FIRST PERSON

You Won't Find Multipair Here

by Thomas R. Ray III

When we started discussing moving the studios of New York's WOR(AM), it was clear that our Pacific Recorders System One consoles would not make the move. They dated from 1978 and had been in the same positions since. Parts were getting scarce.

WOR needed a state-of-the-art facility that was digitally based. I looked at the systems available and settled on the Axia SmartSurface and Livewire system.

After I placed the order, it occurred to me there would be no audio at all passing through the consoles. I thought, "My God, what am I about to do?" After all, consoles pass audio through, right?

Well, they used to.

Once the space on the third floor of 111 Broadway was built out, Creative Studio Solutions started running cables to our studios. What was really weird was knowing the number of audio paths into and out of the WOR studios, and not seeing a big, fat multipair cable anywhere near the nine Axia rooms in the facility.

The connection between the rack room and the Axia SmartSurface in a studio is a single Cat-6 cable. This cable provides a Gigabit connection and runs between the Cisco Gigabit "core switch" in the Master Control room and the 100 megabit "edge" switch in the studio. This cable runs not only audio information but data such as audio source names and contact closures to and from anywhere in the system.
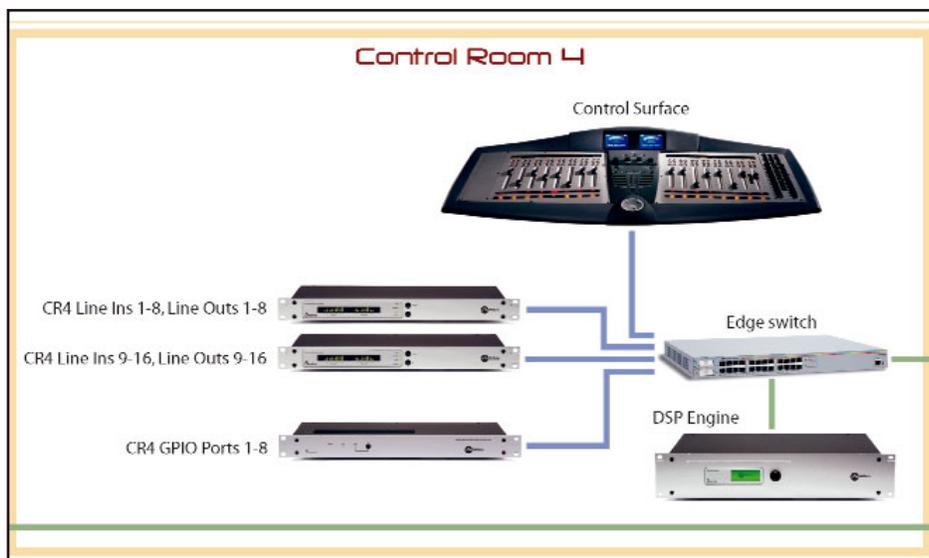
One cable, smaller around than my pinky finger. This was definitely getting strange.

In the Master Control room, we placed eight of the Axia Analog nodes in a rack on the "radio" side of the room, along with the core and edge switches for Master. The other three nodes went into the ENCO racks on the other side of the room. A Cat-6 cable connected each node to an edge switch across the room. We also placed a GPIO (General Purpose Input Output) node on each side of the room.

Each piece of Axia gear has a built-in Web site for configuration. It is here that we entered the name of a source (WOR 1 Downlink), or the name of a destination (Studio 1 ENCO 1 In), adjusted input gain if necessary, and decided if a given stream would be a "live" stream with very little latency, or if we also needed to add a "standard" stream, which could be played via Windows Media Player anywhere in the system.

That's another strange thing. Once the audio is input to the system, it becomes a stream. No more audio.

The WOR newsroom and edit booth use Axia Selector nodes. These allow any audio in the facility to be selected into the analog consoles we chose to use in these rooms. They have eight "hot buttons" on the front that can be programmed much as you would a car radio, so you can put your eight most-used channels onto these buttons.

These nodes also have one stereo input, which becomes available anywhere in the system. There was no need to take program audio from the analog consoles outside the rooms. Just put them into the Axia selector node and it was done.

Building a room

While CSS was putting together the main studios, I decided to try my hand at putting together an Axia production room.

The time mentioned does not include things like cutting the hole in the counter for the console or hanging speakers, things like that. I used standard off-the-shelf Cat-6 patch cables purchased from Dalco Electronics; because the Axia system is configured to the Radio Systems Studio Hub standard, I used Studio Hub XLR dongles. Once all the cables were run to and from each piece of equipment in the room and connected to the Axia nodes, it was a simple matter to configure the nodes with my laptop. The room was complete. Time: six hours.

This configuration meant we were also able to save time and trouble by using the Studio Hub headphone amplifiers. Besides the wall-wart power supply, the only other connection is a Cat-6 cable to the microphone node. Some quick configuration makes a particular output a headphone output that will contain talkback from the console.

Our operators have taken to the Axia SmartSurfaces in a big way.

They like the fact that they can start using the generic console configuration we gave them and set up their console the way they want it. They can move sources around to their heart's content. Once their board is set up, we can take a snapshot of it, and every time a particular operator walks into the control room, they can select their profile and have their own personal configuration available.

Another thing the ops like is the mix minus ability of the Axia system. In our old facility, they had to stop and think about mix minus. Forget doing a double mix minus; it just didn't happen. With the Axia system, every ISDN codec has mix minus assigned, and we can put multiple codecs up on a console, each one getting its own mix minus feed. And there's no thought involved. Punch up a source that is supposed to have mix minus, and it gets mix minus.

For the most part, talkback is a breeze in the Axia system, as the operator can put any source in preview (cue), and, if it is configured correctly, can talk to that source. For example, a guest mic in the studio is configured such that the headphone at that location is "attached" to the mic. If the op puts the mic in preview, he can talk to the person sitting at that microphone.

Some cool things can be done with the Axia system through their Pathfinder program. Using Pathfinder and scripts, we have built-in studio switching that also routes data. In our old facility, we used internal subaudible tones to generate cue pulses for the WOR Radio Network feeds. With Pathfinder, we simply route the button press for an affiliate local spot closure to the correct GPIO port that feeds the Network cue encoders.

Tweaking

We have had a couple of hiccups, as can be expected when you're deploying the first large-scale deployment of any system.

We found a couple of software bugs. The first involved the GPIO modules. We discovered that, if a change was made in a pathway of any GPIO in the system, all of a sudden we had no cues going out over the WOR Radio Networks, regardless if the change was supposed to affect the network. This drove us nuts for several days until we identified that a change in the system triggered the disconnect. Axia had a software fix for us within 48 hours.

Another bug involved a fight over the GPIO facilities available to a given source if it were brought up on two separate consoles. This was also resolved quickly.

One other problem was a console that was a bit "funky" out of the box. After looking at the problem, Axia sent us a new SmartSurface. Oh, great, you say. What a pain to have to replace a console. Well, the SmartSurface has only three connections. Once you download the console configuration and source definition files to a laptop computer, it becomes almost plug-and-play to replace the console, and took us under 15 minutes.

The decision to install the Axia SmartSurface and Livewire system has proven to be a good one. The system worked out of the box. Installation time was cut way down. Connections are simple. The system, coupled with Pathfinder, is powerful. All the data switches used are top line off-the-shelf items.

I haven't been able to find a single point of failure in the system as configured yet. The operators love it. And it sounds almost too good on the air.

The WOR analog signal sounds great. The WOR-HD signal sounds fantastic. It appears that the Axia SmartSurface and Livewire system was a good choice for WOR. So far we've been happy with our decision.

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