Building the Future of Education with HDBaseT

End Customer: Cedar Rapids Community School District

Vertical: Broadcasting

About the End Customer

The Cedar Rapids Community School District (Iowa) was founded in 1855, and is the second largest school district in the State of Iowa. It encompasses 21 elementary schools, six middle schools, three comprehensive high schools and one alternative high school.

As a result of the catastrophic 2008 flood, the District's administrative offices were badly damaged. Instead of costly repairing old facilities – spread out at five sites throughout the city – the District decided to build the Educational Leadership and Support Center (ELSC), including a new professional development center with a digital TV studio.

The Challenge

The ELSC was to be built not only as a training and enrichment facility but also to produce material for the district's professional development program, as well as videos for their website and social media sites, maximizing their ability to offer relevant training. As such, the technology had to be as 'future proof' as possible, both to comply with unforeseen needs but also because it was unlikely that the District would see this kind of funding again in the near future.

Bill Crawford, an independent design consultant, and Alpha Video & Audio (Edina, Minnesota) designed the new facility. Among their goals, it was important to enable the production of extremely clean high-definition video and audio, to be able to route it throughout the large conference center, and to record and broadcast meetings, events and training sessions.

The team also had to choose a better option than HD-SDI cables (traditionally used in TV production rooms) for this multi-purpose conference center. The AV system must include HDMI connectors for newer laptops, tablets and Blu-ray players. Because HD-SDI is not HDCP-compliant, it would prevent users from playing commercial media in the conference center. In addition, it was crucial that the system also accepted VGA and other analog inputs from older laptops and devices, which HD-SDI couldn't deliver.

The Solution

Deploying Crestron's HDBaseT-enabled DigitalMedia™ infrastructure, Cedar Rapids' ELSC became not only a meeting and training facility but also atop-notch broadcast production studio.

Crestron's HDBaseT-enabled DigitalMedia platform carries HD-SDI, HDMI and analog VGA and component video signals on economical Cat5e network cable, connecting all rooms, and enabling the routing of videos from one room to another. To meet this need, Alpha technicians installed a Crestron HDBaseT-enabled DM16X16 switcher, which can route HD video and audio from any source in the conference center to any combination of displays. HDBaseT enables sources and displays to be up to 100m/330ft away from each other. All of the AV, camera, lighting and recording control functions is managed on a 12" Crestron touch screen in the production control room, with duplicate controls on two iPads that technicians can carry from room to room.

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Results

It took nearly four years before staff and administrators were able to move into the new, 169,000ft² (15,700m²) building. The district produces video for its own local access cable channel, as well as broadcasting school board meetings and other public events. Training videos are also produced to help volunteers maximize their participation in the School District.

The TV studio includes green-screen and curtained backgrounds, a lighting grid and three Panasonic® digital studio cameras. There are also two adjoining edit rooms, each equipped with Apple® workstations and Final Cut Pro® software. The district's new boardroom, used mainly for school board meetings, includes two 65" touch screen displays for viewing presentations and for virtual whiteboard operation plus a document camera, audio/video inputs for laptops and other devices and a sound system with wired and wireless microphones. A very large conference room, which can seat up to 400 people, is used mainly for staff and teacher training. It includes sound, projection and wireless microphone systems plus AV inputs for presenter laptops and devices.

An ABC divisible conference room can accommodate groups from 30 up to 300 people, depending how many rooms are combined and how they are set up. It includes a projection system, two 65" touch screen displays, a sound system with wireless mics, and AV inputs for presenters' use.

In addition, all of these rooms include inputs into the video production system plus studio lighting to ensure the best possible video. The boardroom has five robotic pan/tilt/zoom (PTZ) cameras to capture meetings in high definition; the large conference room and ABC divisible room each have three HD-SDI inputs for the studio cameras. All of these inputs go back to a production control room behind the boardroom. From there, technicians can control the cameras and sound systems and record video onto two AJA Ki Pro digital video recorders.

Ease of use was a major consideration, and the new ELSC facility does not disappoint. Cedar Rapids' ELSC gained the functionality and capability needed with maximum flexibility.

About HDBaseT

HDBaseT technology, powered by the Valens chipset, enables all-in-one connectivity between ultra-HD video sources and remote displays through a single 100m/328ft CAT6 cable or fiber, delivering uncompressed high definition 4k video, audio, USB, Ethernet, control signals and up to 100 watts of power.