
	8	1000	3840x2160p@60Hz 4:4.4 RGB 10bit	High Definition
	9	1001	1280x800p@60Hz	Stereo
	10	1010	1920x1200p@60Hz	Stereo

### User Defined EDID Settings

Up to five EDID settings can be customized for specific applications using the steps below.

- Rename the user defined EDID using the following format:  
EC\_xx\_xxxx\_xxx.bin
  - EC represents EDID
  - xx represents EDID ID. It can be 11-15.
  - xxxx represents the video parameter
  - xxx represents the audio formatExample: EC\_11\_720P\_LPCM.bin
- Power the switcher on and connect a PC with the USB cable to the FW port. The PC will automatically detect a U-disk named BOOTDISK.
- Double click the U-disk. A file named READY.TXT will be displayed.
- Copy the user defined EDID (see example above) to the BOOTDISK U-disk.
- Reopen the U-disk to verify the file name was automatically changed from READY.TXT to SUCCESS.TXT. If it successfully changed, the user defined EDID has been imported into the switcher and saved as its corresponding EDID ID.
- Repeat steps 3 through 5 to copy other user defined EDIDs to the BOOT-DISK U-disk.
- Remove the USB cable and connect the adapter to power the switcher on.
- The new EDID is invoked via the 4 position DIP switch. The EDID ID and its corresponding switch status are shown in the list below.

ID	SWITCH STATUS
11	1011
12	1100
13	1101
14	1110
15	1111

#### FOR CANADA ONLY

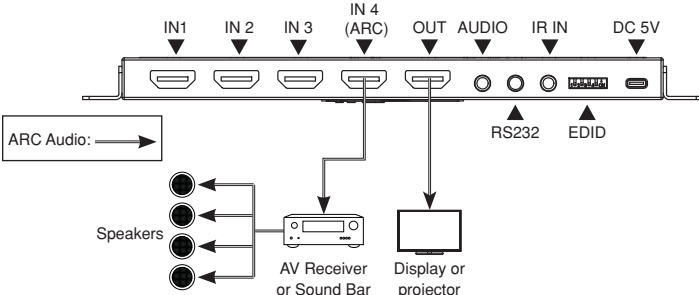
For warranty information and/or product returns, residents of Canada should contact Leviton in writing at Leviton Manufacturing of Canada Ltd to the attention of the Quality Assurance Department, 165 Hymus Blvd, Pointe-Claire (Quebec), Canada H9R 1E9 or by telephone at 1 800 405-5320.

#### LIMITED 2 YEAR WARRANTY AND EXCLUSIONS

Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Leviton is free of defects in materials and workmanship under normal and proper use for two years from the purchase date. Leviton's only obligation is to correct such defects by repair or replacement, at its option. **For details visit [www.leviton.com](http://www.leviton.com) or call 1-800-824-3005.** This warranty excludes and there is disclaimed liability for labor for removal of this product or re-installation. This warranty is void if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. **There are no other or implied warranties of any kind, including merchantability and fitness for a particular purpose,** but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warranty, including merchantability and fitness for a particular purpose, is limited to two years. **Leviton is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, lost sales or profits or delay or failure to perform this warranty obligation.** The remedies provided herein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.

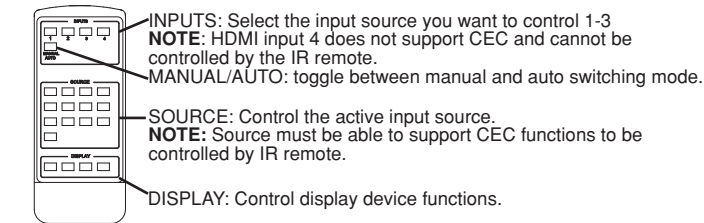
## ARC Mode

Audio Return Channel (ARC) allows audio from a display to pass through an HDMI cable to an audio processing device such as an AV amplifier. When the switcher is in ARC mode the ARC stream will pass to the active HDMI source device on port 4 if the device can process the signal. **NOTE:** ARC is available only through the HDMI input port 4. Both the display and the amplifier need to be designed to support ARC. An audio connection diagram is shown below.



## IR Remote Control

Connect an IR receiver to the IR input port to use the IR remote control. The remote control can be used for switching and for controlling all HDMI connected devices.



## Troubleshooting and Maintenance

PROBLEM	POSSIBLE CAUSE	SOLUTION
Color loss or no video signal output at HDMI display.	The connecting cables may not be connected correctly or may be broken.	Check whether the cables are connected correctly and in working condition.
No HDMI signal output from the switcher while local HDMI input is working.		
Splash screen in output devices.	Connecting cable quality.	Change to a better quality cable.
Control device (e.g., a PC) cannot control switcher through RS232 port.	RS232 communication parameters.	Make sure the RS232 communication parameters are set correctly.
	RS232 cable or wiring.	Change cable and/or check wiring.

SPECIFICATIONS	
VIDEO INPUT	
Input	(4) HDMI
Input connector	(4) Type A female HDMI
HDMI Input Resolution	Up to 4Kx2K@60Hz 4:4.4
HDMI Support	Supports features of HDMI 2.0
HDCP Version	2.2
VIDEO OUTPUT	
Output	(1) HDMI
Output Connector	(1) Female type A HDMI
HDMI Output Resolution	Up to 4Kx2K@60Hz4:4.4
HDMI Support	Supports features of HDMI 2.0
HDCP Version	2.2
AUDIO	
Output	(1) Audio
Output connector	(1) 3.5mm mini stereo audio jack
Audio format	PCM
Audio Output Impedance	70 Ohms
Frequency Response	20Hz to 20kHz ±3dB
CONTROL	
Control	(1) IR IN (1) RS232
Control Connector	(2) 3.5mm mini jack
EDID Selector	(1) 4-position DIP switch
GENERAL	
Bandwidth	18Gbps
Operating Temperature	-10C - +55°C (14-131 °F)
Storage Temperature	-25C - +70°C (-13-158°F)
Relative Humidity	10%-90%
Power supply	Input: 100V-240V AC Output: 5V DC 1A USB
Power Consumption	5W (Max)
Dimension (WxHxD)	194mm x 15mm x 81mm (7.6 x 0.6 x 3.2 in)