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REPRINTED FROM OCTOBER 20, 2010

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USER REPORT

Harris Improves KRMA Audio Experience

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DENVER

On June 2, 2010, three Rocky Mountain PBS affiliates went HD, thanks to a generous grant from the Corporation for Public Broadcasting. The stations, owned by the Rocky Mountain Public Broadcasting Network, include KRMA-TV in Denver, KTSC in Pueblo, and KRMJ in Grand Junction. The KRMA-TV facility serves as a centralcasting operation for the group.

The CPB grant enabled us to upgrade our master control suite with a full complement of Harris HD video and audio gear.

Surround sound is a vital part of the HD viewing experience, and our goal was to deliver a constant 5.1 channel surround sound mix with the video. A new Harris Platinum 3 Gbps router was used to upgrade us from discrete AES audio to embedded audio. This has greatly enhanced our advanced audio capabilities, while saving considerable time and money.

FUNCTIONALITY SAVES SPACE AND MONEY

The audio upgrade was based on a Harris 6800+ 3 Gbps modular core processing and distribution platform, configured with six frames with a high-speed IP network. Instead of requiring a separate box or card for every task, the Harris 6800+ platform packs considerable functionality—ranging from video and audio routing and distribution to signal conversion and interface—into a space-saving and cost-efficient package.

The Harris frames take care of our A/D and D/A conversion, muxing/de-muxing and signal distribution. With the Harris CCS Navigator network monitoring and control software, we can to configure, monitor and control the settings and other parameters associated with each module in the frames.

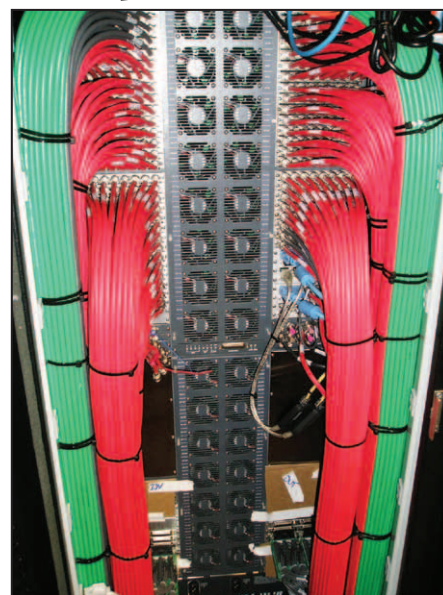
FOCUS ON AUDIO

Our Harris gear also includes a complement of audio processing modules that are pivotal to our operation. One particularly important unit is the APM6801MM+D audio processing module. It uses DTS Neural Surround MultiMerge technology to dynamically adapt to incoming stereo and surround sound audio inputs and guarantees us a consistent 5.1-channel surround sound mix.

KRMA-TV uses three MultiMerge units, one for each of the program channels. The modules create a natural sounding 5.1 channel surround sound up-mix for any HD programming that arrives with stereo audio. However, if the program already has a 5.1-channel surround sound mix, MultiMerge knows to simply pass it through. In this way, transitions between stereo and 5.1 incoming audio are handled smoothly and naturally.

We're also using other Harris 6800+ audio modules, including their HMX6803+D audio multiplexer, the HDX6803+D audio demultiplexer, and the APM6801-D3 and D1 modules for encoding and decoding Dolby Digital audio. Our upgrade also included installation of five Harris IconMaster SD/HD master control switchers. Three are used for HD and two for SD.

Our integrator for the project was Tony



Rear view of part of the Harris 6800+ installation at KRMA-TV

Roccanova, and we greatly benefited from his experience in converting other stations to high definition. He impressed us with the importance of maintaining high-quality 5.1 channel surround sound day in and day out, and strongly recommended the Harris 6800+ platform, along with MultiMerge and our other complementary audio processing modules.

By choosing Harris Broadcast as our primary equipment supplier, our plant has benefited too from that company's advanced hardware and software technology.

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