DESCRIPTION

The Extron **DA HD 4K Series** include one input, multiple output distribution amplifiers for HDMI signals at resolutions up to 4K. They support data rates up to 10.2 Gbps, 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. DA HD 4K Series distribution amplifiers are available in sizes from two to six outputs, and are ideal for applications that require reliable distribution of one HDMI source signal to multiple displays.

To enhance and simplify integration, the DA HD 4K Series offers many integrator-friendly features. They provide automatic input cable equalization up to 50 feet, when used with Extron HDMI Pro Series cables. 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 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. The DA HD 4K Series also provides +5 VDC, 250 mA on each output for powering peripheral devices such as an UHD4K 101 or HDMI 101 Plus cable equalizer.

The DA2 HD 4K is housed in a 1" (2.5 cm) high, quarter rack width metal enclosure that can be mounted in a rack or discreetly installed beneath a desk or behind a display. It includes an external, universal power supply for worldwide power compatibility. The DA4 HD 4K and DA6 HD 4K are housed in 1U high, half rack width metal enclosures, are rack-mountable, and are equipped with internal universal power supplies.
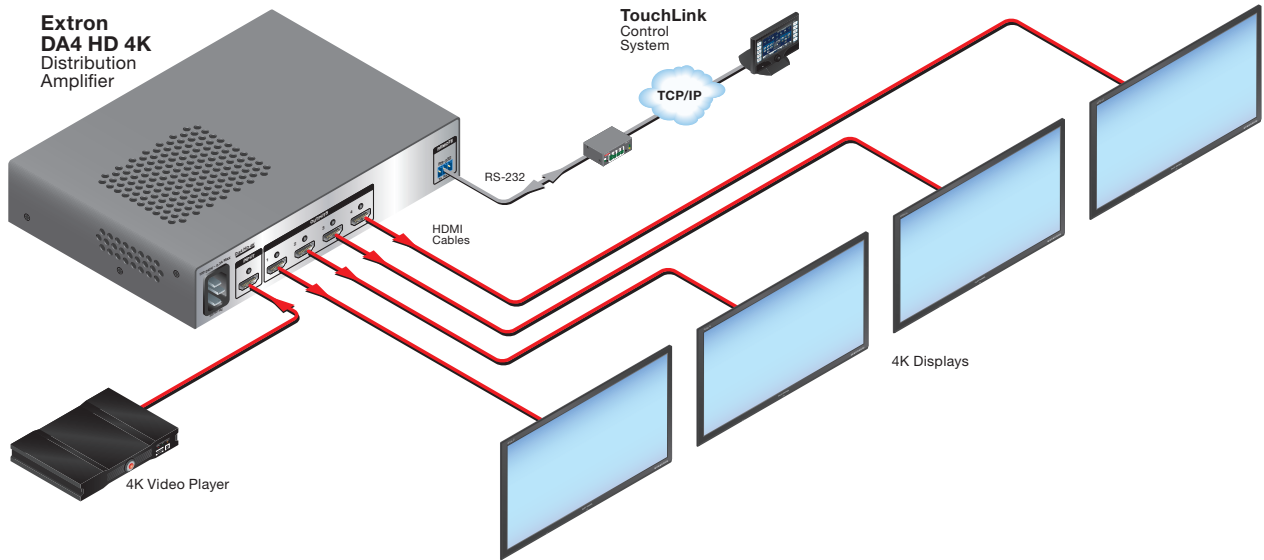
KEY FEATURES

▸ **Distributes HDMI video and embedded multi-channel digital audio signals**

▸ **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, and HD lossless audio formats**

▸ **EDID Minder® automatically manages EDID communication between connected devices** – Ensures that the source powers up properly and reliably outputs content for display.
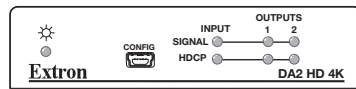
FEATURES (Cont.)

▸ **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.

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

▸ **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** – A full-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.

▸ **Automatic input cable equalization to 50 feet (15 meters) when used with Extron HDMI Pro Series cable** – Actively conditions incoming HDMI signals to compensate for signal loss when using long cables, low quality cables, or source devices with poor output.

▸ **Automatic color bit depth management** – The DA HD 4K 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.

▸ **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.

▸ **Easy setup and commissioning with Extron's PCS - Product Configuration Software** – Conveniently configure multiple products using a single software application.

▸ **HDCP authentication and signal presence LED indicators** – Front-panel LED indicators for signal presence and HDCP authentication provide real-time feedback and monitoring of key performance parameters.

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

▸ **Rack-mountable, metal enclosure** – The DA HD 4K 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**

▸ **Worldwide power compatibility** – The DA HD 4K Series two-output model includes an energy-efficient external universal power supply, replacement part #70-775-01. Four and six-output models are equipped with an 100-240 VAC, 50/60 Hz, internal universal power supply.
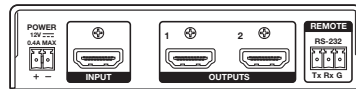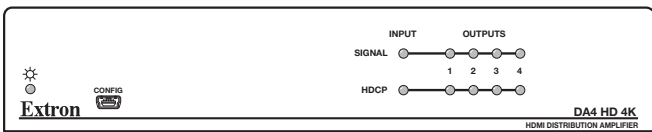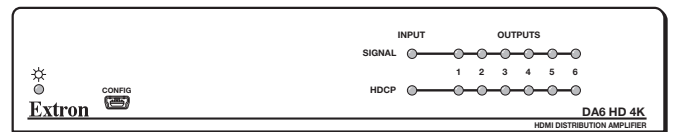
APPLICATION DIAGRAMS

Extron DA4 HD 4K Distribution Amplifier

TouchLink Control System

TCP/IP

RS-232

HDMI Cables

4K Video Player

4K Displays

PANEL DRAWINGS

DA2 HD 4K - Front
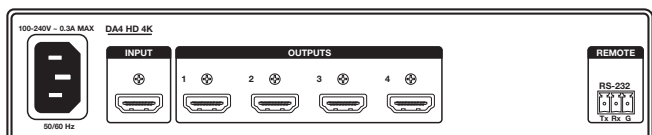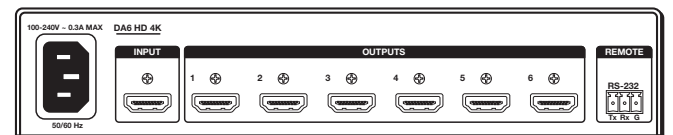

DA2 HD 4K - Back

DA4 HD 4K - Front

DA6 HD 4K - Front

DA4 HD 4K - Back

DA6 HD 4K - Back

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 / HDCP
Backplane Throughput	10 Gbps (3.4 Gbps per color)

NOTE: [1]Subject to the maximum data rate limit. Use our calculator (http://www.extron.com/product/videotools.aspx) 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 range	Up to 1920x1200 or 1080p @ 60 Hz, 12-bit color, 4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz
Formats	RGB and YCbCr digital video
Standards	DVI 1.0*, HDMI 1.4, HDCP 1.4

NOTE: Extron strongly recommends compatibility testing while designing, and before installing any 3D system. There are several unique 3D formats in use by source devices and display manufacturers. The level of 3D 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.

NOTE: *Appropriate DVI-D to HDMI cables or adapters are required for DVI signal input/output.

VIDEO INPUT

Number/signal type	1 single link HDMI (or DVI-D*)
Connectors	1 female 19-pin HDMI type A

VIDEO OUTPUT

Number/signal type	
DA2 HD 4K	2 single link HDMI (or DVI-D*)
DA4 HD 4K	4 single link HDMI (or DVI-D*)
DA6 HD 4K	6 single link HDMI (or DVI-D*)
Connectors	
DA2 HD 4K	2 female 19-pin HDMI type A
DA4 HD 4K	4 female 19-pin HDMI type A
DA6 HD 4K	6 female 19-pin HDMI type A

CONTROL/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, low speed
Program control	Extron Simple Instruction Set (SIS™)

GENERAL

Power		
DA2 HD 4K		
External		
	Input: 100-240 VAC, 50-60 Hz	
	Output: 12 VDC, 1 A 12 watts	
DA4 HD 4K and DA6 HD 4K	Internal	
	Input: 100-240 VAC, 50-60 Hz	
Power consumption		
DA2 HD 4K		
Device	3.3 watts	
Device and power supply	4.3 watts	
DA4 HD 4K	8 watts	
DA6 HD 4K	10 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	
Cooling	Convection, vents on top	
Thermal dissipation		
DA2 HD 4K		
Device	8.9 BTU/hr	
Device and power supply	12.4 BTU/hr	
DA4 HD 4K	23.5 BTU/hr	
DA6 HD 4K	28.2 BTU/hr	
Mounting		
Rack mount	Yes, with optional rack shelf kit	
Enclosure type	Metal	
Enclosure dimensions		
DA2 HD 4K	1.0" H x 4.3" W x 3.0" D (one quarter rack wide) 2.5 cm H x 10.9 cm W x 7.6 cm D (depth excludes connectors)	
DA4 HD 4K and DA6 HD 4K	1.75" H x 8.75" W x 6.0" D (1U high, half rack wide) 4.4 cm H x 22.2 cm W x 15.2 cm D (Depth excludes connectors)	
Product weight		
DA2 HD 4K	0.35 ilbs (0.2 kg)	
DA4 HD 4K and DA6 HD 4K	1.6 lbs (0.7 kg)	
Warranty	3 years parts and labor	

NOTE: All nominal levels are at ±10%.

Model	Version Description	Part number
DA2 HD 4K	Two Output 4K HDMI	60-1480-01
DA4 HD 4K	Four Output 4K HDMI	60-1481-01
DA6 HD 4K	Six Output 4K HDMI	60-1482-01

Optional Accessories

Model	Version Description	Part number
HDMI Micro Series	MicroDigital Ultra-Flexible™ HDMI Cables	26-667-xx
HDMI Ultra Series	Ultra-Flexible High Speed HDMI Cables	26-663-xx
HDMI Pro Series	High Speed and Standard Speed HDMI Cables	26-650-xx
HRB 109	1U Basic Half Rack Shelf, Gray	60-1251-10
HRU 109	1U Universal Half Rack Shelf Kit, Gray	60-1251-20
MBU 125	1U ½ Rack Width Low-Profile Mount Kit	70-077-01
RSB 123	1U 3.5" Deep Basic Rack Shelf, Gray	60-604-21
RSU 126	1U 6" D Universal Rack Shelf Kit, Gray	60-190-10
UTS 100	Primary Shelf, Gray	70-1028-01
UTS 150	Secondary Shelf, Gray	70-1028-02

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