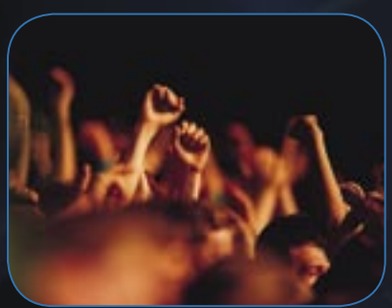
VENUE

Preliminary Information

DIGIDESIGN | VENUE

LIVE SOUND ENVIRONMENT

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An Introduction

Digidesign® VENUE is an innovative, state-of-the-art live sound mixing and production environment that surpasses the sound quality and functionality of other sound reinforcement mixing systems at a surprisingly affordable price.

Revolutionizing the world of sound reinforcement, VENUE runs DSP effects processing plug-ins, eliminating the need for extensive FOH and monitor effects racks. VENUE also seamlessly integrates with Digidesign's industry-standard Pro Tools® recording and playback systems, opening the door for exciting new ways of delivering music to the consumer.

The result of an intensive research and development program, VENUE was designed with input from a wide variety of seasoned live sound professionals. VENUE was specifically developed to meet the specialized requirements of modern sound reinforcement as it more and more closely integrates with on-the-fly recording and broadcast work. The result is a purpose-built, modular system that delivers studio-grade sound quality, maximum reliability, and unprecedented flexibility.

VENUE features a host of expandable hardware subsystems and software components that comprise a complete production environment. These include the D-Show™ mixing console with its expandable digital mix engine and control software, analog and digital I/O at the mix position, remote-controlled mic/line preamps located on stage, and a multi-channel digital snake utilizing readily available coaxial cable. VENUE also offers the innovative Personal Q artist-controlled monitor mixing option which vastly simplifies the monitor engineer's task while providing a new level of control to the artist.

Studio-grade Sound Quality

VENUE features an extremely powerful, precise, and flexible digital live sound mixing engine, providing unprecedented sound quality, headroom, and fidelity. Internal 48-bit processing provides ultra-high resolution for the onboard EQ and Dynamics sections, and offers uncompromised headroom on mix busses. Every channel of the D-Show console is equipped with delay, a full 4-band parametric EQ, adjustable 4th order HPF, and two dynamics processors. D-Show's EQ algorithms feature four fully overlapping 20 Hz – 20 kHz bands with +/-18 dB of boost/cut, along with a unique, separate analog EQ emulation mode.

Each of the system's mic preamps is hand-calibrated during manufacturing to maximize Common Mode noise Rejection Ratio (CMRR). What's more, D-Show's remote-controlled mic/line preamps and high-quality converters use a digital snake system, perfectly preserving fidelity by capturing signals near the source while simultaneously eliminating potential grounding problems between the FOH mix position and stage. A redundant snake option ensures no loss of audio or control for mission critical applications.

Maximum Reliability

VENUE was purpose-built from the ground up specifically to service the stringent requirements of live sound reinforcement and broadcast applications. Multiple redundant subsystems ensure that audio continues to pass, even in the event of a system restart. Moreover, the operator retains complete control over channel faders and mutes during the unlikely event of a failure of the host computer — an industry first.

Optional dual-redundant power supplies for all critical components and dual-redundant snakes with auto-switchover ensure a fail-safe environment. VENUE has also been drop tested, G-force tested, and temperature-extreme tested. The system has been tirelessly QA'd, functionally revisited, and thoroughly road-tested in various installations to ensure non-stop, solid performance. What's more, VENUE is backed by Digidesign's renowned customer support, with on-road replacement service and authorized repair centers located in major cities around the world.

Unprecedented Flexibility

VENUE's D-Show console supports a myriad of professional **DSP effects processing plug-ins** through its expandable DSP mix engine architecture, providing virtually unlimited possibilities for creative sound processing and original mixes. The live sound engineer can now take advantage of the very same effects algorithms professional recording studios use with Pro Tools, easily bringing the sound of the studio to the concert hall. Such effects include detailed emulations of high-end hardware processors and unique, D-Show-specific processing algorithms. This significantly expands the operator's sonic palette, while simultaneously eliminating reliance on outboard gear and the potential for hum, buzz, and noise that such gear often introduces

VENUE is also the only live sound environment to feature an optional direct digital link to industry-standard Digidesign Pro Tools systems — without requiring separate converters or digital I/O peripherals. This enables operators to seamlessly integrate a separate Pro Tools workstation with the D-Show console to **record a show** or augment a live performance with Pro Tools playback. VENUE also supports offline configuration, maximizing productivity by enabling operators to prep a system on a laptop computer prior to a show, and then simply upload the data to D-Show's embedded computer as needed.

From concert halls to places of worship, VENUE's superior sound quality, reliability, and innovative functionality ensure that great live performances are conveyed without compromise.

VGA monitor not included.

VENUE was designed to provide operators with the most flexible set of audio tools possible. Each system component is expandable and reconfigurable on a per-show basis, including the D-Show mixing console and digital mix engine, effects plug-ins, the stage and FOH I/O, the digital snake, and the record/playback options.

A standard VENUE mixing system includes 48 mic inputs, and can run 64 fully-equipped input channels (including FX returns) to mix, with 24 built-in graphic EQs and enough spare DSP power for dozens of plug-ins. Up to 16 stereo FX returns are available for patching in return feeds from plug-ins, outboard analog or digital effects processors, or other line-level analog or digital sources.

VENUE is expandable to have up to 96 mic inputs, with 128 input channels to mix and 24 busses. All channels feature a high-quality, relay-switched, remote-controlled head-amp, variable signal path delay, full 4-band parametric EQ (digital or analog emulation mode) plus HPF, as well as dual dynamics processors to allow operations such as simultaneous gating and compression.

D-Show Mixing Console

The D-Show mixing console is the result of years of design and ergonomic refinement, with input from leading mix engineers in touring sound, theater, and fixed installations. The console provides an intuitive and manageable interface to enable control of a large number of inputs from a smaller mixing surface, while allowing operators to expand the console as desired to eliminate the need for layering or assignment.

D-Show combines a familiar central Assignable Channel Section (ACS) with two encoders per channel to allow instant adjustments where needed. The console is heavily populated with displays and indicators, enabling operators to confirm signal routing, the status of dynamics, EQ and other insert processes, as well as signal activity or overload — even on layers not currently visible. D-Show's control software further supplements this visual feedback, ensuring that mixers can always assess the behavior and performance of a large number of inputs at a glance.

D-Show Mix Engine

VENUE provides one of the largest and most scalable mixing architectures available for live sound. D-Show's mix engine cards power the console's internal structure, providing 48-bit pathways throughout the system for maximum signal quality.

The D-Show mix engine is highly expandable, benefiting from the capabilities of Digidesign's award-winning plug-in architecture. Every channel strip includes extensive built-in signal processing capability, including delay, 4th order HPF, compressor/limiter, expander/gate, and a unique 4-band EQ capable of processing in digital or analog emulation mode.

Dozens of manufacturers have produced plug-in algorithms that run on D-Show's mix engine, allowing familiar outboard processors to be duplicated and an unlimited variety of new sounds to be created. This includes many of the effects processing plug-ins available for Digidesign's award-winning Pro Tools|HD® Accel systems.

At the heart of the mix engine is a powerful digital patchbay that allows any physical input to be routed to one or more channels on D-Show. Output routing offers similar flexibility, allowing signals to be sent to multiple destinations simultaneously.

Stage Rack

The 19" format Stage Rack handles I/O for stage mic/line sources and output signals. A single Stage Rack accommodates up to 48 remote-controlled mic preamps and converters, up to 48 outputs, and connects to the mix engine over the digital snake system. The remote head-amp architecture ensures that sensitive mic signals are converted to digital as close to the source as possible, preserving maximum fidelity.

Stage Rack

FOH Rack

The FOH Rack houses the D-Show digital mix engine and embedded control computer, and provides connectivity at the mix position for inserts or auxiliary devices that need to reside near the operator. The FOH Rack is equipped with eight analog inputs and outputs, analog and digital two-track connections, intercom facilities, as well as outputs for near-field speaker monitoring. MIDI connectors on the FOH Rack permit remote control of outboard devices or MIDI Time Code synchronization of D-Show's snapshot automation during a performance.

FOH Rack

Digital Snake System

VENUE's digital snake replaces bulky and expensive traditional multi-channel analog connections. In addition to lighter weight and lower cost, it has the added benefit of providing complete isolation from ground loops between the stage and mix positions.

VENUE's digital snake offers an optional dual-redundant system that uses affordable standard coaxial cable with BNC connectors, and transports up to 48 signals bi-directionally over distances up to 500 feet. The snake transports both audio and control data with maximum interference rejection for an extremely low-latency, error-free result. The snake's bit-error detection capability provides an early indication of cable-wear, and it can switch seamlessly and inaudibly to a backup cable should a failure occur.

Snapshot Automation

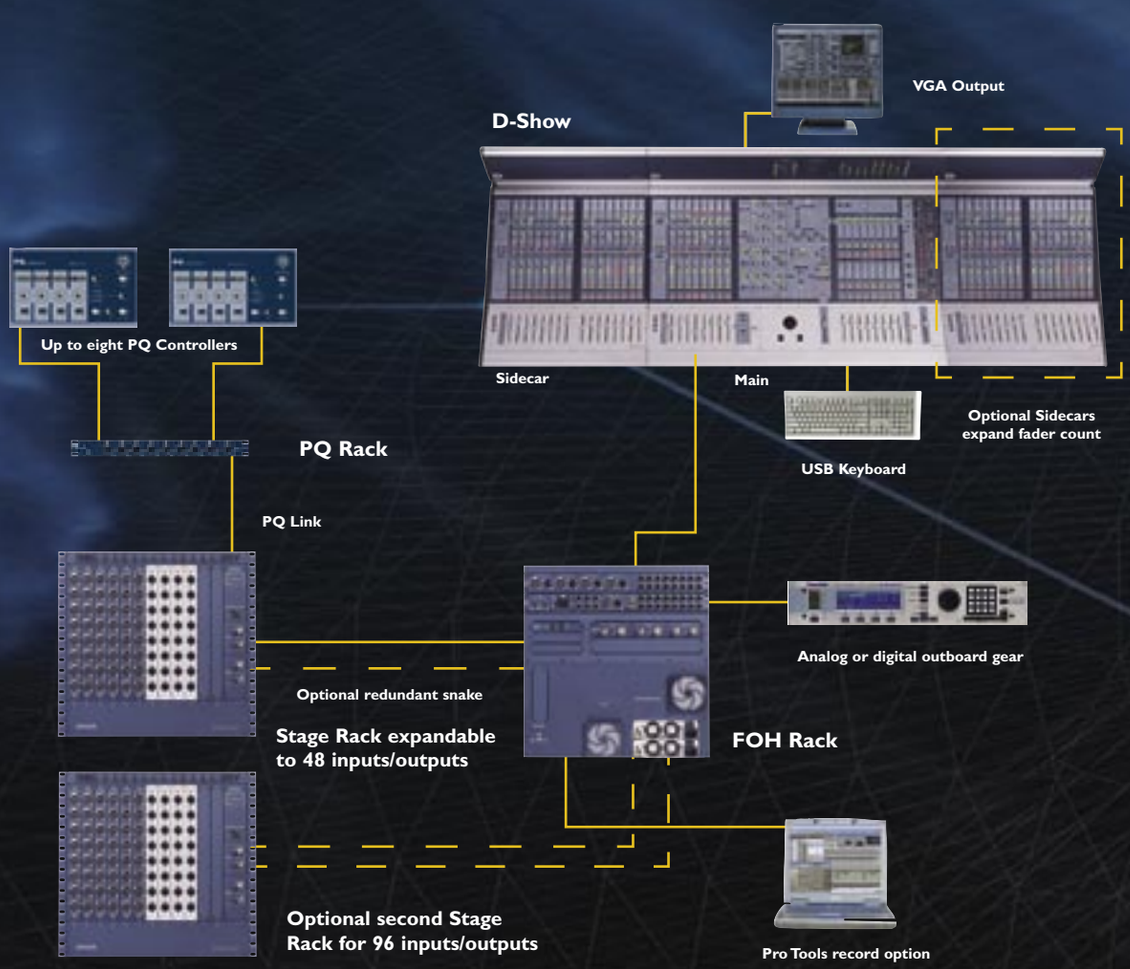
D-Show's snapshot recall system is powerful enough to serve the needs of theater professionals, while simple enough to suit the fast-paced world of festivals. The D-Show control software supports up to 999 snapshots, each able to affect a different range of

controls — from resetting the entire console to changing the EQ on a single channel. The operator can easily restrict the range of affected parameters to safeguard channels while retaining the ability to preview and execute snapshots at will. All parameters can be recalled, from preamp gain settings to VCA membership assignments.

Snapshots can also trigger external device program changes over MIDI, and respond to incoming GPI (footswitch) events or MIDI Time Code cues. Global changes which affect multiple snapshots can also be handled easily using the Propagate command, reducing the rework required due to last-minute show changes.

LCR Support

Sound reinforcement applications ranging from live music mixes to theater and places of worship are easily accommodated by the configurable output routing. Main outputs are configurable as a left/right pair plus mono, or left/center/right (LCR) with a fully adjustable center channel divergence for determining the spread of center-panned signals across the LCR image.



Purpose-built Reliability

Reliability in a live sound system is vital. Even in installed environments, the ability to work around component failures without interrupting the show is imperative. Thus, to ensure maximum reliability with VENUE, we've implemented hardware redundancy throughout the system.

The D-Show DSP engine cards handle both core mixing functions and plug-in processing, allowing operators to repurpose cards in the unlikely event of a failure. The digital snake system allows dual-redundant connection with seamless auto-takeover, and dual-redundant power supplies are an option for any part of the system. The modularity of the D-Show console allows inputs to be automatically redistributed over the remaining faders in the event of a partial failure. Any power failure or communication interruption with a sub-system produces a notification on the optional VGA display screen. Even the display itself is a non-essential system component, as all critical audio controls and parameter displays are available on the D-Show mixing console.

System Stability

As digital consoles provide increasingly complex feature sets, software stability has become fundamental to their success. VENUE uses an entirely new application developed around the latest modular programming practices for maximum stability. The software architecture allows failure and restart of individual system services without interrupting the mix or requiring the system to reboot. For example, if a portion of the graphic user interface for plug-ins were to fail, only that module would reboot, rather than the entire system.

VENUE is the only digital live sound system that allows mixing to continue throughout a catastrophic failure of the host computer. In the unlikely event that a software or hardware failure requires the embedded computer to be rebooted, VENUE allows operators to carry on mixing with full fader and mute control. No change in the channel processing, plug-ins, or any interruption to the audio will occur.

VENUE was extensively road tested, having spent many months in performance venues and completing tours-of-duty with major concert acts. This experience allowed us to refine the design for ruggedness to ensure it would meet the rigorous demands of life on the road.

Most digital live sound consoles limit operators to a single family of built-in EQ, dynamics, and effects processing tools, or require external hardware to achieve a desired mix. With VENUE, mix engineers have access to a wide range of studio-quality processing options from Digidesign and Digidesign Development Partners.™

The vast array of professional signal processing effects and software options available for VENUE empower mix engineers with a diverse palette of tools. These include DSP processors from some of the most familiar names in outboard effects for live and recorded sound.

Take advantage of any number of professional EQ and compressor plug-ins. Emulate the entire channel strip of a classic studio console with plug-ins such as the Focusrite® Forte Suite. Choose among the very best reverbs and delays in the industry to add just the right flavor of spatial ambience to a mix. Almost any studio effect can now be faithfully recreated live, often using the exact same processing algorithms top recording studios and artists use, without compromising performance or sound quality.

In addition to the onboard EQ and dynamics processors, a standard VENUE system includes the following plug-ins at no additional charge:

D-Verb (reverb)	EQ II (1- and 4-band EQ)
Delay II	Pitch
Trim	Signal Generator

Dynamics II (Compressor, Limiter, Gate, Expander-Gate, DeEsser)

Additional VENUE-compatible plug-ins are available from:

Aphex	Sony
Bomb Factory	SoundToys
Cranesong	TC Electronic
Digidesign	Trillium Lane Labs
Drawmer	Troödon Technologies
Focusrite	Unique Recording Software (URS)
Line 6	Waves
Serato	and many more…

Plug-in parameters can be adjusted directly from the D-Show console using the Assignable Output Encoders, or on screen using the built-in trackball. Dynamics and EQ plug-ins map directly to their associated controls in the Assignable Channel Section.

Drawmer continues their live sound legacy with the powerful new TourBuss suite of plug-ins, developed exclusively for VENUE.

Troodon Technologies Analyzer permits powerful real-time analysis, transfer function, time alignment, and impulse response display to be performed directly on VENUE. This allows any signal to be routed directly to the Analyzer and eliminates the need for an external computer, interface devices, and patch cables.

The Rane Series plug-ins by Serato bring the renowned audio quality and unique features of Rane digital live sound hardware to VENUE.

Exclusive to Digidesign VENUE

Sony Oxford EQ

Bomb Factory BF76

Digidesign ReVibe

Focusrite Forte Suite

Digidesign Impact

Bomb Factory Pultec EQ

Eventide 949

Trillium Lane Labs TL Space

Digidesign Smack!

D-Show Sidecar

D-SHOW

D-Show Main

OVERVIEW LEGEND

A. INPUT CHANNELS	E. ASSIGNABLE OUTPUT FADERS
B. INPUT FADERS	F. MASTER/GLOBAL SECTION
C. ASSIGNABLE CHANNEL SECTION (ACS)	G. METER BRIDGE AND SYSTEM STATUS
D. ASSIGNABLE OUTPUT ENCODERS	H. TRACKBALL AND BUTTON CONTROLS

The D-Show mixing console was designed with the analog mix engineer in mind. Key settings are either instantly accessible or at most a single button press away. Extensive metering throughout the console enables operators to see what's going on with the mix at all times.

The design philosophy behind D-Show was twofold: to provide operators with the ability to both A) select a single channel to a central, all-parameters Assignable Channel Section (ACS), and B) to adjust certain parameters across many channels at once, similar to a traditional analog live sound mixing console.

Input Channel Strip

The input channel strip area is dedicated to providing visual feedback. By glancing at the channel, the engineer can tell:

- Which group busses the input is assigned to, preventing accidental mis-grouping
- Whether EQ, dynamics, or inserts are in circuit
- The effect of the dynamics (shown on separate gate and compressor gain reduction meters)
- The input level, in a standard dBVU scale
- Whether a clip is occurring at any of four points in the channel strip (indicated by turning the entire meter red)
- Whether a clip is occurring on a hidden fader bank
- Whether snapshot automation will affect the channel

Flexible Encoders

Every channel strip features two assignable encoders, allowing operators to quickly adjust key parameters without assigning each channel to the console's central section. This approach is essential for aux sends, where mixers typically adjust the send levels from several channels simultaneously.

The encoders can also be assigned to control gain, pan, and threshold for the gate and compressor, which often need adjustment as the input gain is trimmed.

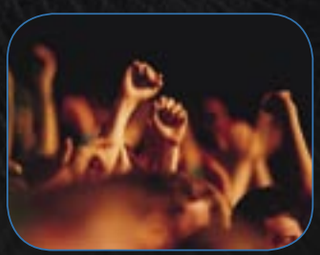
The Flip to Faders function allows the currently selected encoder function to be adjusted on the channel faders, providing a fast and efficient way to generate monitor mixes on the 16 aux busses.

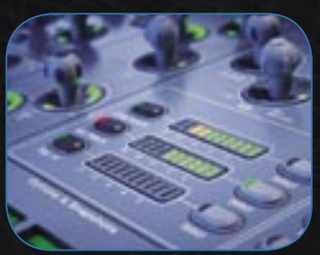
The Select button targets the channel to the Assignable Channel Section (see page 11) for adjustment of all channel parameters.

Custom bi-color, transflective LCDs ensure that channel names and parameter values remain crisp and visible, even in full sunlight. Long channel names are intelligently abbreviated to fit the six-character display.

B Input Faders

Fader banking allows the operator to control more inputs by stacking them up to four layers deep, allowing a 24-input fader console to easily control 96 sources from stage. Stereo channels can be used in any position using only one fader, and it's easy to convert a pair of mono channels into a stereo pair as needs dictate. Channel order can be rearranged at any point by simply moving channels to the desired location, making it easy to accommodate last-minute patch changes. An innovative multi-select feature allows operators to easily modify groups of channels in a single operation.





Assignable Channel Section

The centrally located Assignable Channel Section (ACS) allows D-Show operators to view and adjust all parameters for a selected channel without having to navigate software screens or page through layers on the console. Any input channel, FX return, or output bus can easily be assigned to the ACS with the simple push of a button or touch of a fader. Once an input or output channel has been designated the ACS target, its name display backlight color changes to red, allowing operators to easily confidence-check the selection. The ACS is divided into functional sections, and a blue LED within each section indicates whether or not a particular function is operational for the selected channel.

Bus Assigns

The D-Show console can be configured to have either eight mono or eight stereo groups, in addition to the main left/right and center/mono channels. When mono groups are chosen, the Stereo Pan button lets operators quickly assign the channel to two adjacent mono groups and pan between them, allowing for a mix of mono and stereo groups.

The Bus Assigns section sets main and group routing for the selected channel. Multi Assign mode allows operators to quickly set routing for multiple channels.

Input

D-Show's Input section provides full control of the remote mic preamps in the Stage Rack, digital input gain, and stereo input balance.

Input controls provide adjustment of the remote mic preamps, switch the 48V phantom power, and invert polarity as needed. Stereo inputs are balanced using the Right Offset to trim the right channel relative to the left. The Input Gain encoder controls the analog level of the remote-controlled stage mic preamps, or the digital level if an FX return or line-level input is selected.

D-Show's unique Gain Guess function speeds up soundcheck and ensures an optimum input gain setting. Simply press the Input Gain control — even across multiple channels — to have the system sample incoming signals and automatically set the gain for a 0 dB reference.

All input settings, including mic preamp gain, are completely recallable using snapshot automation, facilitating fast changeovers between acts on a multi-band bill and 100% repeatable results.

Auxiliary Sends

The D-Show console is configurable within software to have 8 or 16 auxiliary sends, individually linkable to form any combination of mono and stereo sends. For example, a FOH mixing application may use eight sends to feed onboard plug-ins or outboard effects processors, whereas a stage monitor mix application might choose the 16 aux send configuration to accommodate an assortment of mono wedge mixes and stereo personal monitor mixes.

All aux sends are configurable as pre- or post-fader, with multiple pre-fader pickoff points available (pre-EQ, pre-mute, pre-fader).

The even-numbered sends in a stereo-linked odd/even pair become the channel pan control to that stereo send. Alternately, operators may have the aux send pan follow the channel's main pan assignment.

Equalizer

D-Show features one of the most versatile channel EQs available. With the ability to choose between two internal EQ types (analog emulation or digital) and a wide range of plug-in EQs, operators have an extensive palette of equalization options to suit their needs.

The EQ modes can be selected on a per-channel basis, and both internal and plug-in EQs may be combined to allow several bands of EQ to be used on the same signal simultaneously. All internal EQs use 48-bit processing for maximum resolution and fidelity.

Digital EQ Mode

Digital EQ mode features four fully overlapping bands. The standard Digital EQ mode offers full 20 Hz - 20 kHz adjustment on all bands, with +/-18 dB of boost or cut and adjustable Q. High and low bands are switchable between shelving or parametric filters.

Analog EQ Mode

In Analog EQ mode, the channel EQ emulates the response and parameter ranges of a renowned analog sound reinforcement console. Operators familiar with these restricted sweep ranges will immediately feel at home using Analog EQ mode.

EQ Plug-in Control

EQ plug-ins inserted on a channel are automatically mapped to the ACS EQ section's controls for fast, intuitive adjustment.

Insert Processing

Each input channel and output bus features one hardware and four plug-in insert points. Operators can connect analog or digital outboard equipment using the FOH I/O connections, and then use the digital patchbay for routing.

Alternately, leave the original equipment safe at home or in the studio and carry all plug-in installers — many of which offer highly realistic emulations of popular vintage gear — on a CD ROM or USB storage device. D-Show supports the iLok USB Smart Key for plug-in copy protection, allowing easy portability of all plug-in authorizations across systems.

Plug-in Control

The Insert Mode button allows operators to adjust plug-in parameters directly from the D-Show console using the Assignable Output Encoders (page 15). In addition, mixers can choose to use the trackball, the assignable channel EQ, or dynamics controls to adjust plug-in settings

Assignable Channel Section

Dynamics

The D-Show console features a high-quality compressor/limiter and expander/gate on every input channel, eliminating the need for much additional outboard gear.

Dynamics processors are among the most difficult to accurately emulate in the digital domain. D-Show's internal dynamics processors were carefully modeled and vetted against industry-standard processors using real-world live source material, ensuring usable, natural, and musical results.

The Key Signal (sidechain) section permits frequency-conscious compression and gating. Key Listen routes the sidechain signal to the solo bus, allowing operators to hear exactly what the compressor or gate is "listening" to, and precisely filter out sounds which may cause false triggering.

Dynamics Plug-in Control

Digidesign and Digidesign Development Partners offer a wide range of plug-ins that emulate some of the most prized dynamics processors. When inserted on a channel strip, dynamics plug-ins are automatically mapped to D-Show's ACS Dynamics section, and can be edited using the same familiar controls, and/or the on-screen user interface.

Channel Configuration

The Input Direct switch effectively bypasses all channel and insert processing, routing audio directly to the fader for a simple "before and after" comparison.

The Dyn Pre EQ switch allows operators to change the default order of the built-in channel processors so that dynamics come before the EQ in the signal chain.

Direct Out

All input channels and output busses feature an assignable Direct Output with variable level control. Operators can assign Direct Outputs to any stage, FOH, or recording output for easy interfacing to an analog or digital recording system, or for creating additional signal splits, press feeds, or processor loops.

Multiple pickoff points allow operators to select exactly where in the processing chain the Direct Out obtains its feed. For example, when doing a live recording, operators may choose to record the direct outputs immediately after the preamp stage, capturing the raw signal, unaffected by the channel EQ, dynamics, and fader settings used for the live mix.

Options & Snapshots

For shows that need to run by the numbers, the panel snapshot controls allow operators to preview and recall snapshots in sequence. Although the on-screen interface for snapshots provides more detail, these controls allow operators to keep the screen display focused elsewhere while still accessing snapshots.

The View Mode section's Inputs, Outputs, Filing, Snapshots, Patchbay, and Plug-ins buttons allow instant access to the most frequently-used software display screens.

D-Show's output section provides control of the console busses. It is divided into two sections: Assignable Output Encoders and Assignable Output Faders. This arrangement allows operators to simultaneously control two sets of eight outputs.

D Assignable Output Encoders

The assignable encoders in D-Show's master section allow operators to control plug-in parameters, aux masters, group masters and pans, PQ sends and pans, and matrix sends. LEDs in this section indicate if an output is being processed by a hardware insert, a dynamics processor, or an EQ.

All matrix sends are fed by eleven common inputs, comprising either eight groups or eight aux sends (selectable in software), plus left, center/mono, and right. In addition, a twelfth input is user-assignable on a per-matrix basis. All outputs are monitored and metered post-fader (AFL). A six-character LCD displays the channel's name, while the software display provides a list of all channels that contribute to a group, matrix or VCA mix, to aid in checking routing.

E Assignable Output Faders

D-Show's high-precision, high-reliability touch-sensitive 100 mm faders provide up to 12 dB of gain, and natural-sounding taper during attenuation. These faders can be assigned to control aux, PQ, matrix, subgroup, and VCA masters.

A Cal LED indicates when the master faders are set to unity gain for system level calibration purposes. The Multi Assign switch provides an easy method to quickly assign many channels to a group or VCA master.

The VCA and group membership can be easily interrogated through the dedicated group routing LEDs at the top of each channel strip.

F vMaster/Global Section

The Master/Global section provides controls for the main left, right, and center/mono busses, as well as for various operating modes and console-wide operations. Mixers can adjust headphone and near-field monitor speaker levels independently, and a dedicated delay allows the monitor signal to be precisely time-aligned to the main PA. Solo options include Pre-Fade Listen (PFL), Stereo After-Fade Listen (AFL), and Solo-In-Place

External talkback and two-track inputs are provided, and can be routed to any combination of bus outputs. The Master/Global section also features a built-in oscillator that generates variable sine waves, along with pink and white noise, which may be used to verify signal flow or to aid in performing system analysis.

Up to eight programmable mute groups can be quickly assembled for subsequent recall at the touch of a button or by foot switch. The Master/Global section also features controls to adjust the brightness of the console lights and LEDs to suit the performance environment.

Graphic EQs

The D-Show console can provide up to 24 graphic EQs which operators can insert across any output. Each uses standard 31-band ISO frequency centers, with +/-12 dB of gain, and a constant Q design to ensure that what operators see on the graphic faders is as close as possible to what they'll hear. A dedicated set of assignment controls on the main section of the console allow operators to dial in graphic EQ settings using the eight input faders on D-Show Main.

G Meter Bridge

The meter bridge on D-Show displays left, center/mono, and right output levels, and features eight assignable output meters which can show aux, group, matrix, or Personal Q output levels. If none of these switches are selected, the meters automatically follow the selected output fader bank.

The Selected Channel meters display separate left and right input levels, compressor and gate gain reduction, and stereo status for the channel presently targeted to the ACS.

User settings allow operators to choose between peak and RMS ballistics for all meters, and to set separate clip thresholds for input and output metering.

The status of all major system components is constantly monitored. Any faults or loss of communication are indicated in real time on the heads up System Status display.

VENUE's optional Personal Q (PQ) monitoring system enables performers to directly participate in the control of their monitor mixes. Using wired remote Personal Q Controllers, performers are able to fine-tune their mix, first established by the monitor engineer, allowing true control of their own instrument and 11 submixes representing the rest of the ensemble. Apart from reducing the adjustment demands placed on the monitor engineer, the Personal Q system allows more ambitious combinations of FOH and monitor mixing scenarios.

In operation, the monitor engineer uses the groups or aux busses to create mono or stereo submixes. These submixes, in addition to the Main busses and an individually selectable user signal, are assigned to each Personal Q mix, placing relative balance directly in the hands of the performer. The control signals from the Personal Q Controller are routed back to D-Show's mix engine, allowing the monitor engineer to see adjustments in real time and assist where necessary. Each stereo mix is passed through a high-quality limiter before being routed from the Stage Rack outputs to a monitor wedge amplifier or personal monitor transmitter. Up to eight simultaneous stereo monitor mixes are possible, each with its individual PQ Controller.

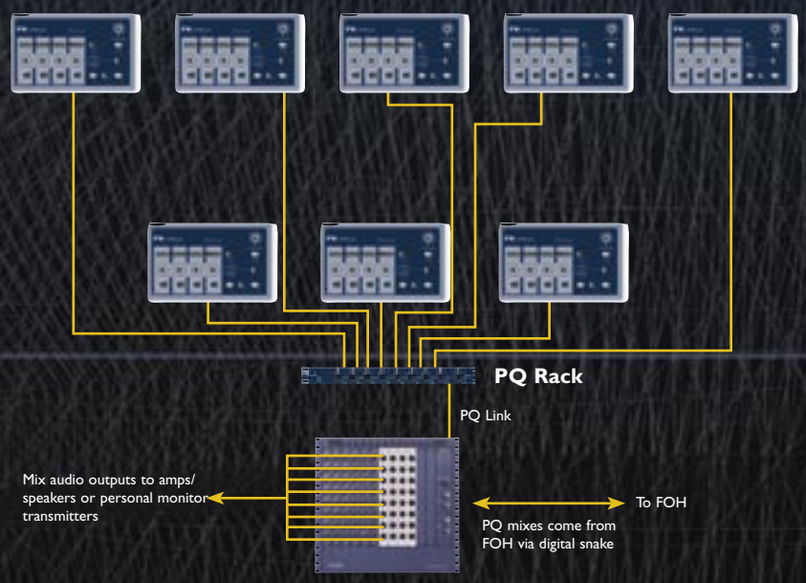
While performers adjust their mixes to their liking, the engineer retains equal control of monitor mixes.

During a performance, simultaneous control of the mix is possible from both the console and the controller. A dedicated screen in the D-Show control software provides an overview of the Personal Q mixes. Operators can manage limiter controls, engage hardware inserts or plug-ins, solo or mute the feed, or even assign Personal Qs to VCA groups.

Using PQ Outputs as Additional Matrix Outputs

Extensive configuration of the source signals is possible, allowing operators to take PQ feeds from the group or aux busses, pre- or post-fader. This means that when PQ functionality is not required, the PQ mixer provides an additional 12 x 16 matrix mixer.

PQ controllers on stage give performers control of the stereo placement and level of instruments in their monitor mix.



Stage Expansion Options

VENUE systems can include either one or two* Stage Racks. Each Stage Rack holds up to six input cards and up to six output cards, allowing a 48 input/48 output configuration with a single rack, or a 96 input/96 output configuration with two racks.

SRI Input Card

A single Stage Rack Input (SRI) card provides eight balanced analog mic/line inputs with 48V phantom power and signal presence LEDs next to each XLR-F connector. The input stage features a high-fidelity analog preamp allowing up to 50 dB of gain and features the latest low-latency, over-sampling analog-to-digital converter design. The 20 dB pad allows the input to handle signals as hot as +34 dBu, while protection circuitry ensures the input can survive adverse splitter and phantom powering configurations. The SRI input card can capture signals with a signal-to-noise ratio in excess of 114 dB. For maximum rejection of unwanted noise, the balanced circuit is hand-trimmed to achieve a CMRR in excess of 70 dB.

SRO Output Card

Each Stage Rack Output (SRO) card provides eight balanced analog line-level outputs. A green signal presence LED verifies correct routing. A red output mute LED shows the action of the output muting relays, designed to eliminate power-on transients. SRI and SRO cards are user-installed options, allowing operators to expand a rack configuration as needed.

Personal Q Option

Personal Q is an innovative system that allows the mix engineer and the artist to share control of the monitor mixes. For full details, see page 17.

** Second Stage Rack option available mid-2005. A second Snake card for FOH is required.*

FOH Expansion Options

D-Show Mix Engine Cards

VENUE's D-Show console allows tremendous expansion of its digital signal processing capabilities. Adding an additional mix engine card allows operators to increase the maximum number of channels, support a second Stage Rack for stage input configurations from 49-96 inputs, run more graphic equalizers simultaneously, and run more plug-ins. Since the same card type provides all this expansion, you can reassign the power from show to show, allowing you to tailor the processing requirements to the gig. In addition, any DSP card can perform any function, so a spare card not required for plug-in expansion may be carried as a backup mix engine card to insure against field failures.

FOH IOx Card

The FOH IOx card features eight AES digital inputs and outputs, allowing operators to integrate outboard gear with digital connections. In addition, the FOH IOx card expands the insert and direct output capability at FOH by adding eight balanced analog inputs and outputs on 1/4" TRS jacks, allowing connection to virtually any type of outboard gear. All I/O connections are fully routable in the digital patchbay, facilitating easy access to any internal digital pathway.

Snake Card

For shows that require more than 48 inputs from the stage, an optional second Stage Rack is required. In this scenario, an additional Snake card, which resides inside the FOH Rack, is required to connect the second Stage Rack to the FOH Rack. Since both Stage Racks have separate cable connections to the FOH Rack, the second Stage Rack may be located remotely from the first.

Ethernet Expansion Option

The optional Ethernet Expansion card** allows remote control of all console functions using a standard wired or wireless Ethernet connection. Used in conjunction with an 802.11G Wi Fi access point (not included) and a laptop or Tablet PC running the remote application software, this option frees the operator to make EQ or mix adjustments from almost any location in the venue, wireless signal strength permitting.

*** Ethernet Expansion card available mid/late-2005.*

D-Show Console Expansion

D-Show is designed for expandability, making it the only live sound console offering this type of flexibility. The standard system consists of a single Sidecar and a Main Unit. A maximum of two additional Sidecars can be added to the standard 24-fader system, for a total of 56 input faders — allowing operators to mix large numbers of sources without banking.

Pro Tools Record Options

Digidesign's Pro Tools recording systems are acknowledged as the world leader in the recording industry. Naturally, we've made it easy and efficient to combine our recording technologies with VENUE's live sound capabilities. The result is a range of scalable options:

FWx Record/Playback Option for Pro Tools LE

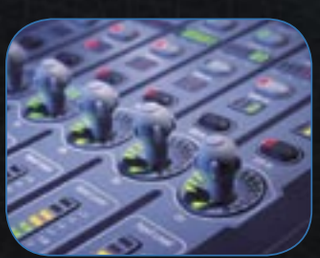
The FWx card provides a direct FireWire connection to record or playback up to 18 tracks simultaneously using a Pro Tools LE system on Windows XP (expanding to 32 tracks in 2005). For recording applications, this approach keeps the signal in the digital domain from the time it was first captured by the Stage Rack input. The resulting recording is a native Pro Tools LE session, ready for editing or review after the show is over by connecting a portable Digidesign Mbox, Digi 002, or Digi 002 Rack peripheral.

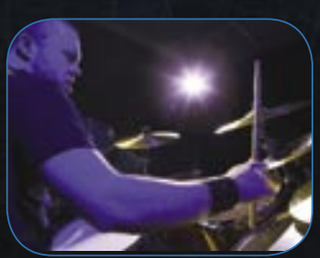
For playback applications, an original Pro Tools TDM or LE studio recording can be edited and mixed down to supplement a live performance.

HDx Record/Playback Option for Pro Tools|HD

The HDx card allows operators to directly link a full Pro Tools|HD system with VENUE's digital engine, providing up to 96 simultaneous recording tracks. The card provides DigiLink connections on the FOH Rack that connect directly to the HD Core and Accel cards of the Pro Tools|HD system, without requiring additional Pro Tools|HD I/O hardware peripherals. The resulting recording is a native Pro Tools TDM session, ready to be taken to the studio for detailed editing, processing, and mixdown.

** HDx option available in mid-2005.*





Specifications

GENERAL		NOTES
Dimensions (W x D x H)		
Main & Sidecar (joined)	78.3" x 35.5" x 13.7" (1988 x 895 x 347 mm)	
Main only	51.7" x 35.5" x 13.7" (1313 x 895 x 347 mm)	
Sidecar only	28.7" x 34.8" x 13.7" (729 x 884 x 347 mm)	
Weight		
Main & Sidecar (joined)	194 lbs (88 kg)	
Main only	121 lbs (54.9 kg)	
Sidecar only	73 lbs (33.1 kg)	
Power Requirements		
Main	90-260 VAC, 50-60 Hz, 160 W	
Sidecar	90-260 VAC, 50-60 Hz, 120 W	
FOH Rack	90-260 VAC, 50-60 Hz, 220 W	
Stage Rack	90-260 VAC, 50-60 Hz, 140 W	maximum configuration
Faders	100 mm motorized, touch sensitive (x34, Main + Sidecar)	
Resolution	+12 to -144 dB, 1024 steps	

AUDIO		
Internal Sample Frequency	48 kHz	
External Sample Frequency	48 kHz +/- 10 ppm	word clock input
Processing Delay	less than 2.8 ms	96 channels, stage input through LR bus to stage output
Internal Processing	up to 48-bit, fixed point	288 dB internal dynamic range
Frequency Response	+/- 0.5 dB	22 Hz – 20 kHz BW, relative to 1 kHz
THD + N	less than 0.01%	Stage Input to LR bus, input gain @ min, +4 dBu output, 22 Hz – 20 kHz BW
Dynamic Range	108 dB typ	
Maximum Voltage Gain	84 dB	Stage Input to LR bus, channel & LR faders @ max
Crosstalk	-100 dB typ	Adjacent Stage inputs to LR bus, @ 1 kHz
Residual Output Noise	-90 dBu typ	22 Hz – 20 kHz BW

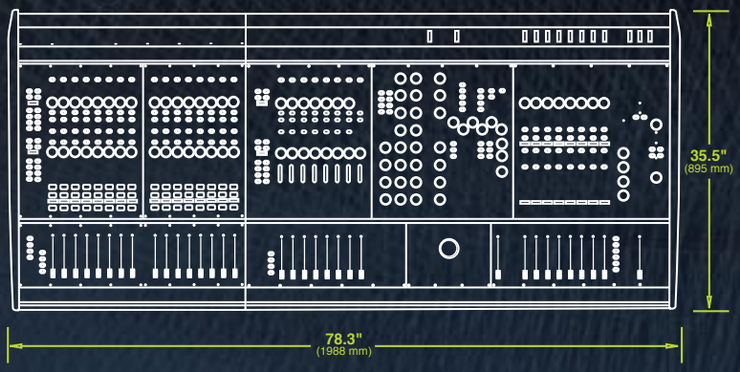
STAGE RACK		
SRI Analog Input Card		
Connector (x8)	XLR3-F	
Phantom Power	+48V	individually switchable per channel via software
Maximum Input Level	+34 dBu, with pad	
Pad	20 dB	
Gain	+10 dB to +60 dB	
Input Impedance	pad off: 10 k ohm, balanced	
	pad on: 1.25 k ohm, balanced	
EIN	126 dBu typ	Max gain, 150 ohm source, 22 Hz - 20 kHz BW
LEDs	signal presence, +48V	
A/D	24-bit, delta sigma	
SRO Analog Output Card		
Connector (x8)	XLR3-M	
Maximum Output Level	+24 dBu	
Output Impedance	50 ohm	
LEDs	signal presence, mute	
D/A	24-bit, delta sigma, 128x oversampling	

SNAKE		
Connector (x4)	BNC	
Cable Type	coaxial	
Max Length	250 feet (76 meters)	Belden 1885A
	500 feet (152 meters)	Belden 1694A
Channel Count	48 inputs, 48 outputs	

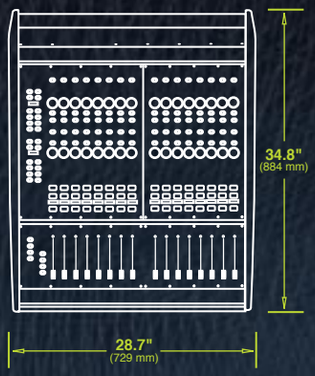
0 dBu = 0.775 V rms

All specifications subject to change without notice

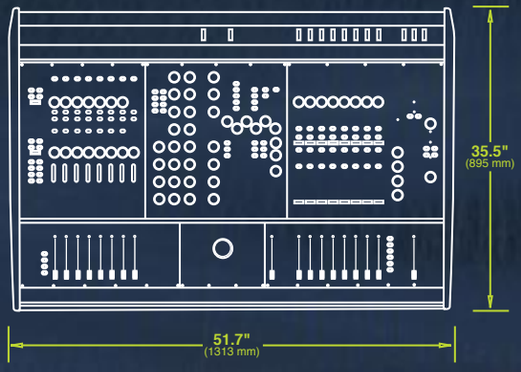
Main and Sidecar

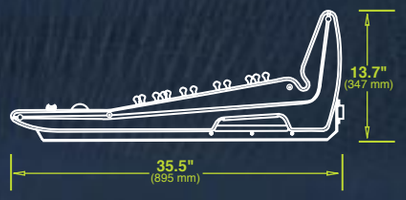


Sidecar



Main





About Digidesign

For 20 years, Digidesign has been the industry leader in digital audio production, providing the professional music, broadcast, multimedia, and film industries with tools for audio creation, post production, collaboration, and distribution. Our innovative core technologies, which continue to revolutionize the audio profession, have earned us a Grammy® award for Outstanding Technical Achievement and, more recently, an Oscar® statuette representing the 2003 Scientific and Technical Award for the design, development, and implementation of the Digidesign Pro Tools digital audio workstation.

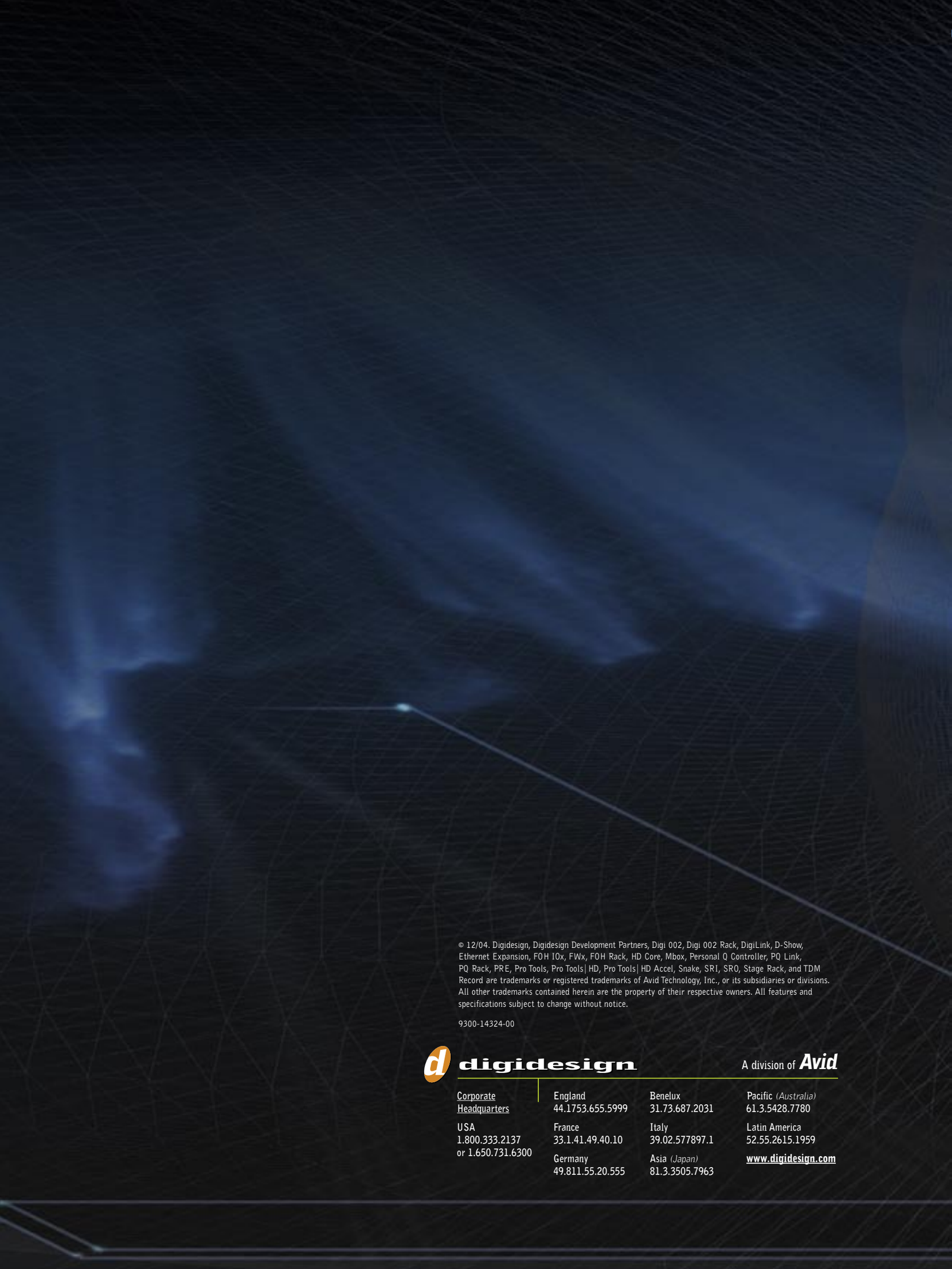
In 1995, Digidesign became a division of Avid Technology, Inc., the world leader in digital nonlinear media creation, management, and distribution solutions for the film, video, audio, animation, games, and broadcast industries. Since joining forces, Digidesign and Avid have led the industry in offering seamless integration of our audio and video technologies.

In early 2004, Digidesign unveiled the ICON integrated console environment, featuring the new D-Control™ worksurface, Pro Tools|HD Accel as the core DSP engine, and modular Pro Tools|HD audio interfaces. We also announced the Digidesign VENUE, a purpose-built live sound digital mixing environment, marking our entry into the professional sound reinforcement market.

In August 2004, Avid acquired M-Audio, a leading provider of digital audio and MIDI solutions for electronic musicians and audio professionals. Now a business unit of Digidesign, M-Audio markets its line of computer audio peripherals, PCI sound cards, keyboard controllers, microphones, speakers, and distributed software and proprietary sound libraries alongside Digidesign's award-winning digital audio workstations for the professional and home/hobbyist markets.

Digidesign enjoys strong ties with other leaders in the audio industry. Our Development Partner community is the largest and most successful in the business, with more than 100 products compatible with Digidesign technology.

Throughout Digidesign's history, our commitment to audio professionals everywhere has remained the same: To constantly strive to offer the most creative, flexible, and comprehensive set of tools for audio production, all within one extremely powerful and easy-to-use environment.



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