

# 5x2 HDMI Matrix Switcher with HDMI and HDBaseT Outputs



## Introduction

The Atлона **AT-HDR-SW-52ED** is a 5x2 HDMI matrix switcher for high dynamic range (HDR) formats. Part of the comprehensive family of Atлона 4K HDR integration products, it features five HDMI inputs and matrixed or mirrored HDMI and HDBaseT outputs. The HDBaseT output transmits video, embedded audio, and Ethernet over distances up to 330 feet (100 meters) to the AT-HDR-EX-100CEA-RX receiver (available separately). The HDR-SW-52ED is HDCP 2.2 compliant and supports 4K/UHD video @ 60 Hz with 4:4:4 chroma sampling, as well as HDMI data rates up to 18 Gbps. It is ideal for the latest as well as emerging 4K/UHD and HDR sources and displays, and includes EDID management features, automatic input switching, and automatic display control. Additionally, 4K downscaling to 1080p @ 60, 30, or 24 Hz is available for the outputs when connected to an HD display. The HDR-SW-52ED can de-embed audio from an HDMI input, or return audio from the HDR-EX-100CEA-RX receiver, to S/PDIF or balanced analog audio outputs. This HDMI switcher can be controlled via Ethernet, RS-232, and IR.

## Applications

- Conference rooms and meeting rooms**  
 The HDR-SW-52ED is compact and ideal for under-table mounting. It conveniently provides automatic switching and display control for simplified user operation, especially when laptops are brought into the system.
- Presentation spaces where two displays are needed**  
 This matrix switcher can feed separate content into the main presentation display and an auxiliary display.
- Auditoriums and lecture halls**  
 The HDR-SW-52ED can be installed in a lectern to serve a confidence monitor, plus the primary display in a remote location.

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## Key Features

### 5x2 HDMI matrix switcher

- HDMI inputs, HDMI and HDBaseT outputs.
- Delivers flexible matrix switching capability for meeting and presentation spaces.

### HDBaseT and HDMI outputs with selectable AV switching modes

- Selectable switching modes available with mirrored or matrixed outputs . Ideal for use with the AT-HDR-EX-100CEA-RX receiver.
- Enables simple configuration and effortless user operation, tailored to the specific AV application.

### Video, audio, power, and data over category cable utilizing HDBaseT technology

- Transmits 4K/UHD video up to 330 feet (100 meters) with CAT6/6a/7 cable, or up to 295 feet (90 meters) using CAT5e cable.
- Uses easy-to-integrate category cable for low-cost, reliable system installation.

### Selectable 4K to 1080p downscaling

- Integrated video processing available for down-converting 4K/UHD @ 60, 30, or 24 Hz to 1080p.
- Ideal for applications with 1080p displays, video conferencing codecs, and other HD sink devices.

### Automatic display control

- Automatically changes display power state based on active or standby mode of the switcher. Control signals to display are transmitted via IP, RS-232, IR, or CEC. Embedded, comprehensive selection of display drivers from the Velocity™ System driver database.
- Enables effortless, automated system operation without the need for an external control system.

### Automatic input selection using hot plug detect and video detection technology

- Selects active input when sources are connected or if there is a change in source power status<sup>(1)</sup>.
- Enables simplified, automatic system operation without user intervention.

### Audio de-embedding

- De-embeds two channel PCM audio from the selected HDMI source to S/PDIF and balanced, analog audio outputs.
- De-embeds 5.1 channel PCM audio from the selected HDMI source to S/PDIF audio output.
- Provides direct interfacing into an external audio system.

### Delivers return audio from the AT-HDR-EX-100CEA-RX receiver

- Receives HDBaseT return audio from a display or television (via TOSLINK connection to the receiver), and delivers to S/PDIF and analog audio outputs.
- Easy and convenient integration of television audio for over-the-air broadcasts, OTT (over-the-top) media services, and more.

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## Specifications

Video		
Signal	Input - HDMI Output - HDMI, HDBaseT	
Copy Protection	HDCP 2.2	
Pixel Clock	600 MHz	
UHD/HD/SD	4096x2160 (DCI) @ 24/25/30/50/60 Hz 3840x2160 (UHD) @ 24/25/30/50/60 Hz 1920x1080p @ 23.97/24/25/29.97/30/50/60 Hz 1920x1080i @ 50/60 Hz 1280x720p @ 30/50/60 Hz	720x576p @ 50 Hz 720x576i @ 25/50 Hz 720x480p @ 60 Hz 640x480p @ 60 Hz 640x480i @ 60 Hz
VESA All resolutions are 60 Hz	2560x2048 2560x1600 2048x1536 1920x1200 1680x1050 1600x1200 1600x900 1440x900 1400x1050	1366x768 1360x768 1280x1024 1280x800 1280x768 1152x768 1024x768 800x600 640x480
Color Space	YUV, RGB	
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0	
Color Depth	8-bit, 10-bit, 12-bit	
HDR	HDR10, Hybrid-Log Gamma (HLG), and Dolby® Vision™ @ 60 Hz	

Audio			
HDMI Pass-Through Formats	LPCM 2.0 LPCM 5.1 LPCM 7.1	Dolby® Digital Dolby Digital Plus™ Dolby TrueHD Dolby Atmos®	DTS® Digital Surround™ DTS-HD Master Audio™ DTS:X®
S/PDIF	LPCM 2.0	Dolby® Digital	DTS® Digital Surround™
Bit Depth	Up to 24 bits		
<b>Analog Audio</b>			
Format	Stereo 2-Channel		
Balanced Output	+4 dBu nominal gain, +19 dB headroom		
Frequency Response	20 Hz to 20 kHz, ± 0.5 dB		
THD+N	< 0.006% at 20 Hz to 20 kHz		
SNR	> 105 dB at 1 kHz, zero clipping @ 0 dBFS, unweighted		
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz		

Ethernet	
Port	1 x RJ45
Standards and Protocols	HTTP, Telnet
Speeds	10/100 Mbps
Addressing	DHCP, Static – selectable through built-in web server and Telnet commands

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RS-232	
Port	1 x 3-pin captive screw
Use	Unit and external device control and configuration
Baud Rates	2400, 4800, 9600, 19200, 38400, 57600, 115200
Data Flow	Bidirectional

IR	
Port	1 x 5-pin captive screw
Use	Unit and external device control and configuration
Carrier Frequency Range	30 kHz - 60 kHz
Data Flow	Bidirectional

CEC	
Ports	1 x HDMI OUT, Type A, 19-pin female 1 x HDBaseT OUT, RJ45
Triggering	Through HDMI and/or HDBaseT

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
HDMI IN/OUT	15	5	30	10
CAT5e	295	90	330	100
CAT6/6a/7	330	100	330	100

Buttons and Indicators	
<b>Buttons:</b> POWER, UP, DOWN, INPUT	4 x momentary, tact-type
<b>Indicators:</b> POWER HDMI 1 - HDMI 5, VOLUME	1 x LED, blue 5 x LED, blue 9 x LED, green, amber, red

Connectors	
HDMI IN	5 x Type A, 19-pin female
HDMI OUT	1 x Type A, 19-pin female
HDBaseT OUT	1 x RJ45
LAN	1 x RJ45
L/R	1 x 5-pin captive screw
S/PDIF OUT	1 x RCA, female
RS-232	1 x 3-pin captive screw
IR IN / OUT	1 x 5-pin captive screw
FW	1 x mini-USB
DC 48V	1 x 2-pin captive screw

Environmental	Fahrenheit	Celsius
Operating Temperature	+32 to +122	0 to +50
Storage Temperature	-4 to +140	-20 to +60
Operating Humidity (RH)	20% to 90%, non-condensing	

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Power	
Consumption	22.4 W 37.4 W (with PoE)
BTU/h	76.4
External Power Supply	100 - 240 V AC, 50/60 Hz Output: 48 V / 0.83 A DC

  

Dimensions (H x W x D)	Inches	Millimeters
Unit	1.34 x 8.19 x 4.41	34 x 208 x 112
Power Supply (AT-PS-48083-C)	1.42 x 1.81 x 4.41	36 x 46 x 112

  

Weight	Pounds	Kilograms
Device	1.44	3.15

  

Certification	
Device	CE, RoHS, FCC
Power Supply	CE, FCC, UL, CUL, TUV-GS, CB, PSE, CCC

  

Compliance	
NDAA-889	Yes
TAA	Yes

  

Warranty	
Device	To view the product warranty, use the following link: <a href="https://atlon.com/warranty">https://atlon.com/warranty</a>

## Footnotes

(1) Available when the switching mode is set to mirrored outputs.

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