

# Radio Guide

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## Axia PowerStation Lowers the Entry Point for Digital Audio



### Inside Radio Guide

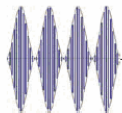
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# Axia PowerStation Takes IP-Audio to a New Level

by Matt Thomas

Telos launched its Axia Audio division in 2003 to bring a new idea to broadcast plants: a standards-based routing infrastructure that would bring consoles, peripherals, phone systems, computer workstations – any audio equipment – together into one powerful network.

Using Ethernet and a protocol called Livewire, real-time uncompressed IP-Audio (sometimes referred to as AoIP) streams could be instantly routed between users; thousands of signals at a time. Six years later, Axia has well over 1,000 consoles and routing networks in the field – and dozens of partner companies who have used Livewire to join the Axia network.

At NAB 2009, they will unveil PowerStation, a new console/routing system that consolidates all the elements of an IP-Audio studio into a single rack-mount device.

## A NEW CONSOLE CORE

We sat down with Axia President Michael “Catfish” Dosch to learn more about this new product. Michael has a long history in the professional audio industry, but is best known for his work as principal console designer at PR&E during the 1980s and 1990s.

**Q:** How did the idea for PowerStation originate?

**Michael Dosch:** Our clients tend to be very passionate about Axia. From the very beginning, they raved about how Axia saved them installation time compared to traditional methods, the money they saved using Ethernet instead of cable bundles, and how much easier IP-Audio was to work with than everything else. The PowerStation concept came out of discussions with multiple clients about how to make Axia consoles even better. Putting everything in one box was a client idea. So was adding redundant power.

**Q:** What is PowerStation? What does it do?

**MD:** PowerStation is our new console core; it represents the next generation of IP-Audio. What previously would have required multiple devices now is consolidated into one single, easy-to-deploy device.

**Q:** “Next generation of IP-Audio”? What do you mean?

**MD:** Axia originated the idea of using Ethernet to route broadcast-quality audio around the radio plant. After six years, we’ve gathered a lot of experience and client feedback, which we’ve put to use designing PowerStation.

## INSIDE THE BOX

**Q:** So what is inside?

**MD:** PowerStation has a very powerful DSP mixing engine, a super-duty power supply, digital and analog audio inputs and outputs, plus GPIO for device control and a built-in Ethernet switch for expansion. It’s very easy to set up and use – you simply connect PowerStation to an Axia control surface and you have a complete console. It can be a stand-alone console or it can connect to other PowerStations or other Livewire equipment to create a networked studio complex.

**Q:** I thought all Axia gear was networked. What do you mean by “stand-alone console?”



The rear panel of PowerStation showing microphone inputs, analog and AES inputs & outputs, GPIO ports and multiple Ethernet expansion ports.

**MD:** It’s simple: the back of the PowerStation has all the audio and logic connections needed for a radio console. Connect your devices and your Axia control surface and you have everything you need. No external network is required; it’s all in the box. Of course, you can expand beyond the stand-alone console whenever you’re ready. There are plenty of Livewire ports on the back of the PowerStation to connect computer workstations, phone systems, processors, and even more PowerStations.

**Q:** PowerStation has redundant power?

**MD:** Yes, this was a result of some client requests for a backup console power supply. But here’s the twist: since PowerStation contains the studio’s mixing engine, audio I/O, and Ethernet switch as well as the console power supply, adding backup power safeguards not just the console, but the entire system. So PowerStation gives you redundant console power, redundant mix engine power, redundant power to the Ethernet switch – backup power to everything.

**Q:** I see a connector for the backup power; it’s a separate unit?

**MD:** There are two parts to PowerStation: Main and Aux. You always have a Main. The Aux unit is optional, and when you add that, you get the backup supply. Plus, it doubles the amount of audio inputs and outputs and logic ports.

## EXPANDABLE

**Q:** Let us say you have a PowerStation Main and Aux but you need even more audio I/O. What then?

**MD:** Simple. Just plug in an Axia Audio Node to one of PowerStation’s Ethernet ports. Audio Nodes have eight inputs and eight outputs each, and are available for Analog, AES and microphone sources. Of course, you may not need as much discrete audio I/O as you think.

**Q:** Why is that?

**MD:** Well, more and more broadcast equipment suppliers – companies like 25/Seven, AudioScience, ENCO, International Datacasting, BSI and others – are making products with built-in Livewire capability. And these connect directly to one of PowerStation’s Ethernet ports, so no additional analog or digital audio I/O is required. These devices speak to the Livewire network natively. The added bonus is that these devices connect with just one Ethernet cable for all of their inputs, outputs and GPIO control, so hooking them up takes, literally, about ten seconds.

## SIMPLIFYING SETUP

**Q:** Critics of IP-Audio have said that systems are too complicated to set up. Does PowerStation address this?

**MD:** Yes. PowerStation comes preconfigured with basic console functionality; everything is accessible using your standard web browser. All you do is plug in your sources and then give them friendly names. These same friendly names show up as available network streams and on the console channel strips. There are also more advanced features, if you want, such as multi-studio networking.

Another feature that dramatically eases setup and deployment is something we call Simple Networking. We realize that not everyone is building a big, multi-studio complex, so our engineers designed in the ability to daisy-chain up to four PowerStation studios using the built-in Gigabit ports. This creates a networked studio complex without the need for an external core switch. Of course, if you want to add more studios, or add PowerStation to an existing Axia studio complex, just connect it to your core switch.

**Q:** What other features does PowerStation have that might not be readily apparent?

**MD:** Take a look at the heat sinks on each side. PowerStation is totally fan-free. We know how important it is

for studio equipment to be silent, so we designed PowerStation to dissipate heat without the need for cooling fans. It also means one less moving part, as well.

Sometimes clients need to connect studios that are in different parts of a building, or sometimes in different buildings altogether. PowerStation’s switch has two SFP ports, so you can actually network them directly over long distances using fiber connections.

## AN ECONOMIC CHOICE

**Q:** Obviously, you need a console to work with PowerStation.

**MD:** Yes. PowerStation connects to our Element 2.0 console. Connection is very easy; there’s just one cable between the two for power and control.



Element 2.0, the newest version of Axia’s popular console.

**Q:** I have heard of Element, but not “Element 2.0.” What is new here?

**MD:** Our philosophy is one of constant refinement and improvement. We solicited ideas from Axia clients, and recently released a major update to Element that includes new features like headphone processing and voice processing from Omnia, a virtual mixer that lets clients build customized utility mixes, such as might be useful when running automation or satellite systems, automatic mix-minus on every fader, and a record mode for phone calls that automatically delivers a split feed to the recording device of your choice.

**Q:** So, how does the cost of a PowerStation studio compare to a discrete Axia build?

**MD:** PowerStation will usually save money when compared to the multi-box solution – as much as 25%.

**Q:** Are there any other new items that we should watch for at NAB?

**MD:** Yes, we’re expanding our line of router control accessories, including programmable soft switches, XY control panels, *et cetera*. We also will be bringing an Axia Intercom system that seamlessly integrates with our consoles – based on Livewire, of course.

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