USER REPORT

Livewire: Cost-Effective Routing Control

Axia Nodes Enable Routing Flexibility, Ethernet Switching, Console Configuration for KWMU

by Terrence Dupuis
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KWMU(FM)

ST. LOUIS Founded in 1972, KWMU (FM) is an NPR affiliate located on the campus at the University of Missouri St. Louis.

Our format is news/talk radio, and in addition to broadcasting a 100,000 watt signal reaching 2.4 million people in the bi-state area, we also have a streaming presence on the Internet at *www.kwmu.org*. We are a professionally staffed operation with 30 full-time and 12 part-time members on our team.

In 2005, we installed an **Axia** Livewire Audio Network, the result of an exhaustive search that examined a variety of competing systems.

Our broadcast facility consists of four studios: Air Control (the primary source of our on-air activities), Production A, Production B and Production NB (our news booth).

In Air Control, we have a 20-position Element console. Production A contains our largest Element, with 16 faders in a 24-position frame, and both Production B and Production NB utilize 12-position Elements. Along with the consoles, there are a variety of Axia Audio nodes which make up the Livewire network and routing system.

Transferable skills

There were several factors that led to our choice of Axia for our studio rebuild.

First, as a non-profit organization, price is always important; the fact of the matter is we're simply not "rolling in the dough."

The Axia system represents value. The ability to run the entire system over standard Cat-6 Ethernet cable represents a huge savings over the cost of conventional wiring.

'Previously, we had three separate console systems,' said Dupuis. 'With our Axia network, we're set up in such a way that we essentially have a single console system, distributed among our four studios.'

Ethernet already is the most common method for transferring digital audio in a broadcast environment, so it makes perfect sense to run the entire system this way. Ethernet switches are an extremely cost-effective way of routing signals.

Another consideration for us was signal routing flexibility. With most consoles — certainly analog models like those we replaced — you only have as much signal routing capability as you've built into your patching system.

By contrast, Axia's PathfinderPC routing control software offers greater flexibility with less hassle. If the target device is on the network, you can access it — without having to run any additional lines.

Previously, we had three separate console systems; with our Axia network, we're now set up in such a way that we essentially have a single console system, physically distributed among our four studios. Routing for Production A, Production B and News can go through the Element controller in Air Control to get on air or be individually assigned, as needed, to be the main air studio.

In changing over to our new system, we had concerns about the ability of both our engineering staff and the on-air talent to adapt. Much to our surprise, this turned

out to be a non-issue.

The on-air talent genuinely has been excited about working behind the new Elements. With its ability to be programmed for each user or show and store those configurations for immediate recall, everyone has become comfortable with various ways to make the setup their own. There's a tremendous amount of enthusiasm about the Element's programmability.

our system was functional after three days. We chose to interconnect our audio devices via Radio Systems StudioHub+ Cabling. This arrangement worked well for us, as Axia nodes are pin-compatible with StudioHub+ components. This makes for a clean and fast installation, without the expense typically incurred in more conventional wiring systems.

Overall, we spent just over a month

tion and device type. So you know where the device is located physically as well its location in the system, as opposed to looking up a number in a list somewhere to figure out where a particular wire goes or comes from. This was far easier than documenting our previous analog setup.

The entire concept of this system is fantastic. The ability to have so much control over signal routing and console configuration is impressive — not to mention the system's flexible GPIO options.

Axia's scalability will serve us well in the future. We are approaching a new construction phase here on campus, which for us will likely translate to a new KWMU building with seven main studios and four or five additional news editing studios. With its Ethernet-based infrastructure, our Axia system is ready to grow along with us.

The Element consoles have the functionality and feel a good console should have, but with the added benefit of being highly programmable and configurable. Most important, the audio quality sounds terrific.

Our studios were made operational on Jan. 1, 2005, shortly after the launch of Axia itself. Being on the edge of the early-adoption curve, we experienced some minor software issues early on, but the system has been stable and functional since. In fact, most studios have been running for more than a year — since our last software update.

For more information, contact Axia Audio at (216) 241-7225 or visit www.axiaaudio.com.

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Configuring the system is intuitive and is accomplished in a short period of time. Getting a grasp on the system's programming took a little getting used to, partly because each component in the system has its own IP address; but in the long term this proved a great benefit.

Programming is accomplished by entering the IP address of the node you want to access into your browser. The node then serves configuration screens that enable you to define input sources and output destinations.

Needless to say, this is quite a bit different from analog audio, but with a little practice, you get the hang of it pretty quickly. (During the time we were ramping up, Axia's support team was there, clarifying issues for us and providing guidance.)

In terms of cabling and programming,

putting everything together, but the bulk of this time was spent on cosmetic issues such as fitting the Element consoles into our studio furniture. After all, this is a studio, and it's got to look cool. And it does look cool.

Welcome reception

The on-air talent has been receptive to the new system. It was a big change going from an analog board to a digital setup like the Element, but the system's ability to provide custom configurations has made everyone eager to learn more.

Documenting our system also has been easier than I'd imagined. I simply captured screenshots of every audio node's configuration page, so I know exactly how our system is configured.

Wiring is based upon a device's IP address as the core indicator for its loca-