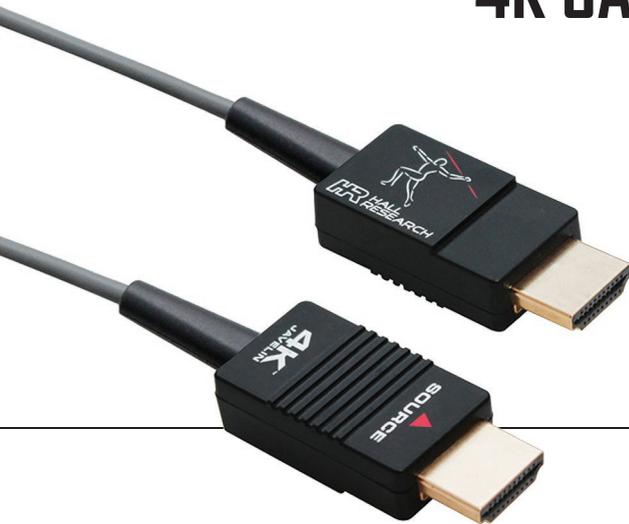




HALL RESEARCH 4K JAVELIN HDMI CABLE

IT'S A PLENUM-RATED HDMI CABLE THAT CAN SEND A SIGNAL UP TO 333 FEET.

REVIEWER / MARK HANNA



When I first started in video, High-Definition Multimedia Interface (HDMI) had no application in professional environments and wasn't even a consumer standard yet. The idea of HDMI is conceptually appealing because it does everything in one connector. It's able to transmit high data rates for uncompressed video, embedded audio, and it allows a whole host of alphabet soup standards and controls like Consumer Electronics Control (CEC), Display Data Channel (DDC), High-bandwidth Digital Content Protection (HDCP), and Extended Display Identification Data (EDID). It's easy to connect and it even has an option to carry power over the cable. It has become the consumer standard; many people think of it as the "one connector to rule them all." Sadly, the professional application for HDMI has not found near the acceptance it found in the consumer market. For the most part it has too many limitations; short max cable distance, non-locking connector, and the fact that it isn't field repairable has made HDMI a four-letter word in the professional environment.

That said, HDMI is showing up as a standard on most professional equipment, cameras, recorders, and monitors despite the fact that limitations have not been overcome. This is especially true with all the hype surrounding 4K. While 4K doesn't require HDMI, a single HDMI cable looks more attractive than four individual SDI cables. However, no one seems to have overcome the main shortcoming of HDMI, the max cable distance, until now. Hall Research is now delivering the 4K Javelin HDMI cable that is capable of carrying the standard protocol and data at lengths of up to 333 feet.

HOW IT WORKS

Video signal conversion is nothing new to the industry; in fact, it's now possible to get pretty much any form of video converted to a more convenient distribution method like fiber or Cat5. The benefits of these conversions are simple: cheaper, easier to install cable that can be run long distances with no data loss. However, in most cases this requires a power converter box

on each end of the cable to convert the signal before transmission, and then convert it back on the other side. This can be really inconvenient in many cases because the converter boxes often require their own power. Some of the more expensive converters have started offering the benefits of Ethernet (PoE), delivering the benefits of data and power over a single cable.

The 4K Javelin HDMI cable works similar to this except that it uses a fiber-copper hybrid as the transmission medium. More impressively, it has all the needed circuitry conveniently incorporated inside the HDMI connectors. The sending side of the connector converts the video signals to light pulses and the destination side converts it back. The whole package is powered from the 5V signal pin of the source HDMI output. The cable draws less than 0.25W of power from the source. In the event that your HDMI source doesn't provide enough

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COMPANY: Hall Research
PRODUCT: 4K Javelin HDMI Cable
PHONE: (800) 959-6439
URL: www.hallresearch.com
LIST PRICE: \$1,170 (100-meter length)

power, Hall Research has a power inserter, which attaches between the HDMI connector and the source. This pass-thru adapter has a connector for a power cable and can insert 5V from an external power supply.

BENEFITS

If you have purchased HDMI cables recently, then you know that standard cable lengths are 6-10 feet. In some cases, you can purchase HDMI cables off the shelf in your local big box store at lengths of up to 25 feet. None of these makes HDMI useful in a professional environment. Since the 4K Javelin is a Plenum rated, making it perfect for installation environments. The cable I was sent to test was surprisingly thin, 3.5mm, and lightweight, only 12 ounces for a 50-foot cable. I found that counterintuitive since typically thicker, stiffer cables are better quality. It is also flexible with a bend radius of 0.2 inches, making it great for installations. For pulling the cable through conduit, Hall Research sells a cable-pulling sock to ensure that the tension is being applied to the cable jacket rather than the connector.

Because the information is light pulses, the cable also provides higher immunity to electromagnetic interference (EMI) or radio-frequency interference (RFI), and there is less chance of video dropouts due to environmental electromagnetic noise. It is also indifferent to the resolution being extended and can handle any resolution, including non-standard video formats or color depth, provided the maximum data rate is less than 10.2 Gbps.

Since no compression is used, the image at the far end of the cable is 100% identical to the source.

Working in technology as long as I have, I don't find myself getting excited about cables. The 4K Javelin may be the exception to the rule. The more I read about this cable, the more excited I got about it. The only downside I was able to find was that this technology comes at a price; the longest cable Hall Research has available, 100 meter, retails for \$1,170. This cable retails at better than \$11 a foot, which may be the most expensive cable I have ever used.

While that seems expensive for a cable, keep in mind this cable is replacing a converter transmitter/receiver combo, which depending on the manufacturer could retail for several hundred dollars each. I typically refer to these little inline signal converters as "fail factories" because, when something goes wrong with the signal, it's almost always these converters. Some of these converters often end up in hard-to-reach places, like resting on top of ceiling-mounted projectors. In my opinion, in these circumstances, removing these "fail factories" is certainly worth the cost.

MARK HANNA is a regular contributor to *Church Production Magazine*. 