



Press Release
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Crestron DigitalMedia™ is More Than HDMI Over CAT5e

Crestron Pioneers the Digital Technology for Transmitting Uncompressed High-Definition Video Long Distances Over One Wire

The seeds of Crestron DigitalMedia™ were planted several years ago. That's when Crestron engineers began building on their ambitious vision to create a solution to transmit uncompressed, content protected, HD digital video long distance over a single wire that could be run through walls and conduit and terminated in the field. Actually, that was only a part of the vision.



The original goal was to transmit any mix of analog & digital AV signals, high-speed Ethernet to support streaming media and IR/Serial control up to 100 meters using standard CAT5e cable. For longer distances, a fiber solution would be developed.

During the R&D process, HDMI proved to be more multi-layered and sophisticated than originally anticipated. In addition to the audio and video signals carried on HDMI and DisplayPort, Crestron engineers had to manage several other signal paths and data streams, including HDCP content protection, CEC device control and EDID resolution management.

After years of research and engineering, which included developing new software and equipment for testing and diagnostics, Crestron DigitalMedia™ was introduced - the first solution for long distance digital transmission and distribution.

The first version of DM was truly revolutionary. No other company was working on any technology to transmit uncompressed HD digital signals combined with analog AV signals, data, control and high-speed Ethernet on a single wire. The original DM solution used chipsets from five different vendors, and while using a single jacketed cable, required three separate terminated wires.

Innovative and visionary, Crestron was the lone voice in an analog world, signaling that the digital revolution was heading our way. At this point, all the analog pioneers scoffed and denied the need for a digital solution. "Just continue to use component and VGA cable and avoid all the issues with HDMI. Crestron is just making things more complicated than they have to be," was their mantra. One even discouraged their customers from buying Blu-ray players.

Steadfast and committed, Crestron engineers continued to work to achieve their ultimate goal of a standard UTP solution for uncompressed HD digital AV. About this time, a technology company named Valens Semiconductor approached Crestron with the idea of a new chipset that would transmit full uncompressed HD video over standard CAT5e.

Many months later, Valens delivered their very first chip. Crestron extensively evaluated the chipset in its DM Lab equipped with specially designed testing equipment. This initial chipset brought DM closer to a standard UTP solution, but the technology didn't meet the full specification yet. The chipset was successful



in reducing the cabling requirements from three wires down to just one, but still required an engineered, shielded twisted pair wire to guarantee reliable performance. DigitalMedia 8G™ was born, and Crestron was one step closer to realizing its vision.

Recognizing that there was still significant work to be done, Crestron and Valens solidified their working relationship by forming an exclusive arrangement. Valens and Crestron engineers collaborated to refine the technology and deliver a true UTP solution for full 1080p HDMI. After several months of development, a new firmware version finally passed the rigorous set of tests and demands of the Crestron engineering team.

Crestron is now introducing its third generation technology - DigitalMedia 8G+™, which enables transmission of uncompressed 1080p/60 digital video up to 330 feet using standard unshielded CAT5e wire. After years of research and engineering and three generations of technology, Crestron DigitalMedia 8G+ delivers on what seemed to be an impossible dream that started many years ago.

The collaboration between Crestron and Valens has resulted in accomplishments that are advancing an entire industry. The latest Valens chip is now publicly available, so it's no coincidence that as InfoComm approaches, several of those analog pioneers who denied that the digital revolution was coming, are now introducing their first digital switchers. Unfortunately, a switcher alone does not make a system, and a Valens chip is only a small part of providing a reliable digital solution. As Crestron engineers learned from years of experience, a reliable system requires a complete engineered, end-to-end solution that includes all the hardware and software.

Crestron DigitalMedia is Much More Than a Chipset or a Cable

The latest chipset is just the foundation on which Crestron DigitalMedia is built. DigitalMedia is a complete, modular single platform solution. Crestron DigitalMedia distributes all analog and digital audio and video signals, plus Gigabit Ethernet, USB and control - not just HDMI - all through a single matrix (rather than a several independent switchers that require transcoding) over a single wire. DigitalMedia switches any signal to any and all displays without compression, manages all the HDCP, EDID and CEC automatically, and provides the software tools necessary for installation and troubleshooting.

"With the launch of DigitalMedia 8G+, our DM® technology continues to lead our industry in the digital revolution. While others are trying to figure it all out for the first time, we're now on our third generation of DigitalMedia technology," said Crestron Executive Vice President, Randy Klein. "Just six months ago our competition was telling dealers not to buy Blu-ray players and to keep installing component video. All of a sudden they're jumping on the digital bandwagon and trying to catch up."

When you design a system with DM, you get years of experience, with the support of thousands of installations and hundreds of thousands of fully-tested connection points behind it. It's a full and ever-expanding product line. It is sophisticated, easy-to-use diagnostics software that cannot be replicated or purchased from a third party vendor.

Most importantly, Crestron DigitalMedia is proven to work. The most demanding clients in the world, including some of the most prestigious Fortune 500 companies and universities, trust and rely on Crestron DigitalMedia. As a result, Crestron has clearly established itself as the true leader of digital AV.