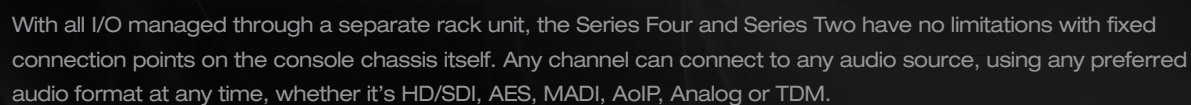


SERIES FOUR & SERIES TWO

IP AUDIO NETWORK TELEVISION CONSOLES



opening new networking opportunities to the TV audio world. Any source, anywhere, any time.

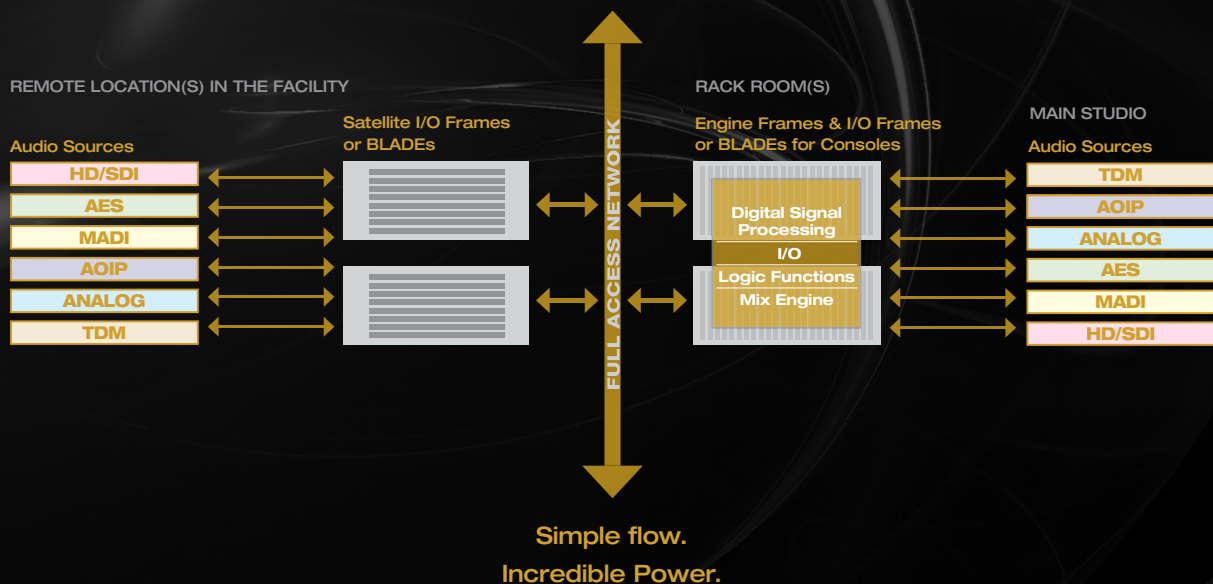


With our Network First approach, everything essential to audio routing, logic and processing is situated in racks located wherever you like, accessible via the network. This provides facility-wide access to all of your audio, regardless of where it's coming from. You can route any audio source to any fader on any control surface within your network. And, because we've designed our rack cages with front access and full hot-swappability, you'll never need to tear apart a console or rack to upgrade, repair or otherwise access its components. This all translates to 100% uptime and unprecedented expandability.

With Gibraltar IP Mix Engine, you are now open to the world of IP Audio Networking with access to powerful, cost-effective BLADE-3 units for I/O, logic and processing functions.



The true advantage of a fully modular router-based network system is ultimate flexibility



the surface

value is the equation here: intense functionality with a price that's within anyone's reach

The Series Four features 24 motorized input faders (the Series Two features 16 on a smaller frame), two main mix busses, four subgroups, up to 48 channel mix-minuses, four mix minus busses, and two AUX sends, plus extensive processing. All input channels have 4-band parametric EQ sections, tunable high and low pass filters, and compressor/limiters, plus expander/gate and programmable delay for lip-sync correction.

And unlike sound reinforcement consoles, these consoles each offer a direct bus-minus feed with IFB from each channel plus four front panel assignable mix-minus busses. With a possible total of 52 outputs, all IFB needs should be more than covered, and the common bus selection function provides tremendous flexibility in how IFB is managed.

Through our Automation Control Interface (ACI), the Series Four and Series Two integrate seamlessly with production automation systems so operators can, for example, change routing or automatically crossfade between inputs as the switcher or automation system cuts or dissolves between video sources. Faders can be mono, stereo or surround. What's more, all the mixes generated by the Series Four and Series Two can be routed to any available outputs on the audio network, including input faders on other network-connected control surfaces. Assign any source of any type to any fader, and share I/O resources with other consoles in the network. It's all networked through Wheatstone's Gibraltar Network system, utilizing Wheatstone's powerful Gibraltar mix engine technology with 1,024 DSP processing signal paths. This kind of power and modular flexibility provides the extra redundancy that is so critical to broadcast operations, with auto-failover DSP processing on the board and the kind of I/O connectors that stand up to the broadcast environment, not to mention easy touchscreen setup.

These consoles can take it all in – analog, AES, MADI and HD/SDI input signals – and deliver any source or console bus to any destination in the broadcast network. Operators will be able to see it all, too, on a large, high-resolution multifunction touchscreen display for capturing information at a glance: metering, channel/bus assignments, and programmable control functions. A LKFS meter for loudness monitoring is also included in the main display.

The Series Four and Series Two are priced comparably to semi-pro live sound/recording mixers, and they won't paint broadcasters into a corner should they ever want to add I/Os, mix-minus feeds, or any number of broadcast-specific functions.

Like all Wheatstone television audio consoles, the Series Four and Series Two are control surfaces; all audio I/O is housed in the Wheatstone Gibraltar Network rackmount router/mixer.

Because Series Four and Series Two are networked consoles, you can:

- Assign any source of any type to any fader
- Hot-swap components without powering down or disassembling
- Share I/O with other networked control surfaces
- Control the consoles over IP with any of the major newsroom automation systems
- Switch live, on the fly or between air and protect sources on the same fader

Utilizing the Wheatstone Gibraltar Network audio networking technology, the Series Four and Series Two can be configured with any combination of analog and digital inputs. Those inputs can be mono mic or line, stereo, or 5.1. Stereo and 5.1 surround output busses allow you to feed both your HD and SD program streams with no fuss.

- 24 motorized input faders on Series Four
- 16 motorized input faders on a smaller frame on Series Two
- 2 main mix busses: one 5.1 program, one stereo program
- Submasters: 4 stereo
- With Gibraltar IP Mix Engine, you have access to powerful, cost-effective BLADE-3 units for I/O, logic and audio processing
- AES67 compatibility
- Mix-Minus: 4 mono with automatic confidence feed switching
- Auxiliary sends: 2 stereo (direct rotary control from fader channel)
- Bus minus: direct mix-minus feed from every input fader channel
- 4 mix-minus busses in addition to bus-minus system
- Outputs from all busses and bus-minus are configured within the Gibraltar Network router matrix and can be analog and/or digital, or not fitted
- One 5.1 (audio booth), two stereo studio feeds
- Loudness Metering with large LKFS readout and momentary, short-term, peak reading and program duration level history display
- Phase reverse
- Surround pan / balance control and blend
- Stereo mode control
- 4-band, parametric equalizer with variable high & low pass filter
- Optional paging
- Compressor / Limiter
- Expander / Gate
- Variable delay on all input faders
- Any source, anywhere networking
- Any audio source can connect with any kind of signal, including analog line level, analog mic level, AES digital, MADI, SDI, and GPIO



the surface

modern design for today's production, broadcast and automation systems

Series Four and Series Two are made to work with today's production automation systems – their control interfaces are compatible with all the major automation systems on the market. Yet, they also have all the important broadcast-specific features, such as automatic studio muting, machine control logic, de-embedding inputs, 5.1 surround capability, balanced or unbalanced AES inputs, router integration, and flexible monitoring capability.





Series Four (above) is built on a frame that houses 24 input faders.

Series Two (left) has a more compact frame and houses 16 input faders.

Gibraltar Network

the processing power behind Series Four and Series Two – brains, brawn and futurability

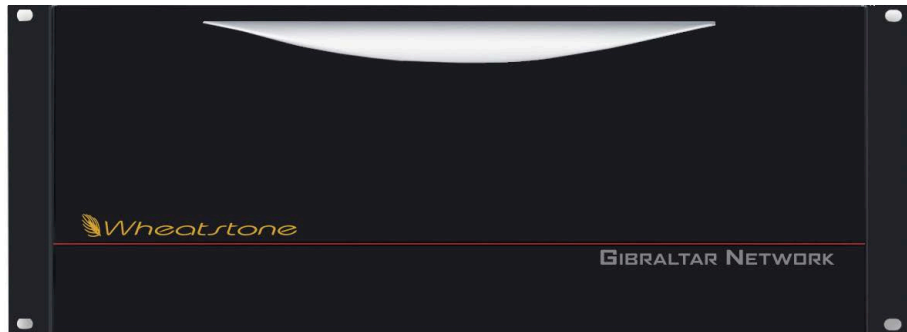
Designing from the ground up meant considering not only how things function but where they live. Given the technology we have today, and considering what's on the horizon, it only made sense to take a completely modular approach. This provides us with the ability to create incredibly powerful devices with unimaginably small footprints. Since all function is in soft/firmware, it also gives us the capability to ensure that your investment in our technology today will last well into the future. In other words: Wheatstone = incredible ROI.

Meet Gibraltar

The Gibraltar® Network is the powerhouse of Wheatstone's consoles. Its modular design uses multiple Gibraltar DSP cards to provide the mixing, bussing, I/O, and processing power which the control surface presents to the operator. The amount of DSP processing available can be scaled to the size and complexity of the intended installation and to allow for future expansion.

The Gibraltar Network has an internal, modular power supply and has room for a second one for full power redundancy. A "hot standby" Gibraltar DSP card can also be installed and will seamlessly take over the functions of any failed DSP card.

And now, Gibraltar Network adds an IP Mix engine, expanding it into the world of IP Audio networking.



More than enough DSP to do the job

There are 1,024 channels of processing available. Sound like a lot? It is! For a modern studio, consider that for every input you'll need a minimum of 6 channels of processing for 5.1 surround as well as 2 channels for stereo processing. Add to that processing for all major output and monitor busses (stereo and surround mains, submixes, aux sends, mix-minus, tracks, control room, studios and headphone feeds) and you'll see that it adds up to a lot.

Extreme flexibility

With over 10,000 audio input sources simultaneously available on the network, you'll never have to repurpose your inputs again. This kind of unrestricted access means your throughput is greatly streamlined AND your flexibility options are SIGNIFICANTLY increased.

No blockouts

Of course having a ton of simultaneous inputs for a single production is not an every day occurrence, but since you have completely unrestricted integrated router flexibility, having all faders available to dial up whatever mix you need means the days of having to block out channels based on input type are a thing of the past.



The SR-8 provides eight XLR inputs and four XLR outputs in a stage-box configuration. It interfaces to the Gibraltar Network via CAT-6 cables and comes with dual internal power supplies for redundancy.

Gibraltar IP Mix Engine with WheatNet-IP

Add the modern, intelligent WheatNet-IP audio network to your Series Four and Series Two

The Gibraltar IP Mix Engine provides Wheatstone's line of audio consoles with direct connectivity into WheatNet-IP, an AES67 compatible IP audio network with all the necessary broadcast audio tools and controls integrated into one robust, distributed network. Among the benefits of WheatNet-IP networked audio consoles are:

- With all I/O managed through the IP network, the IP console has no limitations with fixed connection points on the console chassis itself. Any channel can connect to any audio source, using any preferred audio format at any time, whether it's HD/SDI, AES, MADI, AoIP, Analog or TDM.
- No soundcards needed. Listen to any crosspoint in the network and move audio around the studio, without a single soundcard.
- Share VTRs, mics and mixing consoles across one common IP platform, whether for live broadcast or post-production.
- Based on native IP, for directly transferring multiple stereo channels from the audio workstation to the console with no A/D/A conversion required.
- Direct connectivity to automation. Talks IP to all of the commonly used production automation systems. No serial data conversions needed.
- 24/7/365 reliability. Each amazing I/O BLADE in the WheatNet-IP network 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!
- Changes are a lot easier. Reuse studios for multiple purposes. Instantly change mic feeds, IFB connections and processing settings, either on the fly or using presets.
- Finally, a way to control audio. Logic controls follow audio on the same cable. Pick up a mic feed and the processing settings for that mic in Studio A same as in Studio B.
- AES67 compatible.
- All sources in the network are accessible, and every destination visible from the console.

Gibraltar IP Mix Engine features:

- IP network interface and mix engine for Wheatstone's IP networked consoles
- Up to 1024 DSP processing signal paths (any combination of 5.1, stereo, and mono channels)
- Talks native IP to standard production automation systems. No serial data conversions required.
- Can apply processing functions to 768 input paths and 256 mix output paths simultaneously
- Flexible mixing architecture allows over 500 mix busses
- 4 band fully parametric EQ with HF/LF peaking or shelving
- 3 parametric filters
- Parametric compression, limiting, and gating
- 16 control channels for keying/ducking/sidechain applications
- Panning and surround imaging control
- Individual input and output delay capability; up to 660mS per path
- AES67 compatible

GIBRALTAR IP MIX ENGINE

Why WheatNet-IP Audio Networking?

WheatNet-IP is more than just an IP network that routes audio within a TV facility. It is a full system that combines a complete audio tool kit, an integrated control layer, and a distributed intelligent network that takes full advantage of IP audio.

By combining these three components seamlessly into one system, we can deliver the following:

- A distributed network of intelligent I/O devices to gather and process audio throughout your facility
- Control, via both hardware GPI and software logic ports, that can be extended throughout the plant as well
- Rapid route changes via both salvos and presets to instantly change audio, mic control, and tallies between sets
- A suite of software apps and third party devices that all communicate via the common gigabit IP interface
- True plug-and-play scalability – devices are easily added to the IP network
- Triggered crosspoints to create routable IFB throughout the facility

extending your IP audio network

there's a world of Wheatstone BLADE-3s for you to put to work.



I/O BLADE-3s

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.



Audio Processing BLADE-3s

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



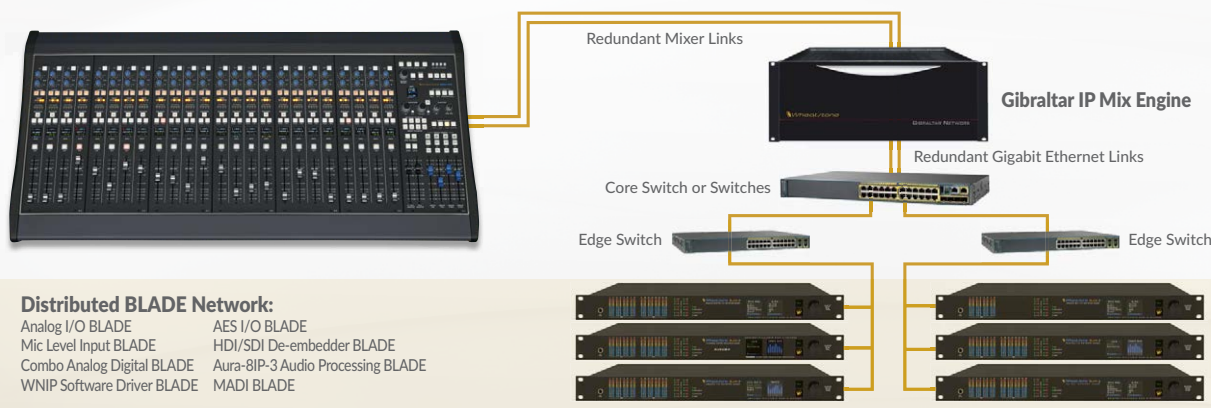
Special Purpose BLADE-3s

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.

Our HD-SDI BLADE de-embeds multiple audio channels from HD-SDI streams so you can mix, process or simply route audio to your console for final broadcast. It is capable of de-embedding up to four HD-SDI streams, and up to 8 AES/EBU pairs (16 audio channels) per stream.

Wheatstone Television Audio Console(s)



failsafe redundancy

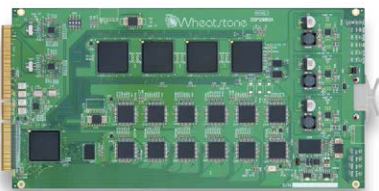
it's all about staying on the air - every second of every day - without fail

Wheatstone's experience in designing audio consoles for all broadcast realms as well as pioneering networking comes together in Wheatstone consoles. More power to handle modern needs with a user interface that is pure joy to get your hands on. And with Wheatstone's built-in safeguards, you can rest assured that you'll always be on the air...with or without fail.

failsafes: keeping you live

redundant components

If a DSP chip fails in a traditional console, it tends to take the entire card with it, leaving the board dead. Thus, having a backup DSP chip on the same card is not really a solution. With Wheatstone, a hot-spare DSP card can be utilized with automatic failover in the event of a problem with the primary engine. Because any source can be assigned to any fader, even catastrophic damage to a fader module on the console (as from a drink spill or falling object) only means that the damaged faders are out of action. The sources can be rerouted to other faders, and the show goes on.



redundant power

Gibraltar Network cage utilizes internal modular power supplies and can accommodate up to two units for redundancy.

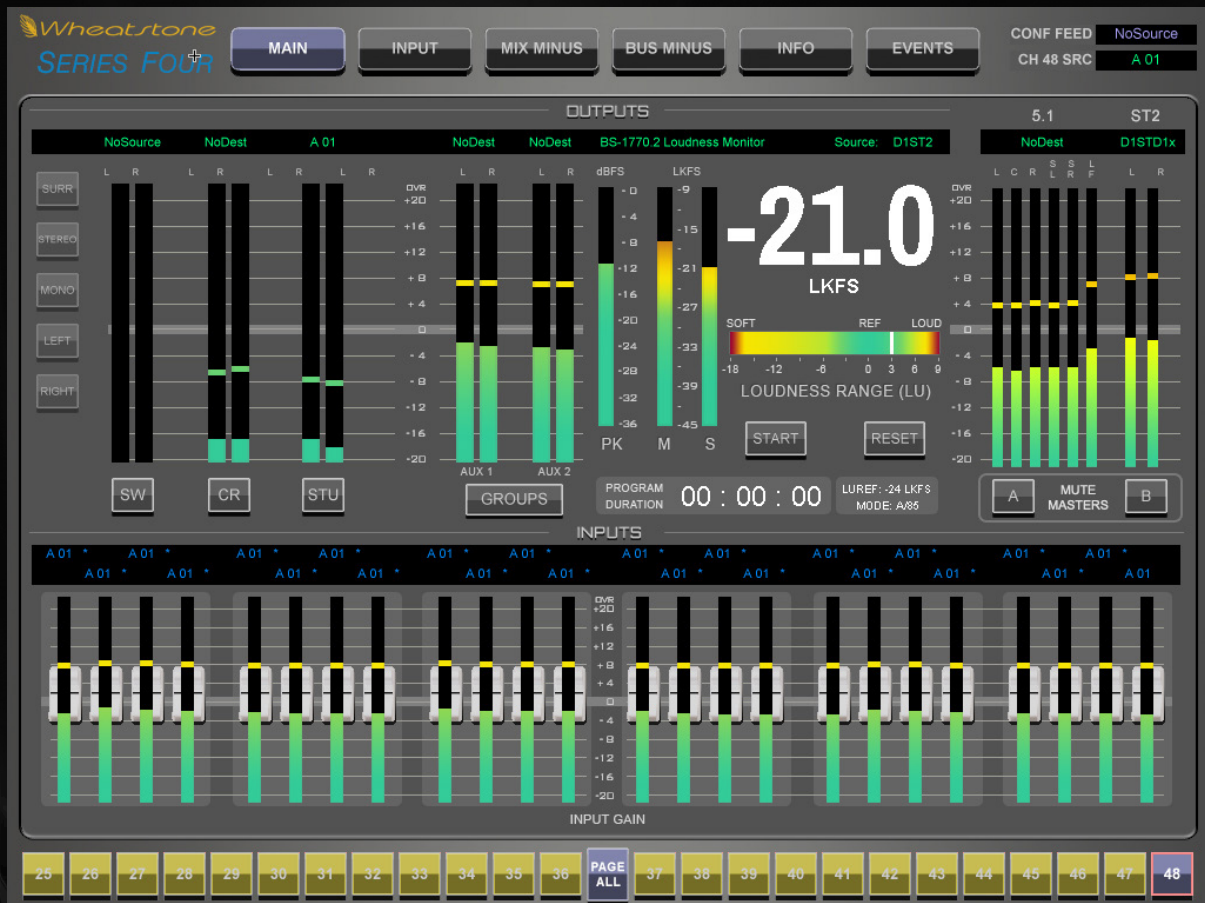


On the Gibraltar Network and Gibraltar IP Mix Engine cages, power supplies are internal and can be single or dual modules. The back provides access to the cards' connections.

the touchscreens

seeing and feeling your work

Metering, and control of all secondary functions, is via the large touchscreen. The navigation buttons at the top of every screen will take you instantly HOME to the MAIN screen, to INPUT setup (level, EQ, dynamics), MIX-MINUS, BUS-MINUS, INFO, or EVENTS. Every function is just a click or two away.



Main Screen

Metering that rivals even the megabuck consoles – the upper half of the main screen is dominated by large high-resolution meters for every monitor, aux, group and master output. A pop-up LKFS loudness monitor toggles with the four group meters. Note the master output meters at the upper right (5.1 surround and Stereo Two)—these drill down to occupy the same position on ALL touchscreens regardless of selection, keeping the operator aware at all times of on-air output levels.

The screen's lower half displays metering of input levels for the sources assigned to each of the 24 input channel strips. A fader knob imposed directly on each meter lets you quickly adjust input gain sensitivity to optimize source levels.

Below the input gain meters and touchscreen faders are the input channel strip indicator/buttons. Color indicates status: channel ON, ON-AIR, and OFF. A central PAGE button toggles the screen to inputs 25 through 48. Pressing a button puts that input into SET mode, switching to the INPUT screen for that channel strip, where you have complete control over all input channel parameters (levels, EQ, delay, panning, dynamics, bus assign, etc.). Once settings are complete, pressing the button again returns you to the MAIN screen.

Input Screen

Pressing a channel indicator button at the bottom of the MAIN screen opens up the first of five possible INPUT screens:

FILTER: Comprehensive input-related settings and status indication: mode, input gain and level, stereo pan, high and low pass filtering (removes unwanted LF and HF energy), adjustable input delay (for precise sound/video alignment), phase reverse, bus-minus/direct out setup, and mute assignment.

GATE: Complete control of all gating parameters: threshold, depth, open, hang and close. The lower portion of the screen has precise readouts of all settings, VU and gain reduction metering, plus an X-Y visual graph (input vs output) of the resulting signal settings.

COMPRESSOR: Compressor/limiter provides smooth inaudible level control, peak control, or can be used to dramatically change and enhance the audio. Controls include threshold, ratio, attack, release, and makeup gain. Can be inserted pre or post EQ. Lower portion of screen displays readouts, VU/GR metering and X-Y visual graph.

EQ: Four-band parametric equalization, each with adjustable frequency, width, and boost/cut. High and low bands can be peak or shelving. A full frequency visual graph depicts the resulting EQ curve.

PAN: Complete panning control of all mono and stereo sources. Full 5.1 spatial manipulation of surround sources. Place your sound exactly where you want it.

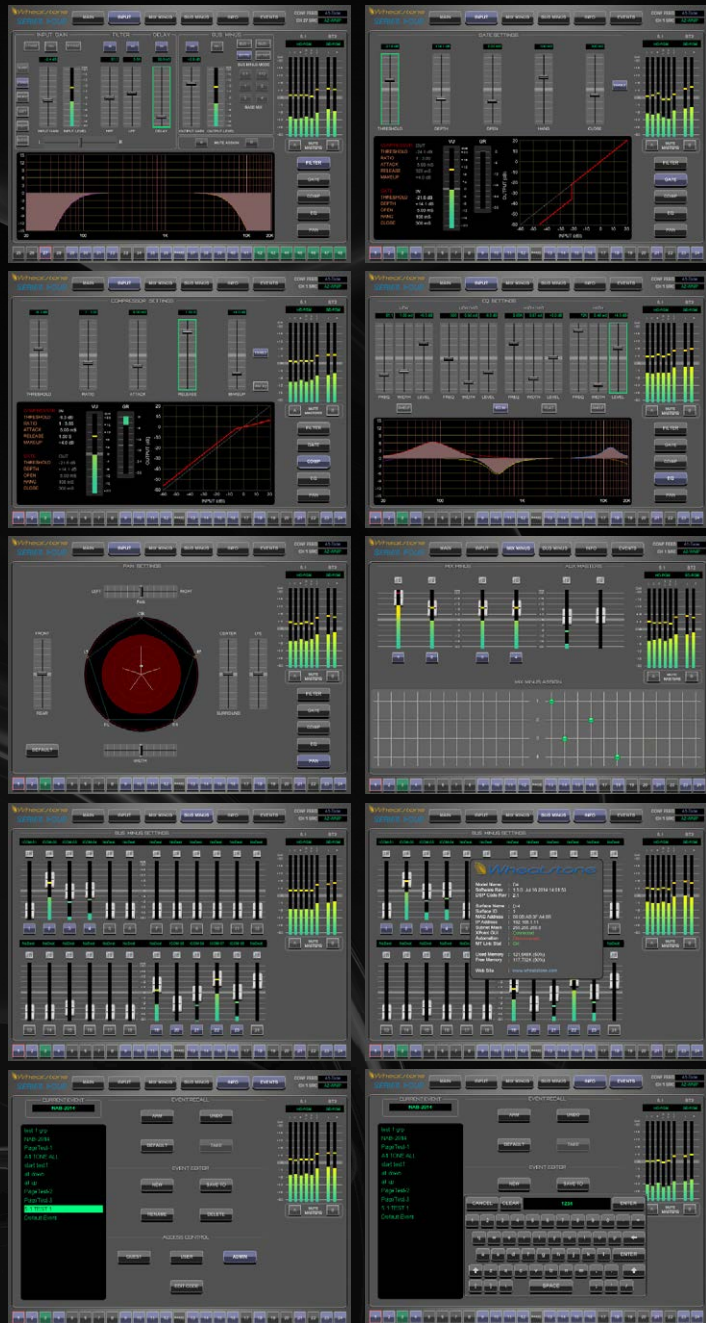
Mix-Minus Screen

Mix-minus outputs—each with a separate build of sources—are used for intercom, phone coupler, ISDN, and remote truck feeds. This screen has level controls and meters for the console's four MXM busses, as well as the two console AUX SEND busses. TALKBACK buttons are provided for all six mixes. An assignment grid at the bottom of the screen allows crosspoint setups between the four MXM busses and individual input channels.

Bus-Minus Screen

Bus-minus is an individual output for each input channel strip, also known as N-1. This allows talent to get an independent monitor/IFB feed; the TB button on each input channel strip talks to that bus-minus output. These same outputs can be configured as a direct out, pre or post.

Mix- and bus -minus outputs make the Series Four and Series Two powerful and flexible consoles for live television news, talk shows, sports, drama, and special events.



Info Screen

Info is a non-interactive popup information display directly available over any touchscreen selection. It provides detailed system information: status, software version, MAC and IP addresses, memory usage, etc.

Event Screen

The Series Four and Series Two are capable of creating, storing and recalling up to 99 named events—control surface snapshots of various console configurations and show setups. Using this screen, events can be created, called up, edited and activated. Access visibility and editing privileges can be programmed at an administrative level to prevent unwanted mishaps. A popup keyboard makes naming events quick and easy.

the details

everything you need to mix - right there at your fingertips

input channel strip



24 identical input channel strips in an intuitive uncluttered layout. Each strip can Page to a second channel, giving 48 inputs on 24 faders.

SET: Selects the channel strip for programming by the console's master/monitor panel; includes full router-based source selection and bus assignments for Groups (4) and Mix-Minus (4). Also activates the console touchscreen for the channel, allowing access to a multitude of additional functions (see preceding section).

AUX: Two independent auxiliary send level controls.

ASSIGN: Assigns the channel strip signal to the console's master output busses.

GROUP 1-4: LED indicators showing which Group busses the channel is assigned to.

MIX-MINUS 1-4: LED indicators showing which Mix-Minus busses the channel is assigned to.

BUS-MINUS TB: IFB Talkback to the output associated with the current channel source.

PAGE: Each channel strip is actually two independent inputs; the PAGE button toggles between them.

PFL: Listen to the channel's pre-fader source signal on the console CUE bus.

INFO: Color OLED channel status display shows selected source and location, air status, mute assignment, fader setting, and EQ, delay and dynamics activation.

ON: Channel On/Off switch.

FADER: Motorized full-throw fader; can be mono, stereo or 5.1 surround.

monitor panel



Control center for all masters and ancillary outputs, control room and studio monitor feeds. Programs source signals and bus assignments for all input channels.

INPUT CHANNEL GROUP ASSIGN: When an input channel strip's SET button is pressed, assigns that channel to the GROUP submixes.

MIX-MINUS ASSIGN: When an input channel strip's SET button is pressed, assigns that channel to the MIX-MINUS busses.

SOURCE SELECT: When their SET button is pressed selects the source for input strips and monitor feeds; can access any system signal (source visibility can be software controlled).

METER SET: Determines which signals are shown on the touchscreen's switched meter display.

PROGRAMMABLE: 4 buttons to perform virtually any system function: fire salvos, activate presets, trigger logic/GPI, etc.

INFO: OLED display shows dynamic status information, depending on what control is currently active.

MONITOR MIX PRESETS: One-touch recall of pre-programmed monitor mix signals

MONITORS: Level controls for the control room and studio monitor feeds. Signal selected by SET buttons for each. The studio output has a talkback function.

MASTERS: Level controls for the TB and CUE/PFL signals.

MIX-MINUS and GROUP TALKBACK: Talkback function to the four Group submix and Mix-Minus outputs.

SCREEN ASSIGN: Shortcut selection of four touchscreen display configurations.

AUX TALKBACK: Talkback function to the two Auxiliary Send busses.

CONF: CONFIDENCE directs a pre-assigned source to the mix-minus outputs during setup and show breaks; used to assure remote talent that their audio link remains active.

LKFS: Displays the loudness meter on the touchscreen.

GROUP ASSIGN: Assigns the four group mixes to the master outputs.

PFL: Listen to each group's pre-fader signal on the console CUE bus.

MASTER FADERS: The two master output faders can be programmed as stereo outputs one and two, or one 5.1 surround plus stereo (motorized full-throw).

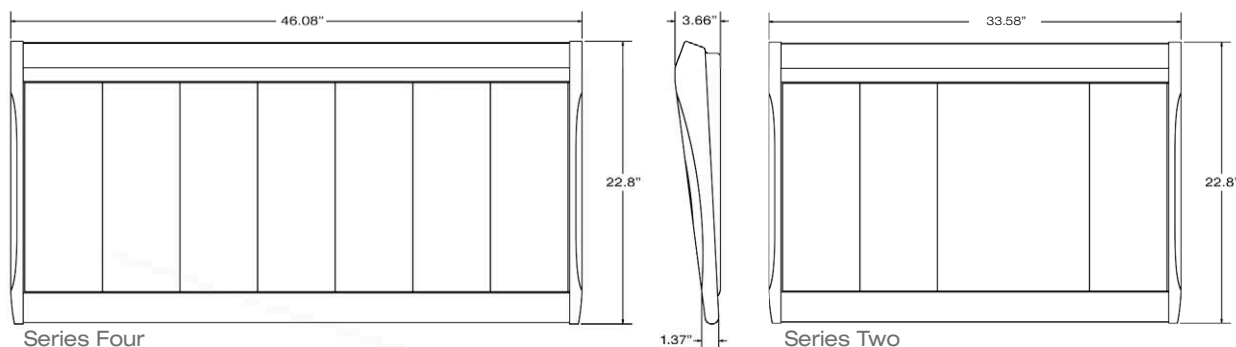
GROUP FADERS: Four stereo (motorized full-throw).

the nitty gritty

specifications and other important stuff you should know about



Rear panel connectors on the Series Four console



CONSOLE DIMENSIONS:

46.08"/117.04cm wide (Series Four)
 33.58"/85.30cm wide (Series Two)
 22.8"/57.91cm deep
 3.66"/9.3cm high at rear
 1.37"/3.48cm high at front
 17.7"/45cm total height w/touchscreen

INPUTS:

Any mic, analog line, AES-3, HD/SD SDI, or MADI network input may be routed to any input fader or monitor pot

OUTPUTS:

Any output mix may be routed to any combination of analog, digital AES-3, or MADI network outputs

EVENT RECALL:

All surface settings may be stored/recalled for up to 99 named events

INPUT PANEL:

Four channels per panel, each with:
 Aux Send level controls (two)
 Master output assign
 Group and Mix-Minus assign indicators
 Bus-Minus talkback
 Page function
 PFL
 OLED color info display
 Channel On/Off
 long-throw fader (stereo, mono or 5.1 surround)

MASTER CONTROL PANEL:

Group and Mix-Minus assign (four each)
 Source Select
 Programmable soft buttons (four)
 OLED color display
 Control Room and Studio source select and level control
 Studio, Mix-Minus, Group and Aux talkback
 Touchscreen fast select buttons
 Confidence feed
 LKFS (loudness meter display)
 Master Output faders (two: 5.1/ST1, ST2)
 Group faders w/Master assign and PFL (four)

CONNECTIONS:

Power	External, dual D-sub for redundant power
Mixer Link	RJ45
Ethernet	RJ45
Keyboard	PS2
Mouse	USB
Touchscreen	VGA & USB

BUS STRUCTURE:

Main Output Busses
 Two Stereo or One 5.1 plus stereo
 Ancillary Bussing
 4 Sub-Mix Groups
 2 Auxiliary Sends
 4 Mix-Minus
 48 Bus-Minus mixes
 Monitoring
 Two monitor feeds (CR and Studio) each with independent muting and tally control
 Communications
 Dedicated and programmable Talkback to Aux Sends, Mix-Minus, Bus-Minus and Studio

the inside story

it's incredibly easy to access all the parts you don't see



Servicing, upgrading or accessing internal components in a traditional console is a task even the most seasoned veterans don't look forward to. First, the console usually has to be taken off-line, meaning downtime for your programming. Just getting to the internal components is a job in itself. Due to rear access and very cramped quarters, it's a great deal like servicing an appliance. Everything needs to be unhooked, the console needs to be pulled out and the person servicing it needs to be a contortionist.

Thanks to its modular architecture, servicing is a snap. First, since all of the audio and logic components live in a Gibraltar Network rack enclosure, all you need to do is open the front panel and replace or add cards. You don't even need to shut anything down - everything is redundant and hot-swappable.

The Series Four and Series Two control surfaces are just as impressive. Should you need to replace a channel strip module, remove four screws and unplug the ribbon cable. Drop a new module in and all your sources and presets are right where they were before the swap. The entire module has exactly the same functions you assigned to it.

There are really no other mid-market boards that bring together the incredible list of features and the exceptional serviceability of the Series Four and Series Two.



Designed and built by
Wheatstone Corporation
600 Industrial Drive | New Bern NC 28562-5440 USA
phone 1.252.638-7000 | fax 1.252.635-4857
wheatstone.com | sales@wheatstone.com

 **Wheatstone**
BROADCAST AUDIO PERFECTIONISTS®