Wheatstone Corporation

D-8000

Digital Radio Console

ADVANCED TECHNOLOGY! WHEATSTONE'S fourth generation digital console has what you need: dual-domain input modules that accept both analog and digital sources; built-in router integration with 8-character displays; a choice of features like auxiliary sends, equalization, dynamics control and event memory/recall—all without the aid of an external computer. *The D-8000 is an all-modular design with no active components mounted inside.* And best of all, it uses Wheatstone's exclusive VDIP®setup software, letting you easily configure individual console modules, logic modes and automatic functions.



WHEATSTONE's *Bridge!*



MIXED SIGNAL SWITCHING is EASY with a choice of AES digital or analog 24-bit A>D input cards (and 24-bit digital or 24-bit D>A analog output cards) all of which can be serviced right from the front of the cage. All signals are routed entirely in the digital domain.

AES CARDS have sample rate converters on each and every input for seamless audio switching, freeing you from worry about varying sample rates throughout your facility. *This mixed signal switching allows an easy studio transition path from ANALOG to DIGITAL.*

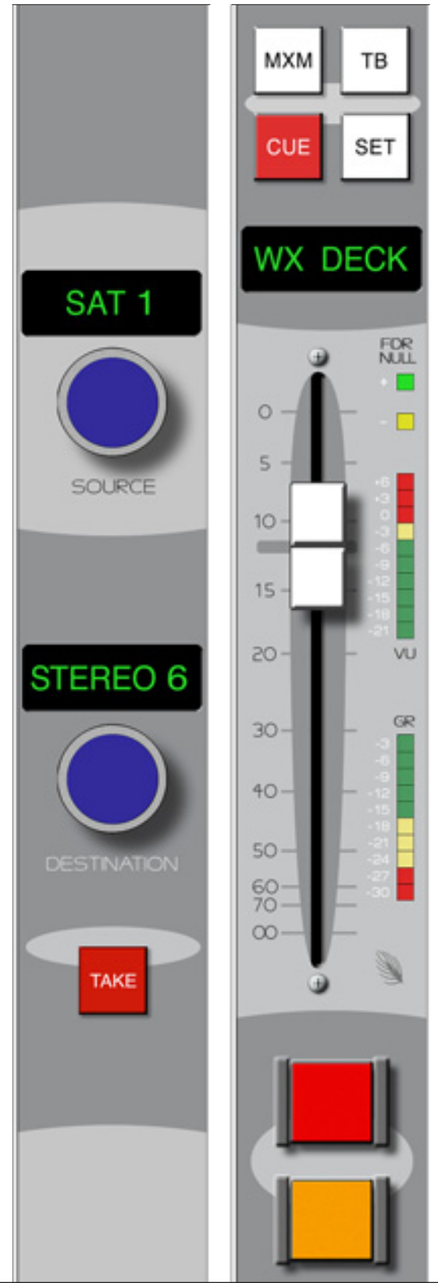
EASILY mixes signals and digital audio standards!





INSTALLATION FRIENDLY—A family of I/O connector modules plug right into the rear of the cage to give you a choice of DB-25 connections for AES or analog interface, or BNC connectors for use with 75 ohm digital equipment. RJ-45 connectors are also available for use with CAT-5 wiring systems.

Seamless Integration with our Digital Audio Network Router!





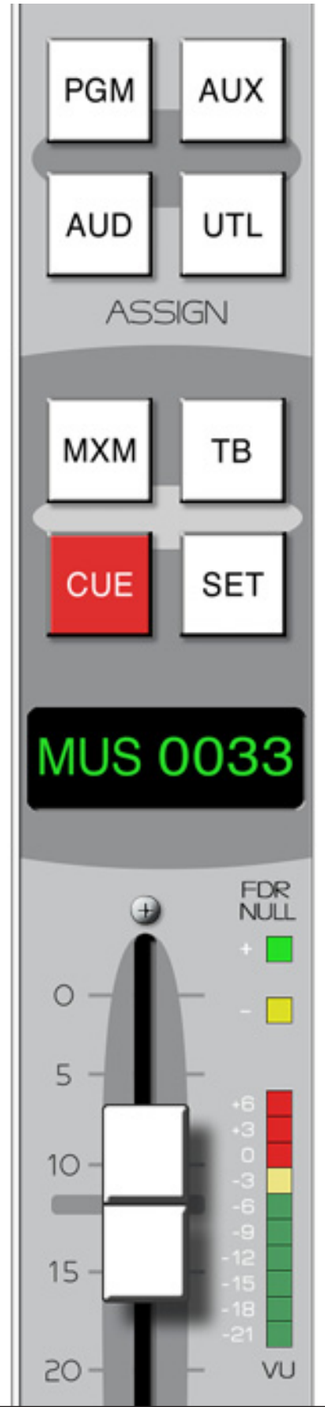
The D-8000 is designed to work in concert with Wheatstone's Bridge Routing System, which writes directly to the D-8000's input channel source displays. The console can be configured with router control panels mounted in the meterbridge (above) *or* in regular module slots (far left). These X-Y controller modules give instant access to hundreds of different sources directly from the console control surface, assigning any router available signal to any console input channel. Each channel's 8 character display clearly indicates router sources selected.

Optional Inline VUs (pre-fader, pre on/off) assure that a signal is present and correct. Fader null LEDs help prevent abrupt level changes when transferring from automation to manual operation. You can have individual VU and GAIN REDUCTION indicator ladders on every input fader.

The MXM/TB System provides a dedicated mix-minus output (in both analog and digital domains) from every single input channel—no caller limitations here! Individual talkback switches give the console operator direct communication with each and every MXM output.

The Memory Set System allows each module to call up the console's central auxiliary sends, EQ, and dynamics section.

INTEGRATION



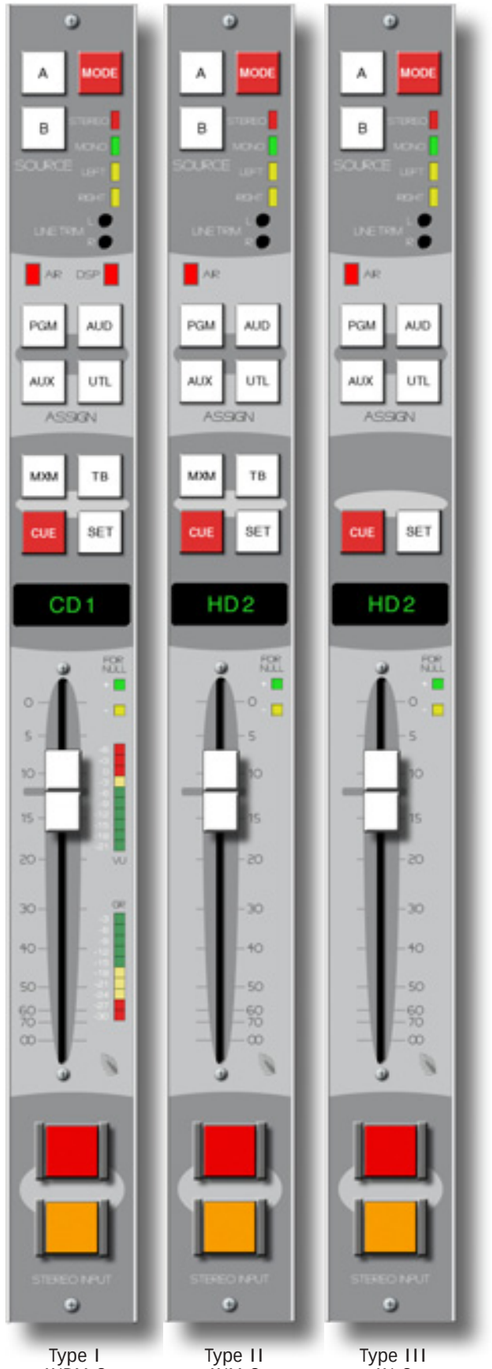


Now your DIGITAL CONSOLE, AUTOMATION SYSTEM and AUDIO ROUTER can work as ONE!

WHEATSTONE's Exclusive VDIP®Software System has an interface protocol that has become the defacto console-to-automation standard. Most popular automation systems are already taking advantage of our connectivity. Each input module's entire control surface can be automated; each channel's bright 8-character display clearly indicates title, cut number or router source selected. The console's main controller module is equipped with a LOCAL/REMOTE automation override switch, should an operator require manual control during different dayparts.

THE POWER OF KNOWLEDGE—Operators are always sure of their signal source, cut title, or track number. Inline VUs (pre-fader, pre on/off) assure that a signal is present, and when the channel is ON and assigned to PROGRAM an On-Air LED indicates status. Fader null LEDs facilitate transfers from automation to manual control.

INPUTS



Type I
INDM-8

Type II
INM-8

Type III
IN-8

FUTURE-PROOF Input Channels

Dual-Domain Input Modules Our Type I, II and III modules can accept either analog or digital input signals; a simple software setup through Wheatstone's exclusive VDIP® Virtual Dipswitch software—no hardware changes required. They can even switch from an analog input to a digital one via front panel A/B source select. Module types vary by their processing power. Options include Wheatstone's MXM/TB system that provides a dedicated MXM input from that channel strip—perfect for remote feeds or heavy phone formats. You can also choose individual channel DSP processing that provides EQ, dynamics and inline metering. Naturally, any combination of input modules is possible within a single mainframe.

Built-in CUE with programmable automatic dropout is a common feature for all types, as well as full MODE switching, 8-character source displays, and fader null indicator LEDs.

The DSP option (SET button) accesses the console's meterbridge mounted Dynamics Control Panel, adding multiple band parametric EQ, HPF, balance, compressor-limiter and ducking functions.

Wheatstone SUPERPHONE input (right) permits automated handling of two telephone callers for complete phone segment operation from one module—no need to tie up other line modules for your hybrids. A second phone module can be added if desired, allowing up to four callers to be handled per console.



Superphone
SPD-8

DUAL READOUT DIGITAL DOMAIN METERING



The D-8000 Meterbridge provides dual readouts—both fullscale digital PEAK *and* VU ballistic bargraph columns, so you can derive maximum benefit from its 24-bit arc



For those who prefer traditional VUs, the D-8000 is available with four meter pairs to replace the standard LED ladder readouts

Three 31-segment LED Ladder display pairs monitor the console's PROGRAM, AUDITION and AUXILIARY outputs. A fourth SWITCHED pair meters the two STEREO AUX SENDS, two EXTERNAL inputs (analog or digital signals), CUE and the stereo UTILITY bus.

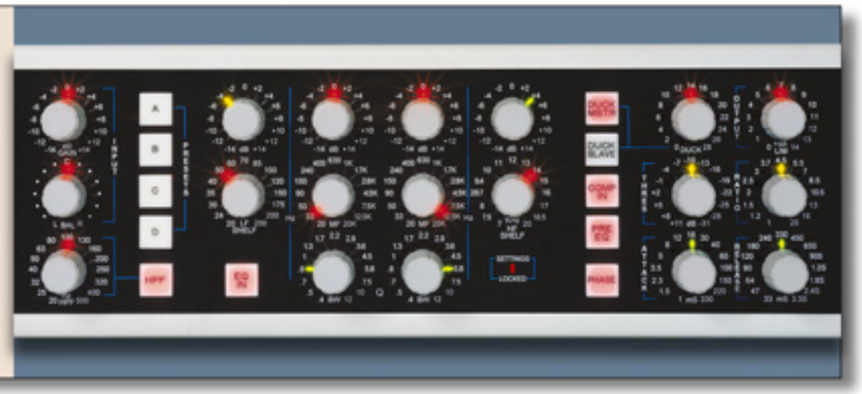
X-Y ROUTER CONTROLLER PANEL (above, meterbridge left) accesses hundreds of router sources, assigning them to individual input channels. X-Y control is also available as a channel inline format in lieu of (or in addi-tion to) the meterbridge mounted panel (see page 3).

CLOCK/TIMER—The TIMER may be operated manually and/or automatically (VDIP®software choices) while the CLOCK can free-run or slave off a master clock system.

DIGITAL SIGNAL PROCESSING (below)—This optional panel works with Type I input modules to provide a multitude of functions, facilitating individual channel/microphone signal processing.

DSP Channel Functions

- Variable Input Gain Trim (±14 dB) with pan/bal
- Variable HPF: 20–250 Hz, (24 dB/octave)
- Phase Reverse, ducking, digital LED VU ladder, four preset recalls
- Compressor-Limiter with digital gain reduction LED ladder
- 4-Band Equalization (parametric, ±14 dB)
- Global settings lock





Meter Module
DMTRS-8



MONITORS

POWERFUL—Simple to USE

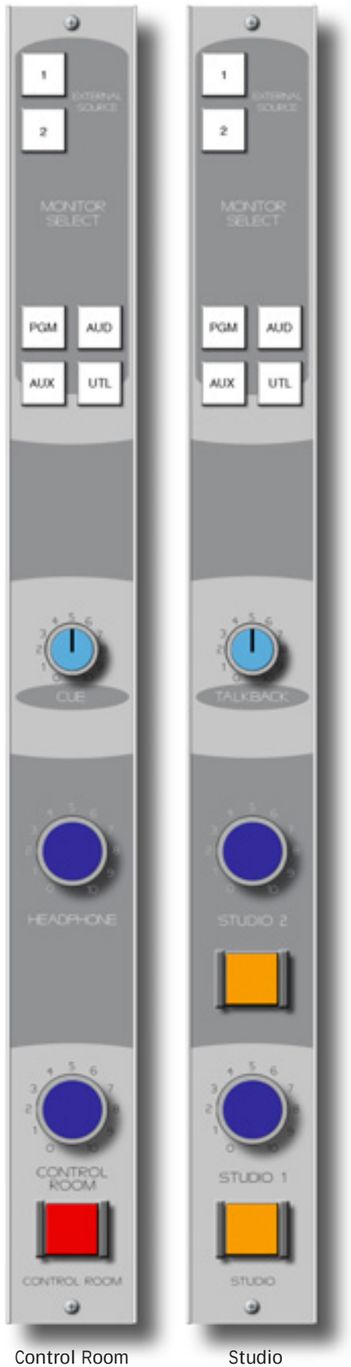
D-8000 Monitor Modules allow instant access to the console's four main stereo output busses, plus two additional external inputs.



The CONTROL ROOM Module also houses the stereo CUE LEVEL control, as well as the built-in HEADPHONE function. A large lighted ON/OFF switch allows the operator to switch CR monitors on and off without disturbing level settings.

STUDIO MODULES handle monitor levels and TALKBACK to two separate studios. Note on both CR and studio modules the two external inputs can be fed by optional line selector modules to greatly increase signal monitoring capabilities. Note the console can house two separate STUDIO modules, allowing full monitoring and talkback for up to four separate locations.

The optional MIC PREAMP module (right) accepts eight low level microphone source signals. Its line level outputs can then be used to feed Wheatstone dual-domain input modules.



Control Room
CRD-8

Studio
SCD-8



8 Mic Preamp
MP-8

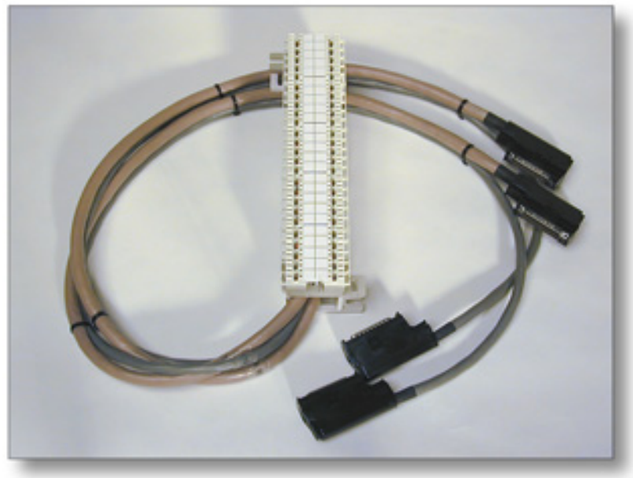
OPTIONS

Accessory Modules

The X-Y CONTROLLER module (far right) talks to the Wheatstone Bridge Routing System, accessing all sources available from it and assigning them to individual input channels. The router writes directly to the 8-character alpha displays above each console input fader, letting your operators know exactly what signal has been assigned to each input.

Optional LINE SELECTOR modules (immediate right) can feed any console input or monitor port, greatly expanding functionality. They are available in either 8-input digital or 7-input analog versions.

Each MACHINE CONTROL module (below right) permits remote control of two external source/recording machines directly from the console's control surface. These modules may also be ordered with six sets of START/STOP pairs.



WE'LL DO THE WORK! You can have your D-8000 console prewired to the punchblocks of your choice: Type 66, KRONE, or ADC/I.C.O.N.—all tested and fully documented. WHEATSTONE can also provide wiring from the console to your local source gear. Who could be better qualified?



Machine Control
TRD-8

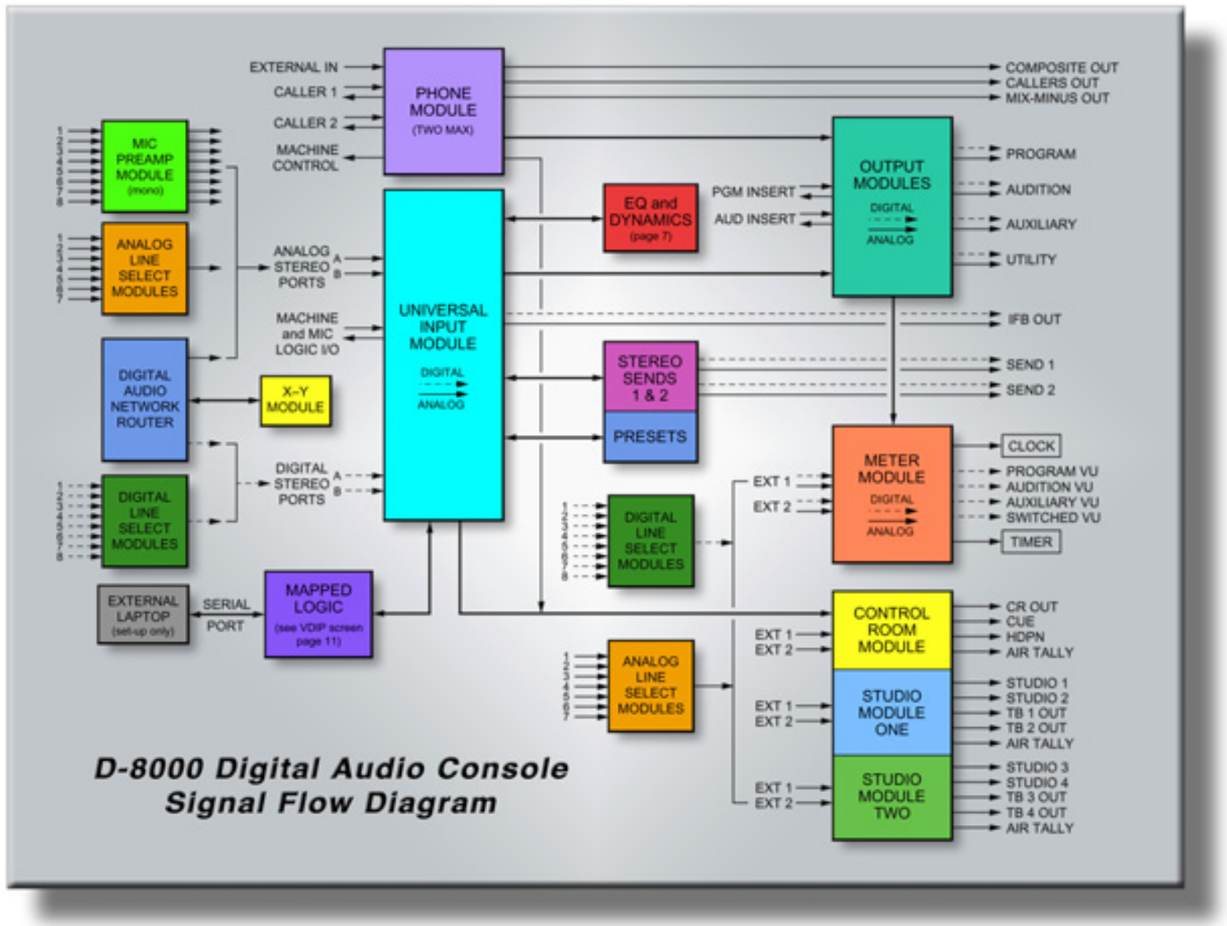


Line Select
LSD-8



Inline XY Module
XY-8

PERFORMANCE



D-8000 Digital Audio Console Signal Flow Diagram

TECHNICAL SPECIFICATIONS

STRUCTURE (standard | *optional*)

Mixing Busses	4 Stereo Main (PGM,AUD,AUX,UTL) Stereo Cue, Mono TB *2 Stereo Aux Send* *2 or 4 caller MXM*
Digital Outputs	4 Stereo Main (PGM,AUD,AUX,UTL) *2 Stereo Aux Send* *Discrete MXM System*
Analog Outputs	4 Stereo Main (PGM,AUD,AUX,UTL) Stereo Cue, Stereo Headphone Stereo Control Room Monitor *2 Stereo Studio Monitor* *2 Stereo Aux Send* *2 or 4 caller MXM* *Discrete MXM System*
Meters (digital)	8 31-seg LED VU columns w/peak LED (PGM,AUD,AUX and SWT pairs) *Input channel 7-seg LED VU* *Input channel 7-seg Gain Reduction*

PROCESSORS

A>D	24-bit resolution (minimum)
D>D	AES-3/ANSI S4.40 24-bit word length
D>A	24-bit resolution (minimum)
Sample Rate	Variable INPUT, 32-96 kHz (sample rate converted)
Sample Rate	Selectable OUTPUT (48,44.1, 32 kHz or external ref)

INTERNAL SIGNAL PROCESSING
32-bit floating point DSP
Boot-up recalls last settings

FREQ RESPONSE ±0.1 dB (20 kHz bw)

THD+N	(+4 dBu out)
Line In to PGM Out	0.01% (20 kHz bw, +4 dBu in)*
Mic In to PGM Out	0.03% (20 kHz bw, –50 dBu in)*

NOISE
Line In to PGM Out –80 dBu (22 kHz bw)*

S/N RATIO 84 dB (22 kHz bw)

DYNAMIC RANGE
Line In to PGM Out 100 dB (22 kHz bw)*

MAXIMUM ANALOG (nom +4dBu = –20 dBFS)
Input +28 dBu (w/trimming)
Output +20 dBu

CROSSTALK –100 dB (20 kHz bw)*

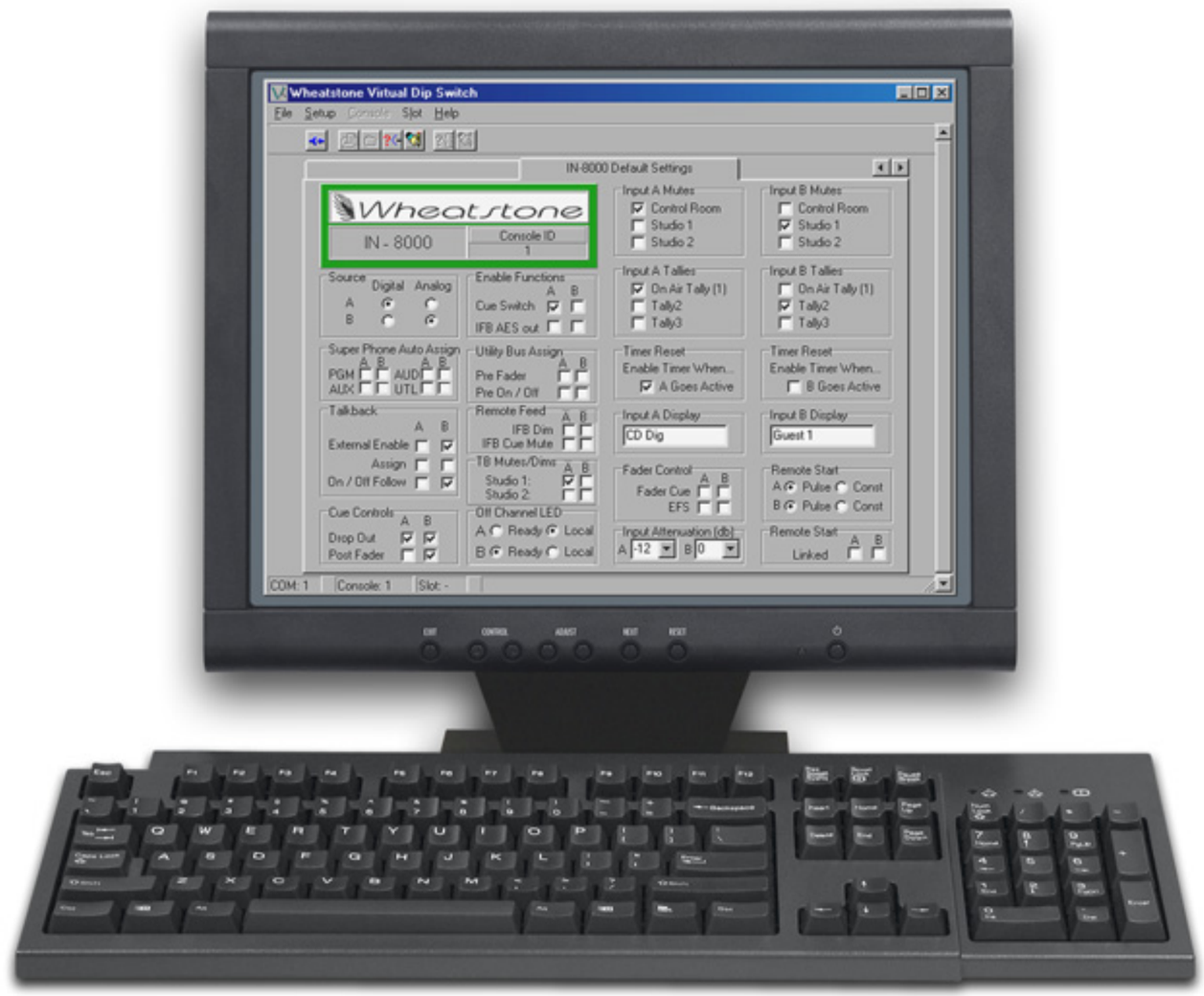
OFF ISOLATION –100 dB (20 kHz bw)*

AES OUTPUT EYE PATTERN (typical)
±2V 60 nS to 130 nS
±1V 15 nS to 1150 nS

AES OUTPUT JITTER
Peak-to-Peak ±1.5 nS

*analog in [to A>D converted to digital out to D>A converted] to analog out

ADMINISTRATION



VDIP®Virtual Dipswitch Software—IT DOES IT ALL! Like selecting your ANALOG or DIGITAL sources; TB and CUE functions; bus PRE/POST settings; MUTES, TALLIES, and TIMERS—to name a few. And all from the convenience of your laptop; simply plug it into the D-8000's serial port—the software will read the console's module complement and all their settings. You can then configure each module exactly as you want, writing all settings back to the console (and of course to a backup file on your laptop). Then, since the D8000's operating system is not DOS-based, *you can disconnect the laptop and the console will operate stand-alone* with all settings in non-volatile memory and backup files safely archived elsewhere.

Snapshot Recall–Dual Stereo Sends!



Event Computer
CPUS-8

EVENT COMPUTER MODULE—This optional upgrade (which may be installed at any time) adds Wheatstone's Event Computer Module, letting you store and recall console setups for up to 99 events, saving all input channel switch and fader settings, so each daypart can be instantly recalled.

AUX SENDS—In addition to the Event Computer Module, you can also add an additional four channel output module that will provide two stereo aux sends from each input channel—great for production work or additional mix-minus requirements. Each send may be set pre or post fader and pre or post ON/OFF. Naturally, all settings are saved along with event presets.



CONSOLE SNAPSHOT
RECALL SYSTEM
(99 Presets)



DUAL AUXILIARY
STEREO SENDS
(Switchable pre/post
FADER and ON/OFF)

EVENT PRESET SAVES EVEN GO BEYOND THIS to include ALL input module controls as well as central EQ/DYNAMICS panel settings for each individual channel. *Each on-air personality can have his own compression, EQ and phone setup!* To keep everything well managed, the system also has a multi-level security system, giving each operator his own code and level of access while your station engineer retains master control.



THE D-8000 has more functionality, power and configurability than any console before it, letting you tailor it's controls, functions and access to fit the needs of any format AND the personalities that operate it.

Wheatstone