



Introduction

The Atlona **AT-UHD-SW-510W** is a 5x2, multi-format matrix switcher with wireless presentation capability. It provides universal BYOD (bring your own device) compatibility with HDMI, DisplayPort, and USB-C inputs, plus wireless connectivity for mobile devices. The SW-510W is HDCP 2.2 compliant, and features matrixed or mirrored HDMI and HDBaseT outputs. The HDBaseT output is ideal for use with the Atlona AT-UHD-EX-100CE-RX-PSE HDBaseT receiver, or the AT-HDVS-SC-RX scaling HDBaseT receiver. It also includes automatic input switching and automatic display control capability, both applicable to wired and wireless source connections. This unique multi-format matrix switcher and wireless gateway provides a universal connectivity solution for presentation devices in a wide range of professional AV applications.

Applications

- Meeting spaces**
 The SW-510W provides the flexibility to accept any presenter device, whether wired or wireless. This capability is ideal for a wide range of meeting environments, from a huddle room to a large presentation space in a convention center.
- Classrooms and auditoriums**
 A credenza or lectern-based AV system for resident sources, plus wireless connectivity for a participant's laptop or tablet.
- Small to medium-sized meeting spaces**
 The SW-510W is compact and ideal for under-table mounting. It conveniently provides automatic switching and display control for simplified user operation, especially with laptops and mobile devices brought into the system.
- Conference rooms and boardrooms**
 The SW-510W features two matrixed outputs for seamless integration into a display and a hardware-based videoconferencing system, with additional versatility by enabling wireless AV content presentations to the far end. The matrix switching capability provides the convenience of auto-switching for local BYOD content that feeds into the codec, while simultaneously allowing far-end content to be shared.
- Presentation spaces where two displays are needed**
 This switcher can be installed in a lectern to serve a confidence monitor, plus the primary display in a remote location. With matrixed outputs, the SW-510W also can support two simultaneous presenters on two screens.

Key Features

5x2 universal AV matrix switcher

- Two HDMI, one DisplayPort, and one USB-C* input, plus a dedicated wireless AV input.
- Delivers true BYOD capability for a wide range of presentation sources.

Matrixed or mirrored HDMI and HDBaseT outputs

- HDBaseT output transmits AV, control, and Ethernet up to 330 feet (100 meters) @ 1080p with CAT5e/6 or 4K/UHD using CAT6a/7 cable.
- Mirrored 18 Gbps HDMI and 10 Gbps HDBaseT outputs provide flexible options for AV system designs and applications.

Wireless AV gateway

- Provides convenient Wi-Fi connectivity for an iOS, Android†, Mac, Chromebook, or Windows-based device.
- Includes dual Wi-Fi access points – secondary access point required for Miracast (Wi-Fi Direct).
- Integrated access point can be segregated from the facility network for security reasons.

Native platform-based, wireless interfacing

- Allows screen mirroring without the need for a separate app.
- Supports wireless video up to 1080p/30 4:2:0 (up to 1080p/60 with Miracast).§
- Supports Bluetooth®-assisted iOS device discovery. An optional Bluetooth adapter is required (not included with the SW-510W). The Plugable and Kinivo Bluetooth 4.0 adapters are recommended.
- Also supports Miracast over Infrastructure for use of facility Wi-Fi or Ethernet network.

Automatic input selection and automatic display control

- Automatically changes display power state, and switches between inputs based on device connection or disconnection from the switcher.
- Works for both wired and wireless source devices.
- Enables effortless, automated system operation without the need for an external control system.

* USB-C port supports AV and device charging, but not USB data.

† Does not support casting of video from apps such as YouTube, Netflix, Hulu, and Amazon Prime Video.

- When an input is routed to one of the two available outputs, auto-switching remains available for the remaining inputs.

USB-C charging for laptops, tablets, and smartphones

- Conveniently provides mobile device powering during a meeting or presentation.
- Simple one-cable connection for AV and charging.

4K/UHD capability @ 60 Hz with 4:2:0 chroma subsampling, plus support for 4K/60 4:4:4 and HDR formats on local ports (HDMI, USB-C, and DisplayPort)

- Ideal for new and emerging 4K/UHD and HDR-capable sources and displays.
- Compatible with 4K HDR10 and Dolby® Vision™ @ 60 Hz.
- Recommended HDBaseT receiver: AT-UHD-EX-100CE-RX-PSE.

Occupancy sensor triggering

- When used with a third-party occupancy sensor, the switcher can wake from standby, power up the display, and deliver a welcome screen when someone walks into the room.
- Greatly simplifies user operation by avoiding the need to manually power up the system.

TCP/IP, RS-232, and contact closure control

- Ideal for IP-based control from Atlona Velocity Control System and the AT-ANC-108D button control panel.
- Also compatible with third-party control systems.
- Contact closure control ideal for room functions such as motorized screens and display lifts, as well as occupancy sensing and remote button controls.

Award-winning 10 year limited product warranty

- Ensures long-term product reliability and performance in commercial and residential systems.
- Specify, purchase, and install with confidence.

§ Video resolution capability is dependent on wireless signal quality.

Specifications

| Video | |
|-----------------------------------|--|
| HDMI | 2.0 ⁽¹⁾ |
| HDCP | 2.2 (wired-device connections, only) |
| UHD/HD | 4096x2160 @ 60 ⁽²⁾ /50/30/25/24 Hz 3840x2160 @ 60 ⁽²⁾ /50/30/25/24 Hz 1920x1080p @ 60/59.9/50/30/29.97/25/24/23.98 Hz 1920x1080i @ 30/29.97/25 Hz 1280x720p @ 60/59.94/50 Hz 720x576p @ 50 Hz 720x576i @ 50 Hz 640x480p @ 60/59.96 Hz 640x480i @ 30 Hz |
| VESA All resolutions are 60 Hz | 2560x1600 2048x1536 1920x1200 1680x1050 1600x1200 1440x900 1400x1050 1280x1024 1280x800 1366x768 1360x768 1152x864 1024x768 800x600 640x480 |
| USB-C ⁽³⁾ | Up to 4K/UHD @ 60 Hz for devices supporting USB-C Alternate Mode video output |
| Wireless | Up to 1080p @ 30 Hz 4:2:0 (up to 1080p @ 60 Hz with Miracast™); dependent on wireless signal quality |
| Color Space | YUV, RGB |
| Chroma Subsampling | 4:4:4, 4:2:2, 4:2:0 |
| Color Depth | 8-bit, 10-bit, 12-bit |
| HDR ⁽⁴⁾ | HDR10, Hybrid-Log Gamma (HLG), and Dolby® Vision™ @ 60 Hz |

| Audio | |
|-------------------------------------|---|
| HDMI / HDBaseT Pass-Through Formats | LPCM 2.0 Dolby® Digital Dolby Digital Plus™ Dolby TrueHD Dolby Atmos® DTS® Digital Surround™ DTS-HD Master Audio™ DTS:X® |
| Bit Rate | 24 Mbits/s max |
| Analog Audio | |
| Format | 2-channel stereo |
| Balanced Output | +4 dBu, nominal gain; +20 dBu headroom |
| Frequency Response | 20 Hz to 20 kHz, ±0.5 dB |
| THD + N | < 0.009% @ 20 Hz to 20 kHz |
| SNR | > 94 dB @ 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 |

| USB | |
|----------------------------------|---|
| Signal | 2.0 |
| Maximum Data Rate | 120 Mbps |
| USB-C | Supports Audio, Video, device and host data, and up to 60W power charging |
| USB-C Device Charging Capability | Up to 20 V, 3 A Output: 60 W @ 20 V, 36 W @ 12 V, 15 W @ 5 V |

| Protocols | |
|----------------|---------------------------------|
| Addressing | DHCP, static |
| Security | HTTPS, SSL, TLS |
| Authentication | IEEE 802.1x |
| Wi-Fi | IEEE 802.11n/ac 2.4 GHz / 5 GHz |
| Wi-Fi Security | WPA, WPA2, PSK |

| Wi-Fi | Frequency Range/Band | Power Output | Number of Channel/s | Channel Spacing | Modulation Type |
|----------------------|----------------------|----------------------------------|---------------------|-----------------|--|
| WLAN (USB Dongle) | 2400 – 2483.5MHz | 11b (11Mbps): 16dBm±1.5dBm | 13/9 | 5 MHz | DSSS/OFDM |
| | | 11g (54Mbps): 14dBm±1.5dBm | | | |
| | | 11n (20MHz, MCS7): 14dBm±1.5dBm | | | |
| | | 11n (40MHz, MCS7): 14dBm±1.5dBm | | | |
| | 5150 – 5825MHz | 11a (54Mbps): 12dBm±1.5dBm | 9/2 | 20MHz | OFDM / QPSK / 16QAM / 64QAM / 256QAM |
| | | 11n (20MHz, MCS7): 12dBm±1.5dBm | | | |
| | | 11n (40MHz, MCS7): 12dBm±1.5dBm | | | |
| | | 11ac (80MHz, MCS9): 10dBm±1.5dBm | | | |

| Control | |
|---------|--|
| RS-232 | Device control and configuration; supports baud rates from 2400 to 115200 Bidirectional pass-through from control system to network |
| TRIGGER | Occupancy sensor triggering; wake from standby and/or display power-up when room becomes occupied. |
| RELAY | Contact closure control for room functions such as motorized screens and display lifts, as well as occupancy sensing and remote button controls. |

| Resolution / Distance | 4K/UHD - Feet / Meters | | 1080p - Feet / Meters | |
|-----------------------|------------------------|-----|-----------------------|-----|
| | HDMI IN/OUT | 15 | 5 | 30 |
| CAT5e | 230 | 70 | 330 | 100 |
| CAT6/6a/7 | 330 | 100 | 330 | 100 |

| Connectors | |
|-------------|--|
| HDMI IN | 2 - Type A, 19-pin female |
| HDMI OUT | 1 - Type A, 19-pin female |
| DP IN | 1 - 20-pin female |
| USB-C IN | 1 - USB Type-C v3.1, 24-pin female, AV input (Alternate Mode) |
| USB | 3 - USB 2.0 Type A for Wi-Fi® antenna modules |
| RS-232 | 1 - 3-pin captive screw (bidirectional) |
| RELAY | 1 - 3-pin captive screw, normally open (NO), with adjustable Toggle and Pulse modes; Electrical rating: 48 V @ 1 A |
| TRIGGER | 1 - 4-pin captive screw, supports 3 - 30 V DC input range, power supply is 12 V @ 100 mA max. |
| AUDIO IN | 1 - 3.5 mm, unbalanced 2-channel |
| AUDIO OUT | 1 - 5-pin captive screw, balanced / unbalanced 2-channel |
| HDBaseT OUT | 1 - RJ45 |
| LAN | 1 - RJ45, 10/100/1000 Mbps |
| DC 24V | 1 - 4-pin DIN, locking |

| Indicators and controls | |
|-------------------------|--|
| USB-C | 1 - LED, blue |
| DP | 1 - LED, blue |
| HDMI 3 | 1 - LED, blue |
| HDMI 4 | 1 - LED, blue |
| BYOD | 1 - LED, blue |
| Control Buttons | 4 - momentary, tact-type INPUT: Switches between inputs IP: Displays the IP address of the unit on the connected display POWER: Power-off the unit DISPLAY: Power-on / power-off the connected display |

| Environmental | |
|-------------------------|--------------------------------|
| Operating Temperature | +32 to +122 °F 0 to +50 °C |
| Storage Temperature | -4 to +140 °F -20 to +60 °C |
| Operating Humidity (RH) | 20% to 95%, non-condensing |

| Power | |
|-------------------------|--|
| Consumption (full load) | 121 W |
| Idle Consumption | 35 - 40 W |
| Supply | Input: 100 - 240 V AC, 50/60 Hz Output: 24 V / 5 A DC |

| Dimensions (H x W x D) | Inches | Millimeters |
|--|---------------------|-------------------|
| Unit | 1.73 x 8.46 x 10.19 | 44 x 215 x 259 |
| Power Supply (AT-PS-48208-D3) ⁽⁵⁾ | 1.6 x 2.6 x 6.2 | 40.6 x 66 x 157.4 |

| Weight | Pounds | Kilograms |
|--------|--------|-----------|
| Device | 3.70 | 1.68 |

| Certification | |
|---------------|---------------|
| Device | CE, RoHS, FCC |

Accessories

| SKU | Description |
|-------------------|---------------------------|
| AT-UHD-SW-510W-RM | AT-UHD-SW-510W Rack Mount |

Footnotes

- (1) 18 Gbps supported for HDMI 2.0 output. HDBaseT output limited to 10 Gbps.
- (2) HDMI output supports 4K/UHD @ 50 or 60Hz with 4:4:4 chroma sampling. HDBaseT output supports 4K/UHD @ 50 or 60Hz with 4:2:0 chroma subsampling.
- (3) USB-C does not support the following input resolutions: 2560x2048, 2048x1536, 2028x1080, and 1440x1050.
- (4) HDR not supported on HDBaseT output.
- (5) Revision A hardware uses AT-PS-245-C power supply. Revision B hardware uses AT-PS-245-D4 power supply. Power supply dimensions are the same.

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