

DA HD 4K PLUS Series

4K/60 HDMI DISTRIBUTION AMPLIFIERS

18 Gbps
4K/60 4:4:4



The Extron DA HD 4K PLUS Series are HDCP 2.3 compliant distribution amplifiers for HDMI signals up to 4K/60 @ 4:4:4 chroma sampling. They support data rates up to 18 Gbps, HDR, 3D, and HD lossless audio formats, along with integrator-friendly features such as automatic input cable equalization, automatic color bit depth management, and selectable output muting. The DA HD 4K PLUS Series distribution amplifiers are available in sizes from two to six outputs, and are ideal for applications that require reliable distribution of a single HDMI source signal to multiple displays.

- ▶ Supports computer and video resolutions up to 4K/60 @ 4:4:4
- ▶ Supported HDMI 2.0b specification features include data rates up to 18 Gbps, HDR, Deep Color up to 12 bit, 3D, and HD lossless audio formats
- ▶ HDCP 2.3 compliant
- ▶ Automatic input cable equalization
- ▶ EDID Minder® automatically manages EDID communication between connected devices
- ▶ Key Minder® continuously verifies HDCP compliance

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DESCRIPTION

The Extron **DA HD 4K PLUS** Series are HDCP 2.3 compliant distribution amplifiers for HDMI signals up to 4K/60 @ 4:4:4 chroma sampling. They support data rates up to 18 Gbps, HDR, Deep Color up to 12-bit, 3D, and HD lossless audio formats, along with integrator-friendly features such as automatic input cable equalization, automatic color bit depth management, and selectable output muting. They also feature Extron EDID Minder® and Key Minder® technologies to maintain continuous EDID communication between connected devices and ensure simultaneous distribution of HDCP-encrypted source content. The DA HD 4K PLUS Series distribution amplifiers are available in sizes from two to six outputs, and are ideal for applications that require reliable distribution of a single HDMI source signal to multiple displays.

To enhance and simplify integration, the DA HD 4K PLUS Series offers many integrator-friendly features. Input cable equalization restores and reshapes incoming HDMI signals, reducing the need for additional signal conditioning equipment by compensating for weak source signals or signal loss from a long input cable. Color bit depth is automatically adjusted based on the display EDID, which prevents color compatibility conflicts between source and display. Also, outputs can be muted independently via RS-232, allowing content to be previewed on a local monitor.

The DA HD 4K PLUS distribution amplifiers provide immediate visual confirmation of HDCP authentication and signal presence for each port via front panel LED indicators. If HDCP-encrypted content is transmitted to a non-HDCP compliant display, a full-screen green signal provides immediate visual notification that protected content cannot be viewed on that display. HDCP authorization is user-selectable, allowing the unit to appear HDCP compliant or non-HDCP compliant to the connected source. This is beneficial if the source automatically encrypts all content when connected to an HDCP-compliant device. The DA HD 4K PLUS Series distribution amplifiers also provide +5 VDC, 250 mA on each output for powering peripheral devices such as an Extron HD 4K 101 Plus cable equalizer.

KEY FEATURES

- ▶ **Input: One female HDMI type-A connector**
- ▶ **Output: Two, four, or six female HDMI type - A connectors**
- ▶ **Supports computer and video resolutions up to 4K/60 @ 4:4:4**
- ▶ **Supported HDMI 2.0b specification features include data rates up to 18 Gbps, HDR, Deep Color up to 12-bit, 3D, and HD lossless audio formats**
- ▶ **Support for HDR - High Dynamic Range video** – These products provide the video bandwidth, color depth, and metadata interchange capability required to support HDR video signals. HDR provides a greater contrast range and wider color gamut.
- ▶ **HDCP 2.3 compliant** – Ensures display of content-protected media and interoperability with other HDCP - compliant devices.
- ▶ **Automatic input cable equalization** – Actively conditions incoming HDMI signals to compensate for signal loss when using long cables, low quality cables, or source devices with poor signal output.
- ▶ **EDID Minder® automatically manages EDID communication between connected devices** – Ensures that the source powers up properly and reliably outputs content for display.
- ▶ **Key Minder® continuously verifies HDCP compliance** – Authenticates and maintains continuous HDCP encryption between all input and output devices to enable simultaneous distribution of a single source signal to two or more displays.
- ▶ **Selectable output muting via RS-232** – Provides the capability to mute one or all outputs at any time. This allows content to be viewed on a local monitor prior to appearing on the main presentation display.
- ▶ **User-selectable HDCP authorization** – Allows the unit 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**
- ▶ **Automatic color bit depth management** – The DA HD 4K PLUS Series automatically adjusts color bit depth based on the display EDID, preventing color compatibility conflicts between source and displays.
- ▶ **HDMI to DVI Interface Format Correction** – Automatically reformats HDMI source signals for output to a connected DVI display.
- ▶ **HDCP authentication and signal presence LED indicators**
- ▶ **Provides +5 VDC, 250 mA power on each output for external peripheral devices**
- ▶ **RS-232 control port**
- ▶ **Front panel USB configuration port**
- ▶ **Easy setup and commissioning with Extron's PCS - Product Configuration Software** – Conveniently configure multiple products using a single software application.
- ▶ **Rack-mountable, metal enclosure** – The DA HD 4K PLUS Series two-output model features a 1" (2.5 cm) high, quarter rack width enclosure. Four and six-output models feature a 1U high, half rack width enclosure.
- ▶ **Includes LockIt® HDMI cable lacing brackets**
- ▶ **Extron Everlast™ power supply** – Provides worldwide power compatibility with high reliability and low power consumption for reduced operating costs. The two-output model includes an external power supply, replacement part #70-1175-01. Four and six-output models are equipped with a 100-240 VAC, 50/60 Hz, internal universal power supply.
- ▶ **Extron Everlast power supply is covered by a 7-year parts and labor warranty.**

SPECIFICATIONS

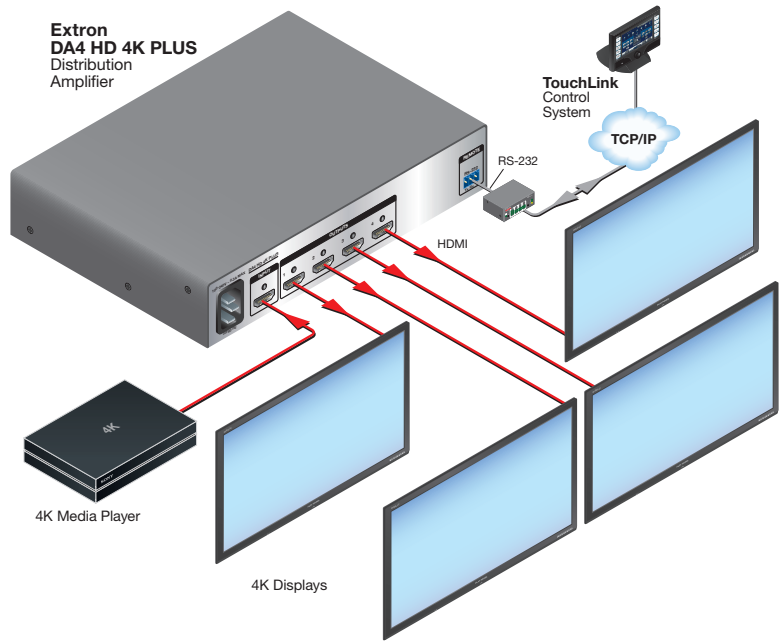
TRUE 4K SPECIFICATION		
Max 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max Bit Depth per Color
4096 x 2160 at 60 Hz 3840 x 2160 at 60 Hz 4096 x 2160 at 30 Hz 3840 x 2160 at 30 Hz	4:4:4	8 bit
4096 x 2160 at 60 Hz 3840 x 2160 at 60 Hz		
	4:2:0	
Frame rate ¹	24, 25, 30, 50, or 60 fps	
Chroma sampling ¹	4:4:4, 4:2:2, or 4:2:0	
Color bit depth ¹	8, 10, or 12 bits per color	
Signal type	HDMI 2.0b, HDCP 2.3	
Max. video data rate	18.0 Gbps (6 Gbps per color)	
NOTE: ¹ Subject to the maximum data rate limit. Use our calculator (http://www.extron.com/4Kdata) to determine video parameters supported by this data rate.		

VIDEO	
Maximum data rate	18.0 Gbps (6 Gbps per color)
Maximum pixel clock	600 MHz
Resolution range	Up to 4096x2160 @ 60 Hz (4K), 3840x2160 @ 60 Hz (UHD), 1920x1200 or 1080p @ 60 Hz
Formats	RGB and YCbCr digital video
Standards	DVI 1.0*, HDMI 2.0b, HDCP 2.3
NOTE: *Appropriate DVI-D to HDMI cables or adapters are required for DVI signal input/output.	
NOTE: Extron strongly recommends compatibility testing while designing, and before installing any 3D or HDR (high dynamic range) system. There are several unique 3D and HDR formats in use by source devices and display manufacturers. The level of 3D and HDR product support is governed by pixel clock, signal format, and communication between source and sink devices. Please contact an Extron Application Engineer for more information.	
VIDEO INPUT	
Number/signal type	1 single link HDMI (or DVI-D*)
Connectors	1 female 19-pin HDMI type A
Input cable length	Up to 15 feet (4 meters) with a 600 MHz signal (100 feet (30 meters) with 165 MHz)
Horizontal frequency	15 kHz to 270 kHz for resolutions up to 18 Gbps
Vertical frequency	24 Hz to 240 Hz for resolutions up to 18 Gbps
VIDEO OUTPUT	
Number/signal type	
DA2 HD 4K PLUS	2 single link HDMI (or DVI-D*)
DA4 HD 4K PLUS	4 single link HDMI (or DVI-D*)
DA6 HD 4K PLUS	6 single link HDMI (or DVI-D*)
Connectors	
DA2 HD 4K PLUS	2 female 19-pin HDMI type A
DA4 HD 4K PLUS	4 female 19-pin HDMI type A
DA6 HD 4K PLUS	6 female 19-pin HDMI type A

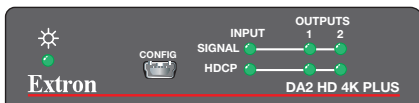
COMMUNICATIONS		
Serial control port	RS-232, 3.5 mm, 3-pole captive screw connector	
Baud rate and protocol	9600 baud, 8 data bits, 1 stop bit, non-parity	
Serial control pin configuration	1 = Tx, 2 = Rx, 3 = GND	
USB control port	1 front panel, female, mini USB B	
USB standards	USB 2.0	
Program control	Extron Simple Instruction Set (SIS [®] c)	
GENERAL		
Power		
DA2 HD 4K PLUS	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 0.5 A, 6 watts	
DA4 HD 4K PLUS and DA6 HD 4K PLUS	Internal Input: 100-240 VAC, 50-60 Hz	
Power consumption		
DA2 HD 4K PLUS		
Device	3.6 watts	
Device and power supply	4.8 watts	
DA4 HD 4K PLUS	8.6 watts	
DA6 HD 4K PLUS	10.6 watts	
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	
Thermal dissipation		
DA2 HD 4K PLUS		
Device	10.2 BTU/hr	
Device and power supply	14.3 BTU/hr	
DA4 HD 4K PLUS	25.5 BTU/hr	
DA6 HD 4K PLUS	30.5 BTU/hr	
Mounting		
Rack mount	Yes, with optional rack shelf kit	
Enclosure dimensions		
DA2 HD 4K PLUS	1.00" H x 4.30" W x 3.00" D (one quarter rack wide) 25 mm H x 109 mm W x 76 mm D (depth excludes connectors)	
DA4 HD 4K PLUS and DA6 HD 4K PLUS	1.75" H x 8.75" W x 6.00" D (1U high, half rack wide) 44 mm H x 222 mm W x 152 mm D (Depth excludes connectors)	
Product weight		
DA2 HD 4K PLUS	0.35 lbs (0.2 kg)	
DA4 HD 4K PLUS and DA6 HD 4K PLUS	1.6 lbs (0.7 kg)	
Product warranty	3 years parts and labor	
Everlast power supply warranty	7 years parts and labor	
NOTE: All nominal levels are at ±10%.		
Model	Version Description	Part Number
DA2 HD 4K PLUS	Two Output 4K/60 HDMI DA	60-1607-01
DA4 HD 4K PLUS	Four Output 4K/60 HDMI DA	60-1608-01
DA6 HD 4K PLUS	Six Output 4K/60 HDMI DA	60-1609-01
Optional Accessories		
Model	Version Description	Part Number
HDMI Pro Series	Premium High Speed, High Speed, and Standard HDMI Cables	Various
HDMI Ultra Series	Ultra Flexible Premium High Speed and High Speed HDMI Cables	Various
MBU 123	Low-Profile Mount Kit for 1/8, 1/4, and 1/2 Rack Width Products	70-212-01
UTS 100 Series	Under Table Shelf System	
	Primary Shelf	70-1028-01
MBU 125	Secondary Shelf	70-1028-02
	Low-Profile Mount Kit for 1/4 and 1/2 Rack Width,	
RSB 123	Two-Piece Enclosures	70-077-01
	Basic Rack Shelf for 3.5" Deep Products	60-604-21
RSU 126	Universal Rack Shelf Kit for 6" Deep Products	60-190-10
Half Rack Shelf System	Half-Rack Width Rack Shelf and Accessories	Various

For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

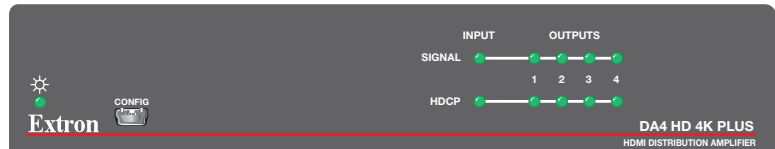
APPLICATION DIAGRAM



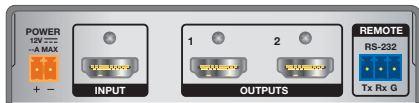
PANEL DRAWINGS



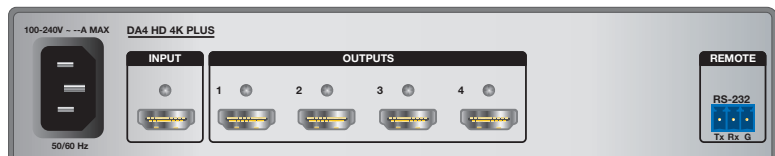
DA2 HD 4K PLUS - Front



DA4 HD 4K PLUS - Front



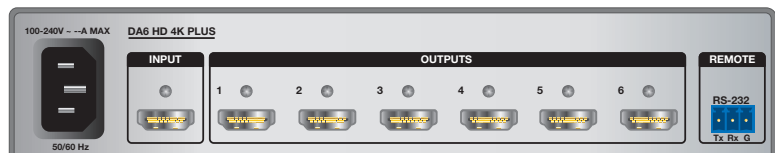
DA2 HD 4K PLUS - Back



DA4 HD 4K PLUS - Back



DA6 HD 4K PLUS - Front



DA6 HD 4K PLUS - Back

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