SW HD 4K

TWO AND FOUR INPUT HDMI SWITCHERS

4K UHD

▸ **Switches HDMI video and embedded multi-channel digital audio**

▸ **Supports computer and video resolutions up to 4K**

▸ **Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, Lip Sync, and HD lossless audio formats**

▸ **EDID Minder® automatically manages EDID communication between connected devices**

▸ **Automatic input cable equalization to 50 feet when used with Extron HDMI Pro Series cable**

▸ **Multiple control options including front panel, RS-232, IR, contact closure, and auto-input switching**

▸ **Easy setup and commissioning with Extron's PCS – Product Configuration Software**

The Extron SW HD 4K are two and four-input switchers designed for signal switching between multiple HDMI source devices to one display. The switchers support video signals at resolutions up to 4K, and offer integrator-friendly features that ensure reliable operation in professional AV applications.

Extron Electronics
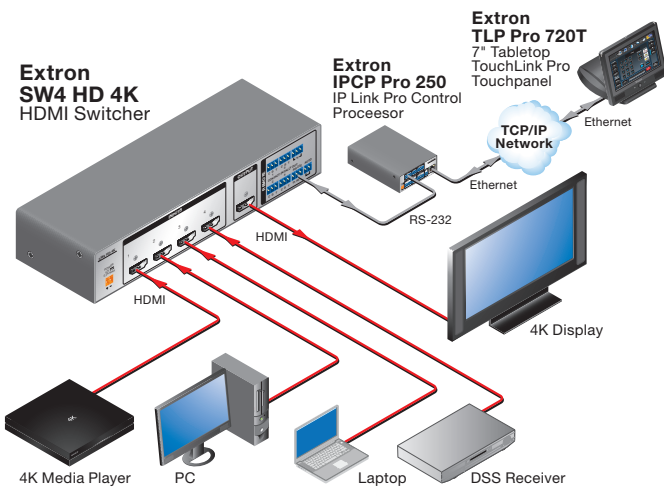
INTERFACING, SWITCHING AND CONTROL

DESCRIPTION

The Extron **SW HD 4K** are two and four-input switchers for HDMI signals. They are designed for video signal switching between multiple HDMI source devices to a single display. The switchers support video signals at resolutions up to 4K, as well as data rates up to 10.2 Gbps, 3D, Lip Sync, and HD lossless audio formats. Both models feature EDID Minder®, which maintains continuous EDID communication with connected devices and ensures that the HDMI sources power up properly and maintain correct video output. The switchers provide automatic input cable equalization up to 50 feet on Extron HDMI Pro Series cable. The SW HD 4K switchers offer front panel, RS-232, IR, contact closure, and auto-input switching control options for integration into a wide variety of environments.

To enhance and simplify integration, the SW HD 4K switchers provide integrator-friendly features, including automatic input cable equalization, automatic color bit depth management, indicators for monitoring and troubleshooting, as well as peripheral device power on each output. Automatic input cable equalization corrects for signal loss due to lengthy input cables, ensuring signal integrity up to 50 feet,when used with Extron HDMI Pro Series cable. The switchers automatically adjust color bit depth based on the display EDID to prevent color compatibility conflicts between source and display. Front panel LED indicators provide immediate visual confirmation of HDCP authentication and signal presence for each input and the output. If HDCP-encrypted content is transmitted to a non-compliant display, a full-screen green signal provides immediate visual confirmation that protected content cannot be viewed on that display. The SW HD 4K switchers also provide +5 VDC, 250 mA on the HDMI output for powering peripheral devices such as an Extron UHD4K 101 or HDMI 101 Plus cable equalizer.

The SW HD 4K switchers are housed in 1U, half rack width enclosures that are suitable for mounting in a rack or under a table.

APPLICATION DIAGRAM

Extron SW4 HD 4K HDMI Switcher

Extron IPCP Pro 250 IP Link Pro Control Proceesor

Extron TLP Pro 720T 7" Tabletop TouchLink Pro Touchpanel

TCP/IP Network

Ethernet

Ethernet

RS-232

HDMI

HDMI

HDMI

4K Display

4K Media Player   PC   Laptop   DSS Receiver

KEY FEATURES

▸ **Supports computer and video resolutions up to 4K** – Resolutions up to 4096x2160/30 with 4:4:4 chroma sampling at 8 bits of color.

▸ **Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, Lip Sync, and HD lossless audio formats**

▸ **EDID Minder® automatically manages EDID communication between connected devices** – EDID Minder ensures that all sources power up properly and reliably output content for display.

▸ **Automatic input cable equalization to 50 feet when used with Extron HDMI Pro Series cable** – Actively conditions incoming HDMI signals to compensate for signal loss when using long HDMI cables, low quality HDMI cables, and source devices with poor HDMI signal output.

▸ **HDCP compliant** – Ensures display of content-protected media and interoperability with other HDCP-compliant devices.

▸ **User-selectable HDCP authorization** – Allows individual inputs to appear HDCP compliant or non–HDCP compliant to the connected source, which is beneficial if the source automatically encrypts all content when connected to an HDCP-compliant device. Protected material is not passed in non-HDCP mode.

▸ **HDCP Visual Confirmation provides a green signal when encrypted content is sent to a non-compliant display** – A ful-screen green signal is sent when HDCP-encrypted content is transmitted to a non-HDCP compliant display, providing immediate visual confirmation that protected content cannot be viewed on the display.

▸ **HDCP authentication and signal presence LED indicators**

▸ **Automatic color bit depth management** – The switcher automatically adjusts color bit depth based on the display EDID, preventing color compatibility conflicts between source and display.

▸ **HDMI to DVI Interface Format Correction** – Automatically reformats HDMI source signals for output to a DVI display.

▸ **Provides +5 VDC, 250 mA power on the output for external peripheral devices**

▸ **Front panel security lockout** – Prevents unauthorized use in non-secure environments. In lockout mode, a special button combination is required to operate the switcher from the front panel.

▸ **Easy setup and commissioning with Extron's PCS — Product Configuration Software**

▸ **Multiple control options, including front panel, RS-232, IR, contact closure, and auto-input switching**

▸ **Contact closure remote control with tally output** – Allows for remote selection of an input channel. +5 VDC is provided to light an LED to indicate the currently selected input.

▸ **Rack-mountable, 1U half rack width metal enclosure**

▸ **Highly reliable, energy-efficient external universal power supply included** – Provides worldwide power compatibility, with high demonstrated reliability and low power consumption for reduced operating costs.

SPECIFICATIONS

TRUE 4K SPECIFICATION

Max 4K Capabilities		
Resolution and Frame Rate	**Chroma Sampling**	**Max Bit Depth per Color**
4096 x 2160 at 30 Hz 3840 x 2160 at 30 Hz	4:4:4	8 bit
4096 x 2160 at 60 Hz 3840 x 2160 at 60 Hz	4:2:0	

Frame Rate[1]	24, 25, 30, 50, or 60 fps
Chroma Sampling[1]	4:4:4, 4:2:2, or 4:2:0
Color Bit Depth[1]	8 bits per color
Signal Type	HDMI 1.4, HDCP 1.4
Max Video Data Rate	10.2 Gbps (3.4 Gbps per color)

NOTE: Subject to the maximum data rate limit. Use our calculator at www.extron.com/4Kdatarate to determine video parameters supported by this data rate.

VIDEO

Maximum data rate	10.2 Gbps (3.4 Gbps per color)
Maximum pixel clock	300 MHz
Resolution	Up to 1920 x 1200 or 1080p @ 60 Hz, 12-bit color 4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling
Formats	RGB and YCbCr digital video
Standards	DVI 1.0, HDMI 1.4, HDCP 1.4

VIDEO INPUT

Number/signal type	2 or 4 (depending on model) single link HDMI (or DVI-D*)
Connectors	2 or 4 female HDMI

VIDEO OUTPUT

Number/signal type	1 single link HDMI (or DVI-D*)
Connectors	1 female HDMI

COMMUNICATION — SWITCHER

Serial control port	1 RS-232, 3.5 mm, 5 pole captive screw connector (shared with auto-input switching control)
Pin configuration	1 = Tx, 2 = Rx, 3 = GND
Baud rate and protocol	9600 baud, 8 data bits, 1 stop bit, no parity
Auto-input switching	(1) 3.5 mm, 5 pole captive screw connector (shared with RS-232)
Pin configuration	Pins 4 and 5 of captive screw connector shared with RS-232 shorted together enable auto-input switching.
Contact closure	(1) 3.5 mm captive screw, 5 pole
Tally output	(1) 3.5 mm captive screw, 5 pole
IR controller module	IR 102 remote control (optional) 30' maximum, 40 degrees off axis
Program control	Extron Simple Instruction Set™ (SIS™)

GENERAL

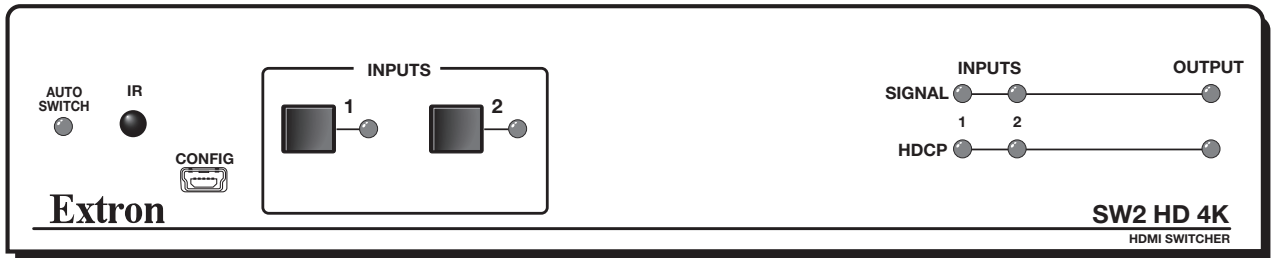|	
Power supply	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 1 A, 12 watts
Power consumption	
Device	6 watts, 12 VDC
Device and power supply	8 watts, 12 VDC
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, no vents
Thermal dissipation	
Device	19.8 BTU/hr
Device and power supply	24.4 BTU/hr
Mounting	
Rack mount	Yes, with optional 1U rack shelf
Furniture mount	Yes, with optional under-desk mounting kit or through-desk mounting kit
Enclosure type	Metal
Enclosure dimensions	1.75" H x 8.75" W x 3.0" D (1U high, half rack wide) (4.4 cm H x 22.2 cm W x 7.6 cm D) (Depth excludes connectors.)
Product weight	0.5 lb (0.3 kg)
Shipping weight	2 lbs (1 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety	CE, c-UL, KC-mark, UL
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI
Environmental	Complies with appropriate requirements of RoHs and WEEE.
Warranty	3 years parts and labor

NOTE: All nominal levels are at ±10%.

Model	Version Description	Part number
SW2 HD 4K	Two Input 4K HDMI Switcher	60-1483-01
SW4 HD 4K	Four Input 4K HDMI Switcher	60-1484-01

Optional Accessories

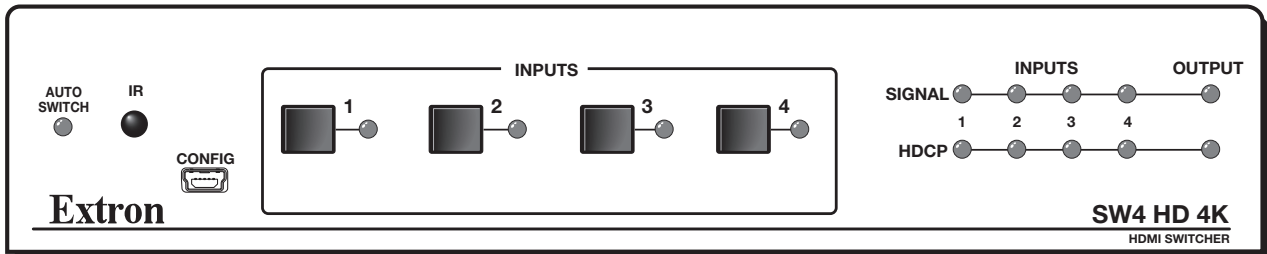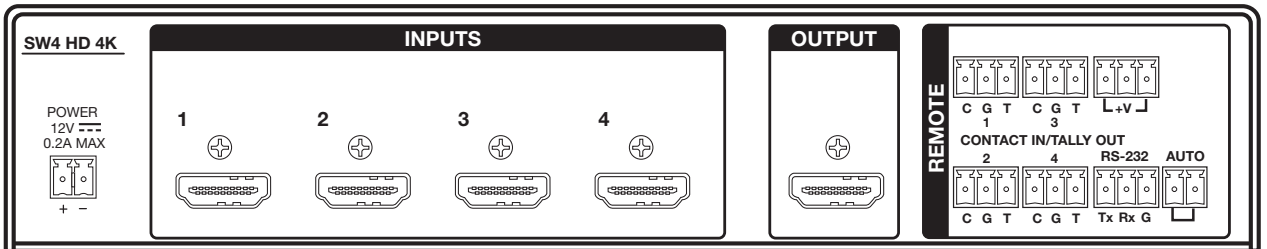| Model	Version Description	Part number
UHD4K 101	4K HDMI Cable Equalizer	60-1514-01
HDMI 101 Plus	HDMI Cable Equalizer	60-872-02
HDMI Pro Series	High Speed and Standard Speed HDMI Cables	26-650-xx
HDMI Ultra Series	Ultra Flexible High Speed HDMI Cables	26-663-xx
HDMI Micro Series	MicroDigital™ Ultra-Flexible HDMI Cables	26-667-xx
MBU 123	Low-Profile Mount Kit	70-212-01

PANEL DRAWINGS

AUTO SWITCH **IR** **CONFIG** **INPUTS** **1** **2**

INPUTS **OUTPUT**
SIGNAL **1** **2**
HDCP

Extron **SW2 HD 4K**
HDMI SWITCHER

SW2 HD 4K - Front

SW2 HD 4K **INPUTS** **OUTPUT** **REMOTE**

POWER
12V ⎓
0.2A MAX

+ −

1 **2**

C G T **⎣+V⎦**
1
CONTACT IN/TALLY OUT **RS-232** **AUTO**
2
C G T **Tx Rx G**

SW2 HD 4K - Back

AUTO SWITCH **IR** **CONFIG** **INPUTS** **1** **2** **3** **4**

INPUTS **OUTPUT**
SIGNAL **1** **2** **3** **4**
HDCP

Extron **SW4 HD 4K**
HDMI SWITCHER

SW4 HD 4K - Front

SW4 HD 4K **INPUTS** **OUTPUT** **REMOTE**

POWER
12V ⎓
0.2A MAX

+ −

1 **2** **3** **4**

C G T **C G T** **⎣+V⎦**
1 **3**
CONTACT IN/TALLY OUT **RS-232** **AUTO**
2 **4**
C G T **C G T** **Tx Rx G**

SW4 HD 4K - Back

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