GSX

ADAPTABLE EXPANDABLE NETWORK IP AUDIO CONTROL SURFACE

Wheatstone

BROADCAST AUDIO PERFECTIONISTS℠

THE SURFACE

Our GSX console behaves and feels exactly the way a surface like this should...perfect

GSX brings all of Wheatstone's innovations together into a ready-to-go console/control surface that can easily handle the fast-changing roles of modern broadcast studios. It's a turnkey console that's based on our LXE – the first completely customizable control surface for IP audio systems.

While it's delivered fully configured and ready to fly, GSX is customizable. Virtually every knob, every button, every display can be programmed to accommodate virtually any application you come up with using our optional ConsoleBuilder™ software.

Additionally, features such as Automix, Layers, ScreenBuilder™, Smart Switch panels, and IP accessories can be added at any point to adapt your GSX to your evolving needs.

GSX's modular design makes for flexible installations. The 4-fader input modules (or 2-fader/3-space master module) can be flush mounted right into your table, easily splitting them as you need, and connected to your network with a single CAT6 cable.

GSX interfaces seamlessly into the WheatNet-IP Intelligent Network, and utilizes BLADEs for audio, control and associated logic data flowing on single CAT6 interconnecting cables. The system can ingest and convert virtually all audio formats: mic and line level analog, AES/EBU, SPDIF, AoIP, MADI, SDI and even AES67. Loudness metering, phase control, and full EQ/Dynamics are included.

Physical Surface:

- Form Factors:
  - Wedge low profile (no meterbridge, surface pairs with separate HDMI monitor)
  - Countertop drop (flushmount)
  - Both choices can be split consoles connected via network in same room or different rooms/locations
- Option: Fully Programmable / Configurable via ConsoleBuilder™
  - Every button configurable via setup GUI; can be scriptable, or a variety of other functions
  - Every encoder/knob configurable from the setup GUI, Can be scripted (if X then Y) or assigned to other knob or encoder functions.
  - Fader is scriptable to control things via ACI like Utility mixer channels.
  - Multicolored fully programmable LED buttons throughout (blue, cyan, green, yellow, red, magenta) (talkback and cue are red only)
  - Full color OLED display on each channel configurable for contextual display
- Built in Ethernet switch for plugging in accessories or other host panels

- PureIP – connects directly to switch
- Four stereo Program busses
- Four stereo Aux busses
- Four mono or stereo Mix-Minus busses
- Headphone stream to surface - up to one per panel host
- Each input channel offers Phase control, Panning, Fader mode Left, Right, Mono, Stereo - each assignable to any knob/button
- Mono cue speaker
- Up to 24 physical faders (virtual faders can be controlled via ACI for third-party flexibility)
- Every fader has bus-minus or direct out and is configurable as stereo or mono
- Fader mirroring – allows faders to mirror one another in different locations
- Option: 8 layers (to accommodate up to 32 input fader channels) – completely customizable and configurable for each layer.
- Separate Control Room, Headphone, and Studio monitors, each with monitor dimmable (all with friendly names)
- Monitor mix capable – mix all busses together for monitor output

- Monitor Linking (example: Headphone follow Control Room)
- Level lock for Monitors
- Dynamics, including Compressor, Expander, Gate, controlled via touchscreen or optional panel
- Full Parametric EQ controlled via touchscreen or optional panel. Includes highpass and lowpass filters
- Flexible Metering Options:
  - Loudness metering
  - Phase Correlation metering
  - Input metering on each channel
- Option: Automix function controlled via touchscreen GUI
- Info screen on surface for current status
- User management:
  - Logging in and out
  - User based access to controls
  - VDip saved per user settings
- Unlimited number of events
- Support for remote mix engine (off premises, for use with At-Home systems)
- Time sync to NTP via mix engine
- Display brightness controls
- Accessory panels powered internally

METERS ARE ON THE SCREEN

Up front and laid out to give you all the info you need in exactly the right place


GSX has moved the meters from the console to the graphic interface on-screen, giving you a low-profile workspace that lets you focus your attention where your eyes spend most of their time. The touchscreen GUIs let you interact with your audio to do everything from pinching and dragging EQ to setting up router crosspoints in your network. Optional ScreenBuilder™ GSX software enables you to create your own touchscreens. And optional ConsoleBuilder™ is a GUI-based app that allows you to program and configure your hardware surface.

Touchscreen GUI:

- Complete set of screens provided to allow control over every aspect of the GSX control surface
- Option: ScreenBuilder™GSX with support for unlimited number of screens (which run one at a time) allows you to build any type of custom screen you need
- Full screen XY controller built in

- Configurable Home screen with up to 8 Monitor, 4 Aux, 4 Mix-Minus meters
- Linux based OS with touchscreen support accessible via HDMI video output
- Digital timer and clock on home screen
- Add custom logo to clock background

THE MODULES

Everything you need to mix - right there at your fingertips
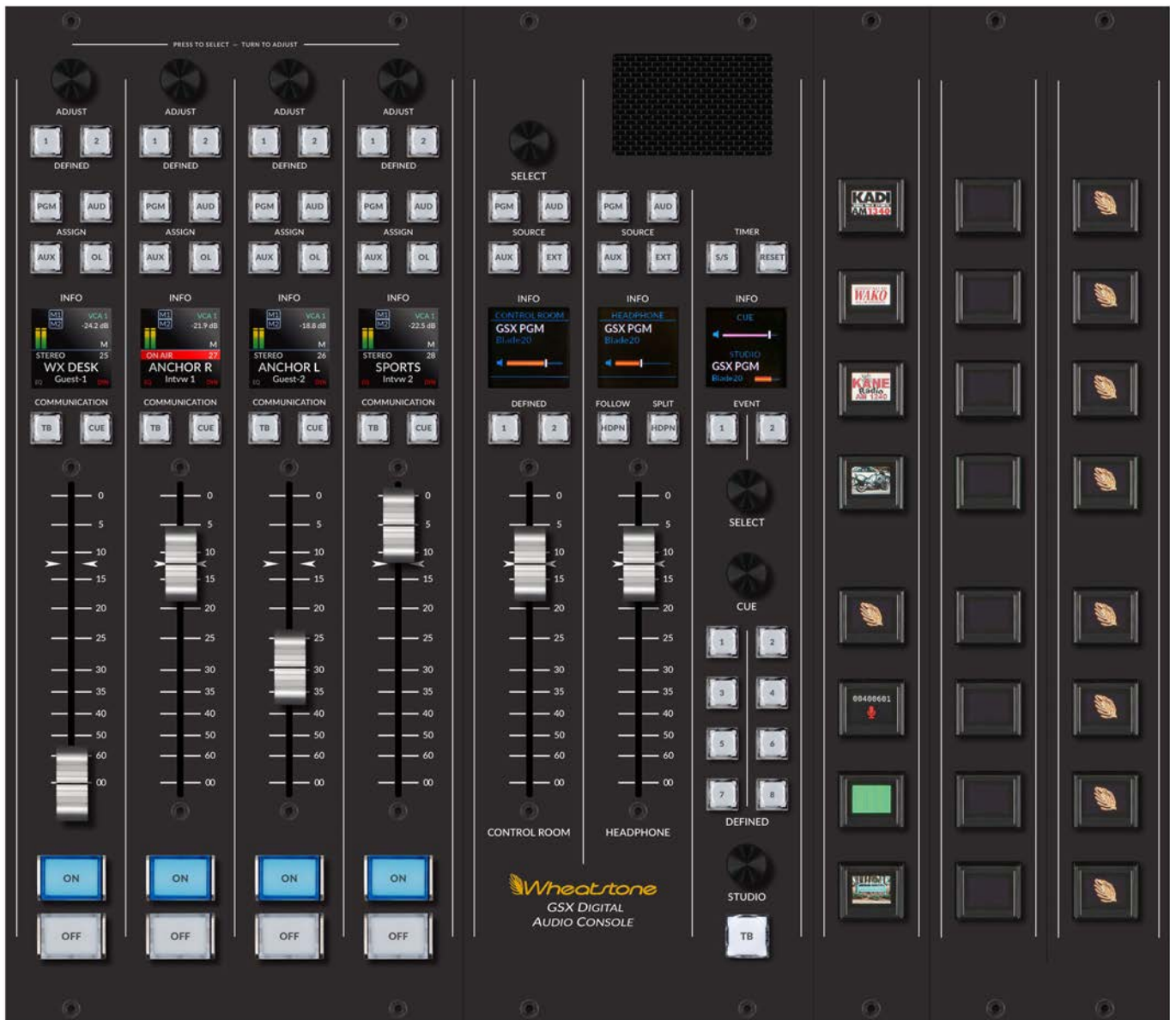
There are two basic modules on the GSX - a four fader input module, and a master section with two faders. Each module is programmed to be a functional radio console out of the box. Each module is also completely customizable using optional ConsoleBuilder™ software to set GSX up exactly as you need it to function for your workflow. And, there's space in the frame for additional modules, such as the SS-8 with programmable OLED buttons.

GSX OPTIONAL EXPANSION

Make GSX exactly the control surface you need for your workflow

GSX's architecture, with a built-in Ethernet switch, lets you add functionality to your console at any time. Add panels to manage phones, or the SS-8 with OLED buttons that can be programmed to do just about anything you want. Or, add functions, like AutoMix or Layers. And, for personalizing your workflow, there's ConsoleBuilder and/or ScreenBuilder to customize your physical surface or your touchscreen interfaces.

GSX Automix - Ultimate Control

When airing a panel discussion, forum, or other program where many microphones are located close together, audio operators have their work cut out for them. Simply leaving all the mics open all the time will result in an ugly, comb-filtering effect that will make the room sound hollow. The operator must constantly pay attention to the discussion in progress, and keep unused mics pulled down. There are many opportunities for errors which are obvious to the audience. Optional Automix (Automatic Microphone Mixing) takes this difficult task out of the hands of the operator.

By engaging this feature on each of the microphones, the operator allows the console to monitor the level coming from each microphone and automatically reduce the gain on mics not being addressed. The level of all participating mics is determined by the weighting assigned to each channel by the weight sliders in the Automix screen. This allows hosts to be assigned a higher weight in order to speak over guests in a lively discussion. It also allows "loud talkers" to be assigned a lower weight so they are more evenly balanced with other speakers. Conversely, "soft talkers" can be assigned higher weighting to compensate for their lower level. The Automixer also does gain sharing, so the overall level will not exceed nominal levels when multiple participants are speaking at once.

Remote GSX - Control from Anywhere

Optional Remote GSX is a multi-touch virtual console that mirrors the GSX control surface for an independent, yet shared user experience during fast-paced, multi-operator shows and productions.

It remotely controls the GSX hardware surface as a fully functional and studio-ready user interface, complete with like buttons and knobs as well as familiar navigation and menuing options for setting EQ curves, filtering and other custom settings.

Working in conjunction with the GSX hardware surface, Remote GSX provides complementary production functions for separate operators using an GSX board in the same location or in another location over an IP connection. Real-time fader tracking and live synchronization of buttons and controls between the virtual surface and the physical GSX board offer an independent, yet shared user experience for multiple operators – or as a tool for engineers to remote in to correct operator setup issues.

Layers = Compact + Huge

With optional LAYERS, you can get up to 32 input channels with as few as four physical faders. You can have, for example, 8 physical faders, each with four layers. So, you can have up to 32 actual input channels - 8 per layer. Up to 8 layers are available to give you a maximum of 32 input channels. This gives you enormous power in a VERY compact space.

ConsoleBuilder™ GSX

The GSX comes ready to go out of the box, pre-configured for standard broadcast workflows. But with broadcast audio becoming anything but 'standard', GSX's powerful flexibility is fully revealed when you use the optional ConsoleBuilder™to configure and program it to fit your own studio. ConsoleBuilder is a drag/drop/scripting software GUI that packs an exceptional amount of power behind an easy-to-use interface. With it, any of over 25 functions can be assigned to just about any knob, button, or fader on the control surface.

Here's how it works: the display shows you the layout of your physical console – just double click on the surface feature you want to customize (switch, knob, fader, OLED display) and using the drop-down menu, select the function you'd like to assign to it. If you require more complex programming, you can even script things to achieve the exact level of control you need. Many GSX GUI functions can be customized as well.

ScreenBuilder™ GSX

GSX's GUI has pre-built screens for everything you normally use – metering, clocks, timers, dynamics, EQ, assigns, and more. All are touchscreen accessible with the same gestures you're used to using on your smart devices.

However, this touchscreen GUI is just as customizable as the GSX surface. Using our ScreenBuilder™ GSX software, you simply drag and drop objects to build custom touchscreens, defining their functions via a simple wizard interface. You can then easily store these custom screens to go with your custom GSX setups.

ScreenBuilder™GSX comes stocked with widget graphic elements: meters, faders, knobs, buttons, tallies, etc., all ready to drag, drop, and configure. You can also add your own graphics, and assign functions to them using our script wizard. We've seen studio mic plots, simple on/off talent panels, even maps of entire countries showing all transmitter locations – it's pretty much wide open. If you can conceive it, you can achieve it.

THE NETWORK

With modern, intelligent WheatNet-IP audio networking, you can...

Make wholesale studio changes.
Switch studios from any seat, reconfigure control surfaces for multiple purposes, and even change audio processing settings automatically when, say, a certain mic turns on. It's all in WheatNet®.

Bring on the devices.
WheatNet-IP gets along with everyone, including MADI gear like ProTools, TDM systems, and interfaces to more than 40 third-party brands and/or products for end-to-end, seamless operation from the microphone to the stick. In addition, new third-generation WheatNet-IP access units are AES67 compatible, which means you can integrate your audio network with other AES67 compatible devices and systems.

Integrate audio routing and automation.
Imagine interfacing your audio network to your automation system with no sound cards, external logic connections or added routers. Or, better yet, imagine fully integrated audio automation and routing so an announcer seated at the playout system can set a fader for a console located anywhere in the facility. That's WheatNet-IP.

Access any audio, anywhere.
WheatNet-IP handles native analog, microphone, AES/EBU, SPDIF, AoIP, MADI, SDI and even AES67, which is now included in our third-generation access units. Ingest any audio format into the WheatNet-IP, and convert to any audio output — analog to digital, AES to IP, microphone to AoIP or MADI to AES67.

Control and route audio all on the same cable.
No more having to chase down or create new logic commands for sources every time you change control surfaces or studios. Logic follows audio. Audio and control for that audio travel down the same cable, so you can pick up feeds and the logic for those feeds anywhere along the network. Route any audio input to any or all outputs in the network.

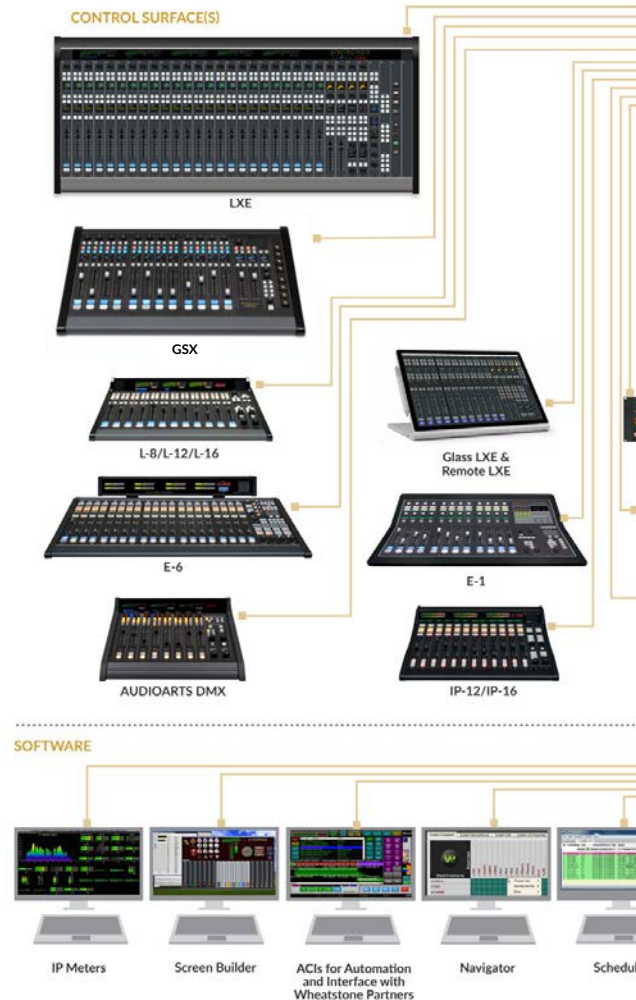**Relax, you have switch-over silence detection.**
Let's say an operator misses a cue or leaves a fader down. No problem. When WheatNet-IP senses silence, it can take the automation system directly to air until the operator catches up. Every single audio output channel can be programmed with silence detection and automatic switch-over function.

Simplify things.
No need to assign IP addresses or allocate bandwidth or pay someone else big money to do it. Just plug into your managed gigabit Ethernet switch and let WheatNet-IP do the rest. Add codecs, processors and controllers or change I/Os in a snap. You spend less time configuring the system, and more time on what's important: creating awesome sound.

Avoid costly system failures.
A distributed and intelligent network means no more centralized points of failure to go wrong, plus more points of recovery. Each WheatNet-IP BLADE access unit is self-aware, and can reconfigure itself in an emergency. In fact, each BLADE in the network can recover settings for your entire studio operation!

CONTROL SURFACE(S)

LXE

GSX

L-8/L-12/L-16

Glass LXE & Remote LXE

E-6

E-1

AUDIOARTS DMX

IP-12/IP-16

SOFTWARE

IP Meters — Screen Builder — ACIs for Automation and Interface with Wheatstone Partners — Navigator — Schedul

Call the shots.
You call the shots, not some PC. WheatNet-IP distributes the workload to all access points in the system for better overall network stability. Each WheatNet-IP BLADE access unit has its own embedded processor with operating system that allows it be a powerful standalone router or part of a larger system. WheatNet-IP is an embedded system that does not require outside intervention or control from 3rd party software running on PCs. The configuration of the entire network is stored in each and every BLADE.

Self-pruning multicast trees.
A lot of older IP audio networks don't manage the multicast streams, which could require you having to periodically manage this yourself or getting a bigger, more expensive switch to handle the mounting volume of streams. Not WheatNet-IP, which continually prunes unused source groupings from the network so you don't run out of switch capacity or time having to delete unused channel assignments.

BUILDING THE AUDIO ECOSYSTEM
The building blocks of the intelligent AoIP network
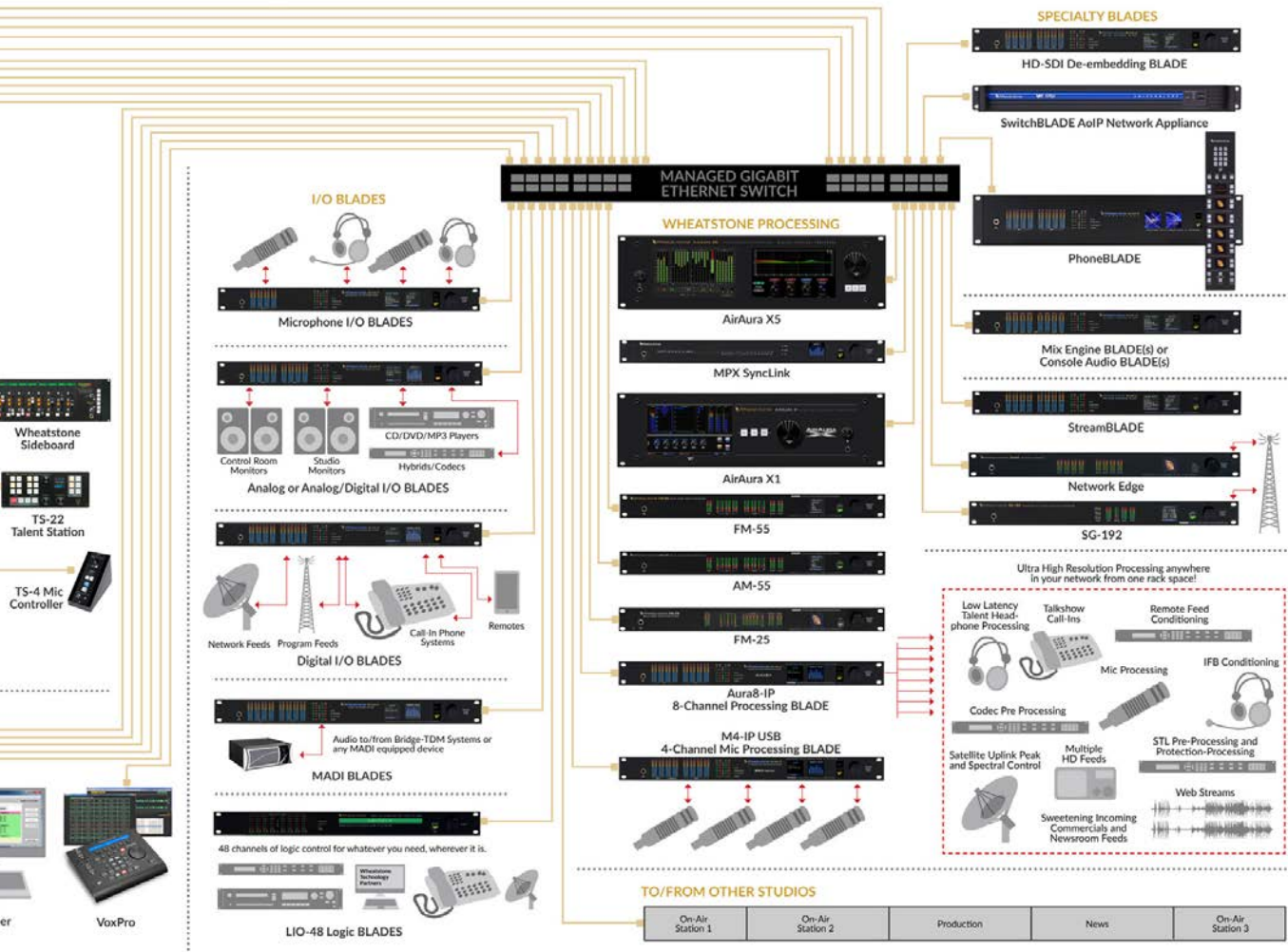
Eliminate audio latency problems.
Finally, an audio IP system that can keep up with audio, which means your automation system won't ever drop a satellite feed or skip a commercial because of delay again. Gigabit Ethernet is why.

Stay ahead of the curve with Gigabit Ethernet architecture.
You might not be in a hurry now with 100mbps throughput, but we promise you'll want the system that has 1 gigabit/second Ethernet throughput once you get your audio network up and running. All WheatNet-IP BLADEs use gigabit Ethernet. This makes all the difference in network throughput, near-zero delay, reliability, and a whole lot more.

Get way more for less.
We're talking full-featured routable mixers, stereo processor, and automation control in each BLADE I/O unit , so operators can pan audio, turn channels ON/OFF, set fader levels, and do audio fades, ducking, source assignments – and lots more. The possibilities are mind-boggling.

Get more on the network for less cost.
Some IP audio nodes are mere input/output devices. Each WheatNet-IP BLADE I/O access unit, by comparison, comes standard with routable utility mixers for mixing, summing and controlling audio in lieu of costly DAs; plus newer BLADEs include a multi-band stereo processor for "spot" processing satellite feeds, headphone audio, web streams or any audio feed routed throughout the network. Also included in our BLADE-3 access units is embedded audio playback that can be used to put emergency audio on the air, and much, much more. With all that functionality built in, WheatNet-IP can save you substantially in hardware costs alone.

Expand your network at any time, for less.
With control and intelligence built into every WheatNet-IP BLADE I/O access unit, you have the networkability you need to grow with the times.

BEYOND THE SURFACE

There's a world of Wheatstone smart control panels, software, BLADEs and other surfaces for you to put to work

I/O BLADEs

I/O BLADEs are access points on the WheatNet-IP Intelligent Network, converting each hardware physical input — audio or logic — to a data stream on the network, and converting data streams to hardware digital outputs. They provide the means of interfacing and controlling all of the audio equipment on your network.

The IP88A (analog), IP88D (digital), IP88AD (analog/digital) and IP88M (mic level) BLADEs handle your standard audio I/O requirements. Each has 8 stereo channels, 16 mono channels, or any combination totaling 16 discrete channels. The A/D versions are half analog, half digital. And the mic BLADE has 8 XLR inputs with high-quality mic preamps.

Special Purpose BLADEs

Another I/O BLADE is the MADI BLADE, which converts a 64-channel MADI input to data streams on the network, and converts data streams to 64-channel MADI outputs.

The LIO-48 Logic BLADE provides 48 universal logic I/O ports, each individually configurable, for turning devices on or off by time or event, for automatically adjusting the audio processing settings when a certain mic turns on, and for any other logic control you need in your studio operation.

Mix Engine & Console Audio BLADEs

We have several BLADES built to handle specific tasks. First are the Engine BLADES: IP88E and IP88CB. The IP88E is a BLADE that houses all DSP power for an individual control surface or Glass-E virtual mixer, and distributes the four stereo PGM busses, four stereo AUX sends, per-channel mix-minus feeds, monitor outputs, and other bus signals to the network. Once on the network, they are available as sources and destinations 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 can come up as a source on the air studio control surface. While the IP88E doesn't house audio I/O, it does include 12 universal logic (GPIO) ports.

The IP88CB provides powerful interface options, including four AES inputs, four stereo analog inputs, four AES outputs, and four stereo analog outputs on RJ45s; control room and studio stereo analog outputs on XLRs, two mic level inputs with gain trim and switchable phantom power on XLRs; cue and headphone outputs on both RJ45 and 1/4" TRS, and 12 GPI logic ports on RJ45.

WheatNet-IP Overview & Planning Guide

Get a good overview of the Intelligent Network. Learn about all of your console options, details about all BLADEs and compatible processors, all accessories, details on WheatNet-IP technology, interface ideas and more.

This guide is downloadable from any WheatNet-IP product page on our website.

Or, just go to: **wheatstone.com/wheatnet-ip**

Audio Processing BLADEs

Placing a processor everywhere you'd like one has been costly and impractical. Until now.

A single Aura8-IP gives you up to eight processors to use as you wish. Use it as a standalone processor with analog and digital inputs or make it a part of your WheatNet-IP network. Either way, the Aura8-IP is a powerhouse.

The M4-IP Microphone Processor BLADE combines four high-quality microphone preamps, four channels of Vorsis embedded microphone processing, and a WheatNet-IP BLADE interface, allowing you to place four microphone inputs anywhere in your WheatNet-IP Intelligent Network. The preamps and processors are accessed and controlled from any point on the network via its Windows-based GUI.

All Wheatstone processors are WheatNet-IP native as well.
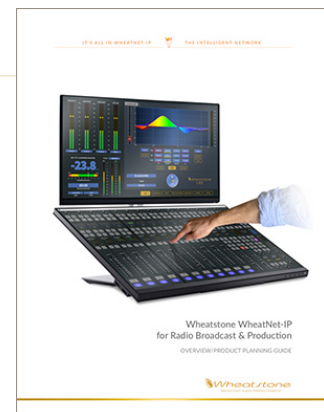
Small Control Surfaces

1. TS-4 Talent Station
Provides lighted on/off/cough and talkback switches for a single talent microphone. A rotary headphone source selector is provided along with an OLED display for identifying the selected source.

2. TS-22 Talent Station
This full featured Talent Station turret plugs into the WheatNet-IP intelligent network to provide microphone control, headphone (with built-in amplifier) and speaker levels, plus source select, programmable soft buttons and timer control. No outboard equipment required and no wiring it all together; a single CAT6 cable handles everything. Also available as a flush-mount countertop panel.

3. Sideboard Control Surfaces
This small control surface is available in 4 or 8 input, tabletop or rack versions and provides an extensive tool set, yet simple operation. Includes built-in headphone amp and controls, source select, and programmable buttons. As with the Talent Stations, just plug it into the WheatNet-IP network and go.

Controllers

HBX8-R Controller
An eight button rackmounted source controller for rapid access to eight pre-programmed sources. An encoder knob with associated display allows access to any signal on the network.

XYE-R IP Controller
A rackmounted controller with full dial-up source and destination control. Any signal accessible in a networked system is fully routable.

IP Meters GUI Software

Get a quick read of any audio source, destination or stream in your WheatNet-IP Intelligent Network. Our new IP Meters GUI app displays a "wall of meters" on your computer screen for ongoing monitoring of audio peak levels and average levels at selected points throughout the entire network. Included is a separate analysis meter for spectral readings plus visual alerts should a channel go dark.

Software and Software-Based Control Surfaces

In addition to hardware, Wheatstone also offers software-based control surfaces and applications.

Our Glass LXE can be configured to be exactly the console you need and can operate on any PC-based touchscreen device.

Glass-E software provides remote capabilities to other console lines, such as the LX-24 and E-Series.

We also offer ScreenBuilder - an app that lets you build custom touchscreen interfaces to accomplish just about any task in your WheatNet-IP environment.

Wheatstone has plenty of other software solutions to provide you the tools you need to get the job done.

GP Series Control Panels

GP8 and GP16 Panels
More than simple switch arrays, these 8 and 16 button panels come with their own scripting wizard. At the simplest level they can do source selection, push-to-talk, and preset/salvo activation. But the intelligence in each panel allows them to query the entire network and make switching decisions based on what they find. Conditional switching using Boolean logic functions allows for complex switching scenarios such as IF Studio B has requested the airchain, AND Studio A has acknowledged, THEN fire the Studio Change salvo.

GP3 Panel
A straightforward headphone panel with level control, 1/4" headphone jack and a switch with LED tally (typically used for the COUGH function, but can be custom wired). Connectorized with both RJ45 and Phoenix screw terminals.

GP4 Panel
A 4 button switch array for remote mic functions (typically ON, OFF, COUGH, TALKBACK). Interfaces with any available BLADE GPIO ports. Of course, all four switches can be custom wired for other functions as well.

GP Turret
A compact desktop turret designed to house up to three (or six in our double width version) GP Panels.

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