4K60 HDR HDMI Repeater with Signal Retiming - 18Gbps, HDCP 2.2

Rescue Marginal HDMI Runs Without a Cat Extender Pair: Inline Retiming, CEC & ARC Pass-Through, Optional Micro-USB Power



Restores a stable 18Gbps 4K signal with HDR support on HDMI runs that are too long or too marginal for passive cable, without pulling Cat cable or mounting a powered extender pair. HDRPT4K is a compact inline HDMI repeater, 2.56 × 0.39 × 0.94 in (65 × 10 × 24 mm) and 15 g. It sits between two HDMI cables at the wall plate, behind the display or mid-run. It draws its 5V from the HDMI source over the cable and uses 0.75W. A Micro-USB port takes 5V injection when the source drive is weak or units are cascaded. It is the right choice for conference rooms, classrooms, residential retrofits and signage fixtures, where keeping the cable already in the wall matters more than the reach of a Cat extender kit.

Signal retiming regenerates a clean signal at the repeater, so the next cable segment starts at full strength rather than carrying forward the jitter of the last one. The repeater is HDMI 2.0 and HDCP 2.2 compliant and backward compatible with HDMI 1.x and HDCP 1.x. It supports up to 4096×2160@60Hz (4:4:4, 8-bit), HDR sources and 12-bit Deep Color up to 1080p@60Hz. LPCM up to 8 channels, Bitstream and HD Bitstream audio pass unchanged. CEC and ARC bypass keep display control and audio return to the AVR or soundbar working across the run, and there are no settings to configure. The strongest differentiator is a documented cascade of up to four units, or five cable segments, each rated to 16 ft (4.9 m) at 4K on 24AWG cable. That turns a short HDMI chain into a planned, repeatable fix. Power injection on the first and last unit is recommended in a cascade.

Surge Protection Recommended — This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, or lightning strikes. Use of surge protection systems is highly recommended.

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1. Features

- ✓ HDMI input and output support 18Gbps 4K UHD signals with HDR
- ✓ HDMI 2.0 and HDCP 2.2 compliant; backward compatible with HDMI 1.x and HDCP 1.x
- ✓ Supports UHD resolutions up to 4096×2160@60Hz (4:4:4, 8-bit)
- ✓ Supports 12-bit Deep Color up to 1080p@60Hz
- ✓ Passes LPCM (up to 8 channels), Bitstream and HD Bitstream audio formats
- ✓ Supports CEC and ARC bypass
- ✓ Signal retiming regenerates a clean signal for transmission
- ✓ Carries 4K over passive HDMI cable up to 16 ft (4.9 m) per cable segment, verified with high-quality 24AWG HDMI cable
- ✓ Supports up to 4 layers of cascading (5 cable segments); power injection on the first and last unit is strongly recommended when cascading
- ✓ Powered by 5V from the HDMI source over the HDMI cable, with no external power needed in most installations
- ✓ Supports external 5V power injection through the Micro-USB port for weak-5V sources, cascaded units and active HDMI cables (AOC, Redmere, Spectra7)
- ✓ Fully automatic operation with no controls to set
- ✓ ESD protection: ±8kV air discharge, ±4kV contact discharge
- ✓ Compact 2.56 × 0.39 × 0.94 in (65 × 10 × 24 mm) design, 15 g

2. Specifications

TECHNICAL	
HDMI Bandwidth	18Gbps
HDMI / HDCP Standards	HDMI 2.0 and HDCP 2.2; backward compatible with HDMI 1.x and HDCP 1.x
Maximum Resolution	4096×2160@60Hz (4:4:4, 8-bit)
Deep Color	12-bit up to 1080p@60Hz
HDR	Supported
Audio Pass-Through	LPCM (up to 8 channels), Bitstream, HD Bitstream
CEC / ARC	Bypass supported
Signal Retiming	Yes
Cable Distance (4K, Passive HDMI)	Up to 16 ft (4.9 m) per cable segment, verified with 24AWG cable
Cascading	Up to 4 units (5 cable segments)
ESD Protection (HBM)	±8kV (air discharge); ±4kV (contact discharge)
CONNECTION	
Input	1× HDMI (Type-A)
Output	1× HDMI (Type-A)
Voltage Injection Port	1× USB 2.0 (Micro-B)
POWER	
Power Source	5V from the HDMI source, over the HDMI cable
External Power (Optional)	5V through the Micro-USB port
Power Consumption	0.75W

continued

PHYSICAL	
Dimensions (W × H × D)	2.56 × 0.39 × 0.94 in (65 × 10 × 24 mm), overall
Weight	0.03 lbs / 0.53 oz (15 g)
Chassis Material	Plastic
Chassis Color	Black
ENVIRONMENTAL	
Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Relative Humidity	20% to 90% RH (non-condensing)

3. Description

The KanexPro HDRPT4K is an HDMI cable repeater that lets you extend an HDMI signal, or cascade it, over several HDMI cables. It re-times and regenerates high-bandwidth HDMI signals so they stay clean over long runs. It needs no external power in normal use.

On passive HDMI cables, each cable segment can carry a 4K signal up to 16ft (4.9m). You can cascade up to four repeaters in one run.

The repeater draws its power from the 5V that every standard HDMI source puts on the cable. Some setups need more 5V than the source provides, for example when you cascade several units. In that case, connect an external USB power source to the repeater's Micro-USB port. External power is also useful with active HDMI cables that need extra power to work, such as active optical cables (AOC) and cables built on Redmere or Spectra7 chipsets.

The repeater complies with HDCP 2.2 and HDMI 2.0, and it also supports the older HDCP 1.x and HDMI 1.x standards. It fully supports 4K UHD sources up to and including 4K@60Hz (4:4:4, 8-bit), as well as 10-bit and 12-bit sources with HDR. It passes LPCM digital audio up to 8 channels, as well as Bitstream and HD Bitstream audio. Everything works automatically, so there are no controls to set.

4. Applications

- Extending an HDMI signal beyond the reach of a single cable.
- Cascading several HDMI cables into one longer run.
- Adding 5V power for older HDMI sources that do not supply enough of it.

5. Panel descriptions

The HDRPT4K is an inline unit, so it has no separate front and rear panels. It has an HDMI connector at each end and a USB power port on the top edge.

INLINE UNIT

No.	Connector	Label on unit	Location	Function
1	**HDMI input, Type-A female**	IN	One end	Connect the HDMI cable from the source here. In a cascade, connect the cable from the previous repeater.
2	**HDMI output, Type-A female**	OUT	Opposite end	Connect the HDMI cable to the display here. In a cascade, connect the cable to the next repeater.
3	**USB 2.0 Micro-B, 5V power input**	USB	Top edge	Optional 5V power from a USB power source. Use it on the first and last unit of a cascade.

6. Connection Diagram

TYPICAL SETUP

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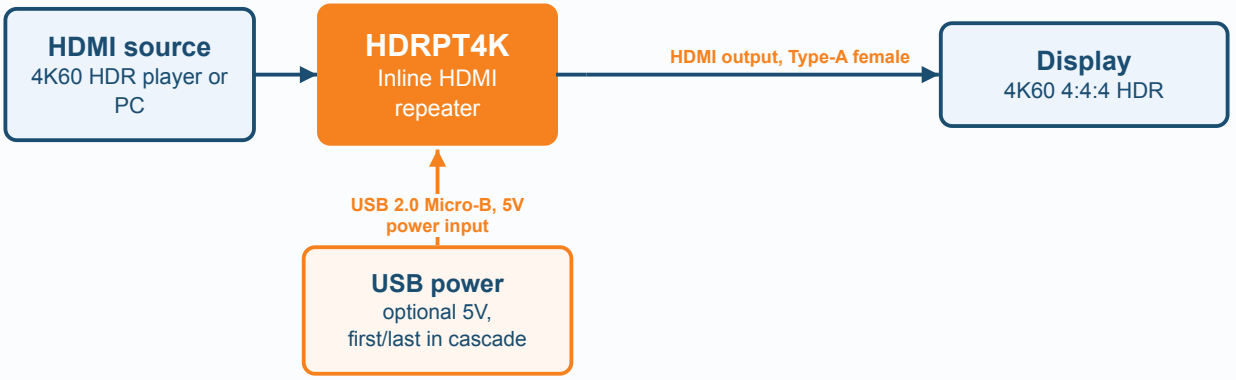

How it works: Signal retiming regenerates a clean signal at the repeater, so the next cable segment starts at full strength rather than carrying forward the jitter of the last one. The repeater is HDMI 2.0 and HDCP 2.2 compliant and backward compatible with HDMI 1.x and HDCP 1.x. It supports up to 4096×2160@60Hz (4:4:4, 8-bit), HDR sources and 12-bit Deep Color up to 1080p@60Hz. LPCM up to 8 channels, Bitstream and HD Bitstream audio pass unchanged. CEC and ARC bypass keep display control and audio return to the AVR or soundbar working across the run, and there are no settings to configure. The strongest differentiator is a documented cascade of up to four units, or five cable segments, each rated to 16 ft (4.9 m) at 4K on 24AWG cable. That turns a short HDMI chain into a planned, repeatable fix. Power injection on the first and last unit is recommended in a cascade.

7. Troubleshooting

Q: There is no picture through a cascade of repeaters. What should I check?
A: First, check that every unit has IN facing the source and OUT facing the display. Next, check that the chain has no more than 4 repeaters and that no segment is longer than 16 ft at 4K. Then add 5V USB power on the first and last unit.

Q: The 4K picture drops out or breaks up over a long run. What can I do?
A: Keep each passive cable segment at or under 16 ft (4.9 m), and use high-quality 24AWG HDMI cable, because lower-quality cable shortens the reach. If it still drops out, add 5V power through the Micro-USB port.

Q: It works with one source but not with another. Why?
A: Some sources, especially older ones, do not put enough 5V on the HDMI cable to power the repeater. Connect a 5V USB power source to the Micro-USB port and try again.

Q: An active optical HDMI cable gives no picture through the repeater. What should I check?
A: Active cables, including AOC, Redmere and Spectra7 types, can need more power than the source provides. Connect 5V USB power to the repeater's Micro-USB port.

Need help? — For additional support, visit kanexpro.com/support, or scan the QR code below for the product page.

8. Installation FAQ

Q: Which way round does the HDRPT4K connect?
A: Connect the cable from the source to the HDMI port marked IN, and connect the HDMI port marked OUT to the display. In a cascade, IN takes the cable from the previous repeater and OUT feeds the next one.

Q: When should I use the Micro-USB port?
A: Plug a 5V USB power source into the Micro-USB port on the top edge when the HDMI source does not supply enough 5V. This applies when you cascade several units, when you use active HDMI cables that need extra power, and with older sources that put too little 5V on the cable.

Q: How should I power a chain of repeaters?
A: You can cascade up to 4 HDRPT4K units, which gives 5 cable segments. Add 5V power through the Micro-USB port on the first and the last unit in the chain; this is strongly recommended.

Q: What HDMI cable should I use between units?
A: The 16 ft (4.9 m) per-segment distance at 4K and the 4-unit cascade limit were verified with high-quality 24AWG passive HDMI cable. Cables of lower quality can give a shorter distance and fewer units in a cascade.

9. Integration FAQ

Q: Does it need any configuration or a control system?
A: No. The HDRPT4K has no controls and works automatically, so it simply sits inline between HDMI devices.

Q: Can I use it with active optical or Redmere/Spectra7 HDMI cables?
A: Yes. Active HDMI cables such as active optical cables (AOC), and cables built on Redmere or Spectra7 chipsets, may need extra power. Supply 5V to the repeater through its Micro-USB port.

Q: Will it work with older HDMI 1.x equipment?
A: Yes. It is backward compatible with HDMI 1.x and HDCP 1.x sources and displays. It can also supply 5V through its Micro-USB port to older sources that do not put enough 5V on the cable.