



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.

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⁽¹⁾.
- 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.

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 | | |
| Analog Audio | | | |
| 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 |

| 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 | |
|---|--|
| Buttons: POWER, UP, DOWN, INPUT | 4 x momentary, tact-type |
| Indicators: 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 | |

| 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 | 3 years |

Footnotes

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

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