



AUDIO-OVER-IP ROUTING. SOME TECHNICAL STUFF.

WHEATSTONE and WheatNet®-IP

WheatNet-IP is the new name for Wheatstone's Audio-over-IP networking, routing, and mixing system. First introduced at NAB 2008, it now accounts for the vast majority of networking systems that Wheatstone quotes and installs.

First, a quick overview, and then why WheatNet-IP has been so successful, not only in converting Wheatstone's loyal clients to AoIP, but also in convincing clients of the superiority of Wheatstone's technology over other choices.

WheatNet-IP BLADES

We call our I/O and mixing hardware and software "BLADEs"... way beyond the cutting edge, they're sharp and to the point (and yes, pun intended). Each BLADE is designed for a specific function—we don't cram unrelated tasks into one box making a central point of failure; we all know about "putting all your eggs in one basket."



BLADEs are access points in and out of the network. They interface seamlessly with Wheatstone's Evolution Series Console Control Surfaces, the Glass-E Virtual Console Control Surface, most of the popular automation systems, and streaming audio.

Three BLADEs are line level I/O interfaces, one all analog, one all digital, and one half of each. Our newest BLADE provides mic level inputs. A fifth hardware BLADE mixes the audio for a Wheatstone console control surface. Each of the BLADEs and each Wheatstone console control surface connects to the network with a single CAT5E/6 cable.

BLADEs are loaded with lots more sharp features: Each includes two 8x2 virtual utility mixers that can be used for a wide range of applications, a front panel headphone jack with source select and level control to monitor any system source, SNMP messaging for alerts, and silence detection on each output that can trigger alarms or make a routing change.

There's also WheatNet-PC, a software BLADE that you install on automation system computers, news workstations, or even the PD and GM's desk computers—to control, play and record audio on and off the network. It eliminates the expensive sound card, and replaces tons of audio and control wiring with a single CAT5E/6 cable.

EASE OF INSTALLATION

The relatively small channel count of each I/O BLADE allows you to conveniently locate it close to your equipment. In TOC/Master Control, there's no need for a back wall full of punch blocks, a BLADE (or occasionally two) in each rack keeps audio and control wiring entirely within the rack, allowing for a fast and clean build-out. In the studio, usually just one line-level BLADE is required; they're silent, so you can locate them with live mics.

FAST AND SIMPLE SETUP

Wheatstone's goal was a system that's extraordinarily easy to implement without the need for super-complicated network engineering, and where you don't need to be concerned about setting priorities to assure that those signals that are most critical are available.

WheatNet-IP setup is easy, intuitive, and takes only a few minutes until you're on the air. The front panel setup wizard in each BLADE gets you up and running in moments. Extensive front panel metering and status indicators provide quick confirmation that all is well. WheatNet-IP's web interface and WheatNet-IP Navigator software let you further customize your system, locally or remotely, with input and output names, logic associations, routing and much more.

RELIABILITY

Audio everywhere all the time, and keeping you on the air, were foremost in the design of WheatNet-IP.

Wheatstone chose Gigabit Ethernet (1000BASE-T) because 100BASE-T just can't simultaneously handle the large number of audio channels prevalent today in

large broadcast plants without the very real risk of audio not being available when you need it. Gigabit protocol means all audio everywhere with extremely low latency.

WheatNet-IP is completely self-contained—no PC is required to perform any of the system functions, including routing, mixing, salvos, and logic control. The PC is needed only for configuration changes.

Each BLADE carries a complete map of the entire connected network in its onboard CPU flash RAM. Talk about redundancy, a system with 36 BLADEs has 35 backups! Need to replace a BLADE? Assign its ID number and connect it to the network—it will query the other connected BLADEs and import all the necessary configuration settings!

BLADES

ip88m ANALOG MIC I/O BLADE: 8 fully balanced reference-grade mic preamps with phantom power, 8 analog outputs, 12 universal logic (GPIO) ports programmable as inputs or outputs, routable throughout the system.

LINE LEVEL I/O BLADEs: 16 input channels, 16 output channels (switchable 8 stereo, 16 mono, or any combination), and 12 universal logic (GPIO) ports.

ip88a ANALOG I/O BLADE: 16 analog in/out.

ip88d AES DIGITAL I/O BLADE: 8 AES (16 channels) in/out.

ip88ad ANALOG & DIGITAL I/O BLADE: 8 analog in/out, 4 AES (8 channels) in/out.

ip88e WheatNet-IP MIX ENGINE BLADE: Handles all of the mixes from Wheatstone Evolution Series Console Control Surfaces and the Wheatstone Glass-E Virtual Console Control Surface, distributing the four stereo PGM, four stereo AUX SEND, per-channel MIX-MINUS, monitor outputs and other bus signals to the network. Once on the network, they are available as sources and outputs anywhere. This creates an extremely flexible system, where program outputs from one surface can be a source on any other surface; for example a news mixer's program bus as a source on the air studio surface. While the ip88e doesn't house audio I/O, it does include 12 universal logic (GPIO) ports.

WheatNet-PC BLADE: Installs on Windows PCs to replace the sound card; interfaces eight stereo audio signals in/out, plus automation control data (start, stop, etc.).