D-8EX

Surround Sound Television Audio Console Control Surface

Wheatstone is known for television audio consoles that are powerful enough for the most exacting mix engineer, yet simple enough for general staff to operate without the need for intensive training.

The D-8EX is no exception. It has everything you need for live audio mixing in medium and smaller market stations, remote trucks, or secondary on-air/production rooms in larger facilities: 30 motorized faders, 48 input channels (assignable to 24 input faders), four submasters, two main busses and two aux busses; true surround mixing; extensive on-board processing. And it has it all for noticeably less.

Like all Wheatstone television consoles, the D-8EX is a control surface; all audio I/O is housed in the Wheatstone Gibraltar Networked routing and mixing system.

the surface

30-fader surround sound television audio console... the console you always wanted but didn't think you could afford

The D-8 broke new ground when it was introduced in 2009 as a very competitively priced console for medium and smaller market stations, remote trucks, or secondary on-air/production rooms in larger facilities. With the D-8EX, you get twice the number of available channels WITHOUT increasing the console's footprint. The addition of a PAGE button on each channel permits you to access a second channel with full, immediate recall of that channel's settings, bringing the total number of available channels to 48.

The D-8EX features 24 motorized input faders (with access to 48-channels of audio via the new PAGE button), true surround, 4 sub-masters, 2 main buses, 2 aux sends, and extensive processing (4-band parametric EQ, filters, compressor/limiter). Like all Wheatstone television consoles, the D-8EX is a control surface; all audio I/O is housed in the Wheatstone Gibraltar Network rackmount router/mixer.

The D-8EX has the perfect combination of functionality and value, making it the right choice for medium and small market stations, remote trucks, or secondary on-air/production rooms in larger facilities.

Input Channels
- 24 motorized input faders (with access to 48-channels of audio via the PAGE button)

Bus Structure
- Main Busses: One 5.1 Program, One Stereo Program
- Submasters: 4 Stereo
- Mix-Minus: 8 Mono with automatic confidence feed switching
- Auxiliary Sends: 2 Stereo (direct rotary control from each fader channel)
- Bus Minus: Direct mix-minus feed from every input fader channel

Outputs
- 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

Monitor Feeds
- One 5.1 (Audio Booth), Two Stereo Studio feeds, One Stereo Headphone feed

Signal Processing (per input channel)
- Phase Reverse
- Surround Pan / Balance Control and Blend
- Stereo Mode Control
- 4-Band, Parametric Equalizer with Variable High & Low Pass Filter
- Compressor / Limiter
- Expander / Gate
- Variable Delay on all input faders

Display
- Loudness Metering with large LKFS readout and momentary, short-term, peak reading and program duration level history display

WXXI, Rochester NY. Wheatstone is used for audio mixing and routing in its television and radio control rooms and studios. Pictured, the "On Stage" music program in production.

the touchscreens
seeing and feeling your work

Metering, and control of all secondary functions, is via the large touchscreen. The softbuttons 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, HELP, or INFO. Every function is no more than two or three clicks 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.

The lower half displays metering of input level for the sources assigned to each of the 24 input channel strips. The incredibly intuitive superimposed fader knob on each meter lets you quickly adjust input sensitivity to optimize source level — see the level indication directly where you are adjusting.

Below the input meters and touchscreen faders are the input channel strip indicators and buttons. The color changes to indicate channel on/off. Press the button to put the channel into SET Mode, switching to the INPUT screen for that channel strip.

The Loudness Range meter provides a level history over the course of your program with a Program duration display and a reset control on the D8EX surface. The Loudness Meter can be set to read any of the Stereo Program or 5.1 Program busses. The large LKFS readout helps your operators maintain CALM compliance, avoiding more noticeable downstream corrections.
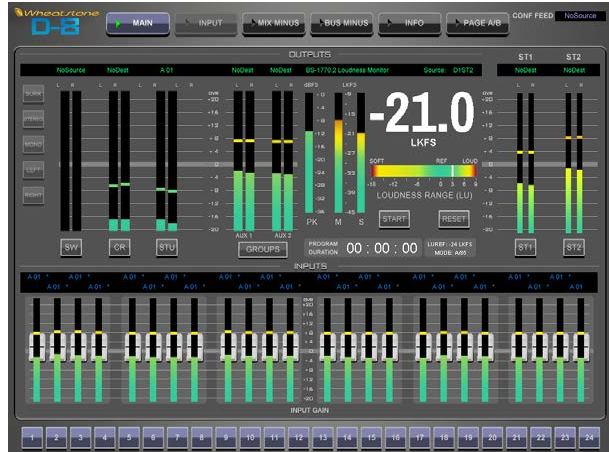
EQ, dynamics & pan

FILTER: Comprehensive input-related settings and status indication: Adjustable input filtering removes unwanted LF and HF energy; adjustable input delay allows precise sound/video alignment; phase reversal; assignment to bus-minus and direct out (pre or post). This screen shows the combined resulting curve of the filters and EQs.

EXPANDER: Downward expander acts as a noise gate to remove low level unwanted material during pauses in speech.

COMP: Compressor/limiter provides smooth inaudible level control, peak control, or can be used to dramatically change and enhance the audio.

EQ: Four bands of parametric EQ, each with adjustable frequency, width, and boost/cut; the low and high bands can be peak/dip or shelving.

PAN: The power of Wheatstone surround sound mixing — comprehensive panning of mono and stereo sources; full spatial manipulation of surround sources.

Bus-minus & mix-minus

A total of 32 bus- and mix-minus outputs make the D-8EX a powerful and flexible console for live television news, talk shows, sports, drama, and special events.

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.

Eight mix-minus outputs — each with a separate build of sources — are used for intercom, phone coupler, ISDN, and remote truck feeds.
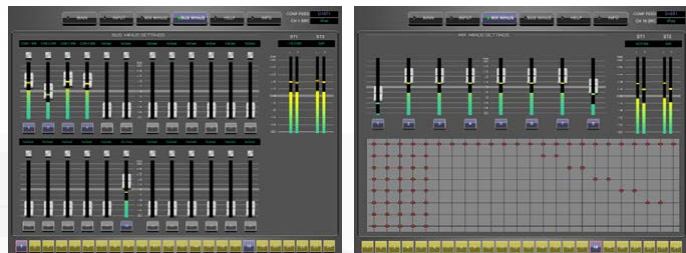
the details
everything you need to mix - right there at your fingertips

input channel strip

24 identical input channel strips in an intuitive uncluttered layout

SET: Assigns the channel strip for programming of bus/ group assignments on the output and monitor panels and secondary functions on the touchscreen; includes full router-based source selection

AUX: Two independent auxiliary outputs with level control and individual ON/OFF

MUTE: Four channel mute groups, assigned on the OUTPUT PANEL, LED indicated on the channel strip

5.1/ST1 and ST2 ASSIGN: Assigns the channel strip to the two master outputs

GROUP 1, 2, 3, 4: Four output groups, assigned on the OUTPUT PANEL, LED indicated on the channel strip

MIX-MINUS: Eight mix-minus outputs, assigned on the MONITOR PANEL, LED indicated on the channel strip

TB: Talk/IFB to the output associated with the current source assigned to the channel strip
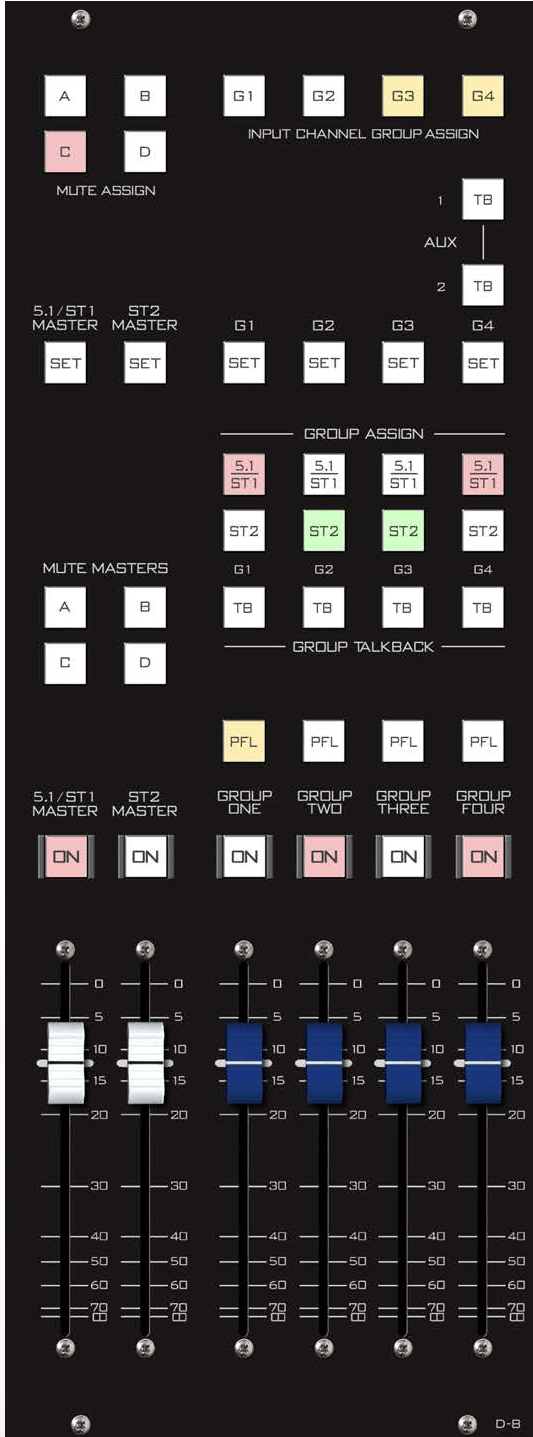
PAGE: Select between two input channels for this strip

PFL: Listen to the source on the CUE/PFL speaker

SOURCE DISPLAY: Source assigned to the channel strip

ON: Module ON/OFF

FADER: Motorized 100mm full-throw fader

output panel

Control center for all masters and group outputs

INPUT CHANNEL MUTE ASSIGN: When a channel strip's SET button is pressed, assigns that channel to the mute group

INPUT CHANNEL GROUP ASSIGN: When a channel strip's SET button is pressed, assigns that channel to the submaster group

AUX TB: Talk/IFB to the aux outputs

SET 5.1/ST, ST2, G1, G2, G3, G4: Configures the selected output bus for programming of secondary functions on the touchscreen

GROUP ASSIGN: Assigns the group to the two master outputs
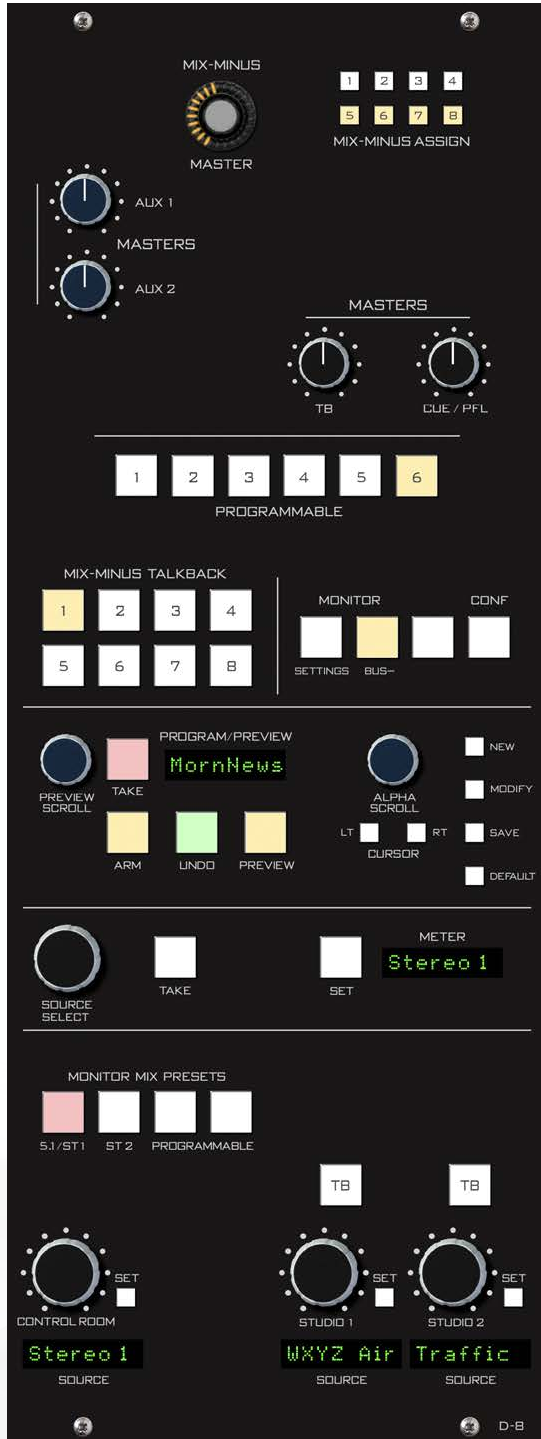
GROUP TALKBACK: Talk/ IFB to the group outputs

MUTE MASTERS: Mutes the input channels assigned to that mute group

PFL: Listen to the group on the CUE/PFL speaker

MASTER and GROUP ON/OFF: Output ON/OFF

MASTER and GROUP FADERS: Motorized 100mm full-throw fader

monitor panel

Presets, control room, studio, mix-minus, aux feeds

MIX-MINUS MASTER, MIX-MINUS ASSIGN: 8 mix-minus outputs; select the output and control the level

AUX MASTERS: Output master level control

MASTERS TB and CUE/PFL: Output level controls

PROGRAMMABLE: 6 buttons to perform virtually any system function: fire salvos, activate presets, trigger logic/GPI

MIX-MINUS TALKBACK: Talk/IFB to the eight mix-minus outputs

MONITOR SETTINGS and BUS-MINUS: Accesses the touchscreen for monitor and bus-minus settings

CONF: Confidence directs a pre-assigned source, typically station program, to the mix-minus outputs during setup and show breaks; confidence can be switched from the front panel or by remote control from the station's automation system or MC switcher; status is indicated on the panel and touchscreen

PROGRAM/PREVIEW: 99 nameable programmable presets that instantly reconfigure the console: source selection, all bus assignments, gain, dynamics and EQ settings

SOURCE SELECT: Selects the source for any input strip or monitor when its SET button is pressed; each module or monitor output can access any system source, or only those on a pre-programmed limited "visibility" list

METER: Source select for the switched meter on the touchscreen

MONITOR MIX PRESETS: One-touch recall of pre-programed mix configurations

CONTROL ROOM: Speaker monitor source display, level control, and SET to access the touchscreen for secondary settings

STUDIO 1 and 2: Speaker source display, level control, talk/IFB to the studio speakers, and SET to access touchscreen for secondary settings

Gibraltar Network

## the processing power behind D-8EX – 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.
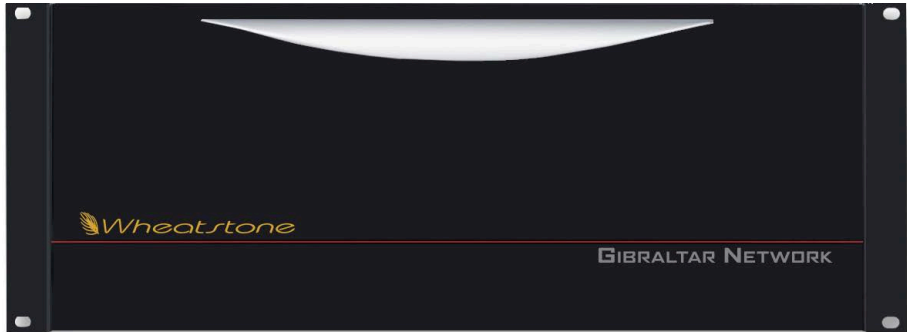
More than enough DSP to do the job

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 D-8EX

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

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 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.

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)

Redundant Mixer Links

Gibraltar IP Mix Engine

Redundant Gigabit Ethernet Links

Core Switch or Switches

Edge Switch   Edge Switch

Distributed BLADE Network:

Analog I/O BLADE	AES I/O BLADE
Mic Level Input BLADE	HDI/SDI De-embedder BLADE
Combo Analog Digital BLADE	Aura-8IP-3 Audio Processing BLADE
WNIP Software Driver BLADE	MADI BLADE

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 the D-8EX. 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 network
D-8EX is the front end to a vast network of IO routing

the specifications

Dimensions, console	52-1/4"/132.7cm wide
	23"/58.4cm deep
	4"/10.2cm high
Height with monitor	16.5"/41.9cm
Power	External, dual D-sub connectors
	for redundant power
Mixer Link to Gibraltar	RJ45
Ethernet	RJ45
Cue audio	D-SUB
Keyboard	USB

Wheatstone
BROADCAST AUDIO PERFECTIONISTS®